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READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria and Sugar; Light, Roentgen, Radium, *X* Rays; Status Lymphaticus and Thymus; Eye, Ophthalmia and Vision; Bicycle and Cycle; Motor and Automobile; Association, Institution, and Society; Paris, France; Berlin, Prussia, Germany; Vienna, Austria, etc. Subjects dealt with under the various main headings in the JOURNAL have been set out in alphabetical order under their respective headings—for example, "Correspondence," "Leading Articles," "Literary Notes," "Memoranda," "Reviews," etc.; while under "Original Articles," will be found a list of those who have contributed papers on scientific and clinical subjects, with the titles of their contributions.

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BY

J. A. MACDONALD, M.D., LL.D.,

PRESIDENT OF THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION.

As you have done me the honour to ask me to address you on the visit I made recently to Australasia at the request of the Council of the British Medical Association, I will do my best to give a cursory account of a tour which I can assure you has done me good, mentally as well as physically. It has done me good mentally because it has broadened my view of things. I am only sorry that more members at home do not go out and see their brethren in the Colonies. Those who made the journey would find that their medical brethren at the far side of the world are men it is well worth while to keep within the Association. They are an honour to any profession. They are quite as good in their professional practice as at home, and possibly some are better in some respects. They have more initiative, and more independence of thought and work. That, to some extent, arises from the fact that the individual practitioner is commonly more isolated. He has not at hand another man every time he feels some doubt and wants a second opinion. They have to act on their own initiative.

I started from London on December 19th last, and I may sum up the sea trip in a few words. With the exception of one day, curiously enough in the Mediterranean in the Gulf of Lyons, I had not a rough day at sea from the time I left till I got back, so that the whole of the time at sea was a pleasure. There were some interesting people on board the boat, including Sir Newton Moore, the Agent-General for West Australia, with whom I had many informing conversations, from which I learnt a great deal about Australia. On the way out the boat called at Gibraltar, Naples, Port Said, and Colombo. The bay of Naples is the most beautiful scene I have ever looked on, and I have now seen many famous bays, including Auckland and Sydney. Colombo, where we spent only a short time, is a beautiful place. At Fremantle, the first port touched in Australia, I had a lovely sail up the river to Perth; the temperature was 104° F. in the shade, but it was not disagreeable, for the climate is very dry. Perth is a very beautiful place, with fine roads and one of the nicest parks I saw, consisting in part of the natural bush. Here I met Mr. Scaddon, the Premier of Australia, a very interesting man and a typical instance of how a man may rise to an important position in Australia, for a few years ago he was driving an engine on the Coolgardie goldfields. In the course of conversation Mr. Scaddon mentioned that a new railway was being developed from Fremantle to Adelaide, which will open up some wheat country and a good deal of grazing land for cattle and sheep. I did not meet any of the medical men there because no arrangements could be made owing to the shortness of my stay. On the voyage round to Adelaide, some time before we were due to arrive, I was told, before I had left my cabin in the morning, that certain gentlemen wanted to see me. When I got on deck I found that three of the medical men and three reporters had taken the trouble to charter a boat and come out some considerable distance—twenty-five to thirty miles—to meet me. This struck me as very energetic, and I took it as a very great compliment. Adelaide is the most beautifully laid out city I have ever seen. It is arranged on the American plan of square blocks, and the streets are very wide, with trees on each side. The only drawback is that the city is very subject to sand-storms or dust-storms. When I got there the temperature was 103° in the shade, and this, combined with a dust-storm, detracted from the pleasure of my short visit. I had only an afternoon in Adelaide, but I met Dr. Poulton, President of the South Australian Branch, and some other members of the Association, and visited the hospitals and found them most up to date and thoroughly well equipped; they were, in fact, quite equal to the best we have at home, and the same may be said of practically every hospital I visited in Australia and New Zealand. I lunched with the members of the Branch Council in Adelaide, and had a pleasant chat on medical things in general.

The next place touched at was Melbourne, which I reached on a Wednesday. I had intended to go on to Sydney on the Friday, and to New Zealand on the following day; but at Melbourne I learnt that there was to be a meeting at Sydney on the Monday of the Federal Committee of the British Medical Association in Australia. This Federal Committee represents all the provinces of Australia, and I decided to attend its meeting in Sydney, as its members were anxious I should. I was very much delighted to have the opportunity of staying in Melbourne a few days longer, for it is beautifully situated and a very fine city. It has some 700,000 inhabitants, and the neighbourhood is very interesting and pleasant. I met several friends I knew at home, and cannot say anything too good of the hospitality shown to me and of all that was done for me. We had a very fine meeting of the medical profession, which I was asked to address. The profession in Australia is very interested in the British Insurance Act, for there is a proposal to introduce similar legislation in Australia. If I may judge from what was said, my address was of use; very many questions regarding the position of medical men in reference to the Insurance Act in England were asked and answered by me. At the end of the meeting a vote of thanks to me was proposed: I had been looking at a man in the room I thought I knew, and after the vote had been proposed and seconded, this gentleman rose to support it on the ground that he had known me longer than anyone else there, and he proceeded to tell a story. He said that I had been a master at the school he attended, and that I had then already earned a reputation for promptness of action and quickness of decision. He had been misbehaving himself in the class; he was standing on a desk, and would not come down when told to do so. The next thing that happened was, he said, that I caught him by the scruff of the neck and slung him out of the room. I had forgotten the incident, but it was quite true. As an example of the energy with which men do things in Australia I may relate how a member resident at Geelong, forty miles from Melbourne, when he learnt at the dinner

at which I was entertained that I was staying a few days longer than I had intended, went down to Geelong that night and gave notice to the men in the district; next day he returned to Melbourne and took me down to a luncheon at Geelong at which every medical man in the district was present. He drove me back again in the afternoon and then went back to Geelong that night. For a part of the way there was no road at all, and we were driving across open fields. I had a very pleasant time at Melbourne, where I was most hospitably entertained, and I should like in particular to acknowledge Sir Harry Allen's kindness in conducting me over the university.

The train journey from Melbourne to Sydney was an interesting progress, for the doctors had been informed beforehand of my visit, and at every station some turned up to have a chat. At Albury, on the border between New South Wales and Victoria, where a change had to be made into another train—for a very inconvenient arrangement exists in Australia, the railways being of different gauges in the various provinces—there was a meeting of medical men, and we had a chat about the Insurance Act—as usual. Many different points of view were advanced by various men, and I learnt much from their remarks. I should say that before I left Melbourne I had an interesting interview with the Minister of the Interior, an Irishman and a very able man. I was asked to meet him and the chief statistician of the Government on the question of the British Insurance Act, in view of the proposal to introduce an Insurance Act into Australia. The interview lasted three hours, the British Insurance Act, its weaknesses and advantages, were discussed, and I got an idea of the form of the bill to be proposed in Australia. I expressed a very strong opinion that one thing that had caused great difficulty with regard to the Act in England was the fact that the medical profession had not been consulted before it was drafted; I have heard since that the Federal Committee of Australia has received a promise from the Government that if a bill be introduced for Australia the British Medical Association would be consulted before it is drafted. After leaving Albury, while in another station, there was an explosion, and the whole carriage seemed to be in a blaze. It turned out that a gas pipe below the carriage had exploded. The train was shifted along the platform and the incident seemed over, but some fifty miles further on we found the carriage actually on fire. In running the air had fanned a charred piece of woodwork into a blaze. The train was stopped and the fire put out, but we had a rather disturbed night, for a gentleman in the sleeping car would insist on getting up every quarter of an hour to see if the car was safe. We got to Sydney at 6 in the morning. We found that a deputation had arranged to meet the train at 10 a.m., having forgotten that the Monday morning train arrived four or five hours earlier than on other days of the week.

I saw very little of Sydney at this visit, for I spent my two days there at the meeting of the Federal Committee, and I was very glad to do so, because I think my visit was fortunately timed. The Committee was discussing the possibility of the institution of State insurance. The position is interesting. The club work of medical men in Australia is far more extensive than in this country, but they are in a better position to command reasonable terms owing to the fact that they are more united, as about 94 per cent. of the medical men in active work in Australia are members of the British Medical Association. There were, of course, disagreements in regard to details, as in this country, but the medical profession in Australia has the wisdom to realize that small disagreements do not matter much. They all move together to win their main principles and form no new bodies as is being done at home. I dined with the Federal Committee and with the Branch of the Association before starting for New Zealand.

We had a splendid journey to Auckland. The boat was carrying about eighty medical men and women to the Congress, and we had many discussions, some of them all the more interesting because they were individual. I rather got at loggerheads with the women members of the profession on board. We had been discussing the question of women doctors, and, in reply to a question as to the position of women in the profession in this country, I hazarded the suggestion that women were not physically well fitted for the medical profession. Next day I was surrounded by five or six medical women, who tackled me on this point. Among them was a lady—a young woman who looked like a girl. She lived in a corner of New South Wales on the border of Queensland, and the nearest doctor to her was 150 miles away. She managed the whole of the medical work of the district herself, riding a bicycle, or a horse, or a camel to reach her patients, some of whom were sixty or seventy miles away. When she operated she had to give the anaesthetic herself, and, while operating, to get some common-sense individual to keep dripping the anaesthetic on the towel. On the boat from Sydney to Hong Kong on my way home I came across a family from the district who knew her; they said that she was absolutely adored by everybody. So I found that my opinion on the matter of female practitioners could not be sustained. Many women are employed in the Government service in Australia, especially in the inspection of school children.

I arrived at Auckland on Sunday evening, and during my stay there was the guest of Dr. and Mrs. H. Carrick Robertson, who were kindness itself, and made me feel quite at home. The Congress was opened on Monday by Lord Liverpool, the Governor of New Zealand, and was conducted on the same lines as our meetings here. After Dr. Purchas, the President, had delivered his address to the Congress in the evening, I had the honour of proposing a vote of thanks to the Governor, Lord Liverpool.

During the week I was present at various meetings of the sections, which were very well attended. While not presuming to judge of the value of the papers, I was much struck by the keenness of the discussions which followed. Many men took part in them, and the criticisms struck me as being very trenchant, showing great originality of thought and independence of judgement. This I concluded was due to the fact that the men were bound to be more dependent on their own judgement than we are at home.

The Congress at Auckland was one of the medical profession of Australasia; but at the last meeting a resolution was passed that the next Congress would be one of the British Medical Association in Australasia, though, of course, not confined to its members. It will be held at Brisbane in the autumn of 1916.

There were the usual social functions at Auckland; one very interesting one was the dedication of a new park, a part of the native bush some distance out of town, and a very lovely spot. The members were entertained by the Mayor of Auckland, Mr. Parr, who, I see, has received the honour of knighthood from the King.

The dinner was a great success; there was a very large attendance and some brilliant speaking. Among the speeches was a very important and statesmanlike utterance by Mr. Holman, the Premier of New South Wales. I responded to the toast of "The British Medical Association."

I was called on to address a general meeting of the profession on Monday afternoon on the subject of the Insurance Act. The audience showed an extraordinary interest in the subject, and after my address I had quite a lively half-hour or so answering many pertinent questions, which tested fully my knowledge of the Act. I think my address was probably of some use, as the profession in New Zealand is not so well organized as in Australia. However, they are going the right way about correcting this, as they are now employing paid organizers, and I have no doubt will soon be equal to Australia in their organization.

After the congress week we went to Rotorua in a special train provided by the Government. The party was in charge of Dr. Valentine, Principal M.O.H., New Zealand. We reached our destination in the evening, and the Resident Medical Superintendent asked me to visit the Baths at Rotorua about a mile and a half from where I was staying at Whakarewarewa. We found that arrangements had been made not only for inspecting the baths, but also for a display of the Maori dances—the Haka, danced by the men, and the Poi, the love dance, by the women.

The Thermal District is one any one who goes to New Zealand should certainly visit. Titiriki (Hell's Gate) is the name of a part of it. It is a terrible place; there is a little path, our guide got his stick down a crevice—

we were then in the middle of boiling mud—and were told that a portion had fallen in a day or two before. The Maoris in this district do not think of making a fire for cooking purposes. They dig a hole in the ground and cook their food in the natural boiling water which runs quite close under the surface of the ground. While looking out of the breakfast-room window at the Geyser Hotel I was rewarded by seeing the remarkable phenomenon of a geyser spring up within 150 yards of the window to the height of approximately 150 ft. After spending four days in the Thermal District I started with Dr. Sydney Jamieson, of Sydney, for Wellington, in the south of the Northern Island. At Tamaranui we embarked for the trip down the river Wanganui through a gorge with cliffs rising from 500 to 700 feet in height. They rose sheer like the wall of a house, and were clothed all the way up with ferns, tree ferns, and pines. The trip itself was rather exciting, because part of the time the steamer, which was specially constructed with a flat bottom made of steel, was travelling over rocks at the bottom of the river. It was a stream of rapids with intervening shelves. The journey took two days. We stayed the night at Pipiriki, a small place in the bush, where there is a beautiful hotel, quite up to date, and lit by electricity. We started next morning at 4.30 down the next part of the river, which is not so interesting, and arrived at Wanganui, where I took a day's rest with a friend. I got to Wellington on Saturday and sailed that night for the South Island to visit Christchurch. We had a very good meeting of the Christchurch Division, though it was summoned at short notice, and Dr. Jamieson and I addressed those present on contract practice and the Insurance Act.

In every place I went to see the hospitals, which are admirably arranged, fully up to date, and quite in keeping with anything we have here. Every hospital is subsidized by the Government to the extent of 24s. to the pound I had a very pleasant time at Wellington on my return; I dined with the medical men at the Wellington Club, and there was a good meeting afterwards, which was addressed by Dr. Jamieson and myself. I stayed three days in Wellington, which were spent in visiting the hospitals and some of the interesting places around, and then went to Sydney, where I took matters easy, visiting the interesting places in the neighbourhood, in particular the beautiful harbour. I also went to Manly beach, where I enjoyed the surf bathing. I started for Hong Kong in the North German Lloyd liner *Prinz Sigismund*. I had extraordinarily good luck here; I had met the German Consul-General of the Pacific in New Zealand. When I met him again in Sydney and told him I was going by the North German Lloyd steamer he wrote and telegraphed to the captain of the ships and to the officials of the places I was going to call at, so that wherever I went somebody came to meet me, and things were made very pleasant for me. I should like here to acknowledge the courtesy that was shown to me by the various German officials, and particularly the Governor at Rabaul.

I was unfortunate at Brisbane. The steamer was due at 11 a.m., and the medical men had arranged to meet me at lunch; but we did not arrive until 5.30 p.m. Dr. Butler told me that about eighty men had come into the town to meet me, some from distances up to 100 miles; a certain number, however, had waited, and I had dinner with them, and spent a very pleasant few hours.

My journey from Brisbane to Hong Kong took me by German New Guinea and various islands in the Pacific which are now under German sway—for example, New Britain, the Caroline and Pillar Islands; I also visited the Philippine Islands, and spent a Sunday in Manila.

Hong Kong is a beautiful place, and at the season I visited it has a fine climate. I had intended staying only two days there, but owing to the late arrival of the steamer I missed the connexion and stayed a week. I was very glad this happened, as it is a most interesting place, and the people very gay and hospitable. I stayed with Dr. Sanders at the Matilda Hospital, and he and Mrs. Sanders saw that I had a very good time. I was made a member of the Hong Kong Club, which is a distinctly cheery place. I dined with the Governor, Sir P. May, and with the principal medical officer of the Navy Department, I attended the final of a senior tennis tournament and the final of a football cup competition among the soldiers stationed at Hong Kong. I played golf over two courses, and altogether enjoyed myself. But my whole time was not given up to frivolity. I attended a meeting of the members of the Hong Kong Branch, and they entertained me to dinner. We had a most interesting meeting, as, though the Insurance Act does not affect them, there were many other points to be discussed.

A new university has been established for the training of Chinese medical men, and the curriculum, I understand, will be recognized by the General Medical Council for registration. I was shown over the university, and had lunch with the Principal. I visited some of the hospitals; the most interesting was the Tungwa, which is for Chinese patients, and there I saw some plague patients. This hospital is divided into two parts; in one the treatment is on the old Chinese lines, in the other on modern lines by Chinese doctors trained in Europe or America. The patients are given the choice of which they will have. The plague was fairly prevalent while I was in Hong Kong, and the doctor at the Tungwa told me that the mortality was about 98 per cent.

I paid a visit to Canton, which I understand is a typically Chinese city. It is filthy, and the population teeming, yet in spite of the filth they seem healthy and happy. The most interesting thing about Canton is the life on the river, where I believe about a million people live in the sampans and junks; they are a people apart, living their whole lives on the river. After leaving Hong Kong I called at Shanghai, but my visit there was of the shortest.

I landed in Japan at Moji, sailed through the famous Inland Sea, visited Kyoto, Nyanoshita, Tokyo, Nikko, and Yokohama. I was not very much impressed with Japan, but there are some charming places and Fujiyama is very beautiful. Nikko I was lucky enough to see when the cherry blossom was in full bloom. We had a very uninteresting run across the Pacific from Yokohama to Vancouver; it is a very lonely sea; we only saw one ship during the ten days. We had the curious experience of a week with an extra day in it to make up for the time gained in travelling east. The days were arranged, Sunday, Monday, Tuesday, meridian day, Wednesday, Thursday, Friday, and Saturday. The run through Canada was very interesting to me, but has been so often described that I need say nothing about it. I visited the hospital in Toronto, which is the newest and most thoroughly equipped I visited. I returned from New York in the *Adriatic* and landed in England on May 21st, and found England the most beautiful place I had seen.

The question may be asked whether this journey has been of any use; judging from expressions used to me I have no doubt that the visit has done good. The members in Australasia are an honour to any association, and it is the duty of the Council of the Association to bind them closer to us. They are a well organized body, and I think at the present time there is not a symptom of anything like breaking away, but with a well organized body, so self-contained as the British Medical Association in Australasia, there is always that danger, and it is the duty of the Association at home to do what it can to hold them to us. They ought to be accorded the fullest measure of autonomy consistent with the Memorandum of the Association, as the conditions of life and practice are so different from ours. An occasional visit of some member of the Council would, as one prominent member of the Association in Australia said to me, do a great deal to hold the Association together. If I may express the opinion, I think that my visit was perfectly justified. Personally I have to thank the Council for giving me the opportunity of enjoying five months' good time; the colonial men want me to go out again. I may say this much: I would not advise any man to undertake the journey under the same conditions as I did unless he is physically strong.

In conclusion, I regret that I had not arranged to take a longer time, as I was compelled to refrain from visiting several places, such as Dunedin and other Divisions in New Zealand and Tasmania, and several places in Australia, such as Ballarat. However, I hope the members of the Association in these places will understand that it was not the desire to visit them which was wanting, but the time in which to do it.

THREE CASES OF FRACTURE IN THE NEIGHBOURHOOD OF JOINTS TREATED BY PLATING.*

[With Special Plate.]

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The three cases which form the subject of this paper will be related in some detail, because they serve to illustrate certain controversial points both as regards the treatment of fractures in the neighbourhood of joints and the employment of internal splintage in cases of compound fracture.

Case I.

The first case is that of a domestic servant (J. D., aged 18), who was admitted to the Royal Infirmary on July 29th, 1913, and dismissed on September 3rd following. I am indebted to Professor Marnoch, under whose care she was, for permission to publish the case. On July 29th the patient fell off her bicycle on to her right elbow and sustained a severe compound fracture near the elbow-joint. The broken end of the shaft of the humerus pierced the skin on the posterior surface of the arm. The wound was ragged, about three-quarters of an inch long, and there was a smaller wound of the "burst" type. There was a considerable amount of swelling near the joint. The bone was replaced and the wound dressed with cyanide gauze. An internal angular splint was applied until the swelling should have subsided. The *x*-ray plates taken the day after the accident (Figs. 1 and 2) showed that there was a T-shaped fracture of the humerus with the upright part extending into the elbow-joint. The lower fragments had been displaced upwards and forwards. The amount of shortening was an inch and three-quarters. The patient's temperature remained normal, the swelling subsided, and the wounds healed.

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—Case I: One day after accident.

Fig. 2.—Case I: One day after accident.

Fig. 3.—Case I: Three days after operation.

Fig. 4.—Case I: Three days after operation.

Fig. 5.—Case I: Fourteen weeks after operation.

Fig. 6.—Case II: Eighteen months after operation.

On August 9th, eleven days after the accident, an attempt was made to reduce the fracture under a general anaesthetic, but no diminution of the shortening could be produced. The site of the fracture was therefore exposed through the middle line of the triceps, the scars of the wounds being enclosed in the skin incision, which was 4½ in. long. It was necessary on two occasions to feel with a finger in the wound for the lower fragments. These could not be seen, as they had been forced well into the brachialis anticus muscle, which intervened between the three parts of the broken bone. By means of a Lane's bone-holding forceps applied during partial flexion of the forearm, combined with its forcible extension downwards, the lower fragments were with great difficulty brought out of the wound. They were seen to have been largely denuded of periosteum on their posterior surfaces. The triangular plate seen in Fig. 4 was secured to them. It will be remembered that the lower end of the humerus has a peculiar shape, the bone being much curved, and that whereas the condylar portions are relatively thick, the bone which separates the olecranon fossa from the coronoid fossa is very thin. The plate used is the only plate readily procurable which meets the needs of this particular case. To have fixed the plate to the lower end of the humerus first, and later to the fragments, would have been difficult, if not impossible. In the first place, because the lower fragments could not be maintained in the correct position and close up to the plate with a sufficient degree of firmness to allow of the screws being properly inserted, and secondly, because it would have been difficult to ascertain the correct position of the upper part of the plate on the shaft of the bone so as to make sure that the screw holes in the lower parts would be situated over the thicker portions of the fragments. While the lower fragments were being fixed, the shaft of the humerus projected backwards beyond the upper part of the plate. After their fixation the lower end of the shaft was brought in front and placed in the angle formed by the plate and the fragments, and then backward extension was made until the plate was in apposition with the back portion of the lower end of the shaft, thus bringing all three pieces of bone into correct alignment. The strain on the screws in the lower fragments during this manœuvre was considerable, but there seemed to be no other way of obtaining correct alignment. The upper screw was placed in position, and then the middle screw, which it will be seen passed through both the shaft and the lower and outer fragment. The periosteum was intact over the posterior portion of the shaft, and the plate was placed over it. The triceps aponeurosis was sutured with catgut and the skin closed with silkworm gut. An external angular splint was applied and the arm bound to the chest. The operation took two hours to perform.

Gentle passive movement of the elbow-joint was commenced on the third day and continued every other day without producing pain. The wound healed by first intention. The *x*-ray photographs taken on August 12th and 13th (Figs. 3 and 4) show the position of the fragments in antero-posterior and lateral views. It will be seen in Fig. 3 that there is a small piece of bone left free in front of the humerus, possibly it is in the brachialis anticus muscle. Gentle massage and passive movements with occasional active movements were continued until the patient left the infirmary, three and a half weeks after operation. At this time the biceps and triceps were acting well, the movements of flexion and extension at the elbow-joints were well performed, but were stiff, especially in complete extension. Pronation and supination were perfect. The circumference of the arm at the site of the transverse portion of the fracture was one inch greater than on the sound side at the same level.

Seven and a half weeks after the operation movements of flexion and extension were gently carried out under chloroform. The movements were accompanied by considerable cracking of adhesions, especially near the lower end of the scar, where the aponeurosis of the triceps was adherent to the skin. A certain amount of swelling appeared after this, especially towards the back of the joint, and the skin became discoloured. There was much pain in the arm for three days. There was no evidence of sepsis. On November 7th, thirteen weeks after the operation, and for no other reason than that the arm was still swollen, the plate was removed. It was found to be covered at the back with a layer of granulation tissue, the upper screw was slightly loose, but had to be rotated before it could be withdrawn. The three other screws were quite firm. The fragments had apparently united in good position. The scar tissue between the skin and the triceps muscle was freed and the wound closed. This wound healed by first intention. An *x*-ray photograph taken on November 18th (fourteen weeks and two days after the plating), seen in Fig. 5, showed that there was a curious and interesting buttress of bone extending from just below the transverse portion of the fracture to a point some 3 in. higher up the shaft. The small fragment of bone before mentioned is hidden by the lower part of this new formation. The site of the transverse portion of the fracture has apparently yielded very slightly, so that the lower fragments are a trifle more flexed than immediately after the operation. Skiagrams were taken on subsequent dates up to seven and a half months after operation, with a view to observing any changes that might occur. There was a certain amount of diffuseness of outline, especially of the lower fragments; the buttress of bone became denser and the central cavity smaller. It seems to me that the probable explanation of the buttress of bone is that at the time of the accident a layer of osteogenetic cells on the surface of the bone was carried forwards with the periosteum into or towards the brachialis anticus muscle. The severity of the blow probably drove the lower fragments upwards and forwards—that is to say, the displacement was caused by the blow and not by subsequent muscular action, and the osteogenetic layer and periosteum were forcibly stripped off the shaft. The osteogenetic

* A paper read before a meeting of the Aberdeen Medico-Chirurgical Society, April, 1914.



FIG. 1.



FIG. 2.

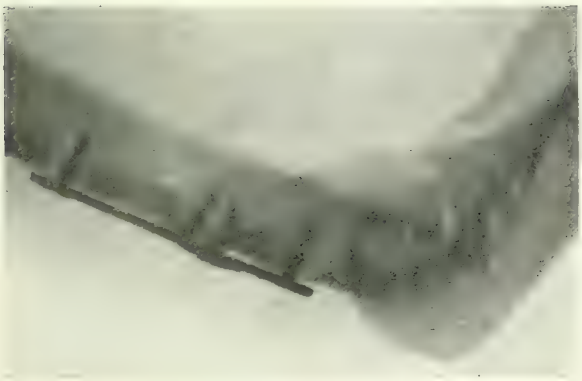


FIG. 3.



FIG. 4.



FIG. 5.



FIG. 6.



FIG. 7.



FIG. 8.



FIG. 9.



FIG. 10.



FIG. 11.



FIG. 12.

cells then produced new bone. The diffuseness of outline is possibly due to the absence of periosteum on the posterior aspect of the lower part of the bone, there being no membrane left which definitely limited the production of bone in this situation. This case illustrates very well the importance of *x*-ray examination long after operation. Looking only at the plates taken shortly after operation one would be inclined to say that the result is good.

On January 16th, 1914, nearly twenty-two weeks after the operation, the condition of the arm was as follows: It was the same length and diameter as its fellow. The biceps and triceps acted strongly and freely. The lower part of the triceps was adherent to the skin. Flexion and extension were performed freely and without pain. The movement of extreme flexion was 5 degrees of arc less on the injured side, and the movement of extension was 40 degrees less. The exact cause of limitation was not clear. The uninjured arm has 150 degrees of arc as its full complement of flexion and extension, and on the injured side 105 degrees were present, the chief loss being in full extension, as already mentioned. Pronation and supination were perfect. The joint did not grate or crack when moved, except in extreme extension. There was no "rheumatism." This is the condition now, seven and a half months after operation. Probably arrangements will be made for a course of Tallerman baths, and, later on, perhaps movements of the joint under chloroform will be carried out, but at the present time it is too early to say whether the ultimate result will be better or worse than at present.

CASE II.

The second case was sent to me by Dr. Gibb. A single woman, aged 48, on July 30th, 1912, was getting over a three-foot fence, when she tripped forwards and caught her right foot in some heather, sustaining a compound fracture of both bones of the leg at the same level—namely, 2 in. above the ankle-joint.

The fracture was put in splints by the local medical man, and the patient conveyed to a nursing home, a distance of about 18 miles, without further injury to the leg. There was a clean-cut wound, half an inch long, on the outer side of the leg, leading to the fracture of the fibula. The ankle-joint was swollen and boggy to palpation. The patient stated that there had been some earth removed from the wound, and two small pieces were visible.

An hour after admission, under a general anaesthetic, the leg was thoroughly cleansed and the skin disinfected. An incision 3 in. long was made down to the bone on the inner side over the site of the tibial fracture and the edges of the wound clipped to the edges of a slit cut in a piece of sterilized linen. The periosteum was stripped up with the rest of the tissues, and the two tibial fragments were united by a Lane's plate. Almost exact apposition of the fragments was obtained and the screws held firmly without any undue strain on the bone. The skin was closed with silkworm gut; otherwise the Lane technique was followed exactly, and the operation itself was one of great ease. It was noticed that when the wound was closed the lower part of the internal saphenous vein crossed the lower part of the plate obliquely. The vein was not ligatured, because it was thought advisable to interfere with the circulation as little as possible. The limb was placed on a moulded back splint with footpiece and two side splints were buckled on. The splints were swung from a cradle. The patient received a single dose of tetanus antitoxin.

The wounds healed by first intention, and the stitches were removed on the eighth day. On the ninth day there was considerable redness and swelling of the limb near the ankle, with oedema of the skin, but there was no rise of temperature and no throbbing or pain. A diagnosis of thrombosis of the internal saphenous vein was made, and on the succeeding day it was possible to palpate the vein as a firm cord in the leg nearly as far as the knee. There was no antitoxin rash and no pain or swelling in the small joints of the hands or feet. The wounds did not suppurate. The patient left the home and returned to her flat on the fourteenth day. Care was taken during the entire transit to keep the splints swung from the cradle so that there was no jarring of the limb. At the end of the third week the splint was removed and the patient moved the ankle-joint. A "Croft" plaster-of-Paris splint was then applied, and daily massage commenced, the region of the plate and thrombosed vein being carefully avoided. On the twenty-sixth day the patient got up on crutches. Six and a half weeks from the operation the Croft splint was discarded and a crêpe Velpeau bandage worn; the patient at this time began to bear a little weight on the limb.

Three and a half weeks later, having acquired plenty of confidence and being able to walk without assistance, she slipped and fell, receiving a severe blow from a fender on the middle of the shin of the fractured leg, but no serious harm resulted. Twelve weeks from the time of the accident the patient was walking without a limp, and was instructed to do the ordinary exercises for flat-foot. These she has continued to do ever since, although four months after the accident the arch of the foot on the injured side was equal to that on the sound side, and was as quickly restored on movement. At this time the scar was sound, the swelling of the foot very slight, the size and tone of the muscles of the leg equal to those on the sound side, and the patient could wear ordinary boots without inconvenience.

The condition eighteen months after the accident was as follows: There was slight swelling of the outer aspect of the foot towards evening. This swelling is absent in the morning. There was a slight pulpy swelling in the line of the peroneal tendons at the back of the fibula. This condition is much more marked on the sound limb, and could therefore hardly be ascribed to the accident. The scar of the operation was only visible on close inspection. It was supple and freely movable. The plate was not definitely palpable. The internal saphenous vein could be felt here and there below the knee. Dorsal flexion of the foot was about two degrees greater on the right or injured side than on the left, whereas ventral flexion was some three degrees less, and was not performed so strongly or so rapidly as on the left side. Eversion and inversion on the injured side were slightly less than on the sound side, but the difference was scarcely measurable. The patient was able to raise herself on her toes with the heels together twenty times consecutively without effort, and to perform the exercise of outward rolling of the foot. She walked ten miles at a stretch during September, 1913, and noticed that the foot did not swell after this exertion. There was no perceptible difference in size or tone between the muscles of the two legs. There was no pain and no "rheumatism" in wet and cold weather. Dr. Philip took another pair of *x*-ray photographs (Figs. 6 and 7). One of these shows that the upper part of the plate is possibly covered by callus, but in the absence of an oblique view this is uncertain. There is possibly some rarefying osteitis of the lower fragment, but we have no *x*-ray photograph of the sound limb taken at the same time, or with a tube having an equal degree of hardness, for exact comparison. A portion only of the line of fracture is visible, and the fracture of the fibula is not seen.

DESCRIPTION OF SPECIAL PLATE.

Fig. 7.—Case II: Eighteen months after operation.

Fig. 8.—Case III: Nineteen days after first operation, taken through aluminium splints. Magnification × 1/2.

Fig. 9.—Case III: Nineteen days after first operation, taken through aluminium splints. Magnification × 1/2.

Fig. 10.—Case III: Eight months after first operation.

Fig. 11.—Case III: Nine months after osteotomy and eighteen months after accident.

Fig. 12.—Case III: Nine months after osteotomy and eighteen months after accident.

CASE III.

The third case is that of a male, aged 29, who was sent in to Professor Marnoch. Professor Marnoch was on the point of leaving for a holiday, and very kindly passed the case on to me. The accident occurred in this way: Two motor cyclists travelling towards each other at a relative speed of sixty-five miles an hour collided. The foot-rest of the oncoming machine caught the patient's left leg just above the ankle. The patient was knocked off and lay with the injured leg in a pool of water for one hour. His left thumb was partially torn off and there was also a severe lacerated wound over the left patella. The other cyclist sustained a severe fracture of the lower end of the left femur.

Dr. Cran, of Banchory, and Dr. Davidson, of Torphins, brought the injured men to Aberdeen, and eight hours from the time of the accident operation was performed. The left thumb was amputated through the proximal

phalanx and the flexor tendon sutured to the dorsal expansion. The wound over the patella contained some blades of grass, which were removed, the skin sutured and the wound drained. There was a severe compound comminuted fracture of the left tibia and a simple comminuted fracture of the left fibula at the same level, namely, about an inch and a half above the ankle-joint. Under a general anaesthetic the edges of the skin were excised over the tibial fracture and the tissues pared down to the bone. The incision was prolonged upwards. It was then seen that the periosteum was destroyed over the tibia, and some of it that was left was black with mud. It was therefore removed. There were several small fragments of bone also discoloured with mud, and about three teaspoonfuls of bone pulp mixed with mud. All these were removed and the wound swabbed out with hydrogen peroxide. It was then clear that the anterior tibial artery and vein had been severed. The posterior tibial was intact. The exact extent of the fracture was not discovered until later on. Removal of the bone pulp and mud left an irregular gap in the tibia 1½ in. long in front, 2 in. long in the medullary portion, and extending nearly the whole thickness of the tibia, so that the shaft could only be made to touch the lower fragments at the posterior surface of the bone. Part of the largest tibial fragment had been split off, so that the fracture extended into the ankle-joint, which was full of blood. These two pieces were pinned together with the nail seen in Fig. 1, and then, the foot being held well forwards and the toes pressed upwards, a Lane's femur plate nearly four inches long was used to bridge the gap between the shaft and the larger of the lower fragments. The two middle screw holes were left without screws because there was no bone underneath them. The plate held firm, and the chief lower fragment touched the shaft at its posterior border. The fracture of the fibula did not communicate directly with the wound, so it was left alone. The wound was sewn up and a small tube placed at the bottom of the gap in the tibia. The wounds were dressed, the limb placed on a moulded back splint with footpiece, and two side splints strapped on and the splints swung from a cradle. The patient received 20 c.cm. of tetanus antitoxin.

The temperature was highest on the third day, when it was 101.8° F. On the fifth and sixth days there was a severe urticarial rash, but no pain in the smaller joints of the hands and feet. The patient took food well. The tube was removed on the tenth day, and the stitches also. The scar stretched and gave way in the middle, but was covered with epithelium on the twenty-second day. On the eighteenth day an aluminium splint, carefully moulded to the curves of the limb, and padded with a thin quilted pad, was fitted in the place of the splint used at first, and two aluminium side splints were strapped in place. This system rendered it safe to move the patient to the electrical room, and the *x*-ray photographs (Figs. 8 and 9) were taken through these splints by Dr. Levack. They showed that there were some five pieces of bone left in the lower part of the tibia and five in the fracture of the fibula. Both these fractures extended into the ankle-joint, so that indirectly the fibular fracture communicated with the septic portion of the wound. The most important fact, however, appeared to be that the lower largest fragment of tibia was tilted at an angle to the shaft, the fragment being rotated on a transverse axis with its upper portion forwards. When the corresponding outline of a normal bone is compared with the *x*-ray plate, the amount of rotation is found to be 23 degrees of arc. The probable explanation of this tilting is that the fragment did not move when the foot was held up in its correct position. Its small size and the fact that the curves on the patient's right or normal tibia are more marked than in most cases led to the fixation being made in a faulty position.

On the twenty-first day the skin sloughed over the plate. On the twenty-third day Professor Marnoch, in consultation, expressed the opinion that it was inadvisable to do anything further at that time, as this would involve disturbing the plate and it might not be possible to obtain a firm hold again. He considered that it might take some time for the gap in the bone to close up.

At the end of the sixth week the patient was anaesthetized, and the ankle-joint moved as freely as possible. The plate was then removed. It was necessary to unscrew the screws, although they were slightly loose. The pin was also removed. It was found that the bones had just united. The granulations where the plate had been were scraped away, the wound partly closed and drained, and the moulded splint was reapplied. At the end of the ninth week a "Croft's" splint was applied, daily massage instituted, and the patient got up on crutches. *X*-ray plates, taken thirteen weeks from the time of the accident and seven weeks from the removal of the plate, showed that consolidation was proceeding. There was a small bridge of bone between the shaft of the fibula and one of its fragments (see also Fig. 10). At this time a small sinus existed where the tube had been. Towards the end of the fourth month the patient was able to walk with the aid of two sticks.

At the end of the fifth month the sinus had healed, the dent in the bone where the gap had been was smaller, and the shortening was only a quarter of an inch. The movements of the ankle-joint were limited, but devoid of creaking or grating. The leg muscles were much wasted and their tone was bad. The patient was advised to wear a leather wedge on the inner side of the sole of the boot, and to walk with the toes turned in. At the end of the seventh month the leg was very painful during the day and at night. The joint scarcely moved.

At the end of the eighth month the joint began to yield a creaking sensation when examined, but was not swollen. There was a tender spot on the bone, on the inner side just above the joint, so that the patient could not sleep when the leg was turned on that side. There was considerable swelling of the ankle at night. Fig. 10 shows the condition in lateral view. In consultation with Dr. Smart, who was attending the patient, it was agreed to continue massage and movement of the joint by a skilled masseuse.

Up till now massage had been done by the patient and by friends. The masseuse moved the joint thoroughly and this resulted in a great effusion of blood into it. The leg became so painful that the patient was unable to walk on it. It was clear that something more radical would have to be done. The choice lay between osteotomy at the site of the fracture with rectification of the lower fragments and arthroplasty. The latter operation would have consisted in this case in opening the ankle-joint from in front, removing the front portion of the lower end of the tibia with its articular cartilage, and in rounding off the surface of bone so as to make a new ankle-joint in the correct position. A portion of deep fascia from the thigh would then have been inserted so as to separate the joint surfaces. This proceeding, although of undoubted use in many cases, seemed to me to offer nothing radical as regards restoring the line of action of the muscles, and further it would have involved the risk of opening the ankle-joint and perhaps the production of more adhesions. In choosing osteotomy it seemed that the spicules of bone near the fibular fracture could be dealt with at the same time and the condition of this part of the leg ascertained with respect to any interference with the action of the peroneal muscles that might be present. It was recognized that the operation would be one of considerable difficulty. A moulded aluminium splint was carefully shaped to the sound leg with the foot held in a position of extreme dorsiflexion, and padded with a thin quilted pad.

One week less than ten months from the accident the patient was anaesthetized and the adhesions in the ankle-joint broken down. The sites of the fractures were exposed, and the bridge of bone and projecting spike attached to the fibula removed. They lay under the tendon of the peroneus longus. The tibia was divided at the site of fracture, the bone being found to be dense and devoid of medullary cavity. An attempt was made to rectify the position of the lower fragment, but this was found to be impossible until the fibula had also been divided, and when the correct position of the foot had been secured in this way the ends of the fibula did not come into proper alignment, the lower fragment being tilted forwards and inwards. The tibial and fibular fragments were plated to the shaft, this being difficult to do on account of their small size and the proximity of the ankle-joint. The wounds were closed and dressed, and the limb splinted and swung from a cradle. The operation took three hours and a quarter to perform, and it was followed by severe pain lasting for three days. The highest temperature recorded was 99.4° F.

The wounds healed by first intention. Massage and passive movements were carried out daily, commencing on the third day. The plates had been so firmly fixed that there was no great risk in doing this; but, in view of the risk of rarefying osteitis supervening or of sequestration of any of the original fragments present at the time of the accident, it was considered advisable to remove the plates. This was done at the end of the

seventh week under a general anaesthetic, the opportunity being taken to move the ankle-joint freely before removing them. There was no cracking of adhesions when this was done. The screws were found to be quite firm, and the fractures were found to have united. The limb was again placed on the moulded splint until the wounds were healed, and on the tenth day a Croft's splint was applied. Massage and active movements were carried out from the seventh day. A piece of the old scar tissue from the original wound at the time of the accident sloughed immediately over the tendon of the tibialis anticus, and this has resulted in a slightly adherent scar. The patient had a course of Tallerman baths to the limb for three weeks, but I regret to say I have no note of the dates. This treatment resulted in considerable softening of the scars, and seemed, if anything, to improve the condition.

He was allowed to stand on both legs ten weeks after the osteotomy, and soon began to walk. From this time onwards there has been a steady improvement, which is a striking contrast to his progress after the original setting of the fracture. The condition nine and a half months after the osteotomy, or eighteen months after the accident, is as follows: There is occasionally slight pain on the outer side of the foot, and he has a tired feeling in the ankle if he walks any distance. There is a slight limp, but the patient can walk without any limp if he tries to do so. He is able to walk six miles at a stretch, he can cycle and "dance every dance," but the ankle is painful if he walks on uneven ground or if he forcibly inverts the foot. The circumference round the malleoli at 5 p.m. is 11 in., as compared with 9½ in. on the sound side. The swelling is much less in the morning. The shortening is half an inch. All the scars are supple and non-adherent except in the one place mentioned—namely, over the tendon of the tibialis anticus. This is improving. The patient's right or sound foot is abnormal as regards movements, there being less dorsiflexion than is usual. Comparing the two sides: The right or sound side has dorsiflexion 4 degrees of arc and of plantar flexion 47 degrees of arc, or 51 degrees in all. The left has dorsal 5 degrees, or 1 degree more than on the sound side, and of plantar 5 degrees, or 42 degrees less than on the sound side. Eversion and inversion on the injured side are about two-thirds of the extent of those on the sound side, and they seem to compensate very largely for the loss of plantar flexion. There is no flat-foot. The maximum circumference of the leg on the sound side is 14 in., and on the injured side 13½ in., the tone of the muscles being about equal. The thigh muscles are equal on the two sides. The patient has therefore recovered with ½ in. of shortening, ½ in. of wasting, and considerable diminution in plantar flexion. This does not seem to inconvenience him, but in view of the risk of arthritis being set up, I am at present advising against moving the joint under chloroform. The *x*-ray plates (Figs. 11 and 12) show that there is bone deposited between the lower ends of the tibia and fibula. There is otherwise no callus formation. The gap in the tibia is smaller and the various fragments seem to have consolidated well.

There are some interesting points about these three cases. In the first place the question arose as to whether operative interference was advisable or not, and if it was, whether plating should be carried out at the same time or the fracture merely set. In the first case, that of T-shaped fracture into the elbow-joint, reduction could not be effected by ordinary means, and even through an open wound was difficult to perform, probably because of the violence of the original blow. There was no element of sepsis after the wound had healed. If the fracture had been left and later the fragments resected, the brachialis anticus would probably by then have been caught in the callus and perhaps only freed with difficulty. The fracture extended further up the arm than the majority of such fractures. Resection would have resulted in about 2 in. of shortening, and probably a flail-like joint. In the second case, where there was a transverse fracture of both bones 2 in. above the ankle-joint, there was sepsis of the fibular fracture, but possibly no sepsis of the tibial one. With care such a fracture could have been treated without plating, and a good position of the bones secured, but the performance of massage and movements would have required great care. By plating such a fracture one obtains a rigid result from the start, and there is much less anxiety as regards the likelihood of displacement occurring when the splints are changed or massage and movement employed. The plate was placed as far away from the septic focus as possible, and that is one reason why it was not placed on the outer surface of the tibia. Lane[1] says, "It is unwise to place a steel plate directly beneath the skin incision, and wherever possible it is well to bury the plate beneath muscle rather than immediately under the skin." It seems to me that the latter proceeding might make the operation one of difficulty in certain cases of fracture in the lower third of the leg. It might possibly lead to an adherent scar between the skin and the tibialis anticus. The fixation of the plate might have to be abandoned in some cases owing to the difficulty of inserting the screws while the muscles are retracted. The inner side is much more accessible, no muscle or tendon is interfered with and the tissues are about ⅜ in. thick over the bone. The chief risks seem to be that the plate may be jarred by a direct blow, or that the tissues over it may slough. In the present case neither of these things has happened; the patient wears boots and the scar is often subjected to pressure.

In the third case, according to general opinion, operation was indicated, but plating was strongly contraindicated. Walton,[2] however, is in favour of plating early as against waiting until sepsis has disappeared, on the ground that sepsis is unlikely to be increased by the operation; whereas by waiting the opportunity of obtaining exact apposition of the fragments may be lost owing to the changes which occur in the bones and surrounding tissues. A case in some respects similar to the present one is recorded by Negus.[3] Tetanus, however, supervened, and, though the patient's life was spared, he lost his leg. Hey Groves[4] mentions a case similar to mine in which, by means of a sliding splint, an extension of 10 lb. weight was maintained on the foot while the wound healed and the bones united, but vicious union resulted, and the patient was crippled for life. The foot was saved, but the ankle-joint became stiff. The amount of shortening, if any, is not mentioned.

Personally I doubt if the foot in Case III would have been saved without the use of a plate. The extreme severity of the injury and the flail-like condition at the site of fracture would have made it exceedingly difficult to control the foot and leg by means of external splints alone. Hackenbruch's fracture clamp apparatus was not in use at that time. It would have suited the case well enough provided there had been no swelling of the limb after its application. It would have required considerable care in use, and perhaps the plaster would have had to be frequently changed under general anaesthesia, which in some cases is contraindicated. My great regret, however, in this case is that I was deceived by the apparent correct position of the lower fragments at the time of the first operation. To have recognized that their actual position was incorrect would have saved the patient some months of great pain and disability. The error arose chiefly from the abnormal curve of the bone as seen on the sound side, and from the small size and fixity of the largest of the tibial fragments, combined with the fact that the foot came into good position.

In all three cases the patients were anxious and willing to assist their own cures in every possible way. This largely accounts for the result in Case III. The patient was a man of sound physique who carried out all instructions to the letter, and often at the cost of much pain.

The chief points about the technique of plating are so well known that they need not be mentioned. Before the Lane technique came in an ordinary bradawl and screwdriver were often used with complete success. The tedious nature of many of these operations is partly due to the use of long-handled instruments, which, though it may secure the greatest degree of asepsis in the greatest number of cases, often makes the operation more difficult. The actual mechanical difficulties are apt to be greater than those which arise in carpentry, because of the difficulty of holding the fragments firmly without any give while the screw holes are bored and the screws inserted. It is essential to have the holes the right size for the screws, neither too tight nor too loose, and it is advisable to test the drills and screws on a piece of bone beforehand. The screwdriver should fit the slot of the screw properly, and be less in width than the diameter of the head of the screw. To have to stop or alter the operation on

account of difficulties arising under these headings argues a lack of prearrangement and practice. There are two common causes of failure to get the screws to hold well, and I mention them because they are not as well known as the others. One is that the hole in the plate is not strictly concentric with the hole in the bone; in this case the screw enters with difficulty, and if much strain is thrown on it it may break off. The other common cause is that the screw is tightened too much; in this case it acts as a cutter, and removes the thread in the bone. This makes it loose just as if the hole had been too large from the start, and though the hold may be useful against movements in the plane of the plate, it is useless against movements in the direction of the axis of the screw. In these ways useful positions may be sacrificed, and in a difficult case no others may be obtainable. Again, if the screw is overtightened much strain is thrown on the bone, pressure atrophy occurs and the screw quickly works loose. This probably in part explains those cases in which, apart from sepsis, the screws, though tight at the conclusion of the operation, are found to be loose when the plate is removed. To estimate by the feel of the screwdriver that the correct position has been attained and the correct degree of tightening ensured is an art that comes most readily to those who are used to working in hard wood, bone, and ivory. Hey Groves[5] mentions that Lambotte pointed out that the hold obtained in the bone by the thread of a screw used for metal work has a distinct advantage over the hold obtained by the thread of a screw used for wood. The tap-screw suggested by O'Neill Sherman[6] is a simple way of employing the metal work screw. I show to-night a section through each kind of screw cut from a bone after inserting the screws, and you see the advantage of the metal work thread as regards the hold obtained. One small point may be mentioned as its use is not generally known. To steady the shaft of a bone lying fully exposed in the wound one can place it under a broad band made of flexible sheet metal. This sometimes enables drilling and screwing to be done with great ease in an otherwise difficult case. For the sake of speed and accuracy some kind of geared drill is used. Some of those on the market do not allow of the point being kept steady while the handle is turned. By massing the chief weight one-third of the distance along from the handle to the point and by having the handle relatively heavy and arranged vertically, the instrument can be made to conform to the laws of dynamics and the point of the drill is steadied. Most will agree that the small fly-screw so often present in these instruments may catch in the tissues in a difficult case and so prevent the drill from revolving.

As to the use of splints. It seems to be agreed that external splints are necessary, certainly in difficult cases or where the screws do not hold well. They impede massage and movement, and their removal and reapplication twice a day is apt to be tedious. It seems to me that a better result is obtained by using a moulded splint thinly padded than by using a straight splint thickly padded. In the case of the leg, diminution of pain and muscular spasm, and greater ease in nursing are obtained by swinging the splint, which is shaped so that the leg is slightly flexed at the knee. In the case of a compound fracture the dressing is done without letting down the limb, so that any movements due to pain are at once taken up by the swing, and the site of fracture is not jarred. The patient can also turn partly on his side to sleep without risk of the thigh rotating relatively to the leg in the sleeve of strapping or bandage. There seems to be less after-stiffness of the knee when the joint is kept bent than when it is kept on a straight splint. In an aseptic case, after the stitches have been removed, the "Croft" or "Bavarian" splint has so many advantages that its use is becoming general. The ease with which it is made and the simplicity of its removal and reapplication make its use ideal in these cases when massage is employed or *x*-ray photographs have to be taken.

In conclusion, I must thank you for having given me such a patient hearing during the reading of a somewhat technical paper.

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NOTE ON HAEMOSTASIS BY APPLICATION OF LIVING TISSUE.

BY

SIR VICTOR HORSLEY, F.R.S., F.R.C.S.

MANY years ago, acting on a hint obtained from Magendie's *Physiologie*, I showed that it is very easy to arrest bleeding from bone by the use of an aseptic plastic wax which can adhere to the cancellous spaces and to their walls. This method is now, I believe, in general use.

On the other hand, it is difficult to stop bleeding and haemorrhagic oozing from soft tissues except by the employment of a ligature, or pressure with a gauze tampon, or by irrigation with hot liquid (110° F. to 115° F.). For a long time I employed amadou for this purpose in experimental investigations where asepsis was not required, and with good results, as it adhered well to the bleeding point. To obtain, however, the same result in aseptic operations is not so simple. The factors which had to be obtained were:

1. Asepticity.
2. Adhesiveness.
3. Thrombokinesis.

In view of my personal experience of the work of the late Dr. Wooldridge, it occurred to me that probably the best material would be living vascular tissue—that from the (injured) surface of a cut fragment of muscle, in all probability, thrombokinetic processes would most readily start; not merely on account of the plasma and plasmatic corpuscles of the tissue, but also the thrombokinetic by-products in the effused blood and the development of so-called blood platelets.

Such a fragment of the animal's own muscle offered all these advantages, and also asepticity. I was rather surprised to find that the necessary factor of adherence was also satisfied in a very remarkable degree.

If the bleeding point—for example, from the cut surface of the brain, liver, or any soft tissue—be gently pressed with gauze, and this instantly replaced by a piece of living muscle, and pressure again applied from fifteen to twenty seconds, it will be found that the muscle fragment closely adheres to the tissue it is applied to.

Such adhesion is necessarily limited by the pressure at which the blood is escaping from the bleeding point. By direct experiment on divided arteries (including the aorta) in the cat and dog, I found that a muscle haemostasis would resist as much as 60 to 80 mm. Hg blood pressure.

Further histological investigation of the exceedingly thin viscous layer occupying the plane of contact of the two masses of tissue shows that it contains blood platelets, fibrin fibrils, etc., in a considerable degree, and within a short space of time (five to ten minutes) of commencing the preparation.

To estimate the degree of active thrombokinesis I also tested the utility of the muscle after it had been boiled for five minutes at 100° C. Such boiled tissue had a very poor haemostatic effect. It seemed as if this was partly owing to the great loss of adhesiveness which is caused by the heat coagulation completely altering the physical surface of the muscle tissue.

Of other tissues I have only exhaustively tried fascia fully, and with the result that it has not proved satisfactory. It has not the factor of adhesiveness sufficiently well marked, though it can be employed where it is not convenient to take a piece of muscle. When experimental research had shown the remarkably rapid haemostatic effect of living tissue I used it freely in operations—above all, where it was necessary and convenient to leave a resting plug or tampon in a wound. Where an operation has been performed in two stages, I have occasionally had the opportunity of examining the isolated muscle tissue, and found it firmly attached and "organized." In no instance has any ill effect followed its employment.

AT a meeting of the Society for the Study of Inebriety, to be held in the rooms of the Medical Society of London, Chandos Street, Cavendish Square, on Tuesday, July 14th, at 4 p.m., a discussion on "Proposed Legislation for Inebriates" will be opened by Dr. J. W. Astley Cooper, Resident Physician of the Ghyllwood Sanatorium and Retreat for Inebriate Patients.

PRELIMINARY CLINICAL REPORT ON A NEW AND ECONOMICAL METHOD OF RADIUM THERAPY BY MEANS OF EMANATION NEEDLES.

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SINCE the publication of papers by Professor Joly[1] and myself[2] I have been enabled, by the kindness of the Council of the Royal Dublin Society, to carry out an investigation on this method of treatment. The results I have so far obtained with the limited supply of emanation at present at my disposal are, I think, sufficiently encouraging to justify a short account of the technique I have employed since April 9th. The method, and the results that can be obtained in favourable cases, are conveniently illustrated by the two following examples:

CASE I.—*Inoperable Parotid Tumour.*

Mrs. B. (Fig. 1). The tumour began nine months ago, and grew steadily. It was quite fixed to the lower jaw; the patient



Fig. 1.—Case I. Inoperable parotid sarcoma, before treatment.

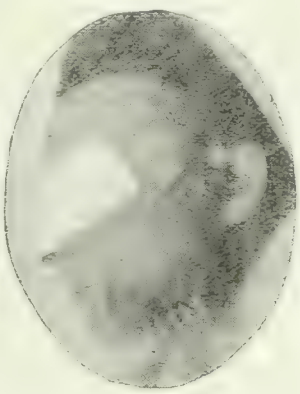


Fig. 2.—Case I. Showing position of needles.

was unable to open her mouth, and fed herself by forcing food, usually crumbled biscuits, upwards under the overhang of the upper front teeth.

Mr. Keegan, to whom I am indebted for the following history, operated on the tumour in November, 1913, and found an indefinite growth, the size of a large cherry, infiltrating the masseter muscle, and without any sign of a capsule. The patient at the time would not allow any operation which might lead to disfigurement. Microscopic examination by Professor McWeeney proved the growth to be a mixed parotid sarcoma. The subsequent clinical history confirmed the diagnosis of malignancy, and later the case was sent to me by Mr. Blayney as inoperable, to try the effect of radium treatment.

At 11.15 p.m. on April 17th, I inserted from behind forwards into the tumour five needles, parallel to one another and about



Fig. 3.—Case I. Showing amount patient could open her mouth after one month's treatment. Before treatment she could not separate her teeth.



Fig. 4.—Case I. Fifty-two days after first treatment.

8 mm. apart. They contained altogether 5.08 millicuries of emanation in glass capillary tubes. I left them in till 12.45 p.m. on April 19th. The strength would then have been reduced to 3.8 millicuries, giving an average of 4.8 millicuries for thirty-seven and a half hours. On April 21st the patient could open her mouth a little better, and on April 27th considerably better. The tumour was also less fixed. On April 29th I inserted six needles containing 17.2 millicuries altogether, from behind forwards (average 15.5 millicuries), for thirty-five and a half hours. Immediately after removal they were re-inserted for twenty-four hours at right angles to their former position (Fig. 2). The average was 13.3 millicuries for twenty-four hours. On May 18th, a month and a day after treatment was begun, the patient could open her mouth to the extent shown in Fig. 3. On that date I inserted five needles containing altogether 4.4 millicuries of emanation in glands in the submaxillary region, and left them in for two and a half days (average 3.5 millicuries). For a fortnight after this dose I thought no effect had been produced by the very small quantity I had used, but I was mistaken, as soon afterwards a distinct diminution of the size of the glands occurred, and the patient was able to open her mouth still wider than illustrated in Fig. 3. During and for some days after each treatment the radiated tissues swelled, and the patient was unable to open her mouth so well. The photograph (Fig. 4) was taken on June 8th. The patient states she can now see her left ear in a mirror, and can put her finger in the external meatus, both of which she had been unable to do for some months. The tumour is no longer fixed. There is no mark on the skin to show where the needles were inserted. The patient has gained 6 lb. during the treatment. After the next treatment I intend sending her home for three weeks, and my present purpose is to give her another treatment in about two months.

CASE II.—*Scar Fixing Wrist.*

Miss K. T. (Fig. 5). The right wrist was burned and lacerated by a calendering machine five years ago, and she had done no work since; history of pieces of tendon having been cut away when first treated. For the past two or three years the fibrous scar was a constant source of pain, which kept her awake at night. The wrist and fingers were fixed in a flexed position, and she kept her whole hand quite rigid. She could move the thumb and first finger a little, the other three fingers not at all.

On May 7th six needles were inserted as illustrated (Fig. 5), and left in for forty-six hours. Average 5.5 millicuries. When the needles were removed the patient stated that the pain had disappeared. Five days later the scar was soft and the wrist could be straightened by strong extension. She could move her thumb and first finger better, and, to my surprise, could flex her other fingers to a considerable extent. She attended Steevens's Hospital as an extern patient for the next week or ten days for massage and manipulation, and her power of movement continued to improve and the pain did not return. She,



Fig. 5.—Case II. Showing position of needles in fibrous scar.

however, discontinued attending the hospital, and wrote to me saying her arm was much better and that she could not attend as she had again started work.

The results I have obtained in other cases still under treatment are also encouraging. A cancer of the floor of the mouth, with extensive glandular involvement, has improved; the glands are smaller and less fixed, and the floor of the mouth less prominent. A recurrent cancer of the breast has been considerably relieved of pain and tenderness, and the patient sleeps much better; the supraclavicular glands, into which I inserted the needles, have diminished in size, and the oedema of the arm has considerably decreased. I have just begun treatment of malignant glands of the neck, which I was unable to remove by operation. There is already some diminution of haemorrhage in a case of cancer of the cervix uteri, which Dr. Tweedy found by an exploratory laparotomy to be too extensive for removal, and handed over to me. In this case the needles were inserted into three different localities of the cervix for twenty-four, twenty-four, and forty-eight hours respectively, and then the capillary tubes were removed from the needles and packed into a

small cannula, which was inserted into the os for three days, each day being pushed a little further up.

When the capillary tubes became too weak in emanation to be buried separately in a malignant growth, I have collected them into a cannula and used them for tuberculous sinuses, etc.

All the patients—eleven in number—on whom I have used the emanation were treated as in- or out-patients in Dr. Steevens's Hospital.

In no case did I use a general or local anaesthetic for inserting the needles; in the breast case I have inserted six needles a dozen times in various localities.

The needles I have used are ordinary steel serum needles as supplied by any medical instrument maker. I get them at Messrs. Smith and Sheppard, Dublin, for 6d. each with tops, and 3d. each without. Their external diameter is 1.4 mm., their thickness 0.3 mm., and the diameter of their bore 0.8 mm. The glass capillaries have as maximum dimension an external diameter of about 0.76 mm., an internal diameter of 0.46 mm., and a thickness of 0.15 mm.; 1 cm. of these capillaries would theoretically be capable of holding the emanation equilibrium of about 3 grams of radium at atmospheric pressure.

The emanation needles, as I have employed them, have decided advantages.

1. They are an economical method of using the therapeutic properties of radium.

2. Clinically, they are easily and safely employed, without an anaesthetic or the use of an operating theatre.

3. They admit of very accurate dosage.

4. They permit a tumour to be subdivided into areas which can be efficiently treated by small quantities of emanation.

The economy of rays has already been dealt with to some extent in the papers referred to. It depends upon the amount of cross-fire that results both from the primary and secondary rays, and also on the fact that the soft gamma and beta rays, which are in the majority, and which are usually screened off in deep radio-therapy, are here depended upon for their therapeutic effects. It is permissible to utilize these soft rays whether they be gamma or beta rays (or x rays and beta rays when x-rays are used), because (*a*) they are all ionizing agents and must in any case result as secondary rays in every method of radiation by means of radio-active elements (or a Crookes's tube); (*b*) they are unhesitatingly employed in surface conditions when radium is used practically unscreened.

The collection of needles get, so to speak, at the surface of the deep parts, and radiate them as uniformly as it is possible to do at the surface, provided that the sources of radiation are within range of the soft rays—that is, the needles are not more than 3 cm. apart, which is about the average distance of human tissues traversed by these soft rays. (1) As in surface conditions due consideration is given to the relation between the length of exposure on the one hand and the amount of screening and of the source of radiation on the other.

I do not think I could have obtained as marked effects by any other method of radium therapy known to me, taking into consideration the duration of treatment and the amount of emanation available. From April 9th to June 8th I received altogether 139.7 millicuries of emanation in capillaries, or an average of 15.5 millicuries per week. It must be remembered that half the emanation had disappeared in 3.86 days, and owing to the hour at which it was necessary to collect and measure it, usually 5 per cent. was lost before I could insert it.

There is no difficulty and little danger in introducing fine needles into a growth that is suitable for this method of treatment. It is necessary to have some respect for large blood vessels, though I have found from experience that it is possible, with small quantities of emanation, to go fairly near the carotid, jugular, and subclavian vessels. Unless by a gross miscalculation or misjudgement, it is almost impossible to cause any extensive sloughing.

I have noticed on several occasions a bead of pus when I extracted a needle, especially if it had been left in more than thirty-six hours and contained a fair amount of emanation. The pus is sterile; I could get no growth from it in three days, although I plated it out on several occasions. The minute hole has always scaled up at once and has given no further trouble. Lately I have made a practice of testing the firmness of the needles in the tissues. Soon after insertion the needles are grasped more tightly by the tissues; they then gradually become loosened again. If a needle has too little emanation, or is taken out too soon, it requires a little force to remove it, and a drop of blood usually appears at the hole left. When the needles were in a dependent position, they became so loose on one occasion that they dropped out. When they become loose I remove them, and reinsert them if desirable. The loosening of the needles and the formation of the pus may be due to some extent to the presence of a foreign body, but not altogether, so that I think that the firmness test has a distinct use in judging the effect produced, at least with the doses I have been employing.

It is obvious that this needle method admits of fairly fine adjustment of dose, as the dose depends on five factors: (1) The amount of emanation in each capillary; (2) the length of the capillary; (3) the number of capillaries used; (4) the distance between the needles, and (5) the time they are left in.

The duration of treatment depends upon the amount and concentration of the emanation in the capillaries and the thickness of, and distance between, the needles; but if these factors are constant, the duration is relatively independent of the number of needles, as a greater number of needles simply means a larger area of tissue under simultaneous treatment. Briefly, as the emanation decays, the plan is to leave the needles in longer and put them closer together.

Since it has been only possible to obtain an average of 15 millicuries of radium emanation per week, I have thought it best to employ six needles at a time. I insert them parallel to one another at one operation, but if possible, at right angles to the first position at the next insertion in the same area, as in Case I. In the breast case I mapped out the area so as to leave as long an interval as possible between the treatments of adjacent areas, and thus to lessen the chance of over-exposure at any part. I endeavour to treat one part efficiently by insertions in various directions, before going on to the next. This was not a method of choice, but of necessity. In this particular case, however, it seems to promise as good a result as can be reasonably expected.

The essential point of this technique is to radiate deep structures on the same lines as superficial structures. It aims at uniformity of radiation with a minimum loss of energy by screening. It is nearly as suitable for radium salts as for emanations, since Professor Joly has shown that the salts, melted by an electrically-heated platinum loop, will flow into the smallest practicable tube by capillary attraction.

By the method one can, for instance, primarily attack the base of a rodent ulcer, not the surface; or both the base and the surface can be attacked simultaneously, which will give the maximum effect.

It is obvious that the therapeutic value of a given quantity of radium or its emanation is theoretically increased by this method as compared with other methods of burying. My clinical observations tend, I think, to confirm the theoretical considerations. I have frequently heard the statement that with less than 50 mg. of radium there is very little hope of doing much good in malignant disease. Only once did I use more than 22 millicuries of emanation—never as much as 30; yet the photographs and history of Case I, in which only 17.2 millicuries was the maximum amount used at one time, show very definite effects.

In conclusion, I have to thank the Council of the Royal Dublin Society for providing me with radium emanation from the 34 mg. of radium (element) they possess at present. I am particularly indebted to Mr. R. J. Moss, the registrar of the society, for his kindness and the trouble he has taken to carry out the laboratory work, and for his skill in making the fine capillary glass tubes to fit the needles I use, for collecting the emanation in them, and for dividing the tubes into lengths suitable for the case to be treated.

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THE X-RAY TREATMENT OF TUBERCULOUS GLANDS.

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THE great advantage of the *x*-ray treatment of tuberculous glands is that it saves the patient the unpleasantness of undergoing in many instances a severe operation. The results are equally satisfactory whether the glands are large or small, numerous or scanty, superficial or deep, because by means of filters the penetrating power of the rays can be controlled, and by using hard tubes those glands deeply situated can be reached. Even when the glands have broken down and are fungating great improvement results, as will be noted in one of the cases, which unfortunately ceased to attend the hospital when showing marked improvement.

It is advisable to use a hard *x*-ray tube, and it is also necessary to filter the rays through aluminium or felt; I generally filter through 1.5 mm. of aluminium. The current should range from 2 to 3 milliampèremetres, and the rays be applied directly to the affected parts, a suitable lead-glass screen being used of the requisite size. The exposure given should be at any rate one full Sabouraud dose, but in some cases it is advisable to exceed this by about a quarter. Cases may be treated twice a week; most of those reported were only seen once a week or even less frequently, owing to the difficulty of persuading the patients to come to hospital; had the attendances been more regular even more rapid cures would have resulted.

The following is a record of cases recently treated:

1. S. P., aged 10. Large mass of tuberculous glands situated on right side of neck. Treatment was given once a week for seven weeks. At the end of that time all trace of glands had disappeared. A marked improvement was noticed after the fourth treatment. The patient has been seen within the last week and no recurrence has taken place.

2. F. H., aged 1 year 10 months. Mass of fungating tuberculous glands in neck. From December 8th to 22nd four treatments were given, and a very marked improvement noticed. After this the child was not brought back, and on inquiry it was ascertained that the parents could not afford the railway fare to come to hospital.

3. S. M., aged 11. Tuberculous glands in submaxillary triangle; one large mass on the right side 2¾ in. by 2 in., smaller mass on left side ¾ in. by ¾ in. Thirteen treatments have been given during period of two and a half months. Glands have greatly diminished, are softer, and freely movable.

4. M. H., aged 31. Tuberculous glands on left side, very extensive and numerous. Ten years ago the patient had an operation on this side. Since then glands have returned worse than before. Twelve treatments have been given over period of two months. There has been a great improvement, and now only one gland is left.

5. D. O., aged 19. Tuberculous glands; large mass on right side of neck, also large submental glands. Eleven treatments have been given over period of two and a half months, and although the glands are still felt they have diminished in size, are softer, and movable.

6. W. J., aged 7. Tuberculous mass in left side of neck. Five treatments have been given over period of one month, and considerable improvement is noted.

7. H. W., aged 23. Tuberculous suppurating glands in neck. Six treatments have been given over period of one month; the glands have disappeared, and the surface has healed.

8. G. M., aged 11. Suppurating glands in axilla. Two treatments only required for complete dissolution.

SAN FRANCISCO will next year celebrate the opening of the Panama Canal and its own rebuilding after the earthquake by a big International Exposition, during which 226 congresses are to be held. It would seem that the biggest must be the International Congress of Engineers, for at it Colonel G. W. Goethals, the engineer of the Panama Canal, is to preside, it is said, over "25,000 delegates from forty different world nations." The meeting of the International Association of Nurses is to be attended by 6,000 delegates, but apparently they will come from fifteen nations only. The Panama-Pacific Dental Congress "will bring more than 3,000 delegates with a clinic of more than 30 chairs"; eye, ear, and throat specialists are to hold congresses also, and the American Academy of Medicine is to meet in the city during the Exposition, as are also many other societies for the discussion of mental hygiene, tuberculosis, cancer, and many other matters of more or less directly medical interest. Hospital equipments are to be exhibited, and a model emergency hospital is already at work.

A SUSPECTED CASE OF FOOT AND MOUTH DISEASE IN MAN.

By VERNON WHITBY, M.B., M.R.C.S.,

LIEUTENANT, R.A.M.C.

FOOT and mouth disease is so rare in man that the following case should be of interest.

The patient was a soldier aged 19, who gave no history of any previous illness. At Kilworth Camp, on March 17th, whilst carrying some boiling water, he fell and scalded his left wrist; later an open septic wound developed. On March 26th—that is, nine days after receipt of the injury—he became aware of burning sensation in the mouth and on his hands, quickly followed by the formation of blisters. He was admitted to hospital on the same day. On the following day his face was flushed and rather congested, the temperature was 101°, the pulse 100, the lips were swollen, and there was a marked vesicular eruption, rapidly becoming pustular, all over buccal mucous membrane. There was difficulty and pain on protrusion of the tongue, which was coated, and on which a few vesicles were seen. The breath was very fetid, salivation free, and the speech thick; the nasal and conjunctival mucous membranes were clear. There was a well-marked vesicular eruption on both forearms, wrists, and hands, extending between the fingers and to the sides of the nails; the palms were most affected; the feet were also implicated, but not to such a marked degree. The eruption was primarily vesicular; the vesicles varied in size from that of a mustard seed to a sixpenny piece, were situated on a hyperaemic base about one-eighth of an inch in width, showing no tendency to coalesce; they were larger on the forearms than elsewhere. They caused a burning sensation, and



were tender on pressure; no itching. The bowels were constipated; otherwise there were no other gastro-intestinal symptoms. The heart, lungs, and abdomen normal. All superficial reflexes were very brisk. During the next three days the rash became more pronounced; a few isolated vesicles appeared on the face, neck, abdomen, and thighs. The mouth was very sore, the vesicles having coalesced, ruptured, and given rise to shallow ulcers, with yellow sloughy bases, the mucous membrane of the lips had the appearance of one continuous yellow slough, the margins of the lips were crusty and dry; there was no excessive secretion of saliva. There was great difficulty in taking fluid nourishment, but no pain on swallowing. The vesicles on the extremities showed no tendency to pustulate, and there was no involvement of lymphatic glands. Serum from vesicles revealed no organisms; a few polymorphs were found. There was no leucocytosis; eosinophilia was present to the extent of 10 per cent. The urine was high coloured, acid, specific gravity 1027, cloud of albumin, no deposit, *nil* microscopically.

The temperature, which had remained at 101°, fell on the sixth day, to continue normal.

Convalescence was uneventful. The serum in the vesicles became absorbed, and the skin scaled, leaving faintly pigmented areas. The albuminuria disappeared.

The reasons for suspecting this case to be one of foot and mouth disease are:

1. The disease followed the course of an acute specific fever, its toxaemic origin is shown by the distribution of the rash, the presence of albumin in the urine, and the temperature.

2. It did not resemble the other hydroa.
3. There was an open wound on the wrist.
4. Foot and mouth disease was prevalent in the district.

It is interesting to note that a stray collie dog used to frequent the patient's hut for feeding purposes. I made inquiries about this dog, and heard that it had been drowned, because it was suffering from mange of the left ear, and was so thin and weak that it could hardly walk.

Specimens of serum from vesicles and saliva were sent to the laboratory at Millbank, where a rabbit and guinea-pig were inoculated with negative results.

A CLINICAL TEST FOR THE ESTIMATION OF THE PERCENTAGE OF GLUCOSE.

BY

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A QUICK method of estimating correctly or even approximately the percentage of sugar in urine in which it is found to be present by Fehling's test, whether in the consulting-room or at the bedside, is much to be desired. The precipitation of the suboxide of copper with Fehling's test is so apparent, whether a small or large quantity of glucose is present in the urine under examination, that it affords no guide to the estimation of the amount.

I hope to demonstrate that with Moore's test the colours resulting from boiling equal parts of diabetic urine with liquor potassae do vary in direct proportion to the amount of glucose that exists in samples under examination. Not having at my command a sufficient number of urines containing different proportions to verify this, it occurred to me to manufacture them by the addition of anhydrous glucose to samples of healthy urine; and while experimenting with these I found that, whether an equal proportion of glucose was added to healthy urine or to distilled water, and each boiled with equal parts of liquor potassae, the resultant colours were practically the same.

By making separate solutions of ½, 1, 2, 3, and 4 per cent., equivalent to 2, 5, 10, 14, and 19 grains per ounce, and boiling these with equal parts of liquor potassae, five test tubes were prepared, showing a constant and decided difference in the shades of colour. This result having been established, the next step was to ascertain if the colours, corresponding to different amounts in the prepared solutions, coincided with those urines in which the amount of glucose had been previously estimated by Pavy's test.

Through the kindness of Mr. C. H. Wells, of Dr. Adams, and the assistants at the Clinical Research Association in supplying me with many samples, I was able to confirm, after repeated experiments, that this was so. A further step was to obtain coloured glasses to correspond with these results, and Messrs. Powell and Sons, of Whitefriars, London, E.C., carefully produced these, the exact shades of the different solutions containing known amounts of glucose. Upon each glass, the size of a microscopic slide, is marked the percentage, the number of grains per ounce, and the number of parts per 1,000.

To obtain accurate results the amount of diabetic urine or manufactured solutions must be boiled with equal parts of liquor potassae; there must be no guesswork, and all that is required is an ordinary 2-drachm measure, or, better still, a pipette. Each sample must be thoroughly boiled, and this cannot be done without a holder for the test tube of some description. The test tubes should not be larger or smaller than $\frac{5}{8}$ to $\frac{6}{8}$ of an inch in diameter, and the liquor potassae should be fresh. It is not possible to mistake the difference of the shades in the alternate glasses between ½ per cent. to 4 per cent., as they are well marked. Between the colour produced by solutions containing 4 per cent. and 5 per cent. of glucose, although it is slightly deeper in the latter than in the former, an error might arise, so that if the colour produced in any sample of urine under examination should be darker than the 4 per cent. glass, some of the original urine should be diluted with equal parts of water and equal portions of this dilution and liquor potassae boiled. The resultant colour, when found to correspond with any of the test glasses, will give the percentage, the grains per ounce, or the parts per 1,000, multiplied by 2. Again, should the colour at this examination be found to be still deeper than that of the 4 per cent. glass, the following course should be pursued: Dilute the original urine with two parts of water, boil an amount with the same quantity of liquor potassae, compare the result with the test glasses, and when found to be similar multiply the amounts engraved upon the glass by 3. In like manner, with three dilutions, multiply by 4, and so on. As the correctness of these observations can be verified only by comparison with estimations made with Pavy's apparatus, it is necessary to point out that two or more observers very seldom arrive at the same conclusions in regard to any given sample of urine under examination, owing to the difficulty of noting identically the moment when the decoloration takes place. Even when the apparatus is all ready in a laboratory, and all the reagents fresh, errors may arise from bubbles of air remaining in the burette; from the dropping of its contents being too slow, whereby the boiling is too prolonged, causing the suboxide to fall, in consequence of the dissipation of the ammonia before the examination is complete; or from conducting the experiment in a bad light. How many further errors are likely to arise when analyses are made upon the few cases that occur in the course of an average year's work of a general practitioner! It is therefore unfair to criticize hastily the results of the colour tests by comparison with those obtained by Pavy's method, unless the latter is conducted by an analyst or by some one constantly using it.

I have no wish here to discuss the fallacies that may arise when Moore's test is used alone, as it might lead to the conclusion that the colour test is not reliable. I intend it to be purely a clinical one, not to take the place of Pavy's test, and only to be used after Fehling's test has demonstrated the reduction of the copper. With this evidence, especially if the patient's history points to some glycosuric condition, it is more than probable that glucose is the substance under consideration, and the colour test will then supply some important additional information. I trust it will be found to be of service to those in active practices by saving time—to the analyst by affording him information as to the amount of dilution he is likely to require before commencing an examination with Pavy's apparatus, and to the consultant by enabling him to obtain an approximate percentage of the amount of glucose present in the urine at the first examination of his patient.

I endeavoured to obtain differences in the shades of colours that would have represented smaller amounts than percentages, but so far I have not found them of practical use. By superimposing the ½ per cent. glass on the 1 per cent. glass a colour equal to 1½ per cent. of glucose is produced, and the ½ upon 2 per cent. equals 2½ per cent., but the ½ upon 3 gives no distinguishing colour. The 1 per cent. glass upon 2 does not produce the colour given by 3 per cent.

All the colours produced by boiling high or low percentages of saccharine urines with liquor potassae unfortunately become lighter in shade after remaining in the test tubes for a few days, and therefore cannot be permanently utilized.

It has been pointed out to me since this article was written that the idea of roughly estimating the percentage of glucose by the colours produced with Moore's test was suggested as long as thirty-four years ago. In Russell Reynolds's *System of Medicine* (vol. v, 1879, p. 369) Dr. (now Sir William) Gowers says:

> When a lemon-yellow tint is produced with this test, the urine contains about five grains of glucose to the ounce, ten grains give a light sherry tint, fifteen grains a dark sherry tint, and twenty grains or over a port wine colour.

On the same page it is mentioned that Dr. Meymott Tidy proposed to employ the test for quantitative analysis by means of a colour scale, but it is added that the method was not sufficiently accurate to be of use, except as affording a rough approximate indication of the amount of sugar present. Whether the method I have suggested, with the aid of the five coloured glasses, which correspond accurately to known amounts of glucose in prepared samples for comparison, will bring the colour test into a practicable form or not I must leave readers to decide. Should it do so, there can be no question of its simplicity when

compared with other methods of examination for the estimation of glucose in saccharine urines.

Appended for reference are given the parts per 1,000, and the percentages (grains by weight in 100 minims) corresponding to the number of grains per ounce (480 minims).

The former is calculated by dividing the number of grains per oz. by 0.4375. The latter by multiplying the number of grains per ounce by $\frac{1}{4.8}$, a result of simple proportion.

The coloured test glasses in a pocket-case can be obtained from Messrs. Down Brothers, St. Thomas's Street, Borough, S.E.

Grains per oz.	Parts per 1,000.	Grains per 100 minims.	Grains per oz.	Parts per 1,000.	Grains per 100 minims.
1	2.28	0.208	11	25.14	2.29
2	4.57	0.416 (say $\frac{1}{2}$ p.c.)	12	27.40	2.50
3	6.85	0.625	13	29.71	2.70
4	9.14	0.853	14	32.00	2.91 (say 3 p.c.)
5	11.42	1.04 (say 1 p.c.)	15	34.28	3.12
6	13.71	1.25	16	36.57	3.32
7	16.00	1.45	17	38.85	3.54
8	18.28	1.66	18	41.14	3.75
9	20.57	1.87	19	43.42	3.95 (say 4 p.c.)
10	22.85	2.08 (say 2 p.c.)	20	45.71	4.16

A CASE OF CYCLOPIA.

BY

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THE essential features of this malformation are the absence of a well-formed nose in its natural position, the presence of one orbit in the middle line of the face containing a single eye or one showing varying grades of duplicity, and defective development of the upper part of the face and anterior portion of the brain, these abnormalities being the result of incomplete development of the fronto-nasal process with approximation and fusion in the middle line of the two superior maxillary processes.

As regards the frequency of its occurrence, Hannover has collected 109 cases in the human subject, so that it may be regarded as a comparatively frequent type of monstrosity, although sufficiently rare to warrant the publication of any examples which may occur.

The mother of the case here reported was admitted to St. Mary's Hospitals in October, 1912, being then in the seventh month of her pregnancy, and suffering from antepartum haemorrhage due to placenta praevia. She had previously given birth to eleven children, none of whom presented any abnormal features.

DESCRIPTION OF CYCLOPS.

The child, a male, was stillborn, and weighed 5½ lb. The head was proportionately large owing to the presence of well-marked hydrocephalus; in the centre of the face was a diamond-shaped opening, bounded above and below by the fused upper and lower lids respectively, and enclosing what appeared to be a single eyeball provided with two corneae. Immediately above this opening, and jutting forwards from the middle line, was a cylindrical projection, the proboscis, and running outwards from the base of the latter were two elevations, representing the eyebrows. Beneath the orbit was a deep sulcus running transversely across the face, whilst below this was the upper lip, devoid of any trace of philtrum, but otherwise well developed. The face showed no other abnormality, the ears and lower jaw being well formed.

The Eye.

This organ, contained in a single large orbit, was found to be composed of two globes fused together in the middle line and having a median groove above and below. All the extrinsic muscles were found to be present with the exception of the internal recti. On the anterior surface of either half of the globe was a complete cornea through which could be seen the iris enclosing a circular pupil, the portion of sclera separating the two corneae was covered with conjunctiva, whilst overlying the middle portion of this was a tough fibrous band half an inch in width and running from the proboscis above to the junction of the fused lids below. A horizontal section of the organ showed that the globes were complete units, and perfect in all component parts except at their juncture, where the sclerotic and choroid were found to be absent, that the retinae were thrown into folds not apparently due to mechanical detachment, and that the optic nerves were fused except at the point of expansion into the retinae, where there was some evidence of separation. As regards the lids, all four lacrymal papillae were present.

The Nasal Apparatus.

The proboscis was situated immediately above the orbit in the position of the glabella, and measured 1¼ in. in length by ¾ in. in breadth; in shape it was irregularly cylindrical, somewhat constricted at its proximal end and provided with a depression at its free extremity; in the floor of this depression was a small opening leading into a large central cavity lined with mucous membrane and containing a quantity of mucus. The proboscis was somewhat rigid from the presence of a cartilaginous plate beneath the floor of the cavity, and had a covering of skin resembling that of the face. This structure represents the soft parts of the nose, which are in an abnormal position from the approximation of the superior maxillary bones. The following bones normally connected with the structure of the nose were absent: the ethmoid, presphenoid, vomer, inferior turbinate, nasals, lacrymals, and premaxillae.



A mesial section through the skeleton of the face showed the palate bones fused together; in front of this the superior maxillae were separated by a thin membrane, deficient above and below, supposed to represent the nasal mucosa, while further forward they were firmly united to form the alveolar margin. The vault of the palate was narrow and not fissured, the soft palate and uvula were well developed, the latter being notched at its extremity, whilst behind was a rounded cul-de-sac, into which opened the Eustachian tubes. The upper jaw contained six tooth germs.

The Cranium and Brain.

The ossification of the cranium was not deficient, but the sutures were increased in width, owing to the hydrocephalic condition, the anterior fontanelle being much larger than normal. The anterior cranial fossa was very small, the middle fossa deep and narrow, and the posterior fossa well formed.

The brain was not sufficiently well preserved for a careful examination to be made, but there appeared to be a single hemisphere, which was flattened out by the large hydrocephalic sac situated above it; the convolutions and fissures were incompletely marked, and the falx cerebri absent.

No other malformations were found, the child being well developed with the exception of the abnormalities above described.

With regard to the type of cyclopia represented by this specimen, the presence of the proboscis places it in that designated by Saint-Hilaire "rhinocephalus," as distinct from the cyclocephalic type, in which this organ is absent.

A CASE OF LEFT DUODENAL HERNIA IN A CHILD.

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Cases of duodenal hernia are sufficiently rare to warrant the publication of individual examples. Some idea of their frequency can be gained from Barnard's [1] figures. Out of the 669 cases of intestinal obstruction occurring during thirteen years at the London Hospital, 13 were due to internal herniae, and of these 2 were the result of hernia into the duodenal fossae.

The fossa into which this hernia occurred corresponds to the paraduodenal, as described originally by Landzert. Of the peritoneal fossae in this region, Moynihan [2] insists that the paraduodenal is the only one capable of forming a hernial sac. There is still considerable confusion in the nomenclature of these fossae, and this type of hernia is frequently alluded to as the duodeno-jejunal.

The paraduodenal fossa lies to the left side of the spine, and to the left side of the ascending part of the third portion of the duodenum, which forms the inner border of its orifice. The remainder of the orifice is bounded above, below, and on the outer side by a fold of peritoneum containing the inferior mesenteric vein. The left colic artery lies in the peritoneum of the anterior wall. The sac extends towards the left, and lies behind the descending mesocolon.

The anatomy of the sac in the case described below corresponds exactly with this description. So far as I have been able to gather from a perusal of the cases it is the first in which a portion of the large intestine formed part of the contents of the sac.

The patient had been ill five days when I saw him, and being the child of poor parents attempts had been made to get him admitted to a general hospital, children's hospital, and fever hospital without success, either on account of these institutions being full or their having no accommodation for dealing with such a case. It is, perhaps, fortunate that the condition was not one of urgent strangulation, or the result might have been very different.

Dr. Maclean of Ashington has kindly written me a history of the case, which is as follows:

Note by Dr. Maclean.

E. T., male, aged 5 years, developed scarlet fever on December 15th, 1913. He did well until the evening of December 25th, when he complained of abdominal pain, which was then considered due to the eating of a banana. On Friday morning, December 26th, I saw him. His temperature and pulse were normal; the pain resembled colic. On abdominal examination there seemed a resistence and fullness on the left side. The bowels had not been moved for two days, and castor oil was prescribed. I had a suspicion that there might be an intussusception, and asked my locumtenent, Dr. McKenzie, to see him in the evening, and he reported him better, though the bowels had not moved. Next morning (December 27th) Dr. McKenzie again saw him, and found a definite mass in the left flank. We both examined the boy in the afternoon, and diagnosed an intussusception.

On account of the boy having scarlet fever we could not get him admitted to hospital, and tried soap and water enemas and large injections of water, without benefit.

On December 28th the temperature was normal, pulse rather rapid, sickness was stopped, no blood had been passed per rectum, and nothing abnormal could be felt per rectum, but the mass in the abdomen could be easily palpated. On December 29th Mr. Pybus operated at the boy's home, and on opening the abdomen found a large internal hernia. Peeling commenced a few days after the operation. The boy has made a splendid recovery, and is now running about the streets.

Operation by Mr. Pybus.

When I saw the patient on December 29th, 1913, there was no fever, the pulse was 104, the tongue was furred but moist, and there was a decided acetone smell in the breath. The child was peevish and restless, but when asked where the pain was the hand was passed over the epigastrium. The abdomen was slightly distended, and a mass was found on the left side. Rectal examination was negative.

Under the anaesthetic distended coils of small intestine could be seen in the right side of the abdomen. There was a rounded visible swelling on the left side of the abdomen about the size of an ostrich egg, situated to the left and chiefly below the level of the umbilicus. The lump was tense, slightly movable, and resonant on percussion. The left loin was free of any swelling.

I opened the abdomen in the middle line below the umbilicus. Some clear fluid escaped from the peritoneum. The first noticeable point was the small amount of small intestine present; this was limited to the right side of the abdomen and pelvis. The intestine itself was congested and slightly distended. On drawing the intestine aside the mass was seen covered by peritoneum, in which could be seen the left colic artery. The swelling appeared to contain intestine. No collapsed intestine could be found, so a coil of small intestine was traced upwards and the appendix was seen projecting from the mouth of a retroperitoneal sac. By means of traction on this part combined with pressure on the sac the contents were reduced with ease; they were congested but not damaged. The reduced intestine consisted of the caecum, part of the ascending colon and a considerable amount of small intestine, probably most of the ileum. The caecum, ascending colon, and termination of the ileum had a long mesentery.

The orifice of the sac was situated to the left side of the duodeno-jejunal flexure, and this intestine formed its inner margin. It was bounded elsewhere by a fold of peritoneum, which was thick at its free edge. Although the contents of this edge could not be definitely seen, the inferior mesenteric vein could be traced up to it. The orifice was oval in shape, the longer diameter being 2 in. and in the vertical direction; the transverse diameter was about 1½ in. Three fingers could be inserted into the aperture, which looked towards the right side. The sac was limited to the left side of the spine, and extended outwards towards the descending colon, upwards to the kidney, and downwards, in a longer direction, to the left iliac fossa, the left colic vessels being seen in its anterior wall.

In order to prevent recurrence I thought of attempting to drag out the sac and remove it, but as this might have proved a long undertaking I obliterated the orifice by suturing the free edge to the side of the duodenum by interrupted catgut sutures. Some saline was introduced into the peritoneum, and the abdomen closed.

The scarlet fever seemed to have no ill effect on the course of the recovery. The anatomical details were investigated as far as possible, and I noted the absence of at least the superior and inferior duodenal fossae at the side of the duodenum. The large size of the orifice accounted for the absence of any strangulation, although there was complete obstruction, brought about possibly by the terminal entrance of the caecum and ascending colon. There was no sharp colic accompanied by crying and curling up, such as is frequently seen in children suffering from intestinal obstruction. A diagnosis of duodenal hernia was not made before operation, although on exploration the condition was immediately recognized. The absence of blood or mucus contraindicated intussusception, and our diagnosis was intestinal obstruction, due to adhesions over a tuberculous focus covered by resonant intestine.

References.
[1] Barnard, *Contributions to Abdominal Surgery*, London, 1910.
[2] Moynihan, *Retroperitoneal Hernia*, London, 1899.

REDUCTION OF OLD ELBOW DISLOCATION BY OPERATION.

By FRED. D. BIRD, M.S., Hon. F.R.C.S.,
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It is seldom that a dislocated elbow is left unreduced long enough to negative reduction by manual means. When, however, operation is necessary, the following measures which I practised recently on a dislocation three months old seem to me adequate to produce a good result.

A rounded flap is turned down, as in the operation for suturing or plating an ordinary fractured olecranon, which fracture is then achieved by the very large cutting forceps used by veterinary surgeons to split down a horse's molar tooth, previous to extracting it in two parts. Care is taken that the bite of the forceps does not invade the integrity of the shaft of the ulna; the section, which with this very powerful forceps is a clean one, is made a very little above the junction of the olecranon with the shaft. Some freeing of the lateral tissues allows of the turning up of the olecranon process. The joint is not seen now, as it would be in a recent fracture, because there is a large amount of adventitious tissue in the enlarged joint area. This material is very dense—dense enough to throw a not unimportant shadow on the skiagram, as I have several times observed, and requires cutting with a knife for its removal, after which the back part of the trochlear surface of the humerus can be seen. The large lever devised by Lane for use in plating the thigh bone is now inserted with its point beneath the trochlea. This, with manipulation of the forearm, exercises leverage sufficient to replace

the end of the humerus in its normal position as regards the forearm bones, flexion and extension being impressed on the joint to see that everything is free. Before reduction is accomplished a slight use of the knife or scissors on the lateral tissues may be requisite. When it is accomplished, the olecranon fragment is turned down into position and secured there by a wire or plate; if by the former a drill-hole has been made in it before section of the bone. Several sutures are used in the lateral expansions of the triceps tendon, the skin edges iodined and coapted.

In four days a single passive motion of flexion and extension is made and again at the end of the week; a splint is necessary only if there be much pain after the operation.

The result in the case mentioned, that of a healthy middle-aged woman admitted under my care at the Melbourne Hospital, though not perfect was excellent. The disability beforehand was very great and no traction had any effect upon the position of the bones. It was only at operation that one could realize what a solid mass preventing replacement the new tissue provided. The maxim learnt was that traction could only do harm and had no chance of consummating reduction.

NAPHTHALENE FOR THE DESTRUCTION OF MOSQUITOS IN COVERED CISTERNS AND WELLS.

By A. W. BACOT, F.E.S.,
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WHILE the following experiments are admittedly of a slight and tentative character, the results appear of sufficient general interest and importance to warrant their publication, in the hope that workers abroad, where experiments on a practical scale are possible, may be induced to try naphthalene as a deterrent to the breeding of mosquitos. For any exposed water surface oil as at present used would certainly be more effective, but in such windless situations as wells and covered cisterns naphthalene has an obvious advantage owing to its slow evaporation and the fact that the vapour is fatal to the adults, which are apt to seek cover in such situations.

Flake naphthalene sprinkled on the water surface as used in these experiments imparts a slight flavour to the water; but if no contact takes place, and it is suspended above the water surface, this defect is obviated. Lack of opportunity to continue the experiments has prevented my thoroughly testing its effectiveness as a larvicide when used under these conditions, but I am of opinion that further experiments would yield a satisfactory method for its application.

The experiments with the adult insects, while they certainly point to the prevention of any breeding in closed cisterns, also afford hope that such species as *Stegomyia fasciata* might be prevented from taking up their quarters in the quiet nooks and corners within doors that they are stated to seek out for tenancy.

Experiments with Adult Culex pipiens.

Method.—Half-pint waxed-card cream jars of 330 c.cm. capacity were prepared by placing discs of wet blotting paper at the bottom; on this the flake naphthalene was scattered; the mosquitos were introduced and the jars. covered with mosquito netting, placed on the laboratory bench. The temperature during the trials was about 63° to 66° F.

No. 1.—Ten adult *Culex pipiens* put into each of two jars prepared as above; in one 1 gram of naphthalene was scattered (1 in 330).

Control:

1½ hrs.	All living.
9 hrs.	All living.
20 hrs.	All living.
68 hrs.	2 dead.

Test Jar:

1½ hrs.	8 dead or stupefied.
5 hrs.	9 " "
20 hrs.	All dead or stupefied.

No. 2.—In the second test difficulty was experienced in getting equal numbers into each jar, and tests were made with 0.5 gram, 0.2 gram, 0.1 gram.

	Control.	Using 0.5 gram = 1 in 660.	Using 0.2 gram = 1 in 1,650.	Using 0.1 gram = 1 in 3,300.
2 hrs. ...	All living	3 down; 4 living	All living	All living
3 hrs. ...	All living	4 down; 3 living	All living	1 dead
17 hrs. ...	All living	All dead	All dead or dying	All dead or dying
42 hrs. ...	All living	—	—	—
66 hrs. ...	1 dead; 6 living	—	—	—

No. 3.

	Control.	Using 0.05 gram = 1 in 6,600.	Using 0.02 gram = 1 in 16,500.	Using 0.01 gram = 1 in 33,000.
18 hrs. ...	All living	All dead	All down; 3 capable of feeble movement	1 dead; 3 down, but capable of feeble movement
43 hrs. ...	All living	—	—	—
63 hrs. ...	All living	—	—	—

Experiments with Larvae.

Method.—Into each of two square-bottomed troughs, having a surface area of 72½ in. (462 cm.), 4 litres of strained rain water was poured.

1. 100 active larvae (86 in penultimate and 14 in final larval instar) were then added.

On the surface of one 1 gram of flake naphthalene was added (1 in 462 surface area). Both troughs were covered with mosquito netting stretching over a wooden frame that raised the walls of the receptacles to 6 in. above the water surface. Both troughs were then placed on the laboratory bench close to the window. Temperature from 65° to 67° F. Within twenty-four hours all the larvae were dead in the trough which had the naphthalene scattered in it. *Result, all killed.* None were dead in the control trough, and the larvae developed satisfactorily.

2. The experiment was repeated with 90 small and 10 large larvae in each jar, only 0.5 gram of naphthalene being used=1 in 924 surface area. Temperature 60° F. After twenty-four hours only a few of the large larvae remained active. After twenty-seven hours all were dead in the test trough. *Result, all killed.* The larvae in the control were all living and most of them developed to the pupa stage.

3. The experiment was again repeated with 16 large and 84 small larvae in each trough, only 0.2 gram of naphthalene being used—1 in 310 surface area. Temperature 60° to 65° F. After twenty hours a large number had ceased to move in the test trough, but a few survived after seventy-two hours, when the naphthalene had all evaporated. *Result,* all the small and some of the large larvae killed—10 or 12 per cent. survived.

Pure naphthalene can be obtained from wholesale chemists for 3d. per lb. for quantities of 14 lb. or over. In bulk it may be obtained direct from the gas companies.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE ETIOLOGY OF TYPHUS FEVER.

(Preliminary Note.)

WE wish briefly to record the results of our examination of the blood and urine in 25 cases of typhus fever during a recent outbreak in Belfast, as well as of the cerebro-spinal fluid.

The urines, many of which were catheter specimens collected by a special method to exclude air contamination, were examined when fresh, and also after incubation for twelve hours. In all of them we found before the crisis a minute organism which we believe has not yet been described. It was also found in the lysed deposit of the fresh blood taken by venupuncture before the crisis, in the cerebro-spinal fluid, and again in the fresh urine of five bonnet monkeys in whom after the lapse of a well-marked incubation period we had induced a continued fever by inoculation of human typhus blood collected before the crisis. It disappeared from the urine of the injected monkeys after their fever had subsided.

The organism in question appears to be pleomorphic, being cocco-bacillary in form, and we shall in future refer to it as a cocco-bacillus. In fresh specimens it varies between 0.25 μ and 0.6 μ in its greatest diameter, and in its smaller forms passes through carefully tested Berkefeld filters. It is both Gram-*positive* and Gram-*negative* in the

same preparations. The smallest forms are almost impossible to recognize with the ordinary 1/12 oil immersion lens, but are well seen with a 1.5 mm. apochromatic.

We also find in the fresh blood and urine of both man and monkeys when infected, as well as in their incubated blood and urine, an exactly similar, though much larger, pleomorphic organism, which is also cocco-bacillary. This grows well on the ordinary laboratory media, and appears, in its different phases, to be identical with the large coccal and bacillary organisms individually and independently described by Dubieff and Bruhl, by Wilson of Belfast (who recognized their secondary importance), by Fuerth, by Müller, by Marcus Rabinowitsch, by Predtjetschensky, and by Plotz. On injection of these organisms into monkeys we could produce no fever or other pathogenic effects.

We wish to express our cordial thanks to Sir Thomas Stafford, Bart., who as Medical Commissioner of the Local Government Board in Dublin kindly invited our investigations, and put us into touch with Dr. O'Brien, Local Government Inspector in Belfast. To the latter and to Dr. G. Robb, Medical Superintendent of the Fever Hospital at Purdysburn, as well as to Dr. W. J. Wilson, Queen's University, and to Professor Symmers, Professor of Pathology, we wish to express our gratitude for their generous help and advice. Full details of the morphology, cultural characteristics, serological, inoculation, and sugar reactions of the cocco-bacillus, which is the subject of this note, will be published shortly.

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The Lister Institute
(The Constance Trotter Researches).

ANTE-PARTUM HAEMORRHAGE.

MRS. F., aged 29, 4-para, a thin, anaemic woman, seven months pregnant, had been working rather hard cleaning and lifting during April 11th. She suddenly felt "something snap," and found she had a severe loss. She sent for the midwife, who immediately sent for me. I arrived about 10 p.m., to find the woman in bed fairly comfortable. She had had rather severe haemorrhage, and liquor amnii also had escaped. Everything appeared normal; the vertex was felt, the os was the size of a shilling, and there was no sign of placenta. I enjoined rest and watching. On visiting her next morning, I found she had just had another flooding. She was now obviously in labour, but pains were very weak and there was a loss with each; the os was the size of a florin.

As waiting appeared risky, I decided to deliver at once. My neighbour, Dr. Galletly of Northwold, gave an anaesthetic. I had no difficulty in dilating the os with my fingers, and turning was quite easy. There was smart haemorrhage after the child was born, and I therefore proceeded to remove the placenta. This was nearly torn through at the upper part, leaving a piece attached to the fundus. This was peeled off with some difficulty and the whole removed. The uterus contracted well, and the woman made an excellent recovery, considering the severe flooding she had had, only requiring quinine for the headache usual in such cases.

It was a matter for congratulation that the membranes ruptured when haemorrhage took place, otherwise the case might have had a very different aspect and termination.

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CONGENITAL SYPHILIS TREATED BY NEO-SALVARSAN.

THE patient was a child, aged 13 years, one of a family of four children. The father had had syphilis. The mother had had no miscarriages; all the other children were healthy. The patient at the age of 7 years lost her sight owing to interstitial keratitis. She was treated at a hospital, and recovered after six months. She is now able to see very well. Both legs became ulcerated at this time, and the condition grew much worse until eight months ago, when both tibiae were exposed and eroded. The patient was treated from that date with mercury and potassium iodide and by fomentations locally. The condition improved. On May 1st she was given an injection of neo-salvarsan and two more were given within a fortnight. On June 23rd both legs had almost completely healed, and the child's health was much improved.

Gravesend. F. M. HUGHES, M.R.C.S., L.R.C.P.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.

AT the annual meeting of the Branch, held at Lancaster, on June 24th, Mr. A. S. BARLING, the new President, opened a discussion on operations for the cure of hernia. He said that from the very birth of surgery these operations had been performed, but for present purposes it was only necessary to go back to the time of Zutzer, who in 1838 introduced a plug of the scrotum into the canal. In 1861 John Wood, of King's College, brought to notice a new method. He reduced the hernia, and then by means of a wire applied in a particular way, hauled up the sac into the canal and fixed it there. This was the first operation to give anything like a good result, and was the means of many cures. It held its place for many years as the standard treatment. So far surgeons had acted on the principle that a plug should be formed in the canal. Wood (of Shrewsbury) made one of the first steps in the right direction. He invaginated the unopened sac within the abdomen and fixed it there. This was just prior to the great revolution in surgery. Down to this time operators were crippled by their fear of wounding the peritoneum. These fears were shortly to be banished, and in 1871 Lister excised the sac, refreshed the edges of the wound, and closed it with catgut stitches. This was often erroneously referred to as Banks's operation. The work of Czerny, Risel, Annandale, Ball, and McBurney was reviewed, and then the more modern operations of Macewen, Barker, Bassini, Halstead, Kocher, and O'Hara were taken in detail and their merits contrasted. The recent advocacy of the use of silver filigree was criticized, and it was pointed out that it had been used by Phelps so long ago as 1895. The speaker concluded by saying that several of the later operations were quite satisfactory, but expressed his own preference for those in which the sac is severed above its neck and the stump fixed well away from the internal ring. That which he usually adopted was Bassini's with the addition of O'Hara's stitch.

Exhibits.—Dr. COUPLAND gave a very interesting demonstration from slides, specimens, and dissections. He began by demonstrating the atrio-ventricular band of His in the heart of a calf, and explained its importance in heart-block, mentioning that recent work had shown the presence of nerve fibrils, so that its real function was still in dispute. His next subject was an exhibit of specimens, photographs, etc., of the *Simulium* fly, which it had been suggested was connected with the occurrence of pellagra. Specimens of *Simulium venustrum*, kindly sent by Professor Howard (U.S.A.), were among those shown. A mounted slide of the biting field fly, *Stomoxys calcitrans*, drew attention to the more recent opinion that it is really the carrier of the pellagra infection. Chromatolysin in cells of the spinal cord was illustrated from a fatal case of pellagra, and the Golgi method of displacing nerve structure was shown in the brain of a kitten. A racy discourse followed on the subject of fleas, attention being drawn to the plague flea, and the position of hairs on the leg, which character differentiates the human flea from all others. Some remarks on two slides illustrating *Spirochaeta pallida* were followed by specimens of the beetle *Xestobium tessalatum*, responsible for serious damage to the timber in the Westminster Hall. Members regretted that such an interesting amount of material had to be disposed of in something like fifteen minutes. Dr. ALEXANDER, the PRESIDENT, the TREASURER, and the HONORARY SECRETARY showed cases, specimens, and radiograms.

Reviews.

THE ORIGIN AND PREVENTION OF TUBERCULOSIS.

A COMBINED attack by all the civilized communities of the world should result in victory, but in dealing with such a secretive enemy as tuberculosis even such powerful forces may find themselves baffled or even vainly exhausted. The means which by common consent are being used to check the spread of the disease cannot be said to have achieved results as yet which are in any way commensurate with the amount of labour, time, and money that have been expended. Death-rates have been lowered and incipient cases have been arrested, but the disease goes on, especially amongst the young. Although much is known about the initial stages in childhood, there is evidently much more to know, and careful and repeated study is still as necessary as ever in order that this further knowledge may be gained. A careful investigation carried on by Dr. BACMEISTER[1] of Freiburg into the various means by which pulmonary consumption may be set up in the human subject renders it only too evident that a vast amount of trustworthy evidence is still wanting before these conditions can be satisfactorily explained. That the human type of bacillus is by far the most frequent exciting agent must be generally recognized, but the routes by which it may gain access to the apex of the lung are many. Dr. Bacmeister has paid special attention to the question of conveyance of bacilli by the blood and lymph streams, and, in spite of the more obvious route by way of the bronchi, has satisfied himself as to the possibility of infection of the apex by tubercle entering the body by any route. With regard to the relative frequency of one or another channel of entry, he can find no trustworthy evidence. A certain degree of immunity produced by infection in childhood with either form of bacillus is undoubtedly to be recognized, but does not appear to be proof against a direct infection of a fresh strain from without in later years.

The question of limitation to one or both lungs for long periods is not as yet satisfactorily answered. If the disease in them is set up by direct inhalation, it follows that a vast number of persons must inhale such infected air without harm, many of them having proved themselves to be suitable hosts for the bacillus in their earlier years. Something more than local infection has to be assumed, and the discovery of the true nature of that something may do much to bring about a more successful campaign than has as yet been undertaken.

Dr. Bacmeister's monograph will be found to be full of thoughtful suggestion, and a very full bibliography has been drawn upon in the course of his work. Chief among the agencies for checking the spread of tuberculosis stands the education of the public, without whose intelligent co-operation the efforts of individuals must be in vain. The travelling lecturer in his caravan can tell the story in the villages, but the greater danger lies in the towns, and it is to the educated town-dweller that we must look to spread the necessary knowledge by example and precept. Under the title of *The Great White Plague*,[2] Dr. E. O. OTIS, of Boston, published, some five years ago, a full account of tuberculosis for the special enlightenment of laymen. He has recently issued it under another title, with such alterations and additions as have become necessary as the result of increased experience. Writing essentially for the guidance of the public, he has adopted a somewhat more positive tone than would be appropriate in addressing medical readers. His book presents a very full and complete account of the present state of the case against tuberculosis, and many dogmatic assertions may be allowed to remain as such until displaced by knowledge founded upon a firmer basis. The disease has carried off too many a shining light from the worlds of poetry, music, and medicine, and the loss of these cannot be expressed in material terms, but the yearly cost to the communities in every busy centre of commerce can be estimated in actual figures, which reach an appalling amount when the wasted expenses of education and preparation for a life's work come to be considered. The susceptibility of children and young adults is universally recognized, but preventive measures do not seem to be pursued with equal vigour in all countries. The many and varied agencies now at work in this direction in the United States cannot fail to make an impression upon the spread of the disease in years to come, and it is greatly to be desired that similar activity should be shown in this country to meet so well known a requirement. Even the most elementary forms of treatment by sunlight and fresh air are not yet understood in the homes of the poorer town-dwellers. The dread of draughts and the imaginary evils of night air render many of our crowded tenements more suitable for the growth of pathogenic organisms than of human beings. Dr. Otis's work takes cognizance of every detail of the subject, and contains a vast amount of practical information upon all the rules for treating, and the means for combating, the presence of tuberculosis. The need for segregation or control of the advanced case is daily becoming more and more realized. No real progress can be made in the general arrest of the progress of consumption so long as the seeds of the disease are permitted to be scattered broadcast.

[1] *Die Entstehung der menschlichen Lungenphthise.* Von Privatdozent Dr. A. Bacmeister. Berlin: J. Springer. 1914. (Demy 8vo, pp. 85; 1 illustration. Mk. 2.40.)

[2] *Tuberculosis. Its Cause, Cure, and Prevention.* By E. O. Otis, M.D., of Boston. A revised edition of *The Great White Plague* (A Book for Laymen). New York: T. Y. Crowell Co. 1914. (Post 8vo, pp. 341; illustrated. Dols. 1.25 net.)

OPHTHALMOLOGY.

DR. CURT ADAM has prepared a third edition of a pocket-book of ophthalmology[3] for German students and general practitioners. He assumes that those for whom it is written find the use of the ophthalmoscope very difficult, and in consequence he does not explain its management, and the volume contains little about diseases of the fundus. Two methods of examination are described and recommended—focal illumination and examination with the loup, and illumination of the media with a concave mirror. We cannot help feeling that Dr. Adam has under-estimated the powers of the student and general practitioner; there is nothing inherently difficult in the use of the ophthalmoscope, especially by the indirect method, and with a little practice any man of ordinary ability can acquire sufficient proficiency to diagnose gross changes in the fundus—such conditions, for example, as optic neuritis, optic atrophy, albuminuric retinitis, disseminated choroiditis, and massive haemorrhages. It seems, therefore, a pity that Dr. Adam has not included simple ophthalmoscopy among his subjects. Again, refraction is treated apart from retinoscopy; but modern refraction work is based upon accurate retinoscopy, and a man who cannot master retinoscopy both with and without a dilated pupil will be well advised to leave refraction alone. These are the only criticisms we have to make upon an otherwise excellent book. The subject is treated in a well-balanced manner. Modern methods are described, and the chaff is ruthlessly separated from the wheat. The first portion of the book deals with examination by focal illumination and with a concave mirror, and then with general methods of treatment. The uses and contraindications of the drugs used in ophthalmology are clearly explained. A consideration of the Wassermann reaction is followed by directions for injecting salvarsan. Curiously enough, neo-salvarsan is not mentioned. Radium receives full consideration, and a chapter is devoted to anaesthesia. The dangers of general anaesthesia are, we think, exaggerated, and while we agree that chloroform should be entirely banished from ophthalmology, ether skilfully administered is a useful and safe anaesthetic. The special division of the book deals with the various diseases of the eye, and most careful directions are given for differentiating iritis from glaucoma and from conjunctivitis. Perhaps too much weight is attached to the fact that the pupil is generally dilated in glaucoma, and enough stress is not laid upon the presence of keratitis punctata in cases of iridocyclitis. The final chapters are devoted to accidents to the eye and to the important question of compensation. Considerable space is given to the visual acuity demanded for the

[3] *Taschenbuch der Augenheilkunde für Aerzte und Studierende.* Von Dr. Curt Adam. Third edition. Berlin and Wien: Urban and Schwarzenberg. 1914. (Cr. 8vo, pp. 303; 71 figures; 5 plates. Bound, Mk. 8.)

various branches of military service in both the German and Austrian armies. Finally the author gives a list of useful prescriptions.

DR. GUIRAL'S short essay[4] on the diagnosis of trachoma, spring catarrh, and of follicular conjunctivitis is devoted to one of the most difficult subjects in ophthalmology—the differential diagnosis of trachoma from other forms of chronic conjunctivitis which resemble it closely. He gives a short account—too short to be really valuable—of the clinical appearances of each disease, followed by a description of the microscopic anatomy of the lesions characteristic of each. The histology is depicted in thirty-five plates of photomicrographs, and another plate is devoted to drawings of the naked eye lesions. The drawings are exceedingly poor; the photographs are good, but a photomicrograph is generally unsatisfactory if the magnification is great. Good drawings, though more expensive, are much more effective. We note with surprise that the presence of large numbers of eosinophile cells in the blood, in the secretion from the lids, and in the tissues of an eye suffering from spring catarrh receives no mention, although it has a great diagnostic value; in fact, in a doubtful case, it is the most important factor in diagnosis. No mention is made of the association of trachoma and spring catarrh, which is common in Egypt and the near East. It is in such cases that diagnosis is really difficult. Few ophthalmologists now recognize follicular conjunctivitis as a distinct clinical entity, but regard it rather as a condition produced by a variety of causes, such as infection with the Morax-Axenfeld bacillus, struma, atropine, and other sources of irritation. A chronic strumous conjunctivitis associated with pannus may simulate trachoma so closely that the diagnosis can only be made with certainty by watching the result of treatment. The author lays no stress upon this difficulty. The book is really a reprint of an address to a conference of the Havannah Society for Clinical Study, and no doubt served as a useful opening to a discussion; but apart from this it has little value, and contains nothing that cannot be found in a good textbook.

The second edition of *Ophthalmic Surgery*[5] by CHARLES H. BEARD, of Chicago, is very little larger than its predecessor published in 1910, although, as the author states, it contains 33 per cent. more text and an addition of eighty illustrations. Chapters on the newer operations for glaucoma and the surgical treatment of detachment of the retina have been added to this edition. When dealing with the lacrymal sac the operations of Harrison Butler and Toti are given in detail. Each department of ophthalmic surgery is considered in all its aspects from a surgical point of view. Some of the operations are distinctly novel. Take, for instance, the vacuum fixation of the lens and flap suture in the operation for removal of the lens in its capsule. This operation was introduced by Hulen of Houston, Texas. The essential features are the insertion of a suture into the conjunctival flap previous to the removal of the lens, and the introduction into the anterior chamber of a pipe which is connected with a vacuum bottle. The lens is, by means of a vacuum, held rigidly in the orifice of the pipe, as in the sucker of an octopus. The lens is then rotated so as to tear the suspensory ligament, and then it is supposed to come away, capsule and all, but it might be imagined that such a procedure would be fraught with the greatest danger to the eye. Considerable attention is devoted to the removal of foreign bodies from the eye and also to their localization. The illustrations, which are in many instances reproductions of photographs, complete the book, which is thorough, and will be of great use as a work of reference in looking up details of operations.

The third edition of *Modern Ophthalmology*,[6] by DR. JAMES M. BALL, of St. Louis, is a very large and heavy book of over 900 pages, and is now published in a single volume instead of two volumes, as was the case at least with the first edition, which appeared ten years ago. The first chapter is on the embryology, anatomy, and physiology of the eye; then the theory of the ophthalmoscope is discussed, and the various methods used in the examination of the eye are explained. After this diseases are discussed. The author still has an obvious affection for the use of probes and styles in the treatment of diseases of the lacrymal apparatus, but he also gives a description of the operation for the removal of the sac. Many coloured plates and black-and-white drawings illustrate diseases of the conjunctiva, and one plate is devoted to the ordinary conjunctival micro-organisms. There is a very good drawing of the microscopic appearance of the cornea in a state of interstitial keratitis, but the two showing the notched and peg-shaped teeth are diagrammatic to a degree, and look like an illustration of the jaws of a rat-trap. The description of the operation of needling a lamellar cataract is out of date. The needle is pushed through the cornea instead of at the extreme periphery; the incision in the capsule is made quite small instead of as large as possible, for it is said to be "far safer to repeat the operation several times at intervals of a month or more than to make too extensive an opening at one time." Most cataracts in young people will have entirely disappeared in about a month or six weeks if an extensive opening be made without even letting the lens out, while the amblyopia from disuse which is bound to occur in a young child as the result of keeping the eye blind for months is a thing which has to be seriously reckoned with. In speaking of the results of cataract extraction we should imagine that most modern surgeons would strongly object to class their results as the author does, who considers that vision of $\frac{3}{200}$ ($\frac{3}{60}$) or better to be good results, $\frac{1}{200}$ to $\frac{18}{200}$ ($\frac{1}{60}$ to $\frac{5}{60}$) as moderate results, while eyes retaining only perception of light, are classed with those which have none, as failures. Tobacco amblyopia and other toxic amblyopias receive but scant treatment. The author is greatly opposed to the continous use of myotics in glaucoma and considers that all patients should be given the benefit of operation. Iridectomy is the operation which is advised, and he is evidently not much in favour of scleral trephining, for when discussing the treatment of haemorrhagic glaucoma he states that "such questionable procedures as paracentesis of the cornea, scleral trephining, and stretching of the external nasal nerve are out of place." There cannot be many surgeons at the present time who would class these three methods together and consider them all equally inefficacious. He does, however, state that "Elliot's operation seems to possess distinct advantages over other methods of trephining." The references to colour blindness are out of date. Most of the illustrations are excellent, but some are distinctly below the average, and the same might be said of the text, which varies considerably. For such a large book it is curious that it should be so scrappy in parts while other sections are unduly long. Owing to want of time on the part of the author several well-known ophthalmologists have written special chapters and have assisted in the writing and revising of other parts.

DISEASES OF CHILDREN.

DR. JOHN LOVAT MORSE'S *Case-Histories in Paediatrics*[7] may be read with very great interest and pleasure. He describes it as "a collection of histories of actual patients selected to illustrate the diagnosis, prognosis, and treatment of the diseases of infancy and childhood, with an introductory section on the normal development and physical examination of infants and children." Each case is considered fully, and occupies about two or three pages upon an average. In the first place a short history is given, and then an accurate account of the findings, both negative and positive, of the physical examination. To this succeeds a discussion of the differential diagnosis, and a few remarks upon prognosis. Lastly, the treatment is fully described. This order has the great advantage that the reader first encounters a description of the case as

[4] *Diagnóstico Diferencial de la Conjunctivitis Granulosa (Tracoma) de la Conjunctivitis Primaveral y de la Conjunctivitis Folicular.* Por el Dr. R. Guiral. Habana: Imprenta y Papeleria de Rambla, Bonza y Ca. 1913. (Sup. roy. 8vo, pp. 28; 36 plates.)

[5] *Ophthalmic Surgery.* By C. H. Beard, M.D., Fellow of American College of Surgeons, etc. Second edition, revised and enlarged. Philadelphia: P. Blakiston's Son and Co. 1914. (Med. 8vo, pp. 756; 9 plates; 374 figures.)

[6] *Modern Ophthalmology: A Practical Treatise on the Anatomy, Physiology, and Diseases of the Eye.* By J. Moores Ball, M.D., LL.D., Dean and Professor of Ophthalmology, the American Medical College of St. Louis. Third edition, revised and enlarged. Philadelphia: F. A. Davies Co. London: Stanley Philips. 1913. (Sup. roy. 8vo, pp. 936; 24 plates; 445 figures in the text. 31s. 6d. net.)

[7] *Case-Histories in Pediatrics.* By J. L. Morse, A.M., M.D. Second edition. Boston: W. M. Leonard. 1913. (Roy. 8vo, pp. 639; illustrated. 5.50 dollars.)

it presents itself for diagnosis, and enjoys the mental exercise of himself deciding upon the probabilities before he arrives at the author's own conclusion. Two hundred actual cases are so described, and among them are found examples of nearly all maladies of childhood, common and rare, which are likely to be found in a lifetime of practice. No doubt the cases will sometimes appear to have an unnatural crispness and simplicity. It is impossible in such a work to catch all the indefinable elements of doubt and uncertainty which exist in actual practice. No doubt, too, in actual practice we must not hope to achieve in 200 cases such a series of 200 successful diagnoses as is presented in the text. For example, we shall not often find the explanation of persistent constipation and malnutrition in the accidental substitution of gravity cream for 10 per cent. top milk (p. 193). Nevertheless, the book is one of value to the student of children's disease, and a great variety of valuable information is presented in a novel and entertaining form.

In his book, *Leitfaden der Säuglingskrankheiten*,[8] Dr. WALTER BIRK of the University of Kiel has put together in short compass an account of the present teaching on infantile disorders in Germany. As is natural and right in a book upon the maladies of the first year of life, the disorders of digestion and nutrition occupy the first place. In describing these the author follows closely the teaching of Czerny, in whose clinic he was formerly chiefly assistant. The part played by overfeeding in infancy, and especially the ill effects of excess of fat in predisposed infants, as might be expected, are strongly emphasized, and a good description of the "exudative diathesis" of Czerny is given. The infective disorders of early infancy are also dealt with clearly and fully. The purpose of the book is entirely practical. In consequence the discussion of the symptomatology and the therapeutics of the various disorders is accorded most space, while theoretical considerations are only dealt with in so far as they are necessary to a proper understanding of the conditions. The author has done his work well, and has compressed into a comparatively short book all that is practically most useful in the great advances which have been made since the century began in the knowledge of the nature of the common complaints of the newly-born and of infants throughout the first year of life. To read this book is to realize how recent and yet how great is our knowledge of the pathology of the artificially fed infant.

Dr. J. MCCAW says in the preface to his *Diseases of Children*[9] that of textbooks dealing with diseases of children it cannot be said that there is a scarcity, but that he believes that there is room for yet another of moderate dimensions and modest price. These advantages the book certainly possesses, and it can be recommended as reflecting well the present teaching upon the disorders of childhood. But it suffers from extreme condensation. The author has not been content to limit the field covered by the book; he has endeavoured to make it a complete textbook in miniature. For example, he considers it necessary to devote space to a description of the so-called diseases of Buhl and Winkel. Knowledge of the pathology of the infective disorders of the newly-born is now advanced to such a point that the attempt to describe those conditions as separate pathological entities might well be abandoned. The observations of Winkel in Dresden in 1879 are now only of historical interest. The same disproportion is apparent in the illustrations, for of nine photographs illustrating types of disease three are devoted to a case of congenital hypertrophy of the colon. As a result, many disorders of great frequency have perforce to be dismissed with a very few words of explanation.

CHEMISTRY.

MELLOR'S *Introduction to Modern Inorganic Chemistry*[10] is a less comprehensive book than the same author's *Modern Inorganic Chemistry*, noticed in these columns about a year ago. Much of the matter is the same in both, the later volume being intended to suit students who want to start with a rather simpler book, and the more advanced portions of the earlier one therefore omitted. The matter is clearly presented, and the ground usually included in an elementary textbook is well covered. Theory and history are given in good proportion, the student being guided to both by the path of observable facts; curves showing the relations between given variables are employed almost from the first, but the demand made on mathematical knowledge is quite elementary. At the end of each chapter a number of questions are given, taken from various university and other examination papers, which will be of assistance to both students and teachers.

A Third Year Course of Organic Chemistry,[11] by Dr. T. P. HILDITCH, is intended to form a sequel to Dunstan's *First Year Organic Chemistry* and Thole's *Second Year Organic Chemistry*. Of these, the former deals with the aliphatic or open chain compounds, and the latter with the carbocyclic or benzene group; Dr. Hilditch's book completes the series by a discussion of the heterocyclic compounds—that is, ring compounds in which other elements besides carbon form constituent parts of the ring—as well as of the more complex aliphatic and carbocyclic compounds. Naturally, in a work having this scope, the matter is presented in a somewhat condensed style, which assumes a good deal of previous knowledge, and structural formulae abound on almost every page. The principal aliphatic compounds dealt with are the polypeptides and carbohydrates, to which over a hundred pages are devoted, and of carbocyclic substances the terpenes come in for discussion at some length. The whole of the matter is more fully dealt with than in textbooks which aim at covering a wider ground, and advanced students will find the book well suited to their needs.

In the applications of chemical analysis to particular manufactures it is usual to find that many special routine tests have been evolved which can often be carried out quite well by persons having very little theoretical knowledge. Dr. WIECHMANN'S work on *Sugar Analysis*[12] will prove of great use in laboratories where such testing has to be regularly carried out; the author does not assume chemical knowledge on the part of the reader, but begins with directions for such elementary operations as the use of a balance and the taking of specific gravities. From this he passes on to directions for the various tests required during the processes of manufacturing and refining sugar, as well as for the testing of the various materials used, such as bone black, tricalcic phosphate, coal, and lubricating oils. Finally, a considerable number of tables is given, referring to the conversion of polarimeter readings into strengths of sugar solution and other technical matters.

NOTES ON BOOKS.

THE author of a very good book on cooking, entitled *Cookery for Every Household*,[13] sets out with the proposition that "there is perhaps no science which has done more for the health and happiness of mankind than that of good cooking." If we waive the objection to calling that a science which is more properly denoted an art, we may, perhaps, admit the general truth of the proposition. The plan of the book is convenient: the first chapter deals with the kitchen, marketing, and the care of food. The author, Miss FLORENCE B. JACK, speaks in a rather half-hearted way about cooking by gas; she is enthusiastic about cooking by electricity, but the calculations of cost are based on a rate of a penny a unit. Stocks and soups, fish, meats, sauces, and so on are dealt with in separate chapters, each consisting of a general introduction followed

[8] *Leitfaden der Säuglingskrankheiten für Studierende und Ärzte.* Bonn: A. Marcus und E. Webers. 1914. (Demy 8vo, pp. 264; 25 figures. Brosch. Mk. 4.80; Gebunden, Mk. 5.80.)

[9] *Diseases of Children: A Manual for Students and Practitioners.* By J. McCaw, M.D., R.U.I., L.R.C.P.Edin., etc. London: Baillière Tindall, and Cox. 1914. (Demy 8vo, pp. 546; 14 figures. 10s. 6d. net.)

[10] *Introduction to Modern Inorganic Chemistry.* By J. W. Mellor, D.Sc. London: Longmans, Green, and Co. 1914. (Post 8vo, pp. 684; 232 figures. 4s. 6d.)

[11] *A Third Year Course of Organic Chemistry: The Heterocycli. Compounds, Carbohydrates, and Terpenes.* By T. P. Hilditch, D.Sc.Lond., F.I.C. London: Methuen and Co., Limited. 1914. (Cr. 8vo, pp. 423; numerous diagrams. 6s.)

[12] *Sugar Analysis for Cane Sugar and Beet Sugar Houses, Refineries, and Experimental Stations, and as a Handbook of Instruction in Schools of Chemical Technology.* By F. G. Wiechmann, Ph.D. Third edition, rewritten. London: Chapman and Hall; New York: J. Wiley and Sons, Inc. 1914. (Demy 8vo, pp. 319; 7 figures. 12s. 6d. net.)

[13] *Cookery for Every Household.* By Florence B. Jack. London: T. C. and E. C. Jack. 1914. (Cr. 4to, pp. 721; illustrated. 3s. 6d. net.)

by recipes of which there are altogether over 3,000. There is a separate section on invalid cookery, with a suitable introduction, and another on drinks and beverages—a subject very often omitted in cookery books. For making coffee Miss Jack recommends the ordinary earthenware percolating coffee-pot. Undoubtedly very good coffee can be made with it, and it has the great advantage of being easily cleaned. There is a short section on paper-bag cookery, a French glossary, and a set of seasonable dinners, breakfasts, and luncheons for spring, summer, autumn, and winter; and a good index. Altogether the book is very complete, and its portly appearance is, perhaps, not a serious objection. Its merits can only really be tested in the kitchen, but as it is written by an ex-Principal of the School of the Domestic Arts in Edinburgh, it may be taken to represent a large experience.

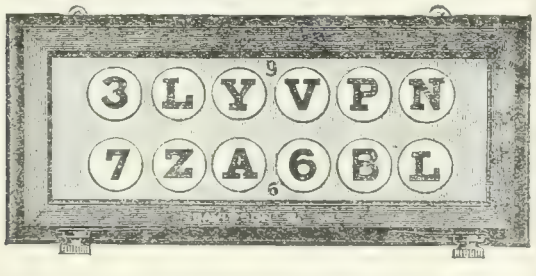
It has often been said that no man is a hero to his valet; there are nevertheless a few rare characters who have the power of winning the respect and affection of all with whom they come in contact, and whose greatness is recognized and acknowledged even by those with whom they are on the most familiar and intimate terms. *Sister Henrietta*,[1] the story of whose heroic life-work in the hospitals of South Africa has been published by her sister, Miss STOCKDALE, and the Dowager Lady LOCH, seems to have possessed to the full this happy faculty of arousing the interest and sympathy of others; and the charm of her striking personality can be felt even through the medium of cold print. The memoir of her life is composed for the most part of her own letters, written to friends and relations in England during her thirty-seven years' work in Kimberley and Bloemfontein; but it also contains a short biography by her only sister, who gives a most interesting account of the early years of this noble *maîtresse femme*. From her we learn that almost from childhood Sister Henrietta's heart was set upon the path she afterwards trod with such unflagging zeal: but that she was no mere visionary is proved by the success of her ceaseless efforts to raise the standard of nursing in the hospitals under her care. Her nature, indeed was as much akin to that of Martha as of Mary, for she combined a deep and fervent piety with the practical qualities required of one who was destined to become one of the pioneers of nursing in South Africa. Her letters reveal her as a woman of high ideals and lofty aspirations, of whose saintly and courageous life it might truly be said that it

> has flowed
> From its mysterious urn, a sacred stream
> In whose calm depths the beautiful and pure
> Alone are mirrored.

MEDICAL AND SURGICAL APPLIANCES.

Test Type.

DR. C. B. MOSS-BLUNDELL (Huntingdon) writes that in testing the eyes in large schools he has frequently found that the scholars have been able materially to assist their power of vision by committing the test type to memory. To obviate this he designed a system of movable type which proved so successful in practice that



Messrs. Davidson and Co. of Great Portland Street have made one. The type is mounted on a ribbon, which travels behind a white plate with circular windows. The tape runs on rollers, and by a half turn of the roller the order and lettering of the type are completely changed, so that several variations of lettering are obtained at will. The apparatus measures 10 in. by 4 in. by 1 in., and may be conveniently carried in the bag of the medical inspector. Dr. Moss-Blundell suggests that one might with advantage be permanently fitted in all large schools.

Apparatus for X-ray Therapeutics.

From the Sanitas Electrical Company, Limited (61, New Cavendish Street, London, W.), we have received particulars of some new introductions of *x*-ray apparatus, the purpose of which is to secure a "hard" or penetrating radiation. The apparatus includes a new *x*-ray generating machine, constructed on the principle of an alternating current generator, but having a special cut-out contrivance which enables any desired portion of the current phase to be used for the working of the tube, so that a more or less hard beam of *x* rays is under control. Another interesting contrivance is an apparatus fitted with a high-tension change-over switch for bringing into play in rapid periodic sequence four *x*-ray tubes from a single outfit. The efficiency of the tube so far as concerns the emission of hard rays is improved by this intermittent working, and the device has the further advantages of lengthening the life of the individual tube, and of utilizing fully the output of the current generator. The swinging motor arrangement of Dr. Hans Meyer, of Kiel, represents another refinement of *x*-ray therapeutics; it provides that the tube, after being centred on a suitable area for treatment, shall be swung continuously from one side to the other, thus ensuring a cross-fire action upon the part. The Sanax mercury interrupter of this firm maintains the reputation to which it is entitled by virtue of its ingenious design and mode of action, whereby the uncleanliness and wastefulness attached to many mercury interrupters are eliminated.

ROYAL COMMISSION ON VENEREAL DISEASES.

THE following is the official report issued to the press by the Secretary of the Commission:

Importation of Syphilis.

At the forty-third meeting of the Royal Commission on Venereal Diseases, evidence was given by Dr. J. J. Pringle, physician in charge of the skin department of Middlesex Hospital and president of the Dermatological Section of the Royal Society of Medicine.

Dr. Pringle stated that of 36,151 cases of skin disease dealt with in the out-patient department of the Middlesex Hospital during the last twenty-five years, 1,853, or rather over 5 per cent., presented indubitable evidence of syphilis. This figure did not represent the number of patients who had attended the hospital for syphilitic manifestations, but only those who had been referred to the special department as suffering from some affection of the skin. Of the 1,853 cases of syphilis 925 were males and 928 females. Dr. Pringle thought that this apparent equality of incidence in the two sexes was due to the fact that men do not willingly attend hospitals during working hours, except for diseases which in their opinion threaten life or cause grave discomfort or pain. On the other hand, anything causing disfigurement impelled women to seek medical advice. Of the 1,853 cases of syphilis already mentioned, nearly 24 per cent. were foreigners.

Dr. Pringle stated that he could not see his way to supporting or advocating any measure of compulsory notification of venereal diseases. The medical profession was, he thought, practically unanimously opposed to it, and even if made confidential its effects upon the public would be merely to drive them to seek treatment from unqualified persons.

His experience both in hospital and private practice convinced him that much of the syphilis existent in England was of foreign importation. He believed that a considerable number of prostitutes left their own countries because they were unable to ply their trade there, and came over to England and spread the disease in this country. It was important that this matter should be further investigated, and that steps should be taken to deal with it.

THE firm of C. Reichert, of Vienna, has issued in English an abridged catalogue of microscopes and accessory apparatus of its manufacture. It can be obtained from the firm's London agents, H. F. Angus and Co., 83, Wimpole Street, W.

[1] *Sister Henrietta, C.S.M. and A.A., Bloemfontein-Kimberley, 1874–1911.* Edited by Dowager Lady Loch and Miss Stockdale. With two portraits. London: Longmans, Green and Co. 1914. (Post 8vo, pp. 157. 2s. 6d. net.)

ONE HUNDRED YEARS AGO.

THE TEACHING OF MIDWIFERY IN LONDON IN 1814: HAIGHTON AND BLUNDELL.

PERHAPS the most important event in the teaching of midwifery in London in the year 1814 was the association of young James Blundell with his uncle, Dr. Haighton, although doubtless no one at the time thought much of this addition to the staff of obstetric lecturers, unless it was Blundell himself. John Haighton[1] was now 59 years of age, and had been lecturing on both physiology and midwifery for a long time. He was a Lancashire lad,[2] had been a pupil of Else at St. Thomas's Hospital, had then become a surgeon to the Guards, had resigned on being appointed demonstrator of anatomy at St. Thomas's under Henry Cline (who had first lectured for and then succeeded Else in 1781), and but for the appearance of a more brilliant star (Sir Astley Cooper) would doubtless have continued to shine among the anatomical and surgical luminaries of the time; indeed, so skilful a surgeon was he and so promising an anatomist that John Hunter had nearly taken him as his assistant in lecturing. As it was, Haighton in 1789 turned to physiology and midwifery, succeeding Dr. Skeete as lecturer in the former and being associated with Dr. Lowder in the latter subject, and teaching both in the courses for the united hospitals—St. Thomas's and Guy's. It was in physiology rather than in midwifery that Haighton found his sphere, and most of his published works were concerned with the former, although he did find time to write on "True and spurious Caesarean operation." After a paper on "Fractured olecranon," published in *Medical Commentaries* in 1785, he wrote in 1789 on the "Powers concerned in the act of vomiting," and on "Two experiments on the mechanism of vomiting" (*Memoirs of the Medical Society of London*); in 1792 his "Experiments made on the laryngeal and recurrent branches of the eighth pair of nerves" were made known, and some three years later his most important "Experimental inquiry concerning the reproduction of nerves" appeared in the *Philosophical Transactions*. In this inquiry he tested the repair of nerves by the recovery of their physiological function after division, an epoch-making advance in physiological methods. His "Experimental inquiry concerning animal impregnation," in which he used rabbits for the investigation, was ingenious, but failed because of the imperfect microscopic knowledge then available. Another subject on which he wrote was *Deafness*, and for this work he was adjudged the silver medal of the Medical Society of London in 1790. In 1814 he was beginning to suffer from asthma, a very troublesome complaint for a lecturer, and so he called to his assistance James Blundell, his nephew, who had studied under him at the United Borough Hospitals, and who in the past year (1813) had graduated M.D. at Edinburgh. In 1818 Blundell relieved him of the lectures entirely, and also began to lecture on physiology. Dr. Haighton lived, however, till 1823, and took an interest doubtless in his nephew's growing success both as a lecturer and as an obstetrician.

James Blundell's success, indeed, was phenomenal; for years he had the largest class on midwifery in London, and although he ceased to lecture in 1836, and had long retired from the practice of his profession before his death, at the age of 87, in January, 1878, yet he died with great riches, his personalty being sworn under £350,000. Munk[3] writes about him in 1878: "He was little known to the present generation of physicians . . . he died very wealthy, more so, indeed, than any physician of whom we have record." This was the man who in 1814 stepped into his asthmatic uncle's classroom to aid him in his lectures in midwifery.

From the *Medical and Physical Journal*[4] for 1814 can be obtained the programme of the conjoint course of lectures in the two London hospitals that year:

St. Thomas's and Guy's Hospitals.—The winter course of lectures at these contiguous hospitals will commence in the first week of October, viz.:

At St. Thomas's: Anatomy and the Operations of Surgery, by Mr. Astley Cooper and Mr. Henry Cline. Principles and Practice of Surgery, by Mr. Astley Cooper.

At Guy's Hospital: Practice of Medicine, by Dr. Babington and Dr. Curry. Chemistry, by Dr. Babington, Dr. Marcet, and Mr. Allen. Experimental Philosophy, by Mr. Allen. Theory of Medicine and Materia Medica, by Dr. Curry and Dr. Cholmeley. Midwifery and Diseases of Women and Children, by Dr. Haighton. Physiology or Laws of the Animal Economy, by Dr. Haighton. Structure and Diseases of the Teeth, by Mr. Fox.

These several lectures are so arranged that no two of them interfere in the hours of attendance, and the whole is calculated to form a complete course of medical and chirurgical instruction.

Dr. Blundell's name does not appear in the list, his uncle's asthma, we can imagine, not beginning to be disabling in its intensity till the fogs of October had set well in; but he came forward (more or less bashfully) to play his part during the session.

Among the many books belonging to the late Sir James Y. Simpson which have recently been presented to the Royal College of Physicians of Edinburgh by his nephew, Sir Alexander Simpson, there is a thin volume of eighty-eight pages (interleaved with leaves carrying manuscript notes), entitled "*A Syllabus of the Lectures on Midwifery Delivered at Guy's Hospital by Dr. Haighton.* London: Reprinted in the year 1814 by E. Cox and Son, St. Thomas's Street, Borough." This, therefore, gives the very lecture headings used by Haighton and Blundell in their conjoint course of instruction on midwifery in the autumn of 1814 and winter of 1814–15, and one can follow the students of Guy's and St. Thomas's almost day by day as they were led deeper and deeper into the knowledge of obstetric science by their teachers. With regard to the MS. notes on the intercalated pages in this copy of Haighton's *Syllabus* there is no certain information forthcoming, but Sir Alexander Simpson is inclined to think they were made by Professor James Hamilton, who was Sir James Simpson's predecessor in the Chair of Midwifery in the University of Edinburgh from 1800 to 1840. From their nature they were certainly not made by a student, for they contain references to the writer's management of difficult midwifery cases. For instance, here is one supplementing what is said about phlegmasia alba dolens, called simply "swelling of the lower limbs."

Dr. Haighton, in the *Syllabus*, remarks that this disease may attack one or both legs; I have never seen it attack both at the same time, the other being affected as the one got well. In one case it seemed as if this disease was hereditary: in the case of Ly [Lady] Clark of Penicuick House. It strikes me that the word "hereditary" should be used here only in that sense which denotes that irritable parents in general will have irritable offspring, and in this manner may be explained the reason why it descends from parent to child. The lymphatic glands in one person may be more irritable than in another, and similar causes will not produce similar effects in people of different temperaments. It is well known that the bite of a leech is accompanied with violent inflammation in all the members of a family, and that certain substances taken into the stomach will produce eruptive complaints, and that this idiosyncrasy will be produced in the offspring, as is the case with myself in eating fish.

The condensed statements of the *Syllabus*, being of the nature of literary pemmican, do not give any indication of the flavour, force, pungency, and wit of the information supplied *viva voce* by the lecturers, and especially by the younger one of the two. Fortunately Blundell's book is available, so that it is possible to compare the dry bones of the notes with the stirring addresses (they were little less) clothed in telling phrases of the fully reported lectures. In the *Syllabus* (p. 55), under the heading of "Craniotomy," is the sentence: "Observations on the propriety of opening the head, with cautionary remarks"; but in the book (p. 326)[5] the following passage appears:

Of all the obstetric operations, there is none, perhaps, more easily performed than that of perforation; and many a life, I fear, has fallen a sacrifice to this facility of execution. Of all the operations of our art, however, there is none more dreadful—not to say "more *awful*"; for—call it "embryotomy," "craniotomy," "cephalotomy," or by whatever elegant term you please—in this operation a dagger is struck into the head of an innocent child, often still living; and the brains, much reduced to a soft pulp, are suffered to escape at the opening! Much evil, and some good, arises, in society, from not calling things by their right names! This practice, however, I am aware, grows out of the nature of man, and cannot be amended. Helenize then, and Latinize, as much as you please. "Suaviter

[1] *Dict. Nat. Biogr.*, xxiii, p. 441; 1890.

[2] So the *Dictionary of National Biography*, but a contemporary authority places his birthplace in the north-east of England.

[3] Munk, W., *Roll of the Royal College of Physicians of London*, second edition, vol. i, Preface, p. vii; 1878.

[4] *Medical and Physical Journal*, vol. xxxii, p. 258; 1814.

[5] *Principles and Practice of Obstetricy*, pp. 531, 532; 1834. *Principles and Practice of Obstetric Medicine*, p. 326; 1840.

sonat"; but never suffer a polished and classical appellation to bring before your minds an idea of this operation, divested of that salutary horror with which, I conceive, it ought at all times to be contemplated. Dreadful, however, as the operation is, the safety of the mother sometimes peremptorily requires its performance.

If the printed page gives anything like a true transcript of Blundell's lectures, it is not difficult to understand why so many students flocked to his classroom, for vivacity is combined with sympathy and pathos with humour in a way which must have been very attractive and interesting. It is hardly to be thought that the young lecturer stepped at once into his full stride in this, the first, year of his assisting his uncle; but there would be passages in the lectures when the spirit, almost prophetic, bubbling up within him, would refuse to be restrained by conventional terms and polite phrases, and would pour forth in a torrent of mingled invective, appeal, and sad humour that was nearly Carlylean (although the Sage of Chelsea had not yet begun to thunder). There would be some, perhaps, among Haighton's students who would not be overcome with grief when an unusually bad attack of asthma in the uncle sent the nephew into the classroom, and when one of the periods of declamation was well entered upon many pencils would cease to traverse the paper as Blundell's hearers listened spellbound or burst into applause. Take this passage, dealing with the choice of suitable perforator, and notice the combination of practical useful advice on matters of construction with sarcasm and a personal allusion:

> Some of these instruments are made very light and elegant—qualities of which I do not myself approve. A light perforator is apt to bend in the shank or to break. Besides, a roughness of appearance well becomes the austere duties which it is designed to discharge. [Note how well chosen the words are and how fine is the point of the irony.] In choosing a perforator take care that the joint is very firm; otherwise, when the instrument is in action, disruption and dislocation may occur. It is better, too, that the blades should not touch each other laterally at the joint, in order that no part of the vagina may be enclosed and injured there. Except the point, all other parts of the instrument should be smooth and rounded. "Thou shalt not kill" might perhaps, with great propriety, be engraved on one blade of the instrument. To the obstetric eulogist, Sir Anthony Carlisle, I commit the choice of a motto, from the same decalogue, for the other blade.

One can well imagine the delight with which the class would welcome the allusion to Sir Anthony Carlisle, "handsome and good-humoured but very vain and crotchety,"[6] surgeon to Westminster Hospital, who had written the pamphlet on *The Impropriety of Men being employed in the Business of Midwifery*. The delicate satire of the phrase "obstetric eulogist" would be immediately perceived by Blundell's hearers, and the duller students would ask the brighter ones, or those with a more extensive acquaintance with the Ten Commandments, "What motto from the decalogue does he mean?" and would receive as answer, "Why, thou shalt not bear false witness against thy neighbour, to be sure." And, ever afterwards, in their professional life, these students could hardly pick up a perforator with feticidal intent, without seeming to see in burning letters on the one blade, "Thou shalt not kill," and on the other, printed in green—the green of envy—"Thou shalt not bear false witness against thy neighbour," be he surgeon or obstetrician or physician. There was more taught in Blundell's classroom than midwifery in these days.

Some of Blundell's illustrative case records, too, were full of dramatic intensity. Whilst lecturing on eclampsia and the risks of the child being expelled unnoticed during the convulsions and being suffocated in the bedclothes, he told this story:

> A lady, in the end of her pregnancy, was seized with convulsions. Her attendant was sent for, and decided that there were no indications of labour, and that a stay was unnecessary. Quitting the house, then, the midwife returned on the morrow, early in the morning, when the patient was found dead. The child, too—the birth of which no one seems to have suspected—lay lifeless beneath the clothes. In managing human affairs, the *men* have done so many foolish things, that they have no claim whatever to treat with severity the errors of the *women*. Allow me, however, to remark that, in this instance, the error—a great one—was committed by a *female* practitioner. "Felix quem faciunt aliena pericula cautum!" (happy is he who learns caution from the dangers of others). Remember the story. It is worth a parable, or an apologue; for it conveys a useful truth.

One could hardly be dull when one's teacher was in the habit of exploding such bombs during the lecture!

Little space is left to speak of Blundell as a physiologist, and yet, notwithstanding the charm, the impressiveness, the high note of distinction of his obstetric lectures, it was as a seer in matters physiologico-obstetrical that he shone most brilliantly. If he was as the Hebrew prophet in his hortatory, declamatory, and denunciatory mood in his midwifery teaching, he was still more like him in the clear vision he had of the future. He saw more immediately and more penetratingly than any man else in his age the physiological developments of obstetrics and gynaecology. It was from experiments and more still from his wonderfully powerful faculty of intuition that Blundell foresaw the possibility, and recommended the performance of division of the Fallopian tubes to prevent the necessity for a second Caesarean section. Here is a quotation[7] giving his directions: "I would advise an incision of an inch in length in the linea alba above the symphysis pubis; I would advise further, that the Fallopian tube on either side should be drawn up to this aperture; and, lastly, I would advise, that a portion of the tube should be removed, an operation easily performed, when the woman would for ever after be sterile." Again,[8] he stated that extirpation of the healthy ovaries, what came afterwards to be called Battey's operation or oöphorectomy, would "probably be found an effectual remedy in the worst cases of dysmenorrhoea, and in bleeding from monthly determination to the inverted womb." By experiments upon rabbits a few hours after delivery he showed the feasibility of the Porro modification of the Caesarean section; three out of four rabbits in which he removed the puerperal uterus recovered, to his great surprise, as he admits. In gynaecology, too, he had foresight which enabled him to view the triumphs of ovariotomy when he had only Lizars's Edinburgh case to enlighten him.[9] He had one or two hard hits at the small diagnostic powers of the surgeons of the day who failed to recognize ovarian cysts; he calls them "the blundering mistakes of some of your revolting and reviling surgeons—of your 'thank-God-I-know-nothing-of-midwifery' men (excuse a Sanskrit adjective!)." It will be noted that he had not enough vision to foresee that the surgeons would come into abdominal surgery also, and work wonders there little if anything short of those achieved by the ovariotomists and gynaecologists; it will likewise be observed that his language was strong enough to dispense with tonic treatment. Finally—for it is impossible to find space for all his advanced views and practice—he not only determined the feasibility of hysterectomy for uterine cancer by experiment, but practised the operation upon the human subject[10]; he used the vaginal route, and naturally enough had some difficulty with the uterine arteries in the broad ligaments, but he had two successes in five cases, which, considering all things, was really rather a wonderful result. These operations were not undertaken until 1828, fourteen years later than the date of which we are writing now, but even at that time they were very remarkable achievements.

This, then, was the young man who came forward a hundred years ago and made his bow as a lecturer on midwifery and physiology in London. Dr. Haighton and he had some formidable rivals to face. There was David D. Davis, the Welshman, M.D. of Glasgow, Fellow of the Royal College of Physicians in Edinburgh, Licentiate of the Royal College of Physicians in London (admitted in June, 1813); he had been appointed "Man-Midwife in Ordinary" to the Queen's (Queen Charlotte's) Lying-in Hospital in the January of this year (1814), and he was to have the honour in a few years of attending the Duchess of Kent at the birth of Her Majesty Queen Victoria. He also had a large private midwifery class meeting at his house, No. 18, Lower Charlotte Street, Bedford Square. His summer session began on Monday, June 6th, at 10 a.m.,

[6] *Dictionary of National Biography*, ix, p. 104; 1887.

[7] *Principles and Practice of Obstetricy*, p. 580; 1834.

[8] *Principles and Practice of Obstetric Medicine*, pp. 758, 759; 1840. Vide also "Surgery of the Abdomen" in Ashwell's *Treatise on Parturition*, pp. 497 ff.; 1828.

[9] *Principles and Practice of Obstetric Medicine*, pp. 821 ff.; 1840.

[10] *Observations on Some of the more Important Diseases of Women*, pp. 180 ff.; 1857.

and his notice in the *Medical and Physical Journal* for June, 1814, announced that "a limited number of young gentlemen were admitted as medical house pupils." There was Dr. H. G. Clough, also, calling himself in 1808 "Physician Man-Midwife," and in 1814 "Physician Accoucheur" to the St. Mary-le-Bone General Dispensary, Welbeck Street, Cavendish Square; he, too, published a syllabus of his lectures, running to 124 pages. There was Dr. Samuel Merriman, nephew of the Samuel Merriman whose work, *De Conceptu*, was so highly thought of by William Smellie that he reprinted it in his *Thesaurus Medicus;* he was lecturing in 1814 at the Middlesex Hospital. There were Dr. Clarke and Mr. Clarke also, who read their lectures at the house of Mr. Clarke, No. 10, Upper John Street, Golden Square; there was Dr. Squire, who lectured at his house in Ely Place, Holborn; there was Mr. Joseph Hopkins, who delivered lectures at the Westminster Lying-in Institution every month; and there was Dr. Robert Gooch, "master of precise forcible description," whose hands were always cold, a peculiarity which he somewhat unexpectedly claimed as "an advantage in the examination of the abdomen," and whose lectures were given at St. Bartholomew's Hospital. Here was an array of talent which might well have daunted an older and more experienced man than James Blundell, but with the aid of uncle Haighton to give him a start he boldly faced them all, and has left to posterity what is perhaps the most readable set of lectures on midwifery of the period—readable, memorable, and highly entertaining.

THE MEDICAL USES OF WATERS AND BATHS.

FOUR lectures on "medical hydrology" were delivered recently at the Polyclinic, London, by Dr. R. Fortescue Fox. The refreshing effect of cool drinks and of cooling baths, and the debilitating effects of heat were, he said, typical of the whole action of heat and cold in health and disease. Baths provided a temporary and local climate for any part of the body. The normal body manifested a response or reaction to heat and to cold, with a certain sequence of changes in the circulation, nervous action, respiration, and metabolism. The reaction to cold, which called forth increased heat production, maintained the temperature of warm-blooded animals. Fatigue, starvation, and disease profoundly modified it, but it was capable of education. Through these reactions it was possible by means of heat and cold to modify at will, in whole or in part, the circulation, nervous energy, and metabolism of the body. By acting locally on certain areas of the skin the internal organs related to those areas could be affected.

The art of hydrotherapy in the widest sense, he said, was the medicinal use of heat and cold, and constituted the first part of medical hydrology. Modern hydrotherapy was part of a new movement towards physiotherapy, which in the last half-century had swept over the Continent. The medical mind in England was at present comparatively untouched by it, which partly accounted for the annual and increasing exodus of British invalids to the Continent.

Many local cooling applications could be used with much advantage in fevers and other acute diseases, and for inflamed and injured parts. In addition to their sedative effect on the general circulation, as shown, for example, in cases of haemoptysis and gastric haemorrhage, they had a marked decongestive effect on inflamed areas, contrasting with the congestive effect of heat, by hot air, etc. On the whole, therefore, cold was more appropriate for acute and heat for chronic maladies. In the cooling treatment of fevers too much cold had frequently been employed. The intention was the stimulation of the nerve centres and of the heart. The prevention of fever was wrong. In practice the lower limit of temperature in a bath in fever should seldom pass 65° F. The best indication for cooling baths in fever was not pyrexia, but a flushed skin, dicrotic pulse, and low arterial pressure.

Subthermal baths (98–90° F.) had a marked sedative effect upon the whole nervous system, peripheral and central, and through it on the circulation and nutrition. They therefore had a wide scope in nervous and mental and circulatory affections, in convalescence, debility and old age, and were the most valuable of all medical baths.

Thermal or resolvent baths (98° to 105° F.) were intended to increase the superficial circulation and that of comparatively superficial parts—joints, muscles, fibrous structures, etc.—to increase metabolism, and to diminish the loss of heat. They intensified all tissue reactions in the parts operated upon, stimulated sluggish changes, and promoted absorption. Unless followed by cold applications, they were liable to produce "thermal debility."

Hyperthermal or intensive baths (105° to 120° F.) were used to produce the highly stimulating effect of brief applications of heat. They were a most valuable stimulant in the collapse of febrile cases, and as foot baths in many chronic conditions.

Douches.—Many thermal and subthermal effects could be best induced by the douche, in which the influence of pressure and mechanical stimulation was added to that of heat.

Hot-air and Vapour Baths.—The great principle (often neglected in practice) of cold after heat was illustrated by the baths of the Greeks and Romans, the Slavonic and Northern and Celtic races. In all of these heat was used to make the body tolerant of cold, as in fever, and it was surprising what extreme degrees of cold could be tolerated after application of heat. The best form of cold bath was preceded by heat, and this should always be the practice for old persons and children, for invalids, and in the case of school baths.

Thermal debility, as seen after hot baths, was a condition strictly comparable to that produced by hot moist climates. Beginning with want of fitness, languor, and acceleration of the pulse, it might proceed to heat-stroke or acute cardiac failure. This secondary reaction to heat was the most serious danger of all bath treatment.

Medicinal springs were often to be recommended to those who never otherwise drank water. The *differentia* of the various springs was but imperfectly revealed by chemical analysis. The presence of dissociated ions, of colloidal metals, with an action analogous to that of ferments, and of known and unknown physical properties, such as radio-activity, probably entered into the action of many springs, and in some of the most dilute waters it was probable that free motility of the particles favoured their action.

Waters of natural heat (subthermal, thermal, or hyperthermal) seemed to exert a different action from ordinary hot baths. They should be chosen largely according to their position in the scale of thermality, according as a sedative, stimulant, or intensive effect might be desired.

Sulphur waters presented dilute solutions of sulphides, probably in a colloidal condition and in a form not otherwise available in medicine. Experience seemed to show that in many chronic diseases, such as gout and chronic articular rheumatism, they had an intensive and almost a specific effect, possibly to be explained by their action upon intestinal toxaemia.

Muriated springs brought into the body one of its natural constituents, which was intimately concerned in osmosis. Their helpful action in weak and catarrhal conditions of the gastric and intestinal mucous membranes was assisted by free carbonic acid gas. Applied externally, salt baths, as at Droitwich, provided one of the most powerful forms of cutaneous stimulation, which, when combined with heat, was of great service locally and generally for myositis, fibrositis, gout, rheumatism, and for "scrofulous" and convalescent young people (as at the famous "Liman" cure in Southern Russia).

Effervescing baths (with or without salt) combined two forms of surface stimulation—the thermal effect of gas and the antithermic effect of water, exerted on innumerable shifting and contiguous minute areas of the skin. There resulted an interesting form of gymnastic of the surface circulation, belonging only to these baths. The sedative and stimulant effect upon the heart produced by such baths was among the best attested facts in medical hydrology.

Calcareous or diuretic waters were deservedly coming into increasing vogue. In addition to their stimulating effect upon the gastro-intestinal tract and their use in urinary calculus and gravel, they often relieved gouty states, and especially chronic high arterial tension, by their action as eliminants.

The *choice of spas* should be guided not only by the effect of the waters, but by the climatic character,

altitude, and scale of thermality of the health resort. Some invalids required the warmth and shelter of valleys or forests. Many warm and sedative spas were to be found in the Rhine Valley and in France. In England, Bath and Leamington and Woodhall Spa belonged to this category. Or, again, for other persons the moorland or hillside resort was preferable. To this class belonged Llandrindod, Buxton, Harrogate; and abroad, the spas of the Auvergne, of the Vosges Mountains, and Bohemia. For yet another group of patients the mountain resorts were indicated, such as Gastein, Leukerbad, or the Pyrennean spas. Lastly, a large number of delicate and elderly persons derived great benefit from northern climates, and from such spas as Strathpeffer, Laurvik, and Sandefjord.

The *British health resorts*, as a whole, provided a tonic and invigorating and bracing treatment, well adapted for particular types of constitution, of morbid tendencies, and of conditions of chronic disease.

In *cardio-vascular affections* heat should be used in a very guarded manner. In such affections there was great sensitiveness to temperature and an abnormal liability to thermal debility. Neither waters nor baths could be used in recent rheumatic carditis; but when the active process had subsided eliminative waters were helpful in all cases of acute rheumatism. The temperate douche held an important place in the treatment of rheumatic and other cardiac affections. It should be employed, as at Aix-les-Bains and formerly at Strathpeffer, without pressure and without thermality. The results were often superior to those obtained from the effervescing bath. All the best bath treatments for cardio-vascular disease were obtainable in the British Isles, and too many such cases were sent abroad, often with regrettable results. Cases of arrhythmia, with sudden alternations of high and low arterial pressure, were among those which were best treated near home. Again, if it were best to discourage exercise, a sheltered and sedative spa should be chosen, even at the risk of its being called "relaxing"; but where exercise was admissible a more stimulant and perhaps a northern station might be chosen. Altitude would in any case be avoided. In arthritis the best results were seen in toxic cases affecting few joints and in the arthritis of middle life, especially where cool and bracing treatments were given. In the last stage, with failure of arterial circulation, hyperthermal treatments were, of course, indicated.

Chronic nervous affections in many instances responded readily to bath treatments. It was surprising how old habits of invalidism and neuralgia yielded to the use of cold douches, with or without preliminary heat. The neuroses of the climacteric, insomnia, tachycardia, Graves's disease, could all be treated through the nervous peripheral organ, and cooling hydrotherapy was commonly indicated. In the slighter cases of neurasthenia and psychasthenia the routine use of some well-appointed medical baths near home should especially be recommended. The health resort with its change of scene and occupation might be described as the second degree of hydrological treatment, whilst the sanatorium with change of people remained for more serious cases. The experience of the German alienists had shown that not only Turkish baths and cold douches but athermal baths prolonged sometimes for many hours were of much value in mental affections.

In *old age* the slight failures of circulation and tightening of the arteries, the failure in the function of the skin, the failure of digestion or of elimination, were just those conditions that were best dealt with by gentle and prolonged hydrological treatment in a suitable climate.

It was the claim of medical hydrology that by means of the various uses of waters and baths it was possible to control and mitigate the reactions of acute disease and to promote and correct the imperfect and faulty reactions of chronic disease.

THE late Dr. Thomas Druslyn Griffiths, of Swansea, formerly President of the British Medical Association, left estate valued at £32,646.

THE International Fire Service Council, which has held its executive meetings and several conferences in London at the invitation of the British Fire Prevention Committee, has decided to issue an international Fire Dictionary in three languages.

THE BRITISH MEDICAL ASSOCIATION AND THE MEDICAL PROFESSION.

A CRITICAL REVIEW OF THEIR RELATIONS.

(Continued from vol. i, page 1415.)

VI.

CONTRACT PRACTICE AND THE NATIONAL INSURANCE ACT.

To pass from the question of out-patient departments to a consideration of contract practice is a natural transition. The fact that defects in the control of out-patient departments and the worst features of club practice have in some areas been found to be reciprocally stimulant is quite sufficient by itself to establish a connexion between the two subjects. The true connexion between them, however, is that those who engage in contract practice in any of its many forms and those who carry on the work of out-patient departments have fundamentally the same object in view. Their common aim is to meet the medical needs of persons who, though they do not come within the scope of the Poor Law, are insufficiently well off to pay the fees ordinarily expected by private practitioners.

On the other hand, there is also a fundamental dissimilitude. In contract practice, though in nearly all its forms it shares with out-patient work a philanthropic quality, the desirability of fostering the independence of the working and lower middle classes is never overlooked. From this point of view, indeed, contract practice and out-patient work are essentially antithetical. In the term "out-patient work" we are including for the moment that of free dispensaries, for out-patient departments are a comparatively modern development, and it was by free dispensaries that in the early nineteenth century most of what is now known as out-patient work would appear to have been done.

Stress is laid on this because from a historical point of view the free dispensary may in some degree be regarded as the *fons et origo* of the twentieth century medical man's trouble in connexion with contract practice. His predecessor a hundred years ago was quite as alive to the needs of the poor as he is, and one way in which he endeavoured to provide for them was by taking part in the work of free dispensaries, and later on it was through a derivative of the free dispensary that he sought to stem the rising tide of abuse of medical charities in all its forms.

This was in the Thirties, when the early members of the British Medical Association, after holding an inquiry into the subject, came to the conclusion that the best remedy would be to encourage the existence of institutions which would do their work on much the same lines as free dispensaries, but be supported to a considerable extent by subscriptions from the patients treated; in other words, they favoured the provident dispensary. It was no doubt an excellent idea, and if the provident dispensaries that came into existence had flourished as a class, it is possible that many of the latter-day problems of the medical profession would never have arisen. Unfortunately, however, large ill-managed out-patient departments multiplied simultaneously, and it was difficult for the provident dispensaries to withstand their blighting influence. Consequently, though many of them were fairly prosperous and continue to exist at the present time, they led as a class a somewhat hand-to-mouth existence, and did not succeed in decreasing the evils of hospital abuse. Though this failure in itself may be a matter of minor interest, yet, looking back, it is impossible not to attribute to the trial of the provident dispensary system some responsibility for the growth of contract practice as a whole. It must have helped to confirm in the minds of the working classes the idea that by making quite small monthly or weekly payments they could, without any loss of independence, demand from the medical profession everything they required in the way of treatment.

Furthermore, the system had a direct though bastard offspring in the shape of medical aid institutions, and it was the evils associated with these which finally aroused the medical profession to revolt against contract practice in all its forms. This was in 1894, when several Branches of the British Medical Association voiced the general discontent by passing resolutions to the effect that medical

men who took part in the work of medical aid institutions ought to be deemed unworthy of admission to membership.

In making this statement, we are not overlooking the fact that for many years previously there had been complaints about contract work of other kinds, or that in 1892 the Southern Branch of the British Medical Association in Ireland, in association with the Medical Society of Cork, had commenced a fight—which eventually proved successful—against the local friendly societies. These and some other like events, including a keen altruistic contest at Coventry, were, however, merely in the nature of preliminary hostilities, and it was over medical aid institutions that really commenced the long struggle which our contemporary, the *Lancet*, aptly dubbed "the battle of the clubs."

Medical Aid Institutions.

The early fights between the medical profession and friendly societies often involved nothing more than a question of terms, while the fights over medical aid institutions invariably involved one of principle; the essential feature of a medical aid institution was that, instead of there being a contract between those who treated and those who were treated, both alike contracted with a third party—namely, one or more laymen who provided treatment through their medical employees and pocketed any balance remaining when those employees had been paid their agreed fee or salary. They were, in short—and are still so far as they continue to exist—essentially commercial enterprises, whose powers for evil were materially increased when the medical men taking part in their operations served as whole-time employees, and were thus completely under self-interested and purely lay control.

Bodies of this general order bearing various titles had become very numerous by the end of the Eighties, and for the most part their sole aim was to pay their medical employees as little as possible and make contracts for treatment with as many members of the public as possible, quite irrespective of their position in the world. Consequently, not only were they gravely interfering with the work of many private practitioners, but they reduced their own medical employees to a condition of ill-paid servitude, which was all the more degrading and objectionable because it entailed the undertaking of work which could not in the circumstances possibly be performed with efficiency.

The earliest attack upon them would seem to have been in the pages of the BRITISH MEDICAL JOURNAL in 1890; it was repeated in 1891, and in the spring of the following year a medical man in the employ of one such institution was brought before the General Medical Council. The charge against him was to the effect that he had practically sold himself to a body of laymen who were trading in medical treatment for profit, and that in the performance of his work he had associated himself with an unqualified practitioner. The General Medical Council did not hold this medical man to have committed any offence of which it was prepared to take cognizance, but it appointed, a few months later, a committee of inquiry into the whole subject of medical aid institutions. This committee reported very unfavourably about them, but the General Medical Council does not seem to have considered that any of the evils shown to exist were of a kind with which it could deal in any very specific fashion. The Council's final verdict on the report of its committee was not delivered until 1894, and it was then that, as already stated, the standard of revolt was raised by numerous Branches of the British Medical Association.

For some time it looked as if little progress was likely to be made, but at length it appears to have been suggested that one feature in medical aid institutions had been more or less entirely overlooked by the General Medical Council. Commercial enterprises of all kinds depend for their success largely on advertisement, and this advertisement in the case of medical aid institutions took the form of more or less open canvassing. This circumstance was pressed on the notice of the General Medical Council, which thereupon adopted the view that connexion with canvassing institutions must be regarded as professionally illegitimate. This fact, coupled with the further fact that in 1900 the Council brought into full operation its previous resolution regarding "covering," put a different complexion on matters, and the war of the Association against medical aid institutions became more effective. It has now become difficult for them to obtain the services of competent practitioners, thanks to the fact that the Association has succeeded in educating the profession as a whole into regarding the conditions in which the work has to be done as equally bad for the patient and for the doctor.

The Friendly Societies.

As for other forms of contract practice, the first definite step taken by the Association as a whole was to appoint a subcommittee to confer with the representatives of friendly societies regarding the abuses existing. The conferences commenced in 1898, but were not followed by any material improvement, partly because the friendly societies, believing that they held the medical profession in the hollow of their hand, were totally unwilling to listen to reason—they refused, for instance, even to consider the question of adopting the principle of a wage limit—partly because there was some uncertainty as to what was the best line for the profession to adopt. The latter circumstance was natural, because there was great variety in the character of the complaints made, and precise data as to the conditions prevailing in different parts of the country, and their results were practically entirely lacking. Consequently, after the expression of many different opinions in its pages, the BRITISH MEDICAL JOURNAL, which already in previous years had supplied a great deal of information on the subject, commenced early in 1903 an inquiry of its own, and at the annual meeting in the same year a resolution was passed directing the Council of the Association to undertake a full investigation of the whole matter. Incidentally, it may be remarked that the collection of this information was the first instance of the use of the Divisions of the Association in obtaining the opinion of individual members of the profession.

The work involved was completed in less than a year, and the resulting report included detailed information as to all forms of contract practice then being carried on in different parts of the United Kingdom, and the experience of a very large number of medical men in connexion with it, coupled with a review of the reforms required and of the economic and ethical considerations involved. In other words, it supplied data necessary for the formulation of a policy having for its aim an improvement in the conditions in which those engaged in contract practice did their work.

This report eventually became well known, both in and out of the profession, as the Contract Practice Report of 1905, and its issue in that year marks an epoch in the consideration of the difficulties in question. Shortly afterwards a definite plan of operation was drawn up, and the subsequent resistance offered in various parts of the country to unfair conditions or undesirable forms of contract work became more effective than hitherto.

Nevertheless, it was clear to students of the subject that, despite the fact that better terms for contract work were being obtained, much the best course would be to abolish all existing forms of contract work and substitute for them a public medical service, such as had originally been suggested in connexion with the question of hospital abuse some thirty years previously, and as had also been considered in some detail by the authors of the report on contract practice already mentioned. Consequently, two committees of the Association set to work to elaborate this idea, and eventually formulated a complete scheme for a public medical service. Its basic idea was that medical men in every area should, through the local Division of the British Medical Association, establish and maintain under the control of the profession itself a service which would provide for the needs of all members of the public whose income did not exceed a stated sum; that such persons should have a right to choose any doctor they preferred if he was ready to accept them as his patients; and that every medical man in any given locality should have a right to take part in the work of the service. This, it will be seen, was the same idea as that later on put into practice to some extent in the panel service of the Insurance Act.

The Insurance Act.

The plan devised was duly circulated for consideration among the Divisions, but before any decision regarding it had been reached by the Association as a whole the National Insurance Bill was introduced into the House of Commons. Inchoate and sketchy as its proposals were, they nevertheless covered in principle all the ground that

it was proposed to cover by the Association's own carefully devised scheme for a public medical service. This being the case, attention was naturally diverted from the latter. Eventually, as every one knows, the bill was passed, and this threw all other questions relating to contract practice into the background. One day it may be necessary again to take them up, but even so the form of these questions is likely to be altered, since the Act in question has had the effect of killing a considerable proportion of the sick clubs which previously existed.

The Act has now been in operation for some eighteen months, and it would be highly interesting to review its history from the time that it was first introduced into the House of Commons from the point of view of the work of the Association and in some other connexions. Apart, however, from the fact that such a task would extend this article beyond any reasonable length, it is highly doubtful whether it could be undertaken with advantage at the present time. Moving events such as those connected with the passage of the National Insurance Act and its coming into operation can hardly be seen in true perspective until a sufficient number of years have elapsed for all keen feeling on the subject to have passed away. There is no objection, however, to drawing attention to a few outstanding points—a few mountain tops amid an intricate maze of minor hills—on which the historian of twenty years hence will certainly seize.

The measure originally proposed in the House of Commons differed from the measure eventually adopted as the National Insurance Act, and the provisional regulations as to the administration of medical benefit presented to Parliament on October 1st, 1912, differed from the substantive medical benefit regulations laid on the table of the House of Commons on December 5th of the same year. The alterations were entirely in favour of the medical profession, and were directly due to the work done by the British Medical Association.

It may at first seem as if the making of these very definite statements were inconsistent with the opinion previously expressed that the time has not yet come when the history of the National Insurance Act can well be written, but there is no real inconsistency, for the statements are not an assessment by ourselves of the result of the Association's work in connexion with the National Insurance Act, but a mere summary of the contents of a document on which the historian of the future will of necessity largely depend for any views that he may formulate. This document is the third section of the third part of the first Report on the Administration of the National Insurance Act, drawn up by the National Insurance Commissioners for England and Wales. Its authors can hardly be accused of any bias in favour of the British Medical Association, so those who feel any conscientious doubt as to whether that Association deserves well of the medical profession in connexion with the National Insurance Act can hardly do better than read the report for themselves.*

Still depending solely upon it as a source of information we may add that, had it not been for the activities of the Association, administration of the medical benefit clauses of the National Insurance Act would have rested in the hands of those old and determined enemies of the medical profession—the great friendly societies; that there would have been no free choice of doctor—the old system of employment of selected doctors by separate societies would still be in existence; and that the utmost annual payment for each insured person to the medical man in charge of him would have been 4s. 6d. only.

The original intentions of the promoters of the Act were, however, so altered under pressure brought to bear upon them by the British Medical Association that the medical profession now has a definite voice in the administration of the Act. On every Local Insurance Committee there must be at least one medical man to every nine laymen, and in addition there must be a Local Medical Committee representative of all practitioners in the locality, and a Panel Committee representative of those who have taken service under the Act. The annual payment for each insured person, instead of being only 4s. 6d. a head, cannot be less than 7s., and may be as much as 7s. 6d., and there is the possibility of obtaining an allowance for mileage.

* Report for 1912-13 on the Administration of the National Insurance Act, Part I (Health Insurance). (Cd. 6907. Price 2s. 9d.)

The scope of the work, instead of being just what a friendly society official chooses to make it from time to time, is defined, and when the question arises of whether the services of a medical man shall be retained or ended it is decided not by a mere friendly society official, but by a body formed of two medical men and a lawyer.

Allusion is made in the document in question to many other points of a kindred nature, but those mentioned suffice to prove the truth of the statement that has been made, namely, that, owing to the work done by the British Medical Association, the Insurance Act as originally designed was materially modified in favour of the medical profession.

From the same document the historian of the future will also gather that, despite the fact that the text of the National Insurance Bill was not available until May 9th, 1911, the objections felt towards it by the medical profession had been definitely formulated by June 1st. In other words, within three weeks the promoters of the bill were not merely aware that sundry medical men objected to one or other of its features, but were faced by a series of definite demands made on behalf of what was for the time being, and for many months afterwards, an absolutely united profession. Considering how little attention individual medical men pay, as a rule, to what goes on in the House of Commons, and considering how complex was this particular measure, and how strongly its general aim appealed to many thoughtful men, it would not have been surprising if the objections felt towards some of its clauses had taken no more practical form than mere sporadic grumbling; and it is certainly a remarkable thing that within so short a space of time the features of the Act which were fundamentally objectionable should have been clearly recognized and the demands which ought to be made in respect of them reduced to a few compact sentences. Even when one knows how it was done the feat still remains notable.

It was rendered possible by two circumstances. The organization of the British Medical Association made it feasible to set to work on the very day that Mr. Lloyd George delivered himself of his preliminary statement in regard to the bill to cause meetings to be held in every part of the kingdom, not only of members of the British Medical Association, but of all medical men, whatever the nature of their practice. The second circumstance was of almost equal importance. At all these meetings there were present numbers of medical men who, thanks to the BRITISH MEDICAL JOURNAL having for more than a year previously made a regular practice of supplying information on the subject of sickness insurance work and its underlying principles as exemplified in other countries, and to closely allied topics having recently been debated in most of the Divisions of the Association, were thoroughly conversant with the general subject. Consequently the debates from the beginning took a really practical form.

The report also supplies the historian of the future with the information that at the eleventh hour and when the Government was seriously considering which of two possible alternatives should be adopted if the medical profession persisted in the threat not to join the proposed panels, there was evidence of some change of view among medical men, and eventually the Association thought it right to release from their engagements all those who had signed a pledge of abstention from panel work. There is no suggestion in the report that when the Association came to this determination it was leaving a stricken field, but, on the contrary, it is shown that it had gained for the profession advantages so great that they involved the Government in large and unexpected expenditure, and an impression is left that, in the view of the writers of the report, it was only because the greatness of the alterations of this scheme were not fully appreciated that the decision to rescind the engagements was not reached earlier.

More than eighteen months had elapsed since those engagements were first signed, and since then the Association had succeeded little by little in getting the original bill and the regulations so far modified that from the point of view of its immediate effects the general scheme had become one not unacceptable to a majority of those more immediately concerned. It may be said, in short, that this report makes it impossible that, when the history of the Act comes to be written, any view will be taken other

than that the British Medical Association performed in connexion with it a very great service both to the profession and to the public. To underpay the profession or to impose upon it irksome or degrading conditions must always tend to make its work inefficient, and such inefficiency must inevitably have resulted had the Association allowed to pass unmodified a bill which in its original form promised simply to perpetuate all the worst features of the old club system.

There is one other point on which historians will certainly seize, and to which, consequently, it is legitimate to allude. Some of the events connected with the passage of the National Insurance Act exemplify in a remarkable degree two curiously antithetic tendencies in the medical profession. Both are sources of weakness, and both, on searching the records of the British Medical Association and contemporary literature, will be found to be in no wise of modern development. One is an indisposition to recognize that as social systems become more complex, corresponding changes in the conditions in which the medical profession does its work are inevitable. The other is an impatience with the slowness of economic evolution, which evidences itself in a readiness to form what in political circles are known as "caves." Very often such caves form themselves into associations for the promotion of their particular views or of some special interest, and this was the case in connexion with the later developments of the contest under consideration. Some of the associations or societies thus formed have already ceased to exist, and the rest, judging from past history, may be expected to follow suit after frittering away a certain amount of the profession's never excessive financial resources and fighting power.

To complete this article by summing up the present situation in a few words, it may be said that contract practice in the sense in which that term used to be employed is now rapidly expiring, and is being replaced by a system in which the practitioners concerned, instead of having to compete for the patronage of lay managers of clubs and associations, deal with the State itself and do their work on terms fixed by Parliament or by local authorities after consultation with representative committees of practitioners. To this extent the system is sound, and if it is to be allowed to continue permanently, the task that the British Medical Association has before it is to see that the good points of the system are developed to the utmost, and that there shall not be grafted upon it any features or forms of work which would interfere with the interests of private practitioners as a whole, or stunt the progress of scientific medicine, or unduly trammel the freedom of action of those who take part in the operation of the system itself.

(To be continued.)

A PROPOSED BILL RELATING TO INCIPIENT MENTAL DISORDER.

AT the conclusion of the annual meeting of the Medico-Legal Society, held on June 30th at the rooms of the Medical Society of London, 11, Chandos Street, W., a discussion took place on incipient insanity, with particular reference to a bill bearing upon this matter soon to be introduced into the House of Lords. The bill has been drafted by the Medico-Legal Society, in consultation with the British Medical Association and the Medico-Psychological Society. It proposes to legalize the giving of medical treatment in the early stages of mental disease (subject to the consent of the patient) notwithstanding the provisions of Section 315 of the Lunacy Act, 1890, which makes it illegal to exercise restraint over a person who is not a certified lunatic. The authority for treatment in an incipient case (which may be given in an approved house—for example, a mental hospital, general hospital, or private house or institution) is a declaration by a medical practitioner that the patient is suffering from incipient mental disease, and is not suitable for certification as a lunatic or defective under the Mental Deficiency Act, 1913.

The President (Earl RUSSELL) said the bill was intended to deal with the circumstance that it was a very dangerous thing for a medical practitioner or any one else to treat a person on the border-line of insanity. Any one doing so was constantly in danger of prosecution under Section 315 of the Lunacy Act, and the result was that persons who might be saved from becoming actively insane, if treated in time, often were not treated because of this fear of prosecution; they were allowed to go from bad to worse until they reached a certifiable stage, and might be brought under the Lunacy Act and properly treated. The bill was a voluntary one; no person could be detained against his will. The bill might be better if it were compulsory, but it would then have no chance of passing.

Dr. ARMSTRONG-JONES (resident physician at the London County Council Asylum, Claybury), in introducing the discussion, said this bill would be the Magna Charta of every person likely to suffer from nervous stress or breakdown; yet when he so described it in the public press recently he was accused of suggesting that 80 per cent. of the population should be certificated. As a matter of fact, the whole object of the bill was to avoid the stigma of certification. Mental disease was of all diseases the most curable in the early stages, but it was one of the most expensive and difficult to cure when rooted in any family. The bill would make it possible for rich and poor to be treated outside the gates of an asylum; the potentially insane would be saved from the damning certificate. The bill had the sympathy of the Board of Control, and he paid a tribute to the activity in the matter of the Medico-Legal Society, to Mr. Roland Burrows, LL.D., who drafted the bill, and to Sir William Collins.

Dr. F. J. SMITH said he wished to raise what was, perhaps, an academic point—Was there such a thing as incipient insanity? Was it not a condition which had been there practically from birth, though not exhibiting itself at first? He preferred the term used in the bill, "mental disease of recent origin." For persons whose condition did not warrant compulsory detention the bill would be an admirable one. The question arose whether a patient would realize his condition and submit himself voluntarily to treatment; such patients usually resented the idea that it was necessary they should be taken care of.

Dr. ARMSTRONG-JONES, in reply, mentioned the delirium of typhoid fever, pneumonia, or puerperal fever as instances of incipient insanity. These cases were temporary, yet many of the sufferers were sent to asylums. They were only there a short time, but the effect of certification was to damage the people in their careers.

Dr. F. G. CROOKSHANK thought it was a matter of mistaken diagnosis if cases such as those mentioned were sent to asylums. He would hesitate to describe those persons, who were undoubtedly suffering from forms of mental disease, as having "incipient mental disorder." For such cases legal authority to restrain was needed, and that was not provided by the bill. At present every one who dealt with these cases broke the law justifiably by applying physical force for a few days. Without casting stones at the general practitioner, there was a danger that under pressure the general practitioner would apply this bill to persons who should be certified; that might be met by including in the declaration to be signed by the doctor the definite statement that the case was not suitable for certification. He foresaw difficulties, because the declaration in effect authorized another practitioner to receive a patient and give treatment.

The PRESIDENT pointed out that the authority given by a medical practitioner was not necessarily to another practitioner, but to an approved person. It was felt desirable not to use the word "certificate," so that the patient could not be said to have been certified in any sense. The operation of the bill would be under the direction of the Board of Control, whose inspectors would deal with cases which it was thought should be certified.

Dr. ARMSTRONG-JONES emphasized the undesirability of a woman with delirium of puerperal fever being delivered at an asylum; she might be sent under the bill to an approved house or a special ward of a hospital.

Mr. C. WOODWARD thought puerperal insanity a bad case to take for the purposes of the bill; such patients were absolutely insane at the moment

Dr. A. T. SCOTT (late surgeon of Holloway Prison) thought the bill should deal with adolescent cases; in such cases the stigma of insanity was a very real thing

Dr. BERNARD SPILSBURY asked what would be gained by the bill, seeing that it was already possible for a patient to give his consent to voluntary treatment. He thought refusals to undergo treatment would be frequent.

The PRESIDENT replied that the main object of the bill was to avoid a prosecution of the medical practitioner under Section 315, but although the measure was a voluntary one, there was no necessity for a formal consent to treatment. The bill was initiated at a discussion by the Medico-Legal Society, whose council sat later with representatives of the British Medical Association and of the Medico-Psychological Society to pass the draft in its present form. It was proposed to ask Lord Loreburn to introduce the bill in the House of Lords, to explain its objects, and cause it to be read a first time. The bill could not get any further this session, but it was thought useful to place it before the public.

Mr. ROLAND BURROWS said that care had been taken to eliminate from the bill any term used in the Lunacy Act, as its nomenclature had acquired a sinister meaning. The bill declared that if a person was not certifiable he could be treated. It was proposed that this should be done under proper conditions and without harassment to those in charge. Medical practitioners were distrusted by the public in regard to insanity; therefore the aspect of voluntary treatment had been over-emphasized in the bill for the express purpose of allaying apprehension. The bill was based on a Government measure, introduced in 1905, presumably with the approval of the Lunacy Commissioners. The bill laid down no rule as to treatment; it merely provided that a person in whose custody a sufferer was should not be liable to be prosecuted. The form of treatment was a matter for a medical attendant. As to the definition of incipient insanity, he felt that the psychiatrists deserved criticism because they had not agreed amongst themselves what were the standards of sanity or insanity. Dr. Mercier had not been able to take part in the discussions on the draft of the bill, but he sent a criticism, in which he asked: "Who are perfectly sane? Is there anybody except the members of this committee?" The remark illustrated a tendency of the psychiatrists to say that every deviation from the normal was insanity. The law had no regard to anything but objective symptoms.

The discussion then closed.

EPSOM COLLEGE.

SIR HENRY MORRIS, the Treasurer of Epsom College, presided at the annual general meeting of governors on June 26th, at the office of the College in Soho Square. The attendance was much larger than usual, possibly as a result of the correspondence which has taken place in the columns of the BRITISH MEDICAL JOURNAL in reference to the bequest from the late Miss Glenny, which was awarded by the court to the Royal Medical Benevolent Fund.

The proceedings began by the submission of the report of the scrutineers—Dr. F. de Havilland Hall, Colonel Bruce M. Skinner, and Mr. W. A. Propert—on the result of the voting for pensioners and foundation scholars. Two pensioners and three foundation scholars were elected, whilst a further pensioner and another foundation scholar were admitted by the Council subsequently. Details appear in our advertisement columns.

In moving the resolution as to the adoption of the report, the CHAIRMAN drew attention to the salient points contained therein, some of which are mentioned below. In reference to a suggestion which had been made by some persons that the Royal Medical Benevolent Fund and Epsom College ought to have compromised in regard to the bequest of £500 from the late Miss Glenny, he said that the Council of Epsom College was convinced that the testatrix intended the bequest for their charity. This opinion was fortified by the statement in the proof of Mr. Crosse, the solicitor to the testatrix and one of the executors, that the executors were satisfied that the College was entitled to the legacy, that being the institution the testatrix intended to benefit. Moreover, the executors would have been failing in their duty had they not done their best to enable the bequest to reach the destination intended by the donor.

The report of the Council to the governors, which was unanimously adopted, stated that at the present time the foundation and the trustee funds rendered assistance to 50 ordinary pensioners, 9 Pugh pensioners, 10 France pensioners, 16 Da Silva pensioners, 3 Morgan annuitants, 5 Highett pensioners, 1 Cheyne annuitant, 4 Brodie Sewell pensioners, 2 Christie pensioners, 1 Sir Thomas Smith pensioner, 1 Susan Harriette Tait annuitant, and 50 foundation scholars. The report impressed upon those intending to leave money for the Foundation attached to the College the great importance of mentioning the official title of the College, namely "Epsom College." The report referred to the resignation of the Rev. T. N. H. Smith Pearse of the appointment of head master, and stated that the Council wished to express its appreciation of his earnest and sustained efforts to foster the various interests of the College, and to promote its moral tone and good general character. Since the last annual general meeting G. W. Davis had obtained an open scholarship in science at St. Mary's Hospital; L. V. Ardagh had secured an exhibition for classics at Wadham College, Oxford; A. R. Wood had won an exhibition for science at Clare College, Cambridge; and two old Epsomians had gained open scholarships at St. Bartholomew's Hospital in October last, one in science and the other in arts. Eleven boys had passed the whole or a part of the first examination for medical degrees of the University of London; thirteen boys had passed the matriculation examination of the same university, three of them being in the first class; and nine boys had gained the higher certificate of the Oxford and Cambridge schools examination board.

After the adoption of the report and the election of members of the Council and auditors, a vote of thanks to the Chairman for services rendered to the College as treasurer closed the proceedings.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Committee twenty-four cases were considered, and grants amounting to £185 voted to twenty-two of the applicants. The following is a summary of the cases relieved:

M.R.C.S., L.R.C.P., aged 47, who practised at Aysgarth, Yorks, and abroad. After residence abroad, his health broke down and he had to return to England thoroughly incapacitated, and still unable to work. Voted £10 in two instalments.

Widow, aged 65, of L.S.A.Lond., who practised at Ipswich. Five children; three married, but unable to help. Only income £8 per annum from life assurance, and 19s. per week from lodgers. Health not good. Relieved twelve times, £130. Voted £10 in ten instalments.

Daughters, aged 48 and 56, of M.D.Aberd., who practised at Luddenden, Yorks. The eldest is suffering from incurable deafness, and the younger one has very indifferent health. Only income £20 each per annum from investment. Relieved once, £10. Voted, £10.

Widow, aged 58, of L.R.C.P. and S.Edin., who practised at Balham and died in 1913. Invested small capital in furnishing house to receive paying guests, but has lost money. Voted £12 in twelve instalments.

Widow, aged 39, of L.R.C.S. and P.Irel., who practised in Monmouthshire and New South Wales. Engaged as housekeeper at £15 12s. per year, and one of two daughters, aged 10 years, allowed to live with her. The other child adopted by husband's relatives. Asks for assistance towards the education of daughter. Voted £2 and referred to the Guild.

Widow, aged 64, of M.R.C.S.Eng., who practised in Birmingham, Brighton, and Australia. Lost all capital in consequence of husband's long illness eleven years ago. Only settled income £10 per annum, and too old to obtain work. Voted £12 in twelve instalments.

Widow, aged 53, of L.R.C.P. and S.Edin., who practised at Great Yarmouth. One daughter, who used to dispense for her father, but now helps her mother and does other work. Invested capital in boarding house, which has not paid. Voted £12 in twelve instalments.

Widow, aged 46, of L.S.A.Lond., who practised at Leyton. Five daughters, eldest 16 years. No provision made for the widow, and her only income is a small allowance made by her brothers. Voted £2, and referred to the Guild.

M.B., of Aberdeen, aged 55, who practised at Bunbury and in Essex. Suffering from paralysis and quite unable to work. Wife and four daughters, two of whom are at school. Only income £76 per annum from investments and small pension. Voted £5 and referred to the Guild.

Widow, aged 32, of M.R.C.S.Eng., who practised at Keyingham, near Hull. Three children, the eldest 9 years. Only income £12 per annum. Voted £10 in two instalments.

Daughter, aged 43, of L.R.C.P. and S.Edin., who practised at Easdon and Whitley Bay. Obtains a small income by nursing, but has been unable to work for eleven weeks owing to sciatica. Relieved nine times, £60. Voted £5.

Daughter, aged 62, of M.R.C.S.Eng., who practised at Lydney. Means lost through a defaulting trustee, and too old to work. Only income an annuity of £21 from another charity. Relieved seven times, £77. Voted £5.

Widow, aged 56, of M.R.C.S.Eng., who practised at Enfield. Two daughters, one married and the other an invalid. Income only £60 per annum and not well enough to work. Relieved three times, £15. Voted £5.

Widow, aged 49, of L.S.A.Lond., who practised at Leicester. Earns a little by needlework, but cannot obtain sufficient work. Two daughters, each only earning a little, and two boys, ages 12 and 10, at school. Relieved twice, £22. Voted £12 in twelve instalments.

Widow, aged 55, of L.R.C.P. and S.Glasg., who practised at Heaton-on-Tyne. Six children, two of whom are married and unable to assist, and the others only very little. Has two lodgers. Health very unsatisfactory. Relieved ten times, £106. Voted £12 in twelve instalments.

Daughter, aged 50, of M.R.C.S.Eng., who practised at Box. Lives with delicate sister, who also receives a grant from the Fund. Applicant's health very unsatisfactory. Relieved twice, £24. Voted £12 in twelve instalments.

Widow, aged 68, of M.D.Edin. and M.R.C.S.Eng., who practised at Cambridge. Income £25 per annum from friends, and occasionally has a boarder. Relieved four times, £24. Voted £12 in twelve instalments.

Widow, aged 56, of M.R.C.S.Eng., who practised at Wellingborough. No income of own, but acted for a time as housekeeper for relative, who gave home and board in return. The home has now been given up, so she is stranded. Relieved three times, £32. Voted £12 in twelve instalments.

Widow, aged 34, of M.R.C.S.Eng., who practised at Bow, E. Endeavours to make a living by taking in boarders, but not very successfully and is in arrears with rent. Has twin boys, aged 7½ years. Relieved once, £10. Voted £10.

Special emergency grants of £5 each were also made to two cases, these to be given at the discretion of the Honorary Secretary for Cases.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

LITERARY NOTES.

MR. GEORGE BETHELL, Registrar and Librarian of the Medical Society of London, has sent us a reprint from *The Library Association Record* of May, 1914, of an account of the library under his charge, which was read at a meeting of the Library Association held on January 8th. The Medical Society was, as is well known, founded in 1773 on the initiative of John Coakley Lettsom, who was greatly assisted by John Fothergill. Mr. Bethell traces the growth of the society and its library. The library now contains about 23,000 volumes and a unique collection of printed tracts on medical and allied subjects, also about 500 manuscripts, including a collection of Greek MS. Among the manuscripts is the diary of Dr. John Ward, vicar of Stratford-on-Avon. This diary, says Mr. Bethell, which runs into seventeen volumes, extending from 1648 to 1679, contains much that is interesting, both medically, ecclesiastically, politically, and socially, of that period. Mr. Ward had practised medicine, and his many medical references, especially relating to his visits to London hospitals and the treatment of his parishioners, are of great interest. Possibly the most interesting of all his entries is that relating to the death of Shakespeare. The entry is as follows: "Shakespear, Drayton, and Ben Jhonson had a merry meeting and it seems drank too hard for Shakespear died of a feavour there contracted." This important entry filled in a gap that had long been obscured, regarding the great poet. Mr. Bethell gives a list of the incunabula in the library; among them we note the *Rosa Anglica* of John of Gaddesden (1492). The library has an excellent collection of English medical works of the sixteenth and seventeenth century. Mr. Bethell says that a very important work possessed by the Medical Society is the treatise *De Trinitate Divina* by Servetus. Every original copy of this work, except one, was burned, together with the author, by John Calvin. The copy which escaped the flames, having been secured by D. Collad, one of the judges of Servetus, eventually found its way into the National Library of France. This edition, which is without name of place, printer, or date, was printed in the year 1723 by one Palmer in Swan Alley for Thomas Osborne, bookseller, but before it was completed was seized upon by John Kent, messenger of the press, and Wm. Squire, messenger in ordinary, on May 27th in that year at the instance of Dr. Gibson, Bishop of London, and burnt, with the exception of a very few copies. In this book, says Mr. Bethell, is contained the first account of the circulation of the blood, nearly eighty years before the immortal Harvey published his discovery. This is not quite correct. Servetus only describes the pulmonary circulation, and this description is contained in the *Christianismi Restitutio* published in 1553, the year in which the author perished at the stake. Servetus had written two books on the Trinity some twenty years before.

The death of Francis II of France, the first husband of Mary Queen of Scots, was regarded, as most deaths of important personages were at that time, as due to poison, and one writer, Beaucaire de Péguillon, even charges Ambroise Paré with the crime (*venenum ab Ambrosio, chirurgico Calviano in Regis aurem inditum ferunt*). There was poison in the ear, but it was engendered by sepsis. Francis was born with obstruction of the nose and mouth, due doubtless to adenoid vegetations. His breath was foul, and he was a most unhealthy subject. He died in 1560 of Mary Stuart, says the Duc d'Albe. His young and vigorous wife may have helped to hasten the end, but the true cause is indicated with a coarseness and ferocity characteristic of the time by John Knox, who wrote:

> The potent hand of God from above sent unto us a wonderful and most joyful deliverance; for unhappy Francis, husband to our Sovereign, suddenly perisheth of a rotten ear . . . that deaf ear that never would hear the truth of God.

Francis died of chronic suppurative otitis, as is shown by Dr. Louis Courladon in *Aesculape* for March, 1914, where the case is fully discussed in its historical as well as in its medical aspects.

The problem of infant mortality, like the poor, has always been with us; but it has not always been regarded from the standpoint of the modern statesman and philanthropist. Professor L. Emmett Holt, who has contributed a most interesting article on the history of legislation affecting child welfare to the May number of *The Child*, remarks that the Society of St. Vincent de Paul, in the first half of the seventeenth century, was the first philanthropic body in any European country which attempted to induce public authorities to acknowledge the civil existence of foundlings. "A little later," continues the writer, "Louis XIV recognized the value to the State of these infants, and gradually the idea grew that the foundling not only had a right to life, protection and care, but might be of value to the State." This proposition, which seems self-evident to the present generation, was entirely new to the contemporaries of the Roi Soleil. Up to that time the sentiment which had animated the founders of homes and refugees for abandoned and neglected children had simply been one of pity for the child as an individual, rather than recognition of his rights as a potential citizen; and it is significant of the attitude of the State towards child life that such establishments almost invariably owed their existence to religious orders or private benefactors, seldom, if ever, to State or municipal authorities. "The right of infants to live and the value of infant life as such was not recognized until very modern times," says Professor Holt; and our ancestors took it for granted that a large proportion of children were doomed to die in early childhood. Even doctors were fatalists in this respect; and Professor Holt quotes Black, who published a historical sketch of medicine in the year 1782, as saying that during the latter half of the seventeenth century there were only three physicians in Great Britain who paid any special attention to the diseases peculiar to infancy. In spite of this philosophical acceptance of the inevitable, however, it is mainly owing to the medical profession that the economic value of infant life has at length been recognized at its true worth. The contents of the May number of the *Child* are in themselves sufficient proof of the interest felt in every rank of society for all that concerns the welfare of the nation's children. Such widely divergent subjects as the sun and air cure for delicate and nervous children, and the school journey movement, are dealt with at some length by Miss Kate Emil Behnke and Mr. G. G. Lewis; whilst Dr. Leonard A. Parry writes on the annual loss of life through burns amongst the children of the poor, and Sir Robert Baden-Powell has contributed a short article on the Boy Scouts.

The King of Italy recently received in private audience Dr. Pietro Capparoni, member of the council of the Italian society for the critical study of the history of natural sciences and medicine. He presented His Majesty with the five yearly volumes of the *Rivista di Storia della Medicina*, the official organ of the society.

British Medical Journal.

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THE PROBLEM OF PROSTITUTION.

AT a time when widespread interest is shown in the problems of venereal disease, it is useful, if not pleasant, to be reminded of the social facts on which such diseases mainly depend. Most people are ready to regard prostitution as a fixed and ineradicable necessity of society since a very early stage of human history, when it sometimes had some sort of religious sanction, and one certain to remain to the end of the chapter. Yet prostitution, like other social ills, is not a strict necessity; it depends upon, and is a reflection of, the character and environment of citizens; its methods of operation, as well as its social significance, vary from period to period; and it is capable, if intelligently treated, of vast amelioration, just as it is liable, if ignorantly handled, to develop into a menace to the very existence of society.

The Bureau of Public Health in New York has undertaken an elaborate inquiry into the subject, and two of four reports promised have been issued.[1] Mr. Abraham Flexner, in his report, leads his readers through chapters full of interest, to an intelligent view of the problem presented to him in his investigation of the countries of Western Europe. He shows the peculiarities of the modern state of affairs, and compares the methods by which the different States seek to handle the question. His book is to be heartily commended to those who are sufficientiy interested in social problems to peruse a short and most readable study, which concludes with a useful abstract of the methods adopted in Paris, Berlin, Hamburg, Vienna, and Denmark.

Mr. Flexner started without any special knowledge, and consequently without bias. He has finished as an uncompromising opponent of all the various forms of State regulation. He finds it at every turn opposed to public policy, and possessing no counterbalancing advantages. Regarded from the facet of public order—to which all modern forms of regulation trace their source—it is not justified by success, at least in our present state of social polity: from the point of view of disease—generally regarded as its modern justification—it is worse than a failure. Indeed, it were wonderful if methods devised to deal with public order should also deal effectually with infectious diseases. Moreover, the method adopted for the hygienic examination of prostitutes, if the description approaches the truth, is not only unpleasant, but must be rather a means of spreading than of stopping contagion. They detect only a small proportion of disease, and probably infect more than they detect. Where it is done with modern research methods, women learn to defeat the examination by use of antiseptics. It follows that a prostitute's certificate is useless and misleading, as, indeed, it must be where women entertain a multiplicity of males. Bordels, sometimes supposed necessary for public order and for the protection of decent girls, are a delusion and a snare. They debase and degrade the women who live in them, they breed abnormality and criminality, and become centres of both; where they have been stopped, their abolition has conduced to public order and probably to good health.

Regulation is based on the supposition that male laxity in sex matters is unalterable and ineradicable, and is opposed to that gradual social and hygienic improvement which is the keynote of modern thought. Hygienically it is hopeless, since minors, who do not, or should not, come under the system, are the most dangerous source of infection.

The growing tendency to the abolition of regulation in Europe is, however, constantly opposed by interests of various kinds; the system of morals-police is too full of temptation and difficulty to allow of a high standard of efficiency. Prostitution is admittedly a matter of demand and supply. Each of those can be depressed or stimulated. Each is in fact depressed by education; the supply mainly comes from the lowest social and intellectual strata; two-thirds of professional prostitutes are reckoned to be mentally backward or defective; but whether this defect is congenital may be doubted. Demand, again, is increased by the demoralizing influences of city life, as also is the supply. The supply is also fostered—though not perhaps mainly—by economic influences, such as low wages of girls; in certain walks of life wages are to some extent influenced by what they can "otherwise" get. But the licensed house is the strongest stimulus both to supply and demand. Its authorized presence is a standing lure to the ignorant and inexperienced, to whom it holds out a fancied immunity from disease. The successful existence depends on the constant supply of "new blood," so that the houses form centres of the "white-slave" traffic. In fact the authorized house of prostitution is the worst focus of just those evils which it is in the public interest to suppress. Without bordels, writes one authority, there is no white-slave traffic. The fact that, according to Mr. Flexner, only about one-eighth of all prostitutes in any town are inscribed, makes any system of regulation a delusion as a measure of public health; segregation is equally futile, inasmuch as it fails to segregate.

Mr. Flexner, as a result, is an "abolitionist." He would be glad to see all State control abolished wherever it exists. He admits the inappropriateness of the term "abolition" in countries like Great Britain and the United States of America, where regulation does not exist; but he contends that the word stands for more than a negative policy. No doubt it does in the minds of the leaders of the movement, but it is to be feared that the majority of people are led to believe that all is well so long as we have no return to the Contagious Diseases Acts.

But, in fact, all is not well in "abolitionist" countries. This is now well recognized in England, and is evidently shown by the various inquiries carried out in New York, Chicago, and elsewhere. The facts in New York are given in a report by Mr. Kneeland. It is an unvarnished statement of the forms and methods adopted by commercialized prostitution in New York, and may well cause uneasiness to any man who imagines that State regulation is the only evil. Perhaps the most interesting part of this report is the study of the State Reformatory at Bedford Hills, in which the antecedents and the mentality of prostitutes are considered.

On the whole it appears that the great evils with which we have to contend—social evils, of which disease is a sequence—are commercialization,

[1] Publications of the Bureau of Social Hygiene. New York: *Prostitution in Europe.* By A. Flexner. Introduction by J. D. Rockefeller, jun. 1914. (Demy 8vo, pp. 455; 10 figures. 7s. 6d. net.) *Commercialized Prostitution in New York City.* By G. J. Kneeland. With a supplementary chapter by K. B. Davis. Introduction by J. D. Rockefeller, jun. London: Grant Richards, Ltd. 1915. (Demy 8vo, pp. 346. 7s. 6d. net.)

exploitation, and advertisement. Regulative systems are to be condemned as fostering all these evils; but they exist apart from regulation.

In all attempts to deal with prostitution as such, it must be borne in mind that sexual promiscuity, whether in the man or the woman, constitutes a vice, but not a crime. So long as there is mutual consent, it is only liable to the interference of the law where harm is done to any third person or public order is infringed. But the law should place severe penalties on the third party—male or female—who exploits and profits from the vice of others. All such action may and should be made liable to pains and penalties. The measure of these must be public opinion; and nothing at present is so important as the education of public opinion in this matter of sexual indulgence which directly promotes the lowering of personal responsibilities and family ties, and is also the main cause of the spread of diseases which are continually sapping the vitality, the health, and the reproductive energy of every nation, not only in Europe but throughout the whole world.

MEDICAL FAME.

THERE is scarcely any kind of fame more transitory than that of great doctors. It is a commonplace that men whose ambition, like the wrath of Achilles, has sent millions of men to Hades, are placed on a pinnacle of glory during life, and their names are writ large on the page of history. Politicians who have brought their country to the verge of destruction have a niche in the Temple of Fame. On the other hand, men whose patient labour has been the means of saving innumerable lives, preventing incalculable suffering, and bringing health to nations, arouse little popular enthusiasm. Their names are drowned by the drums and tramplings of conquests.

Balzac said, "The glory of surgeons resembles that of actors, which exists only during their lifetime and passes away with them." It is the glory that attaches to execution as distinct from creation. Not long ago Paul Bourget said that the destiny of men who are only great in the practice of the art of healing is pathetic, as, when they are in turn conquered by death which they have so often vanquished, they truly realize the famous plaint of the dying tyrant, *Qualis artifex pereo!* Although Nero did not deserve the name of artist, his dying exclamation nevertheless remains the symbol of the tragic loss to the world of supreme gifts which die with their possessor. Lasègue, in speaking of Trousseau, referred, with a melancholy which he did not seek to disguise, to "actors, birds of passage like ourselves!" Hippocrates and Galen are but the shadows of great names. The same may be said of Boerhaave, who was so celebrated in his lifetime that it is said a letter sent to him from China with the address "M. Boerhaave, Europe," reached him without delay. Of the Bells, of Dupuytren, of Liston, of Syme, of Graves, of Trousseau, of so many others nearer our own day, whose fame was in all men's mouths during their lifetime, what remains? For a short time their names are remembered, then they are forgotten. The name of "Dr. Abernethy" has survived in legend, not as that of a great teacher of surgery, but as an eccentric character on whom a number of amusing stories has been fathered. Even in their own day men held in the highest honour by their brethren are often not even names to the public. Cheselden was the leading surgeon of his time in this country, yet a man who was so much in the full tide of human existence (to quote Johnson's phrase) as Swift had never heard of him. Cheselden was a friend of Pope, who was his patient, and who wrote:

> I'll do what Mead and Cheselden advise
> To keep these limbs and to preserve these eyes.

In a letter to Pope from Dublin dated February 7th, 1736-37, Swift asks "who this Cheselden is who has so lately sprung up in your favour." Pope answers: "I wondered a little at your quere (*sic*) who Cheselden was. It shows that the truest merit does not travel so far any way as on the wings of poesy; he is the most noted and most deserving man in the whole profession of chirurgery; and has saved thousands of lives by his manner of cutting for the stone." Swift replies rather testily: "How should I know Cheselden? On your side men of fame start up and die before we here (or at least I) know anything of the matter." How many, except surgeons, now know the name of Cheselden? and how many surgeons have any but the vaguest knowledge of him and his work?

When a man's name is attached to a discovery which has revolutionized medical thought it may survive, like that of Harvey. But many, perhaps most, great discoverers, have been known only to a few during their lives, and when they are dead their names are too often forgotten till they are excavated from mouldering records by some Dryasdust in search of matter for a paper. Lister is an exception, but even when he had made his scientific enemies his footstool his name was almost unknown to the public. When he was made a peer people who would doubtless have called themselves educated were heard asking who he was and what he had done to deserve the honour. They would have been ashamed of such ignorance of even a second or third rate actor. One reason for this difference is that the artist of the stage appeals to all, and his name has nothing but pleasant associations. On the other hand, only sick folk are interested in the healing art and its professors, and the name of the doctor is necessarily associated with times of suffering. Another reason is that the actor lives in a glare of publicity even when he is not actually before the footlights. But the "Harley Street physician" of the popular newspaper and the advertising quack have more honour among the mass of the public than the most successful practitioner who does not sacrifice the dignity of his calling to notoriety. The doctor, however, has the satisfaction of knowing that he passes by doing good; as even Carlyle, one of the sternest critics of the profession, said, whoever is in the wrong, he is in the right. And if he has added the smallest stone to the edifice of knowledge he may comfort himself with the thought that, though his name be forgotten, his work lives. In this sense he is impersonally immortal and can say with Ennius:

> Nemo me lacrumis decoret, nec funera fletu
> Faxit: quur? volito vivu' per ora virum.

THE INFLUENCE OF THE OVARIES AND THE UTERUS UPON LACTATION.

TIME was when lactation was supposed to be a phenomenon under the control of the nervous system. This view was upset in 1898, when Ribbert transplanted part of a mamma from a virgin rabbit into a pregnant one, and observed that the transplanted gland developed and secreted milk. In 1906 Lane-Claypon and Starling proved that the fetus *in utero*

developed a hormone that was taken up into the maternal circulation, and was the agent that gives rise to the mammary enlargement and the lactation that characterize pregnancy. Their experiments were repeated and confirmed in 1908 by Foà, who used bovine fetal extracts and animals of different species. But the fetal hormones are not the only factors involved in the growth and activity of the mammary glands. In 1911 von Basch found a similar hormone in placental extract, and proved that its administration to other animals, as well as its action on transplanted portions of mammary gland, was unquestionable.

In the same year two French observers, Bouin and Ancel, showed that the ovarian corpus luteum is the source of a hormone that activates the mammae, whether gestation occurs or not. They argue that in such animals as the rabbit the corpora lutea provide the exciting cause for the growth of the mammary glands during the first part of pregnancy. Proceeding further, they stated in 1912 that the myometrial gland—a structure found in the uterine wall of the pregnant rabbit between the stroma and the muscular layers of the uterus—produces a hormone that further develops the activity of the mammary glands. J. Hammond and F. H. A Marshall,[1] in a paper on the functional correlation between the ovaries, uterus, and mammary glands in the rabbit, have studied the question with particular regard to the pseudo-pregnancy resulting from sterile connexion with vasectomized buck rabbits: experiments were also undertaken to ascertain whether or not the uterus is an essential factor in this mammary growth, by hysterectomy. They find that the development of the corpus luteum of pregnancy (the corpus luteum verum) or of pseudo-pregnancy (the corpus luteum spurium) in the doe rabbit is functionally correlated with the hypertrophy of the mammary glands, as has been shown by Ancel and Bouin and by others. In the pseudo-pregnant rabbits this hypertrophy is followed on about the nineteenth day by a definite secretion of milk, the quantity of which may be temporarily increased by the injection of pituitary extract, just as in normal lactation. This hypertrophy can take place in rabbits from which the uterus has been removed while still immature; the conclusion is that the uterus is not an essential factor in the development of the mammary glands.

It was also noted that the development of the corpora lutea of pseudo-pregnancy is correlated with uterine hypertrophy and hyperaemia, followed by the extravasation of blood; these uterine changes are clearly comparable with those occurring in true pregnancy, and they afford a confirmation of the view that the corpora lutea are a necessary factor in causing and maintaining the raised nutrition of the uterus during the first part of the period of gestation. After about the nineteenth day following sterile connexion the mammary hypertrophy appeared to retrogress, and these changes all took place without any demonstrable activity in the myometrial gland. Whether the corpus luteum does or does not play any part in mammary growth or secretion at the later stages of normal pregnancy is a point that must be left for further investigation; it may be remarked that the period of gestation in the normal rabbit is thirty days.

It is not in rabbits only that pseudo-pregnancy may lead to phenomena suggesting that a litter is about to be produced; Hammond and Marshall record the case of a cat that failed to become pregnant after connexion, yet began to secrete milk four weeks after the last copulation, the secretion continuing for about two weeks subsequently. Even the experimental animals themselves may be deceived as to their presumedly approaching maternity, it would appear. Thus Hill and O'Donoghue record the case of a marsupial cat, *Dasyurus viverrinus*, that was seen to clean out its pouch for the reception of expected young, although it was not pregnant; and one of Hammond and Marshall's rabbits, twenty-eight days after a sterile coitus, plucked fur from its breast and made a nest as if preparing for parturition, while at the same time milk could be expressed from its mammae. Instinct, in fact, is not an infallible guide, and the "provisions of nature," dear to the teleologist, are sometimes irrational.

[1] *Proc. Royal Society*, London, 1914, B, lxxxvii, 422.

THE OXFORD OPHTHALMOLOGICAL CONGRESS.

THE Oxford Ophthalmological Congress will take place this year on Thursday and Friday next, July 9th and 10th. The head quarters of the Congress will be at Keble College, where an unofficial dinner will take place on Wednesday evening at 7.30. The Congress will be welcomed by the Master of the Congress, Mr. R. W. Doyne, in the department of human anatomy. On Thursday morning and thereafter addresses will be given by Dr. Casey A. Wood of Chicago, Mr. S. H. Browning of London (sympathetic ophthalmitis), Mr. W. M. Beaumont of Bath (toxaemic iritis), Mr. G. M. Harston of Hong Kong (treatment of trachoma with CO_2), Dr. H. Alexander Brown of Reno, Nevada (trachoma), and by Mr. R. W. Doyne (the pupil under various conditions of illumination, and the movements of the eye in reading). Demonstrations will be given in the Scientific Museum, and operations will be demonstrated at the Eye Hospital by various surgeons. On Friday there will be addresses by Dr. A. Darier of Paris (emergencies in ocular therapeutics), Dr. Wendell Reber of Philadelphia (heterophoria), Mr. G. H. Pooley of Sheffield (local anaesthesia in eye operations), Messrs. J. Jameson Evans and T. Harrison Butler (operations for chronic glaucoma), Lieutenant-Colonel Henry Smith of Amritsar, India, and by Mr. Sydney Stephenson of London (bovine tuberculosis in phlyctenular affections). On Friday afternoon a discussion on the question of compensation in injuries of the eye will be opened by Dr. William Robinson of Sunderland, who will be followed by Dr. Frank Shufflebotham of Newcastle-under-Lyme. The dinner of the Congress will take place in Keble hall on Thursday evening, under the chairmanship of Professor Arthur Thomson, and afterwards a recommendation of the council that an ophthalmological congress shall be held annually out of London will be discussed. Further particulars can be obtained from the Secretary of the Congress, Mr. Sydney Stephenson, 33, Welbeck Street, London, W.

THE STETHOSCOPE AND THE CHEST SOUNDS.

LAËNNEC's invention of the wooden stethoscope is commonly said to have followed on his use of a roll of paper for mediate auscultation in a stout young lady whose modesty he was anxious not to offend. The short wooden stethoscope is still generally used in France, though, as a matter of fact, the use of the stethoscope is not popular among French practitioners or students, who evince a decided preference for direct auscultation. In addition to the objections to this method which many feel owing to the intimate contact it demands, direct auscultation is difficult when the patient is very ill, since it entails his being made to sit up in bed, and grave consequences have followed this practice in cases of typhoid, pneumonia, and advanced cardiac disease. The binaural stethoscope is practically unknown in France, and the phonendoscope is reserved for the differential diagnosis of difficult heart cases in hospital. The objection raised to the use of the stethoscope in France is that it modifies the sounds in transmission, but after all that is

merely a question of habit, for one soon learns to appreciate the significance of the sounds actually heard, and even the wooden instrument is open to the same reproach. The most striking development of the stethoscope in England of late years has been the introduction of a whole series of improvements having for their object to amplify the sounds. These modifications are perhaps mainly intended to assist practitioners whose hearing has become defective, because, with normal acuity, no difficulty is experienced by the trained observer in detecting all that is required for purposes of diagnosis, by the unaided ear, the wooden or the ordinary binaural stethoscope. The value of the amplification of sound thus obtained is a matter as to which great difference of opinion obtains. One elderly practitioner declares that a given instrument is of the greatest value while another does not find that it materially assists his hearing. This divergence of opinion is due to the fact that when dullness of hearing is due to imperfection in the apparatus of transmission—for example, the drum and ossicles—mere increase in the volume of sound, within certain limits, does not appreciably affect the vibrations actually conveyed to the inner ear or sensorium. If, on the other hand, the transmission of vibrations by the middle ear is good, the hardness of hearing being due to dulled perceptivity on the part of the nervous mechanism of the ear, then even the slightest addition to the intensity of the vibrations is of service. There are of course plenty of ways of distinguishing between the two classes of kinds of deafness. For instance, if the subject is unable to hear the ticking of a watch, say at 2 inches from the ear, but perceives it when the watch is placed between the teeth, it is plain, since the sounds transmitted by bone are readily heard, that the middle ear must be at fault. Such a person will probably derive little advantage from apparatus that merely increases the volume of sound. On the other hand, if the apparatus of transmission be intact, then every addition to the intensity of the vibrations, however slight, will be appreciated. It is like ringing a cracked bell: if we pull hard we make more noise; but if the wire be broken no amount of extra pulling is of any avail, even though the bell be whole.

EUGENIC MARRIAGES IN AMERICA.

THE eugenic marriage laws passed by several States of the American Union do not seem to be very successful. In Pennsylvania applications for a marriage licence have to be made on a form drawn up by the State Department of Health; in the application it must be stated, among particulars as to colour, occupation, parentage, and so forth, that neither of the contracting parties is afflicted with a transmissible disease. This law is mild when compared with those passed in some other States; yet although it received the Governor's approval so recently as July 24th, 1913, we learn from the *Boston Medical and Surgical Journal* of April 30th that already it is pronounced to be a failure. After an experience of over eight months the Chief Clerk of the Philadelphia Marriage Licence Bureau says that only one case has arisen in Pennsylvania since the Act came into operation in which an applicant was refused a permit for disabilities included among its provisions. The weakness of the statute in practice lies in the fact that the clerks have no right to refuse a licence as long as the applicants give answers that are technically "satisfactory" to the prescribed questions concerning health and physical condition, even though these answers may be obviously untrue. It is pointed out by the Chief Clerk that the ineffectiveness of the Pennsylvania law is not remarkable, for the same result has been reported in the other States where legislation has been more drastic. "It only goes to prove," he says, "what the eugenic theorists entirely overlook: that when couples make up their minds they are suited to each other, no mere law is going to prevent them from mating." As has often been urged in the BRITISH MEDICAL JOURNAL, human nature is stronger than any Act of Parliament, and love laughs at legal locksmiths. The eugenic marriage law has for the same reasons been a failure in Michigan. In the State of Wisconsin the law would seem to be a farce for a different reason. According to the *Daily Mail* of May 5th, a woman who had worked for several years disguised as a man obtained a medical certificate of good health such as is required by the law, and went through the form of marriage with another woman. The "bridegroom" is said to have been for years a patient of the doctor who signed the certificate, and he never suspected her sex. His examination consisted in taking blood from her arm, possibly for a Wassermann test. Doubtless he acted in perfect good faith, but the incident places the working of the eugenic marriage law in a somewhat ridiculous light.

FREE THROMBI AND BALL-THROMBI IN THE HEART.

JUST a hundred years ago William Wood, of Edinburgh, published the first case, so far as is known, in which a rounded clot of blood was found free in one of the cavities of the heart. The patient, a girl of 15, had suffered from shortness of breath due to cardiac disease for above three years, and at one time had many attacks of sudden dyspnoea and faintness. It was found after death that she had advanced mitral stenosis, and in addition the left auricle contained a firm and spherical clot of blood rather more than 1½ in. in diameter. Down to the year 1913 some thirty-four more instances have been put on record in which the heart contained loose thrombi. These have been recently collected and analysed by Hewitt[1] in an interesting monograph, and discussed in all their aspects. Genuine ball-thrombi and oval thrombi are very rare, as he points out, only five indisputable instances of the one and only one of the other having been described; in the remaining instances the clots may have been detached from the cardiac wall during the examination of the heart, or else they showed signs of recent attachment to the heart wall on some part of their surface, and such cases, he argues, "should be classed as probably loose or free thrombi." All cases of genuine ball or oval thrombi of the heart hitherto reported have been found in the left auricle, and have been associated with marked mitral stenosis and insufficiency. That such clots may act as ball-valves and occlude one of the valvular openings of the heart appears probable, but Hewitt states that it has yet to be demonstrated that this has actually occurred. He concludes that no sign or symptom has so far been described that will enable the occurrence of loose thrombi in the hearts of patients with mitral disease to be diagnosed with any certainty. This point is brought out again in Dr. French's very recent account[2] of the case of a woman who died with mitral stenosis and heart failure. Here there was a rounded mass of old blood clot free in the right ventricle. It was about the size and shape of a human eyeball, and at one pole showed evidence that it had been attached at one time to some point on the ventricular wall, although the detachment must have been complete for some while. This clot was just too large to pass through the pulmonary valve, and had probably produced what might be called a cup-and-ball pulmonary stenosis, becoming moulded into its rounded shape in so doing, and producing cardiac sounds of extreme variability at the base of the heart in accordance, no doubt, with its varying position. It may be noted that at no time was there heard anything sufficiently definite to suggest that there was actual pulmonary stenosis in this case. It is interesting to remark that in only one of Hewitt's 35 cases of loose thrombi in the heart was the clot found in the right

[1] *The Johns Hopkins Hospital Reports Monographs. New Series. No. I.* By J. H. Hewitt, M.D. Baltimore: The Johns Hopkins Press. 1913. (Imp. 8vo. pp. 82; 20 figures.)
[2] Guy's Hospital Reports, lxvi, p. 357.

ventricle; in 2 it was in the left ventricle, in 3 it was in the right auricle, and in the remaining 29 it occupied the left auricle.

DOCTORS AND THE DEATH PENALTY.

NOT long ago a popular writer suggested that "death at the hands of the law should be regarded as a major scientific operation and as such entrusted to the medical officer." In some Scandinavian countries the office of surgeon and executioner were occasionally combined, and in our own country doctors have given attention to the best means of helping malefactors to shuffle off this mortal coil by studying the right length of drop required for the purpose and the most effective way of adjusting the noose. In France the instrument with which the capital sentence is carried out, though not invented by Dr. Guillotin, was brought into use again and perfected by him just before the Revolution in which it played so terrible a part. It is often said that he himself was a victim of the guillotine, but this is not true; he died a natural death on March 26th, 1814. In these days of centenaries he escaped commemoration, and this is just as he would have wished, for though he introduced the instrument from motives of humanity, he was not proud of having his name attached to it. A rough form of guillotine had been in use in Italy since the thirteenth century, and was employed in Germany in the Middle Ages and in Scotland and England in the sixteenth and seventeenth centuries. For a hundred years or more it had fallen into disuse, and, according to the *Encyclopaedia Britannica*, Guillotin got his information about the apparatus from the description of an execution that took place at Milan in 1702, contained in an anonymous work, entitled *Voyage historique et politique de Suisse, d'Italie et d'Allemagne.* In an article published in the *Progrès Médical* of April 25th an account of the introduction of the guillotine is given. In 1789, when Guillotin brought forward his proposal, there were two methods of execution —hanging, which was a degrading punishment, and beheading, which was reserved for State criminals and did not dishonour the family. Guillotin's object was to do away with this inequality, and accordingly he proposed that crimes should be punished in the same way, whatever might be the rank of the culprit. He gave a vivid description of the horrible methods of execution "devised by a barbarous feudalism"—the gibbet, the scaffold, the wheel, and the stake—and concluded by proposing decapitation as a uniform method of punishment, mitigating it as far as possible by means of the instrument which bears his name. There was an animated discussion, Guillotin's proposal being strongly opposed by the Abbé Maury, who prophetically pointed out that it would be dangerous to accustom people to the sight of blood. Nevertheless, the proposal was adopted, and Guillotin's name became immortal in a manner by no means to his taste. A ballad of the day celebrates him as follows:

Guillotin
Médecin
Politique
Imagine, un beau matin
Que pendre est inhumain
Et peu patriotique!

And so on. The ballad describes the machine and names it:

La machine
Qui simplement nous tuera
Et que l'on appellera
Guillotine!

But it was not till two and a half years later that, after further discussion, the guillotine came into use. Before it was finally adopted Antoine Louis, General Secretary of the Academy of Surgery, was consulted. His answer, which dealt in an exhaustive manner with the construction of the machine, was read on March 20th, 1792. It was proposed to call the instrument "louisette," after him, but the name "guillotine" stuck to it, to the despair of its unwilling sponsor, who for the rest of his life tried to sink himself into oblivion. The first criminal executed with the guillotine was one Nicolas Jacques Pelletier, who "suffered" on April 25th, 1792, for a highway robbery. The guillotine began its awful career as a "precautionary measure" against enemies of the Republic on August 10th in the same year.

THE ANNUAL SHOW AT THE COLLEGE OF SURGEONS.

THE annual report of the conservator, Professor Keith, of the museum of the College of Surgeons, has been printed, and embodied in it is a list prepared by the pathological curator, Professor S. G. Shattock, of the specimens added to the pathological series since last July. These, together with other specimens added during the year, will be on view from July 2nd to 25th. Dr. Keating, C.M.G., Director of the Government School of Medicine in Cairo, has presented, on behalf of the Egyptian Government, a series of specimens of fusible alloys injected into vessels and ducts to show their branching, prepared by Dr. B. Wahby, Professor of Anatomy in the School of Cairo. They are a revival, but with greater success, of corrosion preparations once familiar in museums, and attracted much attention when displayed last year in the museum of the International Medical Congress. Mr. E. T. Newton, F.R.S., has presented the first "reconstruction model" he ever made. The model in this case illustrates the detailed anatomy of the brain of the common beetle. Microscopic sections are modelled in wax, and the wax plates of a complete set of sections are built up so as to make an enlarged model of the complete embryo or organ submitted to the microscope. Thanks to this reconstructional method, great progress has been made in embryology. The Archaeological Survey of Nubia has presented a collection of second and fourth dynasty Egyptian skulls hitherto not represented in the museum, a sixth cervical vertebra of an ancient Egyptian, with a bronze arrow-head transfixing its body, and tattooed skin from a mummy. There are some instructive radiographs and preparations showing the changes which occur in "Sprengel shoulder," or congenital elevatio of the scapula. Thanks to the energy of the conservator, Dr. Keith, and the interest taken in human anthropology and osteology by other authorities, additions have been made to the collection of ancient British remains, bones of prehistoric flint miners, neolithic and palaeolithic, presented by the Prehistoric Society of East Anglia and by Mrs. Hall, owner of the estate near Weeting in Norfolk, where "Grime's Graves," the flint mines, are situated. Sir James Moody has presented a collection of human remains from an Anglo-Saxon cemetery near Cane Hill Asylum. A series has been added during the past year representing the skeleton of modern English people, showing that certain definite changes have occurred in the physical condition of the people in recent centuries. Many negro and Polynesian skulls have been added, and Mr. Barrington Nash has presented an authentic cast of the skull of Robert Burns. Some skulls and casts of skulls showing neolithic trephining will interest anatomists and archaeologists alike. Dr. T. Wilson Parry has himself experimentally trephined skulls by means of neolithic flakes. Great progress has been made in the cataloguing of the splendid pathological museum, and the descriptive catalogue of the obstetrical instruments has been completed, and a typewritten copy placed in the museum for the use of visitors.

CHILDREN'S COUNTRY HOLIDAYS.

DURING the past few years a very commendable movement has been carried on in various parts of England and Wales having for its object to secure a real country holiday for children who live the year through in crowded parts of populous towns. The undertaking is organized by philan-

thropic agencies and has assumed such dimensions that the children who take part in it may be numbered by tens of thousands. This being so it is obvious that there must be a certain amount of risk from the possible introduction of infectious disease into the country districts unless the greatest care is exercised in the selection of the children to be sent away. It is true that instances in which outbreaks of infectious disease could clearly be traced to the country holiday movement have not been recorded, though this may be due to the vigilance which has hitherto been exercised by the public health officials concerned. With a view to emphasizing the importance of this vigilance the Local Government Board has just issued a memorandum to sanitary authorities in which the principal precautionary measures that can be taken are pointed out. It is suggested that intended arrangements should be communicated as long before as possible to the medical officer of health of the country district concerned. It is expected that such communications will assist the town agency by preventing children being sent to dwellings in the country where they would be exposed to the risk of infection or to insanitary conditions, while the country medical officer of health, in taking precautions against the spread of infectious disease in his district, will be materially assisted by information as to the nature of the inquiries which have been made before the children are sent down and by being put in touch with the persons who are to be responsible for their care and maintenance whilst in the country. Moreover, overcrowding may be avoided if the medical officer of health can have timely information of the houses in his district to which it is intended children shall be sent. Attention is drawn in the memorandum to the necessity for making inquiries to secure that no child shall be sent to the country who is in an infectious condition, or who is in the incubation stage of an infectious disease, or comes from an infected house. Medical officers of health are already overburdened with routine clerical work, but it would not be very much trouble for them to inform the officials of the country holiday organizations whether particular houses from which children are to be sent away are or recently have been infected. In a well-organized public health department this would not entail much trouble.

THE CO-ORDINATION OF AFTER-CARE.

The statistics of most of the sanatoriums for consumption go to prove that a large percentage of their patients leave the institutions in a fit condition to earn their living. In a few instances their former employment is kept open for them, but in the great majority the patients have to find some other means of earning money, commensurate with their powers of work. Employers, as a rule, are not very willing to take on an enfeebled hand, and an unwarranted fear of infection operates to decide others against the engagement of any one who has once been marked as consumptive. By the help of after-care committees these difficulties may be overcome to some extent, but a far wider and more co-ordinated system is required whereby county councils and other local authorities may work together to the same end. This need is emphasized in the latest report of the Kelling Sanatorium in Norfolk, an institution that has been doing excellent and ever-increasing work since its foundation in 1902. In thirteen years the number of beds has been increased from 10 to 95, and a large number of patients are discharged in a fit condition to earn their own living, if only suitable occupation can be found for them. Much has been done by the After-care Committee of the sanatorium to assist patients of both sexes to obtain work, and to observe necessary precautions to prevent relapse, but no co-operation with similar committees in other places has as yet been established, whereby such assistance might be continued and the patient kept under such observation for a sufficiently long period to warrant his classification as a cured or even arrested case. At Kelling many of the patients find opportunities for acquiring some knowledge of country pursuits, such as poultry farming, and are even engaged at a weekly wage to do suitable work about the sanatorium itself. With an average stay of 13.6 weeks it has been found that over 70 per cent. of the patients become capable of work, but the value of such work is soon lost to the community if want of means or unsuitable employment should lead to a further relapse. Hence the need for common action by way of after-care committees throughout the country whereby the consumptive may be enabled to earn his own living instead of dragging out the remainder of his days at other people's expense.

STREET NOISES.

IN the JOURNAL of June 27th reference was made to the increase of noise in the streets owing to the steadily growing volume of traffic that passes through them, and to the maddening concourse of nerve-jarring sounds which assails our ears in consequence. A correspondent lays the blame more on piano organs, brass bands, and other forms of street "music" than on motors, but he reserves, as Mr. Gladstone once said of himself, his "choicest Billingsgate" for the whistling and yelling of boys. There is no doubt that the youths who run down the Strand screeching out "Winnahs!" without any mitigation or remorse of voice, as Malvolio says, are serious nuisances; but after all, the evil is intermittent and its distribution is local. Even the other noises which make us think of Hogarth's picture of the Enraged Musician are not continuous or universal. On the other hand, nowadays the crash of the motor bus and the discordant hooting of the taxi-cab we have with us everywhere. In the West End streets and squares through which people of the so-called smart set, or who wish to be thought so, return from theatres and other entertainments, the snorting of their hooters, their shouts of revelry, and their noisy farewells murder sleep for unhappy dwellers in those neighbourhoods; many of these are people whose days are full of exhausting work, the wear and tear of which can be repaired only by a good night's rest. Still worse is the case of the inmates of the nursing homes sprinkled like satellites around the great centres of medical activity; for many of them broken sleep may make the scale, trembling between life and death, turn the wrong way. In the *Times* of June 29th Sir Henry Morris once more pleads for these victims of the motor horn. He writes in the hope that the new chief of the Local Government Board may find it in his heart to do what Mr. John Burns led the members of a conference held in 1910 to expect that he, in conjunction with Sir Edward Henry, Commissioner of Police, would accomplish—that is, to standardize the sound of hooters, making it uniform in tone and pitch. This would, at any rate, get rid of the horrible discordance which in a literal sense "doth work like madness in the brain." "By this means," says Sir Henry Morris, "and by limiting the hours of night during which motor horns should be allowed to be sounded in the streets of cities and towns, there would be some chance of our obtaining more continuous undisturbed rest than now." Any appeal to the good feeling of the class of motorist of whom we complain would, we fear, be useless; or we should say, again with Malvolio, "Is there no respect of place, persons, nor time in you?" But we would warn them that their disregard of the comfort of others is gradually arousing against them a resentment that may bring them to reason. The public has a right to be protected against the unrestrained selfishness of a small number of wealthy persons, who seem to think the possession of a motor puts them above the law of ordinary humanity. "Fredome," as John Barbour, the old Archdeacon of Aberdeen, says, "is a noble thing," and nowhere is there more real freedom than in this country. It is not freedom, however, but savagery, which makes

a man think he has the right to make as much noise as he likes in public places without regard to any suffering he may thus inflict. And it cannot, we think, be denied that the motor has brought with it a peculiar callousness, which makes those who ride in it indifferent to any inconvenience they may cause to humbler mortals. That dislike of noise is not confined to a few persons of high-strung nerves is sufficiently proved by the fact that the general press is full of complaints on the matter. The question of street noises is one with which it might be difficult for a Legislature faced with so many large issues to deal at present, but in the meantime we should be satisfied with police regulations that would do something to temper the horrors of the hooter to ears made specially sensitive by illness or great strain of work.

PROPOSED SPECIAL FUND.

A correspondent suggests that it might be useful if the purposes to which the proposed Special Fund are to be applied were published in the Journal. These purposes can be ascertained in a general way by a comparison of the Report of Council on the proposed Fund, published on pages 319 and 320 of the Supplement of May 2nd, 1914, and the Report on a Scheme for Organization of the Profession, published in the Supplement of November 1st, 1913. The former report dealt quite generally with the objects of the Fund, stating that it would be devoted "mainly to work which the British Medical Association is precluded by its constitution from undertaking." The report also stated that the Fund is required "as a reserve for the protection of the medical profession in future emergency." The Report of Council, which is at present under the consideration of the Divisions, deliberately refrains from going into detail, it being the intention of the Council to ascertain the opinion of the Divisions as to whether a Fund for these general purposes is desirable, as to how far the Association would be justified in assuming that the profession is prepared to support such a Fund, and what form its constitution should take—that is, Trade Union or Trust—leaving the details to be worked out after the general principles have been established. A reference to the earlier report (Supplement, November 1st, 1913) will give some indication as to the detailed way in which at that time it was proposed to spend the Fund if established, but these details must not be taken as applying to the present proposal, and, in fact, some of them are already out of date.

SCHOOL TEACHERS AND MEDICAL INSPECTION.

A conference between the Medical Inspection Subcommittee of the Medico-Political Committee of the British Medical Association and representatives of the National Union of Teachers will be held on Wednesday evening next at 7 p.m. At this conference the teachers will express their views with regard to the details of school medical inspection which should be undertaken severally by the medical inspector and by members of the teaching staff. It appears that the allocation of duties and responsibilities varies very much in different districts. In some teachers are expected to undertake duties for the proper discharge of which they feel they do not possess the necessary technical knowledge. It would appear that when such duties are imposed upon teachers it is because the local authorities are unwilling to provide a medical officer with a sufficient staff. It is hoped that the conference will result in an understanding upon this and other matters affecting the proper administration of medical inspection of schools.

THE LAWRENCE RESEARCH FUND.

In memory of their father, Sir W. Lawrence, F.R.S., and of their brother, Sir Trevor Lawrence, the Misses L. E. and M. W. Lawrence have presented £4,000 to the Royal Society in trust to devote the interest to the furtherance of research into the cause and cure of disease in man and animals in such manner as the president and council may from time to time determine. Sir William Lawrence (1783–1867), who was apprenticed to John Abernethy and was his demonstrator of anatomy for ten years, became assistant surgeon to St. Bartholomew's Hospital in 1813, and surgeon in 1824. Five years later he succeeded Abernethy as lecturer on surgery. In addition to his work as a general surgeon Lawrence gave special attention to ophthalmology, and published a treatise on diseases of the eye. He became Serjeant-Surgeon to Queen Victoria in 1857, and was created a baronet in the year of his death. He was succeeded in the hereditary honour by his son, Sir Trevor Lawrence, long treasurer to St. Bartholomew's Hospital, and President of the Royal Horticultural Society. After his recent death many plants from his collection of special scientific interest were presented to the Royal Botanic Gardens, Kew.

ROYAL COMMISSION ON VENEREAL DISEASES.

The Royal Commission on Venereal Diseases, appointed on November 1st, 1913, has issued a brief report stating that from the period November 7th to April 6th it has held thirty-two meetings and examined thirty-six witnesses. The branches of the inquiry are so numerous, and in some cases so closely interrelated that the Commissioners have found it impossible to deal with them separately by completing one branch before entering upon another. Their investigations are therefore incomplete, and they propose to take evidence from several Government departments as well as from private individuals able to speak with special knowledge. They expect also to receive statistics which are being prepared by certain hospitals and institutions. The report contains no conclusions or recommendations, but is accompanied by an appendix containing the minutes of evidence taken down to April 6th. Since that date the Commission has sat on eleven days to hear evidence. Abstract reports of the evidence taken at all the meetings of the Commission down to July 4th have been published in our columns.

The Library of the British Medical Association has received from Dr. Jamieson B. Hurry (Reading) a copy of Section xxiii of the *Transactions* of the International Congress of Medicine in London. The section relates to the history of medicine. The general volume, Part II of the Section of Orthopaedics, and the Section of Dermatology were presented a short time ago to the library, but it still needs all of the other sections.

The Irish Medical Schools' and Graduates' Association will hold a lunch at the Grand Hotel, Aberdeen, at 1.15 p.m. on Thursday, July 30th, at which Dr. Douglas will preside. The annual National Temperance League breakfast will be held in Trinity Hall, Union Street, Aberdeen, on the morning of the same day, when Mr. Alexander P. Forrester-Paton, President of the Scottish and Vice-President of the National Temperance League, will be in the chair.

Fifty years have passed since Professor Eugene Koeberlé performed his first ovariotomy in Strassburg. In order to commemorate worthily this anniversary and to perpetuate the memory of the great surgeon, the first on the Continent who successfully followed Clay, Spencer Wells, and Keith in establishing ovariotomy, a committee consisting of his pupils, friends, and admirers in all countries has undertaken to set up in the Civil Hospital, Strassburg, a bronze memorial tablet bearing a portrait. Subscriptions will be received by Dr. Bucher, 2, rue Brulée, Strassburg, Alsace-Lorraine.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Proceedings on the Finance Bill.—In view of the recent alteration in the programme of the Government, it is necessary to add to the explanations which were made in our leading article of last week on the subject of the Finance Bill. The provisions remain as already explained, but it has been decided, after the passing of the necessary resolutions of the House, that that which we described in our last issue as Finance Bill No. 2, shall be added to the Revenue Bill after that bill has passed through Committee. The procedure which will be taken when that time arrives will be to move that the Revenue Bill be recommitted for the purpose of adding the clauses which previously formed Finance Bill No. 2. As a result of this procedure, there will be two bills instead of three—the present Finance Bill and the Revenue Bill containing the land valuation proposals and the proposals with respect to grants to local authorities.

Budget Schemes: Tuberculosis.—Mr. Worthington Evans asked the Chancellor of the Exchequer in what proportions the £750,000 proposed for the extension of the tuberculosis arrangements to dependants of insured persons, tuberculosis laboratories, and nurses was to be divided amongst the three items mentioned; and whether it was intended to introduce legislation on the subject this session.—Mr. Montagu said: It is proposed that of the sum referred to £400,000 should be allocated to tuberculosis services, £250,000 to nursing, and £100,000 to pathological laboratories.

Dogs Bill.

The Dogs Bill is now dead, and the manner of its death affords interesting illustrations of different methods of parliamentary opposition. On Wednesday, June 24th, Committee A reassembled to continue consideration of the Dogs Bill, but a quorum of the supporters of the measure, as on the previous occasion, was not obtained in the room. Many members who were opposed to it remained outside and declined to come in. After waiting half an hour the Chairman, in announcing the adjournment until Tuesday, June 30th, raised the question whether he should report members who, whilst present in the precincts, declined to attend the committee. The contention of the members who remained outside was that, if a bill enlisted so little interest and enthusiasm amongst a committee of some eighty members that it could not secure the attendance of a quorum of twenty, they were not called upon to make a quorum in order to facilitate its progress. A discussion on the remarks of the Chairman took place in the House of Commons later on, and the Speaker pointed out the difficulties which were involved in any proposals to remove members from a committee, and that, whilst the Committee of Selection could place members on a committee they had no power or authority to remove them. It was also pointed out that what would apply to members who had waited outside in the lobby would apply with more force to those who had not come at all.

On Tuesday, June 30th, there was a large attendance of the Committee, and there had evidently been energetic whipping on both sides. The first amendment which was pressed was one by Dr. Chapple, which he moved with a few remarks only, to insert the word "inoculation" before "experiment." The supporters of the bill were evidently surprised, and as the morning wore on, not a little annoyed, that its opponents declined to take up the time of the Committee by speeches, and many and ingenious were the efforts of Sir Frederick Banbury, Mr. McVeagh, and others to induce them to prolong the discussion. The university members were taunted with not placing their learning at the disposal of the Committee, and the medical members, Dr. Addison and Dr. Chapple, were repeatedly invited to enlighten the darkness of the lay minds, but without avail. The amendments which were moved by the opponents of the bill were all inserted in the first clause, usually by 18 votes to 15 or thereabouts. As it was finally amended, the first clause read as follows: "From and after the passing of this Act it shall be unlawful to perform any inoculation experiment of an unscientific nature calculated to give pain to any dog for any purpose whatsoever, either with or without anaesthetics, and no person or place shall be licensed for the purpose of performing any such experiments." After the clause had been amended so as to make it only apply to inoculation experiments of an unscientific nature, there was obviously not much left of the bill, and on the main question being put that Clause 1 should stand part of the bill, it was negatived by 18 votes to 15. Clause 1 being therefore deleted, and being the only operative and effective clause, Sir Frederick Banbury moved that the Committee do not proceed further with the consideration of the bill. This was agreed to without a division, and the Chairman undertook to report the bill and the resolution of the Committee accordingly to the House.

After Mr. Rawlinson had secured the insertion of the words "an unscientific" before the word "nature," it was proposed by Mr. McVeagh that the Secretary of State for the Home Department should be the tribunal to decide what experiment was of an unscientific nature. Mr. Ellis Griffith, on behalf of the Home Office, declined to undertake the responsibility, and Mr. Scott Dickson, Sir Philip Magnus, and others were variously nominated for the unwelcome office. The defeat of the bill was probably a relief even to some of its supporters amongst the Committee, and it was generally agreed that it is an unfortunate feature of parliamentary proceedings in Committee that bills of this character should delay the proceedings of the Committee on other important measures which are kept waiting.

Milk and Dairies Bill.

Standing Committee B met for consideration of this bill on Thursday, June 25th, and on Monday, June 29th.

At the commencement of the proceedings on June 25th Mr. Herbert Samuel made a preliminary statement and suggested revised wording for various parts of the first and second clauses of the bill to meet the points raised at the previous sitting by Mr. Astor and others to the effect that the keeper of a cow which was found to be giving tuberculous milk, but in which there was no manifest sign of disease, should receive a notice to that effect from the medical officer of health before proceedings were instituted. In regard also to the point which had been raised as to the conditions under which the milk of such cows might be used in the manufacture of products for human consumption under conditions which would render them safe, the President submitted a revised form of Clause I of the bill and agreed to insert other related amendments in the further parts of the bill. The proposals were accepted by Mr. Astor and his friends, and Clause I of the bill was altered so as to read as follows:

1. *Prohibition of Sale of Tuberculous Milk.*—If a person
   (*a*) Sells, or offers or exposes for sale, or suffers to be sold or offered or exposed for sale, for human consumption or for use in the manufacture of products for human consumption; or
   (*b*) Uses or suffers to be used in the manufacture of products for human consumption,

the milk of any cow which has given tuberculous milk, or is suffering from emaciation due to tuberculosis, or from tuberculosis of the udder, or from acute inflammation of the udder, or from any of the diseases specified in the First Schedule to the Act, he shall be guilty of an offence against this Act, if it is proved that he had previously received notice from an officer of a local authority, or that he otherwise knew, or by the exercise of ordinary care could have ascertained, that the cow had given tuberculous milk, or was suffering from any such disease.

In connexion with the words which it will be seen have been inserted in the clause with reference to a first schedule, it was agreed, on an amendment raised by Mr. Bathurst, that it would be better to specify diseases—tuberculosis included—to which the clause would apply in a schedule, as the schedule could subsequently be added to if experience proved it to be necessary, the departmental orders receiving the sanction of Parliament in the ordinary way. In these circumstances that schedule which has hitherto been the first schedule in the bill will now be described as the second, and so on.

On Monday, June 29th, the greater part of the time of the Committee was occupied in a debate on an amendment

raised by Mr. Astor to the effect that dairies should be subject to annual certificates of registration, and that it should be possible to suspend or revoke such certificates if a dairyman had been found guilty of repeated or serious offences against the Act. It was generally contended by Mr. Astor, Mr. Hills, Mr. Courthope, Dr. Addison, and Lord Alexander Thynne, on behalf of the amendment, that it would thus be possible to extend the London system to other large towns on more or less uniform lines. Considerable objection, however, was expressed to the clause by the President of the Local Government Board and many other members, on the ground that it would possibly be harassing to the trade and be difficult to apply in country districts. In addition, also, it was evident that the insertion of the amendment would gravely impede the progress of the bill, and it was ultimately withdrawn.

Paragraph (*b*), Section 1, of Clause 2, which relates to the inspection of dairies and to persons employed in or about them, was amended by the insertion of words providing that the inspection should be by persons duly authorized by the local authority in which the dairy was situate. At the conclusion of the proceedings, Mr. Tyrrell moved an amendment to omit the inspection of "persons employed in or about the dairies," and the discussion on this amendment was not concluded when the Committee adjourned.

Sight Test for Army Commissions.—Mr. F. Hall (Dulwich) asked the Under Secretary of State for War if candidates for commissions in the army were called upon, after passing the necessary entrance examinations, to undergo a test for eyesight; how many persons were rejected for defective eyesight in 1913; and what were the reasons for making a test, which was in the nature of a preliminary qualification, after the candidates had incurred all the expense and labour entailed by the theoretical examinations.—Mr. Tennant said that the answer to the first branch of the question was in the affirmative. The number rejected for defective eyesight in 1913 was twelve. The test could not, in the interests of the service, be dispensed with; but, in order to obviate disappointment, candidates were recommended in the published Regulations to undergo a preliminary medical examination, and, on payment of certain fees, were allowed to present themselves to a military Medical Board for this purpose. In reply to Mr. Bridgeman, he said that he quite realized that the point was whether it was worth their while to prepare for the final examination. That was why there was a regulation permitting a preliminary examination. Sir Henry Craik asked whether the preliminary examination could not be made sufficiently stringent to prevent the trouble and expense of a re-examination afterwards. Mr. Tennant replied that there must be a final examination before an officer was allowed to join. His eyes might change in the interval.

School Playgrounds.—Sir J. D. Rees asked the President of the Board of Education whether notices were recently issued to certain schools threatening them with compulsory closure unless they made extensive additions to their playgrounds; if so, what were such schools, and under what provisions of law such notices were issued.—Mr. Pease replied as follows:

> The Board of Education frequently call the attention of local education authorities and managers of schools to the importance of providing adequate playground space for public elementary schools and to cases in which the playground space is deficient, and where there are no playgrounds at all the Board have, in the interests of the children and their efficient instruction, felt bound to press the local education authority or managers to submit proposals for early improvement of the premises in this respect. In particular, where substantial enlargements or alterations of existing schools are in contemplation with a view to rendering the premises satisfactory for an indefinite period, it is the practice of the Board to point out that the proposals cannot be regarded as satisfactory for prolonged recognition unless adequate playground space is provided. This action is taken because it is obviously undesirable that considerable sums of money should be spent on a school if it cannot thereby be made satisfactory, and it would be unfair to the managers for the Board to countenance such expenditure. The most recent cases are contained in the lists of schools sent to the Derby County Borough Education Authority and the London County Council. In connexion with this matter I may refer the hon. member to Articles 17 and 18 of the Code of Regulations for Public Elementary Schools.

Mr. Hoare asked whether the Board threatened to close any schools on account of the want of playground accommodation.—Mr. Pease said that it was the practice to put pressure on the authorities to provide adequate playground space, because the money provided by the State could not be efficiently spent in connexion with the schools unless there were proper playgrounds.—Mr. Hoare asked whether there was any statutory authority.—Mr. Pease replied that it was his duty to see that the money of the taxpayers was spent in the efficient management of these schools.

Health of Seamen.—The President of the Board of Trade has informed Major Archer-Shee that the question whether, and, if so, in what respect, the Board's medical staff needed to be strengthened would be considered in connexion with the investigation into the mortality of seamen now being held. It was being conducted by Mr. E. G. Moggridge, Mr. E. W. Colvill, Mr. C. Hipwood, Mr. T. F. Jenkins, and Captain A. H. F. Young, of the Board of Trade; Dr. A. Newsholme, C.B., of the Local Government Board; and Dr. T. H. C. Stevenson, of the General Register Office. They were considering the mortality among seamen on British merchant ships as shown in the vital statistics, with a view to reporting what steps were desirable to diminish that mortality and how far such steps would need legislation. They would, if necessary, take evidence.

Stillbirth Interments.—Mr. Harris asked the Home Secretary whether he had considered the desirability of obtaining a return with reference to stillbirth interments similar to that obtained in 1891.—Mr. McKenna replied that it would be a difficult return to collect, and he would not be justified in calling for it unless it were clear that it would serve some definite and useful public purpose. He would consult the other departments concerned.

Swine Fever.—In reply to questions by Mr. Bathurst, the President of the Board of Agriculture has stated that the chief veterinary officer of the Board had long been conducting experiments with a view to finding a preventive or cure for swine fever, but that it was not possible at present to estimate the value of the result obtained. At the present time twelve separate experiments were under observation. Mr. Runciman added that, as he had stated in the debate on the Board's estimates, he was endeavouring to facilitate arrangements for independent research work on swine fever concurrent with that conducted by Sir Stewart Stockman, but not superseding it. Whether Cambridge University or some other institution was the best for this purpose was at present engaging the attention of the Board and the Development Commissioners, but no definite announcement could be made at present. In further reply to Mr. Charles Bathurst, Mr. Runciman supplied the following table:

Period.	Outbreaks Confirmed.	Swine Slaughtered as Diseased or as having been Exposed to Infection.
First 22 weeks of 1914	1,770	17,926
,, ,, 1913	991	14,493
,, ,, 1912	1,437	18,731

THE *Tropical Diseases Bulletin* for April 30th, 1914, for which Colonel W. G. King, I.M.S., C.I.E., Lecturer on Applied Hygiene in the Tropics at King's College, London, is responsible, is devoted to sanitation. Reports on sanitation from Southern Nigeria, Sierra Leone, Uganda, Ceylon, and British Guiana are dealt with, while under the heading "Disease Prevention" malaria, cholera, typhoid fever, kala-azar, yellow fever, plague, guinea-worm, vaccination, house-flies and disease, insects and their destruction, and larvivorous fish are all discussed. A page is devoted to sanitary legislation, and the treatment of waste by rubbish incinerators is also mentioned. Another interesting part of this number deals with sanitary works, and it concludes with some reviews on health in the tropics.

England and Wales.

SHEFFIELD.

RADIUM.

THE fund for the purchase of radium for the voluntary hospitals in Sheffield is now just over £9,000, and a contract for the supply of 500 mg. has been made with the Radium Chemical Company, Pittsburgh, Pa., U.S.A. The radium is purchased subject to measurement as to purity and amount by the National Physical Laboratory, Teddington, and the vendors are liable to a substantial cumulative fine in the event of their failing to supply the radium at the stipulated time of delivery which is fixed, as to one half, for the end of January, and as to the other half for the end of February, 1915. After long and very careful consideration it has been decided to make use of the emanation instead of the radium itself for therapeutical purposes. It was felt, however, that, to begin with, a portion of the radium should be available for direct use, partly as a stand-by in case the emanation should at any time temporarily give out in consequence of an accident during its collection, and partly because hitherto the most suitable method of applying the rays to the surface of the skin has appeared to be by applicators, the radium salt being spread uniformly over their surfaces and fixed with varnish or in some other way. Radium bromide is a freely soluble salt, and 400 mg. will be used for producing the emanation; 100 mg. of radium sulphate, a relatively insoluble and stable salt, will be kept in reserve and for the manufacture of applicators

The university authorities have provided suitable accommodation for the radium in the university, and the Radium Committee has appointed Dr. E. Marsden of Manchester to be its physicist. He will be given the status of a university teacher, and will be attached to the staff of Dr. Hicks, Professor of Physics. By this arrangement the Radium Committee secure adequate and safe housing accommodation free of charge, while the university will benefit by having access to a supply of radium for teaching and research work under the charge of an expert who should prove a valuable addition to Professor Hicks's staff. After paying for the radium the Committee will have about £2,000 in hand, and this sum, augmented by the proceeds of the sale of the emanation to other than hospital patients, will suffice to defray the expenses of the department for at least five years.

The Lord Mayor, for the time being, has been elected Chairman, and Professor Sinclair White Vice-Chairman, of the Committee. A medical board, selected from the members of the honorary medical staffs of the voluntary hospitals, will be appointed, and all applications for radium emanation will be submitted to it. A full record of the condition of each patient for whom radium is desired, and the result of its employment, will be insisted on. In this way it is hoped to add very considerably to the accumulating data concerning the effects of radium on malignant growths. It is also in contemplation to organize a cancer research department affiliated with the Pathological School of the University.

ALEXANDRA ROSE DAY.

On Saturday, June 20th, the streets of Sheffield were commandeered by 1,200 ladies, all dressed in white and pink. They embodied the citizens' first attempt to hold a Rose Day, and thanks to the desire of every one to help the hospitals, the favourable weather, the tact of the vendors, and, possibly, the novelty of the scheme in Sheffield their efforts were crowned with unqualified success. Upwards of 400,000 roses, or to be strictly correct, beautiful imitations of the wild rose, were disposed of long before the day was done, and the hospitals will be benefited to the extent of about £1,800. Had it been possible to secure a larger quantity of artificial roses the result would have been even better, but just now the demand throughout the country is enormously in excess of the supply. The Rose Day Committee and Mr. H. H. Bedford, its energetic chairman, are to be congratulated on the success of their endeavour.

MANCHESTER AND DISTRICT.

THE MANCHESTER AND DISTRICT RADIUM FUND.

THE inadequate response to the first appeal to the public for a sum of £25,000 to obtain a supply of radium for Manchester and district has led to a further appeal, and a public meeting was held on June 23rd in the Manchester Town Hall, with the Lord Mayor in the chair. A special address on the use of radium in the treatment of disease was given by Dr. Dawson Turner of Edinburgh, who said that radium had been used in the Royal Infirmary of Edinburgh for the last nine years, and since larger supplies had been obtained it had been tested in a great number of cases and he could speak positively regarding its value, which was no longer experimental. It had been proved that when radium was applied to cancer, the cancer cells in many cases underwent degeneration and were no longer able to reproduce themselves in malignant fashion. In these cases the cancer ceased, became quiescent, did not trouble the patient much and might often be entirely removed by a surgical operation, whereas previously it could not have been so removed. In other cases the growth was destroyed and disappeared altogether. To the question "Is radium a cure for cancer?" the answer must for the present be in the negative. Not all the cases yield in the manner described though the majority did, and he thought it possible that with more experience and larger quantities to work with better results might be obtained. Again, though cancer might be removed by radium from one position, it might recur in another. As yet radium applications had been reserved chiefly for those extensive and very serious cases which were beyond a surgical operation, so that radium never had a chance of proving what it could do in the early stages of the disease. One of the most remarkable and beneficial effects of radium was its power to relieve pain, a relief which was not only temporary but often permanent. There was no form of cancer in which radium was so useful as in the internal cancers of women. All observers were agreed on this and so great had been the success attending the employment of radium and the *x* rays in these cases that the surgeons at the great hospital of Freiburg were said to have given up entirely the use of the knife.

Sir William Cobbett, Alderman Holt, Professor Wild, Sir William Milligan, and Sir Ernest Rutherford supported the appeal, while Bishop Welldon suggested that the churches should be asked to help in the matter.

The matter has now been taken up in an energetic way by the Manchester press, and it is announced that Messrs. E. Hulton and Co., the proprietors of the *Daily Dispatch* and associated newspapers, have promised to contribute £1,000, and to receive any contributions sent to them on behalf of the committee. A donation of £100 has also been given by Lord Derby, and the total amount promised towards the required £25,000 is now about £9,000.

THE LATE MR. WALTER WHITEHEAD.

A monument to the late Mr. Walter Whitehead, Surgeon to the Manchester Royal Infirmary, and President of the British Medical Association in 1902, when the annual meeting was held in that city, has been erected at Bury by his brother, Mr. Henry Whitehead, by whom it was formally presented to the town on June 27th. The monument is a clock tower with bronze statuary adornments, and is surrounded by a garden. At the ceremony, on June 27th, Sir Frederick Treves formally opened the gate of the garden and delivered a short address. The town of Bury, he said, had an illustrious history, and was associated with the names of many great men, but, to a certain section of the world's people not only in England but beyond the seas, the name of Bury would be memorable as the birthplace of Walter Whitehead. When, for the first time in his life, Whitehead passed through the gloomy doorway of a hospital he found wards dismal with a squalor that had long been accepted as inevitable, an operating theatre that was as the valley of the shadow of death, a reign of terror among the living, a record of failure among the dead. The introduction of antiseptics by Lord Lister transformed the whole face of surgery. It robbed it of its direst terrors, it increased its possibilities a thousand-fold, and afforded in every direction new opportunities for the saving of

life and the curing of hitherto unapproachable disease. Prominent among the body of eager men who were pressing forward in the great advance was the figure of Walter Whitehead—towering above his fellows, a strong, self-reliant man who knew no fear and who was a supreme master of his art. It was no matter of wonder that, in that time of evolution of surgery, the influence of such a man as Walter Whitehead should have made itself felt, and that his sturdy intellect should have done much to guide newly-acquired powers into right channels, to restrain the rash, and to encourage the timorous. He was himself a type of what a surgeon should be—a skilful operator, a thinker, a man of quick intuition, and wide experience. The operative measures with which his name would ever be associated were characterized by originality, by boldness, by precise scientific reasoning, by a careful and most finished technique. Whitehead was a Lancastrian, and he brought to bear upon the surgery of his time those attributes of mind and body which were distinctive of the county of Peel, Horrocks, Hargreaves, Arkwright, and John Kay. These were the qualities of courage, of unwavering determination, of far-seeing, of broad-mindedness, and, above all, of sound practical common sense, and a perfect mastery of his craft.

At a luncheon given afterwards by the Mayor, the toast of his health was given by Sir William Milligan, who said that Mr. Walter Whitehead's work at the Manchester Royal Infirmary was an inspiration to all younger men.

SMALL-POX IN SALFORD.

A case of small-pox was last week reported in Salford, and it appears that just about the time when the disease would commence the patient, who is a man of about 32 years of age, was in another district, where a number of cases have occurred. Last year about this time several cases occurred in Salford, and the Drinkwater Park Hospital, which was first established as a small-pox hospital but is now used as a sanatorium for tuberculosis, had to be cleared of its tuberculosis cases for about a month. Every possible effort has been made to avoid the necessity for this on the present occasion, and the patient is now in the Cinder Hill Hospital. The case was only discovered rather late, but as the patient had been confined to his room ever since the illness commenced, there have been very few contacts. All of them have been vaccinated afresh and are being kept under observation.

LEEDS.

TEACHING OF DENTISTRY.

A DENTAL department was established in 1905 in connexion with the Leeds Public Dispensary; during the year 1912–13, the last for which statistics are available, the number of new patients was 3,237, and over 1,400 operations were performed. The number of students in attendance during the same period was 27. The staff of the dental department consists of twelve honorary dental surgeons, with a demonstrator, a house-surgeon, a curator, a nurse, and a clerk. The affairs of the department are managed by a Clinical Dental Committee, consisting of the honorary dental surgeons with the chairman of the Dispensary Board. The department has throughout been self-supporting, its funds being derived from students' fees and payments by patients to cover cost of materials. In 1906 the department of dentistry was added to the Faculty of Medicine of the University of Leeds. For some time it has been felt both by the dental surgeons at the dispensary and by members of the University that a closer association between teaching at the University and the dispensary was desirable. A scheme submitted by the dental surgeons and approved by the Dispensary Board has been adopted by the Council of the University, and will come into operation at the beginning of next session. Under this scheme the instruction in the Dental Department will pass under the control of the University, and will have the status of University teaching. The honorary dental surgeons will become members of the staff of the University under the title of clinical dental lecturers, and all future appointments to these lectureships will be made by the University Council. The Dental Committee will take its place among the academic bodies of the University, reporting its proceedings to the Board of the Faculty of Medicine, on which it will be represented. It is believed that the scheme will enable the co-ordination of the theoretical and practical teaching of dentistry to be more completely and more permanently secured.

TUBERCULOSIS CONFERENCE.

The sixth annual conference of the National Association for the Prevention of Consumption and other Forms of Tuberculosis will be held at the university on July 7th and 8th. The subject for discussion on Tuesday morning—the house in relation to tuberculosis—will be introduced by Sir William Younger, Bart., member of the Royal Commission on Housing (Scotland). The discussion at the afternoon session on tuberculosis, especially surgical, in children will be introduced by Mr. Lawford Knaggs, professor of surgery in the university. On Wednesday morning a discussion on domiciliary treatment will be opened by Sir William Osler. The tuberculosis exhibition will be on view during the conference at the Town Hall, and in a museum at the School of Medicine will be exhibited specimens indicating the effect of tuberculosis on human beings and animals. A meeting under the auspices of the Tuberculosis Society will be held in the Town Hall at 7.45 p.m. on Wednesday, July 8th. A discussion on the future of the tuberculosis service will be opened by the President, Dr. Halliday Sutherland. Tuberculosis officers and practitioners specially interested in tuberculosis are invited to attend with a view to joining the society.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

TREATMENT OF TUBERCULOSIS.

LAST week a temporary building, which is to be used as a central dispensary for the treatment of tuberculosis patients from the County of Dublin, was formally opened in the grounds adjoining the Meath Hospital. A more substantial and commodious building is in course of erection. The Committee has arranged for the use of two small wards in the Meath Hospital for the detention of patients under observation. The City Corporation now required the Crooksling Sanatorium altogether for the city patients. From a return of cases dealt with in County Dublin from the appointment of the Committee (July, 1912) up to the end of the last completed Insurance Act period (January 11th, 1914) it appears that 317 persons were recommended by the Committee for sanatorium benefit; 137 male and 75 female insured persons, and 32 male and 72 female dependants on insured persons. Treatment was accepted and received by 141 male and 99 female patients suffering from pulmonary tuberculosis, and by 19 males and 23 female patients suffering from other forms of tuberculous disease. The result of the treatment in the case of patients whose treatment terminated prior to January 11th last, or who had since completed treatment for which they had been recommended before that date, was as follows: Condition on discharge—Fit for work 91, improved 60, not improved 41, worse 6, discharged for breach of rules or left contrary to medical advice 34, died 28. In the case of 77 persons discharged as "fit for work" or "improved," who were among those treated in the earlier operations of the Committee, and who had been kept under observation by the Committee, the following results were recorded: Improvement maintained 43, unimproved 14, returned for treatment 17, died 3. Since January 11th 122 applicants had been recommended for sanatorium benefit. Sir William J. Thompson, Registrar-General, said that experience taught that the great difficulties were the treatment of patients who were in an advanced stage and the discovery of incipient cases. The results of the sanatorium portion of the Act would depend largely upon getting the patients in the early stages of the disease. He felt that the co-operation of the Meath Hospital with the work of this dispensary would be all to the good.

At the last meeting of the Athy Board of Guardians a circular, received by the county council from the Local Government Board, was read. It referred to the urgent necessity of making provision for the proper isolation of advanced cases of tuberculosis, and suggested that the

union fever hospitals in the county should be transferred to the district councils for isolation purposes. Notice of motion was given to consider the matter. The Enniscorthy Board of Guardians have handed over the fever hospitals at Newtownbarry and Oulart to the district council to be used as sanatoriums for the treatment of tuberculosis under the Insurance Act.

St. John Ambulance Brigade.

The St. John Ambulance Brigade annual competitions for the Dublin Challenge Cups and the Irish Women's Ambulance Challenge Cup were held in Lord Iveagh's gardens, Dublin, last week, when the Chief Commissioner of the Brigade, Colonel Sir James R. Andrew Clarke, Bart., C.B., made the annual inspection. There was a large attendance. The members of the brigade, along with the nursing divisions, number about 300 in Ireland. Weekly classes are held for brigade members, including those of the nursing divisions, composed of women, who have the additional advantage of a month's spare time free training at the Mater Hospital. There are fourteen divisions of the brigade in Ireland, including nursing divisions. Accompanying the Chief Commissioner was Mr. Darvil-Smith, secretary, and Assistant-Commissioner Dr. Lumsden, who is in charge of the Irish branch of the brigade. The Dublin Ambulance Challenge Cup, the gift of Lord Iveagh, was again won by the holders, St. James's Gate B. Team. The Irish Women's Challenge Cup was won by the Alexandra College Team. After the competitions were concluded there was a march past to music. Colonel Sir James R. Andrew Clarke, in an encouraging address, after presenting the prizes, urged the members of the brigade to use every endeavour to make and keep themselves efficient and present themselves for examination. The minimum of twelve attendances during the year was the practical means by which the efficiency of the brigade was maintained. He congratulated the Irish contingent on its work.

Individualization in the Treatment of the Insane.

Dr. Graham, the resident medical superintendent, has issued the eighty-fourth annual report of the Belfast District Lunatic Asylum. He once more reviews in a popular way the causation of insanity and the necessity for public education and for such measures as the Mental Deficiency Act; and he is hopeful as to the benefit ultimately to be derived from the study of eugenics, which is showing the necessity for effort to obtain reliable knowledge and to awaken and enlighten the public conscience. He also advocates the establishment of psychopathic wards where the general practitioner could send patients for observation without the necessity for certification, so that remedial measures could be brought to bear at the earliest possible moment. It will take time for the reforms already accomplished to bear their full fruit, but some betterment, he says, is already to be seen. More than two-thirds of the patients have been transferred to Purdysburn Asylum and some 472 are in the Grosvenor Road buildings; the villa system is in full operation in the former, and more individualism is possible among the patients; they are also brought more in direct contact with the elemental aspects of Nature, and the impalpable but very real beneficial effect of such surroundings is being experienced daily. The expenditure amounts only to £21 per annum for each patient, and of this £11 is chargeable to the city rates. Dr. Graham refers to the many excellent qualities of Dr. Patrick, the senior assistant, who had been appointed resident medical superintendent of the Omagh District Asylum. The report ends with the inspector's memorandum, which refers with approval to the principle of individualism which has been established in the villa system, to the general health of the patients, and to the low mortality and high recovery-rate.

Golden Jubilee, Linden Convalescent Home.

Last week the golden jubilee of the Linden Convalescent Home was celebrated at Blackrock, co. Dublin. The home is under the Sisters of Charity, and since its foundation has been much improved. It consists of a handsome, well-appointed house, situate in eight acres of ground; during the past year no fewer than 1,447 patients were treated in the institution, which is non-sectarian. When first established as a home in connexion with St. Vincent's Hospital, it was intended for only 20 patients, but since that time it has been greatly enlarged and is now capable of accommodating 70 convalescents, who come from all the hospitals in Dublin, and indeed from all parts of Ireland. Dr. Wallace Boyce, M.O.H. Blackrock, who is temporarily acting as medical officer to the home, and the Right Hon. Michael Cox, M.D., surgeon to St. Vincent's Hospital, both spoke in the highest terms of the good work done by the institution.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Complimentary Dinner to Dr. Brownlee.

Dr. John Brownlee was on June 26th entertained at a complimentary dinner in Glasgow on the occasion of his retirement from the superintendentship of Ruchill Fever Hospital to take up the duties of statistician to the Medical Research Committee in London. There was a representative company of the medical profession in Glasgow. Professor Gibson, in submitting the toast of the evening, said that he, with the knowledge he had of Dr. Brownlee's familiarity with statistical methods, from the knowledge he possessed of the medical facts upon which these statistics were based, would accept without question any statistical results that came forth from the office under Dr. Brownlee's signature. He hoped that a new era of statistical study was beginning. In replying, Dr. Brownlee said he had been for fourteen years a superintendent of hospitals in Glasgow, and believed that the next great advance in medicine must come from fever hospitals. The great bulk, practically, of the scientific work which had been done during the last twenty years in medicine had been done from the point of view of infectious disease. The fever hospitals of the country should realize that advance was to come from them, and the corporations of the country must realize the fact. He had received every consideration from the Corporation of Glasgow; and the Ruchill Hospital possessed an equipment which no other fever hospital in the country had. He had no doubt that the committee in Glasgow would realize that, as it must supply laboratories, it must also supply sufficient men.

The Safeguarding of Edinburgh's Milk Supply.

In the Medical Officer of Health's Report of the City of Edinburgh, to which reference was made last week (p. 1428), a good deal of space is given to the measures which are being taken to ensure a clean and good milk supply. It may be said that from the cow to the consumer's hands the milk is under a certain degree of supervision; there are weak links in the chain of observation, it is true, but the fact remains that the supply of this extremely important article of food is much more fully under control than it was a few years ago. The supervision begins at the byres, and this is perhaps the weakest part of the scheme, for, whilst the cow byres within the city, which number sixty-four and contain more than 2,000 cows, are well watched over, those in the surrounding districts in Midlothian, not to speak of more distant sources of supply in Linlithgow, Dumfries, and Lanarkshire, cannot, of course, be so rigorously looked into. With regard to the city cow byres, there is supervision of both the animals and the premises. There is systematic visitation every four or five weeks by a veterinary inspector, who examines every cow and the condition of the byre. When tuberculosis is suspected, a sample of the milk or expectorate is obtained, and is examined bacteriologically. In 1913 this examination was carried out in 150 cases, with the result that twenty-seven cows were found affected, and were in consequence removed from the byres. There is also frequent inspection of every dairy shop within the city, special attention being paid to the manner in which the milk is stored. There remains, however, the difficult matter of the supplies of milk sent in from outside the city. At present the inspectors have no means of getting at the cows from which the supply comes—in far-off Dumfriesshire, for instance. There are legal powers, however, by which means might be forthcoming. Some years ago (1891) the local authority obtained powers under a Police Act for certain specified officers to visit and inspect premises and animals wherever situated from which a supply of milk was sent to the city,

and Dr. Maxwell Williamson thinks that the time has come when the section in the Act referred to should be put in force, even although this would entail the appointment of one or two additional veterinary inspectors, whose business it would be to devote their whole time to the systematic and periodical visitation of the country premises from which the milk comes and of the cows which supply it. Meantime, the city inspector does the next best thing: he visits the stations, examines the milk vessels in which the supplies arrive, takes samples for bacteriological examination both from the large vats arriving by train and also from the supplies driven into the city by carts, and he takes steps when this examination gives warning of danger to have the particular cow identified and dealt with in whatever part of the country it may be situated. This is good in its way, but it is a delayed method of reaching what is wrong, and much mischief may already have been inflicted. Dr. Maxwell Williamson some time ago made a representation to the local authority suggesting an alteration in the Dairy Regulations which would meet the difficulty arising in connexion with the milk from outside sources; he repeats the suggestion now. It is as follows: That Regulation No. 12 should read:

Every cowkeeper, dairyman, or purveyor of milk *in or beyond* the city shall cause all barrels, butts, cans, or other vessels of whatever kind used to convey, store, or distribute milk, or which contain milk for sale, either wholesale or by retail, and all bungs, bung cloths, lids, straining cloths, and other utensils, to be scalded with boiling water or steam under pressure, immediately *before and after use*, and thereafter to be thoroughly dripped. No person shall employ or allow any boiler, tank, steam chest, or other receptacle used for scalding or washing such utensils and vessels to be employed for any other purpose.

The medical officer also suggests another regulation (No. 13) to follow the above:

Every cowkeeper, dairyman, or purveyor of milk who sends milk to the city, although resident beyond its boundaries, shall cause all barrels, butts, cans, or other vessels of whatever kind used to convey such milk, to be properly secured by means of padlock, seal, or by such other means as will prevent the opening of such vessel during the course of transit.

He also points out that the Local Government Board is now making suggestions similar to these which he submitted in December last. Certainly if veterinary inspectors cannot yet be obtained to make visitations to the byres in the country districts from which the milk comes, Dr. Williamson's less radical changes as shown in the above regulations (Nos. 12 and 13) might very profitably be adopted. Two interesting appendices to the medical officer's report are concerned with the prosecutions for adulterating milk under the Sale of Food and Drugs Act, and with the visitations of the byres and dairies and the resulting withdrawals of licences, etc. In all, 1,022 samples of foodstuffs (of which the great majority were samples of cream and milk) were analysed; there were twenty-five convictions (all in connexion with milk), and £95 in fines were paid. Dr. Williamson states that the invariable practice was to allow "the appeal to the cow," that is, before any proceedings were taken, the result of the city analyst's certificate was communicated to the person in default, and the offer made to visit the byre premises, superintend the milking operations, and take a sample from the mixed milk of the whole herd, on the distinct understanding that if this should, on analysis, show a result approximate to the sample in question, then no prosecution would follow. "It is highly significant," adds Dr. Williamson, "that refusal to entertain this offer was met with in practically every case, the excuses advanced in support of this attitude being of the flimsiest nature."

THE TREATMENT OF PULMONARY TUBERCULOSIS.

Dr. Maclean, Superintendent of the Seaforth Sanatorium, Maryburgh, which was built and endowed by Colonel Stewart Mackenzie, of Seaforth, and Mrs. Stewart Mackenzie, in his annual report, refers to the limited usefulness of any single institution, where circumstances result in the treatment in one building of all types of cases, from the very first cases to third stage cases, almost moribund. Owing to the generosity of the founders and managers, the effort has been made, and is continued, to give treatment to all cases recommended for institutional treatment, but, as the Seaforth Sanatorium is practically the only building for the segregation of tuberculous cases in Ross, the great majority of cases admitted have no business whatever in a sanatorium, though very much in need of treatment. Many of them, properly supervised, would do equally well with domiciliary treatment, and many could be only adequately treated in a hospital. An experience of six years has convinced Dr. Maclean of the need of a complete scheme for the treatment of phthisis, and that if any one kind of treatment should not merely show to advantage, but give its legitimate amount of benefit to the patients, there must be a complete system, properly elaborated and conducted in such a way as to give a complete co-ordination dealing with cases of consumption in all conditions and stages. Following the official classification of the disease, out of 52 patients, only 15 were in the first and second stages, which mainly expected to benefit in a sanatorium. Of these 15, only 1 died, while the 14 are now doing work of one kind or another. Of the remainder, over 25 are now dead and 4 died within a week of being sent to the sanatorium.

Correspondence.

REPORT OF THE RADIUM INSTITUTE, LONDON.

SIR,—Pressure of work has prevented us from replying to Mr. Alton's letter on use of capillary glass emanation tubes.[1]

Mr. Alton contradicts himself. In his statement in the report of the Radium Institute for 1913 he describes the capillary tube as "the latest achievement." He now says they were described in the previous report of the Radium Institute—that for 1912.

Upon looking up this report we find the "capillary" tubes there referred to are described as filled with radium sulphate "closely packed." He says, "Further, on account of their small size (they vary from 2 to 4 cm. long, and are no larger than 3 mm. in diameter), they can often be employed in quite small cavities." This is plainly quite another thing to the tubes we describe, and Mr. Alton's claim seems simply based on his peculiar use of the term "capillary." The tubes we use could not be packed with solid radium sulphate by any ingenuity.

Mr. Alton discourteously infers that we actually saw tubes like our own—or apparatus for making the same—in the Radium Institute. We saw neither the one nor the other. In point of fact, no apparatus beyond the gas flame is required in order to make the tubes. It is really difficult to understand what sort of apparatus Mr. Alton can refer to.

Finally, Mr. Alton refers to a lecture by Mr. A. Hayward Pinch before the Medical Society of London on March 9th. Mr. Alton says the use of "platinum needles" was fully discussed on this occasion. As reported in this JOURNAL (March 21st), Mr. Pinch says, "wherever it is possible to bury the tube in a growth to be treated this should be done," and states his preference for a screen of 1 mm. of silver. The word "needle" appears nowhere, either in the report of the lecture or in the subsequent discussion. The technique that is to be inferred, in fact, is quite different in principle from that which we employ, as will be seen in a paper by one of us, which we hope will shortly appear in this JOURNAL.

We have every reason to hope and believe that the method which we have described of securing increased uniformity of illumination by the simultaneous insertion of many radio-active needles, each carrying a very small charge, will, in addition to minimizing the loss due to screening, prove a real advance in the therapeutic application of radio-active substances. No previous record of this method has come to our notice. In its technique the use of capillary tubes, small enough to fit within fine exploring needles, is necessitated—and so far as we are aware, for the first time necessitated—in radio-active therapeutics.—We are, etc.,

J. JOLY.
WALTER C. STEVENSON.

Dublin, June 25th.

MORAL INSANITY.

SIR,—The inquiry made on this subject in your issue of June 20th is one which all who have to do with the treatment of mental disorders have been making for years.

[1] BRITISH MEDICAL JOURNAL, June 13th, p. 1329.

Dr. Helen Boyle read a very able paper at the annual meeting of the Medico-Psychological Society on May 19th, bearing on several aspects of the treatment of borderland cases, the discussion of which opened up the vexed question of certification.

The voluntary boarder system breaks down where it is most required—that is, in the great majority of incipient cases who do not recognize their own mental condition, and cannot be persuaded that treatment is necessary; the case in point would be very unlikely to place himself under any treatment that would restrain his actions and protect him from himself. The idea that a court of law should impose an indeterminate sentence upon the man is out of the question and unheard of. If he is insane, let him be treated as such, and not punished by the law.

I cannot see where the difficulty of certifying him comes in; it is said that his mind was affected, and that he was morally insane; and he must have been certified to be admitted to an asylum as stated. If, therefore, after his discharge he again exhibits the same symptoms on which he was originally certified, how can he be said to be uncertifiable? I take great exception to the word "uncertifiable"; it is very misleading, and often a confession of inability on the part of the would-be certifier to elicit mental symptoms that are undoubtedly present.

There is a great deal of nonsense talked about certification; the very word is uttered with bated breath, as if it was a death sentence, whereas in practice it is often simply an aid to treatment; there is no reason why the patient should even know of its existence; it will disappear when its purpose has been served, and the stigma is greatly exaggerated. I do not mean to infer that all cases exhibiting mental symptoms should be certified; on the contrary, I maintain that there are many cases of pronounced insanity in which it may be (and often is) inexpedient and unnecessary to certify; and there are others with very slight, and, may be, temporary mental symptoms where certification is not only expedient, but necessary for the safety and proper treatment of the patient.—I am, etc.,

Lancashire, June 24th. CHARLES T. STREET.

DENTAL SEPSIS.

SIR,—As my practice includes a large number of domestic servants suffering from dental sepsis, I had the following leaflet printed for two reasons:

First, the patient is often nervous in the consulting room, and remembers very vaguely what is said to her; the pamphlet she takes home and reads at leisure. Secondly, much wearisome repetition is spared and considerable time is saved.

I have found the scheme useful, and others may care to adopt it.—I am, etc.,

Northwood, June 5th. O. HILDESHEIM.

DECAYED TEETH ARE DANGEROUS.

Many people don't understand this because the results come on very slowly and it is not easy to see how the bad teeth cause them.

Toothache. Some people with bad teeth never have toothache. Your health suffers just as much from bad teeth whether they ache or not.

What are the Dangers? The chief one is that every time you swallow you take into your body some poison from the bad teeth. *It is just as if you always carried a bit of bad meat about in your mouth.*

The other danger is that you cannot chew thoroughly. So you avoid wholesome food, such as meat and crusts and apples. That is because your gums are tender. People with no teeth can chew with their gums fairly well.

What are the results? Indigestion in one form or another (pain after food, flatulence, constipation, bilious attacks) and Anaemia are two of the most common results. Often there are others such as Neuralgia, Boils, Sore Throats.

Why do you put off going to the Dentist? Either the expense or fear; fear of pain, or fear of gas, or fear of looking ugly; or you are afraid you won't be able to eat properly without teeth.

Gas given by a properly trained person is safer than a railway journey.

Expense is greater the longer you leave it. Doctors' fees as well as dentists' fees, loss of employment through ill health, etc. *It is far more healthy to have no teeth than to have bad ones.* So have the bad ones out now and get the new ones when you can afford it.

MURMURS OF DILATED HEARTS AND THEIR EXPLANATION.

SIR,—Dr. Samuel West, in a communication published in the BRITISH MEDICAL JOURNAL of June 20th, has called attention to the murmurs he has observed in dilated hearts, which are peculiar to the dilated condition. These, he believes, must be due to "eddies set up within the dilated cavities."

To produce such eddies, it seems to me, it is almost necessary to suppose that something of the nature of fibrillation takes place in the ventricular walls, so that the blood becomes locally disturbed by local contraction upon it. One would imagine, however, that the ventricle must be in a state of serious breakdown, analogous to the auricle under fibrillar contraction, before such would occur, and not merely dilated.

It is *a priori* not unlikely that a dilated ventricle having to expel its contents, or a portion of them, through an aortic orifice of fixed dimensions, might produce a murmur analogous to that produced by an undilated ventricle through a stenosed orifice. The relative sizes of orifice and ventricular chamber having varied in either case, the conditions tending to produce a murmur are similar; except that the orifice being undamaged in cases of simple ventricular dilatation, the murmur is more likely to be soft and blowing, as heard by Dr. Samuel West, than harsh and distinct, as in stenosis. The probable distribution of such a murmur does not seem to correspond, however, with that heard by Dr. West.

It should always be remembered in considering these murmurs, that the aortic orifice does not occupy a fixed position during the heart beat. When the aortic valves open a continuous column of blood fills the aorta and ventricle. The pressure of the end of this column on, or near, the apex of the heart keeps it down, so that when the ventricle contracts it is not the apex which goes up, but the base which comes down. Needles plunged perpendicularly through the body wall of an animal into the apex and base of the heart respectively, show that the apex remains fixed, while the base approaches it during systole. In other words, the pull of the contracting ventricle makes the aorta elongate. It is pulled some distance over the blood in the ventricle, like the finger of a glove. Space is found in the aorta for the ventricular blood by the aorta dilating, and by the aorta lengthening. As the circular dilatation recoils it drives on a wave towards the remote arteries, called the pulse. When the ventricle relaxes and allows the aorta to recoil longitudinally, this recoil, like a catapult, drives on a second wave called the dicrotic. To this method of origin of the dicrotic wave I long since called attention in the BRITISH MEDICAL JOURNAL and elsewhere.

Now when the ventricle dilates, it is probable that this up and down movement of the aortic orifice is disturbed, thus introducing an additional factor into the altered conditions under which blood is leaving the ventricle.

The whole problem is very difficult, but Dr. Samuel West's lucid record of his clinical observations is a good start towards its investigation.—I am, etc.

Clyst St. George, Devon, June 27th. D. W. SAMWAYS.

THE BRITISH MEDICAL ASSOCIATION AND THE MEDICAL PROFESSION.

SIR,—In my enforced leisure I have read with avidity and interest the series of articles headed "The British Medical Association and the Medical Profession," and as they are a lucid statement of facts, I hail them with delight, as "The truth should always be set upon a hill."

What "I hae ma doots" about, however, is, even though we admit the work done by the British Medical Association, has the status of the profession as a whole advanced?

I read that a deputation of the Society of Medical Officers of Health told the Chancellor of the Exchequer recently in public that medical officers of health blue-pencilled their reports, otherwise they might be dismissed. Surely this is much worse than signing a false certificate, as the latter only involves money, whereas the former may lead to disaster, even death, for the community! It was no doubt a useful argument, and may go a long way to obtain what they sought, but oh! the price. They should

read what was said by a judge the other day when passing sentence on a member of another profession.

I read that the drug bill in certain areas is too high, and an order goes forth that prescriptions must be curtailed—hey, presto! the thing is done.

I read that referees are being appointed, as the certificates of the ordinary medical attendant are apt to be incorrect, owing to considerations of practice. I remember waxing very wrath with a colleague on an education committee who stated that he could get a doctor to certify anything, but only two days afterwards, in a crowded railway carriage, a professional brother stated that he dare not give an honest certificate in a certain case, as it would ruin his practice in that neighbourhood.

I read—but need I add to the list we all know so well?

I am not writing this to pose as did the pharisee of old, but because I am not satisfied that the disease from which the body politic of the profession is suffering has been correctly diagnosed. In my opinion we are only treating symptoms. We have lost the confidence of the man in the street by our very unprofessional conduct, and the grave harm the Insurance Act is likely to do is that it will emphasize our faults by bringing them more into the limelight. We can only regain that confidence by returning to the paths of rectitude and straightforwardness whatever be the consequences. Let us put aside our jealousies, our anxiety for this world's goods, our tendency to laud ourselves at the expense of our professional brethren, and all the other sins that do so easily beset us, and let us press forward, vying with each other in brotherly love, gentlemanly conduct, strict professional etiquette, and by a long pull, and a strong pull, and a pull all together place the profession in the niche it should occupy.

Remember the chain is only as strong as its weakest link, and that if we do not hang together we shall separately, as unless something radical is done soon, the forty millions, losing their patience, will rise in their wrath and establish a national service.

I should not like my swan song to be—

> Do I sleep? do I dream?
> Or is visions about?
> Is the medical profession a failure?
> Or is the Caucasian played out?

—I am, etc.,

Castle Douglas, June 29th. J. CROMIE.

SIR,—I am a member of the British Medical Association; I am also a consultant on the staff of a hospital. I have read Article V on hospital abuse in last week's JOURNAL. I am reminded of some facts which help to show why the efforts of the Association *in re* hospital abuse have not met with more success than is reported in the said article. For the purpose of checking hospital abuse, whether from the point of view of a patient's economic status or of his complaint, it is often easy to obtain the name of the private doctor, and it involves only a little trouble to communicate with that doctor. For some time I carried out this plan whenever there were suitable indications. So rarely did I receive in return any assistance, or even acknowledgement, that I gave up the experiment. Again, a large number of patients when they come to the hospital present a doctor's letter or visiting card. Some of these request, others require an answer. I cause a note to be sent in all cases. In this case also the acknowledgement is so scanty that further experiment seems useless. The prospect of using out-patient departments for purely consultative purposes only does not seem very bright. It should not be difficult to organize some degree of insurance against hospital abuse on the lines of my experiments, but my experience is not encouraging.—I am, etc.,

June 30th. F.R.C.S.

THE SPECIAL FUND: TRADE UNION OR TRUST?

SIR,—The letters of Drs. Wallace Henry, Garstang, and Raiment in the JOURNAL of June 27th have effectually squashed all Dr. Fothergill's arguments and exposed the futility of his trust scheme. There are some very powerful arguments in favour of trade union methods which they have not used, which it may be well to set out.

1. In Germany the profession was beaten again and again, until its scientific organization (which had been trying to fight) allied itself with a trade union, and handed over to its trade union department the whole of its offensive and defensive policy. From that day the profession in Germany has never lost ground—has hardly, in fact, lost a single point for which it has fought.

2. That only by the formation of trade unions have the working men of this and every other civilized country been able to obtain for themselves decent conditions under which to work.

Unless trade unions are the best offensive and defensive organizations, the working men all over the world who belong to them are fools for their pains. Then there are strong personal financial arguments in favour of a trade union which will appeal to many men.

A trade union such as the National Medical Guild can offer, as the Guild does now, reduced premiums on various insurances—motor, fire, accident, and life. If the Altrincham motion is passed at Aberdeen, and the National Medical Guild affiliated with the British Medical Association, the latter could well afford to reduce its annual subscription to £1 1s. to members of the Guild, as is done by the Royal Automobile Club for its country members.

Then the National Medical Guild, with the increased membership it would obtain (it could even do it now), could act as its own insurer by underwriting the risks. It already offers all medical defence. It will soon be able to invite the medical defence associations to join it, and so make use of their excellently efficient staffs. It could run a medical agency for its members, thus saving them great expense.

For the benefit of those men who look largely at the financial side of the question, it may be well to put this in a tabular form.

Association plus Trust.

	£ s. d.
Subscription to Association	2 2 0
Usual subscription for medical defence ...	0 10 6
Against costs or damages	0 7 6
Calls to be made for Trust Fund, say £2 a year	2 0 0
	5 0 0

Association plus Trade Union.

	£ s. d.
Subscription to Association	2 2 0
Trade Union (National Medical Guild) ...	1 1 0
Calls at £2 per year	2 0 0
	5 3 0

From which should be deducted, if the subscription to the trade union be, as suggested, merged in that to the Association, £1 1s. together with an average saving on motor car, fire, accident and sickness, and new life policies of at least 15 per cent. on an average outlay of, say, £20 a year, £3. I have put both premiums and savings at a low rate, though the savings would be nearer 25 per cent. when the trade union became its own insurer.

	£ s. d.
Total cost to members	5 3 0
Saving on subscription 1 1 0	
,, premiums 3 0 0	
	4 1 0
Actual cost to members including calls	1 2 0

Let me also put in the same way the non-financial advantages offered by the Association *plus* trust, and the Association *plus* trade union.

Association plus Trust.	*Association plus Trade Union.*
1. A fund, not yet arranged for, and not yet collected, which when collected would be liable to attachment and so would be absolutely useless.	1. A fund, not yet collected, but with the machinery for collecting already in order; a fund which could be used for the purposes for which it was raised, and which could not be interfered with by any legal process on the part of our opponents.
2. A fighting force already discredited in the eyes of the public and the profession in general by its failure in the last fight, and its failure after a year and a half to reorganize itself for future fights.	2. A fighting force with all the *élan* of a new organization, and with the prestige in the eyes of the public that has been gained by the successful fights of trade unions in the past.
3. An organization overweighted by the attempt to combine a scientific body with a forward movement, utilizing the same staff for both purposes.	3. An organization formed solely and wholly for fighting, hampered by no other considerations, and with a staff enabled to devote its entire time and energy to offence and defence, and to those points alone.

Dr. Tomkins shows the absolute futility of Dr. Courtenay Lord's suggestion of a referendum. Until

the profession generally is thoroughly educated in the ideals of trade unionism and its possibilities, a referendum would be absolutely unfair. A large number of men know nothing of and have thought nothing of a trade union, and if asked to vote now would vote blindly against anything with such a low down name. Let Dr. Courtenay Lord wait until there is a general knowledge of medical trade unionism and I will welcome his referendum.

I am afraid that the letters of Dr. Fothergill and Dr. Courtenay Lord suggest between them what in the House of Commons would be called a "blocking motion," and what the plain man would call a "red herring." Representatives at the forthcoming meeting must be on their guard against such tactics.—I am, etc.,

Helston, Cornwall, June 26th. MARK TAYLOR, M.D.

SIR,—Dr. Garstang misinterprets the meaning of my communication; but being a thought reader he correctly interprets what was at the back of my head when writing. The question was intended merely to refute the suggestion in a question which Dr. Fothergill asked in a letter which appeared under the heading, "The Special Fund: Trade Union or Trust." Therefore the subject was clear, and it appeared to me that this question succinctly summed up the position. It appeared to me that this was the thin edge of the wedge. I read Dr. Henry's letter in the JOURNAL of June 27th. He says *re* Dr. Fothergill's questions:

"The interesting series of questions which he (Dr. Fothergill) propounds might be of interest were it proposed to turn the whole profession into a trade union *at once;* that is not *at the present time* a question of practical medical politics, however desirable in my opinion such a course would be." The italics are my own.

Some twelve months ago I was conversing with an ardent trade union member of the profession, who remarked: "I should like to see the Medical Association a trade union association because then we could compel all its members to toe the line." Naturally this threw a little light upon the aims of this trade unionist—his ideal; but no trade union association could possibly make the profession "toe the line," because there will always be members outside the Association. It appears to me that Dr. Fothergill is wise in taking a wider view of this movement than the majority of your correspondents.—I am, etc.,

Bedford, June 27th. S. J. ROSS.

CENTRAL COUNCIL ELECTIONS, 1914–15.

SIR,—I have all along held that the disappointments the medical profession have suffered have been due to the *active* interest of the members of the British Medical Association being conspicuous by its absence—for example, only 5 per cent. to 10 per cent. attendance at meetings, many of those present even not having read the subject up before the meeting; abstention from answering queries sent from head office; neglect of voting for elections; neglect to send their opinions to their representatives on the central committees or head office, etc.

The Council is generally blamed, but they and the men on the committees I have found are energetic, painstaking, and anxious to do all they can for the bulk of the profession; they need the active support and personal interest of all the members.

The elections just passed prove my contention to a nicety. Out of twenty areas, only one (Metropolitan Counties Branch) showed more than one nomination, and even here only 991 took the trouble to vote; in the case of one candidate not two-thirds of those who promised to give first place remembered to do so (that is, they forgot all about the election?). There are nearly 3,000 voters in the Metropolitan Counties Branch.

So that, though many notices of the probable difficulties shortly to be faced have been given in the BRITISH MEDICAL JOURNAL, only 991 out of the whole members of the British Medical Association have voted. Either the rest must be quite content with the men on the Council (which appears unlikely in the face of letters to the JOURNAL during the year), or even those complaining have been too apathetic, when the chance arrived to nominate fresh men, to take advantage of it.

No real advance in the unity or strength of the profession as a whole can be made till all the individual members of it (not only of British Medical Association) take a personal active interest in the situations as they arise.

In my opinion, so often expressed, the remedy is whole-time medical organizers.—I am, etc.,

HARDING H. TOMKINS,
Secretary of the Local Medical and
London, N.E., June 20th. Panel Committees, Essex.

A DISCLAIMER.

SIR,—In the course of a speech made by me at Leeds, in November last, and in the press correspondence which ensued thereon in which I dealt with the Insurance Act and the method in which it was being carried out by the medical profession, I felt it my duty to call attention to the conduct of certain doctors in Yorkshire.

It has been pointed out to me that the words I used have been interpreted by certain persons as casting a reflection upon Dr. Walker and Dr. Erhardt, of Crosshills, near Keighley, and I willingly take this opportunity of stating that I did not make, and never intended to make, any imputation upon either of these gentlemen.

I would further wish to state that there is, so far as I am aware, no cause for complaint against either of these two gentlemen, who are carrying out the Act loyally and honestly, and I would desire to express sincere regret that any words of mine could possibly have been thought to be applicable to them.—I am, etc.,

F. HANDEL BOOTH,
Chairman of the Council of the Faculty of Insurance.
London, W.C., July 1st.

ROYAL MEDICAL BENEVOLENT FUND.

SIR,—We do not think it worth while to reply at length to the letter of Messrs. Beale and Co. which appears in your issue of June 27th. They make no further point in it except that Mr. Crosse's proof of evidence was not sent to Sir John Tweedy and Dr. West by order of the Council of Epsom College until a month after Mr. Justice Joyce had delivered judgement. This appears to us immaterial, as Messrs. Beale and Co., who were acting as solicitors to the Fund, admit *they* had seen it. The reason that the Council of Epsom College, at its first meeting after the delivery of the judgement, directed that copies of Mr. Crosse's proof and of the judge's remark as to the impropriety of either party contesting the will under given circumstances, should be forwarded to the officers of the Fund, was to convey to them the impression of the Council that the legacy ought to be handed over to the charity to which the testatrix intended to give it. As a matter of fact, copies of the proof were delivered simultaneously during the hearing of the case to the legal advisers of both parties. Counsel on behalf of the Fund objected to the most important part of this evidence, and the objection was allowed by the judge. This evidence, which Mr. Crosse was ready to give to the court, should have prevented the Fund, in our opinion, from further contesting the will.

Throughout the several columns of the BRITISH MEDICAL JOURNAL of June 13th and 27th occupied by the representatives of the Royal Medical Benevolent Fund in their effort to defend the retention of the legacy by the Fund, there is complete suppression of the facts mentioned by us in your issue of June 20th—namely, that in 1904 Miss Glenny pointed out that the description "British Medical Benevolent Fund" used in her will of 1902 was wrong, and that in 1905 by a codicil she revoked the legacy to the "British Medical Benevolent Fund" and "in lieu thereof" bequeathed the same amount to the "Royal Medical Benevolent Fund." Miss Glenny's last will was executed five years before, and her death took place six months before the British Medical Benevolent Fund changed its name to "Royal," whereas for many years she and her family had subscribed to the Royal Medical Benevolent College.

Of course, if the evidence Mr. Crosse was prepared to give is ignored, there is nothing to point certainly to Epsom College as the intended beneficiary. We submit, however, that his evidence, though inadmissible in law, ought, in fairness, to be received without question. If it were, we still believe that no impartial and competent person could fail to come to the conclusion that Miss Glenny meant the legacy to go to Epsom College. That

Mr. Crosse himself thinks so is certain, for the following appears in his proof:

After seeing this evidence (namely, the books at Epsom College, which showed that the Testatrix and her family had for many years subscribed to the College) I and my Co-Executors were satisfied that Epsom College was entitled to the legacy bequeathed by the Testatrix, that being the institution she intended to benefit.

We do not propose to trouble you further with regard to a matter on which we feel there can be no doubt, and which has already very fully occupied your columns.—We are, etc.,

HENRY MORRIS,
Treasurer.
W. S. CHURCH,
Chairman of the Council.

June 29th.

SIR,—Having read the letters which have appeared in the JOURNAL under the above heading, it is possible to form an unbiassed opinion on the matter under discussion. The following facts appear to have been clearly established.

That £500 was bequeathed by Miss Glenny to a medical charity. In a will dated March 10th, 1902, the money was left to the British Medical Benevolent Fund, 84, Brook Street, Grosvenor Square, W. In a codicil dated 1905 the testatrix revoked the bequest to the British Medical Benevolent Fund, and left a like sum to the Royal Medical Benevolent Fund. In the will dated May, 1907, the same amount is left to a charity again described as the Royal Medical Benevolent Fund.

From the above facts it would appear to any ordinary observer that the testatrix had no intention of leaving the money to the British Medical Benevolent Fund, but to some other charity named in the codicil and subsequent will as the Royal Medical Benevolent Fund. The charity which was named in the will of 1902 was evidently a clerical error.

Mr. Crosse states that he took his instructions down at the dictation of the testatrix, but with regard to this particular bequest he simply wrote down the word "medical" for amplification afterwards. It is quite conceivable that Mr. Crosse left it to his clerk to look up the medical charities, and he fixed on the British Medical Benevolent Fund with its address in Grosvenor Street and this accordingly was entered in the will of 1902. Miss Glenny noticed the mistake, and in the codicil of 1905 revoked her bequest to the British Medical Benevolent Fund. At that date the only Royal Medical Benevolent Fund was the benevolent fund of Epsom College. The Royal Medical Benevolent College—now Epsom College—had received the support of Miss Glenny and her family for many years, and she informed Mr. Crosse that it was her intention to benefit the charity which had been supported by her and her family.

Sir John Tweedy and Dr. Samuel West state in their letter of June 10th that if the will of 1902 had been operative at the time of Miss Glenny's death the legacy would have been paid to the Fund. That is so. But had the will of 1907 become operative prior to 1912, would it have been paid to the Fund then known as the British Medical Benevolent Fund when it was distinctly stated in the codicil of 1905 that the legacy to that Fund was revoked? I trow not.

The Royal Medical Benevolent Fund has legal possession of the legacy. There let it rest. I do not feel it would be right to take any steps, as suggested by Sir James Barr, to compel the Fund to hand the money over to the College. Let those who feel convinced that the legacy was not intended for the Fund and are subscribers to both the Fund and College, withdraw their subscriptions from the former and hand them over to the latter until the amount lost has been made up.—I am, etc.,

Walthamstow, June 28th. STCLAIR B. SHADWELL.

SIR,—I have just returned from a cruise to the North Cape, where happily I was out of reach of even the BRITISH MEDICAL JOURNAL. My letter in your issue of June 6th respecting the legacy of Miss Glenny to the Royal Medical Benevolent Fund seems to have set the cat among the pigeons, as there have been a good many feathers flying about in your subsequent issues. I might now feel content to leave the matter in the hands of Sir Henry Morris and Sir William Church, but there are some observations by Sir John Tweedy, Dr. Samuel West, and Messrs. Beale and Co. which call for a personal rejoinder.

Sir John Tweedy and Dr. West start their letter by stating that mine contains "one fact and many misstatements," but I have again carefully read my letter, and the only inaccuracy which I can find—an inaccuracy which I would have corrected if I had had an opportunity of seeing the proof—is my statement that I had been reading the annual report for 1914 of Epsom College. This should have been 1913; this simple clerical error is corrected by Sir John Tweedy and Dr. Samuel West as follows: "This report has not yet been before the Council of the College, and will not be considered by it until its meeting on June 26th, when it might possibly even be modified." Any tiro could see that it was the report of the council and signed by the Chairman of Council, Sir William Church, for presentation to the annual general meeting of the Governors.

It is very amusing to find these two gentlemen standing on their dignity and informing us that "the Committee of the Fund consists of men of as high standing and reputation as the Council of the College." What has their standing and reputation got to do with the case? It is with facts I wish to deal. To what charity did Miss Glenny intend to leave the £500? The sooner these gentlemen climb down from their exalted perch to the firm foundation of fact the better. I have now had an opportunity of reading the shorthand notes of Messrs. H. H. Tolcher and Co. of the evidence of Mr. Crosse, who made Miss Glenny's wills, and the judgement of Mr. Justice Joyce; also the proof of the evidence which Mr. Crosse was prepared to give if it had not been objected to by counsel for the Royal Medical Benevolent Fund. I am now more convinced than ever that Miss Glenny intended the £500 for the fund of the Royal Medical Benevolent College, and its allocation to the Royal Medical Benevolent Fund may be law, but it is not justice. On a question of equity a lawyer is about the last man I would think of consulting, yet it is behind their lawyers that these exalted personages of the Royal Medical Benevolent Fund screen themselves. How Messrs. Beale and Co. can justify their statement that the inadmissible evidence referred to "was also before the court when the case was heard" is a puzzle to me.

In Miss Glenny's will of 1902 there was a legacy of £500 to the British Medical Benevolent Fund. She afterwards cancelled this legacy, as she told her lawyer that he had made a mistake; that she wished to leave the money to the fund to which she and her family had subscribed for years, but unfortunately the lawyer in drawing up her next will put in Royal Medical Benevolent Fund in place of the fund of the Royal Medical Benevolent College. It is as clear as noonday that she did not intend to benefit the British Medical Benevolent Fund, and there was not then nor for many years afterwards any Royal Medical Benevolent Fund.

Sir John Tweedy and Dr. West tell us that to refund the money to the College "would be to set aside the judgement of the court." Well then, there are plenty of wealthy men on the committee of the Fund; let them pony up the money themselves, smile and look pleasant like any sportsman who had put his money on the wrong horse.—I am, etc.,

Liverpool, June 28th. JAMES BARR.

EVENING DENTISTRY.

SIR,—As a member of the London County Council Education Committee I am constantly coming in contact with both teachers and scholars about to leave school, or just recently gone to work, who are in urgent need of conservative dental treatment. They admit the necessity, but cannot afford to be absent from work.

Are there any dentists on the *Register* who work after 5 o'clock or on Saturday afternoons? There is a great opening for dentists who will work when other people are at leisure. The public is beginning to realize the importance of dental treatment, but it has not realized that prevention is better than cure, and rather than lose work and pay many people prefer to wait till the teeth get bad enough to, in their eyes, justify missing a day's work. When this time is reached there is often no course open to

the dentist but to take out most of the teeth, whereas a timely visit after working hours while stopping was still possible would have saved the necessity for such radical treatment.—I am, etc.,

London, N.W., June 16th. M. SOPHIA JEVONS, M.B., B.S.

DETERIORATION OF DIGITALIS PREPARATIONS.

SIR,—Dr. Symes (BRITISH MEDICAL JOURNAL, June 20th, p. 1343) brings evidence by physiological testing to show that digitalis tinctures are liable to decrease in strength. One of the main conclusions of his paper is that active tinctures deteriorate much more rapidly than weak ones. He finds that in the case of "tinctures initially more than 25 per cent. *above* standard, only half the tinctures he examined after the lapse of one year were within 25 per cent. of standard, and these had lost from 20 to 70 per cent. of their original activity." This to the pharmacist would appear a very marked drop in strength, and it would seem strange that a tincture twelve years old (vide p. 1345) at the time of examination should show a marked drop in strength subsequently during the following year, owing possibly, as he suggests, to "repeated admission of air to the bottles accelerating the deterioration, previously arrested by prolonged non-disturbance."

Arguing on Dr. Symes's findings of a general fall in potency from month to month, one can only imagine that this tincture must have been abnormally, if not impossibly, strong at the outset, especially when one considers that "active tinctures deteriorate more rapidly than weak ones," and the twelve-year-old tincture was decidedly active at that age.

Pharmacists, I have no doubt, are quite prepared to supply tinctures with date of manufacture on the label if necessary, but it must be remembered that digitalis leaves can only be collected during about four months in the year (from now to September), and that the use of stored dried leaves would bring the matter back pretty well *in statu quo*, as many assume marked deterioration in the dried leaf also. If the storage of the dried leaf is to be prohibited, active digitalis tinctures, according to the new findings, would only be obtainable for about six months during the year. As a matter of fact, with regard to making the tincture thrice yearly, as Dr. Symes suggests, I have no doubt the majority of manufacturers make it more often than this.

Mention might, perhaps, have been added of the paper by Halcher and Eggleston (*American Journal of Pharmacy*, May, 1913), who found that the diminution in strength is quite small. They state that digitalis leaves of good quality do not, as a rule, deteriorate, or do so only with extreme slowness—at a rate probably not exceeding 1½ to 2 per cent. per annum. The same holds good, they say, regarding preparations of digitalis containing at least 50 per cent. alcohol (*B.P.* tincture is made with 60 per cent.).

I myself have determined by chemical means a slight general decrease in strength on keeping digitalis tinctures one year, but I have been unable to find the loss of potency so great as Dr. Symes has indicated.

One hesitates to bring up the question of frog variation to confront so extensive a research conducted with every indication of remarkable concordance, but is there not just a possibility that the 1912 frog was less robust and less tolerant than the 1913 descendant so that the latter required a larger M.L.D.—even at exactly the same period of the year? In other words, Is there not a seasonal variation in frogs just as in digitalis leaf? I take it some absolute standard exists to standardize the frogs employed.—I am, etc.,

London, W., June 22nd. W. H. MARTINDALE.

PSYCHO-ANALYSIS.

SIR,—In the JOURNAL for June 27th (p. 1409) the following passage occurs in a review:

> During the last thirty years the use of suggestion in the treatment of disease, either with or more often without hypnotism, has been increasingly employed. It was originated by Breuer, who called the method "Psycho-analysis."

The facts, on the contrary, are that the use of suggestion in the treatment of disease did not originate with Breuer, being in vogue long before his time, that he called the method he originated, which has nothing in common with suggestion, "catharsis," and that the method of "psycho-analysis" was devised by Freud, who gave it this name.

In the preceding number of the JOURNAL a reviewer quotes, without contradicting it, a statement from Dercum's textbook to the effect that Freud ascribes to dreams an important part in the causation of nervous disorders. Freud has never held any such view, and has repeatedly and categorically expressed his opinion that dreams have no function or action whatever except to preserve sleep.

I quote these current examples merely to illustrate the ignorance that prevails concerning the most elementary and easily accessible facts on the subject of psycho-analysis. It is ignorance of this kind that goes far to explain the mediocre value of most criticisms on the subject, and which does not encourage the exponents of psycho-analysis to answer such criticism.—I am, etc.,

London, W., June 26th. ERNEST JONES.

*** The Freudians, having failed to convince the majority of thinking persons, now show a disposition to assume the martyr's crown. "You do not understand," they say; or "We are misunderstood." As a general rule it is safe to conclude that if persons of intelligence do not understand a theory, it is because the theory is founded on confused thinking, and for fine confused feeding there is nothing like a diet of Freudism.

"THEY MANAGE THESE THINGS BETTER IN FRANCE."

SIR,—It may be within the recollection of some of your readers that the campaign of the great Macaura in this country was not only not interfered with, as stated by Mr. Sewill in your issue of June 27th, but actually encouraged in a way that must have given him the greatest satisfaction.

At one of his Albert Hall meetings a military band—I think from one of the Fusilier regiments—was advertised to lend its aid to the great man's demonstrations. Support such as this from the British army may give him hope after the completion of his term in a French gaol to renew his efforts in this country.—I am, etc.,

Warrington, June 28th. J. S. MANSON.

OBITUARY NOTICES.

SIR,—The late Dr. Myrtle, of Harrogate, said that if medical men would take notes and study their own symptoms we would have more chance to make progress in the prevention and treatment of disease; and when I read the obituary notices which appear in the JOURNAL of our fellow members as they fall (many of them in the prime of life), I feel that if some account of their medical history were given, which need not be long, it would add much to the value of such notices. We are anxious to learn what we can from our patients, and in some cases are able to make a *post-mortem* examination; but much more might be learnt when the patients were members of the medical profession. There can be no doubt that clinical observation has been the pioneer in the advances that have, so far, been made in the science and practice of medicine. Antiseptic surgery, or what is sometimes called Listerism, itself was enunciated by Semmelweis in 1846, but it was not till Lister wrote, and taught what *he* had discovered, that the value of the teaching of Semmelweis was appreciated.

I never heard of Semmelweis until Sir William Japp Sinclair published the life of his unfortunate fellow gynaecologist. Had I been taught when a student what Semmelweis had discovered, as I might have been, it might have made me still more cautious in my midwifery practice, and explained all that Lister has taught us as to the healing of wounds.

It is to the medical profession we must look for progress in the treatment and prevention of disease; and having, though too late, learnt the danger that lurks in food, I am glad to see that in the post-graduate course in Edinburgh this year dietetics appears among the subjects to be taught; but why should dietetics be left to the post-graduate course? It ought to be taught not only in the university to medical students, but to every child in our elementary schools, so soon as the profession is at one on

this all-important subject. It might be well if our research scholars had their attention directed to the subject, and gave us the result of their experiments and observations on themselves, for, unless under lock and key, no patient can be trusted when food is the subject of study.—I am, etc.,

Denholm, Hawick, June 24th. JOHN HADDON, M.D.

THE RESPONSIBILITY OF THE SUICIDE.

SIR,—What on earth is one to do with an antagonist like Dr. Leitch? He first paralyses me with an extravagant compliment and then dances round me, brandishing his sporran, or whatever may be the Scottish equivalent of a shillelagh, and invites me to come on. As Dr. Johnson says, Such treatment I did not expect, for I never had a complimentary antagonist before; and, as Mrs. Malaprop says, I am perfectly putrified. Sir, I admit everything. I admit that Dr. Leitch's expectation that I should sooner or later refer to the case of Captain Oates makes that case inapplicable to my argument. I admit that suicide is not suicide if you call it giving life and not taking it. I might have referred to the case of Curtius, but that Dr. Leitch has no doubt expected the reference and so deprived the example of its force. I am powerless, and have no alternative but to yield myself, rescue or no rescue. It is another Bannockburn. *Vae victo!*—I am, etc.,

Parkstone, June 29th. CHAS. A. MERCIER.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Degrees.

THE following degrees have been conferred:

D.M.—H. H. Carleton.
B.M. AND B.CH.—E. W. N. Hobhouse.

Examinations.

The following candidates have been approved at the examinations indicated:

FIRST M.B. (*Organic Chemistry*).—J. P. B. Harold, P. S. Houghton, J. E. B. Morton, M. E. Shaw, G. K. Stone, W. F. Skaite. (*Human Anatomy and Human Physiology*).—C. W. W. Armstrong, G. Cranstoun, J. L. Dunstan, C. K. J. Hamilton, J. F. Haines, R. M. Humphries, R. W. Lush, B. G. von B. Mellé, D. H Skinner, A. E. Thomas, K. F. D. Waters, C. D. Wood.

SECOND M.B. (*Materia Medica and Pharmacology*).—H. E. A. Boldero, C. J. A. Buckell, R. W. J. A. Cushing, S. C. Dyke, H. S. Jeffries, C. P. Sells, C. P. Symonds. (*Pathology*).—A. C. Ballance, H. E. Bamber, J. D. Balt, H. E. A. Boldero, L. S. Brown, C. J. A. Buckell, C. H. Carlton, F. B. Chavasse, G. Cranstoun, A. W. Dennis, S. C. Dyke, K. M. Dyott, O. H. Gotch, C. H. L. Harper, O. G. Parry-Jones, O. B. Pratt, G. P. Selby, S. W. F. Underhill, H. St. H. Vertue, A. L. Watts, H. A. B. Whitelocke.

SECOND M.B. (*Forensic Medicine and Public Health*).—C. H. Carlton, V. T. Ellwood, F. C. Gladstone, C. H. L. Harper, C. W. B. Littlejohn, G. A. Maling, E. E. Mather, O. G. Parry-Jones, M. O. Raven, G. S. Robinson, G. P. Selby.

SECOND M.B. (*Medicine, Surgery, and Midwifery*).—J. C. Davies, C. Dean, A. W. Dennis, C. W. B. Littlejohn, E. E. Mather, H. M. Pope, M. O. Raven, G. P. Selby, A. B. Thompson.

D.P.H. (*Part I*).—F. S. Carson, G. M. Cogwell, H. B. Gibbins, W. H. Hewlett, J. Inkster, C. F. B. Kebbell, F. G. H. Martin, L. M. Mayers, R. S. Miller, H. W. Parnis, W. R. S. Roberts, A. H. Savage. (*Part II*).—N. A. Coward, H. B. Gibbins, W. Gilmour, J. Inkster, F. J. H. Martin, J. Powell, E. L. N. Rhodes, W. R. S. Roberts, A. H. Savage.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examination indicated:

THIRD M.B. (*Part II: Medicine, Pathology, and Pharmacology*).—S. G. Askey, D. C. G. Ballingall, H. A. Bell, W. G. Bigger, P. R. Boswell, E. C. Bradford, H. P. Dawson, E. L. Dobson, A. T. Edwards, W. B. Gordon, H. Hartridge, F. G. Lescher, R. W. Meller, A. B. Pavey-Smith, D. V. Pickering, S. G. Platts, L. C. Rivett, L. E. S. Sharp, A. C. S. Smith, P. Stocks, C. R. A. Thacker.

UNIVERSITY OF LONDON.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

SIR WILMOT HERRINGHAM, Vice-Chancellor of the University of London, distributed the prizes on Monday, June 29th. Mrs. Garrett-Anderson, President of the School, presided.

Mr. Acland, Chairman of Council, in opening the proceedings, said that the school had sustained a severe loss through the death of Miss Cox, who had been Dean for ten years; but that her place had been filled by one well worthy to succeed her. It was perhaps only natural that the Council should consider itself the body which kept the school going; and if there was one member of that body who worked harder than the others it was Miss Brooks, and he was glad to have the opportunity of thanking her for her devotion to the school. The past year had been very successful, and the future looked equally promising. The school at the present moment was developing very fast. A new department for pharmacology was about to be opened; and the school intended to become the largest school of medicine in the University of London.

Sir Wilmot Herringham, in a short address, said that nowadays one heard a great deal about the advance of medicine, but the most remarkable change he had noticed during the course of nearly forty years' practice was the change in the position of the doctors themselves. Not only was the social position of the ordinary medical practitioner greatly improved, but there had been an immense accession of the influence of medicine in the State. No other profession exercised such an immense legitimate influence in legislation as the medical profession. Besides the change in social position, there was a large increase in the number of public employments open to medical men. No one could foretell what would be the outcome of the Insurance Act, but one result of it had been to make doctors, in a certain sense, public officials. There were already a vast number of posts under Government, and there would probably be more, and this fact alone would effect a change in the position of the private practitioner. The increase of specialization had dislocated medicine still further; and it was becoming, particularly in London, as necessary to organize private practice as that in the hospitals. For instance, the present system of nursing institutions was a disgrace to London, and he hoped the time would come when there would be homes where private patients would receive the same amount of care and attention that hospital patients did now. The practice of medicine was very difficult, not so much on the intellectual as on what might be called the emotional side. The successful doctor needed great powers of criticism and great powers of faith, and it was extremely difficult to combine the two. He had to act continually as a sort of magic man in order that his patient might trust him so as to reap the benefit that accrued from faith; and the hardest part of a doctor's work was to make others trust him when he distrusted himself.

UNIVERSITY COLLEGE.

The Committee will shortly proceed to appoint a lecturer and demonstrator in anatomy at a salary of £350. Applications must reach the Secretary of University College on or before July 11th.

UNIVERSITY OF DURHAM.

Degrees.

THE following were among the degrees conferred at a convocation on June 23rd:

M.D.—J. K. J. Haworth, Eva Lumb, R. S. Renton.
M.D. (*for Practitioners of Fifteen Years' Standing*).—W. O. Beddard, W. H. Date, J. Flynn, A. J. Hesterlow, W. M. M. Jackson, J. R. McFerran, E. Maynard, J. J. S. Pillay.
M.S.—J. J. Brown, J. C. Young.
M.B.—C. Armstrong, I. G. Cummings, H. H. Elliot, C. N. Gover, F. W. Harlow, M. H. de J. Harper, C. Jacobs, H. V. Leigh, F. Metcalfe, E. K. Ryan, H. J. Shanley, K. I. S. Smith, J. C. Spence.
B.S.—C. Armstrong, I. G. Cummings, H. H. Elliot, I. D. Evans, C. N. Gover, F. W. Harlow, M. H. de J. Harper, C. Jacobs, H. V. Leigh, F. Metcalfe, H. J. Shanley, K. I. S. Smith, J. C. Spence.
B.HY.—A. H. Wear, S. Worthington.

The following candidates have been approved at the examinations indicated:

SECOND M.B. (*Anatomy and Physiology*).—*W. A. Hewitson, †H. M. Leete, P. V. Anderson, W. Duncan, E. C. Dunlop, M. J. Erdberg, C. G. Irwin, M. C. Joynt, Freda Newman, G. F. Philip, H. I. Sterne Howitt.

THIRD M.B. (*All Subjects*).—†H. Evers, †J. A. Charles, †A. E. Raine, J. F. C. Braine, J. Brumwell, H. C. Broadhurst, G. A. Clark, H. G. B. Dove, J. Horsley, H. G. Sparrow. (*Materia Medica, Pharmacology and Pharmacy, Public Health, Medical Jurisprudence*).—Mary R. Campbell, R. A. Hooper, N. A. Martin, C. D. Newman, W. O. F. Sinclair, A. C. Taylor, R. Welch. (*Pathology and Elementary Bacteriology*).—L. B. Frere, H. K. Graham-Hodgson, J. D. Johnson, D. O. Richards, A. Smirthwaite.

FIRST M.B. (*All Subjects*).—*W. E. M. Wardill, M. W. A. Sandoe, H. Toma. (*Chemistry and Physics*).—J. N. Alexander, A. Angus, D. G. P. Bell, E. F. H. Bell, J. A. G. Brewis, E. D. Charles, H. C. Clifford-Smith, W. A. Freedman, G. A. M. Hall, A. T. Harrison, Mary K. Henegan, R. A. Hickley, G. E. Hyden, W. A. Jaques, R. T. E. Naismith, C. B. Phillips, G. Reed, F. W. Sopwith, L. W. Studdy. (*Elementary Anatomy and Biology*).—E. G. Anderson, I. Girgis, S. E. Goulstine, H. Kamel, R. G. Melrose, G. G. Robertson, T. W. Robertson, G. H. Shanley, A. W. Wilkinson.

* First-class honours. † Second-class honours.

UNIVERSITY OF EDINBURGH.

THE following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—R. H. Alexander, C. Atkinson, Mary A. H. Baird, R. G. Bannerman, Rachel M. Barclay, *R. C. L. Batchelor, H. W. Bell, J. G. Bell, J. W. Bennett, S. E. Bethell, J. Biggam, H. B. Binks, W. Bird, E. J. Blair, A. B. Brook, H. P. Caithness, A. Cameron, R. E. Cameron, H. E. Collier, A. N. Craig, J. W. Darling, T. M. Davie, W. M. Dickson, C. L. Dold, C. E. Dukes, G. K. Edwards, J. D. Evans, F. B. Eykyn, S. Fenwick, T. C. Findlater, E. Fowler, H. R. Friedrichs, T. A. Fuller, R. E. Gibson, D. J. Glen, A. S. Glynn, H. P. T. Haddow, A. R. Hamilton, N. E. M. H. Hay, J. J. Healy, G. F. P. Heathcote.

Gertrude Herzfeld, J. Hogarth, K. Husain, Florence E. Inglis, B. O. Jarrette, C. P. M. Joubert, P. W. J. Keet, C. G. Lambie, S. J. A. Laubscher, L. Levy, *P. MacCallum, T. M'Fetridge, R. M. Mackay, E. F. W. Mackenzie, E. L. Mackenzie, J. J. B. Mackenzie, I. K. F. MacLeod, Jean M. M'Minn, F. G. Macnaughton, E. Mansfield, V. H. Mason, D. J. Max, B. Mendelssohn, G. Millar, R. W. Miller, E. M. Molesworth, G. T. Mowat, R. M'I. Muir, W. Murdoch, J. C. Neil, H. S. Palmer, C. C. Philip, G. S. Pirie, R. Power, *J. M. Pringle, M. Razakhan, H. A. Rippiner, R. L. Ritchie, H. C. Robins, C. Sand, H. K. Shaw, B. Shires, H. J. Simson, H. C. Sinderson, T. W. Smart, A. H. D. Smith, D. M. Smith, A. S. Taylor, J. S. Taylor, *A. B. Theron, A. R. Thomson, R. O. C. Thomson, R. Thorp, F. E. Tillyard, P. Toit, Janet P. Walton, C. H. Wan, H. D. Welply, H. P. W. White, G. S. Williamson, D. G. Wishart, E. W. N. Wooler, P. C. V. Woudberg, B. E. Wright, G. D. Yates, J. B. Young.

* Passed with distinction.

UNIVERSITY OF GLASGOW.

SUMMER GRADUATION.

THE summer graduation ceremony took place on June 22nd in the Bute Hall. Principal Sir Donald MacAlister presided, and this being his first appearance at a graduation ceremony since his recent severe illness, he received a very cordial greeting. The proceedings were of the usual noisy kind, and after the degrees had been conferred in dumb show, the Principal handed his remarks on the benefactions during the past year to the Press. Among the notable gifts mentioned were the bequest of £5,000 from the late Mr. Weir of Kildonan for the purpose of providing an additional assistant to the Professor of Materia Medica; the bequest of £25,000 by the late Dr. Gavin P. Tennant for the Faculty of Medicine; and the appropriation by the Carnegie Trust of £45,000 for buildings for the accommodation of zoology and arts.

COMMEMORATION.

On June 23rd the University of Glasgow commemorated its pious founders and its benefactors. The opening religious service was followed by a commemoration address on Lord Lister, delivered by Sir Hector C. Cameron. This was followed by an expression of thanks to the Orator by the Chancellor (Lord Rosebery); then came the graduation ceremony, and finally, a banquet in the evening.

UNIVERSITY OF ST. ANDREWS.

THE following candidates have been approved in the subjects indicated:

FIRST M.B., CH.B. (*Botany*).—D. R. Cameron, R. T. Cameron, J. C. Coutts, J. Farquharson, J. Fergusson, Miss J. H. Hodge, J. C. M'Gregor, N. MacVicar, A. H. Nearne, J. K. T. Mills, L. G. Morrison, Miss J. M. Orkney, W. G. Robertson, G. R. Ross, J. Shirlaw, J. N. D. Smith, W. Thomson.

SECOND M.B., CH.B. (*Physiology*).—Annie R. Campbell, F. J. Charlton, Mary J. S. Cuthbert, Kathleen I. David, J. Irvine, J. Kinnear, Mokham C. Madhok, Puthoor V. Paul, Margaret W. Shirlaw, G. Verghese. (*Anatomy*).—Sheila Bridgeford, Kathleen I. David, Mary M. G. Ferguson, D. Fisher, J. Irvine, J. Kinnear, Allister M. MacGillivray, Puthoor V. Paul, Margaret W. Shirlaw, W. P. Starforth, G. Verghese.

THIRD M.B., CH.B. (*Materia Medica*).—Pam N. Bhandari, F. Braid, T. P. Buist, N. B. B. Fleming, Eisie L. Kyle, Flora M. MacDonald, M. M'Gillivray, Mokham C. Madhok, J. L. Paton, Alice Ratiray, D. Roger, A. A. B. Scott, J. M. Stalker. (*Medical Jurisprudence and Public Health*).—Margaret A. Alexander, Agnes W. Andrew, Mohan L. Bery, D. Dempster, T. Esterman, Margaret Fairlie, Louise E. Fraser, G. M. Grant, W. S. King, C. B. MacDonald, C. W. Morrison, D. H. Murray, Alistair G. Stevenson, J. H. Taube. (*Pathology*).—F. Braid, T. P. Buist, A. C. Cassells, T. Esterman, N. B. B. Fleming, Elsie L. Kyle, C. B. MacDonald, M. M'Gillivray, Jeannette M. Mansie, J. L. Paton, D. Roger, A. A. B. Scott, J. M. Stalker, W. M. D. S. Strettell.

FINAL.—P. E. B. Barrow, R. H. B. Barrow, J. R. Caldwell, Mabel G. Cowper, A. C. Craighead, Mary L. David, S. W. Rintoul, D. H. Scott, J. Taylor, R. A. Quinn.

D.P.H. (*Part I*).—G. N. Anderson, J. C. Robertson. (*Part II*).—G. M. M'Gillivray, D. T. Munro, D. J. Peebles.

Obituary.

ALDERMAN SIR HENRY WM. NEWTON,

NEWCASTLE-UPON-TYNE.

AFTER an illness of brief duration, although to all who were in the habit of casually meeting him it was apparent that he was the subject of an increasing anaemia, Sir Henry Newton succumbed on June 21st to an attack of bronchitis, during which he was attended by Sir Thomas Oliver and Professor Beattie. Although Sir Henry had reached his seventy-second year, his physique and energy until within the last few months were those of a man many years his junior. He was less known in the field of medicine proper than in that of public health, especially from the municipal and administrative points of view. The son of a Newcastle surgeon, Sir Henry Newton was closely identified with all the recent progressive movements of his native city. He received his medical education in the College of Medicine in Newcastle, and qualified in 1863.

At a comparatively early age he evinced a taste and ability for municipal work. Devoting his life to public service, he never forgot that foremost above all things he was a member of the medical profession, and that its claims had the prior call upon his attention. A strong man in the public sense of the term, an admirable debater, and gifted with oratorical powers of no mean order, Sir Henry rapidly rose in the town council of which he had become a member in 1866. In 1877-8 he filled the office of sheriff, and in 1883 he was elected mayor. His year of office as chief magistrate was remarkable, for in August, 1884, the Prince and Princess of Wales visited Newcastle-upon-Tyne to open the Northumberland Docks, to open Jesmond Dene to the public, and to open also the free library of which Sir Henry Newton was chairman. Many of us remember all of these functions were performed in a most successful manner, and in the following year he became an alderman. In 1901-2—the coronation year of the late King Edward—Sir Henry again occupied the civic chair.

In recognition of his services in connexion with the Public Libraries Committee Sir Henry was presented with his portrait in oils. To everything which made for improving the health and social position of the masses he gave his adherence and assistance. For more than thirty years he was Chairman of the Town Moor and Parks Committee; he was since its opening chairman of the Laing Art Gallery and chairman also of the School of Domestic Economy, but the one position which he occupied with greatest distinction, and in which the value of his work will be seen and felt for many years to come, was that of chairman of the Sanitary Committee. In conjunction with Dr. Henry E. Armstrong, late Medical Officer of Health for the city, much pioneer work in public health work was done. For his services Sir Henry received the freedom of the city in 1906, and in 1909 the honour of knighthood from King Edward.

By his death the Corporation of Newcastle-upon-Tyne has lost its oldest member. Sir Henry may not always have seen eye to eye with his colleagues in the Council, but it could never be said of him that he played for popularity.

Suitable magisterial reference to the death of the late alderman was made by Sir George Hare Philipson, Chairman of the Bench.

The funeral was attended by the Lord Mayor of Newcastle and by the city aldermen and councillors, by representatives of the various public bodies with which Sir Henry had been identified, and by large numbers of the public.

To Lady Newton, his second wife, and to the sons and daughters of both families, much sympathy has been expressed in various ways.

THE LATE DR. NEIL OF THE WARNEFORD.

DR. CHAS. A. MERCIER writes: Permit me to lay upon the grave of my friend Dr. Neil a wreath of respect and affection. He belonged to a nation among which I am privileged to count many intimate friends, and he had a full measure of the quality—humour, which we southrons pretend they do not possess, besides others that we cannot pretend to deny to them—thoroughness, sound sense, business ability, and professional skill. I have sent many patients to his care, have often visited them at the Warneford, and can speak from personal knowledge of his unwearied kindness to them, often reciprocated by suspicion and abuse, and of the constant solicitude with which he worked and hoped, even in very unpromising cases. His crowning merit was that he never attempted to divert the purpose of the founder of the Warneford, to afford treatment and care on the most moderate terms—in a large proportion of his cases on charitable terms—to patients of the educated classes. He never angled for patients who could pay high fees, nor did he attempt to substitute an impressive but uncomfortable magnificence for the solid homeliness and comfort of the Warneford. When we think of the number of patients that came under his care, of the atmosphere of tranquillity and goodwill that he maintained around him, and of the help that so many found in reliance on his strong character and sound judgement, we can form some estimate of the good that can be done in a quiet and unobtrusive life. He found his appropriate field of activity; he laboured in it

with unremitting diligence; he won the respect and regard of all around him; his life, if it was unambitious, was useful, fruitful, and happy. Who could wish more to be said of himself?

Medico-Legal.

ALTERATION OF AGREEMENTS.

Absence of Due Notice.

The action by Dr. Salter against the London Insurance Committee, which was decided in his favour, as was fully reported last week, page 1437, was carried out on his behalf by the Medical Defence Union. Messrs. Hempsons, the solicitors to the Union, received an intimation from the London Insurance Committee, asking them not to proceed upon the rule by issuing a writ, and stating that the Committee accepted the position, and would restore Dr. Salter's name to the panel at once. Application was accordingly made to the Divisional Court on July 1st for an order for costs as against the Committee, and this was granted. Counsel for the Committee stated that he was instructed to say that the Committee was very glad to reinstate Dr. Salter, but, as an important question of principle was involved, the Committee desired to have it settled by the Court.

PROCEEDINGS UNDER THE APOTHECARIES ACT, 1815.

At the Bow County Court on June 29th the Society of Apothecaries recovered a penalty of £20 against John Charles Purdue, described as a medical herbalist, of 28, Roscoe Street, Canning Town, for a breach of the Apothecaries Act, 1815, in that he had acted and practised as an apothecary or medical practitioner in attending and medically treating the infant daughter of Arthur Thompson, of 21, Scott Street, Canning Town, whose death in January last was the subject of an inquest conducted by the local coroner. It appeared from the evidence that the child had become ill on Tuesday, January 27th, and was taken by her mother to the defendant's shop, who examined her and said that she was suffering from pneumonia. He further gave the mother medicine for the child and oil to rub her chest with. He was again summoned by the mother to see the child on the same afternoon, and then administered further medicine, also using the stethoscope and taking the child's temperature with a clinical thermometer. The defendant attended the child further on the Wednesday, Thursday, and Friday, on the evening of which day the child died. The defendant was paid the sum of 2s. in respect of his medicine and attendance. It appeared from the medical evidence given at the inquest that the child actually died of meningitis. At the hearing of the case the defendant's counsel endeavoured to argue that he was protected by a statute of Henry VIII, sometimes called the Herbalists Act. The county court judge held that the statute was inapplicable, and that there had been a clear breach of Section 20 of the Apothecaries Act, 1815, and he consequently gave judgement for the Society, with costs on the higher scale.

ALLEGED PERSONATION.

At the Hampshire Assizes, before Mr. Justice Kennedy, a man aged 60, charged under the name of Hugh Munro McLeod Mackenzie, was convicted on a charge of feloniously, knowingly, and unlawfully giving a false death certificate. The case involved a charge of personation, and evidence was brought to show that the accused was not Hugh Munro McLeod Mackenzie whose name appeared on the *Medical Register*, and that this gentleman resided in South Africa. The accused had obtained the insertion of his name on the panel for Southampton. The prisoner, who was undefended, stated in his own defence that he was named Mackenzie, and a medical practitioner; he did not know Dr. Mackenzie, now in South Africa. The judge said that, judging by the photograph produced, it was hardly possible that the prisoner could have changed so much, and the evidence showed that the accused was not the man registered. After the verdict had been returned it was stated that the accused had formerly practised at Portsmouth, and the allegation that he was personating Dr. Mackenzie residing in South Africa had been brought to the notice of the General Medical Council, but as the accused was then extremely ill no proceedings were taken. The prisoner offered to resign from the panel, but the judge stated that his name would be struck off, and that as he was very ill he would be kept in prison for a month.

DAMAGES AGAINST AN EXTRACTOR OF TEETH.

In the Rochdale County Court, on June 26th, an action was brought by a young man employed by the corporation against Ada Berry, trading as R. H. Berry, extractor of teeth, for £100 in respect of the alleged negligent extraction of a tooth. The patient was subsequently attended by Dr. Bateman, who, in consequence of recurrent bleeding, advised his admission to the infirmary, where he was treated for a month.

The defendant, who was not legally represented, said, according to the report in the *Manchester Guardian*, that she was taught the business of an extractor of teeth by her brother, who, like herself, was not a qualified dentist. She used a syringe to insert into the gums a preparation she obtained from a chemist, and said it was not possible to insert too much of the fluid. She also gave a powder for the plaintiff's use, and she admitted that she did not know the contents of the powder.

His Honour, in giving judgement, said there had been neglect in the administration of the drug, and that neglect had caused the plaintiff terrible suffering. He gave judgement for £85 and costs.

Medical News.

The Robert Koch Foundation for combating tuberculosis offers a prize for the best research on the value of various kinds of rays (sun, Roentgen, radium, mesothorium) in the diagnosis and treatment of tuberculosis. The essays, which must be in German and typewritten, should be addressed to the Secretary, Herrn Geh. Sanitätsrat Professor Dr. Schwalbe (Berlin-Charlottenburg, Schluterstr. 53), and should reach him before July 1st, 1915. Each essay should be authenticated by a motto corresponding to one contained in a separate envelope enclosing the author's name. The prize is of the value of £150. The successful essay will be included among the publications of the foundation, but the author will be allowed to publish a short abstract in the *Deutsche medizinische Wochenschrift*.

The Cremation Society of England, in conjunction with the Blackpool and Fylde Cremation Society and the Manchester Crematorium, Ltd., is organizing an exhibit at the Health Exhibition to be held in connexion with the Congress of the Royal Sanitary Institute at Blackpool (July 4th to 11th). Photographs and plans of the various crematoriums and photographs showing the retentive nature of earth burial will be on view, together with a specimen of cremated ash. There will also be exhibited a working model of the Golder's Green apparatus, by which is demonstrated how cremation is effected by the agency of superheated air only in a retort quite separate from the actual furnace. Mr. G. A. Noble, Secretary, will represent the Cremation Society as delegate at the Congress, and will be in personal attendance at the exhibition to give information. Dr. P. J. R. Bucknill, of Blackpool, will read a paper on cremation, illustrated by diagrams and lantern slides.

The Council of the Nightingale Fund proposes to offer every year to nurses who have obtained a certificate after three years' training in some recognized school a limited number of scholarships entitling the holders to a year's training at the Household and Social Science Department of King's College for Women in the University of London. The new buildings of this department, now in course of erection on Campden Hill, will contain laboratories in close proximity to the experimental kitchen and laundry, which form a portion of the hostel where the practical arts are taught. Every endeavour will be made to keep in view the object of the course, namely, to equip trained nurses to undertake the responsible administrative and social appointments they are likely to be called on to fill. The value of the scholarships will be adjusted to meet the tuition fees, to provide maintenance during the year, and to compensate in some degree for the salary the year's training will oblige the scholar to forego. The scheme is experimental, and its continuance must depend upon its success.

On June 23rd Dr. Stovin, until lately Medical Officer of Health, Ilford, was entertained at supper by the members of the Ilford Medical Society. Dr. Ernest Watts, president, who was in the chair, spoke of the cordial relations which had always existed between the M.O.H. and the general practitioners in the district, and of their great appreciation of Dr. Stovin's services to the district. Dr. Carrell, speaking as the member of the society who had longest been in practice in Ilford, said that though differences of opinion had arisen, they had never disturbed the friendly relations between the profession and Dr. Stovin. The president then, on behalf of the society, presented Dr. Stovin with a silver salver, bearing a suitable inscription, and the signatures of thirty-six of his professional brethren in the district. Dr. Stovin, who on rising was warmly cheered, said that he felt deeply this fresh expression of the constant kindness and help he had received from all members of the society. He concluded by proposing the toast of the Ilford Medical Society, which was acknowleged by Dr. Drought. The company separated after the toast of the president had been received with enthusiasm.

The usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Friendly Society was held at 429, Strand, on June 19th, when Dr. J. Brindley-James was in the chair. The claim account presented showed an improvement over that of

last year, and the proposals received in the first five months of this year constituted a record in the society's experience. The new combined sickness and endowment table with reduced premiums for the first five years has also proved popular with younger members of the profession. The votes for Epsom College were dealt with at this meeting, there being two candidates for Foundation Scholarships who are the sons of deceased members. The widow of a late member was also applying for a pensionership. The society subscribes £105 per annum to the College, and the votes are all used for the dependants of deceased members. During the past few years the sons of several members have been admitted to Epsom College as foundation scholars. Prospectus and all information can be obtained from Mr. Bertram Sutton, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

NEARLY every one who is accustomed to pass the greater part of the day away from home, particularly those whose occupations oblige them to spend much of that time going from place to place, has experienced the discomfort of defective or inadequate lavatory accommodation in public places. This want is not peculiar to any one town or district, but is felt in almost every crowded city, both at home and abroad. The New York Bureau of Public Health and Hygiene, realizing the importance of their cleanliness and good management not only for comfort, but also for health, has caused an inspection to be made of the public lavatories in every quarter of that city. The results of this investigation have been published by the Superintendent of the Bureau, Dr. Donald B. Armstrong, in a pamphlet called, *Comfort Stations in New York City*. The inspectors have evidently carried out their task with commendable thoroughness; and the defects in the New York public lavatory system are indicated with no sparing hand. The pamphlet is illustrated with diagrams and photographs, and contains suggestions which might be adopted with equal advantage on either side of the Atlantic.

THE January and February number of *Tumori*, published in Rome, leads off with an article by Izar and Patanè recording a series of complicated experiments devised to free the antigen, used in the meiostagmic reaction for malignant tumours, from all those substances, soluble in ether and methylic alcohol, which do not enter specifically into play in meiostagmic reactions. A second paper deals with synthetic antigens composed of fatty acids and protein substances. Then follows a long paper on a case of tumour of the hypophysis, with comments, sections, and a full bibliography. The next important communication is probably that of Bilancioni and Cipollone on endotheliomata; it contains a detailed account of 14 cases, drawings, and an extensive bibliography. Of the 14 cases, most occurred in young subjects of 8 to 25 years, and were situated for the most part in the nose; the tumours could be separated into two main groups, according to the predominance or otherwise of the fibrous tissue contained therein; a marked feature in all these tumours was the presence of migratory cells. The form of the actual cells of the tumour varied according to their point of origin, whether from the blood vessels or from the neoplastic parenchyma. It is considered that the latter cases mostly arise directly from the endothelial membrane of the blood vessels or lymphatics. From the clinical point of view these tumours are benign, of slow growth, for the most part single and with non-ulcerated surfaces, do not give rise to metastatic growths, and are chiefly of importance from the mechanical effects they may produce.

IN an interesting report on sleeping sickness in Northern Rhodesia to December, 1913, Dr. May, the principal medical officer, shows the extent to which the disease has been met with. *Glossina morsitans* transmitting human trypanosomiasis has been met with outside the confines of the present closed area, for example, by Dr. Ellacombe in the Serenje district to the east of Lake Bangweolo (September, 1912), by Dr. Kinghorn in the Mpika district (May, 1913), by Dr. Ward in the Ndola district (1912–13), and by Dr. MacKnight in the Luana Valley (September, 1913). In April, 1912, the Luangwa Sleeping Sickness Commission moved from Nawalia in the Luangwa Valley to Ngoa (Mpika district) on the Congo-Zambesi watershed with the object of determining what influence climatic conditions have on the transmission of the parasite by *G. morsitans*. Attempts to transmit the human trypanosome by means of *G. morsitans* at laboratory temperature on the Congo-Zambesi plateau during the cold season were invariably unsuccessful, in spite of the fact that 680 flies were used. The developmental cycle of *T. rhodesiense* in *G. morsitans* was found to be influenced in a marked degree by the temperature; high temperatures (75° to 85° F.) favoured the development of the parasite, whilst low temperatures (60° to 70° F.) were unfavourable; the first portion of the developmental cycle could proceed at lower temperatures, but for its completion the higher temperatures were essential apparently. The relative humidity of the atmosphere had no influence on the development of the trypanosome in *G. morsitans*. The object with which this Commission was formed, namely, to establish the responsibility of *G. morsitans* as the carrier of human trypanosomiasis, having therefore been accomplished, the work of the Commission came to an end at Ngoa in August, 1912. Very great credit is due to Dr. Kinghorn and his coworkers, Drs. W. Yorke, A. F. Wallace, and Mr. Ll. Lloyd, for the rapidity and thoroughness with which this work was accomplished.

ONE effect of grafting of an ovary in woman appears to be swelling of the parts around the graft associated with pains, which last for three or four days. At the end of a few weeks the graft is, it appears, completely absorbed, and it seems that cessation of the catamenia is always associated with the shrinking of the graft. In a joint communication, Tuffier, Gery, and Vignes (*Annales de gynéc. et d'obstet.*, February 1914, p. 97) report the appearances in a graft in the body of a woman who, when 41 years of age, underwent subtotal hysterectomy for an enormous soft fibroid. Tuffier grafted one of the ovaries on to the subcutaneous cellular tissue. The usual phenomena, it is implied, occurred. The woman died two years and eight months later, and the graft appeared like a little white lozenge, half an inch in diameter, homogeneous, very hard, and firmly adherent to the surrounding connective tissue. Sections examined under the microscope presented all the appearances of complete sclerotic involution. Authorities do not seem to be agreed as to the merits and effects of grafting an ovary when unavoidably removed from its anatomical attachments in the course of an operation. Tuffier and Vignes published in the same number of the *Annales* an earlier report, which shows that absorption of the graft with cessation of ovarian functions is by no means constant; in one patient a graft was made when subtotal hysterectomy was performed, and a cystic tumour of the graft, as big as a hen's egg, was enucleated from the parietes three years later. The removal of both a woman's ovaries must never be reckoned a trifle, but it is not clear that grafting can neutralize the possible evils of a sudden premature and artificial menopause and that it may not be the cause of special evils as yet unrecognized.

A DINNER of the National Medical Union took place on Saturday, June 27th, at the Café Monico, London. Dr. Greenyer, of Brighton, presided, and about eighty members and guests (including ladies) were present. The toast of "The National Medical Union" was proposed by Dr. Playfair, of Edinburgh, who said that there ought to be no difficulty in obtaining the three or four thousand members necessary to place the union on a sound financial basis. The toast was acknowledged by Drs. Porter, Brassey Brierley, Greenyer, and Carswell. Dr. Porter, who represented the Edinburgh Medical Guild, one of the bodies affiliated to the National Medical Union, spoke earnestly on the subject of the liberty of the medical profession. Dr. Brassey Brierley gave an account of the origin of the National Medical Union, and said that it was necessary to uphold the dignity and honour of the profession by means of a body which was not a trade union. Dr. Greenyer made an amusing speech on the writing on the wall which occurs at feasts. Dr. Carswell congratulated the union on having as guests representatives of other organizations; and the toast of "The Guests" was acknowledged by Dr. F. J. Smith, who dealt with the deleterious effect on the teaching of medical students likely to follow from the present panel system under the Insurance Act. He protested against the apathy shown by the College of Physicians while the Act was being introduced, and expressed a hope that the two Colleges would be roused to display a more decent activity in the future. He felt that a deluge was coming; but he feared that neither of the Colleges, nor even the British Medical Association, was likely to put up an effective umbrella against it. Mr. Adolphe Smith described how he had survived many hundreds of interviews with medical practitioners (panel and non-panel) while in search of information on the working of the Insurance Act for the columns of the *Lancet*. The speeches were alternated with musical contributions by Mrs. Edwin Smith (violin), Miss Metcalf, Dr. Parrott, and Dr. Lavies, and with a sketch by Mr. Chas. Pond. Members of the Guild present in London had, we understand, spent the day in discussion, but no statement of policy was, so far as we are aware, put out for information.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

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CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

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2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

TREATMENT OF SUNBURN.

MAJOR, R.A.M.C.(T.), asks for a formula for a lotion to apply to sunburns in camp. Ointments have been used in the past, but they are not convenient in camp. He would be glad to hear the experience of any member who has tried sulphate of quinine, as recommended by Hammer, or the bisulphate, as employed by Scherber (Epitome of Current Medical Literature, June 13th, paragraph 346).

INCOME TAX.

Motor Car: Bad or Doubtful Debts.

J. P. J. has deducted one-quarter of the cost of a new motor car and a sum in respect of bad and doubtful debts in calculating his liability; the surveyor of taxes refuses to allow the deductions.

*** "J. P. J." does not say what means of locomotion he formerly employed. If the car was purchased to replace a discarded vehicle the cost is a legitimate professional expense to the extent of the net cost of the vehicle displaced, any excess being an outlay of further capital for which no deduction can be made. The question of the allowance due for bad and doubtful debts is one of some difficulty. The Income Tax Act of 1842 restricted the allowance to bad debts "proved to be such to the satisfaction of the Commissioners," but in 1853 provision was made for the valuing of doubtful debts for the purposes of assessment. Where that allowance is claimed a strict valuation would probably be required, involving considerable trouble, if not expense. Our correspondent may perhaps be able to arrange for his assessment to be calculated on the basis of his cash receipts, and in that case would avoid the necessity of claiming any deduction for either bad or doubtful debts.

SYSTEMIC EFFECT OF BEE STINGS: PROPHYLAXIS.

DR. J. CROMIE (Castle Douglas) writes: I have a patient who is a beekeeper as a hobby; when he began and got stung the part injured swelled up, but he felt no general effects. Now the local effects are trivial, but within five minutes after being stung he collapses with feeble pulse, is very faint, feels tingling all over, vomits, has diarrhoea, urticarial rash, and is quite exhausted, sleeping for about two hours and then waking up all right but tired. Can any one suggest prophylactic treatment, as he does not want to give up his bees?

*** We hope that this question will attract attention. The first suggestion that occurs for the symptoms produced in Dr. Cromie's patient is that they are anaphylactic in nature, but so far as we know this does not take us very far on the way to prophylaxis. There is a good deal also that is obscure about the local reaction to the stings of bees and mosquitos. In some persons the immediate reaction is slight and of short duration, but there is a recurrence, in which the symptoms are often very much more severe, after an interval of about twenty-four hours; there may be three or four more recurrences at about the same interval, but of decreasing severity. It is well known that most beekeepers acquire more or less local immunity after a time, and apparently it is not completely lost during the winter. Whether such pronounced anaphylactic phenomena as Dr. Cromie describes have been recorded before we do not know, nor do we know whether anything of the same kind has been observed in respect of mosquito bites.

ANSWERS.

TREATMENT ON CHRONIC EMPYEMA.

DR. GEORGE WILLETT (Keynsham, Bristol) writes in reply to "Country Doctor": May I suggest the wisdom of making an *x*-ray examination with a view to eliminating the possibility of the pleura containing a foreign body. I once found six inches of rubber drainage-tube in an empyema, and on its removal the sinus immediately closed.

DR. S. J. ROSS (Bedford) writes: I would suggest that he send some of the pus to the Clinical Research Association, of Watergate House, York Buildings, Adelphi, London, requesting them to prepare an autogenous vaccine. I have seen several cases of chronic empyema completely cured by the administration of autogenous vaccines. Of course, the possibility of rib necrosis must be excluded.

THE FLY NUISANCE.

E. M. H. writes: I would recommend "D. H." to try the "Daisy Fly Killer" manufactured by Alfred Somers, Brooklyn, New York, U.S.A. I do not know of any agency in this country. The cost is about one shilling. I found it most efficient in South Africa and India. Full instructions are sent with each tin.

PAIN FOLLOWING ZOSTER.

DR. R. INGLIS DOUGLAS (Strathpeffer Spa) writes: "F.R.C.S." might do worse than try (*a*) the high-frequency electric breeze ten to fifteen minutes daily, afterwards gently rubbing in ichthyol and lanoline ointment for two or three minutes; or (*b*) kataphoresis, using a pledget of lint moistened with chloroform (the lint to be attached to the positive pole). Strathpeffer provides a very pure sulphur water, most suitable for elderly gouty persons. It contains a low percentage of the undesirable salt, NaCl, and a large proportion of sulphur in the form of the more easily digested hydric sulphide. The air and scenery are, of course, unrivalled.

DR. ROSENAU (Kissingen) writes to suggest the Sprudelbaths at Bad Kissingen, which are very rich in free carbonic acid and do not contain a large amount of salt (about 1 per mille fixed ingredients), or the baths at Oenhausen. The galvanic current and blue light treatment may also be advisable.

LETTERS, NOTES, ETC.

WE have received from Mrs. Will, widow of Surgeon Lieutenant-Colonel J. O. Will, R.A.M.C., on whose behalf an appeal was made by Drs. Blomfield, Dick, and Sichel in the JOURNAL of April 18th, a letter expressing her thanks to the many persons who responded.

A WARNING.

MR. MACLEOD YEARSLEY (London, W.) writes: A man, of gentlemanly and plausible address, who consulted me on June 24th, paid his fee by a cheque on the Tottenham Court Road Branch of the London City and Midland Bank. This draft was returned marked "no account," and I am informed that the book from which it was torn was issued by the bank some years ago. It appears further that another doctor besides myself has had a similar experience recently. The man is of medium height, dark, heavily jowled, and wearing a short moustache. He gave the name of "J. Howard Stewart," and his age as 38 and 9 months.

PARTURITION COMPLICATED BY ENTEROCELE.

DR. CATHERINE L. SMITH (North Collingham, Newark) writes: I was called to a multipara, seven months pregnant. On examining I found a bag of membranes presenting and a hand outside of this bag of membranes. I sent for my partner and examined under chloroform. I was very much puzzled, and thought with the hand presenting that it was a twin pregnancy. On further examination I thought it was a hydrocephalus and punctured, but very little fluid came away. I put my hand into the uterus and brought down a foot; then with very great difficulty I succeeded in delivering a body with an enormous enterocele; this was the supposed bag of membranes which I had punctured. No further difficulties occurred, but I am thankful that the child did not go on to full time.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

ON DIATHESIS IN INFANCY:

A PLEA FOR ITS CLOSER STUDY.

[WITH SPECIAL PLATE.]

BY HECTOR CHARLES CAMERON, M.D.,

PHYSICIAN IN CHARGE OF THE CHILDREN'S DEPARTMENT, GUY'S HOSPITAL.

INTRODUCTORY.

PROFESSOR EMMETT HOLT, of New York, in an interesting article published recently, entitled "Infant Mortality, Ancient and Modern," referred to the prejudicial influence which was exerted in England by the growing tendency to encourage lay workers and members of the nursing profession to busy themselves with the doctrines of infant hygiene and the practice of infant dietetics. Professor Holt's words are:

> If in England the measures referred to have been much less successful than in other countries, we must remember that in that country the care and feeding of the infant is generally believed to be the special province of the nurse. The physician is frequently not consulted at all. The effect of this is seen in the undue prominence given to nurses and social visitors.

While we must all admire the energy and devotion with which all over the country educated lay men and women of great intelligence have applied themselves to attack the problems of infantile mortality, it must, I think, be conceded that there is a strong element of truth in Professor Holt's remarks. It is significant that at the present time the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy is petitioning the medical schools and examining bodies that the subject of Infant Hygiene should occupy a definite place in the medical curriculum. The high infant mortality among the poor of our great cities has aroused the compassion and interest of a large section of the educated public; it has left the medical profession, as a whole, comparatively unmoved. And yet it is to the medical profession alone that the country must look for improvement in our present conditions, because medical men alone can bring to the study of the problem the special knowledge, insight, and habit of mind which can conceive and isolate the true nature of the difficulties which confront us daily in dealing either with infantile mortality in general or with any one particular infantile complaint. Especially is this true in the study of infantile dietetic disorders. The lay mind is necessarily apt to start with the assumption that all digestive disturbance proceeds from faults in the composition of the diet, from gross excess, or from a want of cleanliness. No doubt among the very poor the proportion of cases directly attributable to these causes is much higher than among the better to do, and there is a wide field for the instruction of poor mothers in the elementary rules of health and infant hygiene. Yet even among the poor there is abundant evidence that malnutrition and dyspepsia, on breast or on bottle, is not always to be attributed to gross ignorance or culpable carelessness on the part of the mother. The doctor alone is able to detect other causes for disturbance.

Dyspepsia is very frequently the expression of an underlying infection. The infant at birth has but one function highly developed—that of absorbing an amount of food which, relatively to that of the adult, is enormous. A function so highly developed is very readily disturbed, and infections of all sorts and in the most various situations present themselves in the guise of a primary digestive disturbance. Still more interesting is the large group of cases in which dyspepsia is dependent on peculiarities of infantile diathesis, and upon inherited, inborn abnormality of digestion. Among the infants of the well-to-do classes, where the composition and amounts of the diet are well controlled and subject to the most careful scrutiny, and where the hygienic conditions are faultless, digestive disturbances are rarely *ex alimentatione*—from gross assaults upon the digestive powers by an absolutely irrational diet—but arise commonly *ex infectione* or *ex constitutione*.

The suggestion that it is possible to recognize types of individuals whose aspect and whose liability to suffer from a certain train of symptoms marks them off as belonging to a certain diathesis, is not new. Indeed, the conception of diathesis is almost as old as the study of medicine itself. For long it held a foremost place in all medical literature. Later, in the second half of the last century especially, there came a time when it fell into disrepute. These years were marked by great advances in the study of the local disorders of the different parts of the body as the use of the stethoscope grew general, and the methods of physical examination became highly developed. Bright, Addison, Wilks, Virchow, and many others taught the importance of morbid anatomy, and the necessity of interpreting all clinical phenomena in the light of the examination of viscera *post mortem*. Later still the science of bacteriology sprang into being, and profoundly influenced our whole conception of the processes of disease. With more definite knowledge of these processes much of the old-time teaching upon diathesis was found to be no longer tenable, and the very name to a great extent fell into disuse. To-day it again stands in the forefront of interest, both in medicine as a whole, and especially in the study of the disorders of infancy. Although most of the types of diathesis formerly described have been discarded, it is still possible to recognize certain inborn and inherited constitutional anomalies marked by the constant association in the same individual of a wide variety of symptoms and local manifestations. The presence of one set of symptoms often enables us to predict the appearance of others at a later time.

Although we have no sufficient knowledge of the true nature of the constitutional anomaly, we believe that this anomaly accounts for the presence of the local disorder, and that treatment to be successful must be directed not only against any one local manifestation, but must combat the underlying cause—the diathesis itself.

Evidence for the Existence of Certain Diatheses in Infancy.

The evidence of these wide divergences of constitution is very marked in the study of the dietetic disorders of infants. It is universal experience that upon the same diet and under the same hygienic conditions we may meet with one child who thrives and develops perfectly, whilst another becomes rachitic, a third grows anaemic, and a fourth shows a lowering of tolerance to all infective catarrhal processes. So frequently are such variations encountered that we are driven to the conclusion that infants are born with considerable differences in the chemical structure of their several organs and tissues—differences which exert their influence in greater or less degree, according to the character of the diet.

Formerly when a breast-fed infant suffered from severe and persistent dyspepsia, the failure was commonly regarded as evidence of an idiosyncrasy on the part of the mother. It was thought that her milk was of unsuitable composition, or capable in some way of exercising directly a prejudicial effect upon a normal infant. To-day we know that the milk of every woman, not herself the subject of an infective disorder, is equally suitable for the normal infant, and that the composition as well as the amount of the milk is controlled to suit his needs by the varying stimulus of suction. If the milk of one woman causes digestive disturbances, the change to the milk of another is seldom of any avail. The same woman may suckle three or four infants, only one of whom is dyspeptic and fails to thrive. Although one infant may do very badly on the breast, the same breast may yet be safely used for other normal children. Of the three great groups into which infantile dyspepsia is divided, dyspepsia *ex alimentatione*, dyspepsia *ex infectione*, and dyspepsia *ex constitutione*, the last is not only of the greatest interest, it is perhaps also of the greatest frequency. No classification of infantile dyspepsia can be complete which ignores those fundamental distinctions between individual infants. That the same diet may produce a healthy infant in one case, and in another lead steadily to severe illness and even death, forces us to attempt the study of infantile diathesis. It is right that we should have clearly in mind the results of under-feeding (*Inanition*), of over-feeding, and a temporary loss of tolerance for all or some of the constituents of the food (*Dyspepsia*), of a similar but permanent loss of tolerance (*Marasmus*), and of the symptoms of the absorption into the blood stream of certain disintegration products of abnormal

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digestion (*Intoxication*). At the same time we should endeavour to appreciate the usual result of imparting to the diet a one-sided character, so that either fat or carbohydrate is present in gross excess, and we should be able to distinguish between a primary digestive disturbance and a disturbance secondary to infection, whether of the bowel wall (*enteral*), or in other parts of the body (*parenteral*).

But we must also be prepared to recognize as a sufficient cause for disturbance the existence of certain constitutional abnormalities, the "exudative diathesis" of Czerny, for example, or extreme neuropathy. The study of the disorders of infancy must concede due prominence to the consideration of the child. The subject is not exhausted by an examination of a variety of diets, by enumerating rules for dilution and dosage, and by insisting on the necessity for cleanliness. If infants could always be fed by rule of thumb, if the whole matter could be dealt with in a few pages of general directions, infant feeding might be left as at present almost outside the medical curriculum, and be regarded as of greater interest to nurses than to medical men.

As knowledge increases it becomes more and more clearly recognized that dyspepsia in infancy is not always, or even usually, accounted for by gross excess in the amount of the diet or gross faults in its composition. It becomes more and more apparent that it is wrong to approach the study of the disorders of infantile digestion in the belief that the child is the constant and unvarying factor, and in the hope that we shall one day find a universal artificial diet applicable under all conditions and to all infants

In spite of the confident statements of those who claim unvarying success with some particular method of feeding —whole milk, for example, or the so-called "humanized" milk—the digestive powers of individual infants are very various. We shall often find it our lot to study the abnormal reactions of particular children to food which may be said to be of perfectly suitable composition, and upon which in our own experience large numbers of infants of similar age have shown uniform and steady progress.

In the study of infantile disorders it is helpful to group together in our minds certain symptoms, certain peculiarities of aspect, certain tendencies and liabilities to particular disturbances, which experience teaches us are apt to occur in infants of a certain type and of a certain inheritance. The frequency with which these groups of symptoms occur in the same individual, either simultaneously or successively, at different times in the course of growth and development encourages the belief that they are only various expressions of an underlying constitutional idiosyncrasy.

The Exudative Diathesis of Czerny.

We owe to Czerny a clear statement of the clinical symptoms of a particular diathesis which is so common that its manifestations in greater or less degree are met with every day in practice and are familiar to all.

In the older medicine a group of symptoms, constantly recurring and of great frequency, was described under the name of "scrofula." Children who showed the scrofulous diathesis were characterized by a certain physical aspect—harsh, dry skin, with a pronounced tendency to certain scaly and lichenoid eruptions, fine silky hair, which grew irregularly beyond the true hairy scalp on to the forehead and over the zygomatic arch, long eyelashes, and a tendency to a further hairy growth on the back of the neck and between the scapulae; chronic catarrhs in various situations were almost constant—nasal catarrh, with a profuse secretion which irritated and infiltrated the upper lip, nasopharyngeal catarrh, bronchial catarrh, phlyctenular conjunctivitis, leucorrhoea, and mucous diarrhoea. As a result of the chronic irritation of the mucous membranes, a secondary glandular enlargement was the rule. Tonsillar overgrowth, adenoid vegetations, hypertrophy of the lymphatic glands and of the lymphoid tissue generally of the whole body were commonly found.

With the discovery of the true nature of the tuberculous infection it became recognized that a large number of scrofulous children were infected with tubercle. In many the enlarged glands became definitely caseous; in others the catarrhal and inflammatory symptoms were combined with diseases of bone clearly of a tuberculous nature or with tuberculides of the skin.

Nevertheless, after the separation of those individuals in whom a tuberculous infection had declared itself, there are still left a very large number of children who would unhesitatingly have been described in former times as of a scrofulous or strumous diathesis. Those children who show the catarrhal and lymphatic changes of the old-time scrofula without evidence of tubercle, have been studied under many names. Virchow borrowed from Thomas White* (1784) the name "inflammatory diathesis"; Heubner, Escherich and others speak of "lymphatismus" and the "lymphatic constitution"; French authors write of "arthritismus" and "neuro-arthritismus," the English authors of "mucous disease" and "status lymphaticus." Czerny, who has traced the diathesis backwards to earliest infancy, where it forms one of the commonest causes of digestive disturbance, impressed by the frequency with which exudative processes occur upon the skin and mucous membrane, has given it the name of the "exudative diathesis." He has emphasized especially that the increased vulnerability of skin and mucous membranes is primary, the lymphatic enlargement secondary.

Symptoms of the Exudative Diathesis in Later Childhood.

The manifestations of the diathesis in infancy are those with which we are immediately concerned. The developments later in childhood and in adult life, though not dissimilar in nature, are more varied in type and must first be described. The subjects of the diathesis are marked by a characteristic appearance (see plate). The child's face is usually plump and rounded and marked by a high colour on the cheeks and on the front of the chin. In these situations a dry, scaly eczema is usual. Seborrhoea of the scalp is common. The hair is often sparse, but growing in wavy curls rather than straight. The frequent catarrhs of nose and pharynx are accompanied by tonsillar and pharyngeal overgrowth and by enlargement of the cervical glands. Otitis media is common and the children are often in consequence deaf. The so-called "geographical tongue" is frequently seen. Bronchial catarrhs and asthma-like attacks are frequent. In some cases the symptoms in childhood persist and a permanent asthmatic tendency may be established. In such cases a history of asthma in the parents or among relatives is frequently obtained. Many asthmatics will be found to have suffered in infancy and childhood from seborrhoea of face and scalp.

In some cases the intestinal mucous membrane shares in the general tendency to catarrhal and exudative inflammation, with the production of chronic enteritis and secondary overgrowth of the intestinal lymphatic tissue. This condition is well described by English authors (Eustace Smith, Gee, etc.) under the name of "mucous disease" or "coeliac disease." In general, restlessness, irritability, and nervousness are marked symptoms, and a violent and passionate fit of crying will often make the examination of a young child difficult.

A further group of symptoms has a close association with the phenomena of anaphylaxis, urticaria, sometimes giant urticaria, transitory oedema or exudation into joints, as well as spasmodic asthma. In other cases difficulties in the digestion and metabolism of fat stand in the foreground. The "cyclical" vomiting of childhood is frequently accompanied by evidence which marks the child out as of this particular diathesis.

Perhaps the most characteristic of all the symptoms is seen in the profound constitutional disturbance which is apt to accompany those apparently slight catarrhs to which, at longer or shorter intervals, the child is usually liable. In some children hardly a week passes during which they do not sicken of an acute feverish attack. At nightfall the temperature may be 104° or 105° F., and the child may present all the appearance of serious disease; and yet the morning finds every symptom gone. If, on the other hand, the infection is more sustained, weeks of high fever may elapse, yet repeated and careful physical examination does not disclose any physical signs of disease. In the severer degrees of the condition numerous

* *A Treatise on Scrofula, commonly called the King's Evil.* By Thomas White, Surgeon to the London Dispensary; 1784.

infections are fatal which would have caused but slight disturbance in a normal child. Pneumonia has a higher mortality; a trivial laryngitis may lead directly to death; in an acute attack of diarrhoea drowsiness may gradually deepen into coma, until death ensues; sometimes sudden heart failure, from fear or other emotion, the subcutaneous injection of antidiphtheritic serum, anaesthesia, or other trivial causes, may seem to be the direct cause of death. Acute infections may cause death with great rapidity, and very early in the course of the disease. A few weeks ago I performed an autopsy on a girl 17 years of age who had fallen down dead in one of the streets of the City. She had not complained of feeling ill. Marked hyperplasia of the thymus and thyroid glands and of all the lymphatic glands of the body was at once apparent. Naked-eye examination discovered no other cause for death, yet careful histological examination by Dr. Johnson showed a very early miliary tuberculosis of the lung. Lastly—as the French authors especially have insisted—arthritis, chorea, endocarditis, and other rheumatic manifestations are most commonly and most typically seen in children who exhibit marked signs of the diathesis.

The symptoms so described embrace a very large number of disorders, not usually regarded as akin. The hypothesis that all are dependent upon an underlying diathesis is founded only upon the observation that groups of such symptoms tend to occur in the same individual. As a rule, in any one individual a particular group of symptoms recurs again and again. In other cases the type of the manifestations changes at different stages in the development of the child. In one child the tendency to pyrexial attacks, nasal or naso-pharyngeal catarrhs, otitis media, tonsillar and adenoid hypertrophy, and enlargement of the cervical glands is most marked. In another digestive disturbances and the antipathy to a diet rich in fat is prominent. In a third urticaria and bronchial catarrh, or true spasmodic asthma, predominates; in a fourth seborrhoea or eczema of skin and scalp. The diathesis is hereditary. Often it occurs in all members of a family, and it will then usually be found that one or other parent has suffered severely in youth in the same way.

The therapeutic measures by which we may hope to control the manifestations of the diathesis are both local and general. In the latter group are a number of well-ascertained dietetic and hygienic regulations.

For my present purpose the chief interest lies in the extension by Czerny and others of the recognition of the diathesis back to the earliest days of life, and the emphasis more recently laid on the part which it plays in the production of digestive disturbances both on breast and on bottle.

Symptoms of the Exudative Diathesis in Infancy.

In early infancy the most common way in which the inheritance shows itself is the complete or relative failure of breast-feeding. The children often show none of the strength, vigour, and firmness of the normal breast-fed baby. From the first they may be meagre, small, and complaining, and persistently dyspeptic. The mother's breasts may be well formed and full of milk, and yet for weeks and even months no improvement takes place. Dyspepsia, with the passage of green stools and vomiting is frequent, and in a breast-fed child should always suggest the existence of this diathesis. In other cases, however, a different picture presents itself. The infant achieves a rapid rise in weight, yet the more rapid the growth the more marked do the other symptoms of the exudative diathesis become. Finkelstein especially has emphasized the tendency for infants who show the diathesis to belong to one or other of these two types—the thin and wasted type, or the fat, pasty and eczematous type.

Cutaneous Symptoms.—Seborrhoea of the scalp is extremely common in the form of a dirty greyish-brown fatty secretion appearing irregularly upon the hairy scalp, which resists all the mother's attempts to remove it. This symptom appears in breast-fed infants suffering from dyspepsia with very great frequency.

A dry eczema of the cheeks and chin is common, especially in thin infants. The skin in these situations is reddened, dry, scaly and rough. In the fat and pasty type an acute irritating eczema is more frequent.

Urticaria papulata is often seen. The minute papules are scattered on the scalp, body, and extremities, but not on the face. They are often present on the soles of the feet. Each crop tends to last two or three days.

Intertrigo occurs readily, in spite of the greatest cleanliness, in the groin and axilla, in the genital folds, or behind the ear.

Symptoms in the Mucous Membranes.—The same vulnerability which appeared in the skin shows itself in the mucous membranes. Naso-pharyngeal catarrh, with accumulation of secretion in the posterior nares and pharyngeal wall, and slight enlargement of the cervical glands, is common. Because the infant lies constantly on his back the anterior nares often remain free from secretion, so that the appearance does not suggest nasal catarrh. The interference with nasal breathing is so great that suckling is rendered difficult. Often this obstruction is the direct cause of weaning, a course to which the mother is inclined because of the coincident dyspepsia. The catarrh often sets in with high fever, loss of appetite, diarrhoea and vomiting, and prostration: a diagnosis of bronchopneumonia is often wrongly made. Examination of the naso-pharynx and the cervical glands makes the diagnosis clear. Laryngitis, bronchitis, and otitis media are frequent complications. The lingua geographica, conjunctivitis, eczematous or phlyctenular, and circular caries of the teeth are seen in later infancy. The mucous membrane of the intestine is also affected. In earliest infancy constipation or dyspeptic green stools are common symptoms. Later follicular colitis, mucous diarrhoea, and threadworms are frequent.

Symptoms of Overgrowth of Lymphoid Tissue. — The spleen, thymus, tonsils, lymphatic glands, and intestinal follicles all show a tendency to an enlargement, which is probably secondary to the chronic irritation in the areas which they drain.

Treatment.—The symptoms of the diathesis are encouraged or controlled largely by the composition of the diet. Especially marked, as a rule, is the ill effect of a fat rich diet, such as cow's milk. Even the breast milk may disagree for this reason. Limitation of the amount of milk and the early substitution in part of carbohydrate food is usually the most successful line of treatment. Without dietetic regulations the local treatment of the various manifestations, the repeated catarrhs, or the lymphoid overgrowth—as, for example, the adenoid enlargement—is often without avail. Over-feeding is especially harmful, and the food should be reduced so that it just covers the physiological needs. As might be expected, the subjects of the diathesis are apt to show a very violent reaction to all infections in which catarrhs are common. Measles and whooping-cough may endanger life.

Illustrative Cases.—The diathesis so described is of such common occurrence that numerous cases might be quoted from among the patients seen upon a single day in the out-patient department of a large hospital. The following case illustrates the association of infantile dyspepsia, seborrhoea, adenoid overgrowth, and asthma.

CASE I.

An infant, 3 months old, suffering from severe seborrhoea of the scalp, was brought to me on December 3rd, 1911. Although nursed on the breast he had suffered severely from dyspepsia almost from the first. At 5 weeks old he had been weaned. He was always sick when cow's milk even in considerable dilution was given. He had had much less dyspepsia upon sweetened condensed milk. The seborrhoea had appeared at 3 weeks. The scalp when seen was completely covered with masses of secretion.

A fat-low carbohydrate-rich diet was ordered, and recovery followed in about six weeks' time. On April 20th, 1914, he was again brought to me. I was told that he was well except for a tendency to suffer from slight scaly eczema of the cheeks and chin, repeated nasal catarrhs, and severe spasmodic attacks of dyspnoea. Two maternal aunts suffered from asthma. He had some tonsillar enlargement and a mass of adenoid vegetations.

Dietetic rules were given. He had been taking large amounts of cow's milk, and a diet predominatingly vegetable and cereal was recommended. The adenoids may have to be removed later. The association between them and the asthma cannot, however, be regarded as cause and effect.

CASE II.

A girl aged 8 was brought to the hospital for growing pains. She had been weaned for failure to thrive at three months, although the mother had plenty of milk. She walked and cut her teeth somewhat late. In her third, fifth, and sixth year

she was admitted to hospital for bronchopneumonia, but recovery was always rapid, and pyrexia short-lived. The mother thought that the attacks did not differ from many others which the child had had, and which she had almost grown to neglect. They set in suddenly with burning heat, flush, and dyspnoea. At such times the glands in the neck always enlarged. (In another case with similar history the mother told me that a diagnosis of mumps had been made in the hospital surgery on four separate occasions, and on each she had attempted to obey instructions and carry out isolation of the child.) At 2 years old she had had eczema of the scalp. She had then been fat, but had got thin later. On examination she was seen to be a small child, with sparse, wavy, curly, reddish hair, and dark eyelashes. Fine downy hair grew low down on the forehead, beyond the true hairy scalp and over the cheeks almost like a whisker. There was marked enlargement of tonsils and adenoid overgrowth. The nostrils were pinched and atrophied. The cervical glands were large and palpable, the axillary and inguinal glands smaller, but easily palpable and visible under the thin skin. The face was reddened with rough, dry skin on the cheeks. The tongue showed the condition lingua geographica. The chest was narrow, with little subcutaneous fat. The skin was very white over the chest, and changed to a deeply pigmented colour over the distended abdomen. She complained of abdominal pain at intervals, often had diarrhoea and blood-stained stools. There had been frequent prolapse of the rectum. At one time threadworms had been seen. Lately she had complained much of joint pains, and a diagnosis of acute rheumatism had been made.

Case III.

The portrait of C. E., aged 5, is selected to show the sparse hair with indeterminate anterior margin, dry eczema of cheeks and scalp, adenoid overgrowth, and enlarged pigmented abdomen. She was brought to the hospital for repeated attacks of diarrhoea and abdominal pain. She had been weaned at 3 months, and had never thrived on the breast, although the attempt had been persisted in. The cervical, inguinal, and axillary glands were palpable. She was subject to repeated pyrexial attacks of short duration, during which she vomited, became drowsy and listless, and felt "burning hot."

Case IV.

A male infant, aged 3 months, admitted to Guy's Hospital under my care. In the surgery the temperature was 105°, and there was marked dyspnoea. Examination showed that the lungs were free from physical signs. The cervical glands were enlarged, and the fauces and pharyngeal wall were reddened and inflamed. The temperature remained high for two days, when recovery took place rapidly. The child had suffered continuously since birth from dyspepsia, and the weight—7 lb.—was less than at birth. Weaning had taken place at 6 weeks, and the diet had since consisted of equal parts of cow's milk and water, with added cane sugar. There was a slight roughness of the skin of the cheeks and forehead. Upon a diet of citrated whole milk the weight rose rapidly, but as the child grew fat the eczema became acute, and spread actively over the cheeks. After four weeks the diet was changed to sweetened condensed milk, when the eczema immediately improved, and the face became quite clear. On three occasions there have been acute paroxysmal attacks of dyspnoea, without pyrexia, which suggest the presence of asthma.

Such cases might be multiplied indefinitely. Czerny has called the disorder the commonest ailment of childhood. I am well aware of the danger of laying too great stress upon such hypothetical conceptions as that of a diathesis the true nature of which is still a subject for speculation, or of allowing explanation by assumed causes to take the place of inquiry into anatomical and clinical facts. I believe, however, that in ignoring this aspect of disease altogether, and in concentrating all attention upon the local phenomena, we commit a serious error. In the large new textbook of children's disease, edited by Batten, Garrod, and Thursfield, I find little mention of the question of diathesis at all, although perhaps no subject has been dealt with so minutely in the recent literature of diseases in children or debated so earnestly at meetings of societies and congresses on the Continent. Speaking of the spasmophilic diathesis, so good an observer as Dr. Leonard Guthrie dismisses the conception somewhat contemptuously as savouring of an extinct medicine.

Neuropathy in Infancy.

A second type of infantile diathesis which is worthy of close study, and which is also the direct cause of much infantile dyspepsia, both in breast-feeding and in artificial feeding, is found in severe neuropathy in infancy. The neuropathic inheritance may show itself from the earliest days of life in an altogether abnormal restlessness and sensitiveness to external stimuli. The neurotic infant is usually meagre and spare. The limbs often show a considerable degree of hypertonus. The abdomen tends to be strongly contracted, so that the recti muscles stand out prominently. Such children sleep badly from the first. When the healthy child sleeps he can be moved from his cot without awakening, and ordinary conversation in the room in which he lies has no power to disturb him. The neuropathic infant sleeps only to wake at the slightest sound. If any one approaches his cot, with a start he is wide awake again. No doubt, when mother as well as child are of neurotic temperament, the condition of the child is aggravated by the atmosphere of his surroundings. His will and his temper suffer no opposition. If food, for example, is given to him on a single occasion to quiet his midnight cry, there is no rest for his mother for many subsequent nights. More than other children, the neuropathic child, in the natural desire of mother and nurse to quiet him, suffers the risk of overfeeding, just as more than other children he tends to receive excessive psychical stimulation. Of all infants, he is in most need of rest; yet, in the hope of coaxing him to quietness, mother and nurse exhaust themselves and him in devising new psychical stimuli. The constant appeal to his senses produces a precocious mental development, but it aggravates the nervous instability and exhaustion. Finally, he can hardly be left alone for a moment, so accustomed has he become to the efforts of those who minister to his sensations. A little tyrant in the house, he may only rest on his daily excursions abroad, when at last he may lie still looking at the clouds, the traffic, or the trees.

Among such infants with a strong neuropathic inheritance dyspepsia is very frequent, even apart from the likelihood that their fretfulness and clamour will lead to overfeeding. In a few cases vomiting may be so marked that all food for a time seems to act as a veritable emetic. In other cases oesophageal or pyloric spasm develops, and it is almost exclusively in infants of this type that we find the development of hypertrophic pyloric stenosis.

Conclusion.

Many other examples of congenital inborn abnormality of constitution might be quoted, but enough has been said to make clear the contention that the problems of infantile dietetic disorders require for their solution all the trained faculties of medical men, and that a close supervision of the amount, composition, and quality of the diet will not avail in a great number of cases to detect the cause or ensure recovery. In infantile disorders, as elsewhere in curative and preventive medicine, the help given by trained, competent, and intelligent nurses and voluntary workers can only be subsidiary to the work of experienced medical men. At the present time, because of the relatively small number of medical men who are interested in the subject or who study it in a rational and broad-minded way, there is some tendency for their place to be usurped by lay workers, who are perhaps more interested but whose lack of training renders them unable to appreciate the complex nature of the problems concerned. The scientific study of the ailments of very young infants is of supreme importance to the State. Progress in this country of the control of infant mortality is hindered not by the apathy of the public or the State, but by the comparative neglect of the profession. To that extent the criticism of Professor Holt is true.

An International Congress on School Hygiene will be held in Brussels in 1915. The following subjects are proposed for discussion: The school building and its equipment; medical inspection in urban and rural schools; the prevention of contagious diseases in school; the teaching of hygiene to teachers, scholars, and parents; school hygiene in its relation to physical education at the different ages of the children; teaching methods, syllabuses, and school equipment in relation to hygiene; school hygiene in its relation to exceptional children; school hygiene with regard to adolescents. The Congress will be held under the patronage of H.M. Albert, King of the Belgians, and under the auspices of the Belgian National Institute of Paedology and of the Belgian Paedo-technical Society. M. J. Corman, Director-General of Primary Studies at the Department of Science and Art, and Dr. J. Demoor, Rector of the University of Brussels, are Presidents of the Organizing Committee. All communications and inquiries should be addressed to Dr. H. Rulot, secretary-general, 66, rue des Rentiers' Brussels.



Fig. 1.



Fig. 2.

DR. H. CHARLES CAMERON: DIATHESIS IN INFANCY.



FIG. 1.—Case III of series. Showing disposition of erythematous lesions. Desquamation resulted, as shown in the photograph.



FIG. 2.—Case II of series. Showing disposition of erythematous lesions. The swelling of the affected buttock is well shown in the photograph.



FIG. 3.—Case IV of series. Showing effect of peripheral neuritis, resulting in foot-drop with atrophy of the affected muscles.

CARBON MONOXIDE POISONING IN THE SENGHENYDD EXPLOSION.

[WITH SPECIAL PLATE.]

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THE Senghenydd explosion happened about 8.10 a.m. on October 14th, 1913, and is the worst disaster in the history of British mining. The number of men killed was 440. The whole of the men working on the eastern side of the mine were brought up safely, almost immediately after the explosion occurred; 18 men only were rescued from the western side, after an exposure to the noxious fumes for twenty hours, and survived. Five died from the effects of burns and injuries sustained whilst following their occupation in close proximity to the shaft, and one man lost his life on the day following the explosion whilst assisting in work at the fire which was raging in the west main level, being killed by a fall of stone. The whole of the remaining men working on the west side were asphyxiated by carbon monoxide gas, many were also burnt and sustained multiple injuries, either as a direct consequence of the explosive blast or from being buried under falls of roof.

AN ACCOUNT OF THE RESCUE OF EIGHTEEN MEN FROM THE BOTTANIC DISTRICT OF THE SENGHENYDD MINE.

The rescue party consisted of representatives from the various colliery companies, the Miners' Federation, the Home Office, and a few of the Senghenydd Colliery officials, with the Rhymney Valley Rescue Brigade in charge of Superintendent Ritto, together with Dr. Dan Thomas, of Bargoed.

The circumstances under which rescue operations into the Bottanic District were rendered possible will be fully explained in a later paragraph. The party entered the No. 1 North Road from the east side of the pit, taking fresh air with them, and found but slight evidences of force and fire along this road.

Four bodies were passed; one, a man of exceptionally fine physique, was found in the middle of the road lying on his back with his hands clasped behind the head, indicating that he assumed a position of repose when first affected by the fumes of afterdamp. There were superficial burns upon the face and hands, and well-marked signs of carbon monoxide poisoning were present. The noxious fumes in this instance must have produced a narcotic effect, for the position was one of ease, and must have been assumed before consciousness was lost.

Two other bodies were found close by, lying in a semi-prone position against a box, and leaning against each other; these also showed typical signs of asphyxia from carbon monoxide. It is interesting to note that a live horse was found on the road.

The narrow entrance to the Bottanic District was now reached, and a dead haulier was found lying doubled up over the back of a tram with his head inwards. There was an extensive scalp wound over the back of the head, and death was due to carbon monoxide poisoning. The position of the body and wound on the head suggest that he was hurled backwards against the side, struck his head, and fell forwards into the tram, and was asphyxiated whilst lying stunned in this position. A little further in, close to the mouth of the narrow airway, was the body of the district fireman, lying in a semi-reclining position with the legs crossed, and head resting on the left hand; the body showed no marks of violence nor of burning, and presented well-marked signs of poisoning by carbon monoxide. The man's lamp was found some yards nearer the pit bottom, in the middle of the road, indicating that after leaving his district, and finding the air insupportable in the No. 1 North Road, he attempted to get back to inform his men, and, when affected by the fumes, dropped his lamp, and tried to crawl back. As will be described later, one of the earliest signs of poisoning by carbon monoxide is that anything carried becomes too heavy, and has to be dropped. The state of this body proves conclusively that comparatively little force entered the district, and also points to the complete absence of fire. The importance of these observations will be fully understood later in connexion with the description of the erythematous lesions found on the bodies of the survivors.

The narrow airway was now reached, and the party proceeded in single file, but it was agreed that a line of communications should be kept from a fixed base, where some of the rescue men remained with their apparatus. The working places were now thoroughly explored in turn, and most of the survivors were found along the main road. The air was fresh up to this point.

Rescue brigades from Porth and Crumlin, in charge of Superintendents Thorne and Wimborne respectively, also rendered valuable assistance in the treatment and transport of the survivors.

The following cases are illustrative of the series of 18, a clinical abstract of which is given below.

CASE I.

(22) He first experienced a sensation of choking, which he attributed to smoke which entered the district, and says that ten minutes later his legs gave way and he lost the use of his feet, and was obliged to crawl on his knees to reach the main road, but before getting there "he felt his head going," and became unconscious, and recollects nothing further until the evening of the following day, after admission to the temporary hospital. When rescued his condition was as follows: Unconscious, foaming at the mouth and nostrils, lying in a reclining position, with his back against the coal face and head dropped forwards. Respiration was greatly laboured and frequent; the pulse was feeble, frequent, and irregular, and there was evidence that he had vomited. The condition of the man was extremely grave, but he gradually revived by the treatment, which will be fully described in another paragraph. He again collapsed into a similar state after being brought to the surface and carried to the temporary hospital, which had been prepared and equipped at short notice for the reception of the survivors under my care.

This patient was almost *in extremis* for twenty-four hours, and his condition constantly varied from that already described to periods of improvement which were only transient. He was conscious at times, but again, as in the case of the pulse and respiration, the state of consciousness varied a good deal, and with the remissions he would doze and become quieter. Throughout the forty-eight hours following the rescue his condition was very critical, and both cardiac and respiratory failure occurred almost hourly. His temperature varied from 99° to 100°.

Owing to marked restlessness his position in bed had to be continually changed. He expectorated frequently an abundant frothy blood-stained material, and there were numerous râles present, indicating acute oedema of the lungs. There was retention of urine, which was drawn off some hours after he was brought into hospital. The urine was dark in colour but contained no blood pigment, but unfortunately a sample was not kept for further examination. The urine afterwards was normal. Oxygen was administered regularly every hour, and at intervals the lower ribs were forcibly compressed bimanually according to the Howard method of artificial respiration. He responded well to stimulation with strychnine and digitalin hypodermically, the former in doses of $\frac{1}{60}$ grain hourly for twelve hours, and with each alternate dose digitalin gr. $\frac{1}{100}$ was combined. The same dose of strychnine was repeated at times when cardiac failure threatened to supervene.

His condition improved in the course of twenty-four hours, but on the following day he relapsed, the temperature became raised and respirations increased, and physical signs of pneumonia appeared. For several weeks afterwards there was irregular pyrexia, varying from 99° to 101°, and the physical signs were those of bronchopneumonia, successive portions of the lungs becoming involved in turn. He ultimately got quite well, but the areas of skin affected by erythema remained anaesthetic for several months, and sensation is still somewhat impaired in those situations.

Erythematous Lesions.—Over the left lower ribs posteriorly were two areas of acute erythema, almost contiguous, one circular and the other oval in shape, involving an area of skin several square inches in extent. These were acutely painful and tender. These areas of erythema were raised and of a cherry-red colour, the hair follicles standing out prominently, as is well shown in the photograph. Complete anaesthesia was present over these areas, and hyperaesthesia as already noted. The colour gradually faded, but was evident for several weeks, and some desquamation resulted, but anaesthesia persisted for months.

CASE II.

J. J. (19), brother to the foregoing. His first symptoms were consequent upon the smoke coming into his working place, and he felt "choked" and giddy, and some minutes later a feeling of weakness came over him, which was felt in the feet, and a sensation as if something was lifting the hair of the scalp. He says that he has no recollection of anything further until the fourth day after the explosion, when he realized what had happened. He was found some distance from his working place, and close to the main haulage road.

He was unconscious and lying in a semi-recumbent position

against the side of the road. He was badly affected by the fumes of after-damp, but to a lesser extent than his brother.

He was revived and conveyed to the temporary hospital, where his condition was found to be as follows: Semi-conscious and extremely restless and irritable, his mental state closely resembling that of cerebral irritation. He constantly shifted from one position to another, but this was partly due to extensive erythematous lesions, which made lying in almost any position uncomfortable.

The erythematous lesions were confined to his back in the following situations:

1. An almost quadrilateral patch of acute erythema in the left infrascapular region and involving an area of skin of about 2 in. in extent.

2. Another on the left buttock triangular in shape with its base over the tuberosity of ischium, and sides extending upwards and forwards to the iliac crest, as shown in the accompanying photograph.

3. Smaller patches in the right infrascapular and lower dorsal regions.

The whole of these erythematous areas possessed characters similar to those already described, and these lesions were evidently very painful, for he groaned repeatedly, and on examination exquisite tenderness was elicited, particularly over the affected buttock.

These areas of skin remained congested for several weeks and anaesthetic for several months.

His general condition is now good, but he still suffers from neurasthenia.

Case iv.

T. M., aged 18. He was working on the face of the coal at the time, close to the airway, with his father and two brothers, who were afterwards found dead. He accompanied the others in their endeavour to escape along the return road, and remembers distinctly that his father and two brothers were with him when the double parting was reached on the way back. All were now feeling the effects of the after-damp and fell. He attributes the onset of symptoms to the exertion of walking quickly uphill along the incline road, for three-quarters of an hour had now elapsed from the time of the explosion.

When rescued he was seen to be badly affected, and more in a state of collapse than asphyxia. He was revived with difficulty, and conveyed to hospital, where he recovered sufficiently some hours later to be conveyed home. He has no recollection of the rescue party coming to his aid, and only vaguely remembers being conveyed and detained in hospital.

His condition was as follows: There was some degree of collapse, but this had greatly improved on reaching fresh air.

Peripheral Neuritis.—This involved the dorsiflexors of the right foot, giving rise to foot-drop as shown in the photograph. There was also some pain, swelling, and redness of the foot and leg for several days. Anaesthesia of the lower third of the outer side of the right leg and of the whole of the foot and heel was present. This afterwards cleared up upon the sole, but anaesthesia still persists in the other situations, and paralysis remains almost unaltered. Some slight improvement has resulted from massage and electrical treatment of the affected muscles. There is paresis and atrophy of the whole of the right lower limb; the calf measures 2 in. less and the thigh 1 in. less respectively than the corresponding parts of the sound side. Complete reaction of degeneration is present in all the muscles of the right leg, except the gastrocnemius, which gives a partial R.D. The thigh muscles react normally. Loss of tactile sense and anaesthesia persist on the lower half of the outer aspect of the leg, the inner side of the dorsum of the foot in a line with the great toe, and also on the ball of the foot. The foot is usually cold and red, and there is also some vasomotor instability elsewhere. He has complained at times of pain along the sciatic nerve as far as the knee, and occasional shooting pains in the foot and ankle. The knee-jerks are exaggerated, but the plantar response is flexor in type.

Erythematous Lesions.—(1) A well-defined area of acute erythema, quadrilateral in shape, on the right buttock, 5 in. long by 3 in. wide, and extending almost transversely from the tuberosity of the ischium to the great trochanter. The characters were identical with those described in previous cases, and in his case the lesion closely resembled an extensive wheal produced by local injury and attended by considerable pain, swelling, and induration of the part. (2) There was also an oval patch of acute erythema over the right lower ribs in the anterior axillary line. (3) There was another small patch of erythema above the external malleolus.

These lesions progressed in the same manner as in the cases already described.

Clinical Abstract of the Series.

Symptomatology.

General.—Languor, weakness, and an almost irresistible desire to lie down.

Cerebral.—Drowsiness, mental confusion, giddiness, headache (in one case only).

Muscular weakness of the legs was complained of by all, and was in most instances the earliest symptom felt, particularly in the knees. Probably this was but a part of a general asthenia, which first manifested itself in the legs, and was brought out by exertion. In one case the patient says that his head became too heavy for his body, and he was obliged to lie down.

Cardiac symptoms were not complained of in the early stages of poisoning, although subsequently several were in a state of collapse from cardiac enfeeblement.

Respiratory.—Cough was present in some of the cases, but this was probably due to smoke. One complained of a feeling of constriction in the chest, another of suffocation.

Physical Signs.

General.—Some but slightly affected, others suffered from various degrees of collapse.

Cerebral.—Stupor, restlessness, irritability, depression, coma.

Cardiac.—Marked enfeeblement of cardiac action in many and repeated attacks of cardiac failure in one case. The occurrences of remissions and relapses so frequently in this case, made the question of prognosis very difficult. His case (No. 1) was considered as hopeless by most of the medical men present, but he responded well to timely stimulation and inhalation of oxygen, which was given almost continually. The condition and progress of this case have convinced the writer that no case of carbon monoxide poisoning should be regarded as hopeless, for he was almost *in extremis* when brought out of the mine, and after some improvement following the restorative measures applied at the time of rescue, he again collapsed on reaching fresh air and during transport to the temporary hospital a quarter of a mile or so distant from the colliery.

Respiratory.—Acute oedema of the lungs occurred in one case (No. 1). There were three cases of bronchitis and two cases of bronchopneumonia. One of these (No. 1) was prolonged, and attended by considerable constitutional disturbance, whilst the other (No. 3) was of short duration. In both cases the course was subacute for the major part of the illness.

Nervous System.

Ataxy occurred in several patients antecedent to loss of consciousness.

Peripheral neuritis occurred in five cases. In four cases paralysis in the distribution of the external popliteal nerve resulted in foot-drop, and anaesthesia in the area supplied by this nerve. The lesion was on the right side in all, but in one (No. 5) foot-drop was also present on the left side, but cleared up quickly. There was some paresis of the dorsiflexors of the feet in several, but of short duration. In one case (No. 7) the extensor muscles of the forearm were affected, resulting in wrist-drop, but this was also of short duration. The hand on this side was also in a condition of acute erythema with vesiculation, with absolute anaesthesia. This has now resulted in an atrophic condition of the whole hand with ankylosis of the carpometacarpal joint of the thumb in a position of adduction, some atrophy of the thenar eminence and first dorsal interosseous muscle, and the fingers are cold, glossy, and tender. There is anaesthesia of the ball of the thumb and of the four fingers, and also incurving and furrowing of the nails. There is loss of movement in the thumb and index finger. The lesion in this case must have involved many of the terminal twigs of the ulnar and median nerves. The ordinary methods of treatment for cases of peripheral neuritis were adopted.

Cutaneous Lesions.

Acute erythema occurred in nine of the cases. In one case (No. 7) oedema, vesicles, and bullae were associated with the erythema. In several oedema of the part was present, with erythema. In five erythema affected the right buttock only. In three erythema affected the left buttock. In one both buttocks were affected. In several of these cases other parts were also involved. In only one case did the buttock escape.

In seven cases erythema affected the skin over the scapula or immediately below its lower angle, and most commonly over the spine and vertebral borders. In six cases erythematous lesions involved the skin of the chest wall, and in five of these on its posterior aspect inferiorly, whilst in one instance the skin over the pectoral muscles was involved and in another a large area on the front of the thigh was affected. In two cases the skin above the malleoli was affected. In three of the cases a patch of skin below the head of the fibula was affected, and in two paralysis of the dorsiflexors of the foot on that side was associated.

Thus the lesions most commonly involved the buttock, and generally the skin over the tuberosity of the ischium was affected. In other situations the skin over bony prominences was most commonly affected.

Thus pressure must have played a part in the determination of the site of these areas of acute erythema, for most of the survivors were found in a sitting or reclining position. However, the occurrence of acute erythema in situations other than over bony points indicates that pressure was not the cause of these lesions, and the presence of hyperaesthesia with anaesthesia, too, affords strong evidence of the existence of some other factor in the causation of the cutaneous lesions.

Characters.

The patches were raised and of a brilliant cherry red colour, and the hair follicles stood out prominently, and the erythematous condition was attended with considerable pain, which made lying on the affected part impossible.

The affected areas were hot to the touch and very tender, and faded a little on pressure, but, owing to extreme tenderness, only slight pressure could be applied without causing much discomfort. Absolute anaesthesia was present to painful impression. This was strictly confined to these areas for the most part, but in some instances it extended a short distance beyond, but not more than to the extent of an inch in a single instance, in others it was less than this.

Progress.

The colour gradually faded over a period of several weeks, and it did not go through the stages of a bruise. In two cases the areas of erythema are still evident, and the colour can be restored to some extent by rubbing the part. In one case, when this is done, the patch becomes red, and the margins are of a purplish colour.

Many show generalized vasomotor instability, and in some factitious urticaria or dermographism can easily be elicited. In one (No. 7) there is passive congestion of the fingers, which are generally cold. In some desquamation and crusting resulted.

In one (No. 7) definite scarring has taken place, and this involves the subjacent muscles of the thumb. Probably septic infection was responsible for this result. In two others probably scarring will ensue. There is evidence of atrophy in two cases, for the area of skin previously occupied by acute erythema is now depressed below the surrounding parts. In one (No. 7) the acutely erythematous condition of the fingers has been definitely succeeded by atrophic changes as already described.

Hyperaesthesia lasted for several weeks. Anaesthesia was absolute for several months, and in many is still evident.

PATHOLOGY.

The considerations detailed above point to some resemblance between the cutaneous lesions of carbon monoxide poisoning and those belonging to the group of toxic erythemata. In both there is capillary dilatation, serous exudation, and cellular infiltration.

The presence of hyperaesthesia and anaesthesia, so striking in the cases now under consideration, constitute an important difference between the two affections, for they are absent in toxic erythemata.

The scarring and atrophic changes in carbon monoxide poisoning afford a marked difference between the two affections.

The association of anaesthesia with erythema indicates that the cutaneous lesions of carbon monoxide poisoning are of the nature of an angioneurosis, and brought about either directly by anoxyaemia, or indirectly through the circulation of toxins produced by faulty metabolism.

The persistence of the lesions and their results favours the former view, and point to a marked interference with the nutrition of the skin. If the lesions were due to the circulation of toxins, one would expect this to subside soon after the patient recovered from the immediate effects of the gas, and on this supposition the cutaneous lesions should be of brief duration, and clear up completely.

The association of peripheral neuritis with several of the cases favours the view that an angioneurosis is responsible for the condition of carbon monoxide erythema, and it is rather remarkable that in two cases of external popliteal paralysis erythematous patches were present just below the head of the fibula, and almost exactly over the situation of the nerve. The influence of pressure has already been discussed.

The cutaneous lesions of carbon monoxide poisoning were first described by the writer in a communication to the BRITISH MEDICAL JOURNAL of November 1st, 1913. There is no record of any previous observation of these lesions, which, in the writer's opinion, are now fully established as true manifestations of carbon monoxide poisoning. There was no evidence of burns or of any fire having reached the part of the mine where the survivors were found.

TREATMENT OF CARBON MONOXIDE ERYTHEMA.

Lotio calaminae was of some value locally, but relieving pressure such as by a ring pad or cushion enabled the patient to lie down with some degree of comfort.

SYMPTOMS SHOWN BY RESCUERS.

The symptomatology of carbon monoxide poisoning as shown by those engaged in the work of exploration, etc., will now be considered.

General.

A marked feeling of languor and an irresistible desire to rest quite regardless of immediate danger. Those affected wanted to be left alone, and would resent interference, even if directed to their advantage.

Fatigue becomes so acute that almost any muscular action cannot be sustained. One man was obliged to relieve himself of a pocketful of nails, another a hammer, another his cap, for even this seemed too heavy. A colliery manager leading one of the parties, and carrying the canary, when affected by the gas felt his grip upon the wooden cage weaken, and imagined his fingers were swollen. Others complained of faintness, others of exhaustion.

These symptoms were usually brought on by exertion, and were far more evident in those doing hard manual work than in the officials superintending such work. Some relief would ensue from rest, but this would be of a brief duration, and recur immediately work or walking were resumed.

Cerebral.

Tinnitus aurium was one of the earliest symptoms. Headache was general, and first felt at the back of the head, and described by some as amounting to a severe pain. Some complained of a feeling of constriction as if the head were encircled by a band which could be tightened by a screw.

Others said they had a feeling as if the crown of the head was being lifted off, or a sensation of expansion of the head; or a feeling of the head splitting in two. One said that "his head felt double the size." A marked feeling of "throbbing in the temples" was present in many. Headache was delayed in some, and absent in a few. A feeling of contentment or complacency was general even in those suffering from the various subjective sensations described above. Many were fully aware of their dangerous position, but strangely there was no mental distress, and they would lie still, and make no effort to move on to a place of safety. In some the mental state was one of exhilaration, even when prostrated and conscious of extreme danger. Such cases would desire to rest, and would not actively assist any one desirous to help them. All precaution would be abandoned, and one leader of a party carried the canary mechanically, and ceased to take any further notice of its movements. Many said that their sense of humour was increased as in the early stages of alcoholic intoxication, and jokes and pleasantries would be exchanged between the mine officials and the working men.

Many responsible officials who ordinarily possess a keen sense of authority and duty would joke with their subordinates, although fully conscious of doing so, and, indeed, they would mentally reprove themselves for being "childish."

Some were greatly amused at the gasping appearance of others, although fully aware that their own condition was very similar.

Others, again, would exhibit hysterical symptoms, such as immoderate laughter, shouting, or singing, and in this respect one said that the effect in his case was very similar to that produced by nitrous oxide. A mild degree of delirium was produced in some instances, and one of the mine officials when affected became excited on reaching

fresh air, and raised his lower limbs in walking in a manner resembling the "turkey trot."

Some were happy and depressed in turns, others were irresponsible and indifferent as to their language to their superiors. One man in this respect behaved similarly when "gassed" as on another occasion when observed by the writer to be under the influence of alcohol. Giddiness was complained of by many, and several were observed to be ataxic on endeavouring to walk.

Cardiac.

Palpitation was a common and early symptom, and accompanied in many by a very tumultuous action of the heart. Cardiac action would become so forcible that some were obliged to keep the elbow firmly pressed against the left side. The members of one party exploring the mine within a few days of the disaster, and when it was possible that some of the workmen were still living, believed that they could hear knockings, which they attributed to the presence of entombed men, but which were really due to tumultuous heart's action, and which became audible to others.

Another party which suffered in the same way said that they could plainly hear one another's hearts when all were silent in a remote part of the mine. Some stated that palpitation was so acute that they felt compelled to fall, for the heart's action was strained "almost to bursting point." Others described their symptoms as a severe throbbing of the heart.

Respiratory.

Breathlessness was common, and was probably in many cases partly cardiac in origin. Some described this as being asthmatic in character, others as "heavy and deep breathing"; others, again, said their breath was "heavy and gasping."

Muscular.

Weakness of the lower limbs was general, and described by some as a giving-way of the knees; others as a sagging of the knees; others stated that their legs became tremulous and weak; another said that his legs failed to support him and "felt like rubber"; another said "his legs were like whips"; others that their feet became too heavy. One—the official already mentioned, whose gait and behaviour excited some amusement—said that his lower limbs seemed very pliable, and he felt capable of performing almost any acrobatic movement. This was partly due to his mental state of exaltation, but which was maintained by a condition of flaccidity in the lower limbs.

Gastro-intestinal.

Vomiting occurred in some instances and gave relief. This happened in a few cases on reaching fresh air, and was attributed by one to the administration of oxygen.

Sequelae.

Malaise and lassitude were present for days in most cases, and some complained of failure of memory for some time. Those who continually inhaled small quantities of carbon monoxide gas—as, for example, those at work on the bashings—were subject to a cumulative effect, and general failure in health was the result and neurasthenia. It is the opinion, too, of many of the leading mining experts that respiration is permanently affected after such work.

The writer hopes to verify this by further observations of those affected at Senghenydd.

TREATMENT OF AFTER-DAMP POISON.

Preventive.

Miners in each district of the colliery should be subject to discipline and in charge of the district fireman.

When an explosion occurs the fireman should warn all the men to this effect by a recognized signal, such as ringing of an electric bell.

Some districts of the mine may escape the immediate full effects of the explosion, as did the Bottanic district in the Senghenydd disaster. The men should assume comfortable reclining positions on either side of the road, in a place selected by the fireman as being the best situated to obtain the purest air available. The fireman then inspects the roads leading from the district, and ascertains if escape be possible.

We have evidence from the survivors that the fireman in charge of the Bottanic district of the Senghenydd Mine made an attempt to collect his men, and cautioned them not to move until his return. His body was found just inside the narrow airway leading to the district. He was probably overwhelmed by the after-damp ascending No. 1 North Road.

The efforts of the men to escape have been already described, and the onset of symptoms in almost every case followed the exertion of walking quickly up the inclined road. Some also were considerably more excited than others. The party of men was almost wholly overcome by the time the double parting of the district was reached, and most of the bodies were found in groups close to this spot.

It is difficult to explain why eighteen men survived and why eighteen men died, for there were no marked differences of age, general health, and habits. Their respective positions also were somewhat similar, for almost all were found reclining against the side, and in some places the dead and living were mixed together.

The air close to the Mafeking return must have been heavily charged with the deadly fumes of after-damp, for a canary died suddenly here on the following day. Many of the men in endeavouring to escape traversed the road leading to the Mafeking return, and it is possible that some went further than others, and so were worse affected by the vitiated air of this part of the mine. Moreover, the concentration of the men at the double parting of the district must have lessened their ultimate chances to escape.

There is, of course, the question of varying susceptibility to the effects of after-damp poisoning, and this must have been partly responsible for the result.

When escape by the comparatively short route along the No. 1 North Road was impossible, the men would have done wisely to remain in the district rather than to traverse the long and difficult road heavily charged with the fumes round to the main level of the mine.

A supply of oxygen kept in the district would probably have saved the lives of many, for some of the survivors were hardly affected and only in a drowsy state. Inhalation of oxygen would have revived these men, and they could then assist the others. A knowledge of the administration of oxygen could be included in the instruction given to miners in first aid classes which are so well attended in the principality.

Large cylinders of oxygen could be kept in each district, and fitted with several gas bags, which could be filled, and used to resuscitate those affected by the after-damp. Unfortunately the effects of an explosion in many parts of the mine are so immediate and overwhelming that no escape is possible, but districts like the Bottanic in the Senghenydd Mine may escape the full blast and the noxious fumes may only diffuse in slowly, and thus with the aid of oxygen and the precautions already noted many lives may be saved.

Again, miners under such circumstances should drink the cold tea which is their favourite beverage when at work, and unless they have taken food recently they should partake of that in their boxes. The "jacks" and "boxes" found in the Bottanic district in the Senghenydd Mine at the time of the rescue were for the most part full.

Thermos flasks containing hot tea and milk, or hot coffee and milk, would be better than "jacks" containing cold tea.

Summary of Recommendations.

1. The district fireman to be responsible for the safety of the men, and the strictest discipline should be maintained at all times.

2. No man is to leave the district until permitted by the fireman in charge.

3. The fireman with another, or failing him two or three experienced men, are to undertake examination of the air along the roads leading to the district, and they should be careful to avoid over-exertion when carrying out such an inspection.

4. The men in the meantime should assume a position of rest, preferably in a semi-recumbent posture, and should drink their beverages and partake of food if necessary.

5. They should endeavour to keep awake, and those less affected should encourage the others.

6. A supply of oxygen, if available, should be used to restore those already affected by the after-damp. Inhalation of ammonia, too, would be useful.

Curative.

In the treatment of a person suffering from after-damp poisoning, unless removal to fresh air can be carried out immediately, treatment should first be applied on the spot.

The oxygen cylinders attached to the breathing apparatus of the rescue brigade can be utilized, and the air around the patient fortified by an ample supply of the gas. Artificial respiration can be performed at the same time. Inasmuch as most of the survivors in the Senghenydd Mine were found in a sitting position, this was maintained, and artificial respiration performed by the Howard method.

These measures proved to be effective, even in the worst cases suffering from collapse.

Massage and brisk friction of the limbs, too, was useful, and strychnine hypodermically. In less affected cases in which stupor is a feature, vigorous shaking and flipping measures were adopted.

The application of lotio calaminae seemed to relieve the pain of the erythematous lesions after the patients were removed to hospital.

In many of the explorers who were "gassed" artificial respiration by the Schäfer method was best. Oxygen was administered whilst the movements were being performed.

Owing to spasm of the upper limbs (Case 1), erythema, and oedema of the hands (Case 7), burns on the limbs in many others, the Sylvester method of artificial respiration was inapplicable, and this, too, would have hindered the simultaneous administration of oxygen.

As regards transport various means were adopted at Senghenydd. In slightly affected cases they were shouldered out by a helper upon either side, and the boys were carried pick-a-back. In badly affected cases a stretcher was used, but owing to the turns and obstructing timbers in the narrow entrance of the Bottanic district leading to the No. 1 North Road a blanket had to be used.

Ambulance trams for conveying injured or "gassed" miners should be devised for use in collieries. A wheeled support across which a stretcher or blanket could be suspended would be useful as a means of transport from distant parts of the mine. Commonly in ordinary cases of injury occurring in the mine the coal trams are used as a means of transport, but this for obvious reasons is unsatisfactory, and may seriously aggravate such injuries.

The patients should be covered up warmly with blankets or rugs, for on removal from the hot air of the mine to the relatively cold outer air serious collapse is apt to take place, as happened in some of the Senghenydd cases.

A small hospital should be permanently established as near as possible to the colliery.

All men suffering from the effects of after-damp poisoning should be carried, and under no circumstances should be allowed to walk home, for symptoms may be delayed and come on suddenly.

It is important that restorative measures should be carried out as far as possible in the mine itself, for the difference of temperature and pressure at the surface may lead to a relapse, as happened in some of our cases. This is probably due to the sudden liberation of small bubbles of the gas, which might form emboli in the brain and elsewhere.

Rescue Brigade Work.

The rescue brigades equipped with special self-contained apparatus rendered fine service in the work of rescue of exploration.

The first rescue party to arrive was the Rhymney Valley rescue car, with eleven men in charge of Superintendent Kitto, at 10.30 a.m. The nearest rescue station was Porth, ten miles distant, but this brigade did not reach the mine until half an hour later than the first named, owing to trouble with tyres, and to the fact that they were not summoned to the scene of the disaster until 10 a.m., nearly two hours after the explosion; thus valuable time was lost, inasmuch as before their arrival it was impossible to repair the damage done to the water pipes owing to fumes and smoke.

Had a rescue brigade been on the spot the water pipes could have been repaired immediately, and efforts directed against quenching the fire raging in the main west level would have been far more likely to be attended with success than three hours later. Whilst immediate measures were being taken to combat the fire, probably others of the rescue brigade with breathing apparatus might have been able to reach the West York district, and possibly also the Bottanic district, and thus many more lives would have been saved. This view is supported by the following considerations. The districts already mentioned were far more favourably placed for the purposes of rescue than the others.

One man employed in the West York district actually escaped from a point about twenty or thirty yards below the engine on the incline. He was blown down, but uninjured; and as he expressed it, he made a bolt for the shaft, and groped his way out, and fell unconscious close to the bottom of the upcast shaft.

The West York district was explored on the day following the explosion and the air found to be tolerable. Several men had made their way to within twenty yards of safety, and their bodies were recovered on the next day. Most of the others working on the coal face had traversed several hundred yards before being overcome. The positions of these bodies will be fully described in a later paragraph.

One of the bodies found in a group close to the Mafeking return was brought up on the next morning and bore the appearance of not having been long dead. The body was examined by several medical men, and each one formed this opinion independently.

Again, with regard to the Bottanic district, where the eighteen men were eventually rescued, the committee of experts determined that after an examination of No. 1 North Road at 9 a.m. and at 1 p.m. on the day of the explosion, rescue operations in this direction were impossible, owing to the fire having reached the Cross Cut, and dense volumes of smoke were travelling with the air into the road. The road subsequently became impassable, owing to falls, consequent to the burning of timbers supporting the roof.

The falls of the roof just described must have almost completely blocked the road, and thus the amount of smoke travelling up the No. 1 North Road was greatly diminished. Probably this was responsible for the reversal of the air, which maintained life in the Bottanic district and made rescue operations possible. Probably, too, before the falls occurred a large amount of this smoke was diverted into the stables, for the doors here were destroyed as a direct result of the explosion.

The rescue brigades early in the day were desirous of making an effort to reach the men in the Bottanic and West York districts, but permission was not granted, inasmuch as the mining experts believed that such efforts would be attended with certain calamity. The reason stated against making an endeavour to reach the Bottanic district from the east side of the mine was that it was impossible owing to the smoke in the No. 1 North Road.

The Rhymney Valley Rescue Brigade had worked at a fire two years previously, where the smoke was said to be even denser than that at Senghenydd, and the gauges of the apparatus could not be read even by a lamp of a hundred candle power, and a line of communications had to be kept by each man touching the one in front. After this experience this brigade at Senghenydd was prepared to enter the districts already mentioned.

Upon the arrival of Professor Redmayne, His Majesty's Chief Inspector of Mines, and Dr. Atkinson, the Chief Inspector of Mines for Wales, it was decided to examine the east roads leading to the west side, and this was done at 9 p.m. on the same day, with the result that they found the air to be now travelling down the No. 1 North Road, and not in the reverse direction as is normally the case. When this fact was reported it was decided to explore the Bottanic district from the east side of the pit, and the party started at 10 p.m. Their further progress has been elsewhere described.

The matter has been referred to in detail, inasmuch as it is highly probable that had the mine a permanent rescue brigade of its own, equipped with the breathing apparatus, an attempt would have been made much earlier to reach the Bottanic district.

The rescue brigades which came from other places were not acquainted with the mine, and proceeded almost

immediately to attack the fire and repair the water pipes. They were informed that no lives could have possibly escaped the immediate effects of the explosion.

The considerations strongly support the view that each mine should have its own rescue brigade, consisting preferably of men drawn from the ranks of the officials who possess an intimate acquaintance with the workings, which are varied and often complex, as the plan of the Senghenydd Colliery shows.

Rescue brigades for mines should consist of very carefully selected men. They should be in charge of a brigade superintendent qualified by long experience, and capable of instructing the men and maintaining thorough discipline.

It may seem almost unnecessary to suggest that the men should be of good physique, and that medical examination should be done at intervals, and immediately before undertaking any rescue work. However, at Senghenydd a brigade man collapsed whilst taking part in the exploration of No. 1 North stables. The heat was intense and the fumes dense, with the result that one of the men was overcome, and had to be carried out by the others. On subsequent examination it was found that the man suffered from heart disease, and had been unable to work for three weeks, and on the day of the explosion was actually under orders to attend the Cardiff Hospital for special examination. The apparatus was confiscated, but afterwards found by Professor Haldane to be in thorough working order. As a result of this the other brigade men were medically examined, and two more men certified unfit for the work.

The question of temperament, too, is of great importance in the selection of men for rescue brigades in mines. It transpired that whilst the brigades were removing the bodies from the York West district one of the men took fright and ran back. With this single exception the men constituting the various brigades were fearless, and were of great service in the work of rescue and exploration.

If, as already suggested, each mine had a rescue brigade trained and always ready for any emergency, the superintendent in charge would have ample opportunity of knowing his men and rejecting those unfit by temperament as for any other reason. In such a permanently instituted brigade, too, much advantage would be gained from the men becoming well acquainted with one another, which is so necessary for the purpose of discipline and co-ordinated work.

The brigade should have a medical officer to examine the men at intervals and to instruct them in principles of first aid, and it would be a great advantage if he could attend the practices and accustom himself to the use of the apparatus.

The training of rescue brigades should be carried out under conditions which resemble the actual as closely as possible. Arrangements should be made for filling the galleries of rescue stations with a certain percentage of irrespirable gases, such as carbon monoxide and sulphur fumes, and smoke.

The brigades, too, should have frequent practice in the mine itself, and operations could be carried out in the various districts with obstacles here and there to simulate falls of roof. Moreover, all the men should possess a good knowledge of first aid, together with that of the chemistry relating to gases and the administration of oxygen.

Whenever an accident happens in the mine the brigade should be summoned to attend the injured and convey them to the surface.

One of the brigade men at Senghenydd whilst assisting to carry a body slipped and was momentarily stunned. Instead of transferring the wounded man to the stretcher and removing with all speed to fresh air, some of the others ran for help to the base 50 yards away. Had these men possessed an intimate knowledge of first-aid principles, and been accustomed to put this to practice, their first consideration would have been to convey their injured colleague as quickly as possible to fresh air.

In actual operations the men should be thoroughly fresh, and have had a good meal before descending the mine, and should not take alcoholic liquors in any form.

The various brigades should work in shifts, for it is of vital importance that the men should not be exhausted by overwork, as they are then much more prone to be affected by the after-damp and to suffer acutely. One man at Senghenydd collapsed after being at work continuously for twenty-one hours. This was the result of physical exhaustion and not of a defect in the apparatus, which was afterwards found to be in good working order.

Immediately symptoms of poisoning are experienced or observed by others, the man should desist and return to the surface, and afterwards should not resume work until he is pronounced fit by the medical officer of the brigade.

As far as possible a close watch should be kept by all members of the party upon each other for signs of after-damp poisoning, and no one should be allowed to proceed alone to any part of the mine. Should the conditions prevent the brigade working together, then a line of communications should be maintained from a fixed base.

The rescue party should never go without a canary previously noted to be chirpy and lively. The bird, in a cage fitted with a small oxygen cylinder, should be carried by the leader of the party, and kept by the left hand on the corresponding shoulder, where its movements could be constantly observed. The position of the bird is important, inasmuch as carbon monoxide gas is lighter than air, and is uppermost. One exploration party at Senghenydd almost ended disastrously by omitting to observe the above precautions.

The earliest sign noticeable in the bird is a ruffling of the breast feathers; then it becomes unsteady, and assumes a position of roosting, and would remain so until it fell off the perch. The plan adopted by the superintendents of the rescue brigades at Senghenydd, to whom I am indebted for the account of the symptomatology of carbon monoxide poisoning in birds, was to shake the canary off its perch whenever it showed a tendency to adopt a roosting position, and if it failed to rise from the floor of the cage, or would flutter its wings in an attempt to do so, this was sufficient evidence that the bird was affected.

A constant watch should be kept for evidences of early embarrassment in the bird. When a canary was put suddenly into an atmosphere charged with carbon monoxide it fluttered quickly and died, but rescue parties should not wait for this, inasmuch as an atmosphere highly dangerous to life may be reached before the canary actually dies in the way indicated.

Post-mortem Appearances.

The following notes on the *post-mortem* appearances of 400 bodies refer to external appearances for the most part, inasmuch as permission could not be obtained to do any dissections.

Although some of the bodies were not recovered for several months, and were consequently in an advanced state of decomposition, yet typical signs of carbon monoxide poisoning were present in nearly every case.

The face was the part usually examined for the presence of the characteristic coloration, and, if not evident here, a part of the chest would be washed free from coal-dust, or incisions made in the limbs.

The colour in most instances was bright pink, and was evident even in portions of flesh exposed by injury, such as in torn ends of muscles around joints from which the limbs had been blown off. Many of these bodies were not recovered for several months, and yet the typical pink coloration of the exposed part, just described, was still evident. This indicates the firm stability of the compound formed by the union of carbon monoxide with haemoglobin.

In another instance the brain was exposed and lacerated by a compound comminuted fracture of the skull. The meninges and brain substance were bright pink in colour, and no haemorrhages were seen. The cerebral substance showed many small white areas, almost circular in shape, and about the size of a pea. These were probably areas of unaltered brain substance.

The colour of the gums in a large number of bodies closely resembled that of the enamel used in making false teeth, and, until the parts were closely examined, in many cases artificial teeth were believed to be present.

In no instance were false teeth found to be loose, and this points to the absence of convulsions in most instances. In one only was the tongue found to have been bitten.

The tongue in a large number of bodies was swollen in almost the whole of its extent, the tip only remaining

normal in size, and considerable difficulty was experienced in removing false teeth for the purposes of identification.

Superficial burns on exposed parts were common, and in a large number of instances coal dust had been driven into the skin, and had to be scraped off before the typical colouring could be ascertained.

Tattoo marks were very distinct, and the delineations of certain celebrities could be easily made out at almost first glance.

The features of many of the earlier bodies were swollen, and a sanguineous froth exuded from the mouth and nostrils, and showed the typical coloration.

A small pool of blood was found by the side of one body, and was fluid even after the lapse of thirty hours, and of a characteristic bright pink colour.

Fractures and dislocations of almost every possible variety and description were found, and such was the terrible force of the explosion that some bodies were blown to pieces and the limbs of others evulsed at the joints, even the lower limbs being separated in this way without fracture from the hip-joints.

Most of the bodies were found close to the coal faces, and were for the most part in groups, within 100 yards of the working places. The positions were variable, and many were killed whilst actually at work, and just fell over from the position they were in at the time. Thus many were found actually at the coal face on their knees, hauliers beside their trams, and engine men in their seats. Some had tied mufflers round the mouth and nostrils, others their vests or waistcoats; another had plugged his nostrils with cotton-wool.

There were evidences in some instances that boys had been carried by men before both were overcome. Four men had rushed out in one district arm in arm, and had fallen together about 60 yards from the coal face.

Five bodies were found in the No. 1 North Road under a fall, and recovered five weeks after the date of the explosion. They were men working in the Bottanic district, and were seen by the survivors after the explosion happened. One was a master haulier and a man of experience, and probably persuaded four others to accompany him in a bid for safety. These men rushed to their doom, for the No. 1 North Road at the time was heavily charged with after-damp, which entered the narrow passage leading to the Bottanic district, and which convinced the others that escape in this direction was impossible. Inasmuch as there was an equal number of survivors and dead in the district, it is probable that had the five men remained with the others, two at least would have survived. The bodies of these men were greatly mutilated, but one showed unmistakable evidences of carbon monoxide poisoning, and thus the injuries must have happened either after death or whilst he was in an unconscious state from CO asphyxia.

In the West York district four men got within a short distance of the shaft before being overcome, and were at variable distances from the 15 to 100 yards proportionate to their respective strengths. All had fallen forward on their faces, and evidently whilst running. Thus the first body was that of a young man of fine physique, and the fourth that of a boy. Ten others had traversed 600 yards before becoming unconscious on the main road close to the Mafeking return. These were in groups of three, and appeared to have sat together and to have gone off to sleep. Two were on opposite sides of a rail, and appeared to have been leaning against each other. The body of the district overman was about 10 yards in front of this group and out-bye to the Mafeking return, whilst the others were in an in-bye position. He had fallen forward on his face, and it is probable that he was leading this group of men to safety, and, being a man of considerable experience and sound judgement, knew that the critical point along the road would be near the Mafeking return, which conveyed the air from this district towards the upcast shaft. He halted his men in-bye to this point, and decided to make a test of his own life, and his fellows were to follow if the glimmer of his lamp was seen to be receding, or that he was to shout to the others. This view is held by his old friends, and is highly probable, for he was a man of fine physique, and could have got as far as the four mentioned above, for these, too, had travelled from the coal face, and several of the group of nine might have reached a near point to the shaft as well. Thus, amidst the gloom and horror of a terrible disaster, there were evidences of heroism of the finest description.

I am particularly indebted to Dr. Phillip James, the doctor of the colliery, for much valuable information, and to many of the colliery officials for their courtesy and help.

Presidential Addresses

TO THE

BRANCHES OF THE BRITISH MEDICAL ASSOCIATION.

METROPOLITAN COUNTIES BRANCH.

SOME OBSERVATIONS ON MODERN VASCULAR PROBLEMS.

By FRED. J. SMITH, M.D., F.R.C.P.,
Physician, London Hospital.

SOME two or three years ago Dr. James Mackenzie delivered a lecture in which he stated that physicians had been in the habit of making two fundamental errors in their teaching of the pathology of cardiac disorders; and my first object is to show that these errors existed only in his own mind, and arose from his ignorance of the teaching (at any rate at the London Hospital) of cardiology, and from his lack of appreciation of the lessons conveyed by the literature of the subject.

His first statement was that we physicians had taught that a valvular bruit heard in the heart invariably meant the commencement of a condition certain to grow worse, was always an omen of dreadful things to come—was, in fact, the handwriting on the wall of a fate from which none of the possessors of a bruit could ever hope to escape. I take this opportunity, belated though it be, of flatly contradicting such a pernicious error of statement.

Evidently Dr. Mackenzie had never had the advantage of hearing the late Sir Andrew Clark speak on the subject. I well know that Clark was constantly teaching that bruits were not always to be looked upon as such dreadful portents, for he had collected (and I believe published) a large number of cases in which in the course of routine examination he had found valvular murmurs without any signs whatever of cardiac insufficiency, cases which he labelled "murmurs without heart disease," and against which he warned us especially to be on our guard lest we should frighten some poor soul into a serious illness. Nor could Dr. Mackenzie have heard of Sutton's teaching. I had the good fortune to be his house-physician, and many is the time I have heard him say, "Gentlemen, it is my good fortune to be a little deaf, so that I cannot always hear these murmurs of which you speak"; and we who knew him were always proud to admit that Sutton with his one ear could hear more than we could with our two, by which we meant that his clinical knowledge could see much farther into the case than our stethoscopes could take us.

These two instances are quite sufficient to show Dr. Mackenzie's ignorance of the teaching of his time, and as an old pupil of these great masters of medicine I must confess to some little soreness at hearing a specialist express in public a disregard for, and ignorance of, their teaching.

The second error of which Dr. Mackenzie accused us has as little foundation in fact as had the first. Dr. Mackenzie says that as he reads books on cardiac disease it would appear that it was taught that back pressure caused heart failure. Having evolved this absurd piece of topsy-turveydom, he then proceeded to hold us up to ridicule for having taught it, and in very grave language to inform us that the horse drew the cart and not the cart the horse—an observation of which I do not believe that any modern physician can be asserted to be ignorant.

I have now relieved my mind of a portion of the indignation I have felt at the publication of these statements, which are not only absurd and incorrect in themselves but unjust to the memory of my dead teachers, and must proceed to express my admiration for the extreme beauty

and precision with which modern cardiology has solved the minute details of many problems connected with the heart. It has laid bare even before our eyes the exact why and wherefore of irregularities of beat, of tachycardia and bradycardia, of many forms of anomalous rhythm, of venous pulsation, of dicrotism, of pulsus alternans, etc., and no doubt has led many to a much clearer understanding of these phenomena; but I beg leave to doubt whether this showing up of the individual trees instead of a wood is a sight which it is always advisable to put before the eyes of medical students. Each modern discovery in the science of medicine—bacilli in the sputum of phthisis, eosinophiles in the blood of the hosts of parasites, and now heart-block and auricular fibrillation in heart disease—is apt to be used as a short cut by students to enable them to dispense with detailed examination of patients by the eye, the hand, and the ear; and, indeed, in relation to my present subject, the magic words, "heart-block," "auricular fibrillation," "excessive or high blood pressure," are quite sufficient to conjure with, without any silly inquiries into shortness of breath, indigestion, diminution of urine, oedema of feet, ascites, etc., let alone a general inquiry into the patient's feelings.

It is true that by electric and other cardiograms a very pretty picture of the heart's working can be obtained, and that by a careful analysis, which must be almost microscopic in accuracy, of the picture thus produced, and by then throwing the picture on to a screen, it is possible to make visible to a large class a great deal of what we formerly had to learn by frequent and prolonged personal observation at the bedside, and which then was not always easy to convey to our pupils. This is, no doubt, a tremendous advantage, and we owe it entirely to modern methods; but as one who has had considerable experience, not only as a teacher but as an examiner, I must again repeat that I think it a mistake to allow a student thus to substitute pictorial representation for bedside observation. Such pictures and their analyses are of the utmost value to men who are already qualified, to those who by observation and clinical experience have obtained some knowledge of the efficiency or otherwise of a patient's heart, and have learnt to observe the symptoms of dis-ease, as Sutton used to spell it in his lectures on pathology. But I have often been brought to feel in the examination room that pictures, macroscopic and microscopic, weights and measures, can be abused as well as used, and that in the hands of students the former is very likely to be their fate; so much has this been the case in my experience that I have been driven to the firm conviction that it would be a good thing if the teaching of advanced medicine of a "university type" (to use the well-known words of the University Commission) were reserved entirely for a post-graduate course to come in between the final examination and a licence to practise, and to be made compulsory for all students before they are allowed to treat patients on their own responsibility. This is the very best time in a student's career for him to appreciate such teaching, just the time when he wants to compare bedside with laboratory work, so that he can take the best of both.

Blood Pressure.

Let me illustrate what I mean by a few remarks on blood pressure. Early in his career the student learns from his physiology teacher that there is such a thing, and he probably sees many beautiful instruments, and perhaps experiments, by which it and its variations are measured. Pharmacology teaches him how it can be increased or diminished by drugs; in the wards cases of cerebral haemorrhage make a great impression on him by reason of their fatality and sad results other than death. He finds in all probability that in all the cases of cerebral haemorrhage blood pressure is high—above, say, 150—and by a short and easy process of reasoning he is led by a specious short cut to say, If I find a patient, therefore, with a blood pressure of over 150 or 160, I must try and bring this down with drugs, that I may rescue the patient from a threatened apoplexy.

What a host of fallacies are here within a line or two of print! It is really difficult to mention, let alone to discuss them all.

The first that springs to my mind is the utter and absolute blank ignorance of us all—including the keenest physiological and pharmacological intellects—as to the intricate causes operating through a whole life which have led eventually to this high pressure; and then, again, the same ignorance as to the special purpose that it serves, and has probably for years served, in the economy of the individual—it must have served some good purpose and have been an efficient instrument to that end, or otherwise the life of the individual would long ago have terminated in death or disease; indeed, we have learnt by clinical, not by laboratory experience, that if we lower such pressures in robust individuals by drugs, we are very likely to produce a condition of depression which is only to be relieved by allowing the pressure to rise again to what, for the individual, has become the normal, however widely this may differ from our ideal normal.

Again, let me ask you to think what you know about the means that may be used to bring down and to keep down—there's the rub—any pressure above the normal. We have, of course, the whole group of nitrites—most valuable drugs—to use on an emergency; we have many preparations of iodine and of thyroid gland substance, but so far as I know the effect of all these is but temporary and ceases very soon after cessation of medication, and assuredly no one can be persuaded to continue to be a lifelong drug taker, especially when the drugs make him feel rather worse than better. Exercise, we are told, increases the blood pressure, but obesity that arises from inactivity is, I believe, just as great an infliction as the high blood pressure, not to mention the dyspepsia likely to arise from the same mode of life. Attention to diet and the administration of purgatives may do some good, provided, again, we do not make life a burden, but only the specialist—and he with less reason than most—claims to understand the precise article of diet that is causing the high pressure. The most usual rule is to cut off that article most desired by the patient—a rule, perhaps, not so empirical as might be thought.

As a third point worthy of notice let me ask you, collectively, what do you know of two things—(*a*) the direct effect of the nitrites upon all organs other than the blood vessels, and (*b*) the effect of the lowered pressure upon these same organs? An honest answer would, I think, be, Nothing at all; and yet unless your practice be guided by clinical experience you will often be tempted into trying to reduce blood pressure by their means. What would you think of a skilled watchmaker who took a dirty dinner-fork with which to fish out of a very valuable and complicated watch a grain of dirt? Not much, I trow; and yet I wonder whether the nitrites are a much more delicate instrument when thrust into the exceedingly delicate mechanism of the human body.

Another point. Let me draw your attention to the final argument in the mind of the man with the sphygmomanometer, "If I don't lower this pressure the arteries which I know are diseased will burst." I suppose there is no escape from the ultimate term of this argument; arteries cannot stand the pressure in them or they would not burst. This, I suppose, must be true, but who knows the condition of every millimetre of every artery? It needs but very little experience in the *post-mortem* room to convince anybody that diseased and thickened radials may exist with perfectly healthy arteries of the brain and of the heart, and, *per contra*, that diseased coronaries may exist alone or diseased cerebral vessels; and, with all these doubtful factors, who knows whether he will do more harm than good by reducing or attempting to reduce blood pressure? May it not be that a good pressure in the coronaries is really essential to cardiac efficiency? may it not equally be true that the same pressure is required for the nutrition of cerebral nerve centres? and may we not be on the horns of a dilemma, either one of which has a disaster for a final term? I personally hold very strong views that it may be so, and when called upon to treat such a case I prefer, if I can, to try to do as little harm as possible—to treat symptoms rather than physical conditions, to help my patient rather than science, for which purpose I have found that mercury and potassium iodide are as good as anything and better than direct vascular alteratives; if syphilis be, as it too often is, at the bottom of the trouble, we are giving a specific remedy, adapted to go to root causes, and if syphilis be not an antecedent factor these

drugs, possibly combined with a little digitalis, still seem very useful, though I admit I do not know precisely why.

Auricular Fibrillation and Heart-block.

My address seems to be rather of the nature of a melancholy jeremiad: "Things are wrong; let us not try to put them right lest we make them worse." So I would like in conclusion to turn to what I consider are the real triumphs of modern cardiology, so that I may finish on a more cheerful note, though I may possibly be giving more credit to modern investigators than they would claim for themselves.

As I understand the matter, cardiac disorders may broadly be divided into two classes: those of which muscular inefficiency is the essential basis and those of which a nervous trouble is the real foundation; symptoms and physical signs alone would scarcely appear to be quite sufficient absolutely to determine with precision which is the prevailing factor, though the determination of this factor is absolutely necessary for really effective and rational treatment—perhaps I should say for the really satisfactory management—of the patient and his troubles.

I am led to believe that by a careful study of multiple cardiograms and vasculograms it is possible to determine with absolute precision whether a muscular or a nervous fault requires to be remedied, if remedy be available. This achievement I hold to be a pearl of great price, an invaluable addition to our knowledge, and I would that every medical man should know of it, and even every student, so long as it will not be misunderstood by him and will not lead him into slackness of observation and indifference to the tales of woe poured into his ears by sufferers.

Even this achievement has, however, at present its disabilities; the instruments required to obtain the ——grams are expensive, their application requires considerable skill and experience, and the interpretation of the ——grams themselves is not always easy. May we hope that before long a good deal of this trouble will disappear and that we shall be able to apply the principles to our poorer patients as to our richer ones, who can demand the services of specialists already?

Meantime let us not despair; let us remember what I have always learnt and always taught—that bruits and irregularities of rhythm, faintings and other evidences of cardiac inefficiency, in the young at any rate, are not always of ominous significance, and especially let us remember what specialists would have us forget—that in the vast majority of cases brought to us for an opinion as to cardiac capacity, it is quite possible to form a correct estimate from general experience combined with careful observation of the individual.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.

HOW TO INCREASE THE USEFULNESS OF THE BRITISH MEDICAL ASSOCIATION.

BY

JOHN LIONEL STRETTON, L.R.C.P., M.R.C.S.,

Senior Surgeon, Kidderminster Infirmary and Children's Hospital.

VARIOUS suggestions have been put forward with the object of improving the position of the British Medical Association, of enhancing its prestige, and increasing its usefulness. The Plymouth Division has given notice of a motion "That it is desirable for the future that the British Medical Association should confine its policy to promoting the scientific and social welfare of the medical profession by leaving all medico-political work to be done by some other body formed for such purpose and registered as a 'Trade Union,'" and the Brighton Division recommends "That the British Medical Association be transformed into a Federation for other medical bodies formed to safeguard the interests of one or more sections of the medical profession, while allowing all such bodies to continue their separate existence." These and other resolutions tend to show that there is some dissatisfaction with the Association in its present condition.

To us in Worcestershire the state of affairs is particularly disquieting, because we pride ourselves on the fact that our city was the birthplace of the Association. I think that many of our members who have openly expressed their dissatisfaction have failed to realize the magnitude of the debt they owe to the Association. If it be admitted that the fight over the Insurance Bill was not so well conducted as it might have been, there can be no doubt that but for the action of the Association the position of the panel doctors would have been very much worse than it is at the present time.

It is true that the six cardinal points were not all secured. Of these, the wage limit always appeared to me of great importance; and although I am assured by some of the panel practitioners that the loss of it is of no moment, I regret that it was not embodied in the bill. The free choice of doctor, which was supposed to be granted, is by no means secured, and the representation of the profession on the Insurance Committees is totally inadequate. The only point really gained was the increase in the financial offer of the Chancellor of the Exchequer. The advance from 6s. to 9s. was enough to satisfy a large majority of the profession that the work would be sufficiently remunerative to justify them in accepting service, in spite of the refusal to concede their other demands. It was this decision which prevented the Association from insisting upon further concessions, and, though we may think that it was a mistake, we should in common justice accept the responsibility and not try to blame the Association.

The dispensing of medicines by the chemists was never contested, although I have on several occasions expressed the opinion that it was a matter of the utmost importance. It has already given rise to difficulties, and will always be a source of trouble and annoyance. Viewed from the lowest standpoint, as a commercial transaction, is it possible that a doctor would provide his patient with inferior medicine? I say without fear of contradiction that his object must always be to get rid of those who consult him in the shortest possible time, and the cheapest way to do this is to prescribe the medicine which he considers best. If he dispenses it himself he has the advantage of knowing that the actual drugs he orders are put into the bottle, and, further, that their quality is satisfactory.

In carrying out the campaign a vast amount of gratuitous work was performed by a body of men who have received scant recognition of the services they rendered or the sacrifices they made. Also a large amount of money was expended by the Association, and this must have temporarily crippled its financial position.

Is it fair, now that the first battle has been fought, to say that no fight was put up? Is it fair to decline a membership which would assist in discharging the bill, or to grumble at a small increase in the subscription to aid in strengthening our depleted finances?

It appears to me that, instead of resigning membership ourselves, it is the duty of each one of us to use our best efforts to obtain reinforcements for the Association by inducing those to join who have hitherto held aloof. For my own town, I am happy to be able to state that since the passing of the Insurance Act I have secured the adherence of the only two practitioners who were outside our fold, so that we now represent a united family.

The suggestion of a federation has some attraction for me. To join up the various bodies which safeguard our interests would have distinct advantages. One annual payment would save us the trouble, and possible neglect, of multiple subscriptions; there would be a considerable saving of expense, and the linking together of our scattered forces would strengthen all of them.

To confine the Association to scientific work would, I think, be a mistake. It has a very large membership; it is the acknowledged mouthpiece of the profession; and, as such, it is the only body at present capable of representing us. It would be a long time before any new organization could occupy such an influential position.

With regard to a "trade union," there is much to be said on both sides. The idea is repugnant to the professional sense of some of our members, contrary to the traditions which are their pride, and ill accords with their conception of the honour and dignity of our great calling. With all this feeling I agree, but I cannot shut my eyes to the fact that the great cause of weakness in our ranks is our individualism.

Every member forms his own opinion, often from insufficient or incorrect data. He cannot—it would generally be more correct to say will not—attend meetings; he sits at home in his armchair; he may read some portion of his JOURNAL; he listens to fragments of information conveyed to him through various channels; he draws his conclusions for or against the men who have spent their time and toil in investigations; and nothing will dissuade him from the opinion—frequently more or less prejudiced—at which he has arrived. Would a trade union convert him? I have an idea that he might guard his diagnosis with his resignation.

There are, however, other reasons which indicate the desirability of such a change. Legal difficulties in dealing with our funds, and in other matters, would be overcome. It is a question which requires consideration; but of this I am confident, be the result what it may: we shall never secure victory until we adopt the principle that the minority must give way to the majority; nay, more, that they must loyally support them. We all have a right to our opinions, and when convinced of their truth it behoves us to use every effort to secure their general adoption. But when we find that a majority of our profession decide against us we undoubtedly ought to fall in with that majority, until we can convert them to the view which we believe to be correct.

From these remarks it is obvious that I consider it the duty of every member of the profession to attend our meetings, when he will thoroughly understand all the important matters which are discussed and be able to give his valuable advice. I freely admit, and I join heartily in the complaint, that at present the profession is called to attend far too many meetings. The overlapping of the Medical and Panel Committees is deplorable. We have done our best to obviate it, but as yet their separate existence is a necessity.

The number of the Association meetings, now that we have recovered from the preliminary consideration of the Insurance Bill, is not excessive. It is necessary for us to discuss a considerable number of medico-political questions. This side of our work has grown, and I see little probability of its decrease. It depends to some extent upon the decision as to our future constitution.

I do not think anything is to be gained by resolutions which declare "that the working of the medical clauses of the National Insurance Act by members of the profession is derogatory to the profession and against the public interest." The Act has become law. The financial arrangements appear to be satisfactory to the large majority of the profession, and it only remains for us to endeavour to remove abuses and introduce improvements into the service. Much of this work will probably fall upon the Medical and Panel Committees, but it is probable that some of it will still be referred to our Divisional meetings.

For the past three or four years the medico-political work has been sufficient to occupy the whole of our attention in this Division, and it has not been possible to hold any scientific meetings. Apart from the Insurance Act there are still some outstanding problems of a medico-political nature which urgently require solution, and these ought to receive early consideration in order that they may be satisfactorily and finally settled.

Medical aid institutions demand our attention. It may not be possible to do away with them, but it should not be difficult to reform them. If such a desirable result is to be attained, they must be approached in a spirit of fairness. No compromise can be effected if both sides remain obdurate. In Kidderminster we have succeeded in effecting a settlement. The Medical Aid Association has agreed to our suggestions that there should be no canvassing, and that no money shall be funded. All the proceeds in excess of expenditure are handed over to the medical officer, with the exception of a small reserve fund, which is necessary in case of an epidemic. We accepted a wage limit of £150 a year. I have been told that this is a disgrace to us. This accusation is a sample of what I consider unfair conduct. The Medical Aid Committee could fairly retort that many of our members are attending friendly societies, where there is no wage limit at all. I consider that it was a great point to gain the recognition of any wage limit, and to have fixed it at £150 is but little in excess of the demand of the British Medical Association in one of the cardinal points.

We should also take up the question of fees for life insurance examinations. Half a crown is inadequate remuneration for any form of report; 5s. should be a minimum fee for industrial cases. Ordinary cases, where the amount insured is £100 or less, may be examined for half a guinea, but above that amount a minimum fee of a guinea should always be demanded. It is not right that any insurance company should settle the fee to be paid to us without having previously consulted and come to an agreement with us. We ought, further, to secure an undertaking that our reports should not be communicated to another office. At the present time, if proposals are made to several offices, after one examination has been made and reported the other companies are able to obtain copies of that report without any payment, and the profession is thereby robbed of the fees which ought to be paid by each office for a report.

In order to have some chance of coping successfully with the enormous amount of necessary work and the number and complexity of the scientific and other questions constantly arising for consideration it would seem desirable to establish some time-saving method of procedure, on the principle of division of labour. My own feeling is that it would be a wise arrangement to confine the work of our Divisions to medico-political matters. The Branches could then devote their attention to the scientific side. To confine the scientific work to the Branches would have the great advantage of securing a wider interchange of views. We are always liable to become limited in our outlook and restricted in our opinions. What Worcester practises may be very good; it is not necessarily the best. Hereford, Malvern, or Kidderminster might have some criticism to offer. It is not certain that their suggestions would be an improvement, but their criticism, whether of the destructive or of the constructive order, might lead to further investigation, to the mutual benefit of the practitioners concerned and to the great advantage of the suffering public.

Clinical meetings and visits to operating theatres where the different methods can be compared are all useful. Such a system is now in vogue in America, and has spread in this country. On the Continent it has been developed to the extent of inviting groups of surgeons from one country to visit and conduct operations in another.

Let us now consider our own Branch more particularly. From the account of the year's work read by our Secretary, it will have been gathered that I have acted to a large extent on the principle which I have advocated. I was fortunate in securing some of my distinguished friends to come and address us. The attendance at the meetings, I think, justified my attempt, and I feel satisfied that all who were present obtained some useful information. I do not claim that the session was ideal, for although the presence of an eminent member of the profession is calculated to attract men to a meeting it does not follow that the subject to be discussed or the information to be gained is the most useful to the majority who attend.

As I have already stated, I think an interchange of views between our different towns would be useful, and papers on general subjects connected with everyday work would be distinctly helpful. Take, for instance, disease in the abdomen, which is so frequently occurring and offering puzzles of the greatest complexity—conditions with which I am often brought into contact, and which I view from the dual position of a surgeon and a general practitioner. A meeting devoted to a discussion of this matter should be useful to all of us. If our new President approves, and if it is thought sufficiently interesting to justify giving up one meeting to it, I shall be pleased to open the discussion.

There are many controversial subjects agitating the minds, not only of the profession, but also of the laity. Among our members there are, no doubt, some who could offer us papers, and many with divergent views which would lead to an illuminating discussion. May I enumerate some interesting subjects we might consider? such as the antiquity of man, his original organization, and the probable length of his tail; the approximate date of his appearance; whether the mummy of Rameses II, which is preserved in the museum at Cairo, is anywhere near the period of man's first appearance; or whether his

sojourn on the earth extends to thousands or to millions of years.

Then there are the still more interesting possibilities of the future, viewed from the evolutionary standpoint. Will the sense of smell, which is already on the wane, disappear? And will it be replaced by some other sense which the exigencies of the time may demand? With the rapid changes in our modes of progression will the present form of legs continue to be necessary, or will they eventually give place to some more useful extremities, such, for instance, as wings? Will the position of the eyes be maintained, or may it become advisable for one of them to find a place on the top of our heads to save us from destruction by ginger-beer bottles and other refuse discharged from our airships? Will the appendix remain, or will future surgeons be deprived of much of their work by its disappearance? And what will be the fate of the so-called cesspool—the large intestine? Does the crusade against the teeth indicate that they, too, must give way to some more satisfactory arrangement? Or is the present-day doctrine an illusion—that all disease is due to pyorrhoea, and that the only chance for our salvation is to submit to the wholesale extraction of our teeth?

Are we nearing the period when the population of the world will overtake the possible food supply? Is the solution of this problem to be found in the increased fixation of nitrogen? If so, is it probable that the vast quantity of that material which exists in the air will ever be utilized?

Some, considering such queries as these to be too speculative and not of much use for practical purposes, might prefer to discuss the possibility of improving our methods of diagnosis. Take, for instance, such a common disease as rheumatic fever. Is it always possible to distinguish it from other fevers? As a concrete example, may I quote a case which came under my observation? A lady had an abortion in the second month. The fetus was expelled in its membranes; not satisfied that all the placental tissue was away, I dilated and cleared out the uterus. Everything went well until the sixth day, when I found headache, pains, swelling and effusion in the right knee, urticarious rash, and a temperature of 103°. If I had not cleared the uterus out myself, and had my naked finger in it—I defy anyone to be certain in a rubber glove—I should have regarded it as septic. On inquiry, I learnt that she had had an attack of rheumatic fever three or four years previously, followed by chorea. This attack pursued the usual course; there was a relapse and ultimately a recovery. I was naturally anxious, and if there had been any means of establishing a certain diagnosis it would have been a great advantage.

Again, can a rash be certainly pronounced scarlet fever, and can enteric fever be diagnosed with certainty, even in the presence of a positive Widal reaction?

Drugs offer various problems, on which some members could doubtless enlighten us. Is it an advantage to have the multitude of new remedies which come into fashion only to be superseded by others? Are not some of the old remedies now discarded superior to the new?

Another fertile topic which occurs to me is the treatment of tuberculosis, with which many problems are connected. The advantages—and may I say the disadvantages?—of sanatoriums and of tuberculin injections; the suggestion of a fleet of motor cars to drive the sufferers about; the preventive measures and regulations, which demand all sorts of safeguards and inspections, cleaning and whitewashing, while they neglect the examination of the milkmen and bakers—people who may be suffering from phthisis and coughing and spitting all over our foods. My own suggestion, made many years ago, is that every one who assists in our food distribution should be subject to periodical examination, and, if found to be suffering from a communicable disease, prohibited from such occupation.

The treatment of the insane gives rise to another group of questions. Is it desirable to shut them up in asylums? Once in, should they ever be allowed at large? Should they be kept lingering on in their miserable existence at an enormous cost to the State? Should they be permitted to propagate?

Then there is the larger question of eugenics, with the rival claims of heredity and environment. This subject is very much in the foreground at the present time, and its adequate treatment, in view of the investigations now being carried on, offers scope for diligent study and serious discussion, opening out a whole series of problems directly or indirectly connected with it, and all of immense and far-reaching practical importance for the present and future welfare of our own country and the world at large. Other questions worthy of discussion are the right to die and —may I add?—the qualifications to live, the falling birth-rate, whether due to physical degeneration, to the carrying out into practice of the Malthusian doctrine, or to other causes.

Other suitable matters for discussion, offering a wide and varied field of choice, are the control of venereal diseases, teetotalism and the regulation of the drink traffic, vaccination and the notification of diseases, the sale of patent medicines, the control of bone-setters, quacks, and Christian scientists, and the disposal of the dead. We might enlarge our field by discussing the present day medical education, the advisability of a one portal entrance, the benefit of special qualifications, and the advantage or disadvantage of a State medical service. The hospitals question is also worthy of attention, and the all-important nurse demands our earnest consideration—whether a State registration of nurses would be preferable to the present chaotic position, which allows any female to don a uniform and palm herself off as the finished article.

There are also innumerable cases of interest constantly occurring, the recording of which would add largely to our store of knowledge and so increase our usefulness. Indeed, it is sad to think of the loss we annually sustain through the neglect to report them.

With all this material for discussion, I predict for my successor a very busy session. Out of the many and varied subjects suggested he can offer ample scope to all the members of the Branch to display their special knowledge and attainments and so enlighten the whole body.

STAFFORDSHIRE BRANCH.

RECENT LEGISLATION AND THE MEDICAL PROFESSION.*

By JOHN RUSSELL, M.A., M.B.,
Honorary Physician to the North Staffordshire Infirmary.

I PROPOSE in this address to discuss the tendencies of present State legislation, its effects on the profession, and the fitness of the present organization of the profession to cope with the duties required of it. This I cannot hope to overtake fully in the short time at my disposal. I can only touch on the points which have struck me personally, from my own experience, as being of importance.

The tendency of present legislation is for the State to concern itself with the health of the individual. The productive power of the State depends on the efficiency of its units, and that again depends on a full, free, and complete development and use of the healthy functions of life. Is it any wonder, then, that the State has become alive to the necessity of concerning itself with, and making itself responsible for, the health of the individual units of which it is composed? The wonder is that it did not become alive to this necessity ages ago. This involves a certain amount of compulsion, a thing always considered repulsive to a British subject. We have heard it argued over vaccination, and we have had the conscientious objector introduced to an extent which is a positive danger to the community. Well, there is a Nemesis waiting. Again, recently in this neighbourhood we have had a newspaper correspondence about temperance legislation, and the opponents of any restriction on the sale of alcohol have been quoting with much jubilation Bishop Magee, who in a memorable address said he would rather see Britain free than compulsorily sober. Much, I grant, can be said in favour of the development of habits of self-restraint, and self-responsibility may do much to evolve a higher grade of character, but my experience tells me that the individual cannot be accepted as the arbiter of his own health, and an outside authority must be called in with power to act. How often does it happen that a man apparently in perfect health on coming to a physician to be examined for life insurance is found

* Delivered at the annual meeting of the Branch, June 25th, 1914.

to be suffering from an insidious malady which is sapping his life! Is it not the case that sometimes a physician is called in to help, it may be, a young wife with a young and tender family, and with every prospect of a happy and useful life, but who, unfortunately, by hereditary taint or a combination of circumstances has developed an inveterate taste for alcohol? How useless is he without the power of compulsion! Much as I admire the feeling that a man's house is his castle, I feel strongly that, so far as the public health is concerned, this feeling is effete, and that the day is coming when, just as we have compulsory education, school inspection, and examination of workshops, we shall have compulsory examination of each individual as regards, not only his personal health, but the conditions under which he lives in his own home, and that the State will enforce the treatment of diseased conditions, the segregation of degenerate types, the prevention of marriage of unsuitables, and the breeding of inefficients. This may seem Utopian, but is it not necessary for efficiency, and therefore a thing to be striven for? Much has been done in the past by legislation and the efforts of our public health authorities. Let us look for a moment at some figures given by Dr. Newsholme, the Medical Officer to the Local Government Board, in his last report for 1912–13. He states that,

comparing the experience of 1912 with the average experience of 1891–1900, the rate of infant mortality has declined 38 per cent., the death-rate from measles 16 per cent., from scarlet fever 66 per cent., from whooping-cough 40 per cent., from diphtheria and croup 57 per cent., from tuberculosis (all forms) 32 per cent., and from pulmonary tuberculosis 25 per cent. The comparison for the following diseases can only be carried to the year 1911. Between 1891–1900 and 1911 the death-rate from puerperal diseases had fallen 28 per cent., from pneumonia 15 per cent., and from bronchitis 45 per cent. The death-rate from all causes has declined 27 per cent. between 1891–1900 and 1912.

Very instructive also are the figures he gives showing the gradual diminution in the standardized death-rates per 1,000 for the quinquennial periods from 1871–5 to 1906–10—20.9, 19.8, 18.7, 18.5, 17.6, 16.0, 14.4; and in 1912 it fell still further to 13.3, the lowest death-rate yet recorded. This shows how much has been done, but on a succeeding page of Dr. Newsholme's report certain statistics are given which make us pause and ponder how much has yet to be done. They are statistics by Dr. Stevenson of infant mortality in the chief occupations and groups of occupations.

Among the families of army officers in 1911 the infant mortality per 1,000 births was only 44, of naval officers and solicitors 41, of medical practitioners 39, and the rate of infant mortality of the middle classes generally was only 61 per cent. of the total mortality of the country among legitimate infants. These figures, as Dr. Stevenson remarks, "show how little of our present infant mortality is essentially inevitable." With these figures must be compared the average rate of infant mortality among artisans of 113, among miners of 160, among unskilled labourers of 152, and among agricultural labourers of 97 per 1,000 births.

These figures are a striking and sad indictment of the conditions which obtain among the industrial classes and the inefficient steps taken by the State to combat them. Quite as striking and damnatory is the evidence obtained by considering the inefficiency caused by venereal diseases and intemperance. The foul race-sapping ravages caused thereby do not stand out luminously in mortality tables. They are to be found in the private records in the physician's room. There no uncertain tale is unfolded of the deprivation to the State caused by these two diseases. There is an old aphorism that "a man is as old as his arteries." How much arterio-sclerosis can be laid at the door of syphilis and chronic alcoholism? Edgren, a Swedish doctor, states that 20 per cent. is due to syphilis and 25 per cent. to alcohol. These two diseases, then, between them are responsible for nearly half the cases. Thanks to the movement started at the International Congress in August last by Sir Malcolm Morris, the State is wakening to its responsibility, and as the result of the labours of the Commission now sitting it is not too much to hope that beneficial legislation will follow. Many doctors are a little sceptical as to the effects of legislation, and are very suspicious of any interference by a lay authority, lest there be a limitation of their liberty and sphere of influence. We need, however, only look at the effects produced by the tinkering, half-hearted measures already introduced to cope with the havoc arising from the white plague—tuberculosis—to be convinced that good must result and the welfare of the community advanced.

The attitude of the profession to recent legislation is to me a matter of grave concern and is fraught with issues of the greatest importance. The introduction of the principle of compulsory insurance against sickness and disability has always appeared to me to be a necessity if the working classes are to receive efficient treatment, and the present Act, however imperfect it may be and however unfair some of its clauses may appear, was welcomed by me from the first as a step in the right direction. As time goes on my opinion of its utility is strengthened, especially when I consider the contemplated extensions and the opportunities they will afford for scientific work. Many of the sturdy objectors to the Act I have always honoured because, however misguided they were in my opinion, they were, I felt, conscientious. It might not be altogether futile, even in this late period of the world's history, to consider the guiding principles of human conduct laid down by Aristotle in his *Ethics* some 300 years B.C. In studying this treatise what would strike our statesmen most would be the largeness and benevolence of his conceptions. This is most apparent when he speaks of the Supreme Good, the End of Ends which every one must strive to attain. This he considers to be happiness, not, however, of self alone, but the happiness also of a man's family and countrymen. Starting out from the point of view of the individual citizen he thus arrives at the same end as that proposed by political science—the happiness of the community. He says that every artist, every professional man—the painter, the musician and such like—has his peculiar business to do, and the good of each artist is in doing his business well and appropriately. The full position he states thus: "Happiness, or the highest good of a human being, consists in the working of the soul, and in a course of action, pursuant to reason and conformable to virtue, throughout the whole continuance of life." Aristotle thus offers two guiding principles of supreme importance—the happiness and well-being of the community, and the due performance of the work we have to do. Compared with modern times is the advice offered different, or are the ἀρχαί, the beginnings to which ethical philosophy points and from which the conduct it enjoins is derived, not one and the same? In the admirable address given by Sir William Ramsay as President to the British Association in 1911, he laid down principles which it would be well for us as a profession to consider earnestly and follow resolutely. I shall quote but one sentence:

I plead for recognition of the fact that progress in science does not only consist in accumulating information which may be put to practical use, but in developing a spirit of prevision, in taking thought for the morrow, in attempting to forecast the future, not by vague surmise, but by orderly marshalling of facts, and by deducing from them their logical outcome; and chiefly in endeavouring to control conditions which may be utilized for the lasting good of our people.

The first thing we as a profession have to do is to recognize that we are an integral part of a machine which the State has set up to promote the health of the industrial classes, and that if we fail in our duty the work of that machine is useless. If an army has to take the field the first thing to be thought of is a commanding officer who by his experience, knowledge, and organizing power can command the confidence of every unit of every arm of the force he has to lead. Then there has to be a head quarters staff, composed of officers, each representing and intimately acquainted with one particular arm of the service, who can assist their chief in co-ordinating the work and making one effective whole. Further than that, there is an important point: We must be concerned with the efficiency of each unit, each individual fighting unit, and that is complex, depending on training, *moral*, and equipment. Is it not strange that in the beginning of this enlightened twentieth century we should have in this country, which boasts of being in the vanguard of civilization and humanism, a Minister of War, a First Lord of the Admiralty, a President of the Board of Trade, a President of the Local Government Board, a President of the Board of Agriculture and Fisheries, a President of the Board of Education, and above all a Chancellor of the Exchequer, and yet we have not a Minister of Public Health? And

what is the result? We have a number of disjointed overlapping services without any co-ordination. We have the Poor Law service, which curiously enough is concerned with vaccination; we have a public health service which concerns itself with sanitation and infectious diseases, and yet is not responsible for tuberculosis and syphilis; we have factory surgeons concerned with the health of the worker and the conditions under which he works; we have the school medical officer concerned with that most important factor, the health of the young, and the conditions of school life; we have our voluntary hospitals well equipped and staffed for the investigation and treatment of special cases, but in a position of splendid isolation, and not linked up as they should be with the general practitioner; and then, finally, we have private practice, whether it be consulting or general, panel or non-panel. All these divisions or arms have their uses. What is wanted is co-ordination to banish the chaos and inefficiency which at present exist. We want a statesman who will utilize to the utmost the forces at present in existence to combat disease. I sometimes think that in our desire to make fresh scientific conquests we neglect to apply to its fullest and at the earliest newly acquired scientific knowledge. Take, for example, the epoch-making discoveries of Ehrlich. They were not made yesterday, and yet to-day is the treatment resulting therefrom available to the great masses of the people? We must have a Minister of Public Health with a head quarters staff, composed of men representing all the different arms of that multifarious army which is concerned with the health of the nation and has to combat disease and disability.

We now come to consider the efficiency of the units this army is composed of. I said this efficiency depended on three factors—training, *moral*, and equipment. I need say nothing to emphasize the importance of training, but I should like to protest strongly against a present tendency to narrow the scope of medical education and to confine it to strictly scientific study, without the broadening influence of a classical education and the general culture appertaining thereto. With regard to the second factor, which I have called morale, this in a military sense is regarded as especially meaning discipline and confidence, but I wish to consider the moral condition as wider and to include what Aristotle speaks of when he says that the good of each artist consists in doing his business well, the complete and full performance of his function. At the present time there is considerable agitation about the excessive sickness experienced by approved societies under the Insurance Act. Much of this is being attributed to malingering, and the fault is laid at the doctor's door—in fact, to hear some laymen talk, one would think it was entirely due to malingering, and that sloppy methods and want of backbone shown by the panel doctors are the sole causes of the financial ruin staring many approved societies in the face. To understand how misleading such an idea is one has only to consider the many factors which contribute to excessive sickness claims. I do not wish in any way to minimize the evils of malingering and the extent to which it obtains. Whether it exists to a greater or a less extent, the question is, Are we as a profession doing our best to prevent it? Those who were present at a conference with the Commissioners recently will agree with me that a very serious charge was made against the profession, and a very strong case made out against, not the profession as a whole, but certain members who do not exercise sufficient care in the granting of certificates of disability. Members of my Division may remember that twelve months ago I was a vehement opponent of the form of sickness certificate which insisted on a statement of the cause of illness. Ideally I still think that the simple statement that an insured person is unable to work should be sufficient, but my practical experience during the last year of the slipshod way some of my colleagues give out certificates has shown me conclusively that the demands of approved societies are in this respect natural and just, and that the only businesslike way is for medical practitioners to state as accurately as they can the cause of illness for the guidance of the societies which are financially liable. Now an objection is raised that at first in many cases a diagnosis is impossible. True, but let us give a provisional diagnosis and not be ashamed to alter it afterwards. One great advantage of having to state the cause of illness is that it stimulates the making of a diagnosis. A grievous and lamentable tendency, especially among the overworked doctors in industrial neighbourhoods, is to let things slide and not bother about a diagnosis, buoyed by the hope that Nature in her resourceful way will in the end bring about the cure. What we want is a stirring up of clinical interest. All else will follow—accurate diagnosis and accurate determination of the period of disability. What is the cause of this lack of clinical interest and how can we best kindle it? Surely most of us start with a serious interest in our work. We have it instilled into us in our universities and hospitals, by our professors and teachers; it is fostered in the brief period we are residents in hospitals, by intimate association with our colleagues, and it may be by the helpful supervision of the honorary staff; chemical and bacteriological laboratories are at our disposal to lead us to an accurate diagnosis, and hygienic surroundings and careful nursing to help us in treatment. What, then, happens when many have to go out and earn their livelihood by general practice, it matters not among what class of the community? Each becomes a detached unit, there is no longer any co-ordination with colleagues, each has to plough a lonely furrow, without help of laboratory, and treatment is often ineffective owing to insanitary conditions and lack of careful nursing. Many practitioners manage to survive the ordeal, and maintain in spite of all these adverse influences a scientific interest in the work of their profession; but is it a wonder that a man here and there, whose resistance may have been lowered to some extent either by ill health or the social conditions he may have been compulsorily exposed to, gradually loses interest in his work? Now it should be, and I believe is, the object of our Association to see that there is nothing in our professional work which tends to produce this lethargy, but rather that everything should kindle and fan the flame of scientific interest and activity. How, then, is this best to be done? I say by the full and complete equipment of every practitioner, so that he is in a position to combat disease with every known resource at his disposal, and further by complete and intimate association and co-ordination with his colleagues.

This leads me to consider the present equipment of the general practitioner. I have already spoken about the excessive sickness claims experienced by approved societies, and I said that there were several important factors apart from malingering which probably account for the great bulk of the excess. I should like now to allude to one or two of those factors, particularly those which may be considered as being connected with equipment. A very interesting and instructive paper in the *New Statesman* recently showed how Germany deals with excessive sickness; it was written by an investigator who has been spending some months in Germany going from one Krankenkasse to another and finding out how Germany has met the difficulties which now face our Commissioners. What has struck me most particularly in this article is that the findings of a layman belonging to a class of the community which many of my colleagues look upon, wrongfully I think, with suspicion, tally so closely with the ideas many of us have held for a long time. He shows how Germany has for a long time recognized that the excess of sickness payment is in the bulk due to real excess of sickness, and that the only way to meet this is not by a reduction or refusal of benefits, but by extending and improving medical attendance and benefit. What has happened in this country? The bill started by proclaiming that adequate treatment should be given in sickness to all the industrial classes; the Act finished by offering only such treatment as an average practitioner could give. As a result the insured person is debarred from many of the more modern methods of treatment, and if he is suffering from any malady requiring the treatment of a specialist he has to pay for it or gain access to some of our voluntary institutions. This access is not gained easily; it may involve ten, twelve or even more weeks' waiting and a corresponding drain on the approved society's funds. At the present moment at the London Hospital there are 867 urgent cases on the waiting list. Provision must be made for these cases, and our hospitals must not have their usefulness curtailed by the hand-to-mouth existence they have at present to endure, when many of their important officials, who could be much more profitably employed, have most of their time occupied purely in begging. We have

thus in this country a limitation of effort which destroys efficiency and necessarily increases the duration of illness. In Germany there is no limitation. Absolute dependence is not placed on the diagnosis and treatment of the panel doctor, a second opinion is offered and paid for. In each district there is a list of consultants and specialists at the disposal of the insured, and their services are paid for by the State. I cannot tell exactly the scale of remuneration of these, but it is stated by this anonymous investigator that the general average of the figures he had obtained in different centres pointed to a payment for consultant and specialist services of about 40 per cent. of that paid in the aggregate to the general practitioner. Specialist services are available for diseases of the eye, ears, and throat; dental treatment is given and provision is made for *x*-ray examinations and massage. Nothing is excluded in Germany. If any appliance is required to make an insured person efficient it is obtainable, within a certain limit of cost, including such things as trusses, artificial limbs, and spectacles. The relation to hospitals is interesting. Some centres, like Munich, depend largely for a second opinion and special treatment on institutions, while others, like Dresden, prefer specialists. The striking point is that there is no such thing as a waiting list, and treatment can be obtained without delay or unnecessary expenditure of sickness benefit. It is, however, paid for. The Krankenkassen pay for every patient they send to hospital an average of 2s. 6d. a day. Last year the Munich organization, with 183,000 members, paid to hospitals £49,326. In this same article specimen statistics are given of the cost per member for doctors (both general practitioner and consultants or specialists), for institutional treatment (including hospitals and convalescent homes), and for medicines and appliances, and two of these I will quote as representative.

	Doctors.		Institutions.		Medicines, etc.	
	Cost per Member.	Percentage of Total Expenditure.	Cost per Member.	Percentage of Total Expenditure.	Cost per Member.	Percentage of Total Expenditure.
	s. d.		s. d.		s. d.	
Dresden ...	8 2½	18.45	5 7	15.73	4 8¼	13.21
Munich ...	6 11½	15.10	8 2½	17.88	4 2	9.13

This shows that the German Krankenkassen are paying from 11s. 6d. to 19s. 4d. a member for what Mr. Lloyd George is trying to get for 9s.

It is evident, however, that our statesmen are becoming alive to the deficiency of our equipment, and a grant of a million and a quarter has already been voted to remedy the evil. Particularly gratifying is it that a certain proportion of this sum is to be devoted to a supplying of laboratory facilities to assist the busy practitioner in accurate diagnosis and the more modern methods of treatment. No one can over-estimate the value of modern laboratory methods in assisting diagnosis and treatment. That this is being generally recognized is shown by the final report of the Departmental Committee on Tuberculosis, which recommends a general extension throughout the United Kingdom of clinical laboratories for the better diagnosis and treatment of disease.

Dr. Newsholme is no less emphatic in his last report when he states that "in order that a satisfactory medical service may be secured throughout the country facilities for work similar to that now being done in hospitals will need to be offered to medical practitioners generally." To see the extension of this work in modern times it is only necessary to glance at the reports of this work in our large and best equipped hospitals. In Guy's Hospital 5,326 specimens were examined during 1911, and in St. Bartholomew's 5,117. In the latter case Dr. Gordon gives the following analysis:

(*a*) Bacteriological	2,176
(*b*) Vaccines made	280
(*c*) Wassermann's test	928
(*d*) Cytological examinations (blood count, pleural effusion, cerebro-spinal fluid, urinary sediments) ...	427
(*e*) Chemical examinations (test meals, faeces for occult blood, etc.) ...	450
(*f*) Sections of morbid tissues	856

The above work is additional to a large amount of pathological work done in the hospital wards (over 700 beds).

These figures were given in reply to a special letter sent out to hospitals by Dr. Newsholme; and Dr. Gordon in his report further states that the number of specimens actually examined in 1911 would have been doubled had the total number been examined in which such investigation was practicable.

Such an extension of pathological work is not invariable in the hospitals throughout the country; many of those remote from large centres of population and unconnected with medical schools are especially inadequate. It is to be hoped that in this new further movement for the establishment of laboratories our large voluntary hospitals will be utilized. It will be a means of correlating the work of the hospital with the work of the general practitioner, and the financial aid thus obtained will help to raise the standard of those hospitals which for lack of means have hitherto been unable to maintain fully-equipped pathological departments. It is suggested that these State-aided laboratory centres should be only in connexion with our universities, but in a district like this, with over a quarter of a million of inhabitants, and with a populous surrounding district, surely it is better to have our own laboratory. This is, fortunately, rendered feasible by the generosity of the present President of our infirmary, who has recently equipped a first-class pathological department, which, with a full and complete staff, will be able to meet every requirement of the whole district. I hope the time will soon come when there will be an amalgamation of the efforts in this direction by the public health authorities, the voluntary hospitals, and now also the Insurance Commissioners; and we shall have the establishment of laboratories at Hartshill which will be not only complete in the way I have already described, but which will be able to carry out valuable independent research in the industrial diseases connected with our staple industries.

Times are critical, and we want earnest combined effort to stem the tide and secure for the medical profession the honoured position it has always held in the past. Detractors we have many, but I am convinced that the same spirit animates the bulk of the profession as was so eloquently expressed in the inaugural address to the International Congress in London in 1881 by Sir James Paget, a man whose life has been an inspiration to many. With his words I conclude:

"We had better not compete where wealth is the highest evidence of success. We can compete with the world in the nobler ambition of being counted among the learned and the good, who strive to make the future better and happier than the past, and to this we shall attain if we will remind ourselves that, as in every pursuit of knowledge, there is the charm of novelty, and in every attainment of truth utility, so in every use of it there may be charity. I do not mean only the charity which is in hospital or in the service of the poor, great as is the privilege of our calling in that we may be its chief ministers, but that wider charity which is practised in a constant sympathy and gentleness, in patience and self-devotion. And it is surely fair to hold that, as in every search for knowledge we may strengthen our intellectual power, so in every practical employment of it we may, if we will, improve our moral nature; we may obey the whole law of Christian love, we may illustrate the highest induction of scientific philanthropy. Let us, then, resolve to devote ourselves to the promotion of the science, art, and charity of medicine. Let this resolve be to us as a vow of brotherhood, and may God help us in our work."

THE late Dr. B. H. Mumby, Medical Superintendent of Portsmouth Lunatic Asylum, left estate valued at £13,020.

Two Chinamen were convicted at the Thames Police Court recently for unlawfully selling opium. The prosecutions were instituted by the Pharmaceutical Society. It appeared that in the first case the defendant kept a boarding house; the society's inspector purchased a 4 oz. tin of opium for 18s. 6d. The defence was that the opium was kept for the proprietor's private consumption, and that the sale was made without his knowledge; a fine of 20s. and 2s. costs were imposed. In the second case the inspector purchased a tin of opium for which he tendered £1 and received 1s. change. The defence was that the defendant had not asked for money, and that the inspector had left the £1. In this case the magistrate fined the defendant £5 and 2 guineas costs.

REPORT ON TUBERCULOUS MILK IN EDINBURGH.

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THE results of the bacteriological examination of a large series of unselected cases of tuberculosis of the cervical lymph glands published in the BRITISH MEDICAL JOURNAL last January (p. 125) showed conclusively that the bovine type of tubercle bacillus plays a significant part in the causation of this disease affecting children in Edinburgh and district.

Being thus furnished with an index of the frequency of the bovine infection in children, it was natural to inquire to what extent the milk supply of the same area was infected with tubercle bacilli. The Edinburgh milk supply had not been satisfactorily investigated in this particular.

Examination of Milk in Edinburgh.

A systematic examination of the milk supply was commenced in November, 1913, the results of which I desire to state briefly.

As in all large towns, Edinburgh derives its milk supply from two sources, dairy byres within the city boundary and milk imported from country byres. The latter is the more important, because at the present time almost two-thirds of the total amount of the milk consumed in the city is derived from country byres, and is conveyed to town by road or rail. Roughly speaking, the quantity of milk reaching Edinburgh daily from the country is about 10,000 gallons, as against 6,000 gallons supplied from the city byres.

Practically all milk imported from the country byres reaches the consumers through the milk shops, which number fully 400. Whereas the great bulk of milk produced in the city byres is conveyed direct by van to the consumers, a comparatively small quantity reaches them through the milk shops. Hence milk as sold in Edinburgh milk shops is largely produced in country byres.

The milk was collected in the following way: Samples of mixed milk were obtained from the milk shops in each municipal ward. They were collected in the morning in sterilized pitchers and brought immediately to the Royal College of Physicians Laboratory. A pint of milk was bought from each milk shop. After allowing the milk to sediment during the day in a sterilized separation funnel in the ice chamber the sediment was withdrawn and centrifugalized in the evening. The cream and supernatant milk were then poured off, and the deposit (mixed with a small quantity of cream and milk, generally about 5 c.cm.) was inoculated into two guinea-pigs. As far as possible guinea-pigs of medium weight were employed. In testing each sample the inoculations were made subcutaneously into the groin and intraperitoneally. It is highly important to employ two animals for each test, as may be judged by the fact that of the 82 tuberculous samples, only 36 produced generalized tuberculosis in both of the experimental animals. The animals were allowed to live at least three weeks.

Samples of mixed milk to the number of 406, collected from the same number of milk shops, were tested in the manner described; 82 samples (20 per cent.) were found to contain tubercle bacilli. The table shows the prevalence of tuberculous milk in each municipal ward.

It may be safely assumed that the results of these investigations indicate that a considerable number of the cows in country byres contributing to the Edinburgh milk supply are giving tuberculous milk. It is unfortunate that it was not possible to trace the milk to its source, and that I am unable to record the condition of the cows or of the herds which supplied the milk. If the administrative arrangements in regard to milk sent to Edinburgh from country byres had been adequate, the majority of the infected animals might have been eliminated from the herd supplying tuberculous milk.

It is a noteworthy fact that one country byre frequently supplies several milk shops in the same street. When such a byre is sending tuberculous milk to the city it is possible that, in some instances, tuberculous samples may be obtained from each shop supplied. No doubt this affects the percentage to a certain extent in a systematic examination of milk samples from milk shops only. However, we cannot well fall back upon this explanation when we come to consider the prevalence of tuberculosis amongst dairy cows in Scotland. It is only since the coming into operation of the Tuberculosis Order on May 1st, 1913, that reliable statistics on this point have been forthcoming. Of the 1,249 slaughtered cows in Scotland during the first year's operation of the order, fully 370 were notified in the six counties (Dumfries, Kirkcudbright, Wigtown, Lanark, Linlithgow, and Midlothian) which are large contributors to the daily milk supply of Edinburgh. It is evident that the number of cows supplying tuberculous milk in Scotland is by no means small, and that the milk supplied from the country to all Scottish towns must frequently contain tubercle bacilli. Furthermore, these figures, I consider, harmonize with the high percentage of tuberculous contamination which I have found in country milk as sold in the Edinburgh milk shops.

Samples of Mixed Milk collected from Edinburgh Milk Shops (November, 1913, to May, 1914).

Municipal Wards.	Number of Milk Shops in each Ward.	Number of Samples tested for Tubercle Bacilli by Inoculation.	Samples found to be capable of producing Tuberculosis by Inoculation.	
			Actual Number.	Percentage.
1. Gorgie	22	22	8	36.3
2. Dairy	33	33	8	24.2
3. Haymarket ...	19	19	4	21.0
4. Merchiston ...	36	36	8	22.8
5. Morningside ...	28	28	7	25.0
6. George Square...	33	33	4	12.1
7. St. Leonards ...	37	37	2	5.4
8. Newington ...	26	26	4	15.3
9. St. Giles	21	21	3	14.2
10. Canongate ...	21	21	4	19.0
11. St. Stephens ...	27	27	5	18.5
12. Calton	45	45	13	28.8
13. Portobello ...	17	17	3	17.6
14. St. Bernards ...	16	16	3	18.7
15. Broughton ...	24	24	5	20.8
16. St. Andrews ...	1	1	1	—
Totals ...	406	406	82	20.0*

* Average percentage for city.

With such a milk supply as that of Edinburgh, which yields tubercle bacilli in 20 per cent. of the samples examined, the legislative measures required to render this supply pure are far-reaching.

The Control of Bovine Tuberculosis.

In the light of present knowledge bovine tuberculosis can no longer be considered a negligible factor in respect to the spread of tuberculosis amongst children, more especially since unsterilized cow's milk in Scotland is a vehicle by which tubercle bacilli must very frequently be introduced into the bodies of children.

The control of bovine tuberculosis is undoubtedly a large undertaking, but I am convinced that important results would follow from local authorities being compelled to provide for a regular and adequate system of veterinary inspection by full-time officers, the frequent bacteriological and experimental testing of samples of milk and milk products by skilled bacteriologists, and the destruction of all cows which show evidence of udder tuberculosis, or which are clinically tuberculous.

While a number of towns such as Manchester, Liverpool, Birmingham, Sheffield, and Leeds have realized the necessity for taking steps to deal with this problem, very little has been attempted by local authorities in Scotland to prevent tubercle-infected milk from reaching the public—

in fact, sometimes the actual regulations enforced being considerably less than those set forth on paper. For example, the Edinburgh local authority has had the power under the Municipal and Police (Amendment) Act since 1891 for the medical officer of health or a veterinary inspector to enter any byre or cowshed wherever situated if the milk produced therein is being sent for sale within the city, to examine any cow kept therein for the supply of milk, and to take samples of milk. Such important powers as regards the country supply of milk to the city have, I regret to say, scarcely been exercised at all by the said local authority. It is clear that for the proper exercise of these powers a sufficient staff of veterinary inspectors is necessary.

General Conclusions.

The high incidence of tubercle bacilli in milk imported to Edinburgh from country districts clearly points to the necessity of measures more stringent than those at present enforced being taken to prevent tubercle-infected milk reaching the public.

The danger from infected milk in Edinburgh cannot be regarded as other than serious. The fact that the supply of milk from country byres, which yield almost two-thirds of the total amount of milk consumed daily in the city, and of which there is practically no veterinary inspection, is increasing annually, strongly emphasizes the necessity for radical changes. It is a question which must be taken up and dealt with by the local authority. The only way to safeguard the public against this danger is, without further delay, to grapple with the existing inadequate supervision of the milk supplied to Edinburgh from rural districts. The existing local powers should be exercised to their full extent and a sufficient staff of veterinary inspectors established. But veterinary inspection cannot do everything. A systematic bacteriological examination combined with experimental testing (by inoculation of animals) of milk samples carried out uninterruptedly year after year is indispensable—such samples to be collected not only from milkshops and milk vans, but at railway stations. Bacteriological methods and veterinary inspection must go hand in hand, the former serving as a guide and also a check upon the latter.

It must be borne in mind, however, that no purely local effort will suffice to eradicate bovine tuberculosis. The provision of legislation for the whole country is very desirable in view of the inadequacy of the powers at present vested in Scottish local authorities to ensure a pure milk supply. Additional and more stringent regulations will have to be drawn up and applied so as to exclude the recognizably tuberculous cow from the milk supply, whether the seat of the disease is in the udder or elsewhere. Means must be provided for tracing diseased milk back to its source and stopping the source of such milk. These requirements can only be secured by the universal compulsory inspection of dairy cows by full-time veterinary inspectors, assisted by experienced bacteriologists provided with adequate laboratories. It is unfortunate that such demands are not fully met in the Milk and Dairies (Scotland) Bill now being considered by Parliament. Efforts should be made to have these incorporated in the bill.

Until the proper legislative measures are obtained it is advisable for the public to boil all milk consumed in their families.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

APPENDICULAR GRAFTING.

IN 1911 Lexer[1] made use of the appendix to repair the deficiency occurring in the urethra as the result of excision of a stricture. Streissler[2] in the same year used the appendix to restore the urethra in a case of hypospadias, and more recently Babcock[3] transplanted the right ureter into the appendix in a case of carcinoma of the bladder.

In October, 1913, I saw a boy, aged 11, who had on the previous day been walking along a railing. He had slipped and, falling astride the railing, had bruised the perineum. When I saw him any bruising that may have occurred was masked by extravasation of urine. I opened freely into the tissues of both groins, and then performed suprapubic cystotomy and passed a rubber catheter from behind forwards. Two days afterwards the temperature reached 105° F., and he was in a very critical condition. Extensive sloughing of the tissues in the perineum and groins took place, with loss of the perineal portion of the urethra. The sloughs separated slowly and cicatrization finally obliterated the perineal urethra. All urine was discharged through the suprapubic opening. In November I attempted to reconstitute the urethra over a catheter. The wound broke down, urine was discharged from the perineum for some time, but gradually the wound closed and the urethra was again obliterated, all urine being discharged suprapubically.

In March, 1914, I made another attempt to reconstitute the urethra and again failed. Further attempts of a similar nature I considered to be unwarranted, and I thought it better that all urine should be passed suprapubically until the perineal tissues were healed, and then to attempt grafting the saphenous vein into the deficiency.

On May 29th I again dissected out the proximal and distal portions of the urethra in the perineum and removed as much scar tissue as possible. I then resected a portion of the saphenous vein, but finding its calibre much too small for my purpose, I opened the abdomen and removed the appendix. It seemed quite healthy, but contained a threadworm. It was impossible to remove the serous coat, so I scarified it thoroughly with a scalpel, and then removed about half an inch of its distal end. The graft finally prepared was over an inch in length. I passed a rubber catheter through the penile portion of the urethra and then threaded the appendix on it. The point of the catheter was then passed on into the bladder. It was now quite easy to unite the mucous membranes of urethra and appendix at either end, and, that being accomplished, the wound was closed.

On June 3rd the catheter came out (it had been stitched in with catgut) and another catheter was passed under an anaesthetic and stitched in.

On June 8th the catheter was left out, the perineal wound was healed, and all urine since that date has been passed naturally. The boy is now walking about and micturates freely and normally without discomfort.

In conclusion, I would point out that Axhausen's experiments on transplantation of mucous membranes show definitely the value of autoplastic as opposed to homoplastic or heteroplastic grafts. The biochemical properties of the individual are so diverse, and anaphylaxis is of such potency in the subsequent fate of grafted mucous membranes, that it would seem imperative to rely only upon autoplasty.

Southampton. NOEL BRAHAM, F.R.C.S.Edin.

REFERENCES.

[1] Lexer, *Arch. f. klin. Chir.*, 1911, xcv, p. 827. [2] Streissler, *Arch. f. klin. Chir.*, 1911, xcv, p. 663. [3] Babcock, *Journ. Surg., Gyn., and Obst.*, 1914, xviii, p. 119.

HOUR-GLASS CONTRACTION OF UTERUS AFTER PITUITARY EXTRACT.

I RECEIVED an urgent message on June 28th to see a healthy multipara (aged 35 and at full term), as she had a profuse "show," and her "waters had come away"; I was assured that she had had no pains.

I found the patient had lost a fair amount of blood, which was slowly oozing; the os was dilated to the extent of two fingers, and the presentation was a normal vertex. The membranes had ruptured. There was no placenta praevia.

As the bleeding continued and no pains supervened, I applied a tight binder, and administered 1 c.cm. of pituitary (infundibular) extract hypodermically. Pains came on immediately, the haemorrhage ceased, and two hours afterwards the child was born. An hour and a half after the birth of the child I decided, after several futile attempts to express the placenta, to introduce my hand into the uterus, as I strongly suspected hour-glass contraction. I discovered, well above the cervix uteri, a typical constriction, which embraced the umbilical cord so tightly that I had some difficulty in slowly dilating it digitally and liberating the imprisoned placenta, which was found detached and normally situated in the upper segment of the "hour-glass." The amount of blood lost *post partum* was not abnormal.

I had only once before used pituitary extract, and that was in a case of severe *post-partum* haemorrhage, when

the results were excellent. I have always avoided it in normal labours (it is occasionally recommended as a time-saver), as it has seemed to me—theoretically, at any rate—that the risks must be the same as those of ergot given before the completion of the third stage. The case here recorded would appear to show that at least the production of hour-glass contraction is a potentiality shared by both these useful drugs.

Corleston-on-Sea. ROBERT L. GLASS, M.R.C.S., L.R.C.P.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

WEST HAM UNION INFIRMARY.

A CASE OF EXTRAORDINARY SHORTNESS OF THE SMALL INTESTINE.

(By J. C. MUIR, M.D., Medical Superintendent.)

A GIRL, aged 15, was admitted on December 27th, 1913, with a history of abdominal pain for three weeks, referred mostly to the right lower abdomen. She was fairly well nourished and the other organs were normal. The abdomen was full, rather resistant, and very slightly tender, but nothing definitely abnormal could be detected. There was some gurgling and the caecum was thought to be distended. She remained under observation for some weeks. The bowels were somewhat stubborn, but with aperients and enemas almost daily actions were obtained which were of normal character.

On February 9th a very definite swelling was found in the lower abdomen, consisting obviously of distended coils of gut, with visible peristalsis and marked gurgling on palpation. There was evidently a partial obstruction of some part of the intestine.

Operation.

On February 12th, under open ether, the abdomen was opened to the right of the middle line, below the umbilicus. The swelling was found to consist of very adherent and tangled coils of ileum in its lowest part, causing considerable obstruction of the lumen near the ileo-caecal valve. The ileum was greatly distended, being fully as large as the large gut, and its peritoneal coat was much thickened, and had a milky appearance. There was, in fact, a chronic peritonitis, not confined to but most marked over the lower ileum. Here and there were small milky tubercles, but the appearances were not those of ordinary tuberculous peritonitis. The tangled portion could be isolated, and was resected. This was considered preferable to any form of short-circuiting, which would have left the tangled and distended coils untouched. In view of subsequent events it does not seem likely that short-circuiting would have met with any greater success. The anastomosis (end-to-end) was made with some difficulty, as there was only an inch or two of ileum left above the ileo-caecal valve, and it could not be brought fully outside the abdomen. The appendix was normal, except that it contained two small stercoliths.

After-History.

The patient was very collapsed afterwards, but rallied well in the next few days. There was evidently some failure of technique on my part, for a fortnight later she had to be anaesthetized, and a large collection of foul pus was evacuated from the abdomen and a tube inserted. The anastomosis, however, must have held, for no faeces ever escaped. From this date onwards the temperature was normal. The abscess healed rapidly and was closed a fortnight before death. From the date of the operation, however, she had intractable diarrhoea, from three to five or six loose stools daily, and, with some temporary rallies, she wasted progressively. The abdomen seemed normal, and no disease was detected in other organs. She died on April 26th, some ten weeks from the date of operation.

It is necessary to lay stress on the length of gut removed. When uncoiled after removal there appeared to be some 4 ft. of it. My colleague, who assisted me, estimated it at less than this. It will be generally agreed that the tendency of the surgeon is not to minimize the length of gut which he removes. In view of what followed the point is of some importance.

Post-mortem Examination.

There was extreme wasting and chronic peritonitis, with extensive adhesions, but no enlarged glands or other evidence of tubercle. There was marked thickening of the peritoneal layer of some parts of the intestine, especially of the large intestine from the splenic flexure down to the rectum. A portion of this was examined microscopically for evidence of tubercle, but the pathologist's report was negative. The anastomosis was sound and admitted two fingers. A point of minor interest is that one layer of the celluloid thread used was still quite unabsorbed; the other was not seen.

The small intestine was removed *in toto* from pylorus to caecum and measured only 17 in. It ran in one S-shaped curve, passing from the caecum a little to the left of the middle line before turning back to form the curve of the duodenum. It was normal in appearance, texture, and calibre, all the abnormally thickened and dilated part having been removed. Except for some old pleural adhesions, the other organs were normal.

REMARKS.

The cause of death was only too obvious—namely, insufficient digestive and absorptive surface in the small intestine. Allowing 4 ft. for the part removed, the total length was well under 6 ft. It is true that the part removed was not actually measured, but 4 ft. was the most liberal estimate amongst those who saw it, at a time when there was no suspicion of the unfortunate state of affairs. Even allowing—which I do not admit—that it may have been a little more, the total length still remains extraordinarily small. A standard textbook of anatomy gives 15½ ft. as the extreme limit of variation downwards.

I must admit freely that the condition was not noticed at the time of operation. I assumed, perhaps unjustifiably, that there was plenty of small intestine above, knowing that I was not more than 2 or 3 ft. (as estimated before uncoiling) from the ileo-caecal valve, and I only pulled down enough to get a healthy part for anastomosis. The presence of chronic peritonitis and adhesions did not, of course, make examination particularly easy. The failure of observation was thus, though disastrous, perhaps pardonable.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

ANNUAL MEETING.

THE annual meeting of the society was held on July 7th, under the chairmanship of the president, Sir FRANCIS CHAMPNEYS. The annual report of the council recalled the various activities of the society during the year, to most or all of which our columns have borne witness from time to time. The report stated that the subcommittee of the Finance and General Purposes Committee had given careful consideration to the possibilities of effecting economies in the expenditure of the society. The report of the honorary treasurers showed that the balance of income and expenditure was not altogether satisfactory; the ordinary expenditure had risen from £10,742 to £12,292, and the total was raised by the extraordinary expenditure to £13,255. The income had amounted to £12,451, and fell short of the expenditure by nearly £804. The extraordinary expenditure included that on "at homes," and on the reception of the International Medical Congress, amounting together to about £347. The income, though it had fallen short of the expenditure, had exceeded that of the previous year by £1,664.

The statement of assets and liabilities showed that the

financial position of the society was quite sound, but as it was believed that its work could be made more effective if it could command a larger income, Dr. Robert Hutchison moved a resolution to raise the subscription of Fellows residing within a radius of four miles of the society's house to four guineas. The number of Fellows present was small, but this proposal led to considerable discussion, and finally a resolution was adopted instructing the council to consider in what way the subscription could be raised, and to report how the increased money should be spent.

The report of the honorary librarians showed that the total number of books and pamphlets added during the year was 3,675. The use of the Allchin room, where readers, if they so desire, can have books they are engaged upon left undisturbed for unlimited periods if not required by other Fellows, had been much appreciated.

The number of Fellows of the society is now 2,854, of whom 1,016 are country members and 264 foreign; in addition there are 859 members, including 504 country and 130 foreign.

The President, in a brief address, said that the society had in response to a request of the Privy Council been able to give advice with regard to the proposal to establish an international health bureau at Jerusalem, and he believed that as Government departments realized the command the society had of expert opinion, such requests for advice would become more frequent. He referred with regret to the resignation of the editor of the *Proceedings*, Dr. Nachbar, who had been appointed medical superintendent of St. George's Hospital, and went on to discuss the large amount of matter which was received from various sections for publication. Sir Francis Champneys said that he considered that some of the sections held too many meetings, or at any rate sought to obtain too many papers, for the holding of meetings for discussion only was not open to criticism. He suggested that a rule should be made by all sections that a paper should not be accepted for reading until it had been placed in the hands of the committee of the section. In conclusion he thanked the officers of the society for the support they had given him during his two years of office, and expressed his confidence that the welfare of the society would be safe in the hands of his successor, Dr. Frederick Taylor.

A vote of thanks to Sir Francis Champneys, proposed by Sir William Church, and seconded by Sir Rickman Godlee, was carried by acclamation.

Mr. A. Bowes Elliott, F.R.C.S., of Abergele, North Wales, has presented to the library of the Royal College of Surgeons the medical log of the *Lord Stanley*, slaver, kept by his grandfather, Christopher Bowes, who was surgeon to the ship. The final pages bear two official notes. The first is the surgeon's: "Custom House, St. George, Grenada. I, Christopher Bowes, Surgeon of the ship *Lord Stanley*, George Farquhar, Master, from the Coast of Africa, do swear that the foregoing is a just and true journal, kept by me during this present voyage, to the best of my belief.—(Signed) Christopher Bowes. Sworn before me the 14th of August, 1792.—George Ferguson, Clk." The second note reads: "Custom House, Port of St. George, Grenada. These are to Certify, that the foregoing is a true Copy of the Original Journal delivered in and sworn to. Given under our Hands and Seals of Office, the 5th of September, 1792. George Ferguson, Collr., J. Williams, Compr." The total number of slaves on board, when the ship started on June 21st, was 389, namely: "Men" 214, "men boys" 67, "boys" 10, "women" 68, "women girls" 24, "girls" 6; from this total of 389 were deducted 3 deaths in port and 2 men sent ashore, one being lame in his arm and one, a "man boy," affected with epilepsy. According to the calendar and tables in the log, the voyage took thirteen days, and there was one death every day. There was clearly a great deal of sickness, but the notes are very brief, covering no more than fourteen pages. "The boy No. 1 was attacked with pains in the bowels, with diarrhoea," "The man No. 18, senseless this morning, at 10 a.m. died," are samples of the entries. It is not surprising, therefore, that Sir Ronald Ross, who has read through the log, admits that it cannot be decided what the slaves were suffering from; but quite possibly many had tried to poison themselves on being captured, for Africans are experts at poisoning. An epidemic similar to summer diarrhoea is also probable.

Rebiews.

MANSON'S "TROPICAL DISEASES."

The fifth edition of Sir Patrick Manson's *Tropical Diseases*[1] is welcome, and will be eagerly read by many. Rivals have sprung up since the early days when the work reigned supreme, but it still holds its place amongst these younger and vigorous offshoots. There is, we believe, room at the present day for an English standard work on tropical medicine by many authors, and if Sir Patrick Manson could see his way to making his work the basis of this, then it would keep his name and his work, and incidentally his teaching, green for many a year to come. Knowledge has advanced so much in recent years that it is impossible for any one man, however gifted, to keep completely up to date in the many diverse subjects that are now classed under the heading of tropical medicine. It has been said, not without truth, that a work on tropical medicine begins to be out of date even before it is published. A perusal of the pages of the *Tropical Diseases Bulletin* will certainly show what an enormous number of papers are now being written on tropical subjects, though at the same time it must be admitted that the vast bulk of them contain nothing new. Most of the papers of the present day are really a rehash of old work with little or nothing new added. In this way the subject is cumbered, and it becomes more difficult to extract the wheat from the chaff.

In the present edition the text with the index is increased by only 61 pages. There are some completely new chapters—namely, one on phlebotomus fever and one on rat-bite disease. The latter, of course, is not strictly a tropical disease, and the same may be said of pellagra, but as they are uncommon and occur in the tropics it is well that they should be discussed in books on tropical medicine. In addition to these chapters new matter on other diseases is incorporated in the text as it existed in the fourth edition, published in 1909, less important material finding a place in footnotes or in small print. The number of coloured diagrams has been increased, and we notice new photographs and new black-and-white sketches throughout the pages of the manual. These, of course, add to the value of the work and make the reading of the text a much greater pleasure. The difficulty of combining the scientific with the clinical aspect of the different diseases has now become a serious problem for the writer of any handbook of tropical medicine. Castellani and Chalmers in their well-known manual separated the two, and the plan has its advantages.

As Sir Patrick Manson says in his preface, the prevention and treatment of tropical diseases have not been neglected in recent years, and more than one investigation has had most gratifying results. The treatment of yaws and relapsing fever by salvarsan bears out this statement, and the substitution of emetine for crude ipecacuanha is, as the author observes, a very useful advance in the treatment of amoebic dysentery and amoebiasis generally. There are many problems in tropical medicine still requiring solution, however, and very often as new work is being completed on one subject new ideas are gained about another. Verruga peruana is an example in point. Oroya fever and the verruga condition, till now always spoken of as phases of the same disease, have recently been shown by Strong and his fellow workers to be two quite distinct diseases. If this conclusion be accepted, as we believe it should, many interesting and new problems arise for solution. Ulcerating granuloma is another disease requiring further research; it is mentioned briefly in the present work, but Wise's most recent observations on the parasite-like bodies found in the lesions are not discussed. We wish that Sir Patrick Manson could be persuaded to rewrite the chapter on filariasis. No one can be more competent to bring out all the points of the story. Another section which is rapidly gaining in importance and upon which much work has recently been done is that of tropical skin diseases.

[1] *Tropical Diseases: A Manual of the Diseases of Warm Climates.* By Sir Patrick Manson, G.C.M.G., M.D., LL.D.Aberd. Fifth edition, revised throughout and enlarged. London: Cassell and Co., Limited. 1914. (Crown 8vo, pp. 957; 239 figures. 12s. 6d. net.)

For the use of students a good general sound account is what is required, and this is what Sir Patrick Manson's book provides. Long may it do so, and long may coming generations of students enjoy a perusal of its pages.

I.K. (IMMUNKÖRPER) TREATMENT.

THE introduction of a new method of treatment, dependent for its success on the skill and knowledge with which it is employed, too often meets with early condemnation by those who use it without these qualifications. Many times has the premature vaunting of an idea, sound in itself, led to indiscriminate application and failure. Then it is only after years of patient observation that the original plan takes its fitting place. Among the patient workers whose original ideas are gradually obtaining recognition, the name of Dr. Carl Spengler of Davos stands prominent. His views, founded on laborious experiment, have been scouted by some other workers, who maintain that they are not correct in theory and are ineffective in practice; but others, who have given perhaps closer attention to them, hold a very different opinion. Of these latter may be classed Dr. W. E. M. ARMSTRONG, who has himself studied in Dr. Spengler's laboratory, and has by no means been blinded by the enthusiasm that sometimes warps the judgement of the pupils of a masterful teacher. He has lately published a small book [2] which we can commend to every one who really wishes to understand the system of treatment that has been somewhat enigmatically designated as "I.K."

These mystic letters imply nothing more than "immune bodies." The principles of immunization by active and passive means are generally accepted. In the one case the tissues of the patient are stimulated to generate their own antibodies, while in the other the antibodies are prepared in the tissues of another animal and injected ready-made into the patient. This latter method, of which the antitoxic treatment of diphtheria is the best known example, has the advantage that it produces less constitutional disturbance in a body which has already been severely poisoned by the virus which it is sought to neutralize.

Dr. Spengler's researches have led him to the conclusion that a far larger proportion of the so-called protective substances are present in the red corpuscles than in any of the other constituents of the blood, and hence he has prepared his immunizing solution from the blood of highly immunized animals without separation of any of its component parts. This solution he believes to contain a very large proportion of immune bodies, and by means of them he maintains that a lytic effect can be produced upon the bacteria, as well as an antitoxic effect upon the poison which is produced during their disintegration.

A striking phenomenon has been observed with respect to the relative effects of high and low degrees of dilution. The action of the I.K. solution seems to increase in power with the amount of dilution even to the almost inconceivable extent of a thousand billion times. It must be added that competent observers have not been able to endorse this observation, although it has been vouched for by many skilled workers. Polyvalency has also been claimed for it, and this is believed to be due to the constant presence in blood of immune substances against all forms of pathogenic bacteria. Apart from clinical evidence of its activity, the microscope has served to show that active lysis takes place within a short time of administration. The changes in the bacilli can be made manifest by a method of staining whereby the granules in each bacillus appear black, the body of the micro-organism retaining the red colour. The breaking up of the bacillus under the influence of I.K. can thus be watched. Dr. Spengler has designated the disintegrated granules *Splitter*. It is further claimed that the presence of the antitoxin can be microscopically identified.

As regards the practical application of the method in cases of tuberculosis of the lungs, it would appear that beneficial effects appear at once, but do not last long. They are renewed with every fresh injection, and the progress towards recovery is fairly steady. It is obvious that no hard and fast lines can be laid down for practical guidance in routine work. In every case the operator must feel his way. The use of the I.K. treatment should not be attempted by any one who has not fully grasped the ideas on which its employment is founded. It would seem that the intelligent use of dilution appropriate to each case must be an important factor in the attainment of success, and in the compact and clearly descriptive account which Dr. Armstrong has put before the profession the whole subject will be found to be dealt with in the spirit of the impartial investigator, not too severely critical of doubtful points nor over-enthusiastic as to successes already achieved.

[2] *I.K. Therapy, with Special Reference to Tuberculosis.* By W. E. M. Armstrong, M.A., M.D.Dubl. London: H. K. Lewis. 1914. (Demy 8vo, pp. 93. 5s. net.)

CEREBELLAR LOCALIZATION.

As long ago as 1876 Nothnagel remarked that the vermis and the two lobes of the cerebellum must have different functions, and similar observations have frequently been made by physiologists since that time. But the cerebellar functions do not lend themselves very readily to experimental investigation. From the experimental point of view they consist almost entirely in disturbances of equilibration and the co-ordination of muscular movements; and when the cerebellar lesion is small these disturbances may be transient, and for that reason easily missed. For these causes the part played by the cerebellum in the normal processes of life has always remained a little obscure; the duties assigned to it have never seemed adequate to its size and complicated structure. Recently, however, it has been very carefully studied in France, and an attempt to localize the representation of definite muscular groups in definite portions of the cerebellum has been made by ANDRÉ-THOMAS and DURUPT,[3] working in Dejerine's laboratory at the Salpêtrière. It is generally agreed that the limbs are represented by centres of co-ordination in each cerebellar hemisphere of the same side, and that the head, neck, and trunk are similarly represented in the vermis. As for the methods of experiment employed, it has always been found that excitation of the cerebellar cortex or nuclei yields ambiguous results; some hold that the cerebellum is directly excitable, others that it is not, and in any case the facility with which the excitation spreads from one part to another makes the exact interpretation of results impossible. It is quite otherwise, however, with ablation experiments, in which definite portions of the cerebellum are removed or destroyed, while the animal (a dog or monkey) is under the influence of a general anaesthetic. This, therefore, is the method of experiment adopted by these authors. They found that minute lesions of definite parts of the cortex of the cerebellar lobes produced functional disturbances in certain muscle-groups of one limb; more extended lesions would affect the whole limb, while extensive lesions affected both limbs on the same side. These functional disturbances are not paralyses; they are divided into four separate groups. First is dysmetria, a disorder of active movement; the initial impulse is unduly strong, the movement is too rapidly made and arrested too late, with the result that the objective is overpassed. Second comes passiveness; in given directions the affected limbs can be placed in various unnatural attitudes, which the animal makes no attempt to correct. Thirdly, if the limbs are moved in directions opposite to those in which passiveness is shown, the reaction is immediate and excessive. And fourthly, the affected limbs cease to react to various normal modes of excitation. In a word, localized cerebellar lesions cause anisosthenia, or perturbation of the equilibrium between antagonistic muscles. For each segment of a limb, and for each articulation, there seems to be a cerebellar centre for each direction in which movement may occur—for flexion and extension, for abduction and adduction, for rotation inwards and outwards, to quote examples. In normal circumstances the centre presiding over, say, flexion is counterbalanced by the centre for extension; the two work together in antagonism, with the result that any desired degree of flexion or extension can be smoothly obtained. When one of these centres is injured by experiment or disease, the equilibrium between the two is upset, with the results indicated above. Probably the many cerebellar centres of direction are closely connected with one

[3] *Localisations Cérébelleuses.* Par André-Thomas et A. Durupt. Paris: Vigot Frères. 1914. (Med. 8vo, pp. 101; 94 figures. Fr. 6.)

another, so that the matter is not quite so simple as this; in addition it must be remembered that the cerebrum has a very powerful controlling influence over movements of all sorts, and it appears that it can compensate satisfactorily for losses of co-ordination caused by the smaller cerebellar lesions. But if the cerebral activity is deviated or preoccupied by such things as fear or external interests that deflect the attention, evidences of the cerebellar lesion reappear; and if the lesion is too extensive, this compensation can never be complete. If successive injuries are inflicted on the cerebellum of an experimental animal, compensation is each time impaired anew. The disturbances due to the first injury are aggravated by the second; compensation for the second lesion is less satisfactory than that succeeding the first.

THOUGHTS OF A PHYSICIAN.

AMONG the *Main Issues* discussed by Dr. STEEVES in his little collection of essays[4] are toleration, the child, courage, letter writing, sickness and health, gratitude, egotism, and the book collector. All are written with a delicate literary artistry which makes them charming to read and are informed with many wholesome and suggestive ideas. He pleads for a more rational and considerate treatment of children than they often receive from thoughtless parents. He truly says that children are often punished for a physical disability when they are really suffering from a disease which only the chance visit of the physician reveals. The truth is strongly impressed on those of us who remember the treatment meted out by ignorant teachers to little ones whose apparent stupidity and inattention were caused by nasal obstruction and adenoid vegetations. What a step forward was made by Meyer when he "gazed on the Pacific" of a throat packed with these little growths! We can remember one of the greatest English physicians of the day denouncing the whole thing as quackery; he would not look for himself because they had been brought to his notice by "specialists," whom he regarded as the pariahs of the profession. In speaking of appearances, Dr. Steeves has some wise words to say to persons whose belief in their own judgement of character leads them astray by unwarranted trust in a plausible manner. In an essay on letter writing, Dr. Steeves strongly condemns the lack of training in the use of their own tongue by boys at our public schools, the results of which are seen in young men who can write good Latin and Greek verse and cannot express themselves in decent English. Mr. Balfour said the other day that he had never been taught English at all. This is one of those things they do better in France, and the consequence is that every Frenchman of any education can write his language well, and among literary men there is a much higher standard of style than English writers possess. Sickness, says Dr. Steeves, rightly understood, has a moral lesson. "Many a man can remember how some attack of illness in the case of his friend has resulted in a complete change of character." On the other hand, this comforting doctrine must not be pushed too far; Weir Mitchell held that the influence of pain on the character was the reverse of good. Speaking of choice in literature, Dr. Steeves is very sound in his preference for the English classics, and he evidently pities the state of mind of those who airily pronounce Dickens and Thackeray "quite out of date." This is largely an affectation on the part of people nurtured on the unwholesome literary diet of which there is so much at the present day. We cannot follow Dr. Steeves through all the subjects of which he treats with such sanity of outlook presented with so much literary grace. We can only recommend the book warmly to readers who prefer good sense, the fruit of ripe scholarship and practical experience as a physician, to sensuality naked and unashamed, or, what is worse, tricked out with the Coan garment which by half hiding indecency makes it more alluring.

NOTES ON BOOKS.

THOSE who are called upon only occasionally to do necropsies and students about to commence their duties in the *post-mortem* room will find *A Handbook for the Post-mortem Room*,[5] by Dr. A. G. GIBSON, extremely useful. All the directions are given clearly, and there is a complete absence of irrelevant matter. The tendency to write in one place in terms of the metric system and in another in those of the English system is confusing and objectionable, but this is so commonly done that it cannot be said to detract from the general usefulness of the work.

In his small booklet on *Holidays*[6] Dr. C. D. MUSGROVE has put together much sound advice that should profit both the man in the street and paterfamilias to read before the holidays are due. It contains eighteen chapters, in which are considered the various types of holiday that may fall to the lot of each one of us, the ways in which they may be spent most profitably, and the dangers to which the incautious holiday-maker is exposed. Admirable common-sense rules for the avoidance of these dangers, so often underestimated, are given, while at the same time the possibilities of enjoyment often missed are pointed out. Dr. Musgrove's book makes a most seasonable appearance; it is well written, full of sound advice, and may be cordially recommended to the attention of the public.

The last published volume of *Guy's Hospital Reports*[7] has already been referred to on two occasions in the BRITISH MEDICAL JOURNAL. One of these references was in an article entitled "Wilksiana," which appeared in the JOURNAL of April 25th, 1914, p. 933; the other was to a note on Mr. William Wales's "List of Books by Guy's Men in the Wills Library, Guy's Hospital," in our issue of May 9th, 1914, p. 1028. In the scientific part there is a paper by J. Fawcett and H. Rippmann on carcinoma of the bladder associated with gall stones, based on 47 cases, brief notes of which are given in an appendix. Notes from the Throat and Ear Department: Enucleation of the tonsil (56 cases); acute suppuration of the frontal sinus or ethmoidal cells which caused suppuration in the orbit (4 cases); and cold paraffin wax injection for the rectification of depressed bridge of the nose (3 cases), are contributed by W. M. Mollison, A. M. Zamorra, and A. H. Todd. Under a special heading, "Neurological Studies," edited by Dr. A. F. Hertz, are notes on the etiology and treatment of sciatica by the editor; four cases of cerebellar ataxia in children, by Mr. E. S. Taylor; a case of polioencephalomyelitis associated with optic neuritis and myocarditis, by Drs. Hertz, W. Johnson, and H. T. Depree; progressive muscular atrophy associated with primary muscular dystrophy in the second generation, by Drs. Hertz and W. Johnson, who also record two cases of bilateral atrophy of the face; and ten consecutive cases treated by hypnotism, by Mr. F. G. L. Scott; Dr. E. P. Poulton reviews the state of knowledge in regard to creatinine and creatine. Drs. Lauriston Shaw and Herbert French report a case of splenomegalic polycythaemia or erythraemia; Dr. Hertz and Mr. W. E. Digby record a case of recovery from a duodenal ulcer produced by a burn; Dr. E. L. Kennaway contributes some notes on the excretion of acetone bodies; Mr. W. E. Tanner gives the results of a study of 440 cases of inguinal hernia; and Dr. A. Read Wilson discusses parasyphilis of the nervous system, with special reference to some of its rarer manifestations. The volume contains several well executed illustrations.

Dr. MAJOR GREENWOOD has contributed to the *City of London Illustrated* a historical poem on London of which he has been good enough to send us a reprint. It opens with the following invocation:

> O London, City of my earliest dreams!
> Home of my fathers, ancient Capital
> Of Britain's empire!

In thirty-one rhymed stanzas of nine lines he gives a sketch of the history of London and winds up by an appeal to the patriotism of its citizens to be—

> As stout of heart, as strong in enterprise,
> As was that London, whose remains we see.

As Dr. Major Greenwood truly says, "great and greater London" should beware of dissensions. The reprint is illustrated by two maps, one about 1658 and the other of the stile or steelyard from Van Wyngard's plan made for Philip II of Spain. The date given for the latter must be wrong.

[4] *Some Main Issues: A Collection of Essays.* By G. W. Steeves, M.D. London: Chapman and Hall. 1913. (Fcap. 8vo, pp. 117. 3s. 6d. net.)

[5] *A Handbook for the Post-mortem Room.* By A. G. Gibson, D.M.Oxon., F.R.C.P.Lond. Oxford Medical Publications. London: H. Frowde; Hodder and Stoughton. 1914. (Fcap. 8vo, pp. 140; 13 figures. 3s. 6d. net.)

[6] *Holidays and How to Use Them.* By C. D. Musgrove, M.D. Bristol: J. W. Arrowsmith, Limited. London: Simpkin, Marshall, Hamilton, Kent and Co., Limited. 1914. (Cr. 8vo, pp. 211. 2s. 6d. net.)

[7] *Guy's Hospital Reports.* Edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. lxvii, being vol. iii of the Third Series. London: J. and A. Churchill. 1913. (Demy 8vo, pp. 394. Price to subscribers, 6s.; non-subscribers, 10s. 6d.)

THE BRITISH MEDICAL ASSOCIATION AND THE MEDICAL PROFESSION.

A CRITICAL REVIEW OF THEIR RELATIONS.

(Continued from page 27.)

VII.

ETHICS.

ETHICAL considerations underlay so many of the doings of the Association described in previous articles, and consciously or unconsciously influence so largely the actions of every medical man in the course of his daily labours, that it is worth while to devote a little space to a sketch of the work that the Association has done in this connexion. It will perhaps be more convenient to begin, so to speak, at the end of the story—that is to say, by describing the more recent actions of the Association in regard to ethics.

For the last ten years or so an Ethical Committee has been one of the essential portions of the Association's central mechanism, for though its members are appointed from year to year, the body itself is one of the standing committees of the Association under its existing constitution. It is called the Central Ethical Committee, because its primary duty is to act as a kind of reference committee in respect of all questions of an ethical character brought under the notice of the Council; in fact, though the Council reserves the right to hold an inquiry of its own should it think fit to do so, the Central Ethical Committee may be regarded as a court of appeal in respect of decisions by like bodies which form part of the local organization of the Association throughout the country. The fact that it has been found necessary to form a subcommittee to deal with cases which cannot await meetings of the full Committee, and that during the last ten years decisions have been reached on nearly a thousand points, afford sufficient evidence of the utility of the work done by the Association through this Committee for the medical profession at large.

Furthermore, this Committee is in some degree an initiating body, and with the approval of the Representative Body of the Association has completed several highly successful pieces of work of a somewhat different order from that above mentioned. Some years ago, for instance, it drew up a code of rules for the guidance of medical men who in the course of their duty are obliged to interview, and perhaps examine, persons in charge of other practitioners. Such events have long been common in connexion with the operation of the Workmen's Compensation Act, and owing to tuberculosis campaigns and the growth of school medical work occur now with yearly increasing frequency. The code clearly defines the rights and duties of all medical men concerned in such events, and thus makes it easier to avoid giving unintentional offence.

Perhaps an even more important piece of work done by the Central Ethical Committee some two years ago was to draw up a set of rules for the conduct of inquiries whenever there arises a dispute between medical men or any allegation of breach of professional good conduct. In drafting this document the Central Ethical Committee had primarily in view the desirability of meeting the needs of Branches and Divisions of the Association, but the work done involved what is in effect a practical expression of the general principles which should underlie any inquiries of the kind. These rules of court, as they may be called, are invaluable, for it is obvious that any inquiries regarding breaches of ethics should be conducted on lines to which no ethical exception can possibly be taken, and nothing equivalent to these rules exists elsewhere.

These rules were circulated throughout the Divisions of the Association, and have been adopted by most of them. They make it impossible that any case can be judged on *ex parte* evidence; ensure that all pertinent facts shall be duly considered; that no one having a direct interest in the question at issue shall have a seat on the inquiry committee; and give all those who do not agree with any decision that may be reached, and who are directly interested therein, a right of appeal. Any two medical men, for instance, who did not agree upon some point could refer the question for settlement—first, to the Ethical Committee of the Division to which they belong, then to the Ethical Committee of the Branch Council, next to the Central Ethical Committee, and finally, if desired, to the Council itself. It is, of course, very rare for such a series of inquiries to be held, because as a rule those concerned are ready to bow to the opinion of colleagues in their immediate neighbourhood if these have been in a position to consider matters on sound lines.

As already indicated, most Divisions are now in this position, so that there are now some 200 courts of honour, as they may be called, scattered throughout the country. That they should be so numerous, and that their procedure should be uniform is a very great advantage; it means that in practically every locality there is at hand a body whose dicta disputants can accept without loss of dignity; this makes for prompt settlement of disputes and consequent absence of bitterness.

Before the reconstitution of the British Medical Association in 1902 the number of these courts was much smaller, for there were only the Branch Councils to form them. Such Councils always paid a considerable amount of attention to ethical questions, but it was not until the Nineties that to do so became one of their formal duties. The immediate cause of this was a resolution passed by one of the Sections into which the work of the Annual Meeting was divided in 1895; an Ethical Section was held at this meeting for the first time, and among a series of resolutions passed was one to the effect that it would be expedient for every Branch to constitute its Executive Council into an Ethical Committee. The suggestion met with general approval, and was adopted by the Council. A further suggestion was that the Central Council should itself form an Ethical Committee to receive and report upon such matters as might be referred from the Branches or arise in any other way. This suggestion also seems to have been generally approved, and in effect to have been met, by adding the words "and ethical" to the title of an already existing committee, namely, the General Practitioners Committee. The latter was first constituted in 1893, and would appear to have been a kind of omnibus committee. Even before its title was expanded, it had been dealing with questions of an ethical character, and it was especially active in regard to questions of contract practice. It was, indeed, the fact that this committee found reason to regard much of the contract practice then in existence as ethically unsound that started the campaign against medical aid institutions on lines more effective than those which had previously been pursued.

So far as the term "ethical" is concerned, this committee had at least two predecessors at various times in the history of the Association. They were, however, special, not standing committees, and were appointed with a view to seeing whether they could evolve anything in the nature of a comprehensive code of medical ethics. As no final report from either of them seems to be extant, it may be supposed that both came to the same conclusion as that tacitly reached at much later dates by the General Medical Council and the Central Ethical Committee of the Association itself. It is to the effect that, as a general rule, every case involving ethical considerations should be judged on its own merits. The principles of ethics, as the founder of the Association, Sir Charles Hastings, pointed out, "exist in every well-governed mind and are identical in all circumstances, however variously they may be applied"; but in medical work circumstances tend so much to differ—minutely, it is true, yet materially—that only in a limited number of connexions is it useful or desirable to reduce general ethical principles to statutory rules. The belief that this view probably prevailed among the majority of members in early as well as recent years is further supported by the fact that in the Seventies the Association declined the offer of an ethical code which had been drawn up by a member, and did so despite the fact that this code was admittedly well conceived so far as concerned the indicated circumstances for the application of each of its rules.

It is also of interest to note that the Association—though, as already indicated, it took into consideration the desirability of a code of ethics being drawn up—never in its corporate capacity seems to have felt the lack of a code. It applied general principles and came to definite conclusions promptly on many occasions in the first fifty as well as later years of its existence, and proved itself a

fearless upholder of its views. An instance in point may be quoted from the year 1850 when it expelled one of its leading members because he persisted in meeting in consultation a man who had been shown to have obtained a diploma from one of the colleges by the presentation of false certificates. In the same decade, moreover, a still more prominent member—who had taken to practices which the Association at the time regarded as *contra bonos mores*—escaped a like fate only by timely resignation.

No one, indeed, who scans the newspapers published in the middle sixty or seventy years of last century can feel any doubt as to the need of the existence of a body holding strong views on ethical subjects, or can fail to feel some gratitude to the Association for what it has done in this connexion. Apart from blatant self-advertisement and almost undisguised connexion with admitted quacks and patent medicine vendors, quarrels between medical men not infrequently pursued lines which fortunately have no counterpart at the present day. As was said by a speaker at the annual meeting of 1859, "Every month produced scenes of contention in the courts of justice for which the profession had to blush." Many circumstances at that period favoured the prevalence of a low standard of ethics, and though the evils were recognized and numerous efforts made to stem them, the balance of force was on the wrong side for many years. In the earlier of these years one potent influence was that there was practically no admitted kinship between different departments of medicine. The ill-feeling between them, especially in London, was notorious; it was expressed at times in unmitigated terms, and would seem to have been perfectly sincere. There is evidence that improvement in this respect occurred towards the time when the first Medical Act came into view, but the disease broke out again with renewed vigour, though in a somewhat different form, a few years later, when specialism first began to arise.

Allusion to this factor has already been made in previous articles, but we mention it again because it was the hope of being able to eliminate its effect that directly originated one of the Association's most characteristic features. Those who shared the work of founding the Association proved themselves something more than skilled clinicians, for though at that date State medicine had yet to be born and pathology was still in its infancy, they obviously believed in preventive medicine, and showed themselves able to recognize the causes of a disease as well as its symptoms. They realized, in short, that one cause, at any rate, of the existing lack of that "harmony and good feeling which should ever characterize a liberal profession"* was that a medical life tended on the whole to be an isolated life, or in other words, that the circumstances of ordinary practice tended to keep medical men apart rather than bring them together.

This was the point on which those who took part in the foundation of the Association seized, and they determined that as far as possible its evil influence should be eliminated. Consequently they endeavoured to ensure that members of the Association should foregather at least once a year in circumstances likely to promote "friendly intercourse and free communication"* by devising the special features of an annual meeting of the Association.

Now, it is not uncommon for a Superior Person who has been present at a congress of one kind or another scornfully to describe it as having been "merely a picnic," but though the term could not be used by any reasonable person in speaking of any meeting whatever of the Association, it was nevertheless intended from the beginning that something of the spirit of a picnic should exist at its annual gatherings.

From the beginning of time—Association time—these meetings have been held in the middle of a July or August week, and lasted practically to its end; and, again from the beginning of time, they have always included a certain amount of business proper, a certain amount of science, and a certain amount of purely social intercourse. In the earliest years of all, the scientific work was limited to listening to a review by the President for the year of the scientific occurrences in the previous twelve months. A little later on persons were chosen to deliver addresses in medicine, surgery, and obstetrics; then came discussions on topics connected with these three subjects; and finally, as membership of the Association increased, the Sections multiplied to the number common in recent years. It is true that the amount of work now done in these Sections and the interest taken in their proceedings tend to make the annual meeting a very much more strenuous period than formerly, and that thanks to the importance the Association has acquired in the public estimation, the social doings now have a civic as well as a private character; but so far as ordinary members of the Association are concerned present-day meetings, in respect of length and division of time, are similar to those held fifty or more years ago.

They play, in short, exactly the part and produce exactly the results that those who originated them intended they should, and it is impossible to believe that any one who has ever seriously considered the subject will doubt for a moment that quite apart from their scientific results these gatherings of the British Medical Association, like the more frequent meetings of its Divisions and Branches, have been and always must be of immense moral value to the medical profession.

Any self-analyst must know that it is exceedingly easy to conceive an intense dislike for a person with whom one is merely acquainted by sight or by hearsay, or through the expression of his views in writing, or reports of what he has said at some public gathering; and the same self-analyst must also know that there are very few people in regard to whom it is easy to feel thoroughly vicious once one has met them on neutral ground. Practitioner A, for instance, sees B from time to time and is repelled by his appearance; he hears something about C which prejudices him against him; reads the paper of D and regards him as very ill-informed; hears of E expressing views which he regards as abominable; while into the hands of F passes a patient whom he would have wished to retain, and G in some professional connexion fails to exhibit the courtesy which A considers his due. There are, in short, a hundred ways in which ill-feeling or dislike may arise, only to soften or entirely disappear when the individuals concerned are brought into contact with one another on neutral ground. They then find either that their previous impression was entirely mistaken, or that, after all, there is something likeable about the man. There must be hundreds of members of the Association who have gone through an experience of this kind at an annual or other meeting of the Association, and not a few who date from an Association meeting a very warm friendship.

This is a fact which would make the annual meetings of the Association, as also its Divisional and Branch meetings, of high value even if no real work whatever were ever done at them. They bring together medical men of every kind, enable them to hear one another's views, to meet on informal terms. They thus produce a spirit of camaraderie which would otherwise not exist and create an atmosphere or moral medium which is highly favourable to the growth and maintenance of a high standard of medical ethics.

It is to these circumstances that may be attributed a proportion of the great improvement a study of the records of the Association and of independent sources of information shows undoubtedly to have occurred. Furthermore, seeing that the annual gatherings of the Association as a whole will continue, and that the meetings of its Divisions and Branches are likely to be more frequent than ever in the future, and that there now exists the mechanism for dealing with questions of ethics which has been described at the beginning of this article, there would appear to be no fear whatever that ethical standards will ever fall below their present level. They may, indeed, be expected to rise; for while in the past there has never been anything academic in the actions of the Association in regard to ethical matters, it is now in a better position than ever to ensure that when it pronounces decisions consequences shall follow them.

Finally, it may be said that while the records of the Association prove that many medical offenders against ethical principles have found reason to recognize that they cannot flout the opinions of their colleagues with impunity, they show, also, that the Association is entitled to gratitude from the profession for its readiness to defend medical men against whom ill-founded ethical charges have been brought by lay individuals or bodies. On several occasions

* Phrases used in the original prospectus of the Association.

the Association has spent large sums of money in their defence, and on others has been successful by other means in securing them the justice previously withheld.

The Association, in short, has not only helped to raise ethical standards, but has also endeavoured to enforce them on all parties concerned.

(To be continued.)

RESEARCH DEFENCE SOCIETY.

THE annual meeting of the Research Defence Society was held in the rooms of the Royal Society of Medicine on June 30th; Lord LAMINGTON, who was recently elected President, was in the chair, and there was a large attendance, which included many ladies. Among those present were Sir James Reid, Sir John Tweedy, Professor Cushny, Sir David Ferrier, and Sir Wilmot Herringham. Expressions of regret for inability to be present were received from, among others, Mr. Arthur Balfour, Mr. Waldorf Astor, M.P., Lord Rayleigh, Sir John Brunner, Lord Hugh Cecil, Lord Cromer, and Sir Francis Darwin.

Reports.

The report of the committee stated that since last June many new members and associates had joined the society; and the number of names on its books was now above 5,000. They had lost, by death, many good friends—among them the late President, Sir David Gill, who in March, 1912, succeeded the first President, Lord Cromer. The work of the society during the year had included arrangements in connexion with more than 100 meetings, lantern lectures, or debates. Lectures on subjects associated with the work of the society have been given at many public schools—Eton, Winchester, Rugby, Charterhouse, Westminster, St. Paul's, and elsewhere. On several of these occasions moving pictures had been shown. The plan for a permanent bureau and exhibition in London, in one of the principal thoroughfares, had been postponed in favour of a temporary bureau now in one town, now in another. Temporary bureaux had been opened in Southampton, Bournemouth, Hastings, Bexhill, and Hull, with very satisfactory results. At several important exhibitions, in London and elsewhere, stalls had been arranged. The opinion was expressed that the opposition to all experiments on animals was losing ground among educated people, in spite of the unceasing efforts of the antivivisection societies to make their cause popular.

The Treasurer's report showed a considerable increase in subscriptions and donations. By donation of £10 or more during the past year, the society had gained many new members.

Lord KNUTSFORD, in moving the adoption of the reports, thanked Lord Lamington for accepting the presidency, a post in which, owing to his knowledge and experience, he was eminently well qualified to succeed the two distinguished men who had preceded him. Every year of the society members grew more determined to make the truth better known to the general public. It was usually rather difficult to get at the truth of statements made by antivivisectionists, as when particulars were sought for it was generally found that the alleged incident had occurred in some out-of-the-way place, and the time was last century, or even before Christ. He referred to an antivivisectionist meeting which was very poorly attended and very well reported; but he said it was now known that that report had been paid for at advertisement rates. At another similar meeting each member of the audience had been bribed to attend by the offer of ninepence a head and a free ride in a brake.

President's Address.

Lord LAMINGTON said that the society was really a protecting guard for science, in its noblest form, against those who were led by their emotions rather than by their reason. Its desire was to reduce human and animal suffering, and on no account to encourage any practice which could possibly tend to permit callousness or indifference to the pain suffered by others. The whole question of cruelty to animals should be considered in relation to the question, How far it might be brutalizing to the human mind. Taking this as a standard, the antivivisectionists should have large reserves of kindly feeling toward their fellow beings; but experience, unhappily, proved that the language they used was calculated to wound most deeply the feelings of those engaged in work for the benefit of humanity. The cruelty which pervaded the animal world perplexed many minds, but he was honestly convinced that it was not physical pain that caused the greatest amount of suffering to animals; it was when their instinct of self-preservation took alarm that they suffered. Any one who had seen wounded wild animals must have noticed how, when unalarmed, they appeared indifferent to their wounds. It was only when their instinct of self-preservation was aroused and they became aware of their disablement that they seemed to suffer. Even amongst mankind, uncivilized races did not feel pain in anything like the same degree that civilized people did. Only 5 per cent. of all the experiments made involved an operation. These experiments were made under anaesthesia, and in many of them the animal was killed under the anaesthetic; 95 per cent. of the experiments were inoculations or of the nature of inoculations. The antivivisectionist would exclaim, "But think of the suffering caused to animals by such inoculations as that of cancer!" He (Lord Lamington) could only say that he had seen guinea-pigs infected with cancer and moving about and feeding apparently without any pain or discomfort. It should be remembered that a special condition was attached to certificates under the Act, enjoining that any animal which was in severe pain, likely to endure after an experiment, should be killed, even though the object of the experiment had not been attained. If persons who had any doubt on this matter read the report of the Royal Commission, they would be convinced that any actual pain caused was infinitesimal. Let this be compared with any of the operations which took place on any ordinary farm—the mutilation of cows and pigs, the extraction of teeth, neurectomy, which were all frequently done without any anaesthetic whatever. There were some antivivisectionists who affirmed that nothing had been gained from scientific research, whereas it was by the help of experiments on animals that the whole science of physiology had been advanced. In the same way the true character of many diseases had been discovered. It was to experiments on animals that almost every important remedy which had come into use in the last forty or more years was due—for example, diphtheria antitoxin, thyroid extract, cocaine, chloral, phenacetin, adrenalin, salvarsan, and many more—and experiments on animals had helped towards the discovery of the protective treatments against rabies, cholera, plague, Malta fever, and typhoid fever. By such discoveries as these, the efficiency and health of the nation had been promoted, workers in dangerous trades had been safeguarded, and protection had been given to the man on foreign service. In the animal world live-stock had been benefited in the contest against infectious illnesses, and a great advance had been made towards the curative treatment of the bacterial and parasitic diseases of the higher animals. He did not wish to attack the antivivisectionists, and the chief business of their Research Defence Society was not mere fighting. It was the quiet steady education of public opinion as to the true character and method of experiments on animals in this country, and the great advantages which these experiments gave not only to human life, but to the life and health of the higher domestic animals. He denied altogether that men were not entitled to make experiments on animals to protect themselves from diseases, and he was convinced it was by the mercy of God that human science and research had done so much already to alleviate the sufferings of humanity.

A vote of thanks to the President for his address was carried, on the motion of General Sir REGINALD TALBOT, seconded by Dr. SANDWITH, in the absence of the Bishop of North Queensland, from whom a letter was read. Dr. Sandwith said that the most satisfactory feature of the society's work was the success of the numerous branches established in big cities. He paid a tribute to the work of Mr. Stephen Paget.

Cinematographic Demonstration.

After the meeting Mr. STEPHEN PAGET showed moving pictures of the cholera vibrio, the bacillus of typhoid fever, spirochaetes in the blood of a fowl, agglutination

of spirochaetes, Leishman bodies (kala-azar), *Trypanosoma gambiense* (sleeping sickness), the mechanism of phagocytosis, and the mosquito. The disease caused by these parasites was explained and the mode of their action in producing infection was shown. The part played by animal research in these discoveries and the power of controlling disease thereby attained was made clear.

Nova et Vetera.

A SYRIAN BOOK OF MEDICINE.

SYRIA probably first got its knowledge of medicine from Egypt, which by merchant caravans and military expeditions carried civilization into Western Asia. When the Sassanian King, Sapor I (A.D. 240–273) founded Gundhê Shâbhûr (Gondisapor) he took thither Greek physicians who introduced the medicine of Hippocrates into the East. Before the close of the third century of the Christian era the writings of Greek physicians and philosophers were being translated into Syriac. Dr. Wallis Budge has recently published the text of the great Syriac Book of Medicines, edited from a manuscript in his possession and has added an English translation.[1]

The work is in three sections, the first of which consists of lectures translated from Greek into Syriac by a Syrian physician who may have been attached to one of the great medical schools which existed at Edessa (Urfa), Amid (Diarbekir) and Nisibis in the early centuries of the Christian era. Neither the name of the author nor that of the translator is given and some of the lectures are missing. The system of medicine expounded is fundamentally that of Hippocrates, whose actual words are quoted in several places. The author regarded disease as the result of natural causes, and lays great stress on a knowledge of symptoms and on prognosis, diagnosis, etiology, and diet. He insists on the importance of suitable food, in health as well as in disease, and strongly condemns overeating and overdrinking. In most diseases he advocates the use of purging and bleeding. The enema was in frequent use, and fomentations, poultices, and baths were largely employed. Suitable food, a cool, airy dwelling-place, proper clothing, water from a swiftly running stream, absence of all mental and physical fatigue, and sufficient sleep are recommended as means of health. The prescriptions given number nearly 1,000. Many of them are attributed to Galen, Dioscorides, and others of the older physicians, while many are of Egyptian, Persian, and Indian origin. They resemble in form those found in the Ebers Papyrus. Throughout, the author insists on the independence of the art of healing and its freedom from magic and priestcraft.

In the second section astrology comes on the scene; this was evidently introduced into the manuscript by another author or compiler whose mind was held in bondage by omens, portents, spells, divinations and planetary forecasts. The third section contains 400 prescriptions composed by ignorant and superstitious men; they have, however, a value of their own as illustrating the folklore of a part of Mesopotamia and preserving a number of popular beliefs and legends about birds, animals, magic roots, and so forth—parallels to which may be found in mediaeval Bestiaries. Many of the diseases mentioned Dr. Wallis Budge has been unable to identify, and for a number of the names he has found no exact English equivalents. This difficulty is one that is met by every student of ancient medical literature in which the description of symptoms is so vague that the diseases resemble nothing known to modern nosology. The Syriac text is edited from an MS. copied at Dr. Budge's own expense; he thinks it was written in the twelfth century. During the short examination of the original which he was permitted to make, he found nothing to indicate when, where, and by whom it had been written. Its size and general appearance suggest that it had been copied in some monastery at or near the Tigris. He thinks the parts missing probably contained theories or statements not acceptable to the monks; the later chapters, dealing with the organs of reproduction and their diseases, may have been torn out as unsuitable and unnecessary for ascetics.

We need not follow the writer of the first or Hippocratic section through the exposition of his theories, which are familiar to all students of old medical literature, and which have left a deep impress visible to this day in popular pathology. A few points may, however, be noted. A chapter is devoted to the strangles, a dangerous disease which would appear to have included tonsillitis, post-pharyngeal abscess, ulceration of the gums and tongue, and, possibly, diphtheria. The treatment of that, as of a great many other conditions, consists in getting rid of excess of chyme, which forms the nourishment of the abscesses. Insufflations of powders, gargles, and so forth are mentioned, and amputation of the uvula was performed in certain cases. Innumerable remedies for toothache are recommended, including one or two by means of which the teeth were loosened and extracted without pain. In speaking of the stomach and its diseases, the author has something to say as to the evil effects of intemperance. The "abominable lust" for drink in men is said to be due to the noxious salt or bilious chyme collected in the coats of the belly. Some men, we are told, crave for foul drinks, just as they do for foul meats, and in others the longing is so unquenchable that they drink themselves to death. Men have been known to eat the vipers called "danpasdês," because they produce thirst, and others drink wine wherein a viper of this class has been drowned." In regard to diseases of the liver and digestion the author makes the prudent remark that "we must never assign causes to a disease unless we are certain of our facts, and we must never misread symptoms."

Nothing need be said as to the section which deals with divination, forecasts, omens, the influence of the planets and the signs of the zodiac on the characters and dispositions of men and human affairs in general. The third section contains prescriptions representing a belief some traces of which still survive, for instance, among people who carry about potatoes as a preventive of rheumatism. The good which a man derives from carrying about with him the heart or some other part of the eagle, vulture, hawk, white falcon, falcon, partridge, hare, crab, frog, ox,' fox, bear, weasel, hedgehog, pelican, black crow, besides a number of magical roots, are fully set forth. A useful hint to candidates for official appointments may be found in the following recommendation:

> If a man wishes to stand well with the governing powers, let him cause the head of a crow to be hung up over him, and if he wishes to stand well with his neighbours let him cause the heart, eye, and skin of a wolf to be hung up over him.

The reader who is not an Oriental scholar may get a good idea of the contents of the *Syriac Book of Medicines* from the very learned and interesting introduction contributed by Dr. Wallis Budge. A particularly interesting part of this introduction is that dealing with medicine among the Egyptians, Greeks, and Syrians. The Egyptians were the founders of the chief systems which were, with modifications, in use throughout Greece, Arabia, Syria, and many other parts of Western Asia down to the Middle Ages. He refers to the medical papyri preserved in the museums of London, Berlin, Leipzig, and Philadelphia. The London (eighteenth dynasty) was first described by Birch, who pointed out that some of the prescriptions contained therein are said to date from the time of King Khufu, the builder of the first pyramid. Dr. Budge thinks it may be assumed that a large part of the contents of these papyri is taken from older ones, and is the work of physicians who flourished under the ancient and middle empires. According to tradition, the Egyptians in the earlier centuries of dynastic civilization were familiar with the use of plants as medicines. The number of vegetable medicines used by them was very great, among them being aloes, dates, figs, opium, and hyoscyamus. Many of the ingredients were of animal origin—lizard's dung; the blood, fat, dung, semen and testicles of the ass; bat's blood; the blood, dung, and vulva of the dog; the fat, dung, and uterus of the cat; the dung of

[1] *Syrian Anatomy, Pathology and Therapeutics; or the Book of Medicines.* By E. A. Wallis Budge, M.A., Litt.D., Keeper of the Egyptian and Assyrian Antiquities in the British Museum. Published under the direction of the Royal Society of Literature of the United Kingdom. Vol. i, Introduction, Syriac Text. Vol. ii, English Translation and Text. Humphrey Milford, Oxford University Press, London, New York, Toronto, Melbourne, and Bombay. 1913. (42s. net.)

crocodile and of antelope, and so forth. Our own ancestors used ingredients just as nauseous. In one of his letters we find Martin Luther complaining that the medicine, a mixture of garlic and horse-dung which his wife had recommended to him, did him no good. Metallic preparations, such as oxide of zinc, lead, and copper, sulphate of iron, and so on, were also used by the Egyptians. Medicines were given in the form of ointment, liniments, plasters, poultices, pills, tablets, boluses, tinctures, decoctions, extracts, juices, and powders. Inhalation was used, and the beneficial effects of massage were well known.

In all periods of Egyptian history, medicine and magic went hand in hand, the incantation probably being looked upon as the more important of the two. A rigid conservatism prevented the development of medicine into a scientific system. In the treatment of disease the Egyptians were satisfied to be guided by the wisdom of their ancestors; they made no experiments, and went on using prescriptions that had served for hundreds, if not thousands, of years. This was probably due to the fact that the prescriptions had become, as it were, sacred formularies. If the patient died and it was proved that the treatment had been in accordance with that sanctioned by custom, the physician was held blameless. If otherwise, he was liable to be called to account.

How far, says Dr. Budge, the knowledge of Egyptian medicine penetrated into Eastern Mesopotamia is unknown, but in the seventh century before Christ the prescriptions inscribed in cuneiform on tablets from the Royal Library at Nineveh show many points of resemblance with those of Egypt. The Assyrians derived a great deal of their medical knowledge from the Babylonians. Very few fragments of medical tablets have come down from the time of Khammurabi, about B.C. 1950. But magical texts of that period have been unearthed in Lower Babylonia. Dr. Budge thinks it impossible that a nation so highly civilized as the Babylonians had no system of medicine, and equally impossible that the Sumerians before them had none. In the prescriptions found on Assyrian tablets, many of the names of plants or medical preparations are Sumerian, and these, he thinks, can only have come to the Assyrian scribes who copied the tablets for the royal library from Babylonian or Sumerian originals. According to Dr. Morris Jastrow[2] the medical texts in the great library of clay tablets gathered by King Ashurbanapal of Assyria (668-626 B.C.) numbered about 800. He says that the treatment of disease as revealed in these tablets goes back to at least 2000 B.C.

Dr. Wallis Budge is entitled to the special gratitude of all scholars and students of medical history. His book is a monument of learning, the building of which has evidently been a labour of love.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE, LONDON, 1913.

A FINAL meeting of the Organizing Committee of the International Congress of Medicine in London last year was held in the rooms of the Medical Society of London on Tuesday afternoon, July 7th. The President, Sir THOMAS BARLOW, was in the chair, and nineteen other members were present. The minutes of the last meeting were read by the Honorary General Secretary, Sir WILMOT HERRINGHAM, and confirmed, and the report of the Finance Committee was presented by Mr. G. H. MAKINS, C.B., as follows:

Report of the Finance Committee.

A subscription list towards the general expenses of the Congress was opened on November 20th, 1910, and this list continued open until the date of the meeting in August, 1913.

Subscriptions thereto were received from 1,613 individual members of the profession. Contributions were also generously made by the Royal College of Physicians of London, the Society of Apothecaries of London, the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, the Proprietors of *The Lancet*, the Worshipful Companies of Merchant Taylors, Goldsmiths, Clothworkers, and Salters, and also by Lady MacCormac and Lady Butlin. The total sum of £5,418 5s. 7d. received from these sources was further augmented by £2,834 4s. 4d., the profit derived from the Congress Exhibition, and a sum of £195 3s. 11d. accruing from various sources, such as the sale of materials temporarily employed in the organization of the Central Office and Museum and the interest on money placed upon deposit with the bankers. To the above sums remains to be added £6,494 11s. 9d. received in membership fees. Thus in all a grand total of £14,942 5s. 7d. was obtained.

An estimate of probable receipts and expenditure submitted by the honorary treasurers to the Finance Committee at an early date proved practically accurate as far as the expenses of organization and the various sources of income are concerned. With regard, however, to the matter of entertainment, it was noted that the Reception Committee undertook only a single evening conversazione, and that as on previous occasions the Executive Committee was largely indebted to the generosity of private individuals and public bodies for the highly successful social gatherings which took place. Mention of the various public bodies who gave invaluable help, both in affording accommodation for the meetings of the sections and in the exercise of hospitality, has already been made in the preface to the general volume of the *Transactions*.

The estimate assumed further that, as on previous occasions, the sum received by payment of fees by members would suffice to meet the expenses of printing, publishing, and distributing the volumes of the *Transactions* of the congress.

When, however, the great mass of material afforded by the original papers and the discussions thereon came into the hands of the editors a provisional estimate was asked for from the publishers as to the cost of printing and distribution. From that estimate, as submitted to the Finance Committee, it appeared obvious that the balance lying to the credit of the honorary treasurers would prove insufficient for the purpose for which it had been reserved. This insufficiency depended not only on the great mass of material to be printed, but also on the heavy cost to be entailed by the distribution of the volumes to members, so large a proportion of whom either reside on the Continent, in America, or in the Dominions beyond the Seas.

The Finance Committee therefore decided to make an appeal to the officers of each section and subsection, and thus endeavour to raise from each an additional sum proportionate to the size of the section or subsection concerned, and to the expense incurred in printing and distributing its volume of the *Transactions*. The ready help afforded by all the sections (excepting those of orthopaedics and dermatology, from whom no contributions have been received) towards meeting the expected deficiency, resulted in the collection of £646 0s. 6d.

In consequence, however, of editorial curtailment of some of the papers and discussions, and the unexpected receipt of a sum of £347 0s. 7d. by sales of the *Transactions* (up to date), the publishers' provisional estimate proved to have been excessive, with the result that the honorary treasurers found themselves with a balance of £337 19s. 8d. at the bank, as well as with a credit balance with the publishers of £59 2s. 4d. Since the sum realized by the special appeal was subscribed for the exclusive object of completing the *Transactions*, the Finance Committee decided that the balance of the money should be returned to the respective donors in proportion to the amount subscribed, and this decision has already been carried into effect.

It may be noticed that in spite of considerable curtailment, the volumes of *Transactions* extend to the formidable total of twelve thousand four hundred and ninety-eight pages. The Finance Committee wishes to draw special attention to the remarkable promptitude and success with which this great undertaking has been carried out by the editorial secretaries of sections and the Editorial Committee, and also to the excellence with which the volumes, printed in three languages, have been produced, in a space of little more than six months, by the Oxford Press.

Now that all expenditure has been met, a sum of £49 1s. 2d. lies in the hands of the treasurers, which may still be slightly augmented by the sale of further copies of the *Transactions*, and it remains for the General Committee to decide what shall be done with the eventual balance.

The report was adopted and it was resolved:

1. That it be left to the officers of the Congress to decide how the eventual balance from the general funds shall be disposed of.
2. That the Royal Society of Medicine be asked to deposit the minute books and other records of the Congress in their library.

On the motion of Mr. D'ARCY POWER, seconded by the HONORARY GENERAL SECRETARY, a large committee was appointed, with power to add to its numbers, to serve as a National Committee of Great Britain and Ireland for the purposes of International Congresses of Medicine. Sir Thomas Barlow was elected president of this committee, and Dr. Clive Riviere, 19, Queen Anne Street, W., and Mr. H. J. Paterson, 9, Upper Wimpole Street, W., were appointed secretaries.

In bringing the meeting to an end, and finally winding up the business of the congress in London, the CHAIRMAN said that it would only be right to give expression to the feeling of gratitude to all who had taken part in the work of organizing the congress, and especially perhaps to the

[2] *Proceedings of the Royal Society of Medicine*, March, 1914.

younger members who had worked so actively and harmoniously in promoting the success of the sections.

In the evening the President gave a reception, which was numerously attended, at the Royal College of Physicians, to meet the members of the committee of the congress. The guests were received by Sir Thomas and Lady Barlow. The Harveian librarian, Dr. Norman Moore, had arranged an exhibition of early editions, fine bindings, and other books of interest, including manuscripts of Harvey and Sydenham, in the library, and a part of the small, but very interesting, collection of plate in the possession of the College was on view. A loan exhibition of water-colour and pencil drawings and etchings was displayed in the large library. During the evening Mr. Stephen Paget gave in the theatre a series of cinematograph exhibitions of films illustrating the life of micro-organisms, lent by Pathé Frères, and in the library the Westminster Glee Singers delighted the company with a number of songs.

LITERARY NOTES.

THE first number of the *Aberdeen University Review* has already been noticed in the BRITISH MEDICAL JOURNAL (November 22nd, 1913). The February and June numbers complete the first volume. They maintain the high standard set by the first number. The February number contains an interesting account of the University Library, by Mr. P. J. Anderson. Mr. Reynold A. Nicholson contributes an article on Omar Khayyam, and Professor Selbie discusses the uniqueness of the Old Testament. In the June number Professor Henry Cowan writes on the tomb of the founder of Marischal College; Sir Henry Craik, M.P., contributes reminiscences of Glasgow College, and Mr. James D. Symon throws interesting sidelights on the mediaeval student.

Writing in the *Glasgow Herald* of June 26th, on the address on Lister delivered by Sir Hector Cameron before the University of Glasgow on June 23rd, Mr. Alex. F. Morrison makes an interesting reference to the school days of the great reformer of surgery. Joseph Lister as a boy attended a Quaker school of which Mr. Binns was principal. Mr. Morrison says his father, Dr. Morrison, the late rector of Glasgow University, after graduating at Aberdeen, was appointed a classical master under Mr. Binns. Among his pupils was Joseph Lister, who was only a year or two younger than himself. Lister was described by Dr. Morrison as a bright, clever boy, and an insatiable student.

> Not content with the work prescribed for the day, he would read far ahead of his class-fellows; and my father has often told me that he had frequently to rise of a morning before six o'clock in order to keep abreast of his ardent pupil.

In Lister the child was father of the man.

Mr. Stephen Paget contributes to the *Cornhill Magazine* for July the first part of an article entitled "The Parent's Assistant." He urges parents to confess their own faults to their children. One act of confession, he says, will avail more between them and their offspring than many acts of correction:—

> I have long forgotten innumerable occasions when my father was right and I was wrong; but I remember clearly an occasion when he said that he had been wrong, and I right: though it is open to doubt whether he was. More than thirty-five years ago, on a Sunday evening, in Munich, I was aching all over to escape from the hotel dinner to the opera. He utterly disapproved of Sunday theatre-going; but he said, *I leave it to you to decide.* Early next morning, he came to my bedroom, and said that he had been thinking it over carefully, and that he thought, on the whole, as I was so fond of music, that I had done right in going. I am not likely to forget him thus humbling himself to me.

Mr. Paget goes on to tell a story of Darwin, on the authority of Sir Francis Darwin, who says:

> He had a horror of drinking, and constantly warned his boys that any one might be led into drinking too much. I remember, in my innocence as a small boy, asking him if he had ever been tipsy, and he answered very gravely that he was ashamed to say he had once drunk too much at Cambridge. I was much impressed, so that I know now the place where the question was asked.

These, says Mr. Paget, are the impressions which endure when other impressions, most deep for a time, have long faded off the surface of memory. This seems to us a hard saying, especially in these days, when the respect of children for their parents is becoming an extinct tradition. The fathers who have borne the white lily of a blameless life, like Sir James Paget or Charles Darwin, must be few, and for most of us confession to our children, besides being a painful ordeal, might have results the reverse of edifying. The normal child looks on his father as a model of perfection, and it would be dangerous to show him the imperfection of the model. *Decipit exemplar vitiis imitabile.*

The first of a series of articles on the physical conditions of the Jewish race by Mr. Israel Cohen appears in *Knowledge* for June. After showing that the Jewish type has not undergone any appreciable alteration in Europe during the last two thousand years, he goes into detail as to the favourable position in which Jews stand with regard to mortality in general. The physiological characteristics of the Jew, he says, are not due to any organic peculiarities of a racial origin, but to social, historic, and economic causes. Having dwelt for nearly two thousand years in towns, and for the greater period in the most insalubrious and congested quarters, and having been subjected to every kind of persecution in his struggle for existence, he possesses a constitution that combines a poor muscular development with a highly developed nervous system. His average height in Eastern Europe is 5 ft. 3 or 4 in., whilst that of the Jewish immigrant in the United States is 5 ft. 5 in.; but the native Jews, both of New York and London, are taller than their foreign parents—a fact which demonstrated how susceptible is the physique of the Jew to the influence of environment. The inferiority of the Eastern Jew in chest development is still more striking. Among healthy and normally developed people the girth of the chest equals or even exceeds half the stature; but this proportion is far from common among the Jewish masses of Russia, who present a larger percentage of military recruits with deficient chest measurement than any other subject people of the Czar.

We have received from Messrs. Appleton and Co., publishers of *Jungle Days*, by Arley Munson, M.D., extracts from a letter from the authoress, in which she takes exception to certain remarks on her use of Indian vernacular words, in the review of her book published in the BRITISH MEDICAL JOURNAL of April 4th. The word *lambādi* has the accent on the second syllable, and cannot be confused with "Lombardy," in which the accent is on the first syllable. *Dacoity* is the act of robbery, the robber is a *dacoit* or *daku*. The Hunterian transliteration, *dakaiti* and *dakait*, represents more exactly the pronunciation of the words, at least in Upper India. There are many tribes in India, of which the *Maghiya Doms* are perhaps the best known, the members of which live by crime, and bring up their children to gain a living in the same way. The children of such tribes, unless they happen to fall into the hands of a mission, have no chance of becoming anything but criminals. But any man may become a *dacoit*, either as his permanent profession or as a casual amateur. Standard works on the subject are H. H. Wilson's *Glossary of British India* and the *Glossary of Anglo-Indian Words* by Yule and Burnell, both of which Dr. Arley Munson might consult with advantage, if she thinks of making any changes in a second edition. The words *Raja* and *Rani* are usually translated as King and Queen, and in many cases rightly so. But there has been no Indian ruler for over half a century who has had any claim to be an independent sovereign. The last was the titular Emperor of Delhi, Bahadur Shah, a very old man, who was deposed after the Mutiny, of which he was the nominal figurehead. But the Mogul Empire had been a mere shadow and the Emperor a puppet in the hands of the Marathas long before he came in contact with the British. The last surviving Indian who could claim to have been a king was the late Maharaja Dulip Sinh, who as a child nominally reigned for a few years in the Punjab. And the last Indian who was *de facto* a king and exercised full sovereign powers was Dulip's father, Ranjit Sinh, the Lion of Lahore, who died on June 27th, 1839. Upper Burma, under King Thibaw, was independent up to 1885, but it was then quite outside British India. The title "Maharaja" or "Raja" may now mean anything from the ruler of a great state, such as Kashmir, in a position little removed from independence, to a title about equivalent to an English knighthood, bestowed as a personal distinction for charitable donations or for municipal services. When Kipling speaks of a petty hill chief as a king we suppose that the title was used as a joke, a literal translation of the word *Raja*.

British Medical Journal.

SATURDAY, JULY 11TH, 1914.

A TRADE UNION?

THE opinion that the medical profession in these islands is in need of a reserve fund to meet large emergencies is, we believe, held by practically all its members. Those who oppose the intention of the British Medical Association to set up such a fund do not, so far as we have been able to ascertain, question the need; but they consider that the moment is not opportune, and that the men whose principles and sense of professional honour would compel them to subscribe to such a fund are sick of seeing the keen and conscientious paying to fight the battles of the slackers and the commercial-minded.

Modern legislation, however, has a knack of moving with disconcerting suddenness and rapidity, and we have had recent experience that politicians with reputations at stake will not be very punctilious as to the means they use to attain an end they believe to be good. Let us, then, assume that a reserve fund is necessary, and, greatly daring, put aside doubts as to whether the majority of the profession will contribute to such a reserve fund, in order to consider the question of its administration, which, as our correspondence columns bear witness, arouses great differences of opinion. We cannot hope to compose these differences, but it seems worth while to make an attempt to discover their nature.

The difference of opinion rests mainly if not solely on the safeguarding of a fund if raised. Clearly it would be absurd to raise such a fund if it was to be drained by the first litigious malcontent or escheated to the Charity Commissioners.

There are certain things the Association wishes to do for the profession which it cannot do, and never will be able to do directly. It cannot, according to Mr. Colquhoun Dill's opinion of May 28th, 1913, regulate the terms on which medical practitioners are to carry on their practice or provide compensation for those who might suffer pecuniarily through supporting the action of the Association in this direction. It cannot do these things, because any such action to be effectual must involve interference with individuals in carrying on their practice; any regulations made must, in fact, be "in restraint of trade," and actionable wrongs to individuals would be almost certain to result. In the case supposed, damages and costs would be payable out of the special fund, "and unless the Association could establish the entire separation of the special fund from its general funds, the latter funds might be made liable also." Mr. Dill went on to advise that if the Association desired "to adopt a policy involving the regulation of the mode in which medical men are to conduct their practice," its best course would be "to form a separate society and register it as a trade union." This has been accepted as conclusive by some of our correspondents, and, having regard to Mr. Dill's eminence as a lawyer, especially in this particular branch of the law, it would certainly seem so until we look at the condition he regards as necessary, turn back to an earlier opinion of his as to a trust fund, and finally consider the degree of protection to a fund afforded by the Trade Union Acts. The condition he mentions is that the Association should keep control of the separate society, which is to be registered as a trade union, by taking power to appoint its officers or governing body. He states that the rules of the society through which this control might be retained "would require very careful consideration," but appears to hold that the plan would be feasible. As to a trust fund, the opinion given by Mr. Dill on March 6th, 1912, was to the effect that there was no objection to the Association acting as administrator or trustee of a fund raised by voluntary subscriptions, forming no part of the funds of the Association, and bearing its own expenses of administration. He held that in so acting the Association would not commit any breach in the conditions of the licence of the Board of Trade, and that neither that Board nor any member of the Association could restrain it from so acting.

The positions are sharply contrasted: on the one hand the Association can in law raise and administer a voluntary fund which it would hold in trust for certain purposes; on the other, it is asked to promote the establishment of a separate society registered as a trade union, and try to retain control of it by requiring it to adopt special regulations. Here we pass from questions of law to a question of policy. Legal opinion has taken us as far as it can or would consider itself competent to lead. The final decision, as must always happen, rests with the client. "The Association might keep control of such a society." So much is law, and we have no doubt good law, but could it? That is a question of politics. Would the members of "a separate society," even though that society were founded by the British Medical Association, certainly consent always to agree that the Association should keep control? We already have the answer, for many of the most eager trade unionists are already demanding that the Association should hand over all or practically all its medico-political activities to the "separate society" registered "as a trade union."

That this result is foreseen by those who are in favour of placing the collection and administration of a special fund in the hands of a trade union is apparent from motions of which notice has been given for the Annual Representative Meeting at Aberdeen a fortnight hence. The Plymouth Division, for example, will ask the Representative Body to say that it is desirable that for the future the British Medical Association should confine its policy to promoting the scientific and social welfare of the medical profession by leaving all medico-political work to be done by some other body formed for such purpose and registered as a "trade union." It is perhaps as well that the effect of the proposal should be thus plainly stated, for it may be doubted whether all the results of the adoption of trade unionism, as they must affect the Association, have been fully appreciated by the majority of members. The motion means that the Association is asked to abandon work which it was founded to do, which the articles, now in course of publication, on the British Medical Association and the medical profession, show it has always done, and has done more fully and effectually since its last reorganization. It is a negation of the principles of those who brought about that reorganization, and would mean the abolition of many of the most active standing committees of the Association. Not only would the work of the Insurance Act Committee have to be handed over to the

trade union, but also the ethical work of the Association, and much, if not all, of its medico-political work. Much of the work now done by the Public Health and Hospitals Committees would go also. What the position of the Irish and Scottish Committees would be it may be difficult to say, but apparently most, if not all, the work they are doing and propose to do more effectively in the future would be taken away from them. It seems quite clear that such a revolution is not in the interests of the Association as a corporate body. Whether it would be to the interest of the profession at large thus to curtail its activities is a matter which calls for very careful and unbiassed consideration. Great risk must always attend panicky legislation. By strenuous work through three or four generations the members of the Association have built up for it a reputation with the public, with Parliament, and with Governments as the mouthpiece in medico-political matters of the whole profession, which it would be folly lightly to throw away.

The Association is asked to make this very serious sacrifice because, so it is alleged, it is the only way in which the proposed fund can be safeguarded. To say that it is the only way implies that it is a sure way. This is a legal question, and the answer of the courts and of legal experts is not so clear and confident as some of the advocates of a trade union for the medical profession would have us believe. There seems, however, no doubt that the officers of a trade union can be sued; it is as to the position of a union itself that legal opinion is doubtful. Mr. Schloesser, the joint author of a legal handbook on the position of trade unions,[1] says, in a book addressed to the general public[2]: "By the Trade Disputes Act, 1906, the unions, as such, are protected from this class of action [in respect to the procurement of breaches of contract] when there is a trade dispute. . . . The courts, in addition, have been expressly restrained by statute from interfering in domestic inter-union affairs. This latter restriction has, however, been systematically whittled down by judicial decision, and a new tendency has recently developed, which has tended to hold trade unions to be as a whole corporate bodies rather than voluntary associations, and to make them corporately liable to be sued in their registered name and corporately restricted to specific powers given them by the Legislature. It is, therefore, somewhat difficult to say to-day how far a trade union remains in the eyes of the law, as it is in fact, a purely 'voluntary' association."

The decision of the Council recommending the Representative Body that the collection and administration of the special fund should be placed in the hands of a trade union was reached by a narrow majority in a small meeting, and does not seem to be wholly consistent with subsequent action extending the organization of the Association for medico-political purposes by the establishment of Irish and Scottish offices with whole-time medical secretaries for national business; and by the appointment of an Assistant Medical Secretary attached to the central office. This extension has been made in accordance with the instructions of the Representative Body, which at its annual meeting last year rejected a proposal to form a union of medical practitioners registered under the Trade Union Acts for such members of the Association and other practitioners as might desire to join such a union.

It is, we believe, now admitted by the advocates of a trade union that a society so registered would have no more power of obtaining recruits than the Association, and could possess greater power to retain a dissatisfied member only through a threat to withdraw benefits, or, frankly, by intimidation.

MODERN VIEWS OF THE SCROFULOUS DIATHESIS.

Although almost driven out of the curriculum of the schools, the conception of "diathesis" as a factor in the production of functional disorder, leading to organic disease, has not by any means died out; it continues to be useful in the attempt to understand certain conditions or types of constitution which we are compelled to believe are of importance in etiology. For example, the train of symptoms and physical changes which have been from early times recognized as indicative of the "scrofulous" type have not been entirely explained by the fact that they are usually associated with the presence of the tubercle bacillus. What other influences are at work to start the infant at the breast upon his scrofulous way? The answer to such a question has not been fully sought for and little attention was paid to it until recently. In an interesting paper on diathesis in infancy, published in this issue (p. 53), Dr. H. C. Cameron has brought forward many interesting points for consideration and has shown that a more careful study of the problems are needed before the vague explanation of a diathetic cause is resorted to. One infant at the breast may fail utterly to digest and absorb breast milk which may have proved perfectly digestible and nourishing to another. The cause of the dyspepsia must therefore be sought in the composition of the recipient organs rather than in that of the breast milk. Such an infant presents some abnormality of constitution and this would probably be found to be chemical in nature. Hence a much more elaborate investigation into the chemical composition of the tissues and organs of infants who have died from scrofulosis set up by digestive irregularity is needed before the causation of the familiar train of symptoms can be rationally explained.

It is somewhat remarkable that even in the latest works upon the subject this question of infantile dyspepsia is little mentioned, and its treatment left, as heretofore, to the unscientific guidance of mothers and nurses. Dr. Cameron relates many cases in which marked scrofulous changes, and especially the sequences of catarrhal affections which led Czerny to give the name of "exudative diathesis" to the well known condition, had followed upon imperfect digestion of breast milk. Such cases must occur in every practice amongst the poorer classes, and might probably be treated at an earlier stage with greater success if the underlying causes of the dyspepsia were more fully understood.

Doubtless other influences than dyspepsia may affect the course of the catarrhal affections of the mucous membranes and of the skin, which in their turn lead to glandular enlargement and anaemia. The liability to infection by pathogenic organisms is not very great in early infancy, but the stability of the infantile nervous system may be a very considerable factor. The irritable child, rendered more irritable by digestive troubles, is too often mismanaged by nurse or mother, who lavish attentions upon it when sleep is the great desideratum. The study of the dyspepsia of infants may thus afford an explanation of the scrofulous diathesis and the subsequent

[1] *The Legal Position of Trade Unions.* By Henry H. Schloesser and W. Smith Clarke, Barristers-at-Law. London: King and Son.

[2] *Trade Unionism.* By Henry H. Schloesser, Barrister-at-Law. London: Methuen. 1913.

occurrence of the developed disease may be obviated. For the present, however, whether described as an exudative diathesis or as scrofulosis, the disease is all too prevalent, and the appearance of a second edition of Professor Cornet's work on the subject,[1] of which a good translation has been made by Dr. J. E. Bullock of St. Leonards, should stimulate inquiry into the debatable points to which we have called attention. Dr. Cornet's researches have extended over many years, but it does not appear that he has attacked the problem of the causation of infantile dyspepsia. In an early chapter he agrees that the nourishment in the first year has a great influence on the genesis of scrofulosis, and he also records his belief that the exudative diathesis depends upon chemical processes produced by latent defects in the composition of the body, but he does not lay so much stress upon these points as upon others. He appears to hold that the presence of the tubercle bacillus, human or bovine, will explain the vast majority of cases; but he also recognizes a pyogenic form occurring alone or in combination with tubercle.

Dr. Cornet enters into every aspect of the known disease in all its stages. The information that he gives is culled from the experiences of ten years of personal research and from references to the researches of others, of which the bibliography alone extends to seventy-five pages. The translator has carried out his work with great judgement, and the book in its English dress is as interesting to read as it is exhaustive of its subject. A considerable section is devoted to therapeutics, and a vast amount of information is conveyed in plain terms indicating the bad as well as the good points of most of the accepted methods.

[1] *Scrofulosis.* By Professor Dr. G. Cornet. Translated from the second German edition by J. E. Bullock, M.D. London: John Bale, Sons, and Danielsson, Ltd. 1914. (Roy. 8vo, pp. 526. 15s. net.)

JOSEPH CHAMBERLAIN.

THE statesman for whose death the whole British Empire is now in mourning was interested throughout his public life in all questions affecting the social welfare and the health of the people, and we may be allowed, in the name of the medical profession, to pay a special tribute to the foresight and breadth of view which enabled him so well to understand the intimate connexion between successful colonization of the tropics and the problems of disease. Before him politicians had treated public health questions as of little importance, because unlikely to influence votes, and the colonies had by many been looked upon as an indifferent parent regards his offspring—troublesome dependents to be turned adrift to shift for themselves as soon as possible. Mr. Chamberlain took a larger view, and recognized that the Mother Country had duties towards the vast territories it had taken under its government or protection.

He served his apprenticeship to public health work in Birmingham, and while Mayor of that city (1873-76) followed a policy which showed that he had already grasped the broad principles of sanitation which were afterwards to be developed on a wider stage. His first objective was the acquisition of the business of the gas companies by the municipality in order that the large profits he foresaw would accrue might be devoted to the improvement of the sanitary condition of the town; it was at that time imperfectly provided with drains, and few, if any, of the smaller houses had waterclosets, the "pan system" being almost universal. His second great scheme was to buy up the waterworks; at that time many surface wells, generally polluted, were still in use, and, in fact, constituted the main source of supply of the drinking water used by the working classes. He hoped by gaining control of the water to lower the charges, and thus to facilitate the closure of wells and the wider introduction of the use of tap water. The last act which marked his mayoralty was the construction of Corporation Street, by which a wide avenue was driven through a congested part of the city, and a large area of slum property cleared away. Although the financial results of this scheme have up to the present not realized his sanguine expectations, there can be no doubt of the improvement thus effected in the sanitary condition of the city. Mr. Chamberlain's interest in the housing question never failed, and in 1907 he accepted the vice-presidency of the Birmingham and District Housing Reform Association, which has done so much for the provision of better dwellings for the working classes. In the management of municipal affairs he displayed the same foresight, the wide and penetrating glance which distinguished him at the Colonial Office, and made him second only to the great Lord Chatham as a builder of the British Empire.

While to many politicians place is an end in itself, to Mr. Chamberlain it was of value as affording opportunities of carrying out schemes which he believed to be for the welfare of the nation and the empire. In his own phrase, he thought imperially, and therefore when he was given a choice of office he deliberately selected one that then seemed of lesser honour and importance than others which he might have claimed, because in the post of Colonial Secretary he saw the chance of realizing his dream of consolidating the empire. He perceived that a knowledge of the health conditions of the tropics was the first step towards delivering them from the diseases which paralysed the working capacity of the natives and interfered disastrously both with efficient administration and with trade. The greatness of the man is shown in his readiness to be guided by the counsels of advisers whom he could trust. Sir Patrick Manson for some years had been urging the need of instruction and research in tropical diseases, but his voice was as that of one crying in the wilderness till he gained the ear of Mr. Chamberlain. The energetic action of the Secretary of State for the Colonies quickly brought the scheme suggested to him to fulfilment. Schools of tropical medicine were founded in London and Liverpool; both, from small beginnings, have grown into flourishing institutions, which have sent out large numbers of men to do battle successfully against the diseases peculiar to the tropics and have done much by investigations in the native haunts of these diseases to solve the problems of tropical hygiene.

A brief account of the part played by Mr. Chamberlain in the initiation and prosecution of the campaign against tropical disease was given in the BRITISH MEDICAL JOURNAL of February 7th, 1914, and at the annual meeting of the British Medical Association in Birmingham in 1911 he was unanimously elected an honorary member "in recognition of his eminent services in promoting the systematic study of tropical diseases." Without the stimulating power of Mr. Chamberlain this work, which is of the highest importance to the prosperity of the empire, could never have been accomplished, and his active sympathy was a constant encouragement to the workers. It was a work which was very near his heart, and we have good reason to know that there was nothing in his career of which he was more proud than he was of

the success of his efforts to promote the study of tropical diseases and to help in freeing these gardens of the Hesperides from the dragons which kept watch over the treasures they contain.

There may be differences of opinion as to Mr. Chamberlain's activity in other directions; there can be none as to the results of what he did for the health of the tropics. It is significant of the indifference of the public to matters of health which lie at the foundation of national prosperity that this, which is the most enduring monument of his fame, has been passed over in silence by the general press. Of those who paid tributes to his memory in Parliament, only Lord Crewe referred to the impulse given by him to the study and practice of tropical medicine. It is sad that his death should have followed at so short an interval the commemoration of his services to the London School of Tropical Medicine, to which reference was made in the Journal of June 27th. It is comforting to all who recognize in him one of the foremost political leaders of his day to learn that he passed away peacefully, the light of his intellect undimmed till within a few hours of the end. Mr. Chamberlain was in the habit of saying that the greatest affliction of old age was the failure of the mental powers which it so often brings with it; this he was mercifully spared.

THE UNIVERSITY OF LONDON.

The affairs of the University of London are still in a state of suspense. In reply to a question by the representative of the university in Parliament (Sir Philip Magnus), the President of the Board of Education said recently that the Government did not contemplate the creation of a new university in London distinct and separate from that which now exists, as an ambiguous phrase used in his speech on the estimates had led some to think. The Government contemplated the reconstitution of the university, but, before taking any steps, would await the report of the Departmental Committee. Sir Philip Magnus then asked whether this Committee would report before the close of the present session. Mr. Pease replied that the Committee was not yet in a position to say by what date it would complete its report, but added that he did not expect it would be ready for submission before the close of the session. It will be remembered that part of the scheme in contemplation is to give the university appropriate buildings of its own, and that three sites have been spoken of—Somerset House; a site on the south side of the river adjoining the new County Hall, the building of which has been so long arrested by labour difficulties; and a site near the British Museum, where it was hoped that a university quarter might grow up. In this matter of the sites a certain negative amount of progress has been made, for the Prime Minister has informed the Chancellor of the University that the Government cannot approve the diversion of Somerset House from its present purposes. The Senate at its last meeting decided to inform the Government that, having considered various sites suggested for the head quarters of the university, it is of opinion that it is undesirable to proceed further with the consideration of this matter unless and until the Treasury intimates its willingness to provide accommodation more suitable in situation, more convenient in character, and on terms not less advantageous as regards tenure than those attached to the present occupation at South Kensington. The Senate, therefore, would seem to have stepped aside, at any rate for the present, and the next move lies with the Departmental Committee, but there is no indication of when this move will be made.

THE THIRD INTERNATIONAL OPIUM CONFERENCE.

The third International Opium Conference assembled at the Palace of the Counts at the Hague on Monday, June 15th, and rose on Thursday, June 25th. Thirty powers were represented, as compared with twelve which took part in the first Conference of 1911–12, when the Convention was drafted, and twenty-four at the second Conference in July, 1913. Mr. Loudon, the Minister for Foreign Affairs of the Netherlands, as Honorary President, opened the proceedings, summarizing the present position of the signature and ratification of the Convention, and Mr. Cremer was again elected President. Sir William Collins and Mr. Max Müller for the third time acted as plenipotentiaries for Great Britain. From the reports published in the Dutch papers and references to the *protocole de clôture* which have appeared it is evident that very substantial progress has been achieved. Of the thirty-four powers which were invited by the original twelve signatory powers to co-operate, thirty-two have now agreed to do so, and have signed the Convention. Turkey and Servia, we understand, alone remain aloof. Some ten of the forty-four signatory powers have gone further, and have ratified the Convention, and the gratifying announcement was made at the Conference by the British delegates that Great Britain, too, is now ready to take this step. A resolution was passed by the Conference unanimously inviting the Foreign Minister of the Netherlands to address an urgent and respectful request to those signatory powers which have not yet either ratified the Convention or announced their intention of doing so, requesting them to deposit their ratifications with as little delay as possible in order that the Convention may be put into force at the earliest possible moment. The Conference then proceeded to discuss the problem which had been propounded for its consideration by a resolution passed by the second Conference—namely, whether it is possible for the Convention to be put into force without waiting for signature of the Convention by every one of the forty-six powers which were either original participants or had been invited to sign. The Conference appears to have decided that it is possible for the Convention to be put into force notwithstanding the non-signature, up to the present, of Turkey and Servia. A rumour has reached us that one or two powers, and especially Germany, were indisposed to support this view. We cannot understand how this rumour can be correct, as the reports of the two previous Conferences clearly show that it has been all along regarded as not improbable that the state of affairs now disclosed might come about, and that the representatives of Germany had clearly stated that in their opinion the omission of one or two powers to sign the Convention ought not to compromise its coming into force nor preclude the signatory powers from going forward without them. By a further resolution the Conference decided that if by December 31st, 1914, all the signatory powers shall not have deposited their ratifications it shall be lawful for those signatory powers which shall have then deposited their ratifications to put the Convention into force; and that powers subsequently ratifying shall be at liberty to do the same. A special protocol for the use of such powers is to be opened forthwith at the Hague. It is clear that the abstention of any power which is a large producer of opium or manufacturer of morphine or cocaine might not a little impair the efficiency of such partial putting in force of the Convention, unless indeed some means were devised by the contracting powers which would effectually neutralize the abstention of others. Doubtless the best result would be to obtain ratification by all the signatory powers and then by the terms of Article 24 of the Convention the coming into force would take place automatically three months later. In view

of the great measure of success which has hitherto been attained, it seems incredible that any power which has signed the Convention can hesitate much longer to proceed to ratification; and the good offices of the Netherlands Foreign Office, under the able leadership of Mr. Loudon, may be relied upon to promote this consummation. The *procès-verbal* of the third Conference has not yet been published; we shall await its issue, which will doubtless clear up some of the points that at present remain obscure.

DEATHS AFTER SALVARSAN.

ANY doubts as to the causes of death in fatalities after salvarsan injection will be dispelled by a perusal of an able analysis of the published cases by Dr. Carl Schindler.[1] The symptoms in practically every case recorded are strikingly similar—headache, vomiting, restlessness in the first twenty-four hours, a few hours of apparent recovery, and then relapse, leading to coma and death on the fourth day. The *post-mortem* appearances of the brain, kidneys, and other organs do not differ in any important detail. It is clear from the results of Professor Heinz-Erlangen, Hoppe and Schreiber, and others, who introduced large doses of arsenic directly into the circulation in animals, that both salvarsan and arsenic are vascular poisons, acting directly on the blood vessel wall, the blood itself, and the vaso-constrictor centre, producing a circulatory stasis, or local thrombosis and their associated symptoms. Theories which attribute catastrophes to impurities in the solvent, alcoholism in the patient, injudicious selection of cases, or technical errors in the administration must be abandoned. Death from salvarsan is nothing less than death from acute paralysis of the circulation by arsenic. Though these views may not meet with much opposition, the suggested means for the avoidance of the evil will not be accepted as a panacea. The author would have us confine ourselves to intramuscular injections in all cases, and makes the statement that aqueous intramuscular injections have only twice caused death, and oily suspensions no fatalities whatever, while intravenous injections have proved fatal ten times with 0.5 gram, eight times with 0.4 gram, and eight times with 0.3 gram. This is somewhat misleading, for the enormous majority of injections are intravenous. That deaths may occur even with the intramuscular method is admitted, but the disabling, painful infiltrations, abscesses, and necroses which so frequently resulted, and which led very early in the history of the drug to legal proceedings in Berlin, are not sufficiently emphasized. No exception need be taken to the estimate of a minimum, with oily suspensions of 3 per cent. necroses (Yoha), and with aqueous solutions 5 per cent. (Ehrlich), 7 per cent. (Wechselmann), or 10 per cent. (Blaschko); but Schindler claims that his results with injections by Yoha's method are as perfect as those of the authorities who inject intravenously. He is careful to add, however, that he does not consider it necessary to obtain a negative Wassermann reaction in refractory later cases. He has not solved the problem, but he has stated his case very reasonably, and if he does not convince every reader, he has at any rate added a very valuable contribution to the study of one of the most important medical and economic questions of the day.

[1] *Der Salvarsantod. Seine Ursache und Seine Verhütung intravenöse oder intramuskuläre Salvarsaninjektionen?* Von Dr. C. Schindler. Berlin: S. Karger. 1914. (Cr. 4to, pp. 188; 5 plates, 1 figure. Mk.4.80; bound, Mk.5.80.)

THE DETERMINATION OF SEXUAL CHARACTERS.

CASES have been recorded in birds in which the plumage of one-half of the body was male in character, that of the other half female; and in these instances a testis has been found on the male side of the body, an ovary on the female side. This state of affairs has been met with in the chaffinch, the bullfinch and the pheasant, and has been taken to prove the influence of the nervous system upon the secondary characters of sex. Thus Bond[1] has recently described the skin of a Chinese pheasant of the white-ringed Formosan variety. On the left side it showed the plumage, speaking generally, and the spur of the male bird, though the wing primaries and the coverts were of the female type. The right leg showed only the rudiment of a spur, such as is found in the normal hen pheasant. The bones of the left tarsus and phalanges were longer and thicker than the corresponding bones in the right leg. The tail feathers were especially interesting; the outer half of each feather assumed the male type of plumage, while the female colouring and pattern appeared on the inner or more covered half. Bond gives further details and a most interesting discussion of the explanation this very anomalous case of hermaphroditism seems to demand. Instances have been described in which unilateral castration in stags or fallow deer has been followed by abnormal or unequal development of the antlers. Marshall and Hammond[2] have investigated the influence of castration on the growth of the horns in Herdwick sheep, a breed with horned rams and hornless ewes. Their results support the hormone theory rather than the nervous theory of the relation between the sexual glands and the secondary sexual characters. They found that removal of the testes from Herdwick ram lambs arrested further growth of the horns forthwith, at any stage of development. Unilateral castration did not stop the growth of the horns, nor did it affect their symmetry, though their development appeared to be retarded. Removal of the testes alone without the epididymides inhibited horn growth in just the same way as ordinary castration, in which both organs are removed together.

[1] C. J. Bond, *Journal of Genetics*, Cambridge, 1914, iii, 205.
[2] F. H. A. Marshall and J. Hammond, *Journal of Physiology*, London, 1914, xlviii, 171.

THE MEASUREMENT OF FIRE-DAMP.

A NEW fire-damp indicator and alarm, described by some of those present as heralding the day of comparative safety in mines, was demonstrated before a company of scientists and mining engineers, under the chairmanship of Lord Ninian Crichton-Stuart, M.P., at the Hotel Cecil on June 26th. With this apparatus, the invention of Mr. Alfred Williams, the presence even of negligible quantities of methane (light carburetted hydrogen), of which fire-damp chiefly consists, can, it is said, be detected, and it has the great merit of becoming more sensitive as the danger-point is approached. Professor Silvanus Thompson, who has made a thorough investigation of this methanometer, said that it was based upon the property of platinum black to rise in temperature in an atmosphere containing fire-damp. When installed in the working of a mine, it not only warned the miner that there was fire-damp in the atmosphere, but also informed him of the exact percentage present. A thermo-electrical method of measurement was employed, and when the platinum black was acted upon by the methane, a galvanometer caused an indicator to traverse a scale, marked out from a fraction of 1 per cent. up to and beyond the inflammable percentages. Unfortunately, when cold, platinum black was insensitive to the small percentages, and therefore the means had to be provided for a slight preliminary electrical heating, so that the substance was maintained at its highest degree of sensitiveness. The essential part of the instrument was a torch-like arrangement, to be held in the hand, or passed up into crevices and cavities; this was attached by wires to a box containing the indicator dial, which was instantly responsive to changes in the volume of gas present. Professor Thompson said that instruments could be left in any part of the mine, and arranged so as to give a signal, audible or visible, on the percentage of fire-damp rising to 1½ or 2, or to that 2½ which was regarded as indicative of danger. It had the further advantage, he said, that it could be used for recording, day by day, the

percentage of fire-damp present, and these continuous records could be compared with the barometric records, when it would be observed to what extent they rose and fell together. The result would be, not only to enable the ventilation of mines to be improved, but also quite possibly to afford means of ascertaining the likelihood of outbursts of fire-damp which at present were as little predictable as earthquakes. The president of the Miners' Federation, Mr. R. Smillie, suggested that the apparatus might also be made in a small compass, so that each workman could carry with him his own indicator. Not the least advantage of the methanometer was that at last the miner would be able to carry a sufficient light without fear of dangerous gases, and thus he would be warned in time of the perils of falling roof and sides, and saved also from nystagmus, which was largely the consequence of the dim safety-lamp illumination hitherto permissible. There would now be no objection to the brilliant portable electric light in mines, as the inspectors would have a far more satisfactory means of testing for fire-damp than the "safety" flame afforded them. This application of platinum black seems to have other utilities, for Mr. J. Erskine-Murray, D.Sc., stated that he had tested the sensitivity of the instrument for the vapours of benzene, methylated spirit, and petrol, all of which had an appreciable effect, so that the meter would be of service in garages and other places where there was liability to petrol leakage. It would even be possible to tell whether a man had lately visited the bar, and in medicine it seemed to offer a means of regulating precisely the administration of ether as an anaesthetic. A demonstration of the instrument was given with gas supplied from a fiery mine in Glamorganshire.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.

THE present part[1] of the *New English* or *Oxford Dictionary* is not lacking in medical terms, all of them defined, classified historically, and supplied with abundant illustrative quotations with the skill, completeness, and appropriateness which we have come to expect from Sir James A. H. Murray and his company of learned coadjutors. The difficulty is to select from among the many interesting medical words those which are outstanding. There is *trepan*, "a surgical instrument, in the form of a crown-saw, for cutting out small pieces of bone, especially from the skull"; it is not to be confused with the other *trepan*, "a word of obscure and low origin," meaning a person who entraps or decoys others into actions or positions which may be to his advantage and to their ruin or loss. Sir James Murray gets his first illustrative quotation of the surgical use of trepan, both substantive and verb, out of Lanfranc's *Chirurgery* written about 1400; and among the many later ones we note an example from the self-revealing Mr. Pepys's *Diary* to the effect that "Prince Rupert is . . . so bad that he do now yield to be trepanned." The word takes origin in the French *trépan*, a borer, the mediaeval Latin *trepanum*, a crown-saw, and the Greek τρύπανον, a borer. Near to it in the *Dictionary* is *trephine*, about the origin of which Sir James quotes Woodhall (*Viaticum*) its inventor, writing in 1639: "The Trafine . . . an instrument of my owne composing . . . although it may be said to be a derivative or Epitomy of or from the Trapan . . . I thought fit to put the name of a Trafine upon it (*a tribus finibus*) from the three ends thereof." In this case the French *trépbine* is derived from the English word. It is "an improved form of trepan with a transverse handle, and a removable or adjustable sharp steel centre-pin which is fixed upon the bone to steady the movement in operating." Trepan and trephine have both their following of attendant words, such as *trepanation*, *trepanner*, *trepanize*, *trephination*, and *trephining*. Then, again, there is *trauma*, not yet fully naturalized, from the Greek, and meaning both a wound or external injury and also the condition caused by this. The adjective *traumatic* means, as every medical man knows, "of, pertaining to, or caused by a wound, abrasion, or external injury," but how many are aware of the fact that it once meant "for the cure of wounds, a vulnerary"? *Traumaticin* has a modern ring about it, but, as a matter of fact, there is an illustrative quotation from Dunglison's *Medical Lexicon*, published in 1857, namely, "A name given by Eulenberg to a solution of gutta-percha in chloroform, which is applied externally in various chronic cutaneous diseases." There are also the derived words, *traumatism*, *traumatize*, *traumatol* (the trade name of an iodo-orthocresol), and *traumatropism*, meaning "a peculiar growth or curvature of an organism, especially a plant, resulting from a wound," and therefore more botanical than medical. Further, there are the combination forms, including *traumato-* in their structure: There is thus *traumatocace* (traumatic gangrene), *traumatocomium* (a hospital for the wounded), *traumatology* (the scientific description of wounds), *traumatoncsis* (suture of wounds), *traumatopnoea* (the passage of air through a wound in the thorax during respiration), and *traumatopyra* (traumatic fever). Travail, in all its many meanings, is fruitfully illustrated, and full attention is paid to its obstetric use. Not only is its literal significance shown by examples, such as the sentence in Malory's *Arthur* (1470–85), "She bygaune to travaille fast of her child," but the figurative employment is also illustrated, as in such seventeenth century quotations, mostly with a theological bearing, as Milton's "Let her cast her abortive spawne without the danger of this travailling and throbbing kingdome," and T. Wall's "travelling with the pangs of a false zeal, they fall in labour of a monstrous Reformation." It is a curious fact that theological controversy in the seventeenth century seemed to find a perverted sort of delight in violent obstetric imagery. It is worth while remembering that *travel* (to make a journey) originally was the same word as *travail*, and meant (although doing so no longer) to torment, to distress, to toil, and to suffer the pains of parturition. Perhaps the most interesting medical term in this part of the *Dictionary* is *treacle*, coming as it does from the Greek word for the antidote against a venomous bite;[2] but reference has already been made to it under *therapeutics*,[2] and no further notice need be taken of it here, save to say that the medical man who is interested in such matters will find a rich feast in the illustrative quotations. One may ask how many well-read people know that *churl's* or *poor man's treacle* is garlic, and that *Englishman's treacle* is water germander; perhaps one does not wish them generally to know that *treacle-carrier* is a contemptuous term for an itinerant quack doctor or medical practitioner. Medical words, in fact, abound in this fasciculus, such as *tramort* (old word for a corpse), *transanimate* (new suggested usage, not found here, is to express the act of resuscitating a stillborn infant), *trans-condyloid* and many other *trans's* of all sorts and combinations; *transfusion*, *trapezoid*, *trapezium*, *trapezius*, *treatment* (with this spiteful quotation, "many are even rendered incurable by the treatment of inconsiderate physicians"), *trematode*, and all the medical terms beginning with *tri-* and with *tria*—no small host. It is a wonderful dictionary, and can be read like a book—more pleasantly than some books.

[1] *A New English Dictionary on Historical Principles.* Edited by Sir James A. H. Murray. Traik-Trinity. (Vol. x.) Oxford: At the Clarendon Press. . . . Humphrey Milford, July 1st, 1914. (Price 5s.)

[2] BRITISH MEDICAL JOURNAL, April 13th, 1912, p. 856.

THE INTERNATIONAL CONFERENCE ON THE BLIND.

THE International Conference on the Blind, held in London from June 18th to the 24th, was a distinct success. Large numbers of teachers of the blind and of those interested in the organizations that deal with the education and work of the blind met in London for consultation; there

were representatives from the Colonies, the United States, and many Continental countries. Most of the papers contributed dealt with purely technical matters; but there were two of considerable medical interest. The passing of the Mental Deficiency Act has brought under renewed consideration the relation of the mentally defective blind to the existing blind institutions. Teaching in the blind schools is quite a different matter from teaching in the ordinary schools; the number of the blind is small, there are many schools, and it follows that there is much more individual teaching in these schools than can be arranged for in any ordinary school. This makes the difficulty of the mentally deficient much less urgent in the blind schools, for they neither prevent the progress of the more acute, nor are they hurt by the activity of their betters. After much discussion it was agreed to memorialize the Board of Control recommending the establishment of a few schools for the mentally defective blind so arranged as to cover large areas of the country. It was felt that such a scheme would provide better for these children than a number of very small local centres. A paper was read by Mr. Bishop Harman on the education of the high myopes. His chief point was that the conference, as representative of teachers of the blind and of blind interests, had no part in the teaching of high myopes, for the children were not blind, nor was there any necessary expectation that they would become blind; he therefore urged that educationally these children, and the special classes necessary for them, should be attached to the elementary schools, as was the practice in London, and not to the blind schools, as had been done in some parts of the country, from considerations of convenience. To judge from the expressions of approval made by the listeners, and the remarks of subsequent speakers, there was a general agreement with the recommendation.

SAINT MARY RONCEVALL AND CHARING CROSS.

UNDER the title *Historical Sketches of Old Charing* Dr. James Galloway has reissued in book form his essays on "The Hospital and Chapel of Saint Mary Roncevall" and "Eleanor of Castile, Queen of England, and the Monuments Erected in her Memory." The book, which is printed by John Bale, Sons, and Danielsson, Ltd., on special paper, with fourteen full page plates, is published and sold for the benefit of Charing Cross Hospital (price 10s. 6d. net). A long review of the first article, which was originally privately printed as a pamphlet under the title *The Story of Saint Mary Roncevall*, was published with illustrations in the BRITISH MEDICAL JOURNAL of January 4th, 1908 (p. 35), and a note on the second appeared in our issue of January 10th, 1910 (p. 98). The historical value of the essays fully warrants their publication in a more permanent form. Dr. Galloway has given the results of painstaking research in a way which makes them eminently readable. Special value is given to the story of Saint Mary Roncevall by the fact that Dr. Galloway has sought first hand information on many points from living sources; hence his work is not disfigured by the absurd blunders often met with in writers about mediaeval ecclesiastical matters. As we said in reviewing the pamphlet, to Dr. Galloway it has clearly been a labour of love to trace out the history of the old convent at Charing which was an offshoot or "cell" of the priory established by Charlemagne in memory of his nephew Roland, who fell with the other Paladins in the pass of Roncesvalles in 778. The community of Saint Mary Roncevall appears to have first established itself in England in 1229 under the patronage of William Marshall, Earl of Pembroke, eldest son of the great William Marshall, *Rector regis et regni*, Protector of the King after the death of John, from whom Richard Coeur de Lion, when disarmed by him in fair fight, was once fain to beg his life. William Marshall gave them all his houses at "Cherring and the curtilages adjoining," besides lands in other places. In the village of Charing the brethren built a convent, a chapel, and a hospital for the sick. Of the work of this hospital unfortunately there is no record. Nothing more is heard of the brethren for many years. In 1290 Eleanor of Castile, wife of Edward I, died at Harby, near Lincoln, and the King, in memory of her, had a sculptured cross erected at every place where her body rested in the course of its conveyance to Westminster. The cross at Charing was completed in 1294. The community reached the height of its prosperity in this country in the second quarter of the fourteenth century. The convent at Charing was its head quarters, and it had large estates in various parts of the suburbs, besides property at Canterbury, Oxford, and elsewhere. In 1349 came the Black Death, which by sweeping away vast numbers of the clergy paved the way for far-reaching changes in Church and State. The story is told by Cardinal Gasquet and the late Canon Jessopp. The Charing Cross community suffered very severely, and its affairs were thrown into confusion. After various vicissitudes it shared the fate of the religious houses dissolved by Henry VIII. Its death warrant was signed in 1544. The site with the "sumptuous palace" built with the stones of the old convent by Henry Howard Earl of Northampton passed through various hands till it became Northumberland House, with the gateway surmounted by the lion of the Percys, so familiar to Londoners of a past generation. This has now in turn given place to Northumberland Avenue. Charing Cross Hospital is connected with Saint Mary Roncevall only by the fact that on its foundation by Dr. Benjamin Golding in 1823 it was first housed in Villiers Street, on the northern boundary of what was once the property of the priory. Of the crosses in memory of Queen Eleanor, which were really shrines built on consecrated ground, only three remain—at Geddington, Northampton, and Waltham. The one now standing at Charing Cross is a modern reproduction of the old shrine, designed and erected by the late Mr. Edward Barry. Once more we congratulate Dr. Galloway on the result of his labours, and we hope that as a historian he will be a substantial benefactor to the hospital with which he is so honourably connected as a physician.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Finance Bill (Budget Scheme).

Laboratories.

IN reply to Mr. Chancellor, the Chancellor of the Exchequer said that the amount of the sum of £250,000 to be applied this year to tuberculosis, nursing, and pathological laboratories which would be expended on pathological laboratories, was £50,000.

Mr. Chancellor asked if the work to be carried on in the pathological laboratories to be provided for in this year's Finance Bill would include experiments on living animals.—Mr. Lloyd George replied that, as he had stated on May 14th, the proposed grant was in respect of laboratories to be used primarily for purposes of diagnosis and not of research.

Mr. Cathcart Wason asked whether it was to be understood that "these research committees" would not be entitled to make experiments on living animals.—Mr. Lloyd George replied that that was not a matter which came within his department.

Treatment of Tuberculosis.

Mr. Astor asked whether the money to be provided under the Finance Bill for the treatment of dependants of insured persons suffering from tuberculosis in districts where no arrangements had been made for their treatment, with the aid of the Hobhouse Grant, would cover the whole cost of the treatment of such persons; and, if not, what proportion of the cost would be provided under the Finance Bill and from what source the balance would be derived.—Mr. Lloyd George replied that a statement would be made shortly, giving particulars of the admini-

stration of the proposed grant for tuberculosis referred to in his speech on introducing the Budget.

Sick Nursing Grants.

Dr. Chapple asked the Chancellor of the Exchequer whether he had received a communication from the Scottish National Conference of Friendly Societies urging that the administration of the grants for sick nursing, tuberculosis, and pathological laboratories should not be separated from the present administrators of medical benefit.—Mr. Lloyd George replied that he had received a deputation on the subject, which was engaging the careful attention of the Government.

Milk and Dairies Bills.

England.

THE consideration of the English bill was continued on Thursday, July 2nd. The amendment by Mr. Tyrrell to omit the inspection of persons employed in or about dairies was negatived after discussion without a division.

In response to Mr. Glyn-Jones, Mr. Herbert Samuel promised to submit an amendment at the next meeting of the Committee making it clear that it would be possible in the course of inspection to take milk from a particular cow or even from a particular teat.

An interesting and long discussion took place on the question of the manipulation of milk by various processes of addition or abstraction. In regard to colouring matters, Mr. Bathurst stated that in different parts of the country fashions prevailed in regard to the colour of milk, and that milk dealers took the precaution of seeing that the colour of the milk accorded with the prevailing fashion. Ultimately, as an addition to the prohibitions in Clause 2, a paragraph (*d*) was added forbidding the abstraction from milk of butter fat or any other constituent. Further, the regulations were made to cover the cases of milk which had been artificially treated. As the result of the morning's discussion, a considerable number of alterations were made in the first section of Clause 2.

On Monday, July 6th, the Committee was continued, and a great part of the time was occupied by an amendment brought forward by Mr. Astor, Dr. Addison, Mr. Hills, Mr. Bathurst, and others, and supported by members belonging to different parties, to enable regulations to be made for dealing with so-called "certified milk." Some apprehension was expressed by various members as to the effect of the proposed amendment upon small shopkeepers, and, as a result of the discussion, the amendment was given a more restricted scope than in its original form, and was accepted by the Committee without a division.

After a further paragraph had been added to the clause as brought forward by Mr. Samuel with regard to the inspection of individual cows, the remainder of the time of the Committee was occupied in a discussion as to the procedure to be adopted in connexion with the issue of Orders under the bill. It will be seen, therefore, as a result of the sittings up to the present, only two clauses of the bill have been gone through, but these are in many respects the fundamental clauses, and it is anticipated that after Clause 2 is added much more rapid progress will be made. Indeed, it is possible that one of the few important questions leading to prolonged debate that remains is that which relates to the authorities which will be called upon to administer the Act.

At the present time Clause 2 of the bill stands as follows:

2. *Extension of Power to make Orders respecting Milk and Dairies.*—(1) The purposes for which general and special orders with respect to milk and dairies, hereinafter referred to as Milk and Dairies Orders, may be made by the Local Government Board under section thirty-four of the Contagious Diseases (Animals) Act, 1878, as amended by the Contagious Diseases (Animals) Act, 1886, shall include the following purposes:

(*a*) The registration with local authorities of all dairies.

(*b*) The inspection of dairies and persons employed in or about dairies.

(*c*) The prevention of danger to health from the sale for human consumption or from the use in the manufacture of products for human consumption of infected, contaminated, or dirty milk.

(*d*) The prohibition of the addition of colouring matter and the prohibition or regulation of the addition of skimmed or separated milk, or water, or any other substance, to milk intended for sale for human consumption, or the abstraction therefrom of butter fat or any other constituent, and the prohibition or regulation of the sale for human consumption of milk to which such an addition or from which such abstraction has been made or which has been otherwise artificially treated.

(*e*) The regulation of the cooling, conveyance, and distribution of milk intended for sale for human consumption or for use in the manufacture of products for human consumption.

(*f*) The labelling, marking, or identification of churns, vessels, and other receptacles of milk for sale for human consumption or used for the conveyance of such milk.

(*g*) Authorizing the use in connexion with the sale of milk of the term "certified milk," prescribing the conditions subject to which milk may be sold under such designation, and prohibiting the use of such term or designation in connecting with the sale of milk in respect of which the prescribed conditions are not complied with.

(2) A Milk and Dairies Order with respect to the inspection of cattle in a dairy may authorize the person making the inspection to require any cow to be milked in his presence and to take samples of the milk, and to require that the milk from any particular teat shall be kept separate and separate samples thereof furnished.

(3) If any person is guilty of a contravention of or non-compliance with the provisions of any Milk and Dairies Order, he shall be guilty of an offence against this Act.

(4) Milk and Dairies Orders shall be made by the Local Government Board with the concurrence of the Board of Agriculture and Fisheries, and shall have effect as if enacted in this Act.

(5) All Milk and Dairies Orders shall be laid before each House of Parliament as soon as may be after they are made; and if an Address is presented to His Majesty by either House of Parliament within the next subsequent forty days on which that House has sat next after the Order is laid before it praying that the Order may be annulled, it shall thenceforth be void, but without prejudice to the validity of anything previously done thereunder, or to the making of a new Order.

The Rules Publication Act, 1893, shall apply to any such Order as if it was a statutory rule within the meaning of Section 1 of that Act.

Scotland.

The bill for Scotland, unlike its English companion, has had a smooth and rapid passage through Committee. It has been subject to few alterations; the chief relate to the restriction of the rights of invasion by urban authorities into rural districts, and the imposition of duties in accordance with the general terms of the Act in such cases upon the rural authorities.

Apart from the amendments, however, made in Committee, three new clauses have been added to the bill and should be quoted in full. They are as follows:—

Inspection of Premises Other than Dairies.—It shall be lawful for the local authority to authorise the medical officer of health, the sanitary inspector, or any other officer, to inspect from time to time, and to examine the cattle in, any premises from which the occupier sells milk only in small quantities and for their own consumption to persons in his employment, or to neighbours, notwithstanding that such occupier is not a dairyman within the meaning of this Act, and such occupier and persons in his employment shall give all reasonable facilities and assistance to such officers for such inspection and examination.

Dairymen to Notify Disease, etc.—Every dairyman who has in his dairy any cow which appears to be suffering from any sore on the teats accompanied by suppuration or bleeding, or from any disease liable to infect or contaminate the milk, or any cow which to his knowledge is giving tuberculous milk, shall forthwith give written notice thereof to the local authority stating the situation of the dairy.

Intimation of Inspection.—Where any official of a local authority proposes to inspect any dairy in the district of another local authority or to examine the cattle in such dairy under powers contained in this or any other Act he shall give intimation by the readiest means available to the medical officer of health of the second-named district of the intention to make the said inspection or examination so that, if circumstances permit, the medical officer of health, sanitary inspector, or veterinary inspector, of the second-named district may be present at such inspection or examination.

Treatment of Tuberculosis.—Mr. Astor asked the President of the Local Government Board the number of general voluntary hospitals in London which had made arrangements with local authorities or Insurance Committees for treating tuberculous cases, the number of beds so made available, and whether all these institutions received payment for treating these insured persons.—Mr. Herbert Samuel said that he understood that arrangements were at present in force between the London Insurance Committee and three general hospitals under which twenty-eight beds were occupied by insured persons at the beginning of the present month, while arrangements were

pending with a fourth hospital. Arrangements were also in force between the Committee and three consumption hospitals under which seventy beds were occupied by insured persons at the date above mentioned. The London County Council proposed to make arrangements for the treatment of tuberculous cases in seven general hospitals and three consumption hospitals in London, and hoped to obtain 160 beds at these institutions during the next twelve months. The Middlesex and Surrey County Councils had each arranged for the use of beds at two general or consumption hospitals in London, and on March 31st last Middlesex was using eleven beds and Surrey thirteen beds in these hospitals. He understood that in all cases payment was or would be made by the Insurance Committee or the county council for all beds occupied under the arrangements specified. In reply to Mr. Astor the President of the Local Government Board stated that provision for the free examination of sputum is made in the tuberculosis schemes of forty-two county councils and sixty-six county borough councils, namely:

County Councils.—Bedford, Berkshire, Buckingham, Cheshire, Cornwall, Cumberland, Derby, Devon, Dorset, Durham, Ely (Isle of), Essex, Gloucester, Hereford, Hertford, Huntingdon, Kent, Lancashire, Leicester, Lincoln (parts of Holland, Kesteven, Lindsey), Middlesex, Northampton, Northumberland, Nottingham, Peterborough (Soke of), Salop, Somerset, Southampton, Stafford, Suffolk East, Suffolk West, Surrey, Sussex East, Sussex West, Warwick, Westmorland, Wiltshire, Worcester, Yorkshire (East Riding, West Riding).

County Borough Councils.—Barnsley, Bath, Birkenhead, Birmingham, Blackburn, Blackpool, Bolton, Bootle, Bournemouth, Bradford, Brighton, Bristol, Burnley, Burton-on-Trent, Bury, Carlisle, Chester, Coventry, Croydon, Derby, Dewsbury, Dudley, Eastbourne, Gloucester, Halifax, Hastings, Huddersfield, Ipswich, Kingston-on-Hull, Leeds, Leicester, Lincoln, Liverpool, Manchester, Middlesbrough, Newcastle, Northampton, Norwich, Nottingham, Oldham, Plymouth, Portsmouth, Preston, Reading, Rochdale, Rotherham, St. Helens, Salford, Sheffield, Smethwick, Southampton, Southend-on-Sea, Southport, South Shields, Stockport, Stoke-on-Trent, Sunderland, Tynemouth, Wallasey, Warrington, West Bromwich, West Ham, Wigan, Wolverhampton, Worcester, York.

Captain Faber asked whether, at the Gibcrack Sanatorium at East Harringfield, Chelmsford, it had been the custom to send patients back to their own homes when they were beyond recovery, and if so, whether he proposed to take any action in the matter so that disease might not be spread by the practice. Mr. W. Benn replied that the treatment appropriate for a case of tuberculosis varied according to the condition of the patient. It was not desirable that a patient should be retained in an institution intended to provide treatment other than that required in that particular case. Under the arrangements made by Insurance Committees, however, other forms of treatment were available for insured persons discharged from institutions. Lord Charles Beresford asked the Chancellor of the Exchequer if he was aware that at the Cripples' Hospital and College at Alton 95 per cent. of the cripples were cured who would otherwise succumb or be cripples for life; and whether, looking to the amount of good that this hospital did, he would give a State grant to the hospital and also create hospitals of a similar character throughout the country. Mr. Lloyd George replied as follows: I am well aware of the brilliant work carried on at the hospital referred to by the noble lord. The general question of hospital accommodation is now receiving the attention of His Majesty's Government, and meantime I fear I can make no statement.

Infant Mortality and Stillbirths.—In reply to Mr. Pike Pease, the President of the Local Government Board said that the rate of infant mortality in the United Kingdom in 1913 was 108 deaths under 1 year of age per 1,000 births registered. The proportion of stillbirths could not be stated, as they were not registrable, and information in regard to them was obtainable only for areas which had adopted the Notification of Births Act, 1907. These areas did not in all cases tabulate the information, but it might be stated that during 1912 the stillbirths notified under this Act in the county of London numbered 2,593. This amounted to 2.4 per cent. of the total births notified, and to 0.57 per 1,000 of the estimated population at the middle of the year.

Physique of School Children.—In reply to Mr. Astor, the President of the Board of Education said that of the 200 reports of school medical officers for the year ending December 31st last so far received and scrutinized, twelve contained a reference to the injurious effect of work out of school hours on the physique and general condition of children. Further reference to the subject would be found in the last two annual reports of the Board's chief medical officer. In reply to Sir Harry Verney, Mr. Pease said that the Board had not regarded the weighing and measuring of children as essential to the performance of the minimum statutory duty of a local education authority; but had always included the child's height and weight in the "model" inspection schedule, since it was held that no child could be considered properly examined medically so long as the medical officer remained in ignorance of its height and weight. In assessing the grant the Board had, therefore, felt bound to take this circumstance into consideration. The Board did not regard provision for the periodic weighing and measuring of children with the view to the collection of anthropometric data as an essential part of an efficient school medical service. In reply to Mr. Leif Jones, who raised the question of the establishment of a proper medical standard and medical inspection, Mr. Pease said that the Board was putting pressure in that direction and was endeavouring to secure proper regard to the heights and weights of school children.

Education Grants.—Sir Philip Magnus asked the President of the Board of Education in what way and to what special purposes of technical education it was proposed to allocate the sum of £100,000, being part of the sum of £560,000 to be given to higher education; and how he proposed to dispose of the sum of £395,000 in assisting secondary education.—Mr. Pease said that he was not in a position to state the precise method in which the sum of £100,000 would be distributed in aid of technical education, but it was intended to apply a substantial portion of it to increasing the grants-in-aid of larger institutions doing advanced and highly organized work, and thereby to raise the proportion which the present grants bore to the cost of that work. Supplementary regulations were in preparation for the purpose. As regards secondary schools, it was proposed to make substantial increases in the grants given under the existing regulations, which would be modified accordingly. It was hoped that draft regulations would soon be ready for that process of consultation and discussion with authorities and bodies concerned, which was desirable preliminary to their issue.

Tenure of Medical Officers of Health.—Sir Philip Magnus asked the President of the Local Government Board what steps, if any, he had been able to take to remove the pressing disabilities of medical officers of health as regards insecurity of tenure, absence of any scheme of superannuation, and inability to obtain payment of travelling expenses in discharge of their duties, which were brought under his notice by the deputation which he and the Chancellor of the Exchequer and the President of the Board of Education recently received; and whether the position of sanitary inspectors, as regards some of their disabilities, was likely to be improved.—Mr Herbert Lewis replied that he could say no more at the present moment than that the matter was engaging the close attention of the President of the Board.

Opium Traffic in China.—In reply to Mr. Theodore Taylor, the Secretary of State for Foreign Affairs said: Manchuria, Shansi, and Szechuan were closed to the import of Indian opium on September 11th, 1911; Chihli and Kuangsi on March 1st, 1913; Anhui, Hunan and Shantung on June 15th, 1913; Fukien on May 1st, 1914; Hupeh on June 1st, 1914; and Chekiang and Honan on June 16th, 1914. He understood from reports received that strong measures were being taken in most provinces to check the production and illicit consumption of opium in China. There remained, however, seven provinces in respect of which evidence of the cessation of production had not yet been forthcoming, and which had consequently not yet been included amongst the provinces into which the importation of Indian opium was prohibited, though no opium was imported into four of them.

Canada.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Sir Thomas Roddick and Dominion Registration.

The announcement that the honour of knighthood has been conferred upon Dr. T. G. Roddick has been received with particular pleasure. The name of Sir Thomas Roddick will always be remembered in the annals of Canadian medicine, for through his untiring efforts, continued for nearly twenty years, difficulties were overcome and a new era was commenced in the practice of medicine in the Dominion. A year ago Dominion medical registration became an accomplished fact. Before that a man was able to practise only in the province in which he received his medical degree; in some cases he could not cross a stream to exercise his calling, even in an emergency, if by chance that stream were the dividing line between two provinces. Now, if a man so wishes, he may take the examinations of the Medical Council of Canada, and thus be enabled to practise in any part of the Dominion—with the exception of the province of British Columbia—without further examination. Sir Thomas Roddick is indeed to be congratulated upon the successful attainment of a worthy object.

The second annual meeting of the Medical Council of Canada took place at Ottawa on June 16th and 17th. With the exception of Dr. McKechnie of Vancouver, Dr. W. Bapty of Victoria, and Dr. Jenkins of Prince Edward Island, all the members were in attendance. A new member was introduced, Dr. E. Braithwaite of Edmonton, appointed in the place of the late Dr. Kennedy of Macleod, Alberta. The resignation of Sir Thomas Roddick from the presidency was received with much reluctance and deep regret on the part of the entire Council. As a mark of esteem Sir Thomas was elected honorary president for life with a seat on the executive committee, so that he will still be associated with the Council. The new president is Dr. R. S. Thornton of Deloraine, Manitoba, who has been an active and able worker in the interests of Dominion medical registration. The vice-president is Dr. R. J. Gibson of Sault Ste. Marie, Ontario. Dr. R. W. Powell of Ottawa was re-elected registrar; Mr. F. H. Chrysler, K.C., was appointed general counsel; and Mr. G. L. Blatch was appointed auditor. The examinations this year will be held at Montreal on October 13th, and, for the convenience of western applicants, examinations will be held also at Winnipeg on June 15th, 1915.

The diploma of the Council—L.M.C.C. (*honoris causâ*)—was conferred upon the Hon. Dr. W. J. Roche, Minister of the Interior.

The Dean of the Medical Faculty, McGill University.

Dr. H. S. Birkett has been appointed dean of the faculty of medicine at McGill University in succession to Dr. Frank J. Shepherd, who has filled the position so ably for the past six years, and who, full of honours, is now retiring from his professional engagements. Dr. Birkett graduated from McGill University in 1886 with highest honours. He joined the staff of the university in 1889, entered the service of the Montreal General Hospital in 1891, and in 1899 became laryngologist and otologist to the Royal Victoria Hospital. In 1895 he was appointed professor of laryngology and otology in McGill University. Dr. Birkett is well known throughout this Continent, and is held in the highest esteem; he is an excellent organizer, and his appointment as dean meets with general approval.

Manitoba Medical Association.

The seventh annual meeting of the Manitoba Medical Association was held in the medical library of the University of Manitoba, Winnipeg, on June 2nd, 3rd, and 4th, under the presidency of Dr. Jasper Halpenny. It was attended by a number of members and some fifty visitors, and Dr. Halpenny and those who assisted him so ably are much to be congratulated upon the success of the meetings. At the opening session the chair was taken by Dr. O. Bjornson. The president gave an address on medical education, in the course of which he said that as so many students put themselves through college by working during the vacations in any capacity that offered, he was of opinion that it would be an unnecessary waste of time for such students to take an arts course before entering upon the study of medicine. Nevertheless, he thought that before long the University of Manitoba would require a student to take at least two years in arts before beginning his medical studies. He thought that during the first two years in medicine too much time was devoted to anatomy, and that during the fourth and fifth years the tendency to specialize was becoming too great. After graduation, he advised that from one to three years should be spent in hospital work before going into practice.

The presidential address was followed by a paper on laparotomy (non-obstetrical) during pregnancy, by Dr. Archibald Maclaren of St. Paul, Minnesota, who cited the results of 35 cases in the St. Paul hospitals; the address provoked an interesting discussion. Dr. S. J. S. Pierce spoke on the subject of antityphoid vaccination. In view of the prevalence of typhoid fever at certain times of the year, a resolution was passed urging all physicians to introduce antityphoid vaccination in private practice, and to enforce compulsory inoculation wherever large gangs of men are forced to work under unfavourable conditions. Dr. Edith Brown, Dean of the Medical College, Punjab, India, gave a short address on medical work in India. On June 3rd a clinical meeting was held at the Winnipeg General Hospital, after which members motored to Assiniboine Park for luncheon. Several interesting addresses were given in the afternoon of Wednesday and Thursday, and clinics were again held at the General Hospital on Thursday morning.

The incoming president is Dr. H. A. Gordon of Portage La Prairie, and the honorary secretary is Dr. R. B. Mitchell of Winnipeg.

Gas Poisoning.

Of late a large number of cases of poisoning by illuminating gas have been reported. The matter has been taken up by the Royal Society of Canada, and will be brought to the notice of Parliament in order that something may be done to prevent the adulteration of gas by carbon monoxide. At a recent meeting of the Royal Society a committee was appointed to inquire into the subject. The members of the committee are Sir Thomas Roddick, Dr. R. F. Ruttan of McGill University, Dr. Mackenzie of Toronto, and Dr. G. Prout Girdwood of Montreal. The committee is now collecting statistics of the cases which have occurred during the past five years.

The Prevention of Tuberculosis.

A series of post-graduate courses in the diagnosis of tuberculosis was commenced at the Bruchési Institute, Montreal, on June 2nd last. The courses, given under the direction of Professor S. A. Knopf, of New York, continue for fifteen days, and the members of each are limited to six; the fee is $15. In last year's report of the Royal Edward Institute it is stated that 2,570 persons attended the clinics during the year; of these, 625 were found to be non-tuberculous, and this is held to show that the efforts which are being made to reach patients while they are still in the first stages of consumption are bearing fruit. An open-air school was opened in December, 1912; this was the first school of its kind in the province of Quebec, and the second in Canada. It has proved most successful and has been well attended. On very cold days in winter, when the temperature is below zero, the ordinary school work gives place to story-telling. A summer camp was also held last year during the months of July and August, and will be held again this summer.

Prison Conditions in Canada.

In August, 1913, a Commission was appointed to enquire into the state and management of the Kingston penitentiary and the report of this commission has now been published. The regulations of the penitentiary are based on the Act of 1834, which states "Whereas if many offenders convicted of crime were ordered to solitary imprisonment accompanied by well-regulated labour and religious instruction, it might be a means. . . . of reforming the individual," etc. The terms of this Act appear to have been rather too rigorously adhered to and solitary imprisonment has always been a conspicuous feature of the discipline. The conditions of labour, particularly stone breaking, were found to be bad and the system to be conducive to moroseness, there being nothing to break the monotony. The Commissioners

regretted that little attempt was made to educate the illiterate and criticized the treatment of the insane prisoners. They considered the buildings in which such prisoners are housed unsuitable and condemned the punishments inflicted. They recommend that a competent alienist should be employed by the Government, and that suitable permanent arrangements should be made for the care of the insane. In Western Canada the provincial governments take care of the criminal insane, and the Commissioners consider that this might be arranged in Eastern Canada, although such action might meet with some disfavour; a separate institution might be provided for such defectives. The practice of "cellular feeding" and certain punishments still in vogue in the prison were also condemned by the Commissioners, who recommend that prisoners should be classified; that first offenders should be sent to reformatories and only the older and more hardened prisoners sent to the State prison; and that prisoners should be given healthful, interesting, and profitable work, which would enable them to gain an honest livelihood when they went into the world again. It is recommended also that prisoners should be paid for their labour, and that their wages should go towards the maintenance of their families. The Commissioners strongly recommend the establishment of a penitentiary commission of three members to organize the prisons, make regulations for their management, and select the officers, who would be held responsible for results. In Toronto improvements are to be made. The present gaol is to be closed in November, 1915. A new central police station will be built, which will contain police head quarters, men's, women's, and children's courts, and cells for transfers on remand. Upon commitment, all prisoners will be removed to one of the several institutions—men's industrial farm, women's industrial farm, central prison, juvenile home, or insane detention home.

THE NEW ROYAL COLUMBIAN HOSPITAL.

The new Royal Columbian Hospital at New Westminster, British Columbia, was formally opened in May. The building is four stories and contains accommodation for over two hundred patients. The hospital was first established in 1862.

LICENCE TO PRACTISE IN ALBERTA.

The autumn examinations for licence to practise in Alberta will be held at the University of Alberta, commencing on September 15th. The examination fee is $50 and applications, with matriculation certificate and graduation diploma, should be sent to the Registrar, University of Alberta, Edmonton South, Alberta, on or before August 15th next.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE HOUSING PROBLEM.

LAST week an Inspector of the Local Government Board held an inquiry in Dublin into the application made by the City Council for sanction for loans for clearing insanitary areas, erection of artisans' dwellings, etc. The scheme was one for clearing four areas in the city already condemned as insanitary. The cost of the scheme was nearly £300,000, and provided for the erection of 800, 98, and 180 dwellings, having from four to two rooms each. The cost in three of the areas was approximately £175,000, £27,000, and £39,000 respectively. The scheme was opposed on the ground that the rents to be charged—7s. to 3s. 6d.—were higher than could be paid by the class of people for whom the houses are intended, and that as a consequence the rents would have to be lowered, with a consequent deficit to be made up by an increase of the rates, which are already about 11s. in the £.

The Corporation's total expenditure on housing schemes up to the present has been £350,000, with a total burden on the ratepayers of £10,000 a year. The ratepayers and civic reformers were ably represented on the inquiry, and their objections to the proposed schemes were radical and far-reaching. They urged that the schemes perpetuated overcrowding, that they were piecemeal and unmethodical, fitting into no plan of civic development, that they would be a further burden on the rates, and finally that the whole problem could be solved efficiently and far more cheaply on different lines. They did not object to the clearing of the insanitary areas, but to their immediate repopulation on a scale of still injurious density; they protested against large expenditure on schemes which will create new slum problems for a new generation of citizens. The recent Departmental Committee's report recommended the removal of a considerable part of the slum population to cheap houses on virgin soil in the outskirts of the city. The Corporation's schemes ignored this recommendation and did not meet the arguments—social and economic—on which it was based. Sir Charles Cameron, in his evidence, said he would like to see half the houses in the city rebuilt. He totally disagreed with the suggestion to build the new houses on the outskirts of the city; there were no such waste places in English and Scottish cities as there were in Dublin, and if these waste spaces were allowed to remain the city would become a desert. Referring to one of the particular districts under consideration, he said, in all such areas the death-rate was always high, but that it did not depend so much upon the fact that people lived in one room as on their extreme poverty.

The Inspector made an order in regard to three of the areas, giving the Corporation power to acquire and clear them, but leaving open the ultimate use to which the sites might be put. He refused the order in the case of the fourth scheme.

Last week Mr. Henry Murphy, Local Government Board Inspector, held an inquiry, at Fermoy, into the application of the Urban Council for a loan of £4,580 to to erect twenty cottages under the Housing of the Working Classes Acts. Evidence was given of the great necessity for the erection of the houses. At least 100 houses would be necessary. The inspector said he would make his report as soon as possible.

ISOLATION HOSPITAL FOR NEWRY PORT.

At a meeting of the Newry Port Sanitary Authority last week it was decided to ask the town surveyor to prepare a plan and estimate of costs for the provision of an isolation hospital for sea-borne cases of infectious disease on Rough Island, about four miles from Newry.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

OBJECTIONS TO A PROPOSED TUBERCULOSIS HOSPITAL.

MR. C. E. GREEN of Liberton has published in the *Scotsman* newspaper for July 2nd the correspondence which has passed between him and Mr. Walter Macgregor, Secretary to the Longmore Hospital for Incurables, Edinburgh, regarding the proposed transference of the phthisis and tuberculous cases from the hospital in the city to the Liberton Cottage Hospital, or rather to an extension of it, in ground purchased at Stenhouse. Mr. Green stated that this ground is contiguous to five dairies, and that whilst the nearest one (with 35 cows) is within a hundred yards, two others are within two hundred yards, and the remaining two not further away than four hundred yards. Furthermore, the Alnwick Hill filter beds (covering many acres), which play so important a part in the water supply of Edinburgh, are only 500 yards distant, and are frequented by gulls and water fowl which roam over the surrounding lands; the filter beds drain into a burn which runs through a corner of the hospital grounds. Dr. Guthrie's industrial school with its many boys is also close at hand. Mr. Macgregor in his reply referred to the fact that adequate precautions are now taken to prevent the spread of tuberculosis from one person to another, to the ease with which tubercle bacilli are killed by fresh air and sunlight, and to the mode of construction of the Liberton Cottage Hospital. It is doubtful, however, whether these statements will reassure public opinion in Liberton which has been somewhat shaken by the proposal, and one awaits a more authoritative pronouncement from one or other of the medical officers who have to do with the city and county to allay anxiety. A good deal of publicity has recently been given to investigations regarding tubercle bacilli in the milk

upply of Edinburgh which comes from farms in the country round about; and it is not easy, after having educated the public up to a high standard of dread regarding the transference of tuberculosis by sputum, by infected cows, and the like, to get people to accept the assurance that what seems to the ordinary mind to be a dangerous arrangement is really a safeguarded plan. It is argued that there must be other pieces of land available not in the immediate vicinity of five dairies. Liberton, as its name is believed to signify, was in old days the village of lepers, but it was not then in touch with the city of Edinburgh, which clung very much to the sides of the rocky ridge running from the castle to Holyrood, and, needless to add, there were then no Alnwick Hill filter beds

England and Wales.

MANCHESTER AND DISTRICT.

Small-pox in Lancashire.

It is satisfactory to find that so far no further case of small-pox has been notified in Salford since the single case reported last week. Accommodation having been found for this case in the Cinder Hill Hospital, it has not been necessary to remove the patients suffering from tuberculosis from the Drinkwater Park Hospital, which was erected primarily as a small-pox hospital but is at present being used as a sanatorium for tuberculosis. At both Oldham and Rochdale, however, several fresh cases have been discovered, and a feeling of great disquietude has arisen as to the source of one of the cases. It appears that the small-pox cases at the Marland Hospital are located in a pavilion adjoining the pavilions used for other infectious diseases, and a child of about 8 years of age, after being in the scarlet fever wards for about three weeks, was then found to have contracted small-pox, from which it has died; the inference is that in some way or other the child had contracted the disease while in the hospital. The Marland Hospital was originally a workhouse, and was converted by the Rochdale Corporation into a fever hospital about twenty-eight years ago. At that time it was well isolated from all other buildings, and with the approval of the Local Government Board cases of small-pox were treated, as well as other infectious diseases. Numerous houses have since been built in the neighbourhood, and the Corporation had made repeated attempts to get separate provision for the small-pox cases, the latest idea being to combine with various other local authorities to obtain a joint small-pox hospital. Unfortunately that had not been accomplished when the present outbreak began, and the idea that small-pox may be airborne over considerable distances has now led to a public meeting of protest, at which a resolution was passed strongly protesting against further use of the Marland Hospital for small-pox, and expressing the opinion that two of the cases at least could only have been infected from the hospital itself. Up to the present there have been in all 16 cases in the Rochdale district, 11 of which arose in Milnrow; 9 of the cases have been treated in the Marland Hospital.

Manchester Royal Infirmary.

At the last meeting of the board of management of the Manchester Royal Infirmary it was stated that the donations towards the £25,000 required for the Central Branch now amounted to nearly £22,000, no less than £1,264 having been received since the previous meeting. Special reference was made by the chairman, Sir Wm. Cobbett, to the sum of £1,000 received from Mr. Oswald Stoll to name a bed at the Central Branch the "Ardwick Empire Bed." The chairman said that the donation promised by Mr. Stoll had nearly been fulfilled by a series of annual matinées, and he was pleased to state that Mr. Stoll had agreed to promote further similar efforts to raise an additional sum of £1,000 for the Central Branch.

The Smoke Nuisance in Manchester.

Some time ago the Manchester City Council appointed an "Air Pollution Advisory Committee" to make a full investigation into the smoke nuisance, and the work has been divided into four departments, subcommittees being appointed to deal with the legal and administrative aspects and with engineering, chemical and statistical questions. In various parts of the city the chemical committee has already placed a number of soot-gauges and the statistical committee has decided to follow in the main the methods of inquiry adopted by the Industrial Research Department of the University of Pittsburgh. Circulars will be sent out to a number of hospitals and to representative trades, hotels and private persons, asking a considerable number of questions, the aim being to find out the loss and damage from smoke suffered by traders and manufacturers, by hospitals, offices and hotels, and in household and in private life. The questions cover a very wide field, information being asked, for example, as to the yearly average cost for the cleaning of garments, washing of collars, cuffs, shirts and handkerchiefs, and the damage done directly or indirectly to articles of clothing through wear and tear from excessive washing. There is a long series of questions as to the damage done by smoke to plants in gardens within the city, the cost of air-purifying appliances, the depreciation of shop goods of various kinds, and the cost of painting and decorating made necessary by the state of the atmosphere. Further questions are directed towards making a comparison with the experience in other towns and districts. A number of questions are addressed specially to women, who are asked to mention any extra expenditure on articles such as hats, gloves, curtains, etc., and in each case an estimate is requested of the extra amount added to the cost of running the household owing to the smoky condition of the air. There can hardly be any doubt that the economic cost of the smoke nuisance in Manchester alone must amount to hundreds of thousands of pounds a year, and only by proving this by statistics, so far as statistics can be obtained, will the public be roused to demand a remedy.

LONDON.

Treatment of Tuberculosis.

The Local Government Board and the Scheme for Uninsured Persons.

The London County Council has received a letter from the Local Government Board commenting on the scheme for the residential treatment of tuberculosis approved by the Council on May 26th (BRITISH MEDICAL JOURNAL, May 30th, p. 1206). The Board stated that, in consequence of the refusal of the London County Council to bear any part of the cost of treating insured persons, it understood that the London Insurance Committee did not propose to arrange for residential accommodation through the County Council. There were clearly many advantages in dealing with insured and uninsured persons by one scheme, and the Board greatly regretted that the County Council had not been prepared, as the councils of other great towns had been, to undertake to provide the accommodation necessary for the whole community, subject to the condition that half the annual cost, after deducting receipts from the Insurance Committee and other sources, would be met out of grants from the Local Government Board. The Board had some doubt whether the proposals of the Council in regard to the selection of cases for residential treatment would prove satisfactory in actual working. While the Board took no exception to the establishment of the proposed honorary advisory board, it considered that instead of authorizing this board to appoint medical referees to examine selected cases for residential treatment, the Council would have been well advised to appoint a clinical tuberculosis officer, whose duties would have included advising the Council in the selection of cases for residential treatment. The Board did not consider that the proposed system of payment by fee per case would be a desirable part of a permanent arrangement. Presumably the number of cases normally referred to the medical referees would only be a small proportion of the whole; otherwise the expenditure for this purpose would be unduly high. The Board, however, would not object to these proposals on the understanding that they were reviewed at the end of twelve months, and that should experience show they were not satisfactory or economical, some other machinery for selecting cases were adopted. It was important that no action should be taken which might debar persons in

need of treatment from obtaining it, and if any charge were made it should only be in cases in which there was clear evidence that a contribution towards the cost might be expected. It did not appear to the Board that any obligation could be imposed on medical practitioners who recommended cases for residential treatment to investigate and advise as to the financial circumstances of the patients.

Subject to these comments the Board approved generally of the proposals of the Council as regards adults, on the understanding that the provision of beds at present proposed was to be regarded as an instalment only of what would ultimately be required. The Board was in communication with the Board of Education in regard to the proposals for the treatment of children. It would be necessary for the institutions in which beds were retained by the Council to be approved by the Board for the treatment of tuberculosis if such approval had not already been given.

Correspondence.

SPECIAL FUND: TRADE UNION OR TRUST?

SIR,—In that part of the Annual Report of Council which deals with the proposed special fund members are referred to an appendix containing a report adopted by a majority of the Council in favour of the establishment of the fund on trade union lines. May I ask a few questions about this report? How many members of Council were present when it was voted upon? I am told 21 out of a possible 52. How many voted in favour of the report? Was it 11? How many voted against? Was it 8, and 2 not voting? I think we are entitled to have these details when we are dealing with a matter which may involve the destruction of the Association as now constituted.

The report is of the baldest possible nature. It hardly discusses any of the difficulties of the trade union proposals, and practically relies for its recommendation of the trade union method upon the statement that there is the "fullest legal protection possible to funds" under a trade union. The discussion which has taken place in the JOURNAL shows that there is room for much doubt as to the value of this "fullest legal protection," but I do not propose to deal with this aspect of the question. We are surely entitled to know why the Council has changed its mind since July of last year, when (see Supplementary Report of Council, pages 16–18 of SUPPLEMENT, BRITISH MEDICAL JOURNAL, July 5th, 1913) it submitted to the Divisions the most careful analysis of the situation I have yet seen, and ended up by recommending *against* the adoption of the trade union method of organizing the profession.

These arguments were endorsed by the Representative Meeting of July last year by a majority of over 2 to 1, and I think it is due not only to the members of the Association but to the reputation of the Council for consistency that we should be told why the Council has changed its mind. Such an explanation would, of course, entail an attempt by the Council to refute the arguments it adduced in the report to which I have alluded.

This report is so much to the point that I venture to ask you to append to this letter a rather lengthy extract from it. I would, however, urge all who are interested in the subject to read the whole of the report. It seems to me that most of those who have written on the subject recently have ignored or forgotten it. If members will only take the trouble to think this subject out I believe they will come to the conclusion that it is time we stopped wasting our time in pursuing a delusion which, owing to the fact that the Council does not seem to know its own mind, is at the present time unsettling many of our members whose time would be much better occupied in putting their energies into the work of an association which already includes a considerable majority of the working members of the profession instead of talking about the institution or encouragement of another body which must be a rival to the Association, and whose alleged advantages are at present very much "in the air." I think that there is at present a danger of some of us dropping the substance to grasp at the shadow.—I am, etc.,

Newport, Mon., July 6th. W. J. GREER.

*** Our correspondent's information as to the numbers present and voting is correct. The vote was reached after a motion to adjourn had been defeated, and after an amendment proposing that the three appendices to the Committee's report should be submitted to the Representative Body and Divisions without any expression of opinion thereon, had also been rejected.

Extract from Supplementary Report of Council, EMENT, BRITISH MEDICAL JOURNAL, July 5th, 1913.

14. But if such a trade union were formed could it be put and kept under the control of the Association, being used simply as a means of protecting certain voluntary funds raised for particular purposes outside the powers of the Association, and be run alongside the Association without the risk of becoming a serious rival to that body? The difficulties of such a course would be great. It is probable that, as advised by counsel, a trade union could be formed whose governing body could be nominated by the Association or its Council, but it would be impossible to ensure that at some future time the rules of the union would not be altered in a manner which resulted in its connexion with the Association being dissolved. Such a union, if successfully floated by the efforts of the Association, might induce large numbers of practitioners to join, and would undoubtedly attract mainly those practitioners engaged in insurance and other contract work. The tendency might be that those practitioners would join the union, but not the Association, and the time would probably come when the union would decline to be controlled by an Association largely composed of practitioners who did not subscribe to the union, were not specially interested in its objects, and many of whom might even be antagonistic to it. In addition, the encouragement of such a union by the Association would be looked upon by many as a confession of the inability of the Association to promote the interests of the profession as a whole, an object which has always been put in the forefront of the Association's claims on the support of the profession.

15. This latter point is of such importance that it deserves close examination. Is it a fact that the Association has failed to safeguard and promote the interests of the profession as a whole? Up to the passing of the Insurance Act most practitioners were probably of opinion that considering the comparative youth of the Association as a fighting machine, and particularly in view of the smallness of the subscription, the Association had done a very great deal for the profession. It is certain that it had gradually acquired the reputation of being the only representative organization of the profession, and as such was consulted by the Government. In December last Parliament, the press, and the public, looked upon the British Medical Association as a very strong organization indeed, equal to any of the trade unions. Dissatisfaction with the constitution of the Association, and the demand for the establishment of a medical trade union have undoubtedly received a strong impetus from the breakdown of the resistance of the profession in January last. But it may very seriously be questioned whether the form of the organization of the profession had anything to do with that failure. Trade unions after all depend mainly on the loyalty of their members, and loyalty is a sentiment which differs greatly in strength in different people. A few will go to the stake for it, but in most people its strength largely depends on social and economic conditions. In a strike workmen often disobey their trade unions when they are either compelled to give in by privation or are convinced that they have obtained all they are likely to get by the strike. In the same way it is obvious that large numbers of the medical profession in January last came to the conclusion either that the profession could not successfully resist the Government or that the terms offered by the Governments were good enough to be given a trial. It is extremely doubtful whether these practitioners could have been induced to refrain from putting their names on the panel by any imaginable form of organization. Even if the Association had been a trade union offering financial support to its members who declined to accept service under the Act, it is probable that the non-members, together with those members who were never very strong in their resistance, and those who were convinced that the Act would be beneficial to them, would have been sufficiently numerous to provide a service in many parts of the country.

16. It is open to serious doubt whether trade unionism as a form of organization is suitable for the medical or, indeed, any profession. The strength of a trade union lies mainly in the following facts: (*a*) Its members generally work together in large groups, and it has never

been found possible, for example, to form an effective trade union among agricultural labourers or other scattered workers. It is much easier to bring moral suasion to bear on a man who works in a mine or in a workshop, and whose comfort, if not his daily bread, depends on his making common case with his fellows, than on one whose work must always remain largely an individual affair. (*b*) Another great source of strength to a trade union lies in the benefits which it gives to its members; the facts that a member loses all claim to these benefits if he leaves the union, and that he can be expelled from the union for disloyalty, undoubtedly go far to explain the adherence of trade unionists to their union, often in the face of great temptation. It is doubtful whether this resource is available to the medical profession. The subscription to a medical trade union which professed to give benefits equivalent to those given by a trade union (out of work pay, strike pay, accident pay, death benefit) would have to be very considerable, and there is no evidence that members of the medical profession are willing to pay such subscriptions. Investigations into subscriptions paid by several trade unions show that the amounts paid by each member vary from one-fiftieth to one-eightieth of the workman's total income, and as was shown in a leading article in the BRITISH MEDICAL JOURNAL of April 5th, 1913, members of the London Society of Compositors, whose average weekly wage may perhaps be stated to be 45s. per week, recently for a considerable period paid a subscription of 2s. 6d. per week—that is to say, one-eighteenth of their total income.

(*c*) The final resort of the trade union, if unable to secure its objects by negotiation, is to proclaim a strike and call its members out. This weapon is not available to the medical profession, and the same remark applies to many of the most effective methods of the trade unions, which depend on what is euphemistically called "moral suasion." Not only are they not available, but they are repugnant to the great majority of the profession.

17. The Council is of opinion that the subject should be most carefully considered by the Divisions in all its bearings, in view of the discussion which will take place at the Annual Representative Meeting. There is no doubt that there is something superficially attractive about the idea of a trade union, which has appealed very strongly to the members of a profession smarting under a sense of defeat and ready to snatch at any course which seems to offer a guarantee against the repetition of such a collapse as recently occurred. The Council has arrived at the conclusion that the formation of a medical trade union offers no such guarantee.

18. Quite recently a further possible course has been suggested to the Council. It may be said to be an inversion of 5 (*b*) in the report quoted above—namely, to form an entirely new limited company, with no licence from the Board of Trade, and with the widest possible powers, and to put all the property of the present Association into trust, to be used for the purposes for which it was raised. It has been suggested that in this way the new Association would have all the advantages of increased powers (though always, of course, within the limitations of what is possible to a limited company) and single subscription and one membership, and there would be no danger of forming bodies that might grow into powerful rivals. There would be only one trust, instead of many. The trust funds could be used, subject, of course, to the consent of the trustees, as long as they lasted, for the purpose for which they were originally raised, and as they would receive no additions, would in time be exhausted. The Council, in conjunction with the legal advisers of the Association, is considering the feasibility of the procedure.

MEDICAL FAME.

SIR,—Your very interesting editorial, "Medical Fame"[1] is illustrated by the many whose names are imperishable, and by others whose names are being overshadowed by oblivion. I would supplement your list with some names of Irishmen whose genius and skill promoted the science of medicine, but whose names find no place in modern medical literature, if we except an occasional allusive reference in von Ziemssen's *Cyclopaedia of Practical Medicine*. Our American friends are taking much credit for aspirating the lateral sinuses and perforating the corpus callosum, and Baron Dupuytren's operation on the cerebrum still lives in memory; but how few remember O'Halloran's incision of the corpus callosum in 1750! We puncture the spinal cord, examine the cerebro-spinal fluid for diagnostic purposes, and produce analgesia by injecting analgesics, but forget the splendid monograph of the brothers Griffen, which appeared one hundred years ago—a monograph worthy of von Ziemssen's eulogy. Waller's paper on diapedesis, which gave us the first true picture of the pathology of inflammation, remains unnoticed by the present generation. Little's wonderful operation on the arch of the aorta, which he successfully performed in Sligo Infirmary, has ceased to be referred to in works on surgery. Currie's introduction of the clinical thermometer is unrecognized, and Wunderlich is credited with the idea. But the overlooking of the great works done by the Higginses of Sligo is the most remarkable neglect of the age. "Holmes and Semmelweis" is the title of an editorial in the May number of the *Interstate Medical Journal* in which the writer properly ascribes much honour to both the scientists and refers to the statue erected by the Hungarians to Semmelweis both as a patriot and a scientist. But no mention is made of that distinguished scientist, William Higgins, who first announced the law of multiple proportions, and as long ago as 1802 demonstrated the antiseptic properties of chlorinated lime, and some ten years later induced his friend, Dr. Labatt to adopt its use in midwifery. About twelve years later Labatt introduced chlorinated lime solution into the Rotunda Hospital, but owing to the way the preparation was used by nurses knowing nothing of the principle of antiseptics its use was discontinued. Antiseptics came to be discredited and disused, just as was Boynton's theory of 1830–40. Of Bryan Higgins space does not admit of even a list of his many and valuable works. I may, however, say that in ethylic bodies he foretold that an anaesthetic would be discovered. May I supplement my list of distinguished Irishmen by a few quotations from a quaint old writer of the mediaeval period, Lanfrank? "If a sinew has been cut . . . it is good that you sew together the ends of the sinews . . . with the sewing of the skin," and on bleeding, or rather on the control of it, he writes: "He cut the skin above the vain and twined the vain in his hands and bound the end of a vain with a thred."—I am, etc.,

Dublin, July 4th. GEORGE FOY.

[1] BRITISH MEDICAL JOURNAL, July 4th, p. 31.

INFECTION OF CHILDREN WITH THE BOVINE TUBERCLE BACILLUS.

SIR,—I beg to submit for kind publication in your paper a few reflections occasioned by Dr. Mitchell's article on the danger to children of tuberculous milk.[1] It gives me great pleasure to render to British science and to Dr. Mitchell the homage due to his work for its scientific exactness and far-reaching conclusions.

The authority of Koch, which proclaims the non-transmission of bovine tuberculosis to human beings, has for too long proved a fatal illusion to consumers, has excused administrative indifference, and has encouraged frauds in every country. Dr. Mitchell's work proves definitely, following as it does that of Nocard and Arloing in France, of Tubinger and Jensen, of Behring in Germany, and others, that bovine tuberculosis can be transmitted to human beings. It confirms, also, the researches of Bang, Gehrmann, Evans, and Moussu, as to the presence of bacilli in the milk of tuberculous cows, even when their udders are quite unaffected, and although they do not present in appearance any clinical symptom apart from the tuberculin reaction. It further justifies the interest occasioned by the conclusions of the works of Calmette and Vallée, which establish that tuberculosis—in the case of young subjects at least—is most often transmitted through the intestines, and that of all the modes of infection the penetration of bacilli to the level of the intestines is the one which realizes the most rapidly and surely tuberculization of the ganglions annexed to the lungs. In short, we are specially happy in France in recognizing that all the remedies recommended by Dr. Mitchell are also those which our scientists and congresses have insistently asked for.

However, there is one remedy which my honoured *confrère* has perhaps not sufficiently developed, and regarding which, with your kind permission, I would like to bring forward some more precise data. I allude to the sterilization of milk.

It is very evident, alas! that we shall have to wait many years yet before administrative measures help to stem the

[1] BRITISH MEDICAL JOURNAL, January 17th, 1914, p. 125.

danger by increasing the number of veterinary inspectors so as to obtain rigorous control of all milch cows. Consequently the popularization of healthy milks free from pathogenic germs becomes the only practical means at our disposal for protecting the population, and particularly the children, from tuberculous infection.

I certainly agree with Dr. Mitchell when he recommends the use of sterilized milk for children, but—and the matter is of paramount importance—it is necessary to take the precaution of teaching the public, and even the doctors, what sterilization ought to be if it is to be really efficacious. Now, if the results of sterilization are excellent when it is carried out immediately, it has been demonstrated that when it takes place long after milking it does not possess the same advantages; that is why the sterilization of milk at home by the mothers after fifteen, twenty-four, or forty-eight hours, as happens in large towns, becomes an illusory and insufficient precaution, because such sterilization is incapable of purifying a milk which is already polluted, contaminated, and altered, not only by bacteria, but also by their toxins. In France Variot and many others have given numerous proofs of the dangers of this belated sterilization. - - -

Consequently, if we wish to fight satisfactorily against the danger so plainly shown by Dr. Mitchell, we must not content ourselves with proclaiming the necessity for sterilization, but on the other hand we must advocate the industrial sterilization immediately after milking. Above all, it is necessary that the doctors, the true educators of the public, should have the courage and honesty to give, after careful research and experiments, their true opinion of milks offered for consumption, as did Dr. Mitchell. This is their right and their duty. Just as they should point out the existence of contaminated milk such as that of Edinburgh, so should they testify publicly to the quality of commercial milks which have given them satisfaction. The increasing popularity of industrially produced sterilized milk in France, where it has saved so many children's lives, is due to the courage of Variot and his pupils.

I beg to bring to the notice of English doctors the work which I had the honour of presenting to the Académie de Médecine de Paris on January 27th, 1914, on the alimentary and therapeutic value of condensed milk for infant feeding. From my experiments, which fresh study has confirmed, and taking into consideration only facts registered during nearly three years' work in connexion with about one hundred children examined to date, it results that all the children nourished exclusively on condensed milk, even from their birth, have shown in weight and height a growth equal or superior to that of normal children. At no time during the first two or three years, in the course of which they have taken no other milk either alone during the first few months or with other food from the time of weaning, have these children shown any signs of digestive, osseous, or circulatory trouble. On the other hand, certain children nourished on other milks who were suffering from serious digestive derangements (vomiting, diarrhoea, etc.) and retarded development, when fed on condensed milk were quite able to tolerate it, and thanks to this properly administered diet recovered their health.

Further, in cases of serious infantile diarrhoea, instead of giving the children a hydric diet for too long, or vegetable bouillon which is deprived of all nutritive value, I have successfully given them condensed milk not diluted with boiled water in these instances, but with rice water, the astringent properties of which are well known. In these particular cases condensed milk, besides being a suitable food, constitutes an effective medicine.

These experiments show that condensed milk is a food entirely free from danger and of a distinct nutritive and therapeutic value to children. It should therefore be placed side by side with sterilized milk, which is so valuable when mothers' milk is lacking. Further, owing to its easy preservation, small volume, and reasonable selling price, it shows real advantages over sterilized milk. Its use should therefore obviously be adopted in large towns, and doctors will only do themselves honour in recommending it to mothers. In my opinion, there is no better remedy for avoiding the spread of tuberculosis amongst children.—I am, etc.,

DR. LASSABLIÈRE,
Chef de Laboratoire à la Faculté de Médecine de Paris.

Paris, April 29th.

SOCIETY FOR TUBERCULOSIS MEDICAL OFFICERS.

SIR,—The purposes of a society such as that proposed for medical officers of the tuberculosis service are, we may take it, two-fold. It primarily, by corporate action, looks after the interests of its members, and secondarily provides a meeting place for men engaged in the same work for discussion.

As your correspondents have pointed out, there is in existence a tuberculosis society. So far, however, its excellent work seems to have been confined to the consideration of tuberculosis problems more from the purely medical aspect. At present there are thirty tuberculosis medical officers members or Fellows of the Society of Medical Officers of Health. It has been suggested that they form themselves, as in the case of the school medical officers, into a group or branch of this society. The formation of such a group would obviate the danger—pointed out by Dr. Thompson Campbell—of the creation of separate societies. The constitution of the Society of Medical Officers of Health provides for the formation of as many district or county branches as may be necessary. The existing organization, likewise, provides every facility for a working basis. It is most desirable that all the branches of the Public Health Service should be brought together as much as possible; it would be to the interests of all concerned.

I suggest that the existing Tuberculosis Society take over the tuberculosis medical officer members of the Society of Medical Officers of Health and, if necessary, alter its constitution to meet the altered conditions. It might be named the Society of Tuberculosis Medical Officers, and a definite group arrangement be made with the Society of Medical Officers of Health. I trust that negotiations may be opened on such lines.

Meantime, the evident thing for all tuberculosis medical officers to do is to become members of either the Tuberculosis Society or the Society of Medical Officers of Health, pending any such proposed arrangements. The honorary secretary of the former is Dr. W. O. Pitt, 42, Upper Walthamstow Road, Walthamstow, Essex. The offices of the latter are at 1, Upper Montague Street Russell Square, W.C.—I am, etc.,

S. NICOL GALBRAITH,
T.M.O., Lambeth.

London, S.W., June 23rd.

THE ROYAL MEDICAL BENEVOLENT FUND.

SIR,—We have no intention of becoming parties to the retrial by newspaper correspondence of an issue which has been determined by a judge of the High Court; but we do desire to add a few last words on the dispute which has unhappily arisen between the Royal Medical Benevolent Fund and Epsom College respecting the Glenny legacy.

1. Much use—we might almost say sinister use—has been made of an incidental remark of the judge towards the end of the hearing of the case—namely, "Neither of you people know, either by inadmissible evidence or otherwise, that the legacy was intended for the other you ought not to contest it." In the opinion therein expressed we unreservedly concur. Neither before nor during the hearing of the case did the committee of the Fund, or, so far as we know, any member of the committee, know of any evidence, "inadmissible or otherwise," respecting the intention of the testatrix which was not in the possession of the court when Mr. Justice Joyce delivered judgement in favour of the Fund.

2. We confidently rely on our letter of June 13th, and the letters of Messrs. Beale of that date and of June 27th, for a complete vindication of the good faith of the committee of the Fund, and of its sincere endeavour to effect an amicable settlement either by conference or by a joint friendly application to the court, or (privately) by the appointment of an arbitrator.—We are, etc.,

JOHN TWEEDY,
President.

SAMUEL WEST,
Treasurer.

July 7th.

THE twenty-fifth anniversary of the opening of the Johns Hopkins Hospital, Baltimore, will be celebrated with appropriate rites in the first week of October. Addresses will be delivered by a number of well-known teachers and clinicians.

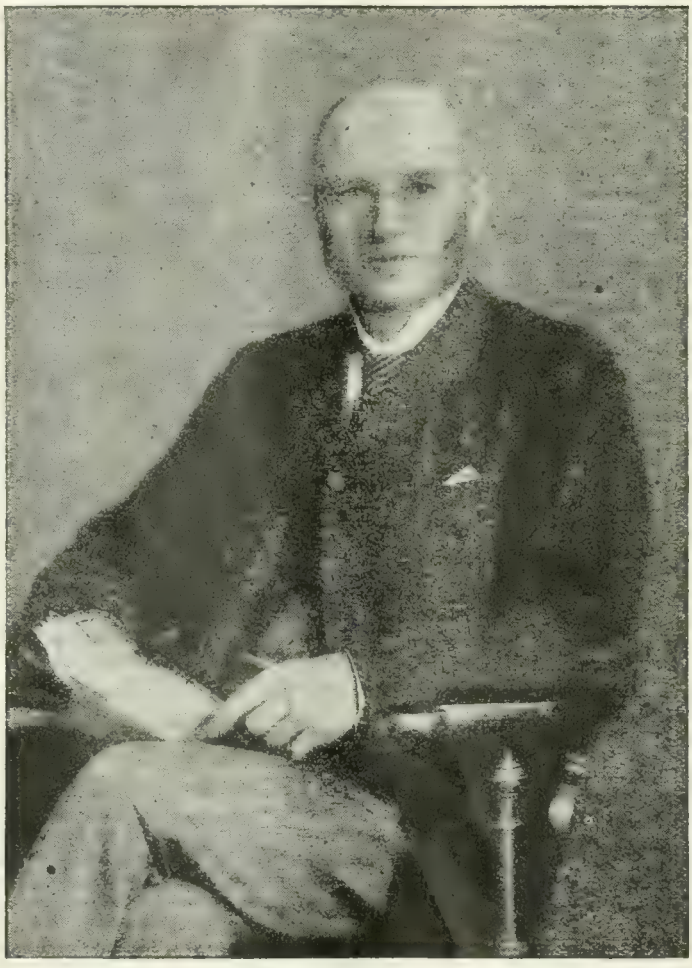
Obituary.

CHARLES VACHELL, M.D.Lond.,

CONSULTING PHYSICIAN TO THE CARDIFF INFIRMARY.

By the death of Dr. Charles Vachell Cardiff has lost one of its foremost medical men and one of its most public-spirited citizens.

Charles Taufield Vachell was born at Cardiff in 1848. He was the eldest son of the late John William Vachell and grandson of Alderman Charles Vachell (Mayor of Cardiff in 1849 and 1855). His forbears had been settled in Berkshire for some centuries. He was educated at Hereford Cathedral School, and after matriculating in the University of London he entered King's College in 1865. He took the degree of M.B. in 1870, and graduated M.D. in 1874. In that year he became house-surgeon at the Cardiff Infirmary; in 1879 he was appointed medical officer to out-patients. In 1882 he was promoted to the position of full surgeon, and, strange as this custom may now appear, to that of physician in 1886. For some years, and up to the time of his death, he was consulting physician to the Infirmary, now known as King Edward VII Hospital.



CHARLES VACHELL.

He was a most accomplished practitioner, and throughout his life rendered distinguished service to the hospital.

In the affairs of the British Medical Association he always took a warm and active interest. He had been president of the South Wales and Monmouthshire Branch and of the Cardiff Division, and was foremost in the controversies aroused by the Insurance Act. He was a frequent contributor of papers to the Cardiff Medical Society, of which he had been president, and until recently took an active interest in the discussions. Hanging on the walls of the Society's rooms is a series of photographs illustrating some of Dr. Vachell's pioneer work in the surgery of the thyroid.

For many years he enjoyed an extensive and lucrative practice, and he was justly regarded by a large circle of patients as a steadfast friend and trusted adviser. He was one of the founders of the Cardiff Provident Dispensary.

The wide range of his interests and tastes was very notable. For many years he was an active officer in the Glamorgan Artillery Volunteers; he attained the rank of Surgeon-Lieutenant-Colonel, and was awarded the V.D. decoration after twenty-two years' service. For ten years he was honorary secretary of the Cardiff Naturalists' Society, and on three occasions filled with distinction the post of president. He was a great lover of natural history, and possessed a wide knowledge of botany. Associated for many years with the old Cardiff Museum, he did yeoman service in securing the location of the National Museum of Wales in Cardiff; he was a member of the court of governors, the council, and of various committees of the Welsh Museum from the start. He was a J.P. for the counties of Cardiff and Glamorgan. In politics he was an ardent Conservative. For a long period a worshipper at St. John's Church, Cardiff, he had for some years discharged the duties of churchwarden with general satisfaction.

His striking characteristics were an unbounded and infective enthusiasm, inexhaustible capacity for work, and great kindness, sympathy, and generosity. He was a man of strong personality and striking presence. His was essentially a full life. His skilful, devoted, and kindly services to the poor, his readiness at all times to help his colleagues with his wise counsel, and his unswerving loyalty will always cause him to be remembered with affection and esteem.

In 1887 he married Winifred, the daughter of the Rev. J. W. Evans, Rector of Cossey, Norfolk, and he is survived by his widow, a son, and two daughters.

His funeral on Monday, July 6th, was attended by a large number of his colleagues and friends, and afforded a striking testimony to the universal respect and affection entertained for him.

H. COOPER ROSE, M.D. St. Andrews,

HAMPSTEAD.

Dr. H. Cooper Rose, who practised in Hampstead for over forty years, died on July 1st at the age of 83. He was born at Wootton-under-Edge, Gloucestershire, and received his medical education at the medical school of Middlesex Hospital, where he gained high honours. He took the diplomas of M.R.C.S.Eng. and L.S.A. in 1853, and graduated M.D. at the University of St. Andrews in the following year. After residing a short time in Devonshire, he settled in Hampstead in 1865. He was appointed medical officer to the Soldiers' Daughters' Home, Hampstead, in 1860, and earned the love of the children, and the high esteem of the committee and staff. He became one of the surgeons of the Hampstead Provident Dispensary in 1866, retained that position for many years, and was appointed consulting surgeon on his retirement. He was a Fellow of the Royal Medical and Chirurgical Society and a member of its council in 1886–7, a Fellow of the Pathological Society, and a member of its council in 1873–4, and a Fellow also of the Obstetrical Society, serving on its council in 1875–6. In addition he was a Fellow of the Linnean, the Geological, the Royal Geographical, and the Zoological societies. He became a member of the British Medical Association at an early stage of his career, and was a member of the Central Council from 1870 to 1877. He was also a member of the

Council of the St. Andrews University Graduates' Council from 1870 until recently.

During his long life in Hampstead Dr. Cooper Rose took an active and generous part in almost every work of public interest or importance in the district. He was a member of the Hampstead Vestry for many years, and first chairman of its Sanitary Committee. In 1869 he originated the Hampstead Literary and Scientific Society, which had the advantage of listening to addresses by Sir Richard Owen, Dr. Edwin Lankester, and many others, including Dr. Rose himself. He was a Conservative in politics, was a member of the Conservative Association when Hampstead formed part of the constituency of Middlesex, and when Hampstead became a separate borough took an active part in its Conservative Association and in the Constitutional Club then established. In 1888 he was called to the Bar, and his knowledge of law helped him materially in his public work. He joined the Hampstead Rifle Volunteers, and served for six years as a private and for eight as a medical officer; in 1869 he joined the Royal East Middlesex Militia as surgeon-major, retiring at the end of fifteen years' service, retaining his military title and the right to wear the uniform. He was also for some years divisional surgeon to the Hampstead police. Dr. Rose's health broke down in 1895, and in that year he retired from practice and from his public work in Hampstead.

We regret to announce the death of Dr. Frank Porter Newell, Fellow and member of the Council of the Royal College of Surgeons in Ireland, which took place after a somewhat prolonged illness on June 24th, at his residence in Dublin. Dr. Newell was an articled apprentice to the late Sir George Porter, Bart., studied at the Meath Hospital, and graduated in the University of Dublin. When qualified, he acted as house-surgeon and resident medical officer of the Meath Hospital and County Dublin Infirmary for the unusual period of nine years. Subsequently he was appointed medical officer of the Castle Street Dispensary, and served in that capacity down to the time of his death. He was kind and sympathetic to the poor of his district, and a good and loyal friend. His death will be much regretted by his patients and many others.

Dr. John Garey, an ex-member of the Town Council of Glasgow, died in a private nursing home in Glasgow on June 19th, after an operation. He was a native of Ayrshire, and became M.R.C.S.Eng. in 1880. Thirty years ago he began practice in the southern suburbs of Glasgow, and always took a keen interest in public affairs. In 1891 he was returned to Glasgow Town Council, and continued a valued member for a period of fourteen years. He was a J.P. for Glasgow, and was well known as a keen bowler and draught player. He was the first president, and for many years secretary, of the Hampden Bowling Club, Glasgow, and also for many years president of the Scottish Draughts Association. He is survived by his widow and two daughters.

Dr. Murdock Alexander Lindsay, the young Professor of Pathology at Dalhousie University, Halifax, lost his life in the terrible disaster which befell the ss. *Empress of Ireland* on May 29th. Dr. Lindsay was on his way to England to be married. He was in his 32nd year. He was born in Halifax and educated at the academy there; he took the B.Sc. degree and his first two years in medicine at Dalhousie; the following three years he spent at the University of Edinburgh, where he took the degrees of M.B., Ch.B., in 1908. After spending some time in the hospitals of Edinburgh, Liverpool, Leeds, and Birmingham, he returned to his native city in 1911. He was appointed Pathologist at the Victoria General Hospital and Professor of Pathology and Bacteriology in the newly-established Faculty of Medicine at Dalhousie University. The esteem in which Dr. Lindsay was held was shown on the occasion of his funeral, which was one of the largest in Halifax for many years.

The Services.

INDIAN MEDICAL SERVICE.

THE following circular has been issued:

GOVERNMENT OF INDIA: ARMY DEPARTMENT.

MEDICAL DEPARTMENT.
Attendance. Simla, 14th April, 1914.

To the Director, Medical Services in India.

Sir,—I am directed to say that the Government of India have had under consideration the question of introducing a more definite reciprocity between the civil and military medical services than that at present existing as a result of the Orders promulgated in India Army Circulars, Clause 189, dated the 31st October, 1881. They have now decided that all medical officers, assistant and subassistant surgeons in military employ shall, when called upon to do so, render their services to civil departments gratuitously, and that similarly all such servants of Government in civil employ, including purely civil assistant and subassistant surgeons, shall perform, without payment, duties required of them on the military side in cases of necessity. Cases in which such officers, assistant or subassistant surgeons are called on to perform any specially arduous duty outside their own immediate work will be dealt with under the provisions of Finance Department Resolution No. 249-E.A., dated 15th July, 1912.—I am, Sir, your most obedient servant,

(Sd.) W. R. Birdwood, Major-General,
Secretary to the Government of India.

Copy of the above, together with a copy of the Indian Army Circular referred to, forwarded to—

The Home Department.
The Foreign and Political Department.
The Finance Department.
The Public Works Department.
The Department of Revenue and Agriculture.
The Department of Commerce and Industry.
The Department of Education.
The Railway Department (Railway Board).
The Financial Adviser, Military Finance.
The Director-General, Indian Medical Service.
The Chief of the General Staff.
The Adjutant-General in India.
The Quartermaster-General in India.
The Military Secretary to His Excellency the Commander-in-Chief.
The Director-General of Ordnance in India.
The Director-General of Military Works.
The Director, Royal Indian Marine.
The Military Accountant-General.
The Controller of Military Supply Accounts.
The Controller of Military Accounts, 1st (Peshawar), 2nd (Rawalpindi), 3rd (Lahore), 4th (Quetta), 5th (Mhow), 6th (Poona), 7th (Meerut), 8th (Lucknow), 9th (Secunderabad), Burma, Divisions.
The Examiner of Accounts, Military Works.

(Sd.) A. W. Chitty, Major,
Assistant Secretary to the Government of India.

ARMY CIRCULAR.

MILITARY DEPARTMENT.

MEDICAL DEPARTMENT.
Attendance. Simla, the 31st October, 1881.

CLAUSE 189.

Medical Officers of the British and Indian Services bound to give their Professional Services without Remuneration when required by proper authority in the interests of Government.

Officers of the Army Medical Department and of the Indian Medical Service are not entitled to extra remuneration for the performance of any duty prescribed by regulation which may be required of them by proper authority in the interests of Government.

If the services of a medical officer, in military employ, are temporarily needed for Government purposes in other departments, they are to be asked for through the military authorities, and no fee for such special or extra duty is admissible.

Similarly, in cases of emergency, military authorities are entitled to apply officially to local heads of departments for the gratuitous services of medical officers in civil employ.

It will be observed that the Army Circular of October 31st, 1881—Clause 189—referred to officers of the Army Medical Department (now Royal Army Medical Corps) and of the Indian Medical Service, that is, to commissioned officers only.

The Order of April 14th, 1914, extends the scope of the Army Circular of 1881 to the Indian Civil Subordinate Medical Departments—to include all assistant and subassistant surgeons, and also to all civil assistant surgeons and subassistant surgeons—that is, purely civil officers who have no connexion with the army.

The Army Circular of 1881, though not generally known, has apparently worked without friction, and is in itself a proper order, and its extension to all Government medical servants, of whatever grade, seems to be without objection. But the new Government of India Order (April 14th,

1914) is so loosely worded—as has often, unfortunately, been the case with Orders affecting medical officers—that an immediate explanatory and supplemental order would seem to be necessary.

The words most open to criticism are "when called upon to do so." Called upon by whom? The Order does not say, and as it stands it would be open to any Government servant in civil employ to call upon any military medical officer or subordinate to render medical assistance, and similarly any military officer could requisition the services of a civil medical officer or subordinate.

The old Army Circular of 1881 limited the services to be rendered to "duties prescribed by regulations," and the requisitioning authority to "proper authority in the interests of Government." Probably the new Government of India Order implies such duties "prescribed by regulation" and "in the interests of Government," and means that a "proper authority" should requisition the services of the medical officers, civil or military, of any grade. But if so, why does not the Order say so? It is only too well known how these loosely worded orders are constantly interpreted against the officers affected by them. "When in doubt, give it against the officer" was once the instructions of a Government financial authority to his office.

In the case of an Order like that under notice which may be assumed to impose extra duties, without remuneration, on medical officers of all grades, both military and civil, it should be distinctly laid down by whom the requisition is to be made, that the duties are such as are prescribed by regulation, and that they are in the interests of Government; a mere reference to an old Army Circular issued thirty-three years ago and not to be found in *Army Regulations, India, vol. vi, Medical*, of which we have the edition of 1904 before us, is not satisfactory.

For years past it has been a matter of astonishment that the Government of India should fail to see the too frequently irritating nature of orders and of the wording of orders issued in the Medical Department. We wonder if the successive Directors-General have always been consulted as to the wording of orders. We understand that *Army Regulations, India*, are periodically republished and that each fresh edition contains all the changes and new orders made since the previous issue. In the copy for 1904 we do not find the substance of Army Circular of October 31st, 1881, which is surprising if it was then in force—that is, in 1904, ten years ago. The only reference to the subject is in paragraph 45, which says that medical officers in military and civil employment may be assigned temporary civil and military duties, respectively, as an extra charge, with the concurrence of the local Government and the general officer commanding.

THE INDIAN MEDICAL SERVICE.

I.M.S. (India) writes: I feel I cannot allow the letter signed "V. P. Gonsalves," published in the BRITISH MEDICAL JOURNAL of May 30th, p. 1218, to go unanswered, as it appears to me to be quite misleading in many particulars. When the writer says that "the names of a few competent officers are given, and it is apparently contended that the record of their work is a proof of the high quality of the work of the whole service," one really wonders whether Mr. Gonsalves is as ignorant of the enormous amount of work that has been and is being done by the members of the Indian Medical Service, or of the number of eminent and highly qualified men who have been and are at present in the service, as this sentence would lead one to suppose. If so, it would be as well if he were to study the past records of the Indian Medical Service and glance at the qualifications and records of the men at present serving before he rushes into print with such statements.

Again, when he talks about the higher grades of the Civil Department being reserved for military doctors, to those who do not know the real condition of affairs it would appear that the Indian Medical Service was purely a military service and that if a doctor was required for some special appointment in the Civil Department one would be sent direct from military employ without any reference to his special qualifications. The real facts of the case are that a considerable percentage of the service is in constant civil employ, and a large proportion of men join with the sole idea of getting a civil appointment. Although every man *must do* at least two years in military service, yet as soon as there are vacancies after this, he will, if he wishes it, be posted to civil employ, and, except in the case of grave military emergency, remain there for the rest of his service, if his work is satisfactory. In the case of the professors at the various medical colleges these are not even liable for recall to military service. I think to call such men military doctors is, to say the least of it, a terminological inexactitude.

The duties of the ordinary civil surgeon are very numerous and varied, and many people, so far from contending that the years spent in military and civil employ prior to being appointed to a professorial chair are wasted, and unsuit a man for such appointments, hold that they form a most valuable training and make a man a far better and broader-minded specialist than he would otherwise have been.

That mistakes have been made in the past, and may again be made in the future in the selection of the best and most suitable men for the professorships, no one will deny; nor that such anomalies as Mr. Gonsalves mentions have occurred in the past, but there is such a strong feeling against it that it is most improbable that it will ever occur again. On the other hand, is there any system by which such mistakes can always be avoided? Can it be said of any hospital in the world that the staff is the best and most efficient that could possibly be selected?

What I do affirm and what I am sure that any disinterested person who knows India and the India Medical Service will agree with me in affirming is, that as far as medical and surgical qualifications and the special experience necessary for the professorial posts are concerned, the service can furnish as good, if not better men, than could be obtained from any other sources.

I would further point out that a large majority of the Indian Medical Service have gained valuable experience by holding resident hospital appointments at home before coming into the service, and thereafter when on leave many of them engage in special courses in the subjects in which they specialize.

The candidates for the professorial appointments are, moreover, as a rule selected from those men who have gained further valuable experience by holding one or other of the posts of resident surgeon, or resident physician, to one or other of the more important hospitals out here, which practically entails the charge of the patients and the performance of nearly all the emergency operations, etc., in the absence of the professor, and very often the charge of the out-patient department as well. After holding a post of this kind for two years or more, they will then, as vacancies occur, and if considered suitable, be appointed to act for the professors when these take leave, and usually they will so act on several occasions before being appointed permanently to such a post. It will thus be seen that in nearly all cases there is very ample opportunity of judging how far any man is fitted for any post of this kind before he actually obtains it. Would this be the case to the same extent with any other system?

The only feasible alternative would be to obtain men direct from home to fill these appointments; and with their entire ignorance of the country, its special diseases, the language and inhabitants, they would be at an immense disadvantage, to say nothing of the difficulties that would arise in providing men to act for them when sick or on leave. Moreover, if really highly qualified and experienced men are to be obtained, the salaries would be prohibitive, and even then it is, I think, highly doubtful if the work would be as efficiently performed as at present, owing to the numerous disabilities under which such men would be working.

When one sees the ease with which the numbers of Indian students who go to England nowadays from the Indian medical schools gain diplomas after only a few months' study, it does not seem as if there was much wrong with the teaching they have received out here.

Again, the writer asks, "Why is this system not adopted by other countries or native states?" The reply appears to me to be perfectly simple—namely, that there is no other country or native state in which precisely the same conditions exist as in India. I feel that I have already trespassed too far on your valuable space, so will refrain from going into this matter any further now.

Universities and Colleges.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on June 17th, under the chairmanship of the Vice-Chancellor, Sir Wilmot Herringham, who was re-elected Vice-Chancellor for the year 1914-15.

Site for the University.

A letter was read from the Secretary to the Prime Minister intimating that the Government could not contemplate the diversion of Somerset House from its present purposes. It was resolved:

That the Vice-Chancellor be requested to inform His Majesty's Government that the Senate, having considered various sites which have been suggested for the head quarters of the University, are of opinion that it is undesirable to proceed further with such consideration unless and until His Majesty's Treasury intimate their willingness to provide accommodation more suitable in situation, more convenient in character, and on terms not less advantageous as regards tenure, etc., than those attaching to the present occupation at South Kensington.

Recognition of Teachers.

Mr. William W. C. Topley was recognized as a teacher of pathology at Charing Cross Hospital Medical School.

Appointments.

Professor Arthur W. Crossley, Ph.D., D.Sc., F.R.S., was appointed to the University Chair of Chemistry tenable at King's College.

It was reported that the Principal had appointed Professor F. Womack (St. Bartholomew's Hospital) as examiner in physics at the first examination for medical degrees to be held in July, 1914, in place of Mr. A. O. Rankine.

Anthropological Research.

The thanks of the Senate were accorded to Dr. Robert Mond for a donation of £250 for the purpose of enabling Dr. B. Malinowski to carry out investigations on tribes in New Guinea, and the title of "Research Student of the University of London" was conferred on Dr. Malinowski in this connexion.

Board of Studies in Pharmacology.

A board of studies in pharmacology was constituted for the remainder of 1914 as follows:

(a) Teachers of the University: Dr. A. J. Clark (Guy's Hospital Medical School), Professor A. R. Cushny (University College), Professor W. E. Dixon (King's College), Dr. W. J. Fenton (Charing Cross Hospital Medical School and Hospital for Consumption), Dr. O. F. F. Grunbaum (London Hospital Medical College), Dr. P. Hamill (St. Bartholomew's Hospital Medical School), Dr. R. H. Miller (St. Mary's Hospital Medical School), Dr. F. Ransom (London School of Medicine for Women), Dr. R. A. Young (Middlesex Hospital Medical School and Hospital for Consumption). *(b) Other Persons:* Dr. H. H. Dale; (the person, if any, who, not being a teacher of the University, is for the time being a staff examiner of the University in Pharmacology). *(c) Whether Teachers of the University or other Persons:* The chairmen of the Boards of Intermediate Medical Studies, Advanced Medical Studies, Studies in Physiology, Studies in Human Anatomy and Morphology.

It was resolved that the board be deemed to be within the purview of the Faculty of Medicine.

Grant to the University of London Club.

It was resolved that a grant of £100 be made for the year 1914–15 to the University of London Club on condition that the club shall be put, free of charge, at the disposal of the university for official purposes upon the request of the Vice-Chancellor or Principal.

Donation from Committee of International Congress of Medicine.

The thanks of the Senate for a donation of £100 were accorded to the Committee of the seventeenth International Congress of Medicine which met in the university buildings in 1913.

Appointment of Representative.

Dr. R. H. Cole was reappointed Governor of the Slough Grammar School.

Regulations for M.B., B.S. Examinations.

The Senate has resolved that in and after the session 1915–16 the regulations for the M.B., B.S. examination for internal and external students be amended as follows:

By the substitution for the words "Eye, Ear, and Throat," of the the words "Eye, Ear, Throat, and Skin" in Section (II) of the syllabus in surgery.

Chairman of Committees.

Sir Alfred Pearce Gould, K.C.V.O., M.S., F.R.C.S., has been appointed Chairman of the Graham Legacy Committee, and Dr. F. Taylor Chairman of the Committee of Medical Members of the Senate.

Paul Philip Reitlinger Prize.

The Paul Philip Reitlinger prize (£30 in 1914 and £40 in 1915) will be awarded annually on December 3rd, provided there is a candidate (who must be an undergraduate or graduate of not more than five years' standing) of sufficient merit. In 1914 and biennially thereafter the prize will be awarded for the best essay embodying the result of some research work on the medical subject carried out by the candidate. In 1915 and biennially thereafter the prize will be awarded for the essay on a literary, historical, or philosophical subject. Essays must reach the Principal of the university not later than October 1st in the year of award.

UNIVERSITY OF MANCHESTER.

Degree Day.

THE Degree day ceremony, on Saturday, July 4th, attracted a large audience, the Whitworth Hall being literally packed. In his opening statement, the Vice-Chancellor (Professor Weiss) made special reference to the resignation of his predecessor, Sir Alfred Hopkinson, who had witnessed during his term of office a steady growth and development of the university. Reference was also made to the loss which the university had sustained by the death of Mr. E. J. Broadfield. There had been a considerable increase in the number of the students, and the Vice-Chancellor regarded it as particularly gratifying to find that the entry of students to the medical school was greater than it had been for many years past. This increase in the number of students imposed a difficult task on the university—to find the necessary accommodation for lectures and laboratory work the Council had sanctioned the erection of a new building for the Arts Department, which it was estimated would cost about £30,000; to meet this the university would have to depend on the generosity of its friends and the citizens of Manchester. In addition to a large number of degrees in all the faculties, the following honorary degrees were conferred: LL.D., Mrs. Lees of Oldham; Doctor of Letters, Professor Feuillerat of Rennes, and Professor Gonner of Liverpool; Doctor of Science, Professor Bragg of Leeds and Mr. J. E. Stead; Master of Arts, Mr. W. F. Cotterill of Salford; Master of Technical Science, Mr. Charles Day of Manchester.

Examination Results.

The following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B. (*Part III, Organic Chemistry and Bio-Chemistry*).—N. Abdoh, T. H. Almond, May Ashburner, Sybil Bailey, H. Bradshaw, Mary G. Cardwell, H. J. Chronnell, T. Colley, S. E. Critchley, Elizabeth C. Davies, H. Dickie, E. B. A. Edleston, P. Fildes, G. H. W. Gough, F. L. Heap, F. S. Horrocks, Fahim Isaac, A. W. Kirkham, J. H. Lees, J. Mills, T. O'Brien, Kathleen O'Donnell, E. Pigott, H. J. Porter, A. R. Redfern, L. Samuels, A. G. Saunders, L. J. Schwartz, V. T. Smith, J. T. Walker, Marie Wardman, Ethel D. Willis.

THIRD M.B.—G. S. Bate, H. W. Bennett, H. Chadwick, W. Christopher, R. Colley, Eva L. Glasier, Alice M. A. Holt, R. L. Newell, F. C. Ormerod, J. A. Panton, Nesta H. Perry, Dorothy Potts, C. R. Sandiford, W. Stansfield. (*Pharmacology and Therapeutics*).—J. H. Albinson. (*Hygiene*).—J. D. Byrd.

FINAL (*Forensic Medicine and Toxicology*).—J. C. Bramwell, *A. T. Gibb, E. Granger, W. Halliwell, J. G. McKinlay, H. M. von Mengershausen, J. F. C. O'Meara, F. G. Prestwich, J. Rigby, C. G. Todd, F. Vause, L. Walton, R. Willan. (*Obstetrics*).—W. S. Booth, G. B. Horrocks, K. Maximus. (*Medicine*).—W. S. Booth, G. B. Horrocks, K. Maximus. (*Surgery*).—G. B. Horrocks.

FINAL (*All Subjects*).—†Lily Allan, B. Browning, F. Chadwick, J. W. Craw, H. C. Duffy, C. W. Fort, *†D. T. Harris, J. R. Jagger, †O. M. de Jong, E. A. Linell, Kate K. May, A. S. Paterson, *J. R. B. Russell, J. R. Slack, E. H. Walker.

*Passed with distinction in one or more subjects.
†Second-class honours.

UNIVERSITY OF SHEFFIELD.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B.—J. N. Gale, J. V. Mainprize, R. H. B. Mathews, J. Ryan, Alice White, Ethel White.

SECOND M.B., CH.B.—Mary Andrews, F. G. E. Hill, Florence E. Millard.

FINAL.—*W. B. Allen, G. F. Stones, J. R. Turner, D. C. Turnbull C. H. Wilson.

D.P.H.—J. R. McGregor, E. T. K. Walker, P. D. Warburton.

*Second-class honours.

UNIVERSITY OF EDINBURGH.

Honorary Degrees.

AMONGST those who received the honorary degree of LL.D. at the graduation ceremonial on July 3rd were Byrom Bramwell, M.D., Consulting Physician to the Royal Infirmary, and Frederick Walker Mott, M.D., Pathologist to the London County Asylums.

The Dean of the Faculty of Laws (Professor James MacKintosh), in presenting Dr. Byrom Bramwell, Consulting Physician to the Royal Infirmary, said: Fortune has not acted blindly in putting in the van of the honorary graduates in law the distinguished physician whose commanding presence so well fits him for the part, and whose brilliant reputation, built up in our midst, has added fresh lustre to the Edinburgh Medical School. After Dr. Bramwell quitted our class-rooms, laden with student honours, he garnered a wide knowledge of medicine in five years of busy general practice, followed by five years of fruitful hospital work at Newcastle and on the teaching staff of the Durham College of Medicine. Returning to Edinburgh in 1880, he conducted extra-mural classes with gratifying success, while the remarkable gifts he displayed in the clinical wards of the Royal Infirmary soon made his name known all over the medical world as a great clinician and carried him into the front rank as a consulting physician. Perhaps his most salient characteristics were a rare acumen in diagnosis and a sympathetic attitude to every advance in medical thought and practice, which made him a pioneer in introducing many of the newer methods of treatment. His contributions to medical literature, as diverse in subject as they are striking in volume, are highly prized as scholarly records of keen observation and extensive experience. Successive editions of his valuable textbooks and fresh series of his clinical reports have served to revive for many a practitioner the impressions and inspiration first caught from the author's lips in the crowded wards. Many generations of former students will be gratified to learn that the Senatus has shown its appreciation of Dr. Bramwell's high deserts and the distinguished services he has rendered by admitting him a doctor in the sister Faculty of Law.

In presenting Dr. Mott, Pathologist to the London County Asylums, he said: It is my privilege to present next an acknowledged leader and guide of medical opinion in the great and growing department of psychiatry, one who is held in equal honour on both sides of the Border. A graduate of London with the highest distinction, Dr. Mott served a long apprenticeship to general medicine as physician to Charing

Cross Hospital, and was elected a Fellow of the Royal Society in 1897 in recognition of his valuable researches on the comparative anatomy and physiology of the brain and spinal cord. For the past seventeen years he has held the post of pathologist to the London County Asylums, and has devoted his energies to a department which he has made peculiarly his own—the pathology of the brain and mental disease. To take but a few examples of his original investigations in this field, he has demonstrated that syphilis is the essential cause of general paralysis of the insane and locomotor ataxy; he was the first to describe the changes in the brain produced by sleeping sickness; and he has elaborated from statistics and pedigrees an instructive study of the influence of heredity in relation to epilepsy, feeble-mindedness, and insanity. The results of these and many other researches in neuro-pathology, Dr. Mott has presented with fullness and clearness in standard textbooks and special journals, while he has delighted many a professional gathering by luminous addresses like the Morison lectures delivered in this city. Nor must I omit to mention his strenuous exertions in connexion with the establishment of the Maudsley Hospital for the study and treatment of incipient insanity. Many honours have rewarded Dr. Mott's outstanding services in forwarding the scientific study of mental disease and in alleviating the unhappy lot of its victims, and the university would fain add its tribute of admiration and esteem by enrolling him among its honorary graduates.

Degrees.

The following candidates have been approved at the examination indicated:

FIRST M.B. (*Physics*).—R. F. Balmain, W. E. Coutts, E. D. D. Dickson, W. J. Dunn, H. A. E. Kirby, V. L. P. Hayes, L. A. Lawrence, J. B. Liggins, F. P. MacGillivray, Mary P. Mair, W. J. Manson, I. Platzky, H. S. Plowman, B. Pyman, J. Reid, D. G. Robertson-W. G. Robson, E. O. Ruddock, T. A. Sellar, J. K. Sen, G. A. Sinclair, H. G. Smith, M. R. Zada, W. L. Zeeman. (*Chemistry*).—B. Cheifitz, Anna G. Christie, W. J. Dunlop, D. N. Dutt, M. H. A. Fletcher, D. T. P. Guy, B. T. Halliwell, V. L. P. Hayes, H. P. D. Helm, S. S. Horwitz, W. G. Hughes, L. A. Lawrence, Anne L. MacDonald, J. E. B. Miller, J. K. Mitchell, J. K. Murray, J. J. van Niekerk, J. Robinson, E. O. Ruddock, J. Sharp, Eliza J. Stuart, J. Tulloch.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTIONS TO THE COUNCIL.

No fewer than 1,048 Fellows sent in their voting papers for the election of members of Council on July 2nd; 11 voting papers arrived too late, and out of the 1,037 votes that were counted, 3 were pronounced invalid. Only six Fellows voted personally. This was the largest poll ever recorded at the Council elections.

The result was as follows:

Candidates.	Votes.	Plumpers.
WILLIAM THORBURN (Fellow 1886, Manchester)	534	53
CHARLES ALFRED BALLANCE, M.V.O. (Fellow 1882)	434	5
WILLIAM MCADAM ECCLES (Fellow 1892)	351	23
JAMES STANLEY NEWTON BOYD (Fellow 1881)	337	14
CHARLES RYALL (Fellow 1896)	304	13

Mr. Ballance, who had retired from the Council in rotation, was re-elected, and Messrs. Thorburn, Eccles, Stanley Boyd, and Ryall were elected Members of Council.

The remaining nine candidates were not elected:

Candidates.	Votes.	Plumpers.
John Bowring Lawford (Fellow 1885) ...	256	5
Thomas Horrocks Openshaw, C.M.G. (Fellow 1886)	245	30
Walter George Spencer (Fellow 1887) ...	238	2
Raymond Johnson (Fellow 1888) ...	218	7
Frédéric Francois Burghard (Fellow 1889)	204	4
Francis James Steward (Fellow 1898) ...	177	25
Herbert Stringfellow Pendlebury (Fellow 1897)	106	9
Thomas Herbert Kellock (Fellow 1891) ...	99	0
Percival Macleod Yearsley (Fellow 1893)..	90	2

Mr. Willmott H. Evans and Mr. J. E. T. Frazer acted as scrutineers.

The result of the poll was announced just before 7 p.m. by the President, Sir Rickman J. Godlee, Bart., who presided at the election.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

FINAL COLLEGES.—R. M. Alcorn, R. A. Austin, R. J. Brookes, F. Byrne, W. P. Cooney, T. N. Enright, A. B. Foot, S. H. Good, C. W. Joynt, J. Lanigan, A. Merrin, W. J. J. Mulcahy, C. Murray, J. J. O'Connell, H. V. O'Donoghue, L. S. O'Grady, G. M. C. Powell, N. A. K. Sparrow, M. Shipsey, F. M. D. Taylor, J. J. Walsh.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

THE annual meeting of this association took place on Thursday, July 2nd, at Burnley.

The Mayor (Alderman J. S. Kay), in welcoming the members in the Council Chamber of the Town Hall, spoke of the unfortunate dispute which had been going on in Burnley for some eighteen months between the Poor Law medical officers and the Poor Law authorities. He held no brief for either party, but trusted that the dispute might come to an end speedily. If as Mayor he could be of any assistance at any time in bringing about a settlement, he would be pleased to render that assistance. Surgeon-General Evatt, the President, in returning thanks for the reception, said that he also regretted there should be friction at Burnley, and the Council of the association agreed with the Mayor most thoroughly. It was surprising that a town that had done so much by providing an institution so admirable as the Poor Law Hospital he had had the pleasure of inspecting should allow friction over a matter which must be capable of being settled. If it was possible for the Mayor to help, the association would be glad to have his assistance. The Mayor said he hoped the meeting might be a happy augury for a settlement.

Dr. Bird, Honorary Secretary of the Burnley Division of the British Medical Association, who also welcomed the meeting, said that the Division was doing everything in its power to settle the dispute.

The Mayor then withdrew, and the minutes of the last annual meeting were read, confirmed and signed by the chairman. The annual report of the Council and its report on the Poor Law Institutions Order (see JOURNAL, June 6th, p. 1271) were unanimously received and adopted, and a copy of the latter was directed to be sent to the Local Government Board. The balance sheet for the year was, after some discussion, unanimously approved. Surgeon-General Evatt, president, and Dr. Major Greenwood, honorary secretary, were re-elected to those offices by acclamation. Dr. Napper was re-elected treasurer, and Dr. Withers Green auditor. Dr. Balding was also re-elected chairman of council. The following were elected members of council for 1914–15: Dr. Holder (Hull), Dr. Gidley-Moore (Fyfield), Dr. Lloyd Brown (Tunbridge Wells), Dr. Withers Green (London), Dr. George Jackson (Plymouth), Dr. Drury (Halifax), Dr. C. Biddle (Merthyr Tydfil), Dr. Thackray Parsons (London), Dr. W. Brown (Bristol), and Dr. Agnew (Burnley).

Recent Legislation affecting the Duties of Poor Law Medical Officers.

Mr. C. E. Bygrave, Clerk to the Blackburn Guardians, said that the Poor Law Medical Service had been considerably affected by recent legislation and Departmental Orders. Upon the passing of the Insurance Act it was anticipated that the duties of district medical officers would be considerably lessened as a direct result of the Act. But relieving officers in the Blackburn Union stated that they found on the whole no appreciable difference in the issue of medical orders, as distinct from ordinary orders for relief, and they gave the following reasons—that the migratory population, usually the unemployed and unemployable, were uninsured, that was, not in benefit, and that the members of the resident population who were out of benefit were apt to seek the assistance of the district medical officers upon the occurrence of the slightest need, as apparently his or her insured brother or sister was in the habit of doing. Where insured persons had no medical card, it was easier to obtain the services of the district medical officers than those of the ordinary doctor. The total number of persons in the Blackburn Union who were being attended by district medical officers on December 12th, 1913, was 117, and the number attended on December 12th, 1911, was 93. The diminution in the number of persons in receipt of out-relief between 1910 and 1911 was mainly due to the removal of old age pensioners from the outdoor relief list. The cases of midwifery were undoubtedly fewer, but in some, though the mother was in receipt of maternity benefit, it had been found necessary to effect removal to the workhouse infirmary. In the workhouse infirmary the maternity cases were also fewer in number. The need for institutional medical treatment did not seem

to be diminished as a result of the Insurance Act. The Local Government Board had expressed the opinion that medical officers should assist insured persons in the workhouse who applied for certificates enabling them to recover from their approved societies the amount of the benefits which accrued during their treatment in the workhouse infirmaries. Mr. Bygrave, however, expressed the opinion that all that the workhouse medical officer could be called upon to supply was the certificate which required the medical officer to certify in writing the sickness of the inmate or the cause of his attendance on him. He was unable to agree with the statement that the duties of the medical officers had largely increased in consequence of the new Institutions Order. The question of remuneration of workhouse medical officers for attending and giving evidence at inquests held on workhouse premises appeared to him to require putting on a more satisfactory basis. The Old Age Pensions Act had caused a large diminution in the number of old persons in the receipt of out-relief, but the recipients of the pensions were still entitled to the services of the district medical officers. There seemed to be a consensus of opinion of the need for a standard curriculum and examination for Poor Law nurses, and schemes were in course of preparation with this object. This would obviously mean an increase rather than a decrease in the duties of workhouse medical officers. The proposals to appoint whole-time district medical officers were not likely to mature; he had had some experience in a sparsely populated rural union, but large in point of area, and he could not bring himself to believe that the proposals would be seriously considered as being suitable for such a union, and even if the position of medical officers and health and district medical officers were combined, the salary offered for the joint posts would not be likely to attract competent men; there was a difficulty in obtaining men for whole-time appointments except for the more important posts.

In the discussion which ensued, the Secretary said that old age pensioners had largely increased the work of the Poor Law medical officers. The old people remained outside the workhouse, and had to be attended by the doctor outside. Dr. Parsons (Fulham), speaking of the effect of the Insurance Act on institutional treatment, said the Act had distinctly reduced the number of maternity cases at Fulham, but had caused very little diminution in other cases.

Dr. Holder (Hull) complained that a medical officer was sent into a district without a hope of getting promotion for what he did. No one went to see whether they did their duty or not, except the relieving officer, and he did not report. There was never any recognition of their service.

(To be continued.)

Medical News.

IT is announced that the Parliamentary Committee on Proprietary Medicines will meet shortly to consider a draft report prepared by the chairman, Sir Henry Norman.

THE *Light Car* (1d.) for this week (July 8th) is a special doctors' issue, and contains a series of illustrated articles on various types of light cars considered to be specially suitable for medical men.

ON the occasion of his leaving Sheffield to take up a position under the Board of Education, Dr. Ralph Williams, medical officer to the Sheffield Education Authority, was presented by the medical staff of the schools with a silver cigar-box, a set of Kipling's works, and a suit-case, as a token of their esteem.

THE steamship *Orvieto* of the Orient Line, which left the Thames on July 3rd, carried a large number of members of the British Association, who are journeying to Australia for the annual congress there. Among them were Sir Edward and Lady Schäfer, Sir Oliver and Lady Lodge, Professor Symington, Mr. C. J. Bond of Leicester, Dr. F. A. Dixey of Oxford, Professor E. A. Minchin, and Dr. H. W. Marett Tims.

THE War Office Committee appointed to inquire into the relations of the British Red Cross Society and the St. John Ambulance Association has begun its inquiry. The Chairman is Sir Walter Lawrence, G.C.I.E. The Red Cross Association is represented by Mr. Ridsdale, Chairman of the Executive Committee, and Sir Anthony Bowlby, C.M.G.; the St. John Association by Sir James Andrew Clark, C.B., and Lord Herbert Scott; and the St. Andrews Association (Scotland) by Sir George Beatson, K.C.B. The other members are: General Sir Edmond Elles, Chairman of the Territorial Forces Association; Colonel Streatfeild, Chairman Kent Territorial Force Association; and Mr. R. H. Brade, C.B., and Surgeon-General Macpherson, C.M.G., nominated by the War Office.

WHILE holding an inquiry recently at the City Coroner's Court, Dr. F. J. Waldo drew the attention of the jury to the formalin chamber in which the body had been preserved. It was, he believed, the only one in the United Kingdom, although the system was in use in Belgium and at various places along the Mediterranean coast. He found that the features of bodies, especially those taken from the river, became more recognizable after they had been exposed to the formaldehyde fumes (1 in 40) for a few days in the chamber. He added that the London County Council had power under the Public Health (London) Act, 1891, to build and equip with preserving apparatus two mortuaries for use by London coroners, but had taken no steps in this direction.

THE occasion of a garden party, given by Dr. G. H. Davy in the grounds of the Newland Orphan Homes to members of the East York and North Lincoln Branch of the British Medical Association, was taken to present Dr. John Divine with a silver salver and a cheque for £45. The salver bore the following inscription: "This tray, together with a cheque for £45, was presented to Dr. John Divine by his medical colleagues in recognition of the services he rendered as honorary secretary of the Hull Local Medical and Panel Committees, 1913-14." Dr. Milburn, prior to the presentation, referred to the hard and strenuous work Dr. Divine had done in connexion with the work of these committees. Out of eighty-four doctors on the panel list in Hull upwards of eighty had subscribed to the testimonial. Dr. Davy, in making the presentation, expressed his high appreciation of the services rendered by Dr. Divine, who duly acknowledged the gift.

SIR ARCHIBALD GEIKIE, as chairman of a local committee which has raised £2,000 for the maintenance of the educational museum established by the late Sir Jonathan Hutchinson at Haslemere, is appealing to the general public for an additional sum of £6,000 or £8,000. Subscriptions may be sent to Miss Rose Jackson, Downcourt, Haslemere. The site, building, and contents have been presented to the public by the trustees under Sir Jonathan Hutchinson's will. In collecting and displaying the specimens he worked upon a definite plan, arranging them in series to show in chronological succession the stages in the history of plant and animal life upon the globe. By an original and ingenious arrangement he was able to indicate the broad sequence of events in the history of man from the Stone Age to the present day. The museum is visited every year by some ten thousand persons of all classes, and schools are brought from considerable distances to study its contents and to hear the curator's explanations.

THE Board of Education, acting under the Mental Deficiency Act, 1913, has issued regulations governing the notification of mentally deficient children. The Local Education Authority will, as a rule, be moved by the certifying officer, who will be the school medical officer of the authority or such other duly qualified medical practitioner as the authority may nominate for the purpose. If a Local Education Authority is in doubt as to whether a child is or is not capable of receiving benefit or instruction in a special school or class under the Elementary Education (Defective and Epileptic Children) Act, 1899, it may refer the question to the Board of Education, otherwise it will notify the case to the local authority under the Mental Deficiency Act. The Local Education Authority must further notify to the local authority under the Mental Deficiency Act any mentally defective child who, on or before attaining the age of 16, is about to be withdrawn or discharged from a special school or class. Further, the Local Education Authority may call for a special report from any teacher of the school the child has been attending. With regard to any blind or deaf children the Local Education Authority may propose to notify, it is required to furnish the Board of Education with a copy of the report of the certifying officer, and if the child is already attending a special school, with a report by the head teacher on the child's progress.

MAJOR LEONARD DARWIN, who delivered the presidential address at the annual meeting of the Eugenics Education Society, on July 2nd, chose as his subject the segregation of the criminal. He said that while improvement in environment would no doubt cause a diminution in crime, there would be a remnant of habitual criminals whose strong natural tendencies, being subject to the laws

of natural inheritance, would infallibly tend to reappear in their descendants. To lessen their fertility, therefore, seemed within the scope of eugenic reform. The aim of the social reformer was, wherever it was possible, to remove the bad environment; but the eugenist should at the same time strive to strengthen the innate characters of the individuals composing the coming generations. That result might be obtained by selective breeding. Courage had been claimed as a marked characteristic of the criminal; but those who studied the habitual criminal would find few qualities in him to admire. The object should be to pick out those who were endowed to a very exceptional extent with natural qualities which facilitated the adoption of a life of crime; and having selected a class of the criminal community whose progeny the nation of the future could well do without, the next question was how to prevent that progeny from coming into existence. The only method now possible within the region of practical politics in England was the detention or segregation of those criminals during the period of their fertility. The eugenist condemned the existing system whereby the habitual criminal was subjected to numerous short imprisonments, because it not only did not tend to lessen the number of his progeny, but was likely to increase his racial productivity by giving it from time to time renewed vigour. Social reformers, who recognized the immense importance of environment, ought to be the first to condemn the practice of letting loose thousands of unreformed criminals into our slums, where their influence might be likened to that of animals carrying the germs of disease. Much would have to be done before the machinery established under the Mental Deficiency Act would produce the best results; no trustworthy estimate could be formed of the number of criminals who would be dealt with under its provisions. Sooner or later inquiry must be made as to whether some steps ought not to be taken with regard to the remainder of the habitual criminal population. A desirable reform which eugenists should endeavour to promote would be the amendment of the Prevention of Crimes Act so that it might be made more readily applicable to the man of many minor offences.

IT has already been announced in the JOURNAL that the International Congress of Neurology, Psychiatry, and Psychology will be held at Bern in September (7th to 12th). The official programme has now been issued. The congress will be presided over by the President of the Swiss Republic. Dr. P. Dubois, of Bern, is President of the Organizing Committee; the Vice-Presidents are Dr. P. L. Ladame of Geneva, Professor C. von Monakow of Zurich, and Dr. R. Bing, *Privatdocent* of Neurology at Basel. The members of the International Committee for Great Britain are Drs. Barham, C. Hubert Bond, Byrom Bramwell, William Brown, W. R. Dawson, Sir Bryan Donkin, Sir David Ferrier, Dr. E. Goodall, Dr. Bernard Hart, Sir Victor Horsley, Mr. W. McDougall, Drs. John Macpherson, F. W. Mott, David Orr, George M. Robertson, Risien Russell, Mr. Alex. F. Shand, Professor C. S. Sherrington, Dr. R. Percy Smith, Sir George Savage, Dr. C. Spearman, Professor James Sully, Dr. W. H. B. Stoddart, Dr. John Turner, and Dr. S. A. Kinnier Wilson. In the Section of Neurology papers on regeneration in the nervous system will be read by Professors Alzheimer, of Breslau, and Ramon y Cajal of Madrid; on reflex paths in the medulla and cord by Professor Sherrington, Professor Pierre Marie and Dr. Foix of Paris; on tabes and general paralysis in relation to the *Spirochaeta pallida*, by Professor Ehrlich; and on Ehrlich's salvarsan in the treatment of syphilitic nervous and mental diseases by Professor Crocq of Brussels. In the Section of Psychiatry papers will be read on the pathogenesis and treatment of phobias by Professor Bechterew of St. Petersburg; on senile mental diseases, by Professor Redlich of Vienna, and Dr. Anglade of Bordeaux; and on the rôle of the defensive ferments in pathology, by Professor Abderhalden, of Halle, Professor Binswanger of Iena, and Dr. Lampe of Munich. In the Section of Psychology papers on psychological heredity will be read by Dr. Mott and Dr. Ladame; and on the biological bases of psychology, by Professor Petzoldt of Charlottenburg. Among other communications promised are papers on the surgical treatment of epilepsy by Professor T. Kocher; on epilepsy and cerebral tumour by Dr. Aldren Turner (Section of Neurology); and the treatment of temporary forms of intellectual disorder by Dr. Nathan Raw (Section of Psychiatry). Particulars as to hotel accommodation, excursions and so forth, can be obtained from the Secretary of the Congress, Dr. Schnyder, 31, rue Monbijou, Bern, to whom all communications relative to the Congress should be addressed.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

J. E. H. P. asks for advice in the treatment of the following case: G. M., roadman, aged 54, has a patch of discoloration on the skin on the front of the right leg. It is dark blue or violet in colour, shading off to brown at the edges, and there is some peeling of the epidermis. It measures 5½ by 4 in. This dates from an operation for right inguinal hernia three years last March. He got thrombosis of the right femoral vein, otherwise is quite healthy and has no varicose veins. He goes about his work, and I have dressed the patch every fortnight with Unna's paste, which relieves it, but it neither gets better nor worse.

SEA-BATHING AND SKIN IRRITATION.

F. J. W. would be grateful for advice in the treatment of a patient who, as a boy, revelled in sea-bathing. Of late years (he has turned fifty) he has taken to it again, as opportunity offers. He finds, however, that after about two days' consecutive bathing he has to give it up, owing to intolerable itching of the legs below the knee, worse at night. They present a bright erythematous appearance, with a slight branny desquamation later. What ointment or oily preparation, it must not be expensive, will best meet the case and enable him to continue to enjoy sea-bathing?

POISONOUS PIGMENTS IN CRAYONS.

DR. W. B. DRUMMOND (Edinburgh) writes: Are the pigments used for colouring crayons for school use of a poisonous nature, and is there any risk of their affecting the health of children using them? Free-arm drawing with coloured chalks is becoming a very common "lesson" for young children in elementary schools. Naturally a good deal of chalk dust must float about and be inhaled. Naturally, also, children will sometimes clean their fingers by the primitive method which Kipps adopted to stanch his wound. It seems to me, therefore, that the nature of the colours in coloured chalks must be of some importance from the hygienic point of view. An educational firm, to which I wrote, replied, "Our chalks are prepared with pigments, and not aniline dyes." The nature of the pigments is not stated, but as some of the best and most common pigments are compounds of arsenic, mercury, and lead, the question arises whether chalks for use by children should not be coloured with aniline dyes if white chalk will not serve the purpose. Some time ago you published some cases of lead poisoning in children, apparently due to paint being conveyed to the mouth in the manner suggested above.

LETTERS, NOTES, ETC.

IN announcing last week the issue in English by C. Reichert, of Vienna, of an abridged catalogue of microscopes and accessory apparatus, the address of the London agents, H. F. Angus and Co., 83, Wigmore Street, W., was incorrectly given.

FRESH AIR AND PNEUMONIA.

DR. ARTHUR J. MATHISON (London, N.) writes: Dr. Bain, in the JOURNAL of June 13th, writing of the treatment of pneumonia by quinine and calomel, puts it on an equality with that recommended by me and used with complete success recently by Dr. Manasseh in Syria. Looking back to Dr. Arnold's letter, which appeared in July, 1913, I find he claimed that he had treated pneumonia for eighteen years, with a mortality of under 5 per cent., on the purgative and quinine plan chiefly. On the other hand, with the potassium iodide and creosote treatment, Dr. Manasseh in Syria and I in London have no mortality, if we except a case in which I was called the day before the death of the patient, an old lady who had been ill for about five days. Others have sent glowing reports. I put it to Dr. Bain that 4 or 5 per cent. of all the cases of pneumonia in one year only in the United Kingdom constitutes a tremendous and appalling difference. I was under the impression that the profession was practically united on the subject of fresh air in this disease. But fresh air alone, I fancy, would not come out well in statistics.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

A Lecture
ON
SOME PROBLEMS IN CARDIAC PHYSIOLOGY.*

DELIVERED BEFORE THE UNIVERSITY OF LONDON, JUNE 18TH, 1914.

BY A. F. STANLEY KENT, M.A.OXON.,

HENRY OVERTON WILLS PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF BRISTOL.

[WITH SPECIAL PLATE.]

BEFORE 1892 it was impossible to explain the action of the mammalian heart on the comparatively simple lines found adequate in the case of the heart of the frog, owing to the fact that any muscular connexion between auricle and ventricle in the mammal was absolutely denied.

In 1892 it was shown that this idea was erroneous, and that muscular connexion between auricle and ventricle did as a fact exist. In the following years the details of the connexion were worked out by various observers, and the band of tissue is now familiar to every one as the auriculo-ventricular bundle.

As is often the case with new knowledge, it was some time before the existence of the auriculo-ventricular bundle was used in explaining symptoms presented by clinical cases. Within the last few years, however, its importance has been fully recognized and its presence has been generally referred to in explaining certain forms of cardiac irregularity.

Certain difficulties have arisen in connexion with these explanations from time to time, and some observers have doubted whether the case really is as simple as it appears. Clinical experience and experimental results have sometimes thrown doubt on the explanation put forward.

The difficulties are of the following kind: Cases have occurred in which—if the published records are to be trusted—an interruption of the normal rhythm of the heart has been observed, although the auriculo-ventricular bundle has proved to be intact, and cases of normal rhythm have occurred in which the bundle was subsequently found to be destroyed. Many of these difficulties may be capable of solution. Some of them, however, appear to be insoluble.

So long ago as 1892 I described[1] the existence of additional muscular connexion between the auricle and ventricle in the right lateral wall of the heart, and although this observation excited little attention at the time, it lived in the memory of some workers in cardiac physiology, and was sometimes glanced at as likely to afford a possible explanation of puzzling experimental results.

My own work on the heart was unavoidably interrupted, and it is only within the last three or four years that I have been able to return to it.

The position of the problem was then found to be as described. The presence of the auriculo-ventricular bundle was acknowledged, and it was regarded as the one and only path of muscular conduction between auricle and ventricle; and yet it was not adequate to explain the facts found clinically and experimentally.

The problems which presented themselves for solution, therefore, were the following:

1. Do there exist anatomical paths of muscular connexion between auricle and ventricle other than the auriculo-ventricular bundle?

2. If such additional paths exist, what are their number, situation, structure, and connexions?

3. Are such paths—provided they exist—capable of forming a physiological connexion between the auricle and the ventricle?

It appeared best to carry out the histological part of an investigation of this kind upon human material, as the labour involved would in any case be very great, and the whole of the work would have had to be repeated had other material been used. Such a selection made the work more difficult, as it is always troublesome to obtain human material sufficiently fresh to make good preparations. This and other difficulties were ultimately surmounted, however, and a minute examination of the whole of the auriculo-ventricular connexion was commenced.

The method adopted was as follows: The whole of the auriculo-ventricular ring of the heart was divided up into blocks, and each block in turn was cut into sections. The sections were floated on to glass, stained, mounted, and examined. The stains found most generally useful were the connective-tissue stain of Mallory, Heidenhain's iron haematoxylin, haematoxylin and safranin, and various modifications of the silver impregnation method.

Stress should be laid on the fact that in the systematic examination of the ring every section in the series was stained and examined. In some researches it has appeared that not every section, but every alternate section, or even every third or fourth, has been examined. If it is desired to exclude once for all the possibility of the existence of any extra connexion, it is obviously necessary that every section shall be examined.

Many of the original series of sections have been repeated, sometimes again and again, for the purpose of confirming, or of correcting, the earlier results.

Some of the more important conclusions are the following:

1. *Neuro-Muscular Structures.*[2]

There exist in the heart, in the neighbourhood of the auriculo-ventricular groove on the left side of the organ, neuro-muscular structures whose constituents are partly nervous and partly muscular, and these have connexions with the nervous structures of the groove and with the muscular tissue of auricle and of ventricle.

2. *Nodal Tissue.*[3]

There exists in the right lateral wall of the heart a mass of hitherto undescribed nodal tissue.

3. *Muscular Connexions.*[4]

In association with No. 2 there exists at least one muscular path between auricle and ventricle along which impulses can pass, and which is able to keep the chambers in physiological association, even when the auriculo-ventricular bundle has been cut.

4. *Paths of Physiological Conduction.*[5]

Experimental results have been obtained which completely bear out the anatomical fact of the existence of an additional muscular path between auricle and ventricle.

1. NEURO-MUSCULAR STRUCTURES.

The neuro-muscular structures can be described best by referring to the appearances which are found successively when a series of sections is examined. The structures lie in the connective tissue at the base of the auricle or ventricle. The first indication of their presence is the appearance of a few nerve fibres of small size amongst the connective tissue bundles. A few sections further on it is seen that the number of fibres has increased, and soon connective tissue is seen to be arranged round the group and to be forming a sheath for it.

As the series of sections is followed, the group of fibres becomes larger, and may attain a diameter of 170 μ. It now appears as a well developed bundle of fibres, surrounded by a well-formed capsule of connective tissue, inside which a definite and large lymph space can often be distinguished.

If the bundle be followed further it will be seen that its constituents are changing. Instead of the nervous fibres forming the only kind of tissue present, there are now more darkly staining fibres which can be recognized as muscle, very similar to the fibres of the neighbouring auricle or ventricle. Some, however, have different characters, appear at first sight to be tubular, and prove on closer examination to be composed of more or less structureless protoplasm in the centre, with striation and indication of sarcostyles at the periphery. These fibres bear some resemblance to the fibres of Purkinje found elsewhere in the heart.

The amount of muscle in the bundle gradually increases, and may become large, whilst at some part of its course muscle fibres are given off from the bundle and become connected with the neighbouring auricular tissue. In other situations some of the nerve fibres may be seen

* Being contributions to a study of the relations which exist between the various chambers of the mammalian heart.

to leave the bundle, and, apparently, to become connected with nervous structures lying in the connective tissue of the groove. Throughout their course these bundles are provided with a rich supply of blood vessels.

The complete organ then presents itself as a spindle-shaped mass, commencing with a few nerve fibres of small size, increasing to a bundle of, perhaps, 170 μ in diameter and somewhat resembling a nerve trunk, and richly supplied with blood. Soon muscle appears amongst the nerve fibres, assumes considerable proportions, and ultimately becomes connected with neighbouring muscular masses. The nerve fibres also appear to become connected with neighbouring nervous masses. The bundle is contained in a connective sheath in which lymph spaces may be seen.

2. Nodal Tissue.

This—the second structure to be described—is found in a different part of the heart wall. It is found in the auricular wall at a point almost on the extreme right lateral aspect of the heart, slightly towards the posterior surface. Amongst the bundles of auricular muscle in this situation will be observed a more circumscribed mass, partly surrounded by fibrous connective tissue, and in free communication with the rest of the auricular muscle.

The mass may be nearly circular in outline, or it may be distinctly olive-shaped. In either case it is seen to consist of an outer part which is similar to normal muscle, and a central portion which shows modifications of the kind usually associated with nodal tissue. The tissue stains differently, its fibres are often exceedingly fine and show rich branching, and the cross striation is not very easily seen. The blood supply is rich.

3. Muscular Connexion.

Associated with the presence of this nodal tissue is the existence of a muscular path leading from the auricle to the ventricle and forming a channel along which impulses are able to travel. This path is found at the lower part of the mass of nodal tissue, and is formed by the passage of strands of ventricular fibres derived from two or three different layers of the ventricular wall upwards and outwards until they come into association with the tissue of the node. Thus the node is as it were interposed in the course of the muscular path between auricle and ventricle, and any impulse passing from auricle to ventricle would necessarily pass through the tissue of the node.

The need for such an arrangement is apparent when the physiological conditions are considered. For, as suggested in 1892,[1] the interposition of the fine fibres of the node with their altered character results in a slowing of the rate at which the impulse travels, and thus the pause between the auricular and the ventricular contraction is brought about.

4. Experimental Results.

That the existence of such a channel of communication between the auricle and the ventricle will render necessary important alterations in our ideas of the mechanism of the co-ordination of the action of these chambers is obvious. For if, contrary to preconceived ideas, the auriculo-ventricular bundle is not as a matter of fact the sole muscular path along which impulses may pass from auricle to ventricle, its destruction does not necessarily involve the interruption of such passage, and clinical cases and experimental results—hitherto difficult of interpretation—become intelligible.

Direct experimental results are therefore of especial interest, and the following experiments, amongst others, have been carried out:

In the exposed heart of the mammal the bundle has been cut and electro-cardiograms have been taken subsequently. These showed that the rhythm between auricle and ventricle persisted.

The experiments performed by Flack and Leonard Hill showed that there existed in the right lateral region of the heart a mechanism which in certain circumstances was capable of affecting the auriculo-ventricular rhythm.

More recently I have carried out the following experiments, directed especially to the clearing up of the question. The method adopted was simple. In the beating heart of the mammal a thin knife was passed through the right ventricle, near the groove, and brought out in such a way as to sever completely the auricles from the ventricles with the exception of a strip of tissue at the right side of the heart. Under these conditions it is found that beats arising spontaneously in the right auricle pass through to the ventricle, and evoke ventricular beats, and, after the heart has ceased to beat spontaneously, beats excited artificially in the auricle still pass through to the ventricle and give rise to ventricular beats.

Since under these conditions the only tissue connecting the auricle to the ventricle is the strip at the right side of the heart, and the histological part of the inquiry has already shown that an anatomical connexion exists in this situation, it is impossible to avoid the conclusion that in this right lateral auriculo-ventricular junction there exists a muscular path capable of transmitting impulses and of co-ordinating the action of the chambers of the heart.

Further, since, as has been shown, the muscular path is completed by the interposition of a mass of nodal tissue, through which the impulses must pass, it is clear that the conditions here are similar to those found in the case of the auriculo-ventricular bundle, and that the auriculo-ventricular pause may be explained on similar lines—that is, as being due to the passage of the impulse over tissue modified histologically and physiologically, with a resulting delay in conduction.

It is clear that the above considerations must exercise a considerable influence upon the nature of our explanation of cardiac action.

(The lecture was illustrated by numerous lantern slides, drawings, photographs and preparations.)

References.

[1] Proceedings of the Physiological Society, 1892, No. vi (*Journal of Physiology*, vol. xiv, No. 1). *Journal of Physiology*, vol. xiv, Nos. 4 and 5.

[2] *Proceedings of the Royal Society*, B, vol. lxxxvii, p. 198. Proceedings of the Seventeenth International Congress of Medicine, London, 1913.

[3] Proceedings of the Physiological Society, November 15th, 1913 (*Journal of Physiology*, vol. xlvii, Nos. 4 and 5). Ibid., March 14th, 1914 (*Journal of Physiology*, vol. xlviii). Ibid., June 27th, 1914.

[4] Proceedings of the Physiological Society, 1892, No. vi (*Journal of Physiology*, vol. xiv, No. 1). *Journal of Physiology*, vol. xiv, Nos. 4 and 5. Proceedings of the Physiological Society, March 14th, 1914 (*Journal of Physiology*, vol. xlviii). Ibid., June 27th, 1914. *Quarterly Journal of Experimental Physiology*, vol. vii, No. 2.

[5] Proceedings of the Physiological Society, June 27th, 1914.

THE *Yellow Fever Bulletin*, vol. iii, No. 2, contains a paper on experiments and observations on yellow fever, by Scott Macfie and Johnston, which is of some importance because it claims to confirm, practically for the first time, observations made by Seidelin, who as long ago as 1909 described a parasite for yellow fever. Since that time Agramonte, Schilling, Guiteras and others have criticized this so-called parasite, and the general opinion amongst experts at the present day is that these bodies are not parasitic in their nature. Many of the criticisms levelled against them have laid special stress upon the very dissimilar appearance of the bodies as depicted in coloured plates, and haematologists have regarded them as well known artefacts often seen in blood examinations. Scott Macfie and Johnston, who both belong to the West African Medical Staff, and worked at the Medical Research Institute, Yaba, near Lagos, S. Nigeria, go further, and claim that during the course of an epidemic of yellow fever they found bodies similar to those described by Seidelin in the blood of guinea-pigs, dogs, and rats, and propound the theory that these animals carry the parasite of yellow fever, and that man is infected from them by way of the mosquito. A careful study of their work is not convincing, and a coloured plate does not serve to remove hesitation felt in accepting so momentous a conclusion as they would draw. It seems rash to say, for example, that the bodies in Figs. 1, 7, and 14 of the coloured plate are the same bodies or in any way similar to those represented in Figs. 9 and 10, and equally does this statement apply to the bodies found in the animal's blood. Figs. 20, 25, and 39 may be and possibly are piroplasmata, but it is difficult to see how they can be held to have any connexion with, for example, Fig. 35, or with the bodies depicted as coming from the human cases. As regards the animal's blood, bodies similar to some of those depicted may be seen in guinea-pigs that have never been out of England. Many more control experiments appear to be necessary, and before the results can be accepted they must be confirmed by competent protozoologists or helminthologists in England or the States. As already said, those who have most closely studied the bodies described by Seidelin do not consider that they are parasitic in nature.

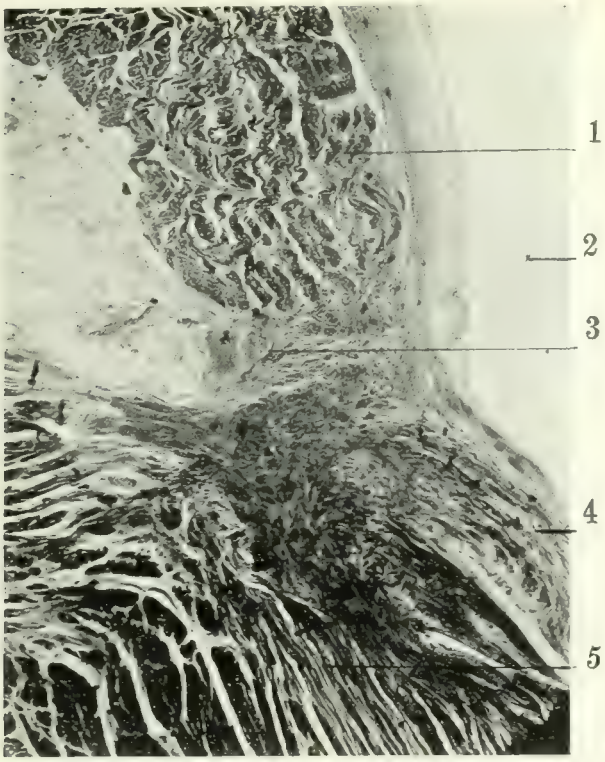


Fig. 1.—*Auriculo-ventricular Junction.* (Heart of adult man.) Shows auriculo-ventricular junction at position G of diagram (left side of heart). The neuro-muscular structure appears as a cylindrical body enclosed in a connective tissue sheath. It has been cut transversely. The darker portions at the upper part of the bundle are muscular fibres. 1, Left auricle; 2, cavity of left auricle; 3, neuro-muscular structure; 4, valve; 5, left ventricle. × 17.

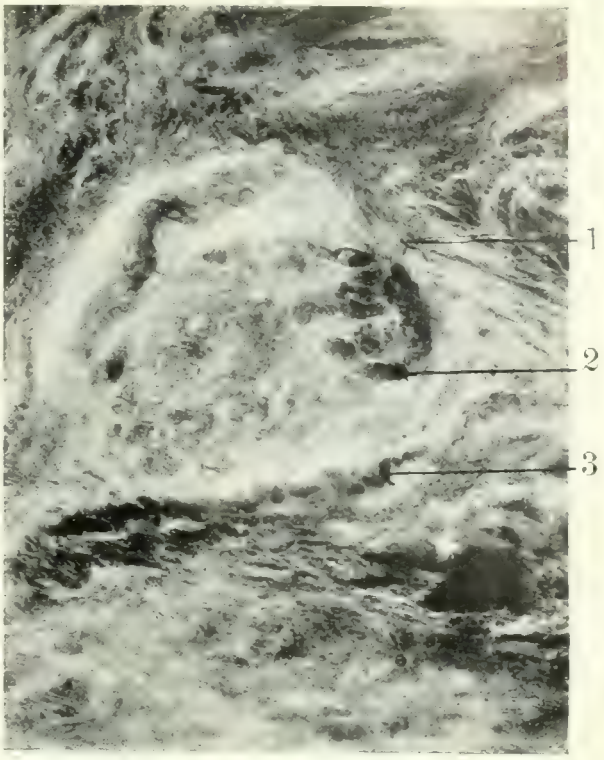


Fig. 2.—*Neuro-muscular Structure.* (Heart of adult man.) Neuro-muscular structure from position G in diagram (left side of heart). The cylindrical body is seen here under a higher magnification, and its constituent parts are more distinct. The darker portions towards the periphery are muscular tissue, some of the fibres being cut transversely and some longitudinally. The nervous tissue is situated towards the centre of the bundle. 1, Connective tissue; 2, muscular fibres; 3, connective tissue sheath. × 174.

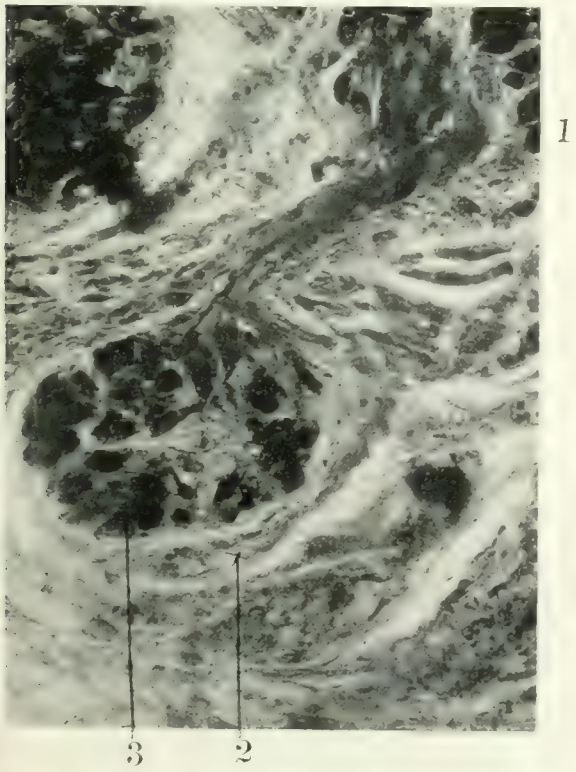


Fig. 3.—*Muscular Fibres of Neuro-muscular Structure.* (Heart of adult man.) Section taken from position G in the diagram. The muscular fibres of the neuro-muscular structure are shown streaming away to become continuous with the auricular muscle. 1, Muscular fibres of auricle; 2, connective tissue sheath; 3, muscle fibres. × 412.

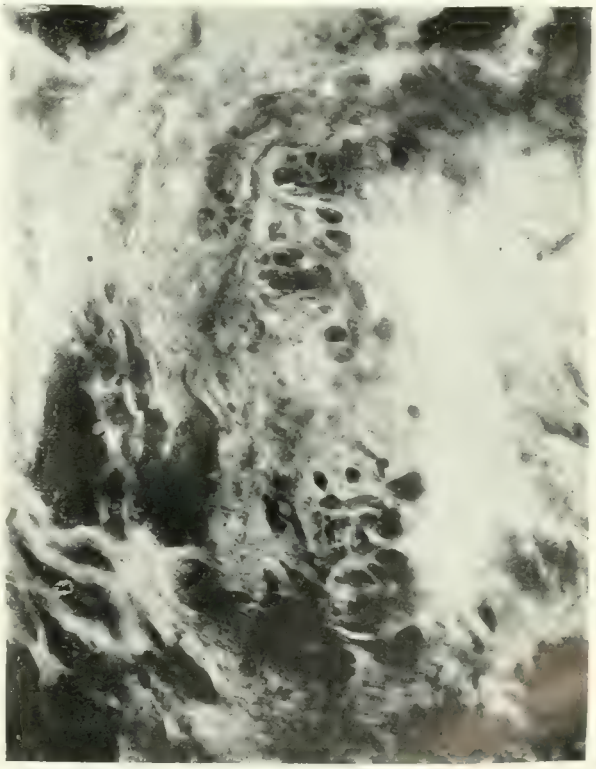


Fig. 4.—*Arborization of Muscular Fibres.* (Heart of adult man.) The section is taken from the neighbourhood of the letter G in the diagram. It shows spiral muscular fibres terminating as an arborization in a mass of fibrous connective tissue. × 336.

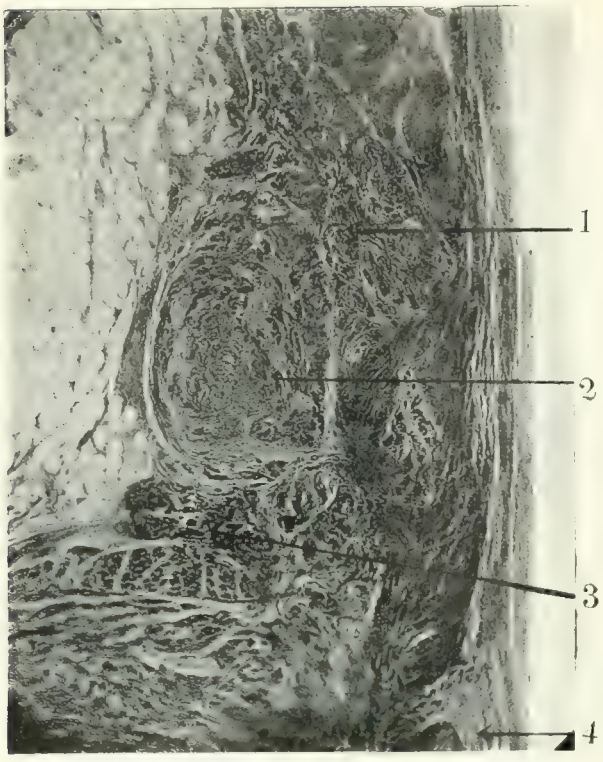


Fig. 5.—*Right Lateral Node.* (Heart of man.) The section is taken from the position C in the diagram (right side of heart). It shows at the upper part the muscle of the right auricle continuous with the muscular tissue of the node ("right lateral node"). The central portion of the node is composed of modified ("nodal") tissue. At the lower part of the node this modified tissue is in close association with the muscular tissue of the right ventricle. 1, Auricle; 2, node; 3, ventricle; 4 valve. × 50.



Fig. 6.—*Right Lateral Auriculo-ventricular Junction.* (Heart of man.) The section is taken from the position C in the diagram (right side of the heart). At the upper part is shown the muscle of the right auricle continuous with the muscle of the right lateral node. The central part of the node is composed of modified ("nodal") tissue. The lower part of the node is continuous with fibres of the right ventricle derived from three sources, thus forming the "right lateral auriculo-ventricular junction." 1, Auricle; 2, nodal tissue; 3, ventricular muscle; 4, ventricle; 5, base of valve; 6, auricular muscle. × 76.

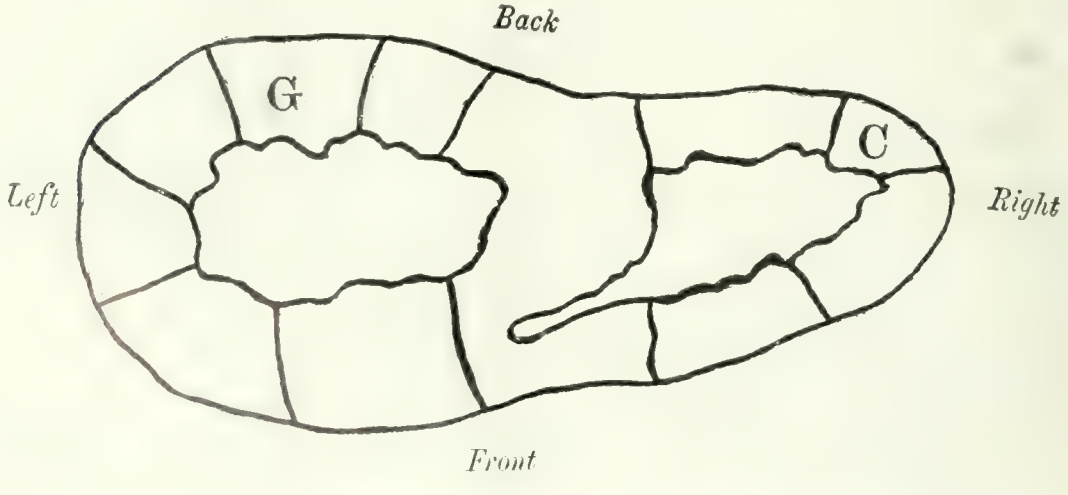


Diagram of base of heart of man, looking upwards, after the apical part of the ventricles has been cut away. Neuro-muscular structures are found at G. The right lateral auriculo-ventricular junction and node are found at C.

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FIG. 1.



FIG. 2.



FIG. 3.



FIG. 7.



FIG. 8.



FIG. 9.



FIG. 4.



FIG. 6.



FIG. 5.



FIG. 10.



FIG. 11.



FIG. 12.

THE CAUSATION, PREVENTION, AND CURE OF GOITRE, ENDEMIC AND EXOPHTHALMIC.

BY RUPERT FARRANT, F.R.C.S.,
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[WITH SPECIAL PLATE.]

IN an article published in the *Proceedings of the Royal Society of Medicine*, February, 1914,[1] it was shown that the toxaemias could be divided into three groups according to their action on the thyroid. In the first group were those that had no effect on the gland, in the second those that caused a colloid hyperplasia, and in the third those that caused a complete or acute hyperplasia. It was found that the microscopical appearances of the colloid hyperplasia were indistinguishable from those seen in endemic goitre, whilst the microscopical appearances of complete hyperplasia were indistinguishable from those seen in exophthalmic goitre. No definite signs of hyperthyroidism were observed in cases affected with a single toxaemia. Neither were they seen in guinea-pigs after inoculation with two acute toxaemias—the second being injected before recovery was complete from the first. But hyperthyroidism, as judged by the occurrence of exophthalmos, was found in a man in whom an acute toxaemia had supervened on a chronic. The case was one in which miliary tuberculosis had developed on chronic. It was also found when a subacute toxaemia had supervened on a chronic. Ten out of 12 cases of cirrhosis of the liver presented exophthalmos. It had also been described in chronic interstitial nephritis, which may be regarded as a chronic toxaemia liable to exacerbations. As death occurred in these cases soon after the occurrence of hyperthyroidism, a complete picture was obtained of the toxaemias causing extreme thyroid hyperplasia and the thyroid hyperplasia causing signs of hyperthyroidism.

These examples serve to bridge over the gap between the thyroid changes found *post mortem* and the thyroid changes and hyperthyroidism found clinically in either endemic or exophthalmic goitre.

The object of this paper is to record observations made on 85 cases of goitre (exclusive of simple hyperthyroidism) between 1909 and 1914 as to the relationship between toxaemias and diseases of the thyroid; to prove that cases in which the thyroid is diseased the causatory micro-organism or toxaemia can be determined; to show that in this way not only can diseases of the thyroid be cured, but also prevented.

CAUSATION.

It is proposed, for the sake of convenience, to subdivide the micro-organisms and toxaemias into four groups, according to their situation; they are usually in the mouth, nose, lung, or intestine.

The Mouth.

Pyorrhoea and dental caries are associated with micro-organisms of all kinds; some, such as the streptococcus, staphylococcus, and pneumococcus, can at once be eliminated, as they have no effect upon the thyroid. Any change must, then, necessarily be determined by some other infection. Observations were made at Mr. Landon Whitehouse's dental clinic in 1909 on cases that attended for teeth extraction. Signs of hyperthyroidism were found in about 7 per cent. of cases. Bacteriological examination of the teeth was made in too small a number for the causatory organisms to be determined. The cases were mostly females between the ages of 17 and 30. The history given was that of nervousness, with falling out of the hair and moistness of the palms of the hands, slight loss of weight. Examination revealed a fine moist skin, fine glistening hair, tremor, tachycardia of about 110, perhaps slight prominence of one or both eyes, with or without general fullness or enlargement of the thyroid. No one of these signs was sufficiently prominent for any gross thyroid lesion to be suspected, but taken together they showed a typical picture of hyperthyroidism. Cases of dental caries frequently do not attend until they are suffering from one of the secondary results, as chlorosis, dyspepsia, or osteo-arthritis. Observations were therefore extended to such cases. An exactly similar condition was found in a few of the early cases of dyspepsia, in a large proportion of the early cases of osteo-arthritis, and in some cases of chlorosis.

This association of hyperthyroidism and chlorosis was first described by Chvostek; he thought it was a forme fruste of exophthalmic goitre. The symptoms of hyperthyroidism in these cases thus pass unnoticed, as they are masked by the other more prominent effects of the toxaemia. There is one exception, that is, when the case comes to the ophthalmic surgeon with unilateral exophthalmos. Any one of the symptoms of hyperthyroidism may become more prominent than the others. It may affect the hair, skin, vasomotor or central nervous system; the cases being diagnosed and treated for this one symptom, thus alopecia, hyperidrosis, urticaria scripta, tachycardia, and hysteria. Examination has shown that in some of the cases so affected the other signs of hyperthyroidism are to be found.

CASE I.—M. L., female, 33. A case with carious teeth, pyorrhoea, dyspepsia, and commencing pains in her joints associated with hyperthyroidism, the most prominent symptom of which was unilateral exophthalmos (Fig. 1). There was some slight fullness of the thyroid.

Fig. 2 shows the diminution of the exophthalmos after ten weeks; no treatment or drug of any kind was given, and she continued her work (Mr. Brooksbank James's case).

The relation between the pyorrhoea and hyperthyroidism is not merely a coincidence, but is that of cause and effect, as the following shows. After teeth extraction, for the first week there is some increase of symptoms; they then rapidly clear up for two or three months, but it is usually six months before they disappear entirely.

CASE II.—M. W., female, 32. A similar case, but with slight bilateral exophthalmos; refused to have her teeth removed. She was treated for one year with the following drugs: Iron, arsenic, nux vomica, belladonna, and aloin, without improvement. Her teeth were then put in order; the hyperthyroidism disappeared in six weeks.

An attempt was made to follow these cases over a period of five years—letters were written to 10 cases, no answers were received from 9 whose teeth had been removed; the tenth, who had refused to have her teeth removed, came up for examination; the signs of hyperthyroidism had increased, she had unilateral exophthalmos, marked tremor, and a pulse of 120.

The occurrence of some nervous shock causes an exacerbation of the symptoms, especially those connected with the nervous system.

CASE III.—M. M., female, 23. Carious teeth, dyspepsia (for which gastro-jejunostomy had been performed), associated with hyperthyroidism. Her teeth were removed, but her father died a few days later, and she developed typical exophthalmic goitre. This subsided in a few months. She then nursed her brother, who died, and she again developed exophthalmic goitre, which again subsided after some months.

A second toxaemia acting on a gland that is already in a condition of complete hyperplasia from infection of the teeth causes an enlargement of the gland, with an exacerbation of the symptoms, the degree of which varies with the intensity and duration of the toxaemia. The symptoms may continue for one to two months after the infection has to all appearances ceased.

CASE IV (Dr. Purves Stewart's case) (Fig. 3).—A. L., male, 30. He had had bad teeth since a child, a persistent cough three years, with slight haemoptysis two years ago. Eighteen months ago he had had a bad attack of influenza. He stated that he had always been nervous; he first noticed palpitation two to three years ago. Following the influenza his eyes became prominent, he lost weight, and became weak and tremulous. Examination revealed acute exophthalmic goitre accompanied by sleeplessness, delirium and mania, persistent vomiting, and diarrhoea. Amyotonia was so marked that it was first thought to be a case of myasthenia gravis. His mouth was foul from pyorrhoea; the nasal septum was deviated, but there was no evidence of tuberculosis.

In this case the effect of toxaemias on the thyroid appeared to be, from the history, that the pyorrhoea organism caused a condition of hyperthyroidism. The deviated septum rendered him liable to recurring nasal infection; the intermittent toxaemia from this (? *B. catarrhalis*) caused a further thyroid change; the last acute attack of this toxaemia led to the development of exophthalmic goitre. The later history of this patient will be noted under the heading "Cure" (p. 111).

The Nose and Nasal Sinuses.

The nose is one of the sites for acute, subacute and chronic infections. Amongst the micro-organisms that cause them are: *B. catarrhalis*, Friedländer's bacillus, *B. influenzae*, pneumococcus, staphylococcus, streptococcus. Of these, the last three can be eliminated. Of the others *B. catarrhalis* was found from inoculation of guinea-pigs to cause a complete hyperplasia. The rest were not so injected, but as they nearly always occur in symbiotic combination with *B. catarrhalis* these infections may be regarded as having such an action—if not from their own power, from the fact that *catarrhalis* is present.

In a normal nose in a normal individual an infection with a common or "influenzal" cold would cause a transient thyroid hyperplasia. The gland would involute to normal soon after the subsidence of the toxaemia. But if the patient were already in a condition of hyperthyroidism from any other cause the fresh stimulus from the *B. catarrhalis* would lead to an exacerbation of the hyperthyroidism. The nose may be abnormal, there may be some deformity leading to chronic infection and thickening or atrophy of the mucous membrane, polypi may be present, or chronic sinusitis—conditions likely to cause a chronic or constantly recurring toxaemia. In these, if *B. catarrhalis* was present, thyroid hyperplasia with hyperthyroidism would occur, as has just been described in cases of pyorrhoea. It, however, should be remembered that the nose is generally sterile, and that an original infecting micro-organism frequently dies out in the presence of an excessive number of pyogenic organisms.

The association of exophthalmic goitre with nasal infections has been described by Hack,[1] Semon,[2] and Scanes Spicer.[3]

The following examples serve to illustrate the occurrence of hyperthyroidism and exophthalmic goitre from these causes:

CASE V (Fig. 4).—F. H., male, 24. Thirteen months ago was quite well, and weighed over 12 st.; four months later he noticed an enlargement of his neck and other symptoms of exophthalmic goitre; these steadily increased despite all drugs and antithyroid treatment. (Fig. 4 shows his condition on admission to hospital; he weighed 7 st. 4 lb.)

For some years he had drunk water from a goitre-producing well without noticing any thyroid enlargement. Thirteen months ago he began to work with lime, the dust from which caused a chronic nasal irritation. Examination showed that he had ulceration of the middle turbinals with opacity of his antra. There was only a slight nasal discharge, a swab from which showed no growth on culture. An extension of his infection occurred with pharyngitis, laryngitis, and some crepitations at his right apex. He lost 9 lb. in eight days and died. A *post-mortem* examination was refused. Thyroid hyperplasia was caused by the well water, and the exophthalmic goitre from the fresh toxaemia acting upon this.

CASE VI (Fig. 5).—M. J., female, 36. Three years ago the symptoms of hyperthyroidism had developed with exophthalmos. Her neck enlarged six months ago, and she lost 14 lb. in weight. She stated that she had had bad teeth for some years, and a chronic nasal discharge. Examination showed a mild type of exophthalmic goitre associated with pyorrhoea and chronic rhinitis, with perforation of the septal cartilage. Hyperthyroidism was caused by the teeth infection and exophthalmic goitre by the sequence of a chronic nasal infection.

CASE VII.—M. B., female, 31. For eighteen months she had noticed the gradual onset of the symptoms of exophthalmic goitre. She had had bad teeth for some years, and constantly recurring colds. Examination showed pyorrhoea, a deflected nasal septum, with chronic hypertrophic rhinitis.

CASE VIII.—M. C., female, 39. A case of similar nature, but exophthalmic goitre developed after chronic sinusitis.

Lung.

The common infection found in the lung is that due to *B. tuberculosis*. In my last paper it was shown that its action on the thyroid varies with the degree of the infection; miliary tuberculosis causes a complete hyperplasia, whilst the chronic causes a colloid hyperplasia. The thyroid changes occurring in a case of tuberculosis can be arranged in a circle which passes through the stages of both complete and colloid hyperplasia to a final condition of fibrosis. The vertical diameter of this circle is dependent on the extent of the infection. At one stage tuberculosis is associated with complete hyperplasia, during which stage signs of hyperthyroidism may become evident.

The onset of exophthalmos has been described following the onset of miliary or chronic tuberculosis, and the condition of the thyroid ratified *post mortem*. Dufour[4] has described two cases of exophthalmic goitre in association with tuberculosis. Holles made observations on 33 cases of exophthalmic goitre, and concluded that the majority were tuberculous in origin. Similar cases have been also described by Poncet and Lincke.

The following examples serve to illustrate these points clinically:

CASE IX.—C. F., male, 39. Had early chronic phthisis; exophthalmos was noted temporarily following the development of fresh foci.

CASE X.—F. S., female, 22. Developed whooping-cough two years previously, which was followed by phthisis which was said to have been cured. Latterly she had noticed a fullness of her neck, which she thought was getting bigger. Examination showed that there was tenderness and slight enlargement of the thyroid. Pyorrhoea was present, and signs of tuberculosis at the right apex, with tubercle bacilli present in the sputum.

CASE XI.—B. S., female, 43. Presented a mild type of exophthalmic goitre, associated with pyorrhoea and chronic phthisis. From her history she appeared to have developed symptoms of hyperthyroidism from pyorrhoea, the supervention of phthisis caused an exacerbation which gradually developed into exophthalmic goitre.

Intestine.

The intestine may be the site of all kinds of micro-organisms and be the medium through which various poisons are absorbed. The toxic products may be divided into two main groups—(*a*) material derived from the decomposition of the intestinal contents from the action of the putrefactive anaërobes; (*b*) toxins directly derived from the micro-organisms infecting the tract.

(*a*) Decomposition of the intestinal contents occurs especially when any obstruction is present in the tract. A toxaemia becomes evident in cases of either acute or chronic intestinal obstruction and in the more subtle cases of intestinal stasis. Observations made on the thyroids obtained *post mortem* from cases of acute and chronic intestinal obstruction have revealed no signs of hyperplasia. Neither has hyperthyroidism been observed in cases of intestinal stasis nor have cases of hyperthyroidism shown signs of intestinal stasis, in fact the reverse—frequent action of the bowels or diarrhoea—is a common symptom. Many thyroids have been obtained from cases in which intestinal stasis was present, but it is considered advisable to defer their consideration until a later paper on another subject. It is concluded that there is no evidence to show that products of the intestinal putrefaction have any action on the thyroid.

(*b*) The micro-organisms infecting the intestinal tract. McCarrison[5] in his last paper has shown that some organism living in the alimentary canal of an infected individual gives rise to thyroid enlargement. He produced goitre in goats by giving them water contaminated with the faeces of goitrous people and by feeding them with cultures of the organisms grown on agar. He obtained the same results by using the faeces of non-goitrous people.

The Micro-organisms Present in Faeces.

The micro-organisms may be divided into two groups, the aërobic and the anaërobic. The true anaërobic have not been examined beyond the *B. aërogenes capsulatus*, which appears to have no action on the thyroid.

Of the aërobic, the pneumococcus, streptococcus, and staphylococcus can be eliminated as having no action on the gland. There is left the *typho-coli* series which may be subdivided into the *B. typhosus*, *B. enteritidis*, and the *B. coli* groups. It is proposed to trace these from the *B. typhosus* towards the *B. coli*. Infection with *B. typhosus* does not cause a thyroid hyperplasia. The result of infection with *B. alcaligenes* has not been examined. *B. dysenteriae* causes a complete or acute hyperplasia, judged from the effect of inoculation of Flexner's and Shiga's bacilli into guinea-pigs and from asylum dysentery in man. Of the *enteritidis* group, Gaertner's bacillus as found in infantile diarrhoea causes a complete hyperplasia. These two groups can be dismissed as being causatory agents in the production of endemic goitre, as they are not present in the faeces of goitrous individuals. It is possible to conceive, however, that when they are present in combination with other micro-organisms they might be concerned in causing thyroid changes and hyperthyroidism. The *B. coli* group is still left. Typical *B. coli* can be

eliminated as it is a normal inhabitant of the intestinal tract of normal individuals.*

The Effect of Water on the Coli Group.

A good deal of discussion has arisen as to what is a normal *B. coli*. In this work the normal *B. coli* is regarded as being one that is a Gram-negative, feebly motile, non spore-bearing bacillus, that coagulates and acidifies milk and produces indol; that forms acid and gas from glucose, lactose, dulcite, maltose, and mannite, but not from sucrose.

Whipple[7] in 1903 found that the type of *B. coli* changes if it be kept under abnormal conditions. Horrocks[5] found that *B. coli* kept in unsterilized well and tap waters develops a delayed action on milk and neutral red, and but feebly produces indol. Penfold showed that bacteria of the colon-typhoid group can produce a mutant. Houston[6] found that in filtered water typical *B. coli* are outnumbered by the atypical. This he ascribed to the mutation of *B. coli*. Clemesha,[10] however, thought this finding was due rather to the extinction of some forms, and rapid growth of others. This is as it may be. Yet these data are sufficiently striking to suggest that a bacteriological examination be made of the water supply in goitrous districts, and that a like examination be made of the faeces of goitrous persons coming from these districts. The presence of the mutants of *B. coli* in either would suggest that *B. coli* had somewhere been placed under abnormal conditions.

Bacteriological Examination of the Water.

Opportunity for examination of a large series has been, for obvious reasons, limited. Samples have been obtained from surface wells in Wiltshire, Bucks, and Herts. The following organisms were grown:

1. *Wiltshire.*—Water obtained from a surface well in a chalk district. From a sample normal *B. coli* and two mutants were isolated. Of the mutants, one had a negative action on dulcite, the other a diminished action on all the sugars with the exception of dulcite, which was increased.

2. *Bucks.*—Two varieties of colonies appeared, the one wavy the other circular. The former constituted 92 per cent., and had no action on dulcite and sucrose; the latter constituted 8 per cent., and caused no changes in dulcite, but altered sucrose with acid and gas formation.

3. *Herts.*—Two types of colonies grew; one produced acid and gas with all the sugars, the other no gas with lactose.

Etiology of Endemic Goitre.

It is proposed now to consider the etiology of endemic goitre from the point of view of infection with the *B. coli* group.

The number of cases among people who have always lived in London is small. It appears that goitre rapidly diminished in London after the closure of the wells and the establishment of a pure water supply. Still London has an advantage that the cases seen come from all over the world. Those examined have come from places as far apart as Cashmere, Central India, Australia, South and West Africa, and various parts of England. The character of the water supplied to these individuals has varied from 48 per cent. of hardness to snow or rain water. The strata over which it has flowed has varied from chalk, granite, clay, and limestone. One can eliminate both the chemical constituents and the soil as being direct causatory agents of endemic goitre.

Contamination of Water and its Consideration as a Culture Medium.

Goitre is common in the valleys of mountainous districts. Inquiry shows that the water supply in these districts is of surface origin, and so liable to surface pollution. Usually it neither passes through filtering beds nor stands in volume. The two great safeguards in the removal of surface contamination and its consequent micro-organisms are absent. The same applies to surface wells and springs. Rain-water, though in the first instance pure, soon reeks with micro-organisms from the methods adopted in its collection, and the barrels and tanks in which it is kept. Water derived from snow is also open to surface contamination, and, as shown by Houston, micro-organisms survive longer in water at lower than higher temperatures. Thus in all these instances inquiry shows that there are factors present which render the water liable to contamination, and that they may also tend to the development of, or the prolongation of the life of micro-organisms derived from such contamination.

Examination of Faeces.

(*a*) *Normal Faeces.*—Clemesha in India examined 46 samples of normal human faeces and 25 samples of cow dung, including about 3,500 different colonies isolated by various methods. McConkey made similar examinations in England. They divided the organisms into four groups, and the following table shows the percentages obtained:—

	McConkey.	Clemesha.
Sucrose− Dulcite−	34 ...	53.2
Sucrose− Dulcite+	38 ...	17.4
Sucrose+ Dulcite+	15 ...	6.8
Sucrose+ Dulcite−	12 ...	22.2

Under 5 per cent. were Glucose+ Lactose−.

(*b*) *Faeces of Goitrous Patients.*—Bacteriological examination of the faeces of cases of endemic goitre have been made; in one case McConkey's B.S.A. plates were used, in the others Conradi-Drigalski's agar plates. One case had left the goitrous district nine years.

B. coli and the following varieties were found:—

1. Negative to sucrose and dulcite.
2. Were negative to sucrose but positive to dulcite (*B. coli*).
3. Were positive to sucrose and dulcite.
4. Were positive to sucrose and negative to dulcite.

The percentages in which 1, 3, and 4 were present was excessive. They occurred up to 100 per cent. and the total exclusion of normal *B. coli*.

5. Merely decolorized sucrose, and produced no indol (*B. coliformis*).
6. Produced acid and gas with sucrose, the acid being++.
7. Had a negative action to litmus milk, lactose, sucrose, and dulcite, but were positive to glucose, maltose, and mannite (*B. paracoli*).
8. Caused acid but no gas in sucrose, lactose, maltose and mannite, and had no action on sucrose or dulcite.
9. Had a diminished action on all the sugars, with the exception of dulcite, which was increased.
10. Had no action on sucrose or lactose.

The percentages of these atypical forms varied up to 86 per cent. It may be said that water containing members of the *B. coli* group has been supplied to individuals; these individuals became goitrous, and mutants of *B. coli* have been isolated from their faeces. The mutants found in the faeces were not necessarily the same as those found in the water.

If there is any causatory relation between infection with atypical members of the *B. coli* group and goitre formation, it should be possible to experimentally make an exact reproduction of the series of events. Evidence might also be forthcoming that the organism is specific to the individual in whose faeces it occurred.

Fixation of the Complement.

Blood has been examined for fixation of the complement in three cases of endemic goitre, in which the following organisms were isolated from the faeces: (1) Normal *B. coli*, (2) those positive to sucrose, (3) those negative to dulcite, (4) those negative to dulcite, and produced no gas with glucose, lactose, maltose, and mannite. It was found that there was no fixation of the complement.

This was only to be expected, as the condition is an apyrexial toxaemia. No confirmation can be derived from the complement fixation test.

Experimental Production of Goitre.—These and other experiments will be published in detail later.

Transmutation of B. coli.

A typical healthy strain of *B. coli* with normal sugar reactions was inoculated into distilled and tap water containing various amounts of broth and into water containing various salt solutions. The sugar reactions are being taken at the end of every week for the occurrence of mutation.

* I am sorry that Major McCarrison was misquoted in my last paper. He wishes me to correct this. Instead of colif rm bacillus causes endemic goitre in the Gilgit Valley, the passage should read, vaccines of coliform bacillus, staphylococcus, etc., have been used with success in the treatment of goitre.

Pathogenicity and Action on the Thyroid of Typical and Atypical B. coli.

Guinea-pigs were used in these experiments, as Eyre[11] found that *B. coli* was a normal inhabitant of the guinea-pig intestine.

Septicaemia.

Three guinea-pigs received intraperitoneal inoculation with typical *B. coli* and three with *B. coliformis* to cause a septicaemia. The thyroids showed an acute haemorrhagic hyperplasia.

Toxaemia Subacute.

Eighteen guinea-pigs were divided into three groups and fed respectively with bread and milk contaminated with fresh cultures of typical *B. coli*, *B. paracoli*, and *B. coliformis*. The guinea-pigs died. The order of the pathogenicity of the cultures appeared to be—*B. paracoli*, *B. coliformis*, *B. coli*. Those fed with *B. paracoli* survived on an average 10.8 days. Those fed with *B. coliformis* survived on an average 12.6 days. Those fed with *B. coli* survived on an average 16 days. The thyroids showed a varying degree of hyperplasia from a complete to a colloid hyperplasia. Those that survived the longest showed the colloid hyperplasia indistinguishable from that seen in endemic goitre. The glands appeared enlarged, but as they are small in guinea-pigs no reliable observations on this point can be made.

Chronic Toxaemia.

A similar number of guinea-pigs were fed in an exactly similar manner except that they received smaller doses of the cultures given every alternate day. Three died from each group at the end of ten days, and others were killed at periods varying from the nineteenth to the thirty-second day. The thyroids appeared to be enlarged, and were microscopically indistinguishable from endemic goitre. The amount of colloid formed varied with the organisms: with *B. coli* it was slight; with *B. paracoli* it was more apparent; whilst with *B. coliformis* it filled all the interstitial spaces. The vesicles were packed and surrounded with colloid. In one, cysts filled with colloid were present.

It is concluded that these micro-organisms are pathogenic to guinea-pigs in the following order: *Paracoli*, *coliformis*, and *coli*. An acute toxaemia, either from intraperitoneal inoculation or by feeding with large doses of broth cultures, causes the thyroid to undergo a complete hyperplasia. A chronic toxaemia causes a change similar, both microscopically and macroscopically, to endemic goitre, which is most marked with *B. coliformis*. The proportion of cell hyperplasia to excessive colloid formation is found to vary in each individual guinea-pig and with the degree of the toxaemia. Endemic goitre can be artificially induced in guinea-pigs. The complete cycle, commencing with water contamination and the presence of the mutants of *B. coli* to goitre formation, can be performed in the laboratory.

It is concluded that endemic goitre, whether it occurs in isolated habitations or in goitrous districts, is caused in man by the chronic ingestion of organisms of the *B. coli* group.

B. coli are washed away from surface droppings and contaminate surface waters, and unless means are taken to get rid of them they become ingested by man. The *coli*, being placed under abnormal conditions either in the water or in the upper part of the intestinal tract, undergo mutation. The mutants are present in the faeces of individuals affected with endemic goitre, and when once lodged there may remain for many years. The pathogenicity of the mutants appears to vary; some members cause a colloid hyperplasia of the thyroid with enlargement and no signs of hyperthyroidism. It is possible to conceive that some of the varieties may produce a toxin capable of further stimulating the thyroid to a condition of complete hyperplasia accompanied by signs of hyperthyroidism. At present no further attempt has been made to separate them, as there are some hundred varieties. The amount of thyroid change varies with the degree of infection.

The following may be taken as an example of the induction of endemic goitre:

CASE XII.—G. F., female, 13. At the age of 10 she went to reside in a goitre district and drank well water for seven months. She then returned to London; eighteen months later she noticed an enlargement of her neck. She was seen a year later and found to have a general enlargement of the thyroid with an adenoma of the right lobe. The mutants isolated from the faeces had negative reactions to litmus milk, lactose, sucrose, and dulcite.

The Effect of other Toxaemias acting on a Thyroid already in a Condition of Endemic Goitre.

Pyorrhoea.—The thyroids in cases in which pyorrhoea coexisted with endemic goitre were softer and more vascular than that seen in endemic goitre alone. Signs of hyperthyroidism were present up to a forme fruste of exophthalmic goitre. Cases of this type were described by F. V. Muller[12]:

CASE XIII. *B. catarrhalis.*—M. W., female, 12. Had drunk water from a well and developed goitre, as had her grandmother and sister. *B. coliformis* was isolated from her faeces. She had a deviated septum and was constantly catching colds. The thyroid was soft and evenly enlarged, and there were some signs of hyperthyroidism. Whilst under observation she caught several colds. After each of these there was an exacerbation of the symptoms of thyroid excess, which subsided about a month after each attack.

CASE XIV. *An Acute and a Chronic Toxaemia supervening on Endemic Goitre.*—C. G., female, 39. Resided in a goitre district in the Himalayas from the age of 18 to 31. Her teeth were removed for caries when she was 32. She developed whooping-cough when 36½. Her neck enlarged about the age of 30, accompanied with slight symptoms of hyperthyroidism. After whooping-cough the hyperthyroidism increased and she developed exophthalmic goitre. Seen a year later, the thyroid presented an adenoma of the right lobe and isthmus, the symptoms of exophthalmic goitre had largely subsided, pulse 96. In this case endemic goitre caused an enlargement of the thyroid; the pyorrhoea, slight hyperthyroidism; the temporary acute toxaemia of whooping-cough caused exophthalmic goitre, which gradually subsided after its termination.

In a similar way other toxaemias or combination of toxaemias can be considered, the chronic toxaemias causing a colloid hyperplasia and the subacute a complete hyperplasia with signs of excessive secretion. Thus small encapsulated adenomata were found in a case of actinomycosis seven months after infection. An adenoma occurred in one case a year after the combination of rheumatic fever and mumps.

Formation of Adenomata.

In my last paper it was noticed that colloid hyperplasia is found in two other conditions besides chronic toxaemias—namely, during the involution of either the acute or chronic toxaemias. They are not generally found during the involution following a single acute toxaemia. They are typically found in the late stages of exophthalmic goitre, that is, following a combination of subacute toxaemias. Masses of colloid are formed from the hypertrophied tissue which become encapsuled to form adenomata. Adenomata after the involution of the chronic toxaemias is typically seen in the late stages of endemic goitre.

PREVENTION.

It is proposed to separate the diseases of the thyroid into two groups: (*a*) Those in which the most prominent feature is hyperthyroidism (exophthalmic goitre type); (*b*) those in which the most prominent feature is thyroid enlargement (endemic goitre type). The methods adopted in preventing these will be considered separately.

The prevention of exophthalmic goitre depends entirely on the recognition of the first stage—the early condition of hyperthyroidism. The presence of this is usually marked by the occurrence of nervousness, followed by falling out of the hair, sweating, and slight loss of weight; examination reveals all the signs of exophthalmic goitre in a minor degree; its detection necessitates examination of the skin, hair, and sweat glands, of the muscular tone, the sympathetic nervous, and the cardio-vascular system. The cases are to be found amongst those diagnosed as pyorrhoea, dyspepsia, early osteo-arthritis, chronic rhinitis, tuberculosis, cirrhosis of the liver, and chronic interstitial nephritis, the last two being of interest rather than of importance. In these cases the infection and its results are more prominent than the signs of thyroid excess. The cases are also to be found amongst the following, in which one symptom of thyroid excess is more prominent than the other: Hyperidrosis, alopecia, urticaria scripta, tachycardia, myocarditis, hysteria, any exophthalmia. These cases come under notice, not onl

in general practice, but also in the special departments. When a diagnosis is made, the case becomes a bacteriological study; both the nature and the focus of the infecting micro-organisms are to be found. A methodical examination should be undertaken, the history of any past illnesses elicited, and the date of onset of each noted.

Reference to a previous paper will determine whether any of these have an effect on the thyroid. The date of the onset of the symptom of thyroid excess should be compared with the date of the occurrence of the toxaemias. In this way a connexion between the causatory toxaemia and the hyperthyroidism can often be elicited. An examination of the mouth, nose, lungs, etc., must be carried out for the site of the infection, and swabs and cultures to find the causatory micro-organisms. In those cases in which the micro-organisms have been constantly swallowed a bacteriological examination of the faeces should be made to find if the organisms have become indigenous in the intestine. When the causatory micro-organism and its site has been determined, means should be undertaken for its removal. Some minor surgical operation, such as teeth extraction, submucous resection of the nasal septum, removal of the nasal polypi, suffice to cure the condition, accompanied in appropriate cases with intestinal antiseptics such as thymol. In the cases that have been so treated the symptoms entirely disappeared in about six months; no intestinal antiseptics were used, as it was necessary to determine the exact connexion between the toxaemia and the hyperthyroidism without the intervention of drugs. It may be as well to state that because carious teeth or a deviated septum happen to be present it is not sufficient to at once ascribe the cause to them. Only about 7 per cent. of cases of dental caries exhibit such symptoms. With a deflected septum there must be a very definite history of constantly recurring infection. It is also as well to remember that owing to the general vaso-dilatation all the mucous surfaces are flushed. Enlarged tonsils are but an effect, a part of the disease.

The following example shows the benefit of prevention:

CASE XV.—N. B., female, aged 33, was seen with signs of early exophthalmic goitre, including double exophthalmos in association with pyorrhoea and carious teeth and frequent nasal infection. Six months after the removal of her teeth no signs of hyperthyroidism were present. Her sister, aged 38, gave a history of an exactly similar condition, but after an acute attack of influenza she developed exophthalmic goitre which after eight years terminated into myxoedema. When seen, her primary infecting foci were still present. (Fig. 6.)

Though there are several combinations of chronic toxaemias that can cause thyroid enlargement, endemic goitre is the only one that can be prevented. After the experiments already outlined dealing with the etiology of this condition have been completed, it is proposed to put forward a definite plan for the collection, storage, and purification of water in endemic goitre districts and on the notification of goitrous wells, the object of which will be the removal of *B. coli*, typical and atypical, from these water supplies, either by filters, prolonged storage, or the use of antiseptics. As these micro-organisms belong to the *typho-coli* series, precautions should be taken similar to those adopted in the prevention of typhoid fever or any other water-borne disease.

CURE.

The cases will again be divided into two groups: (*a*) Those associated with signs of excessive secretion; (*b*) those only associated simply with enlargement of the gland.

In group (*a*) are those cases that have advanced beyond the stage of hyperthyroidism to that of the formes frustes and of typical exophthalmic goitre. The question arises, Can the gland retrace its steps after the removal of the causatory toxaemias and involute to normal, and can those organs that have been affected by the excessive secretion do the same? When a comparison is made between the microscopical appearances of a normal gland and those of exophthalmic goitre one is struck by the enormous cell increase that has taken place. In the solidification of the vesicles there are nearly ten times as many cells per vesicle; the vesicles themselves are also increased in number, so that when the gland is doubled in size the secreting area is increased some forty times. Involution to normal thus necessitates a reduction in the secreting cells to $\frac{1}{40}$. It may be deduced from the length of time taken for the symptoms of thyroid excess to disappear in the cases of simple hyperthyroidism that complete involution of the gland and the disappearance of the symptoms in exophthalmic goitre would take over six months. Any incidental toxaemia acting as a fresh stimulus would lead to a recurrence, the extent and duration of which would depend on the intensity and duration of the toxaemia. Observations have been made on cases following the removal of the infecting agent.

As far as possible, the patients while in hospital did not rest in bed—they got up early in the morning and did ward work, no medicinal or other treatment was given, so that any improvement could only be accounted for by the removal of the toxaemia. The cases were first examined along the following lines:

(*a*) Gland changes: Alteration in the pituitary fossa (*x* ray), hyperplasia of the tonsil, post-sterno-mastoid glands, thymus, and spleen were noted with any alteration in the blood. The neck was measured, and the consistency of the thyroid observed especially for the presence of adenomata, cysts, and other signs of commencing degeneration.

(*b*) The presence and degree of the signs of thyroid excess.

(*c*) The site, and if possible the nature, of the infecting micro-organisms.

From (*a*) an estimate was made of the reaction of the ductless glands to the toxaemia, and whether the thyroid had commenced to involute by a process of degeneration.

From (*b*) an estimate of the degree of hypersecretion.

From (*c*) the causatory agent was determined.

The treatment adopted and the results obtained necessarily varied with the nature and the situation of the infecting micro-organisms. The most striking results were obtained in the very acute cases in which the infecting process could be completely removed. The following examples demonstrate the results obtained from removal of the infection in the four common situations.

Teeth.

The toxaemia derived from the source has but a preliminary action. It serves as a basis for the action of another to cause exophthalmic goitre. Only one example will be given, as it was discussed under prevention.

CASE IV (Fig. 7).—A. L., male, 30. Hyperthyroidism was present for three years, associated with pyorrhoea. Following an acute infection in his nose, to which he was rendered liable by a badly deviated septum, exophthalmic goitre developed, accompanied with acute mania; pulse 130, respirations 36, and extreme myasthenia. He was treated with all the usual medicinal remedies without avail, and given up as moriturus. His mouth was put in order, and twenty-one teeth removed under gas and oxygen. Five days later he became quiet, and slept, and his three attendants were no longer needed. After fourteen days he had put on 23 lb. in weight, and at the end of three months he had put on 34½ lb.; pulse 108; exophthalmos had disappeared and the thyroid had diminished 1½ in. It was realized that the onset of any fresh toxaemia before involution was completed would cause a recurrence and probable death; but owing to myocardial degeneration it was thought inadvisable to attempt to prevent such by an operation on his nose or to diminish the effect that such could have by removal of a portion of his thyroid. It was hoped that complete involution would take place before the onset of a toxaemia. Four months later he developed another acute nasal infection, his symptoms rapidly recurred, and he died in another hospital despite all medicinal measures.

Nasal Cases.

Cauterization of the nose became the standard treatment for exophthalmic goitre after Hack, Frankel, Semon, and Spicer recorded cases cured by the removal of nasal polypi and other nasal affections. This soon dropped into disrepute, as the majority of cases are not nasal in origin.

CASE XVI.—E. L., female, 27. Gave a history of the symptoms of hyperthyroidism for some years associated with carious teeth, and constantly recurring colds. Three months ago she had developed a very bad cold which lasted for a month, when exophthalmic goitre occurred. Examination showed a soft enlargement of thyroid, an adenoma in the left lobe, with an average degree of symptoms; pulse 120. The teeth were carious, and right nasal septum and inferior turbinals were adherent. The adhesions were divided and the teeth removed; the symptoms cleared up with the exception of the adenoma in the left lobe, which was subsequently removed by operation. It had undergone cystic degeneration.

Case xvii (Figs. 8 and 9).—L. C., female, 26. Gave a four years' history of exophthalmic goitre. She had drunk water from a goitrous well, and had carious teeth and a chronic cold. The thyroid was but little enlarged, pulse (?) 160, marked exophthalmos, weight 8½ lb. She was kept in bed until her condition had subsided from the last nasal infection, her teeth were then removed and a submucous resection performed. In nine weeks she weighed 105 lb., the tachycardia and exophthalmos were only present during excitement.

Case vi (Fig. 10).—M. J., female, 35. Three years' history of hyperthyroidism in association with carioua teeth. Her thyroid had enlarged six months previously. Examination: A firm, hard enlargement of the thyroid with well-marked exophthalmic goitre, pulse 150, double exophthalmos, weight 87 lb. Her nose presented a black slough surrounding a perforation of the septal cartilage and chronic rhinitis. Her teeth were removed and the nose treated with nasal antiseptics. In four weeks her neck had diminished 1¼ in. At the end of fourteen weeks she weighed 124 lb., and the exophthalmos was not noticeable. During the involution an adenoma developed in the left lobe of her thyroid. Her heart was left in a condition of some myocardial degeneration with dilatation, and a pulse of 110.

In the nasal cases for the most part the toxaemia is not always present, but constantly recurs. Removal of the basal toxaemia causes the symptoms of exophthalmic goitre to subside. After-operations can with safety be performed on the nose to prevent the recurrence of the nasal infection and consequent exophthalmic goitre.

Lung.

The association of tuberculosis with hyperthyroidism and exophthalmic goitre has led some observers (Hollos) to believe that the great majority are tuberculous in origin. He reported 28 cases that he had treated with I.K. with recovery in 10.

From the microscopic appearances of the thyroids obtained from cases dead of tuberculosis it is concluded that only for a period of a few years is the gland in a hyperactive condition. It is only during this time that exophthalmic goitre is liable to develop.

In the early cases hyperthyroidism may be a transient phase which disappears perhaps to return after an exacerbation of the tuberculosis or the onset of another toxaemia. Observations have been made on five cases of typical exophthalmic goitre associated with chronic tuberculosis of the lungs. They were of a mild type with the exception of one case, which is quoted below. The basal toxaemia in four was pyorrhoea. The cases were observed for over a year, during which time the symptoms partially subsided, and the gland underwent degeneration with the formation of adenomata.

Case xviii.—M. R. F., female, 22. Gave a history of constant colds and haemoptysis at 17, followed by exophthalmic goitre. Examination showed a pulsating thyroid, pulse 156, double exophthalmos, weight 115 lb., steadily decreasing. The nasal septum was deviated, and the mucous membrane in a condition of chronic rhinitis. Tuberculosis was present in the right apex. Partial thyroidectomy was performed under Crile's anoci-association. At the end of a month there was a great reduction in symptoms, but she had lost a further 9 lb. in weight. She was sent to the seaside, and her symptoms cleared up *pari passu* with the tuberculosis.

The indications for treatment of exophthalmic goitre associated with phthisis appear to depend on the extent of the infection, the degree of hyperthyroidism, and the condition of the gland. In the first stage, when the condition is transient, the treatment should be directed to the tuberculous focus. The same line also may be adopted in chronic phthisis; the symptoms subside with the cure of the infection or upon fibrosis of the gland. In the more acute variety the treatment will depend on the coexisting toxaemia. In all cases this should be removed or prevented. Sometimes it is not feasible, as in the above case, when prevention involves a serious operation on the nose. Here it seemed preferable to remove half the thyroid first, and then to complete the cure by sanatorium treatment.

Before recommending treatment with tuberculin, it is advisable to note the effects of vaccines on a normal gland. Mention of this will be made in a paper on the normal stimulus.

Intestinal.

Hyperthyroidism and exophthalmic goitre, caused by the association of a toxaemia with that derived from the presence of coliform organisms in the intestine, are cured by removal of the source of the toxaemias.

The simplest of these is when endemic goitre is associated with carious teeth. Removal of the teeth and the administration of an intestinal antiseptic cause a rapid disappearance of the thyroid enlargement and the symptom of hyperthyroidism.

Case xix.—Female, 24 (Figs. 11 and 12). Drank well water from a goitre-producing well until 2½ years ago. She had had carious teeth for some years. Examination showed a soft even enlargement of the thyroid, medium type of exophthalmic goitre. Double exophthalmos, pulse 92. A mutant of *B. coli* was isolated from the faeces which decolorized litmus, sucrose, and produced no indol. Many carious teeth were present. After teeth extraction and the administration of thymol the neck diminished 1 in., the pulse became 78, and exophthalmos was not noticeable, and she increased 8 lb. in weight in a fortnight. The mutant of *B. coli* was not found after seventeen days' treatment, three days from the last dose of thymol.

Case xx.—A. F., female, 25, was in a condition of hyperthyroidism from endemic goitre and carious teeth; exophthalmic goitre developed after an attack of influenza and pleurisy. She was treated for two years with drugs and *x* rays without effect. Examination showed a soft even enlargement of the thyroid, pulse 120, and marked unilateral exophthalmos. The carious teeth and inferior turbinals were removed and thymol administered. In six months she increased 25 lb. in weight; the exophthalmos was only present on excitement and her pulse rate was 84. An adenoma developed in the right lobe during involution.

Enlargement of the Thyroid without Signs of Excessive Secretion.

This group may be subdivided into three. (*a*) Those caused from the ingestion of the atypical forms of *B. coli* (endemic goitre). (*b*) Those caused by the combined effect of two toxaemias other than atypical *B. coli* that are capable of inducing a colloid hyperplasia. (*c*) During the involution following either the acute or chronic toxaemias.

(*a*) *Endemic Goitre.*—The history of the case is of great help in making a diagnosis. Every toxaemia from birth upwards and their date of onset should be noted. The character of the water supply should be ascertained both in the district in which the patient was born and in the districts where they have afterwards resided, with the dates and the time of onset of the thyroid enlargement. In this way the cases may be placed into groups according to their cause. A routine examination should then be made. A sample of the water should if possible be subjected to a bacteriological examination and the different members of the *B. coli* group isolated. The faeces are similarly examined and the causatory organism determined. Before treatment is commenced a careful examination of the gland should be made for the presence of adenomata and cysts. A preliminary purge is given (castor oil should not be used), thymol gr. x in cachets is administered two to three times a day for fourteen days; after a three days' interval it is repeated for another fourteen days. A week later the faeces are again examined. If the organism is still present another course of thymol is necessary. (Fats and oils must not be given within two to three hours of taking thymol.) Under this treatment the organisms are killed, the gland rapidly diminishes in size. The following may be taken as an example of the sixteen cases treated.

Case xxi.—G. F., female. The paracolon and the *B. lactis aerogenes* were isolated from the faeces. Twelve days after treatment with thymol her neck had diminished 1 in.; at the end of eight weeks it was of normal size, having diminished 2 in. She had previously been treated for six months with syr. ferri iodidi with only a ¼ in. diminution.

The action of vaccines and their use in the treatment of endemic goitre will be discussed in a later paper on the normal stimulus.

Group (*b*). After the nature of the toxaemias has been determined they should be removed, though for the most part they have ceased to act before the cases are seen.

Group (*c*) consists of adenomata and cysts that have developed in the course of involution. If the cause be still present it should be removed; often it has ceased to act long before the cases are seen, though from the history the causatory agent may be determined even twenty or thirty years after its onset.

The question arises—Up to what point can thyroid affections be cured by removal of the cause?

Enlargements of the thyroid, whether of the exophthalmic or endemic type, entirely subside after removal of

the cause, providing this is done before the development of adenomata or cysts. Glands containing these will subside as a whole, but the adenomata or cysts are left. The administration of iodine may cause a slight diminution in their size, but they have not disappeared even after eighteen months' treatment. Cysts and adenomata should be treated along the usual surgical lines.

The symptoms of excessive secretion at first rapidly diminish after removal of the cause, and then more slowly *pari passu* with the diminution in the size of the gland. Any excitement will for the moment bring these symptoms again into evidence. If the disease has progressed so far that the various organs have become degenerated, only partial recovery can be made. The patient may be left with a dilated heart, permanent albuminuria or glycosuria, or with some weakness of the nervous system, either central, peripheral, or sympathetic, leading to feeble mentality, paralysis of a nerve, or some vasomotor disturbance. These require appropriate treatment.

Acute Exophthalmic Goitre.

These cases arise from the effect of a toxaemia acting on a gland that is already hypertrophied and has led to hyperthyroidism or typical exophthalmic goitre. The added stimulus gives rise to an acute exacerbation which may rapidly lead to death. Treatment is a matter of difficulty, as the five cases quoted show. Medicinal measures may prove unavailing, removal of the toxaemia may be impracticable, and any attempt to remove a portion of the gland may prove fatal.

CASE IV.—A. L., male, 30, developed an acute *catarrhalis* infection before involution was complete from exophthalmic goitre and died in a few weeks despite all medical remedies.

CASE V.—F. H., male, 30. An extension of a *catarrhalis* infection on exophthalmic goitre caused death in five days despite medical remedies.

CASE XXII.—S. L., female, 28. Developed an acute *catarrhalis* infection on medium type exophthalmic goitre and went rapidly down hill. An attempt to remove half the thyroid under Crile's anaesthesia proved fatal.

CASE XXIII.—V. D., female, 25. Developed acute exophthalmic goitre on endemic goitre and teeth infection. She lost 26 lb. in weight, but recovered under medicinal treatment after appearing moriturus for some weeks. She now exhibits the combination of myxoedema and degeneration of various organs from exophthalmic goitre.

CASE XXIV.—M. R., female, 51. An acute exophthalmic goitre developed from the effect of acute *catarrhalis* on exophthalmic goitre from chronic *catarrhalis* and teeth infection. Recovery after partial thyroidectomy under Crile's anaesthesia.

Such cases can only be treated on their own merits.

CONCLUSIONS AND SUMMARY.

Endemic goitre is caused by the toxins from the atypical forms of *B. coli*. The mutants are usually conveyed by water. They become indigenous in the intestine, and different mutants of *B. coli* are to be found in the faeces of cases of endemic goitre. The mutants are but rarely present in the faeces of normal individuals or in the faeces of individuals goitrous from other causes. It is possible to conceive circumstances which place the *B. coli* under abnormal conditions in the intestine itself, and lead to mutation and the temporary appearance of mutants in the faeces of normal individuals.

The mutants set up an apyrexial toxaemia, which stimulates the thyroid, so leading to a colloid hyperplasia and eventually to enlargement of the gland.

The whole process can be imitated in the laboratory, and endemic goitre induced in guinea-pigs by feeding with small doses of the mutants.

The supervention of a fresh toxaemia whilst the gland is in a hyperactive state causes a complete hyperplasia, with absorption of colloid and signs of hyperthyroidism up to a condition of exophthalmic goitre. This is dependent on the intensity and duration of the fresh toxaemia.

Endemic goitre is preventable by the avoidance of water contamination and by the sterilization of contaminated water.

It can be cured by the administration of intestinal antiseptics, the gland returns to normal, providing no degeneration has taken place. The gland as a whole involutes to normal, but the adenomata or cysts are left.

A condition similar to endemic goitre can be caused by other toxaemias capable of inducing a colloid hyperplasia.

Exophthalmic Goitre.

Exophthalmic goitre is due to a combination of toxaemias of an intensity sufficient to cause a hyperplasia with absorption of the colloid material. One acts during a period sufficient to give rise to a complete hyperplasia associated perhaps with slightly marked signs of hyperthyroidism without necessarily any glandular enlargement. The supervention of another infection stimulates the gland, which usually enlarges, and the signs of hyperthyroidism become very evident; the case develops into one of typical exophthalmic goitre. A nervous shock may lead to the diagnosis by suddenly bringing into evidence the symptoms of hyperthyroidism, especially those connected with the nervous system.

The severity and duration of exophthalmic goitre is dependent on the intensity and duration of the toxaemias. If they be of short duration the disease will disappear in a few months.

Exophthalmic goitre can be prevented by the detection of the early cases of hyperthyroidism and the consequent removal of the basal toxaemia.

Exophthalmic goitre can be cured if the causatory agents be removed before degeneration has occurred either in the gland or in those organs that are affected by the hypersecretion.

When degeneration has taken place in the thyroid, removal of the toxaemias causes involution to take place only in the hypertrophied portion; the adenomata and cysts are left. These require appropriate surgical treatment, as they to a certain extent keep up the symptoms of thyroid excess. Surgical treatment without removal of the cause is followed by recurrence unless so much of the gland substance has been removed that hypersecretion is impossible. Degeneration in the other organs partially recovers after involution of the thyroid; appropriate treatment is necessary for those that remain. Acute cases of exophthalmic goitre may present themselves in which surgical treatment is the only means of saving them, though the risk of death under the anaesthetic perhaps precludes operation.

As our knowledge of toxaemia is limited, so necessarily must be that of exophthalmic goitre.

The bacteriological work was done in the Westminster Hospital Laboratory, and I am much indebted to Dr. Braxton Hicks and Mr. Chopping for the care which they have taken over the work. I am also much indebted to Mr. Spencer for giving me the opportunity of making observations on clinical material.

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ANOCI-ASSOCIATION IN THE PREVENTION OF SHOCK AND POST-OPERATIVE DISCOMFORTS:

AN EXPERIENCE OF 113 CASES.

BY

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CRILE'S theory of shock is that it is due to the exhaustion of the vasomotor centres in the medulla and cord, the most important factors in the production of surgical shock being fear, pain, and anaesthetic poisoning. In operations done by ordinary methods these three factors are not sufficiently eliminated, and the operation is followed by a fall in blood pressure and definite changes in the cells of the central nervous system.

Ether and chloroform prevent feeling and movement, but they do not prevent the reception of stimuli and the discharge of nervous energy. Theoretically, nitrous oxide

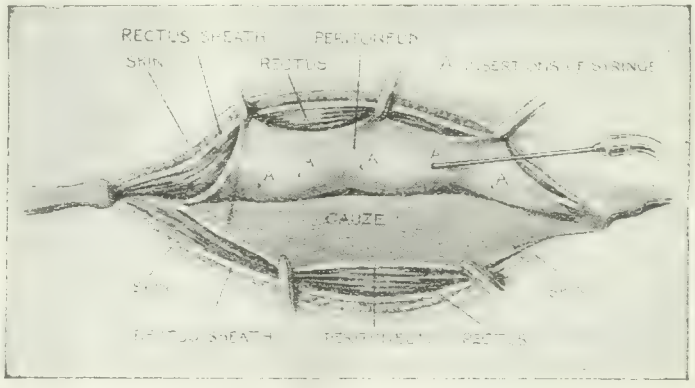
should diminish shock, for it acts by preventing oxidization, and presumably oxidization is a process in the fatigue changes of the nerve cells. Experiments showed that an equal injury produces three times as much change in the nerve cells under ether as under nitrous oxide.

Exhaustion can be produced by injury, sleeplessness, and fear. Tearing produces far more shock than clean cutting, and rough handling and strong traction on peritoneal-covered viscera is especially liable to produce shock, which can be avoided by gentle manipulation.

Stimulants, such as strychnine and alcohol, produce exhaustion changes in brain cells; it is therefore as rational to treat the exhaustion of strychnine poisoning with trauma as to treat the exhaustion of trauma with strychnine. To advise the use of stimulants for the treatment of shock is as foolish as to advise a man who is almost bankrupt to increase his expenditure. Morphine and other sedatives are conservative of energy, and are therefore of use against shock.

Crile's principle is to prevent the consumption of the stored energy of the brain cells before, during, and after surgical operations by preventing the brain from receiving painful and disquieting stimuli. He calls this anoci-association, meaning the exclusion of all harmful associations or stimuli.

Two other theories of shock are those of Yandell Henderson and of Rendle Short. Yandell Henderson believes that painful stimuli reflexly induce deep breathing, so that the carbon dioxide in the blood is reduced below the normal (acapnia). When the painful stimuli cease, this reflex cause of deep breathing is no longer present, and the normal stimulus produced by carbon dioxide is so diminished that respiration becomes very shallow, and the absorption of oxygen is insufficient. Although this may be a factor in shock, an experiment of Crile's shows that its importance cannot be great. Two dogs, A and B, were taken, and it was arranged so that the blood of A circulated through the brain of B, and conversely. A was injured and its brain cells showed typical shock changes, while the brain cells of B remained normal. Rendle Short, moreover, found by experiment that acapnia was not present in five cases of surgical shock observed by him. Rendle Short's theory is that reflex contraction of the arteries follows stimulation of pressor nerve fibres; plasma is consequently squeezed from the capillaries with resulting oligaemia.



This figure is to show the method of injecting the peritoneum. It is held up by forceps, and the needle is inserted very obliquely just under the surface, the only difficult part of the technique.

The merits of these theories do not affect the present question, because Crile's practical suggestions for prevention of shock serve in all, as the authors of the acapnia and oligaemia theories both put painful stimuli as the first link in the chain of events, and this link is broken by anoci-association.

In September, 1913, Gray[1] of Aberdeen described his technique of giving omnopon before an operation, and using local anaesthesia with novocain, ether being only used when required to keep the patient quiet. The method is on the same lines as Crile's, but it does not cut off noci-associations so thoroughly.

Chaldecott and Bryan[2] obtained extremely satisfactory results in twelve severe operations. Gas and oxygen were used; they had less post-operative vomiting than in our cases, but apparently more trouble when the peritoneum was handled.

We believe that Sir Berkeley Moynihan was the first surgeon to use Crile's methods of anoci-association in this country, and his opinion of their importance may be gauged from his remarks in his Address in Surgery at the Annual Meeting of the British Medical Association at Brighton (1913), when he ranked the work of Crile and its effects on surgery with the discoveries of Lister and Morton.[3]

In our work from July 19th, 1913, to April 30th, 1914, we have followed Crile's methods of anoci-association as closely as possible.

List of Operations Performed.

Appendicectomy ...	57	Amputations through thigh	2
Prostatectomy ...	5	Radical cure, hernia	10
Gastro-enterostomy	5	Strangulated hernia	2
Hysterectomy ...	7	Exploration of kidney	1
Perforated duodenal ulcer	3	Castration ...	1
Colostomy ...	4	Hallux valgus ...	1
Gall stones ...	6	Radical cure, hydrocele	3
Explorations of abdomen	4	Radical cure, varicocele	2
Ovariotomy and appendix	4	Perineorrhaphy ...	1
Ventrifixation ...	2	Glands in neck ...	2
Nephropexy ...	2	Removal of semilunar cartilage ...	1
Excision of knee ...	1	Plating and wiring operations for fractures	8
Amputations of breast	4		
Thyroidectomy ...	5		

After the preliminary injection of scopolamine $\frac{1}{100}$ grain and morphine $\frac{1}{6}$ grain (average doses) one hour before operation, unconsciousness is in most cases induced and maintained by ether given by the open method. In a few early cases the anaesthetist had such a prejudice in favour of chloroform that he could not resist giving it during a part of the operation. Very little inhalation anaesthetic is usually required, generally about one third of the usual amount, and the patient sleeps comfortably without giving any anxiety. When unconsciousness has been produced, the skin is infiltrated with a 1 in 400 solution of novocain; during the incision the deeper layers are treated in the same way as they are exposed.

If the infiltration is thorough no stimuli reach the brain, and the lightest possible ether administration is needed, sufficient only to keep the patient quietly asleep, for the cut does not wake him. In other words, the infiltration anaesthesia, aided by the scopolamine and morphine, should be sufficient by itself to cut off all impressions of physical pain, the inhalation anaesthetic being solely used to eliminate mental anxiety, and in such quantity only as is sufficient to keep the patient from knowing that an operation is proceeding, and oblivious to any distressing sights or sounds.

In abdominal operations, after the peritoneal cavity has been opened, a wet gauze pad is packed into the incision and the peritoneal edges are everted and freely injected with a solution of quinine hydrochloride and urea (5 per cent. of each in normal saline), large blebs being formed all round the peritoneal incision. An area should be infiltrated which will generously include all the parts which will subsequently be traversed by stitches. One or two ounces of the solution, according to the length of the incision, are used at this stage.

In spite of the lightness of the ether anaesthesia, there is no rigidity of the abdominal wall and no trouble with extrusion of the viscera, and the hand can gently explore the abdomen with ease. It is a great advantage to operate on patients under such favourable circumstances. Throughout the longest operation the patient's condition rarely gives the least anxiety to either anaesthetist or surgeon, the only difficulty for the anaesthetist being to keep his very light anaesthetic even. Patients have often moved and occasionally talked during the operation; one young lady woke up while the rectus sheath was being stitched and said, "Was it the appendix?" She added that she felt quite comfortable, and a little more ether sent her to sleep again. One marked advantage of the method is the uniform ease with which the peritoneum is sewn up. It

pulls up easily, and the intestines fall back into the abdomen; usually no packing is required.

The injection, of course, adds to the duration of the operation, but, when once accustomed to it, it can rarely add more than five, or at the most ten, minutes. Part of this time is regained by the ease of operating, and in any case it is of no consequence, for the patient's condition is improved by it. There has been, however, one exception to this: An elderly woman of very poor fibre, weakened by six months of haemorrhage, needed panhysterectomy. The anaesthetist was, for some reason, unable to keep the airway clear, and from the start she took the anaesthetic badly. She was deeply cyanosed and strained all through the operation, which was long and difficult. She suffered severely from shock and never picked up, dying on the fourth day. She was the only patient that suffered any degree of shock.

When the operation is over, there is a quick and comfortable recovery; usually no pain at all is complained of, sickness is reduced to a minimum, and the patient usually sleeps well from the first night onwards.

Another marked effect, probably due to the scopolamine, is that, though patients may talk sensibly just before and soon after the operation, they frequently have no recollection of what has happened during most of that day when questioned afterwards, and it is a great advantage to have no unpleasant memories.

Ward and Home Sisters, who started by being sceptical, are now quite convinced of the advantages of anoci-association, and declare that such patients are no trouble after operation.

In two amputations through the thigh in old people, in addition to the usual novocain infiltration, the sciatic nerve was injected with quinine and urea, and there was no shock and practically no after-pain.

One girl of 17 years had a large one-sided goitre, which caused great pain and dyspnoea. The operation for removal was conducted without the slightest anxiety, and recovery was normal and rapid. The patient was subsequently operated upon by another surgeon for enucleation of the tonsils, and died under the anaesthetic. At the *post-mortem* examination status lymphaticus was found. It seems possible that it was anoci-association which saved her from disaster on the occasion of the first operation.

We have had no trouble in the healing of wounds, but there is no doubt that the infiltration must increase the chances of sepsis; and the method should therefore not be used unless the surgeon is sure of himself and his surroundings. Crile has pointed out that it is inadmissible to infiltrate tissues which are the seat of either acute inflammation or cancer.

The comfort of the patient and his pleased surprise at the absence of discomfort would repay the trouble entailed, even if the operation mortality were not lowered. Crile's mortality has diminished from 40 to 8 per 1,000 since he has used anoci-association.

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RADICAL CURE OF INGUINAL HERNIA.

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IT is not with any desire for innovation that I wish to invite attention to a method which I have lately devised, for I feel certain that any surgeon, like myself, who has performed a thousand hernial operations, must frequently have been struck by the difficulty of preventing the fibres of the inner shelf of Poupart's ligament splitting when inserting the necessary approximation sutures. It is obvious that such splitting must act detrimentally by weakening the first and principal line of defence. In order to avoid it I have tried various forms of needles, but found little difference in result, except that on two occasions, when using sharp curved ones, I wounded the external iliac vein (Chopart amputation of the foot followed in one, no penalty in the other).

The operation which I am about to describe has for its object the elimination of such "regrettable incidents," and the fulfilment of the anatomical conditions which form the basis of such thorough procedures as that of Halsted and Bassini.

As to the skin incision, I should recommend every one not to forget Mr. Lockwood's advice, that in order to find the correct line it is essential to begin by invaginating the scrotum with the finger into the external ring. I have seen this elementary precaution often omitted, the inguinal canal missed altogether, and a fumbling excision made into the femoral region. I employ a long incision, extending from the level of the pubic spine to a point about one inch below and internal to the anterior superior iliac spine. The superficial epigastric and superior external pudic vessels are seized with forceps, divided between, and ligated, and the aponeurosis of the external oblique thoroughly exposed. The intercolumnar fibres of the external ring are then snipped with scissors, and with the handle of the scalpel the aponeurosis is split, parallel to its fibres, to the upper limit of the incision. The divided aponeurotic "leaves" are next seized on each side by pressure forceps, which act as tractors, and considerably facilitate the thorough separation of the former, by blunt dissector, from the underlying structures. I wish to lay

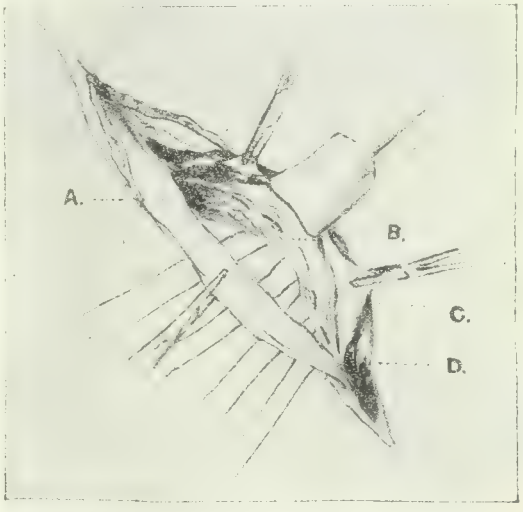


Fig. 1.—A, Poupart's ligament. B, Conjoined tendon. C, Aponeurosis of the external oblique. D, Cord retracted inwards and lying superficial to external oblique.

particular stress on the necessity of thoroughly executing this manœuvre at this stage in order to prevent subsequent anatomical obfuscation, and the avoidance of what I have occasionally witnessed in clinics—the suturing of something to anything.

Once the inner shelf of Poupart is brought into clear perspective, and the fibres of Gimbernat can be readily felt, on the outer side, and the conjoint tendon with the rectus sheath exposed, on the inner, it becomes a very simple matter to free and isolate the cord, and to distinguish, separate, incise, and remove the hernial sac, and to suture the opening flush with the peritoneal cavity.

This completed, the cord is raised up and placed well out of range of injury behind the two tractor forceps attached to the edge of the internal leaf of the divided aponeurosis (Fig. 1).

I now come to the principal part in this operation. The external leaf is drawn firmly downwards and outwards by tractor forceps until the inner shelf of Poupart's ligament comes well into view. Taking this exposed shelf as level, a curved hernia needle is passed from without inwards right through the reflected aponeurosis—the lower one embracing in transit some fibres of Gimbernat's ligament (Fig. 2)—passed across the floor of Hesselbach's triangle, and made to emerge through the substance of the conjoint tendon. The needle is now threaded with strong catgut, one end grasped by an assistant, and the needle withdrawn. The unthreaded needle is again similarly introduced about half an inch above the former, and a mattress suture completed. Three more similar ones are inserted through the above level, and sufficient room is left at the upper angle for the passage of the cord (Fig. 1).

When these four sutures are tied (Fig. 3), the anatomy of the part is considerably transformed, the inner shelf of Poupart's ligament being firmly approximated to the conjoint tendon. Hesselbach's triangle is completely obliterated. In some patients, with ill-developed or flabby conjoint tendons, I have obtained benefit by passing the

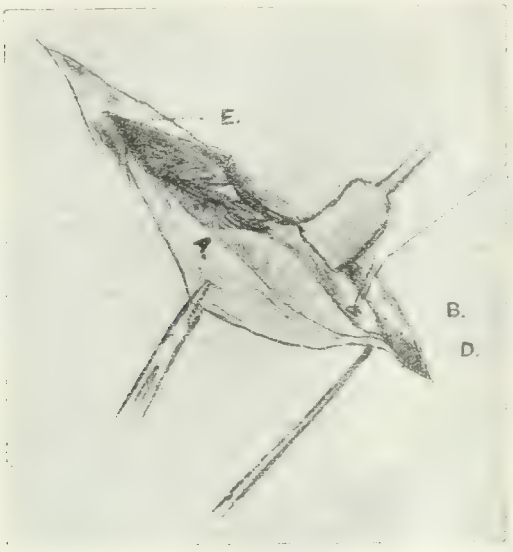


Fig. 2.—Insertion of first stitch through Gimbernat's ligament and conjoined tendon. A, Poupart's ligament. B, Conjoined tendon. D, Cord retracted inwards. E, External oblique.

hernia needle further inwards through the adjoining sheath of the rectus, so as to afford a good purchase for the loop of the mattress suture.

Finally, the two aponeurotic leaves are united by a continuous catgut suture, and in doing this I make it a rule to insert the point of the needle deep enough to catch hold of underlying muscle in order that no intermuscular dead space may be left. The cord, of course, is left, as in Halsted's operation, superficial to the external oblique.

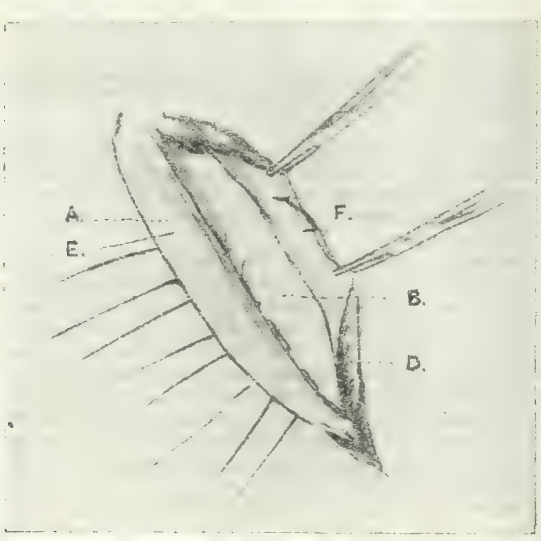


Fig. 3.—A, Poupart's ligament (lower shelf). B, Conjoined tendon. D, Cord retracted inwards. External oblique—external leaf. F, External oblique—internal leaf.

I find this makes an extremely firm barrier, and is equally useful for the radical cure of oblique or direct hernia.

It is obvious that this operation only differs from that of others in the manner of introduction of deep sutures, but I am convinced the modification is important, in that it affords a simple and absolutely safe method of approximating somewhat delicate tissue in a rather dangerous zone.

I wish to acknowledge my indebtedness to my friend Dr. K. Macfarlane Walker for drawings.

A CASE OF URAEMIA WITH AN UNUSUAL DEGREE OF UREA RETENTION.

BY

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AND

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I.—*Clinical Note by Dr. H. B. Day.*

An Egyptian fireman, aged 36, was admitted to hospital to undergo treatment for scabies in the skin section. He did not complain of any urinary symptoms, but the routine examination of urine revealed a high degree of albuminuria, varying from 0.275 to 0.225 per cent. The specific gravity was low—1008—and the reaction acid. The patient was put on milk diet, and discharged in ten days cured of his scabies.

A month later (January 5th, 1914) he was readmitted to the medical wards for oedema of the feet and eyelids with some cough of ten days' duration. The urine was now found to be alkaline in reaction, with a deposit of pus and phosphates. Albumin was present to the same degree as before; the specific gravity was 1010. The bladder was sounded, with a negative result, and the patient was treated for nephritis and cystitis.

A fortnight later the patient's condition caused uneasiness, although all the oedema had disappeared. He had become weak and apathetic, with a fixed staring expression, though responding readily to questions. The amount of urine averaged 1,000 c.cm. a day, but continued of the same low density. In spite of active treatment, the patient became gradually weaker and less responsive. A week later (January 28th) chattering movements of the jaws set in, the tendon reflexes were exaggerated, clonus being easily elicited. The pupils were equal and moderately contracted. The urine showed no further alteration in composition and quantity.

Lumbar puncture was performed and a free flow of clear fluid obtained. No albumin was present (nitric acid test), but the quantity of urea was found by Doremus's ureometer to amount to the extraordinary percentage of 0.75, whereas the normal is 0.03 to 0.04. I was naturally sceptical of such a reading, and repeated the estimation twice again, but with a similar result. I therefore requested Dr. W. H. Wilson to estimate the amount of urea present in the blood. He kindly took samples on two occasions and also collected material at the necropsy. His report forms the second part of this paper.

In spite of rectal injections of saline and cupping to the loins, the patient rapidly grew worse and died three days later (January 31st).

Necropsy.

Dr. A. R. Ferguson, Professor of Pathology, made the necropsy and reported as follows:

"The left ventricle was hypertrophied, the right dilated. The lungs were congested and the liver enlarged, but of normal appearance. The brain showed a recent small patch of subdural haemorrhage on the left side; the ventricles were somewhat dilated and the cerebro-spinal fluid excessive in amount. The bladder was thin-walled and pouched, showing several areas of haemorrhage in the mucous membrane, both old and recent. There were signs of bilharziosis around the opening of the urethra, but no stricture was present. The openings of the ureters in the bladder were lax and patent, but the ureters themselves were dilated. Both kidneys were largely destroyed by pyonephrosis. The residual renal tissue showed acute inflammation."

II.—*Note by Dr. W. H. Wilson.*

At the request of Dr. Day an estimation of the urea content of the blood was made. I also examined the blood and cerebro-spinal fluid obtained *post mortem*, and kindly supplied by Professor A. R. Ferguson.

The method employed was that described by Barcroft,[1] with slight modifications, the apparatus, however, being different. For the samples of which larger quantities were available (*c*, *d*, *e*, *f*), the dried alcoholic extracts were taken up in 20 per cent. NaOH. and decomposed with hypobromite of sodium in an apparatus of the Dupré type; the usual corrections for temperature and pressure were

made; 354 mm.³ of nitrogen were taken to represent 1 mg. of urea. The evaporation of the alcoholic extract was carried out at a temperature varying between 58° and 62° C.

	Urea per cent.
(*a*) 84 c.mm. blood taken 2 days before death ...	0.67
(*b*) 112 c.mm. blood taken 3 hours before death... (This blood was taken from the finger. There being no oedema, the blood was unmixed with serous fluid.)	0.67
(*c*) Blood from the right side of the heart (chiefly serum)	0.738
(*d*) Serum obtained by centrifuging (*c*):	
First sample	0.745
Second sample	0.74
(*e*) Thick blood from vena cava inf. (chiefly corpuscles)	0.53
(*f*) Cerebro-spinal fluid from lateral ventricle:	
First sample	0.85
Second sample	0.84

(*c*) consisted of blood from the right auricle and large veins of the head and neck. Most of the corpuscles had separated out by sedimentation. The specific gravity was only 1037.

(*d*) was quite free from corpuscles and haemoglobin. Its specific gravity was 1036. Proteins 10.5 per cent. (approximately). The high specific gravity is partly explained by the excess of urea (to the extent of 0.0025), partly by the excess of protein.

(*e*) This was obtained from the inferior vena cava at the point of entrance of the left renal vein. It was very thick, resembling a magma of corpuscles. The specific gravity was not determined accurately; it was, however, over 1080.

(*f*) This was faintly cloudy; the specific gravity was unusually high, being 1020. It contained 0.25 per cent. protein.

In the case of the smaller samples—namely, (*a*) and (*b*) and the second determinations of (*d*) and (*f*)—the apparatus used for the hypobromite decomposition was a modification of a "micro-nitrometer" shown by me at a meeting of the Physiological Society, June, 1912. (No description of this apparatus has yet been published.) The method of extraction was similar to that used with the other samples. The percentage of urea found in the cerebro-spinal fluid by Dr. Day four days before death was approximately 0.75 per cent. Probably the actual amount was a little less than this, as it was determined by direct estimation in the Doremus ureometer.

The points of interest in the above results are:

(*a*) The large percentage of urea.
(*b*) The fact that the cerebro-spinal fluid obtained *post-mortem* contained more urea than the serum.
(*c*) That the red blood corpuscles contained a considerable amount of urea.

As regards the first point, the greatest amount of urea present in the blood in uraemia that I find recorded in the literature at my disposal is 0.585 per cent. found by von Jaksch.[2] Widal and Javal[3] record 4 cases in which the amount varied between 0.3 and 0.5 per cent. In the case of a woman who died in Kasr el Aini Hospital two years ago the nitrogen given off from the alcoholic extract of the blood corresponded to 0.66 per cent. of urea. The blood in this case contained a considerable amount of bile pigment and probably also bile salts; the actual amount of urea was therefore no doubt less than 0.66 per cent. The maximum amount I have found in other cases is 0.4 per cent.

As regards the second point, Widal and Froin[4] state that the urea content of the cerebro-spinal fluid is the same as that of the blood plasma; they record one case in which the percentage of urea was 0.448 in both fluids. In a case of uraemia recently examined, I found 0.337 per cent. in the blood serum and 0.316 per cent. in the cerebro-spinal fluid. In the case which is the subject of this note, Dr. Day found 0.75 per cent. of urea in the cerebro-spinal fluid, the figure being identical with that found in the blood serum *post mortem*. In regard to the *post-mortem* material, the serum contained 0.1 per cent. less urea than the cerebro spinal fluid, namely, 0.745 per cent. as compared with 0.85 per cent. In view of the high specific gravity of the cerebro-spinal fluid obtained *post mortem*, a possible explanation would seem to be that some concentration of the fluid took place during the twenty-four hours which elapsed after death before the autopsy was performed.

In regard to the third point, it is generally stated that the urea of the blood is normally contained entirely in the plasma. Some figures given by Barcroft[5] show this; I have also found it to hold good for blood containing as much as 0.09 per cent. of urea. On the other hand, Hedin[6] has shown that in blood to which urea has been artificially added the permeability of the corpuscles to urea is almost complete. In the case under discussion the blood corpuscles undoubtedly contained a considerable percentage of urea. In fluid (*e*), consisting mainly of corpuscles, there was 0.53 per cent. of urea, which is far more than could be accounted for by the small amount of plasma present. The blood taken shortly before death contained 0.67 per cent. of urea, while the serum (*d*) contained 0.745 per cent. Assuming that the ratio of corpuscles to plasma was the normal—namely, 40 to 60—the distribution of urea in the blood would be 0.447 parts in the serum and 0.223 in the corpuscles, giving a percentage of 0.557 in the red blood corpuscles, which is in close agreement with the amount actually determined in the magma of corpuscles (*d*).

The discrepancy between what is known of normal blood, the corpuscular content of urea in this case, and the permeability of the corpuscles to urea as determined by Hedin and others, is probably to be accounted for by the fact that Hedin was working with urea solutions of much higher concentration than are ever found in the blood. It is at least possible that the intrusion of urea into the corpuscles is dependent on a concentration of urea in the plasma much above the normal.

A fact of considerable interest in this case is that the blood contained apparently less than the normal amount of uric acid, certainly no more; whereas in two other cases of uraemia recently examined (in which the urea content of the serum was respectively 0.33 per cent. and 0.25 per cent.) the amount of uric acid was greatly in excess of the normal, being present to the extent of approximately 0.02 per cent. in the first of these two cases. (Both these cases were under Dr. Day's care, to whom I am indebted for the material.) Whether this fact is connected with the difference in pathological conditions present in these three cases is worthy of further investigation.

The case here detailed was one of hydronephrosis with a somewhat acute secondary inflammation of the remaining kidney substance following septic infection of the urinary tract, whereas the condition of the other two was that of contracted granular kidney with a toxic exacerbation shown by considerable albuminuria.

A fact which may also be related to the lack of uric acid in the blood was that coma was completely absent in this case of latent uraemia at the time when a specimen of blood was taken a few hours before death. In the other two patients convulsions and coma had developed, yet in the first case the serum contained no less than 0.75 per cent. of urea as compared with 0.25 and 0.33 per cent. in the latter two. I had no opportunity of personally examining the urine in either case.

The determination of the presence and a rough estimate of the amount of uric acid in the blood was made by the phosphomolybdic acid reaction with an alkaline solution of the dried alcoholic extract. The estimate was formed by comparison with a solution of uric acid of known strength treated in the same way. It is here assumed that the substance present in the blood which gave the reaction was uric acid. It may be mentioned that the only other substances present in the urine (and so conceivably present in the blood) that give this reaction are the aromatic sulphates.

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[1] Barcroft, *Journ. of Physiology*, vol. xxix, p. 181. [2] Von Jaksch, *Zeitsch. f. Heilkunde*, 1903, vol. xxiv, p. 401. [3] Widal and Javal, *Semaine médicale*, 1905, No. 27, p. 315. [4] Widal and Froin, *Comptes rendus de la Soc. de Biol.*, 1904, p. 282. [5] Loc. cit., table on p. 186, assuming that blood and serum were from the same case. [6] Hedin—quoted from *Hamburger-Osmotische Druck und Ionenlehre*, vol. i, p. 214.

DR. LÉON LABBÉ, Senator for the Orne, has again been elected Chairman of the inter-parliamentary group of members of the French Legislature (Senate and Chamber of Deputies).

AT the annual meeting of the American College of Surgeons, held in Philadelphia on June 22nd, a movement was set on foot for the establishment of a permanent home of surgery in Washington, for which an endowment fund of £100,000 will be required. More than £20,000 was promised by those present within an hour. The college has now a membership of 3,200, having admitted 1,000 surgeons to fellowship at the meeting.

LATENT DYSENTERY, OR DYSENTERY CARRIERS IN SARAWAK, BORNEO.

BY

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EVERYBODY understands by the use of the word "dysentery" that patients have loose stools, with blood and mucus, but my experience in Sarawak is that many people, white or native, may become thin, pale, wasted and weak with what is practically dysentery, without having loose stools or blood or mucus. In such cases I have found abundant amoebae of the *histolytica* type; and when these were cleared out by a few injections of emetine, with saline treatment, the condition of debility, pallor, and wasting disappeared.

The more one searches the more prevalent does one find this condition of amoebiasis. In imported Tamils I have found amoebae in 100 per cent. of the cases. In other batches 80 per cent. were infested with them, and some have developed acute dysentery and died after arrival, thus proving that the amoebae were pathogenic.

Of Javanese in hospital, not admitted for dysentery, I have found 25.4 per cent. with amoebae: and in a new batch of 16, just imported, 56 per cent. had amoebae and 43 per cent. had ankylostomiasis.

Among Malays examined (only three to date) amoebae were found in all, yet they showed no signs of dysentery. It is true that ankylostomiasis was also present. There is a suspicion that Malays who live by the river, and drink its water, into which of course all their sewage runs, are infected with amoebae, ankylostomiasis, and filaria. Research is being made into their condition.

It is very probable, however, that much of the debility, invaliding, anaemia, and "fever" put down to malaria, which is rare here, is due to the septic, irritated condition of the colon in patients infested with amoebae who show no signs of blood or mucus in their stools till they reach an advanced stage of ulceration.

The following statistics from our laboratory may prove this contention:

During nine months since August, 1913, of 554 cases admitted to Sejijak Hospital, 65 were dysentery carriers and 19 others had the usual signs of the disease. Thus there were 12 per cent. of carriers of latent dysentery and 3.4 per cent. of actual cases.

100 Unselected Cases (April and May, 1914) of all kinds.

Amoebae were found in	34 per cent.
Trichomonas in	13 ,,
Ankylostomiasis in	40 ,,
Round worm in	24 ,,
Whip worm in	44 ,,

Analysis by Nationalities of 100 Consecutive Selected Cases admitted to Sejijak Hospital during May, 1914.

Nationality.	Amoebae Found.	Amoebae not Found.	Total.	Percentage Found.
Javanese	16	47	63	25.4
Tamils	11	2	13	84.6
Chinese	2	12	14	14.0
Dyaks	0	2	2	—
Malays	3	0	3	100.0
Europeans ...	2	3	5	40.0
Total	34	66	100	34.0

In none of these cases was dysentery suspected, nor was blood found. Of the three Malays who complained of pain in the stomach, not only was amoeba found, but trichomonas and ankylostoma as well. In one case *Filaria nocturna* was in the blood at the same time.

Sarawak is nevertheless a healthy country. The reasons are no doubt: (1) The large rainfall (220 in. last year); (2) the cool monsoon breeze; (3) the reduction of malaria by rubber-planting and clearing; (4) the infrequency of cholera, enteric fever, and small-pox; (5) the absence of trypanosomiasis and plague. The temperature also rarely rises above 90° F., and is usually 78° to 80° in the shade. Although the thermometer may reach over 100° in the sun, heat-stroke is rare. For the equatorial region, therefore, Sarawak may be considered one of the healthiest places, in spite of amoebiasis. Although the death-rate is low, I have found Europeans and natives feeling "rotten," as they call it, or suffering from neurasthenia, who became fit soon after the amoebae were cleared from the colon and the resulting colitis and septic state had been cleared up. It used to be common for patients to attribute everything to a "touch of fever" and to take quinine; but I have found that calomel and saline are much more effective.

The actual death-rate of our hospitals only reached 3 per cent. on all cases, and the three deaths we had out of 33 cases of acute dysentery were due to the fact that the estates were caught by surprise and the cases came in a dying state. After we got emetine and cases in the first stage we had no deaths.

Conclusions.

1. That 30 per cent. or 40 per cent. of the entire population are dysentery carriers.
2. That the examination of them early and treatment with saline clears the colon of amoebae and prevents dysentery.
3. That much invaliding and debility are due to latent dysentery.
4. That the amoeba is of one type and cannot safely be pronounced non-pathogenic at any time.
5. That emetine is most valuable in obstinate latent cases, and is essential in dangerous, acute, amoebic dysenteries, robbing them of their terrors.

THREE CASES OF INFECTIVE ARTHRITIS TREATED BY SPECIFIC METHODS.

BY

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ACUTE arthritis is a common disorder, but it is not always traced to a definite local infection of the joints. Infections of joints due to the *Bacillus tuberculosis* and the gonococcus are of frequent occurrence, and cases of pneumococcal and streptococcal infection are occasionally met with. In many other forms of arthritis infection of some kind is suspected and probable, but it is often difficult to demonstrate conclusively the presence of any organism. In the following cases a bacteriological diagnosis was made with certainty, and beneficial results were obtained in each of them by specific therapy. The term "bacteriological" is here used to include the diagnosis of syphilis.

There are three methods by which a bacteriological diagnosis may be made in any case of infection: the first is the recovery of infective organisms from the lesion; the second is the recovery of such organisms from a site remote from the lesion, but so situated that the connexion between the two sites is clear; and the third is by means of "reactions," by which is meant the demonstration in the patient's blood of bodies which have a recognized bearing on some organism of known infective properties. The cases here reported illustrate each of these methods.

CASE I.—*Staphylococcus.*

Parlourmaid, aged 42. The patient had been long subject to slight rheumatic pains in many joints, especially the right knee, and had had one severe attack of rheumatism in this joint six years before. In January, 1914, while suffering from slight pain in the right knee, she was out of doors in rainy weather; during the following week this joint became very painful and was much swollen, and three weeks later she was admitted to Westminster Hospital.

On admission the joint was very swollen, and so painful and tender that the patient had had no sleep for three nights. The joint was much distended and was held in a semiflexed position; it was punctured and some opalescent fluid was withdrawn, which contained numerous leucocytes and yielded a pure culture of *Staphylococcus aureus*. The joint was aspirated and emptied as far as possible. An autogenous vaccine was prepared; the patient was inoculated, and in due course extension, massage and passive movements were employed. The result was very satisfactory and ended in complete recovery.

There were some points of interest in connexion with this case. There was no history of trauma nor any

evidence of abrasion of the skin, and the patient did not appear to be suffering from septicaemia, as there were no abscesses elsewhere and the general condition was good. There was, however, the scar of an old operation for osteomyelitis on the tibia immediately below the joint; this operation had been performed thirty years before, and the question arises whether the joint could have been infected from this source. The joint infection was not virulent, and there was no tendency to point; the fluid aspirated was very thin pus, and recovery was complete even in so vulnerable a structure as the knee-joint. It seems probable, therefore, that the infection was of a very mild character, due only to an attenuated organism. Thirty years is a very long period for organisms to persist in the body without giving rise to symptoms, but in this connexion a case reported by Mr. Tubby and Dr. Braxton Hicks is of interest.[1] Their patient had an attack of suppurative osteitis from which the *Bacillus typhosus* was recovered thirteen years after an attack of enteric fever. In such a case independent infection is most improbable, since the *Bacillus typhosus* is of comparatively infrequent occurrence. If, then, an organism can be proved to have survived within the body for thirteen years, there is no obvious reason why it should not continue to survive for thirty.

CASE II.—*Streptococcus.*

Male, aged 40, under the care of Dr. T. A. Durrant, was seen on the recommendation of Dr. Luff. Dr. Durrant reported that the patient was suddenly taken ill with sore throat, a temperature of 102°, and symptoms of influenza, which were followed on the second day by pain and redness in the metatarsal joints of the right foot, and on the third day by swelling and redness of the left ankle, and stiffness and pain in the right shoulder. There was persistent variable temperature for seventeen days, and a fall by lysis succeeded by periphlebitic pain and thickening along the course of the left saphenous vein.

Cultures were made from the blood, the throat, the faeces, and the urine. The throat was still inflamed, and many organisms were obtained from it, with a preponderance of streptococci. The faeces showed numerous cocci in the film, and streptococci were obtained in unusual number on culture. The urine yielded a diphtheroid bacillus, but no streptococci. The blood: About 6 c.cm. were withdrawn from a vein and distributed among six broth tubes, each of which yielded streptococci. A vaccine was prepared from the blood culture, and Dr. Durrant reports that there was rapid diminution of objective conditions from the use of the first inoculation, and the patient made a complete recovery.

This case is an instance of the isolation of pathogenic organisms from a site remote from the lesion. Since they were obtained from the blood, which is normally a sterile fluid, there was strong presumptive evidence that they came from the same source as those causing the symptoms of which the patient complained: the blood is the most satisfactory site from which to obtain organisms in such cases. In the event of the blood being sterile, other sites have to be investigated: for instance, in a case of arthritis, the presence of gonococci in a urethral discharge is strong presumptive evidence that the joint infection is also gonococcal. Similarly, a pneumococcal or typhoid arthritis may be inferred when the joint condition supervenes on pneumonia or enteric fever, in which the specific organisms have been demonstrated. In the present instance, if the blood culture had been negative, it would have been worth while to attempt inoculation with the streptococcus from the faeces, but since this organism is commonly present in stools there would have been greater risk of failure; this applies with still greater force to those obtained from the throat. The case is especially interesting because it is very rare to obtain a positive blood culture from a patient in whom arthritic symptoms predominate.

CASE III.—*Syphilis.*

Male, aged 35, under the care of Dr. Hildesheim, of Northwood, was admitted at his request into Westminster Hospital. The symptoms were not primarily those of arthritis. The patient had worked in many parts of the world, especially in the tropics, and had undergone much hardship; he had been invalided from the Johannesburg mines with the diagnosis of phthisis, but tubercle bacilli had not been found in the sputum. He had recently been invalided from the West Coast of Africa with persistent headache, great depression, and serious loss of weight. About the time of his admission to hospital he developed a sudden painful swelling of the right knee, which was distended with fluid; it was not hot, nor inflamed in the ordinary sense, but so painful as to prevent sleep. It was not acutely tender, and some degree of passive movement was permitted. Extensive pathological observations were made by Dr. Braxton Hicks to exclude malaria and other tropical diseases, with negative results; the blood, however, gave a positive Wassermann reaction, confirming a diagnosis of syphilis provisionally made on clinical grounds by Dr. Hildesheim. Injections of salvarsan were given with immediate relief of the symptoms in the right knee. There was some recurrence in a day or two, but this was followed by rapid improvement, and on leaving the hospital the patient, though far from recovered in general health, was able to walk in comfort.

Syphilitic arthritis of the type here described is not very common. Fournier[2] describes a type similar to acute rheumatism, chiefly affecting the knee, in secondary syphilis, and also painful joints without physical signs of disorder, and painless hydrarthrosis. Adami and Nicholls[3] describe serous synovitis in secondary syphilis, and state that it occurs occasionally in the tertiary stage. This patient had no knowledge of infection; he stated that he had not been exposed to risk for more than a year, and he showed no other secondary symptoms, so that the lesion was probably tertiary.

In this case the diagnosis was made by a reaction, and improvement followed treatment. It should be noted that the specific diagnosis of syphilis is not comparable to the diagnosis of bacterial infections by agglutination, bacteriolytic or opsonic tests, nor is treatment by salvarsan comparable to inoculation with vaccines or serums. It was long held to be an axiom that while bacteria could be cultivated and their infections treated by methods intended to raise the patients' resistance to them, no drugs capable of oral or subcutaneous administration had any bearing on them, but, on the other hand, the protozoa could not be cultivated, while many of them were susceptible to treatment by drugs. That is still largely true, but recently it has been possible to cultivate a few of the protozoa, and Professor Morgenroth has made observations which show that an organic salt of copper has a definite effect on the pneumococcus in the tissues.[4] The Wassermann reaction depends on a fortunate accident, but all observers agree that it has high specific value in syphilis; it differs from the antibacterial blood tests in this, that the "positive reaction" disappears with successful treatment, whereas in recovery from bacterial infections, whether spontaneous or induced, the reaction, which is evidence of resistance, becomes for a time intensified; the reason is that the treatment by salvarsan is the application of a specific poison to the invading organism, and not a stimulus to the body to produce antibodies.

These cases all show the value of accurate bacteriological diagnosis in specific treatment, which is otherwise purely empirical, and has then no advantages over other empirical treatment. Where vaccine-therapy is employed without such a diagnosis, which often cannot be made, it is necessary to make a guess at the infecting organism, and though such guesses are fairly often successful, they are necessarily attended by very many failures. The essentials of success in vaccine-therapy are three—the employment of the right organism, the use of suitable doses, and, thirdly, the power of the patient's tissues to respond to the stimulus of the inoculation. The last can never be guaranteed, but accurate bacteriological diagnosis secures the first of the three essentials.

The prognosis in staphylococcal and streptococcal arthritis is not very good, and frequently ends in permanent damage, more or less serious, so that complete recovery is to be looked upon as a very fortunate result.

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THE *Australasian Medical Gazette* states that South Australia was the first State in Australia to erect a crematorium. The crematorium attached to the West Terrace Cemetery was built in 1901 by a number of private persons interested in cremation, as opposed, on sanitary grounds, to earth interment. The structure, which cost about £2,000, was erected on land allotted by the Government. The crematorium had been erected a long time before it was first utilized, and in 1903 the promoters handed it over to the Government. The first cremation was that of the body of a Sikh, on May 4th, 1903. The first white man cremated was the late Dr. Shand, of Port Elliot, on October 30th, 1903. So far there have been 63 cremations at West Terrace, 13 of them in the past twelve months.

PNEUMOCOCCIC ARTHRITIS FOLLOWING ACUTE PNEUMONIA.

BY

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CASES of pneumococcic infection of a joint following acute pneumonia are rare, and the literature on the subject is certainly not voluminous. For these reasons the following notes may prove of interest.

The older writers on the complications of pneumonia mention "rheumatic joints" as sometimes following this disease. Quain and Osler both record the fact that arthritis may follow an acute attack of pneumonia. Stickler, of Philadelphia, collected records of 11,846 cases of pneumonia from various clinics, and found joint complications in about 800, that is, about 14 per cent. He does not indicate whether any suppurative forms occurred. In the Epitome of the issue of the BRITISH MEDICAL JOURNAL for June 13th, 1914, Buckley is quoted (No. 339) as collecting 172 records of pneumococcic arthritis, and as having reported a case of his own in the *Annals of Surgery*. The shoulder-joint was involved in a child 11 months old, and the trouble supervened upon left lobar pneumonia.

The notes of my own case are as follows:

History.

A male, aged 49, spent his 50th birthday in a nursing home convalescing from pneumococcic infection of the left ankle-joint following an attack of acute lobar pneumonia. He was a slim Frenchman who did not seem to be a good subject for pneumonia; he had had a previous attack three and a half years before when in East Africa, and had never felt well since.

When 25 years old he injured his left ankle-joint, and was unable to walk for several weeks. He sprained it again a few days before his present illness.

Condition when First Seen.

He was first seen on April 8th, 1910; he was then suffering from indefinite symptoms—namely, pyrexia (temperature 104°), chilliness, and rapid pulse (110) and respiration (30). He had been in contact with a bad case of influenza, and it was thought that perhaps he had contracted the disease. Next day physical signs pointed to pneumonia at the base of the left lung; he was very ill, but the attack followed the usual course, and the temperature fell by crisis on the seventh day. During the attack he complained of pain in the left ankle-joint, but there was no swelling or redness.

On the evening of the seventh day the temperature ran up to 101°, and the pulse was 108; he felt ill, and complained of great pain in the left ankle-joint, which was slightly swollen, red, and hot; the pain was lulled by local fomentation and aspirin, but he had a restless night.

In the morning (April 16th) the swelling had increased, and by the afternoon had reached nearly up to the knee-joint. The temperature was 104°, the pulse 120, and respirations 20. I decided to operate.

Operation.

Light chloroform anaesthesia was induced, and an incision made three-quarters of an inch behind the internal malleolus. A pair of dressing forceps was pushed through the incision in the direction of the posterior part of the ankle-joint, and several ounces of creamy pus escaped. A counter-opening was made behind the external malleolus, and a drainage tube inserted. The incisions were extended upwards on either side of the leg through the oedematous tissue, and the wounds and joint freely irrigated with 1 in 40 carbolic. The leg was dressed with sterile gauze.

After-History.

He passed a fairly comfortable night, and at 8 a.m. on April 17th the pulse was 98 and temperature 99°. He expressed himself as feeling much better and more comfortable. The inflammation had ceased to spread; there was, however, still a good deal of oedema round the ankle; this was most marked in front. The wound was irrigated with 1 in 60 carbolic and hydrogen peroxide twice daily and dressed as before.

On April 18th an incision was made into the oedema, in front of the ankle-joint, and more creamy pus came away. The wounds were irrigated and dressed as before; they looked more healthy. The growth obtained from the pus in an agar tube was pure pneumococci; an autogenous vaccine was prepared and 3 million injected on April 19th. Small doses (3 million) of vaccine were given every four days—five doses in all.

The patient made continuous progress and was able to get out of bed on May 12th. He left the home on June 13th.

Passive movement and gentle massage were used daily for three weeks after leaving the home. Passive movements of the joint were begun as soon as the joint wound had healed.

The patient was able to move his joint freely and walked only with a slight limp.

I heard from him a short time ago; he was big game shooting in East Africa; his health was excellent and his joint gave him no trouble.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ARTIFICIAL PNEUMOTHORAX AND SWIMMING.

THOSE who have followed the details of the recent Thames tragedy, wherein William Mitchell was drowned while attempting to save the life of Sir Denis Anson, may be interested to know a fact about the former which rendered his gallant attempt more hazardous and his heroism more striking than is generally known. William Mitchell was the subject of an artificial pneumothorax.

He came under my care in January of this year with extensive tuberculous infiltration of the right lung reaching to its base, but with a clear left lung. I produced an artificial pneumothorax on February 2nd, and extended it on subsequent occasions till the right lung was completely collapsed, under a pressure of about +12 to 14 cm. of water, save for some adhesions on the inner anterior surface of the apex. Under this treatment his general condition improved, cough and expectoration ceased; he was able to return to work about Easter, and might ultimately have recovered completely. He continued at work, returning for refills every four or five weeks. He received his ninth and last injection of nitrogen gas on June 12th, and left with an intrapleural pressure of +14 to 18 cm. of water and his heart displaced 1 in. outside the left nipple line; this pressure must have fallen to near atmospheric pressure by the time of his death. His left lung was clear and unembarrassed, and he could undertake moderate exertions, such as those entailed in his employment, without any discomfort; he was, however, somewhat dyspnoeic on more severe exertion, and was well aware of this disability. That the presence of a pneumothorax must have greatly handicapped him in his gallant attempt there is no room to doubt—it is only when this fact and his knowledge of it is realized that the bravery of the act appears at its full value.

London, W. CLIVE RIVIERE.

FRACTURE OF A FLOATING RIB IN A NONAGENARIAN.

ON April 11th last, whilst watering the indoor plants, and proceeding from the landing down a flight of only three narrow steps to reach a back window, holding the watering-pot in one hand and the handle of the opening door in the other, I slipped and fell heavily on my back, the edge of a stair evidently coming in contact with the right side just above the sacrum.

My servants helped me up. Great pain supervened on motion, and I feared fractured rib; but deep inhalation did not increase the pain, whence I knew that the ribs encasing the lungs were all right.

I remained in bed the next day, and felt a painful jolting on moving my body. The following day I got up, supported by a belladonna plaster and belt around the injured part. Whilst sitting up I remained quite easy; the pain on moving and turning sides in bed, with the bone jolting, gradually lessened. At the end of three weeks I had quite recovered, and could bear pressure well on the injured part, which on examination disclosed a callus about two inches from the point of the upper floating rib. I never before heard of such a fracture, and the fact that I was born in 1821 adds interest to the fact that bony union occurred in three weeks.

Dulverton. JOHN B. COLLYNS, M.R.C.S. and L.A.C.

AT the annual meeting of the American Medical Association, held at Atlantic City, June 23rd to 26th, Dr. William Louis Rodman, Professor of Surgery in the Medico-Chirurgical College of Philadelphia, was elected President. The next meeting of the association will be held in San Francisco in June, 1915.

THE United States District Judge of the Southern District of Iowa has (says the *Medical Record*) declared unconstitutional, and therefore null and void, the law passed by the last General Assembly of Iowa providing for the sterilization of certain criminals. This decision is based on the ground that the penalty is in violation of the constitution which provides that cruel and unusual punishment should not be inflicted.

Reviews.

GREEK AND ROMAN MEDICINE.

DR. JAMES SANDS ELLIOTT, editor of the *New Zealand Medical Journal*, not long ago visited the south-eastern part of Europe, and his professional interest was naturally aroused by the sight of the places associated with so many men whose names are written on the scroll of medical fame. As the outcome of his pilgrimage to the ancient schools and shrines of healing he has written a book[1] in which his aim has been to give "a general outline of the most important stages in the advancement of the healing art in the two empires to which modern civilization is most deeply indebted." He says the subject has been much neglected, except, as one gathers, by German writers like Baas, Sprengel, and Puschmann. This statement is somewhat remarkable in view of the amount of work in the elucidation of medical history done by Daremberg in France; by De Renzi in Italy; and by Payne, Withington, Clifford Allbutt, Norman Moore, and D'Arcy Power in this country. It must, however, be admitted that medical practitioners are too often indifferent to the history of the development of their art. The "practical" man would say he is too busy with the actual to waste time on the past. But the story of the past is not all mere antiquarianism. It holds in it many lessons for the present. The fanciful notions of disease on which the older medicine was based, though scientifically dead, still hold sway over the public mind and find expression in popular language; a doctor who wishes to inspire confidence must know the old pathology in terms of which the patient speaks of his own case. The superstitions of to-day are the medical teachings of yesterday, and may again be reinstated as accepted doctrine. The variations of medical opinion as to the infectivity of tuberculosis, even within the past hundred years, should teach us prudence in prematurely discarding old doctrines as obsolete. In medicine, as in theology, the maxim *quod semper, quod ubique, quod ab omnibus*, if not to be taken as infallible should not be lightly discarded. The history of medical thought is, therefore, worthy of study for the light it throws on the present and on the direction in which progress is likely to be made.

Dr. Elliott's first chapter is devoted to early Roman medicine. It might be thought that this chapter would be like the famous one about snakes in Iceland, as Pliny says that for 600 years the Roman people were without doctors. He does not, however, say that they were without medicine. To the *atrox animus* of Cato the Elder physicians were hateful, because they were mostly Greeks, and he thought the supple-backed and unscrupulous foreigner would undermine the republic. So far from disbelieving in physic, the great Censor practised it in his own household, and even wrote a guide to domestic medicine, from which it would seem that he put as much trust in cabbage—that "windy vegetable," as the Scottish farmer called it when asked by the Duchess of Gordon if he would have some—as some moderns place in nuts. Cato also set fractures to the music of meaningless charms. If, however, the Romans were content to leave the practice of medicine largely to Greeks, who were often freedmen, they had the elements of a sound notion of sewerage, as the Cloaca Maxima remains to testify.

In the second chapter Dr. Elliott gives an account of early Greek medicine. Due honour is paid to Hippocrates, in regard to whom the curious fact is mentioned that in the island of Cos, with which his name is so intimately associated, the memory of his fame as the Father of Medicine seems to have perished, and he is worshipped as one of the numerous saints of the Greek Church. In speaking of the great school at Alexandria, Dr. Elliott repeats the usual story that the library was destroyed when the city was taken by the Caliph Omar in 641. Gibbon showed that there was no good evidence for this story, and modern scholars, we believe, are agreed in regarding it as a myth.

Dr. Elliott gives a good account of the state of the medical profession and the social rank of its practitioners at the beginning of the Empire. Julius Caesar bestowed the privileges of Roman citizenship on all medical practitioners in the city. Quackery was rampant, and there was much trafficking in poisons. Dr. Elliott gives considerable attention to Celsus, of whom he says that "his practice was not general, but restricted to his friends and dependants." This recalls Goldsmith's remark and Topham Beauclerk's unkind suggestion that he should change his plan and practise among his enemies. Celsus was a patrician, and would therefore probably have thought medical practice beneath his dignity. Perhaps, however, he may have practised the art for art's sake, as Peter the Great operated on his lieges, and a great peer of the eighteenth century took every opportunity of bleeding his friends. Celsus's treatise, *De Medicina*, was probably a compilation intended, not for physicians, but for the instruction of educated laymen.

Dr. Elliott devotes a whole chapter to Galen, a general survey of whose works is given. The decline of medicine in the later Roman and Byzantine period is clearly traced. There is a chapter on the influence of Christianity and altruism on the healing art. In another, gymnasia and baths are dealt with, and the book closes with a particularly interesting review of sanitation, including water supply, drainage, and the disposal of the dead. There is a brief appendix on fees in ancient times.

Dr. Elliott has covered the period of which he writes as completely as is possible within the short compass of 160 pages. His style runs easily in a clear stream to which the famous description of the Thames, "though gentle, yet not dull," might well be applied, and he does not weary the reader with discussions of fantastic theories. The book is a readable summary of the subject of which it treats, and as such may be recommended to those who wish to know the main outlines of medical history, but have no time for the study of more comprehensive treatises.

[1] *Outlines of Greek and Roman Medicine.* By J. S. Elliott, M.D., Ch.B. (Edin.). London: John Bale, Sons and Danielsson, Ltd. 1914. (Demy 8vo, pp. 176; 2 illustrations, 4 plates. 7s. 6d. net.)

PHONASTHENIA.

THE hygiene of the voice is a subject that cannot be conveniently included and adequately discussed in a systematic work dealing generally with diseases of the throat. The large number of pamphlets and monographs testify to the fact that the subject lends to separate treatment; and to these Dr. IMHOFER'S monograph on *Phonasthenie*,[2] fatigue of the voice, is a valuable addition. It is divided into five chapters. The first is introductory and historical, and in it he passes in review the work of the pioneers and urges the necessity of drawing attention to phonasthenia and its treatment. The next three chapters are devoted respectively to the varieties and clinical aspects, to statistics and etiology, and to the diagnosis and prognosis of phonasthenia. The fifth and concluding chapter discusses the treatment of the condition, which includes prophylaxis, local and general treatment; this is, perhaps, the most important chapter from the standpoint of the practitioner. Under "prophylaxis" stress is laid upon the importance of local and general medical examination of the student prior to commencing a course of singing lessons and also upon the necessity of the teachers themselves having a knowledge of the causes and indications of phonasthenia. The teaching of elocution in schools and universities is also discussed. The local treatment naturally includes that of chronic tonsillitis. The author, we gather, is not in favour of tonsillectomy nor even tonsillotomy in the treatment of the voice affections under consideration, but counsels conservative measures. The chapter concludes with a description of suitable vocal exercises which are exemplified in plates. Appended to the monograph is an excellent bibliography which will be of service to those engaged in research. Although so much has been written concerning the use and abuse of the voice the subject is still one of doubt and controversy, and those who wish to pursue the matter further will find in Dr. Imhofer's monograph a judicious summary of the present position of the question.

[2] *Die Ermüdung der Stimme (Phonasthenie).* Von Dr. R. Imhofer. Würzburg: C. Kabitzsch. 1913. (Roy. 8vo, pp. 138; 2 Beilagen. Mk. 5.)

A little book on *How to Breathe, Speak, and Sing*,[3] contains the substance of lectures delivered from time to time by Mr. ROBERT STEPHENSON at various centres in London. The author's object has been to set forth the main features of the old Italian method of voice production in relation more particularly to the study of the speaking voice, and to show that, whether for singing or elocution, the same preliminary training is necessary. A series of progressive exercises designed for the student are given at the end of some of the chapters. These, in the experience of the author as a teacher, if performed with intelligence and perseverance, will do much to remove vocal troubles. The collection of vocal exercises with piano accompaniment at the end of the book, together with the chapter dealing with the old Italian method, will be found to be of more interest to the vocalist than to the student of the speaking voice, though the latter is strongly advised to bear in mind the dictum of Morell Mackenzie, "that singing might with advantage be taught as an aid to elocution."

GUNSHOT INJURIES.

COLONEL LAGARDE, of the United States Army Medical Corps, gives in his monograph on *Gunshot Injuries*[4] a thoroughly up to date review of the position of the military surgeon in respect of this important department of his work. That it is merely a department, and not the whole of his professional realm, has been but lately recognized, a fact which has had important effects on military medical administration, and led to much unnecessary and embittered controversy. For many years—in fact, for generations—the military medical officer was called a surgeon, and through the tyranny of nomenclature he was looked on by military men as such, at least primarily, and by the layman almost exclusively. As a matter of fact, military surgery — that is, the surgery of wilfully inflicted injuries—concerns the military medical officer of the army, in times of peace, less than it does his civilian brother. To him the opportunity of treating gunshot injuries comes only in war, an incident not frequent even in the British army, and one which is rare in the history of other services. The great war which closed at Appomattox Court House in April, 1865, provided the medical service of the United States with a storehouse of experience, of which its members made good use, and which, as Colonel Lagarde says in his preface, furnished in the *Medical and Surgical History of the War* a book of reference for the medical profession the world over. When next the United States engaged in war on the grand scale thirty years and more had elapsed, years which saw the introduction of the small calibre high velocity bullet on the side of the destructive agency, and of the aseptic system on that of the healer.

Colonel Lagarde has, throughout his useful work, contrasted the effects of the old weapon with those of the new, the successes of the new treatment with the failures of the old. On the whole it may be said that not only have wounds become less destructive, but that the skill of the surgeon has far more than kept pace with the advance in armament. Wounds which in the old days were inevitably fatal are now readily amenable to treatment, and, even more important from the point of view of the individual soldier, injuries which at one time entailed grievous mutilation, produce in these days only transitory disablement.

Many instances might be quoted, but none, perhaps, is more typical of the advance made than injury of the knee-joint. Thus, in the Civil War, when primary amputation was the rule, only 46 per cent. of all such cases recovered, and these at the price of the loss of a limb. In the Santiago campaign of 1898 none died, and only 19 per cent. were disabled for further service.

An interesting account is given of the various weapons in use in different armies, the initial velocity developed, and other more or less mechanical details. The theory of the production of explosive effects is fully discussed, and the true cause of these—namely, the transference of the remaining velocity of the bullet to the particles of tissue which obstruct its passage—elucidated.

With reference to the new pointed bullet, introduced first into the German army, but later into other armies—most importantly, at the present moment, that of Turkey—the author is of the opinion that "it requires no prophet to predict that the war wounds of the future will be much more grave. Body wounds will be uniformly more fatal; injury to bone will be more extensive and prone to suppuration. The humane character of the reduced bullet wounds so happily noted in recent wars will be less frequent." This is not in accordance with the observations of Birrell and Cousergue, who had the opportunity of studying the effects of this missile in the late Balkan war.

A short chapter on skiagraphy gives a good idea of the difficulties attending the use of this essential means of diagnosis in the field. Colonel Lagarde considers that the apparatus is not needed in advance of the stationary hospitals on the lines of communication. Much must depend on the nature of the campaign. In savage warfare, where transport is hard to obtain and convoys need elaborate protection, probably even this position would be too far advanced.

This book may be confidently recommended to any one requiring a handy manual on gunshot wounds. It does not contain much that is new or original, but it is accurate and reliable. The illustrations are excellent.

TEXTBOOKS OF HYGIENE.

IT is a noticeable fact that among the earliest writers on hygiene, who treated the subject from a practical standpoint, were the professors of military hygiene at the British Army Medical School, beginning with De Chaumont and E. A. Parkes and followed by Colonel Lane Notter and Colonel R. H. Firth. The tradition was maintained by Colonel A. M. DAVIES in 1894, when he published *A Handbook of Hygiene*.[5] In the preparation of the fourth edition now issued Colonel C. H. MELVILLE has collaborated. Although the authors are well known as intimately connected with the Army Medical Service, so that their writings might be expected to refer almost exclusively to army conditions, it is eloquent testimony to the broadness of the science of hygiene that they have produced a work which is of very general application, and which should prove invaluable to those who are engaged in the teaching of hygiene or in sanitary administration. The general arrangement is excellent, and the volume can be thoroughly recommended not only as a textbook for students but as a reliable work of reference for practitioners. As an instance of the carefulness with which the latest edition has been brought up to date, it may be noted that on page 425 reference is made to Maple's damp-proofing machine, which can be used for inserting a damp-proof course in existing walls. It cuts a seam through the wall, whether of brick or stone, ½ in. deep, in which is inserted lead sheeting covered with bitumen and asphalt, the seam is then made perfect externally with Portland cement. The character of the detailed information contained in the work, and of its extent, may be gathered when it is stated that there are tables showing the average stature and average weight at all ages of the general population of Great Britain. The chest girth of males from 10 years of age to 50 is also given, together with the height and weight of London schoolboys and girls from 5 to 13 years. In the chapter on water and water supply there is included a very instructive table taken from the sixth report of the Rivers Pollution Commissioners, showing the composition of spring and deep well water. There is not, however, any very definite statement in this chapter as to what constitutes a pure drinking water, though it must be admitted the definition is not easy. In the chapter on food and dieting the authors give expression to views on the use of chemical preservatives for milk which are quite in accordance with those of other observers. The exact quantity of boric acid, salicylic acid, formaldehyde, etc., that must be ingested in order to bring about injurious effects are, they admit, not known; but they consider it is reasonable that their use at all should be prohibited unless it can be shown

[3] *How to Breathe, Speak, and Sing.* By R. Stephenson, B.A.Cantab. London: Jarrold and Sons. 1914. (Cr. 8vo, pp. 121; illustrated. 1s. 6d. net.)

[4] *Gunshot Injuries: How They are Inflicted, Their Complications and Treatment.* By Colonel L. A. Lagarde, United States Army Medical Corps (Retired). London: J. Bale, Sons, and Danielsson, Ltd. 1914. (Med. 8vo, pp. 407; 160 figures. 18s. net.)

[5] *A Handbook of Hygiene.* By A. M. Davies. Fourth edition. Revised and enlarged by A. M. Davies, D.P.H., and C. H. Melville, M.B., D.P.H. London: C. Griffin and Co., Limited. 1913. (Fcap. 8vo, pp. 730. 10s. 6d. net.)

that they are absolutely necessary, which can hardly be the case when it is well known that leading dairy companies distribute milk over very large areas without using preservatives, and that untreated butter can be brought from Australia in good condition. It only remains to add that the authors have conspicuously succeeded in producing a work the aim of which was to digest essential information "into as small a compass as seemed advisable without sacrificing clearness, and at the same time to omit nothing of real importance."

Although public health administration in the United States of America is only of comparatively recent date, there is gradually growing up in that country a literature on the subject of no mean order. Among the latest additions is a handbook[6] for health officers and practitioners of medicine, by Dr. FLETCHER GARDNER, Health Commissioner of Monroe County, Indiana, and Dr. J. PERSONS SIMONDS, Professor of Preventive Medicine and Bacteriology in the University of Texas. The first part is concerned with epidemiology, which is dealt with in a masterly manner, and quite in accordance with the most recent scientific research. The second part, upon general sanitation, could only have been written by public health officers actually connected with the sanitary service. The four essentials for an efficient public service are, in the opinion of the authors: adequate training of the officials; full time duty; a proper remuneration for work that is full of responsibility and sometimes dangerous, and a tenure of office dependent only on the proper discharge of duties. With respect to the last it is pointed out that it should not be possible to remove a sanitarian because he has made some politician put his filthy tenements or his dirty dairy into proper condition. Removals should be possible only upon charges properly brought before a Civil Service board or a court. It appears that in the State of Indiana there is a single health officer or health commissioner who may seek advice within or without the ranks of the profession or of his State Board, but within his delegated powers he is supreme and only liable for an unreasonable use of his office. Experience has shown that this system works well, for within his area he has co-ordinate authority with the State Board of Health, and an order from him is just as binding for the condemnation of an insanitary schoolhouse or the settlement of a moot point in sanitation. The chapter on milk contains an interesting account of the rules regulating the sanitation of dairies and the sale of milk in Indiana, and it is of interest to note that they were first adopted by the Indiana State Dairy Association and represent only the standard which practical dairymen are willing should be required. Many of the rules are very similar to some of the regulations made under the Dairies, Cowsheds, and Milkshops Order in this country, though it is noticeable that the milkers are not required to cleanse their hands before milking nor are the udders or flanks of the cows required to be kept clean. Although the administrative methods described differ in some material respects from those in vogue elsewhere, there is evidence of a completeness of procedure which might very well be copied. For example, when discussing the question of the isolation of infectious diseases it is recommended that dogs, cats, birds, or other pets should not on any account be allowed to remain in an infected house, for it is pointed out that their hair, fur, or feathers make them excellent carriers of infection from house to house, and in the case of cats and dogs, mingling with others of their kind, make possible that infection may overspread a city in which every human being has complied with the law. We can cordially recommend the work to all practical sanitarians who are anxious not only to make themselves acquainted with public health administration in other countries, but also to add to the efficiency of their own methods.

In the report of the Royal Sanitary Institute for 1913 it is stated that 655 candidates presented themselves for examination for the certificate of inspectors of nuisances, and that of this number 302 were certified competent as regards their sanitary knowledge to discharge the duties of inspectors of nuisances. This proportion of unsuccessful candidates appears to be about normal, for since the examination was established in 1877, of 16,000 candidates examined, only about 8,000 have satisfied the examiners. Those who fail to pass the examination cannot attribute their failure to a lack of suitable textbooks on the special subjects with which the examination is concerned. The most popular, perhaps, is *Practical Sanitation*,[7] by Dr. GEORGE REID, a work which was evolved in the first instance from a course of lectures delivered by Dr. Reid in 1890. Since the publication of the first edition in 1892, a new edition has been required almost annually. The arrangement of the seventeenth edition follows very much on the lines of the first, although there is evidence in it of a very thorough revision, for it presents in a very clear and intelligible form present-day views. There are many subjects which it is necessary for an inspector thoroughly to understand, but a knowledge of which from his previous education it may be difficult for him to acquire. Some of these are particularly well explained by Dr. Reid. Especially is this the case in the chapter on water, which contains a very lucid account of the sources of supply, and in that on ventilation and warming, the various methods of which are admirably discussed. Throughout the work there is evidence of a thorough practical knowledge of the subjects dealt with and of ability on the part of the author to impart that knowledge to others. It seems a pity, however, that there should be continued in this textbook the diagram, on p. 168, of what is essentially a large pit-privy, so arranged that ashes and dry refuse can be put, and are advised by the author to be put, on to the excreta. On the previous page there is shown a pail closet fairly well arranged, so that it seems a pity to give sanction to another form of closet which ought not to be perpetuated.

The fifth edition of the *Sanitary Inspector's Handbook*[8] has been revised with very great care. Mr. ALBERT TAYLOR, who is himself a sanitary inspector, apparently appreciates the value of detailed information, and a busy inspector will find his work very considerably lessened by referring to this book. For example, a more or less detailed specification is given of house drainage work. In the chapter on traps there are excellent descriptions and drawings of these devices for preventing the escape of drain or sewer air, and the author correctly states why some are good and others are bad. He points out, too, quite properly, that the water seal of a trap should be about one and a half to two inches deep, but he does not indicate what is the meaning of the term "seal" either in the letterpress or in the illustrations, nor does he explain the best way to measure the seal in a fixed trap. In view of the great difference of opinion among experts as to the value of the intercepting trap on drains, it is of interest to have the views on the subject of an inspector with an experience such as that of Mr. Taylor. He considers that these intercepting traps are an absolute necessity where the drains pass under a building or in connexion with houses having internal sanitary conveniences, but that they can be dispensed with in smaller houses, such as those built in terraces where the water closets, etc., are situated outside the building and in the open air. He expresses the opinion that in a well-regulated household an intercepting trap does not get blocked up. Mr. Taylor's handbook is a work which no sanitary inspector who desires to carry out his duties efficiently can afford to be without.

NOTES ON BOOKS.

MR. FITZWILLIAMS'S *Edinburgh University Medical Year Book*,[9] of which two earlier issues have appeared, is to be regarded as a handy reference book for old Edinburgh graduates in medicine scattered all over the world. It gives them a directory of graduates arranged alphabetically and geographically; it furnishes them with details of the post-graduate teaching which is now going on; it

[6] *Practical Sanitation: A Handbook for Health Officers and Practitioners of Medicine.* By F. Gardner, M.D., Captain Medical Corps, Indiana National Guard, etc., and J. P. Simonds, B.A., M.D., Professor of Preventive Medicine and Bacteriology, Medical Department, University of Texas. London: H. Kimpton; Glasgow: A. Stenhouse. 1914. (Med. 8vo, pp. 403: 37 figures. 18s. net.)

[7] *Practical Sanitation: A Handbook for Sanitary Inspectors and others Interested in Sanitation.* By G. Reid, M.D., D.P.H. Seventeenth edition, revised. London: C. Griffin and Co., Ltd. 1913. (Cr. 8vo, pp. 365. 6s. net.)

[8] *The Sanitary Inspector's Handbook.* By A. Taylor. Fifth edition. London: H. K. Lewis. 1914. (Cr. 8vo, pp. 640; 89 figures. 6s. net.)

[9] *Edinburgh University Medical Year Book, 1913.* By D. C. L. FitzWilliams, M.D., Ch.M., F.R.C.S.Edin., F.R.C.S.Eng. Edinburgh: The Darien Press. 1913. (Demy 8vo, pp. 250; 17 illustrations.)

tells them of the present arrangements for undergraduates and of the prizes and scholarships to be won by them; it keeps them informed of changes in the professoriate; it lets them know about the university clubs both in Edinburgh and in various parts of the world; and it has a rather short list of births, marriages, and deaths. The present issue has a sort of circular letter from the editor, giving various items of news, such as may interest the old Edinburgh man wherever he may be, and the Dean of the Medical Faculty supplies a report. There are some good photographs of the old and new university quadrangles, of the infirmary, of the library in the union, of the interior of the women students' union, and of the athletic field and pavilion. There are also photographs of Lord Lister in 1869, when he became Professor of Clinical Surgery, and in 1877, when he left for London; of the late Professor Annandale and the late Dr. George Gibson, of the new Professor (Lorrain Smith), of Professor Caird, and of the infirmary residents in 1855. Altogether the book in some, if not in all its parts can hardly fail to interest every Edinburgh graduate whose thoughts still tend to turn sometimes to the old smoke-wreathed city in which he spent some four or five happy years of student life with periodically recurring times of anxiety, when professional examinations loomed large and spectre-like on the horizon.

The fact that the humanizing of dogma proceeds *pari passu* with that of society has been expressed by reversing the statement that God made man in His own image. Of this fact Dr. WHITE'S *Forgiveness and Suffering*[10] is a striking example. "God is love," says Dr. White. "We must take God down off any pedestal on which love cannot stand. Such pedestals are of our own making." He goes on to say that the only love of which we have any knowledge involves the necessity of suffering in so far as it meets with disappointment or rebuff. Hence the sin of the creature, man, involves the suffering of his Creator; and this, in Dr. White's opinion, constitutes the true signification of the Atonement. The divine patience of Christ under the suffering inflicted upon Him by sinners is a revelation of the otherwise unmanifest and inscrutable suffering of Divinity itself from a similar or, rather, from the same cause. This is a beautiful thought, and, conceding certain premisses, which, however, many of us will probably be unable to concede, it is a perfectly justifiable conclusion. The author shows that he is able to hold his own with all comers in the theological field. But we cannot quite follow him when he goes on to say that forgiveness is necessarily dependent on the penitence of the offender and to describe as "free" a forgiveness limited in such a way. There is surely a more sublime form of forgiveness, to which, nevertheless, mere human nature can and does attain—that which understands the perversity which neither desires nor seeks pardon.

Caravanning is in the ascendant nowadays, patronized on the one hand by the long-haired hatless seeker after health, on the other by numberless sensible but hardy people who want a refreshing holiday. Mrs. CHESSER'S *The House on Wheels*[11] supplies a brief account of a seven weeks' tour through Sussex and Kent in a large caravan while she was working on behalf of the Women's Imperial Health Association. She has much good and elementary advice to offer the would-be caravanner, not dwelling overlong on the pleasures of the road, not making too little of the troubles that are sure to beset the beginner—indeed, there is something of the domestic pessimist in many of her comments. The book may be commended to anybody who thinks of taking up caravanning as a pastime.

FORCIBLE FEEDING.

THE Forcible Feeding (Medical Men) Protest Committee on July 7th sent to the Home Secretary a memorial signed by seventy-three medical practitioners, stating their reasons for objecting to the operation of forcible feeding as carried out in His Majesty's prisons, in the following terms:

1. It is an operation performed upon prisoners without obtaining their consent. In view of your statement that it is the invariable practice to obtain the consent of prisoners to an operation, we shall be glad if you will inform us why this practice has been departed from in the case of forcible feeding.

2. Forcible feeding is being employed as a punishment and as a deterrent. On April 2nd, 1913, you assured the House that it would not be your intention to use the power of forcible feeding in the case of ordinary offences, such as window-breaking, obstruction, and so forth, but only in the case of repeated offences and real danger to the public, thereby reserving it for selected prisoners. On March 18th, 1913, you stated that the knowledge "that the medical officers would forcibly feed prisoners had a considerable effect upon the majority of them"—illustrating the effect of this punishment, if not its object.[1]

3. Forcible feeding is being inflicted, not only in the case of repeated offences and real danger to the public, as you informed the House, but on prisoners who have never been convicted or even tried, and who are therefore innocent in the eyes of the law.

4. Forcible feeding as carried out in His Majesty's prisons is a system of torture based upon violence, and depending for its success upon the infliction of pain. It has caused grave bodily injury in many instances, and it always leads to serious impairment of health.

5. As registered medical practitioners we hold that it is against the best interests of the profession that medical officers should be called upon to carry out a method of treatment which is a punishment intended to have a "considerable effect" upon other prisoners.

The memorial concluded by requesting Mr. McKenna to receive a deputation at an early date. To this Mr. McKenna replied as follows:

The petition appears to be based on the allegation that forcible feeding is being employed as a punishment and as a deterrent. The Secretary of State desires me to say that there is no truth whatever in this allegation, and that nothing that he has ever said affords any justification for it.

Forcible feeding has been used only where it is the medical treatment necessary to preserve the lives of prisoners who have refused to take food. It has been used for no other purpose.

The prisoners who are now being forcibly fed include the two women who burned a hotel at Felixstowe; the woman who burned the pavilion at Kew Gardens; the woman who burned Lady White's house at Englefield Green, and who attacked the Rokeby Venus in the National Gallery; two women who damaged pictures in the Royal Academy; one who attempted to destroy an antiquity in the British Museum; and two who were found in possession of explosives, one of them on the occasion of the King's visit to Nottingham.

The Secretary of State assumes that the petitioners do not desire that these women should be allowed to starve themselves to death in prison, and that what they ask for is their release. This would mean that the women would be set at liberty, with the practical certainty that within a week or two they will burn more houses, destroy more works of art, and commit further outrages.

In these circumstances the Secretary of State feels that it would be inconsistent with his duty to the public to grant the immediate release of the offenders; but if the petitioners, out of their medical experience and skill, can suggest any practical method other than forcible feeding by which the life and health of prisoners who persistently starve themselves and who ought not to be released may be preserved, Mr. McKenna will be only too happy to consider it.

As this letter did not state whether the Home Secretary would receive a deputation, a further application was made, and Mr. McKenna consented to receive a deputation from the Protest Committee on July 15th.

The deputation, consisting of Dr. McIntosh (Chairman), Dr. Haden Guest, Sir Victor Horsley, Mr. C. Mansell Moullin, Mr. Frank Moxon, and Dr. H. Schütze, attended at Mr. McKenna's room in the House of Commons on July 15th. On the ground of the undesirability of prisoners' names being published, Mr. McKenna decided that the proceedings must be private, and that neither newspaper reporters nor the deputation's own shorthand writer could be admitted, though he had arranged for an official reporter to be present in order that he should keep control over any report that might be sent for publication. The deputation therefore declined to proceed, stating (according to an announcement issued afterwards) that its position in the matter of forcible feeding was one of grave public responsibility, and claiming the right to be heard in public, especially as the names of the prisoners had already been published. The members of the deputation express their readiness to place their views before the Home Secretary at some future time, should he reconsider his refusal to permit the proceedings to be reported.

Subsequently the committee issued excerpts from the speeches which its members had intended to deliver.

[10] *Forgiveness and Suffering: A Study of Christian Belief.* By D. White, M.D. Cambridge: The University Press. 1913. (Demy 8vo, pp. 143. 3s. net.)

[11] *The House on Wheels.* By E. Sloan Chesser, M.B. London: Chapman and Hall, Ltd. 1914. (Cr. 8vo, pp. 150; 21 illustrations. 2s. net.)

[1] On May 21st Mr. Wedgwood asked the Home Secretary under what law or regulation the consent of a prisoner had to be obtained before an operation could be performed by the prison or other doctors. Mr. McKenna replied that there was no express provision of the law, and no regulation requiring the consent of a prisoner; but it was the invariable practice to obtain prisoner's consent before a surgical operation was performed in prison.

THE ROYAL NAVAL HOSPITAL, CHATHAM.

A PARTY, including a number of deans and other teachers in medical schools, was conducted over the Royal Naval Hospital at Chatham on July 14th by Sir Arthur May, K.C.B., Medical Director-General, R.N., and Surgeon-General A. J. J. Johnston.

This great naval hospital was built between the years 1900 and 1905, and was opened on June 6th, 1905, by his late Majesty King Edward VII. It is situated on Chatham Hill, 223 ft. above sea-level; the geological formation of the land is light loamy soil, about 3 ft. in depth, resting on a permeable chalk bed. The total area enclosed is 39 acres.

The buildings, which were erected at a cost of nearly £800,000, are of red brick with stone dressings, and are fitted with all modern requirements. The hospital, which consists of a general hospital and an infectious division, is constructed on the pavilion system; the pavilions of the general hospital, which run north and south, are connected by a main corridor 900 ft. in length, running in a direction east to west. The general disposition of the buildings is shown in the block plan (Fig. 1).

The administrative block (Fig. 2) occupies the front central part of the site. It has a large entrance hall, connected by a corridor with the main corridor of the hospital. In this block are situated all the offices and also the admission and out-patient rooms, the *x*-ray room, the ophthalmic room, the library, and telephone and board rooms. Above the entrance hall are the laboratory, research rooms, and the pathological museum.

At the back of the main hospital building is situated the steam laundry and laundry store rooms, the engine and boiler house, dynamo rooms, a water tower and plant for the softening of water, the mortuary, sheds for the motor and steam ambulances, and carpenter's and blacksmith's shops.

On an oval site in front of the main building is the church, and beyond this the official residences of the officers, and the quarters for the sick berth staff.

The hospital and grounds are lighted by electricity supplied by generators driven by current supplied by the Gillingham Corporation. There is also stand-by plant for generating electricity in case of a breakdown in the Gillingham supply. The amount of current used is large, as there are over 3,200 incandescent lamps and 70 to 80 electric sterilizers, motors, radiators, etc., as well as an electric kitchen in the sick officers' quarters, where the whole of the cooking is done by electricity.

The food for the general hospital is prepared in a central kitchen and distributed to the various parts of the hospital in closed heated trolleys.

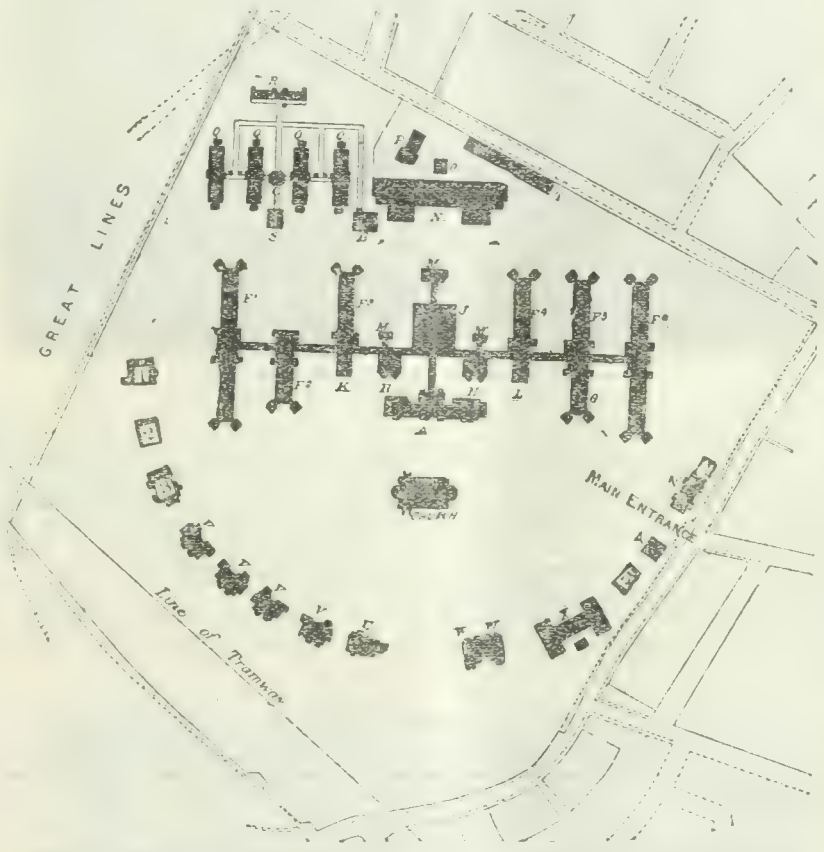


Fig. 1.—Block plan of hospital and annexes. A, Administrative block; F^1 and F^6, double pavilions; F^2, F^3, F^4, F^5, pavilions; G, officers' pavilion; H, H, day and dining rooms; J, kitchen and store; K, dispensary; L, operating room; M, latrines; N, laundries and engine-house; O, water tower; P, mortuary; Q, infectious wards; R, infectious officers' wards; S, infectious receiving and discharge rooms; T, coal pound; U, Principal Medical Officer's residence; V, officers' residences; W, W, steward's and dispenser's houses; X, sick berth attendants' quarters; Y, police lodge; Z, married attendants' quarters; B, infectious kitchen; C, stairs; 1, matron's cottage; 2, dispenser and assistant dispenser; 3, sisters; 4, butler; 5, H. W. M., clerk.

The wards are heated by steam radiators and fires, the remainder of the hospital by steam generated in the boiler house and distributed to the various parts of the hospital by pipes. A small portion of the heating system is worked on the pressure system.

There is telephonic communication between all parts of the hospital and the various residences, and in addition the hospital is in direct communication with the Dockyard, Naval and Marine Barracks, and the municipal telephone system.

PAVILIONS AND WARDS.

There are nine pavilions of which one is for sick officers. Each pavilion contains two floors, the upper wards being reached by electric lifts and stairs from the main corridor. Sanitary towers project from the ends of each pavilion; they contain on the one side lavatory basins and w.c.'s and on the other a sink room and a fire emergency staircase. Each ward contains twenty-eight beds and has its own bathroom, kitchen, and separation cabin with separate sanitary tower. The general arrangement of a ward and its annexes is shown in the sketch plan (Fig. 3).

The walls are covered with enamel paint and all corners and angles rounded; the floors of pitch pine with secret nailing are polished. At the end of each ward and communicating with it is a verandah for cases which are unable to go to the grounds. In the photograph reproduced in Fig. 4, showing the south end of one of the pavilions, the two sanitary towers are well seen, and between them the verandahs, that on the ground floor having steps leading into the grounds. The wards are heated by steam radiators and fires. Each pavilion has a basement for stores, both for hospital service and service afloat; a very large amount of stores, including surgical instruments, drugs, and surgical dressings, is always retained for emergencies, the provision of each ship of the various classes being stacked in a bay. In the basements are also a sterilizing room, the barber's shop, plant for the manufacture of aërated waters and a calorifer for the supply of hot water for baths and washing.

The whole area of the buildings is concreted and a damp course is provided throughout.

Each long ward (Figs. 3 and 5) contains twenty-eight beds, and the separation cabins two beds. The number of beds and equipment is as follows:

Peace.		*War.*	
General hospital ...	497	General hospital ...	770
Infectious division ...	102	Infectious division ...	156
Total	599	Total	926

Beds and equipment are kept in store to supply material for this war complement.

In peace time the hospital is divided into three sections: Medical, with 169 beds, Surgical with 328 beds, and Infectious with 102 beds.

The number treated during the year 1913 in the three sections were:

Medical	1,595
Surgical	2,746
Infectious	164
Total	4,505

In the medical division (four pavilions on the west side) special wards are appropriated for the treatment of mental disease and of tuberculosis.

The Tubercle Ward.

Special provision is made for the treatment of cases of tuberculosis. When a man suspected of this disease is received, he is placed in a general ward, where a careful examination of the physical signs is made. The expectoration is repeatedly examined for tubercle bacilli; if they are found the patient is transferred to the tubercle ward and given the option of being brought forward for survey and invalided on the first occasion, or of remaining under treatment for a period not exceeding three months, so that he may be discharged in as good a physical condition as possible.

The special ward for such cases is freely ventilated by the usual ward ventilation, and the windows are kept open day and night, except during gales of wind. The temperature is taken three times a day, and if in spite of the radiators it falls below 50° F. fires are lighted. The diet is also increased, and the patients more warmly clad.

The usual remedies are given as requisite, cod-liver oil and malt being found especially useful. Tuberculin is offered to all suitable cases, but it is not forced upon them. The results appear to be satisfactory. If the patient has a normal temperature, is in fairly good health, and is not suffering from constipation, the treatment begins with an injection of 0.00002 c.cm. PTO. On the day of injection he is kept in bed, the temperature being carefully recorded and any increase of signs or symptoms is watched for. If all goes well, he is given a larger dose in three or four days, and, if no excessive reaction occurs, the dose is gradually increased on each occasion. The full dose aimed at can never be obtained owing to the short stay in hospital, and, as a rule, the patient only reaches the dose of 0.05. In serious cases of mixed infection an autogenous vaccine is made in the laboratory and has been used with good results.

In the summer months patients confined to bed are, in favourable weather, removed into the open air and placed on an adjacent plot of ground. All patients allowed up are encouraged to be in the open air as much as possible, some of them being wheeled about in chairs. They are not allowed to attend church or entertainments. They are required always to carry a pocket flask; all spitting-pots are thoroughly cleaned out in a flushing-pan, and then placed in a solution of 1 in 20 carbolic for half an hour; they are then boiled for twenty to thirty minutes in the sterilizer and dried. All refuse and unused food supplied to the ward is burned. Health lectures specially directed to prevent the spread of the disease are delivered by the Deputy-Surgeon-General once a month in the ward.

The total number of cases of tuberculosis treated during the year 1913 was 74.



Fig. 2.—Administration block and water tower.
(Photograph by Vernon E. Hancock, Gillingham.)

Surgical Division.

In the surgical division (five pavilions on the east side

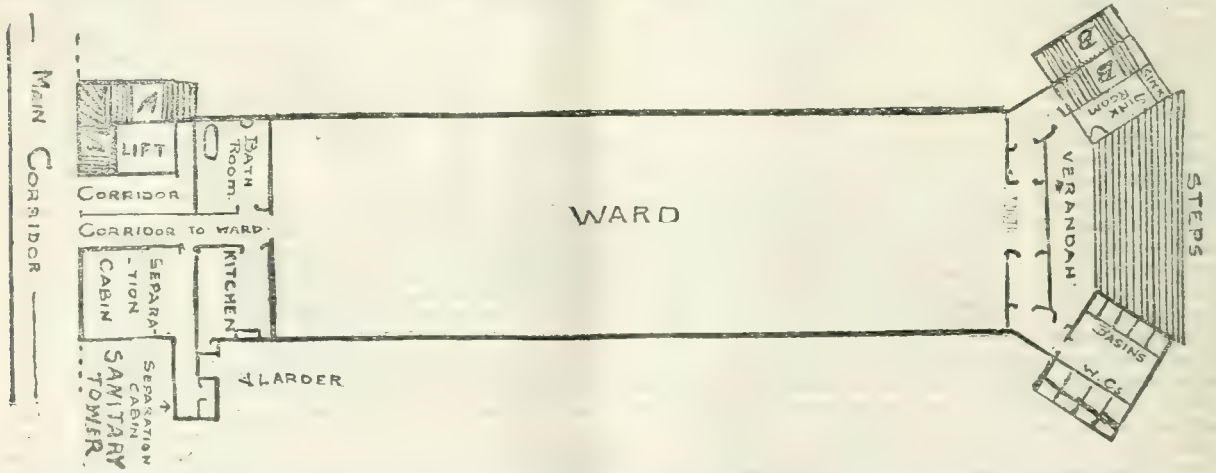


Fig. 3.—Sketch plan of a ward and annexes. The dimensions are as follows:—*Ward:* 120 ft. by 23 ft. 6 in. by 14 ft.; cubic capacity, 47,880 c.ft. *Bathroom:* 10 ft. by 8 ft. 5 in. by 14 ft.; cubic capacity, 1,178½ c.ft. *Kitchen:* 14 ft. by 12 ft. by 14 ft.; cubic capacity, 2,352 c.ft. *Separation cabin:* 20 ft. by 12 ft. 6 in. by 14 ft.; cubic capacity, 3,500 c.ft. The cubic capacity in the wards is equal to 1,710 c.ft. per bed. A, Stair; B, fire stairs.

the wards always contain a large proportion of accident cases. There are special wards for eye and ear and venereal diseases, and a separate ward for cases under salvarsan treatment where 229 patients were so treated during the past six months.

There are two operating theatres constructed on modern principles with tiled walls and terrazzo floors. The lighting, natural and artificial, is excellent. The theatres are efficiently equipped, and have electrical sterilizers, a steam-distilling apparatus, and a separate steam sterilizing

room for surgical dressings. Each theatre is provided with an anaesthetic room, instrument room, and dressing room for the surgical staff.

The number of operations performed during the year 1913 was 859, exclusive of dental cases. The operations most frequently performed were for the radical cure of hernia, for haemorrhoids, appendicectomy, for varicocele and hydrocele, and the various operations required in the treatment of injuries, including the plating of fractures.

Both in the general surgical wards and those allotted to aseptic cases variety, it was stated, is always to be found, whilst the venereal wards afford a wide field for the study of that class of disease.



Fig. 4.—South end of one of the pavilions, showing sanitary towers and verandah between.
(*Photograph by Thornton Bros., New Brompton.*)

Dental Department.

The hospital also contains a dental department. The dental room, entered from the main corridor, is spacious, and is fitted with all the latest requirements for the use of the dental surgeon. There is an electric engine, pump-chair, fountain-spittoon, electric kettle and sterilizer, and dental cabinet.

It is the duty of the dental surgeon, who is a civilian, to attend to all marines attached to the Chatham Division, numbering about 4,000, both from barracks and from His Majesty's ships. Each marine undergoes an annual dental inspection, and all unfit cases attend for treatment. This rule applies also to the sick berth staff of the hospital. In addition all patients in the hospital are treated when necessary.

The individual patients in 1913 numbered 2,768, and in addition eight cases of fractured mandible and several cases of empyema of the antrum were treated. The number of fillings for the year was 1,230, of extractions under anaesthetics 2,255, without 319, and of scalings 331.

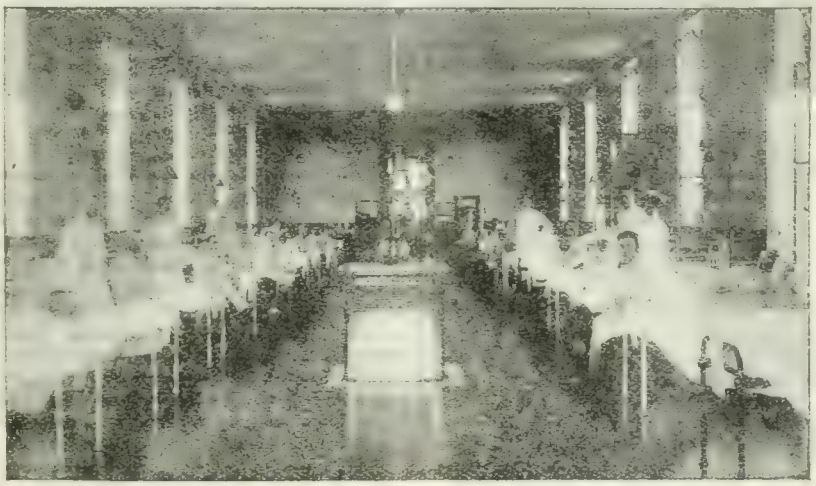


Fig. 5.—A surgical ward.
(*Photograph by Vernon E. Hancock, Gillingham.*)

THE INFECTIOUS DIVISION.

The infectious division, which is really a detached hospital, is situated in the north-west corner of the grounds within an enclosed area of 2¾ acres. A double fence runs between it and the general hospital enclosing a neutral zone 8 yards in width.

The administrative block on the south boundary contains on the one side of the entrance offices for the medical officer and ward-master, and on the other a receiving room opening from the porch, and a bathroom opening from the receiving room and into a dressing room, and not communicating with the main corridor. The dressing room leads into the baggage room and both lead into the main corridor. Thus cases entering the porch of the hospital pass through the receiving room and are bathed and dressed in fresh clothes before going into the hospital proper. The doors of these rooms are wide enough to allow cots to be taken through them. Any part of the hospital can be reached by raised covered corridors with open sides.

There are four pavilions, the two outer of one story and the two central of two stories. The upper wards are reached by a spiral staircase over the central corridor. To pass from one pavilion to the other, or between the upper wards, it is necessary to go into the open air. There are two wards on each floor, north and south, and between them are the entrance passage, bathroom, kitchen, and linen-press. These serve for both north and south wards, so that only one disease can be treated in each of the one-story pavilions and two in the double central ones. A sanitary tower is built off each end of the pavilion. Between the pavilions are cabins and lavatories for the sick-berth staff—four cabins on the ground floor and four on the upper.

The officers' block to the north of the pavilions consists of two small wards for one case each, and two larger wards for two cases each. All the wards are on the ground floor. In the centre is the bathroom, and between each single and double ward is a kitchen serving both wards. At the end of the block is a cabin for the sick berth staff.

In another block are the surgeons' quarters, ward-master's cabin, baggage room, and operating room. In the north-eastern corner is an incinerator on a detached site. The kitchen is in the south-eastern corner. There is no doorway from it into the infectious hospital, food being passed through by means of sliding glass windows opening from a covered way.

The staff of the infectious division are four weeks on duty, and have one week leave, or six hours for every twenty-four hours on duty. The staff have a common mess room over the surgeons' quarters. One ward-master sleeps in the sick berth staff quarters, and is employed on day duty only. The stewards and attendants mess and sleep in the division, and are not allowed out of the enclosure. A "zymotic runner" is attached to the medical duty cabin for messages and outside work.

The total number of infectious cases admitted during the year 1913 was 164, and were distributed as follows:

Chicken-pox	2
Measles	15
Rubella	25
Scarlet fever	42
Mumps	52
Enteric fever	25
Erysipelas	3

Laboratory.

The laboratory is situated above the central hall of the administrative block. It is lighted by full length windows on all sides, and large windows round the domed roof (seen in Fig. 2). Opening from it are three rooms, one used as a pathological museum, one as a room for any special research, and one for the storing of media, and an office. The equipment is practically complete for any chemical, pathological, or microscopical examination; it includes hot and cool incubators, hot air and steam sterilizers, an autoclave, large and small centrifuges, freezing and paraffin microtomes, and all the necessary apparatus for water and food analysis (Fig. 6). The work done consists of all the microscopical and chemical examinations for the wards, as well as all the water, milk, and food analyses required in the hospital, ships, and establishments under the Nore Command.

All vaccines required are made in the laboratory. A large part of the work is concerned with Wassermann reactions for the diagnosis and the control of the treatment of syphilitics serving in the Nore Division. Between 70 and 100 such tests are done weekly. The systematic examination of suspected and contact cases with a view to isolating carriers of diphtheria, enteric, and cerebro-spinal fevers, also give a good deal of work to the laboratory staff.



Fig. 6.—Laboratory.

Men belonging to the sick berth staff may be trained in the laboratory, and if successful in the examination at the end of the course are entitled to a special badge and extra pay if employed in a service laboratory.

Training of Medical Officers.

Voluntary courses of instruction of about six weeks' duration are held at the hospital twice in the year, for the benefit of medical officers of the ships in port and naval establishments. The course includes the study and practice of bacteriology, clinical pathology, skiagraphy, and hospital administration. Provision is also made twice a year for a short course of lectures and practical work in the laboratory on clinical haematology and microscopy for the convenience of those medical officers who feel they would like to revise their knowledge of these subjects and keep it up to date.

Training of Sick Berth Staff.

The training of the nursing staff of the Royal Navy is one of the most important functions of the hospital. The men are recruited between the ages of 18 and 22, and, after passing a physical and educational test, go straight to the hospital, where they undergo a year's training as probationary Sick Berth Attendants. The instruction is given by the medical officers of the hospital, the Royal Naval Nursing Sisters, specially picked and qualified sick berth stewards, and the dispensers of the hospital. In addition to purely professional training, Swedish and service drills are taught by the instructors of the Naval Barracks, where each man has also to pass out in swimming.

General nursing in the wards is, of course, the most important part of the training. First aid and the management of the emergencies of medicine and surgery are very carefully taught, as at times in the absence of a medical officer in a service like the navy, a well-trained man may be of invaluable assistance. All men are taught practical dispensing, since at sea any sick berth rating may have to be the ship's dispenser.

A full course of sick-room cookery is given by a qualified lady cook, and there is a practical examination at its termination.

The full course comprises the following subjects:

(1) Reading, (2) arithmetic, (3) writing, (4) anatomy and physiology, (5) first aid, (6) bandaging and dressing, (7) operation cases—preparation and subsequent treatment, (8) surgical instruments, (9) general nursing, (10) dispensing, (11) management of wards and sick berths, (12) compiling accounts, (13) cooking for the sick, (14) disinfection, (15) stretcher drill, (16) rough signs of common diseases.

Before being rated as a qualified sick berth attendant, a probationer has to satisfy two medical officers that he is competent in the above subjects. If he fails to pass this examination he is either put back for three or six months, or discharged as unsuitable for a sick berth rating.

The training of probationers was first instituted at Chatham in April, 1912, and exactly 100 men have undergone instruction since that date. At the present time there are forty-four men going through the course.

After becoming a sick berth attendant, the man is still given various courses and lectures if he is stationed at a hospital, and has to pass further examinations for each step in promotion. Men may also specially qualify in the operation theatres, or in massage or as laboratory attendants. Besides the sick berth naval ratings proper a number of members of the St. John Ambulance Corps attend hospital for short courses of training in nursing and hospital work from the naval point of view. These men join the Royal Naval Auxiliary Sick Berth Reserve. Since May, 1912, the number of these men who have attended at Chatham has been 175.

The whole arrangement and supervision of the training work of the hospital is looked after by a medical officer especially appointed for that duty.

Medical Staff.

The following is the medical staff of the hospital:

Surgeon-General: In sole charge.

Deputy-Surgeon-General: In charge of Medical Division, Zymotic Hospital, Sick Officers Medical.

Senior Fleet Surgeon (Operating Surgeon): In charge of Senior Surgical Section, Sick Officers Surgical, and Operating Theatres.

Junior Fleet Surgeon (Operating Surgeon): In charge of Junior Surgical Section, Eye and Ear Department, Surgical Instruments for Hospital Service, and Resident Families.

Staff Surgeon 1: Anaesthetist and Radiographer; Massage Department.

Staff Surgeon 2: Acute Medical Wards and Tubercle Ward.
Surgeon: General Medical Wards and Zymotics.
Surgeon: Minor Surgical Wards and Salvarsan and Venereal.
Surgeon: Minor Surgical Wards and Venereal.
Surgeon: In charge of Laboratory and Instructor to Probationers' Sick Berth Attendants.
Surgeon: Venereal Ward.

NURSING STAFF.

The following is the nursing establishment:

Nursing Sisters.	
Head Sister	1
Superintending Sister	1
Nursing Sisters (two on leave)	11
Sick Berth Staff.	
Chief Sick Berth Stewards	11
Sick Berth Stewards	37
Second Sick Berth Stewards	24
Sick Berth Attendants	69
	141
Second Sick Berth Stewards (for mobilization)	26
Total	167

CONGRESS OF THE ROYAL SANITARY INSTITUTE.

WHEN the Council of the Royal Sanitary Institute accepted the invitation of the Corporation of Blackpool to hold the twenty-ninth congress of the institute in that town it was confidently expected that a successful meeting would result, and that anticipation has been fully realized. The opening meeting on July 6th was addressed by the President of the Congress, the EARL OF DERBY, who referred to the great improvement that had taken place in recent years in the health of the British soldier. With this improvement, he said, the social status of the soldier had gone up, for every day that he was in the army he was learning more and more of self-respect, and that self-respect did not leave him when he went back into civil life. Formerly the army had been looked upon as a disseminator of disease, but it might now be regarded as a missioner of health.

In the Section of Sanitary Science and Preventive Medicine, the President, Professor SHERIDAN DELÉPINE, discussed in his address the question of the relation of the State and local authorities to the promotion of medical research. Although he deplored the small amount of assistance in this direction given by the State he considered that most creditable work had already been done by the small band of men and women who were engaged in it.

Dr. JAMES NIXON opened a discussion in this Section upon the effect of the National Insurance Act upon public health administration. Although more than one speaker during the discussion referred to the overlapping which was likely to take place in the future work of the Local Insurance Committees and in that of the local health authority, there appeared to be a general consensus of opinion that, on the whole, the Act would have a favourable influence as regards public health administration.

The Conference of Medical Officers of Health was well attended, and in his presidential address Dr. PHILIP BOOBBYER spoke with concern of the lack of uniformity in the allocation of administrative control of public health departments. In some districts he stated the medical officer had more or less complete control of the department, while in others his control was very incomplete.

A discussion upon the standard of habitable houses, introduced by Dr. A. B. DUNN, the medical officer of health of the Doncaster Rural District, elicited divergent opinions as to the need for a parlour in the house of the working man, as to the propriety of giving him a fixed bath, and as to whether it was desirable to erect cottages with two bedrooms or with three.

Dr. T. E. FRANCIS, M.O.H. Llanelly, advocated the carrying out of town planning in small districts by by-law, instead of having recourse to the more elaborate machinery of the Housing, Town Planning, etc., Act, 1909.

A long and animated discussion took place in connexion with the administrative control of diphtheria. Dr. A. B. MACMASTER of Crewe referred to many difficulties which had to be overcome in dealing with this disease. Dr. E. H. SNELL of Coventry brought forward figures with the object of showing that the incidence of diphtheria was much less in those towns or districts in which institutional isolation was not carried out than it was where this system was adopted. The feeling of the meeting appeared to be that it was prudent to continue the advocacy of hospital isolation of diphtheria.

Dr. C. KILLICK MILLARD of Leicester put before the conference his views as to the method of dealing with small-pox. He maintained that the partial system of vaccination now being practised resulted in the occurrence of cases of modified small-pox, so that the present generation of medical practitioners, with little or no opportunity ever of seeing a case of the disease, allowed mild cases to pass by unrecognized. He was not supported by any one present at the conference in his suggestion to carry out general vaccination only in epidemic periods.

Dr. F. G. BUSHNELL raised the question of the appointment of a Minister of Health, and persuaded the conference to ask the council of the institute to consider the matter.

The attendance at the congress was very good, numbering nearly 1,000 persons. The sectional meetings were all well attended. On one day the aggregate number attending all these meetings at one time was nearly 700. The winter gardens, in the Indian Court, where the Mayor gave a reception on one evening, were the subject of admiration on the part of many members, and the magnificent scale on which the entertainments in the town are carried out amazed all those who had no previous knowledge of Blackpool.

ROYAL COMMISSION ON VENEREAL DISEASES.

THE following is the official report issued to the press by the Secretary of the Commission:

At the forty-fourth meeting of the Royal Commission, evidence was given by Mr. J. E. R. McDonagh, one of the surgeons at the Lock Hospital, and by Dr. Parker, representing the State Medical Service Association.

Medical Education: Importance of Early Diagnosis.

Mr. McDonagh said that at the present time the education of medical students in regard to venereal disease was quite inadequate, and it was very important, in his opinion, that compulsory clinical education of students in venereal disease should be adopted. He considered that widespread clinical experience would render public laboratories for the carrying out of bacteriological and other methods of diagnosing syphilis superfluous. The important thing in dealing with syphilis was to treat cases at the earliest possible moment, and these early cases could be diagnosed with greater certainty by clinical than by pathological methods. A negative Wassermann reaction in early syphilis did not exclude the disease, and if treatment were deferred until the reaction became positive, the golden opportunity of cure was lost however energetic the treatment might be. Syphilitic sores, moreover, frequently existed in which spirochaetes could not be found. Mr. McDonagh was of opinion that syphilitic nervous lesions were steadily on the increase, and he considered that the spasmodic administration of salvarsan commonly practised in this country was likely to lead to a further increase. This spasmodic administration of the drug, moreover, gave a false sense of security, and therefore rendered patients a greater danger to the community. He advocated enlargement of the Lock Hospital. The number of patients attending the hospital was steadily increasing. Mr. McDonagh thought that medical research had been very insufficiently supported by the Government, and that much more might be done in this direction; he suggested that it might be an advantage if payment were only made for results.

Proposals as to a State Medical Service.

Dr. Parker maintained that by the establishment of a State Medical Service many difficulties now connected with the treatment of venereal diseases could be overcome. It was essential that treatment should be efficient and confidential, and in the last resort compulsory, and that

the medical officers of health should be in touch with all cases of venereal disease. Efficient treatment would be procurable for the whole State service, and would be open to all sufferers. The treatment would be confidential, there would be no special service of medical practitioners set aside for dealing exclusively with venereal diseases, by consulting whom patients would at once declare to the world at large the nature of their complaint. The size of the State Medical Service, its large and manifold functions, its large and specialized staffs, would render it impossible for the public to suspect the reasons which led the patient to ask advice. The treatment of venereal disease would be but a part of the preventive and curative treatment offered to all sufferers alike under a State Medical Service. No action whatever would be taken on the part of any public authority as long as a patient attended regularly and carried out the instructions of his doctor; but in the event of his failing to do so, he would be proceeded against as a public danger, in the same way as is done in the case of ordinary infectious diseases. Dr. Parker considered the difficult question of notification would be solved under a State Medical Service. Notification in the sense of a notice sent by a private practitioner to the M.O.H. would become unnecessary, for all patients attending a State doctor would be registered with the history and nature of their complaint, and to those persons the M.O.H., who would represent but another part of the same service, would have daily access. In the event of there being a body of private practitioners outside the service there should be notification of venereal disease either by name or number, and the M.O.H. would satisfy himself that the necessary treatment was being carried out by the patient. If this were not so, the name of the patient would be declared and he would be transferred to the charge of the State Medical Service. In order to obtain reliable statistics as to the fatal results of venereal diseases and their sequelae, it might be advisable to have a dual system of death certification—one for the purposes of the State Medical Department, giving the fullest details as to the primary and secondary causes of death, and the other avoiding all facts which might cast a slur on the memory of the dead, to be handed to the relatives of the deceased.

Evidence of Head Masters.

At the forty-fifth meeting the head masters of Eton and Rugby appeared before the Commission.

They considered that the ideal was that boys should be instructed in matters relating to sex by their parents, but their experience showed that that method was not likely at the present moment to be successful to the extent that was desirable. Instruction at school should be given with much caution, and it should be the special responsibility of the head master to give it or to see that it was given. A propaganda based solely on hygienic principles would not bring in the chivalrous appeal which was necessary, and was not likely to succeed. At the same time, hard exercise, hard work, wholesome society, and moderation in diet and drinking were of great use as safeguards against indulgence.

Administrative Methods in Italy.

At the same meeting Dr. Santoliquido, formerly Director-General of the Public Health Department in Italy, gave an account of the administrative methods adopted with regard to venereal diseases in that country.

THE Royal Dental Hospital has received a grant of £1,000 from the executors of the late Sir William Dunn.

A MEMORIAL tablet to Dr. Francis Julius Le Moyne, "the pioneer cremationist of the United States," was formally presented by the Cremation Association of America to the Washington and Jefferson College, Washington, Pennsylvania, on June 23rd. Dr. Le Moyne was born in 1798 and died in 1879. The first crematorium in the United States was built in 1875 and used for the first time in the following year, when the body of Baron de Palm was burnt. Dr. Le Moyne was the object of much misrepresentation, being accused among other things of being the founder of a new religion in which the burning of the body after death was a mystic rite. He went on preaching the doctrine of cremation on sanitary grounds, however, and gained a considerable following.

THE BRITISH MEDICAL ASSOCIATION AND THE MEDICAL PROFESSION.

A CRITICAL REVIEW OF THEIR RELATIONS.

(Concluded from page 79.)

VIII.

THE SERVICES.

COMMONLY associated with a right conception of ethical principles and an instinct for their application is the quality known as *esprit de corps*, and the catholicity in this respect of the British Medical Association is well exemplified by the work that it has done on behalf of the medical departments of the Royal Navy, the Army, the Indian Medical Service, the West African Medical Service, and the Colonial Medical Service as a whole. On many occasions the Association has proved itself in no wise less anxious to promote the interests of medical men in all these services than those of the independent practitioners who form the majority of its members.

It began to work for them within twenty years of the date of its foundation, and after the annual meeting of 1850 it grew to regard protection of their special interests as one of the duties that it must habitually perform. It had already at that date made representations to Parliament as to the propriety of army surgeons not being overlooked when military honours were to be bestowed by the Crown, and the meeting in question gave orders for the presentation of a formal memorial on the subject.

The defects in the administration of the Army Medical Department at the time were very numerous, and it is not quite certain why the Association chose this particular point for its first attack. Possibly it was due to the fact that not long previously George James Guthrie, then one of the leading surgeons in London, had declined the honour of Companionship of the Bath.* The ground of his refusal was that it was proposed to place him on the civil division of this order, and he claimed that if he were entitled to the honour at all, it was the military C.B. that he should receive. As a young man he had served for ten or twelve years as an army surgeon, but, in common with numerous other medical officers who served with distinction in the Peninsular campaign, or later on in the early Indian wars, he had received no reward beyond mention in dispatches. Even mention in dispatches was at the time an innovation as far as army surgeons were concerned, for despite the fact that the death-rate among them from wounds and disease was—as now—proportionately quite as high as among other officers, and that a surgeon habitually accompanied storming parties, the tendency was to regard him as a kind of camp follower who ought to be content if he got his rations and his pay. Other officers got special pensions for wounds; a medical officer was regarded by some as a mere civilian, not entitled to such pensions. It was, in fact, only due to the friendship existing between Wellington and his principal medical officer, McGrigor, that mention in dispatches was first accorded to surgeons. After making representations to Wellington as to the unfair treatment of army surgeons, McGrigor convinced him that they should, at all events, be mentioned in dispatches, by adducing the fact that whereas ordinary officers remained in the trenches only for eight hours at a stretch, surgeons had to remain in them for twenty-four.

After the presentation of the memorial of 1850 the Association seems to have taken no further action for some years, but it renewed its attack on the War Office and Admiralty with great vigour in 1857, and from this date onwards the records relating to attention paid to the subject both by the Central Council, by the Branches, and

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*As illustrative of the times, as also of some points mentioned in earlier articles, it may be mentioned that Guthrie entered the army as a surgeon in 1801, when barely aged 16. He retired from it when still under 30, and, after a period of study at St. Bartholomew's and elsewhere, he opened an infirmary, which afterwards became the Royal Westminster Ophthalmic Hospital. He also gave lectures on surgery, and eventually became president of the Royal College of Surgeons. He was not, as might be supposed, an unqualified man when he joined the army, but a member of the English College of Surgeons. At that time this college made special arrangements for those who intended to enter either the navy or army or the medical service of the Honourable East India Company. It allowed them to pay only half the ordinary fees for their examination and diploma, but took care to exact from them the remainder if eventually they left the army and began to practise within its sphere of influence.

by the JOURNAL are so numerous that it is not possible to do more than refer to a few items only.

The work of the Association in 1857 seems to have been largely instigated by the occurrences during the Crimean campaign and Indian mutiny, and the memorial that it presented to the Government was of a much more comprehensive kind than the first. The claim made was that the medical departments both of the army and navy should be thoroughly reorganized and the conditions attaching to the employment of medical men in these services entirely altered. None but regularly educated medical men should ever be engaged, and once they were commissioned they should enjoy absolute equality with other officers. In particular, they should have like authority over those serving under them, and be equally well off in respect of retiring pensions, reception of honorary distinctions, and other rewards for good service.

The Medical Service of the Army.

The presentation of this memorial was followed by the issue in 1858 of a Royal Warrant and new Army Medical Regulations, which materially improved the position of the medical men in question—at all events, on paper. The resulting peace did not, however, remain long undisturbed. The Royal Warrant and the Regulations of 1859 had done much more than place on a firm footing the system of competitive examination for admission introduced a few months earlier, and provide for young medical officers a special education at Netley. They had raised the Army Medical Department from a subordinate position to one of relative independence and power. This fact was bitterly resented by combatant officers of all ranks, and they showed a strong disposition to endeavour to neutralize the effects of the change as much as possible, and largely succeeded.

This being the case, the Association first lodged protests with the War Office, and then, finding that no result followed, started in 1864 a definite campaign with the object of securing that there should be compliance in all respects with the terms and spirit of the warrant and regulations mentioned. The crusade took the same form as those which have been described in earlier articles. A deputation was sent to the Secretary of State for War, petitions were sent to Parliament, and endeavours made to secure the co-operation of various persons of influence. The work done was by no means ineffective so far as immediate results were concerned. In other words, the Government caused an inquiry to be held, and subsequently a fresh warrant was issued, and later on, as the pressure of the Association continued, a good many other warrants. There was never, however, any great improvement of a permanent character, for though each warrant in its turn purported to make concessions, and did in fact do so, each was followed sooner or later by the issue of general orders, or War Office circulars or memoranda, which overrode or explained away some one or other of the provisions made at earlier dates.

Matters went on like this for many years, and meantime the Secretary of State for War in the early Seventies took an unhappy course, which has since been followed with equally unhappy results by more than one Minister of the Government. He took into his counsel a private medical friend who was not in a position to gauge the feeling of the profession, and issued a new warrant introducing a system which the British Medical Association, through its JOURNAL, described from the beginning as doomed to failure.

The army medical regulations of 1859 had left the old regimental system practically untouched, while the new warrant, besides substituting a short term medical service for life employment, established a system which was neither departmental nor regimental. All surgeons were classed either as administrative or executive officers, but the unified corps which some of them were supposed to form practically did not exist, and the regiments to which others were attached declined to recognize them any longer as their fellows. In short, nearly all such advantages as an army surgeon had previously enjoyed were abrogated by this warrant.

In effect an army surgeon was no longer either a civilian or a soldier; his relative rank brought no advantage; his promotion was blocked; his retiring terms were bad; he might be forced to keep a horse but was not certain to receive forage allowance; he had no mess room of his own and if attached to a regiment he had no definite right in the mess room of its officers; his time was liable to be entirely occupied by returns, and except as a possible witness he played no part on boards even when they dealt with strictly medical subjects. When he worked in hospitals it was under the command of a combatant officer, and he had no authority over his own orderlies. Furthermore, the system was as bad for the army as a whole as for the surgeons. Soldiers sent to hospital were grouped according to the regiments from which they came; one of the medical officers attached to that regiment was in charge of them, and as these were constantly being changed or might be told off for some other work, a sick or wounded soldier was liable to be treated by several different medical men in succession.

Naturally it was not long before the Association took steps to remedy matters. First it drew up a complete statement of all the evils which existed and presented this document to the Secretary of State at an interview. The proceedings were long, and the reporter's account of the beginning of the speech made in reply to the deputation is worth quoting:

> What the deputation was asking for the whole of the services were asking for—a better system of promotion, better arrangements for retiring, and increased allowances. . . . The medical officers of the army were very fortunate in having a civil power of magnitude and influence like this Association to represent their interest in deputations, and this was what other parts of the army had not. The advantage of being thus represented was very great.

A little later a few new concessions were made; but it was not until the end of the Seventies that any permanent improvement was effected, and meantime there had been a definite trial of strength between the Association and the War Office. The former continued to press for abolition of the existing hybrid system, and the latter publicly declined to take any further step towards meeting its views. In fact, the warfare was so open that just before the Government found itself obliged to give way, a semi-official attack on the Association was made in the *Army and Navy Gazette*, on the ground that it had seriously injured the army by depriving it of medical officers.

The net outcome was that at the end of 1879 a new set of army regulations unified the so-called Army Hospital Corps with the Army Medical Department, abolished the remains of the old regimental system, ousted combatant officers from the control of hospitals, provided for the performance of nursing duties by trained men directly under the command of the surgeons they assisted, and improved the position of the latter in many other ways. This was a real victory, but the Association was still not satisfied.

The new code did not offer any encouragement to medical officers to continue to be earnest students of their profession, and opened the door for the reintroduction of appointment by nomination instead of by competitive examination, and to both of these drawbacks the Association strongly objected.

Consequently at the beginning of the Eighties the war was recommenced; the more direct aim of the Association now was to get established a completely unified service—an Army Medical Corps—and to secure for its officers substantive, not merely relative rank, the advantages of which had become more shadowy than ever. Opponents of the latter change declared that it was ridiculous for medical men to want military titles, while the Association held that the military mind was so constituted as to make them essential. A medical man working in the army should not have to depend solely on the force of his personality for the position he occupied among other officers and the influence he exercised over the men, but would always have to do so until he possessed the only thing that either officers or men really understood, namely, substantive rank.

The fight over this particular question reached its height about 1887, when the Director-General for the time being attended an annual meeting of the Association, and after stating that the public services were greatly indebted to it for what it had been doing, endeavoured to dissuade it from insisting on this particular claim. Though the Director-General was supported by one or two other senior officers who were present the Association was not fully convinced that he was right, and therefore decided

to address personal inquiries as to their views on the point to all medical officers in the army at home and abroad. It received about 800 answers, and having analysed them decided to continue to press for this particular reform.

The work then done resulted in the appointment of a departmental committee, which, at the beginning of the Nineties, among other recommendations, suggested that the question of substantive rank should be settled by the accordance of a composite title, half military, half professional, to all ranks. Due effect was given to this suggestion, but the Army Medical Service was still merely a "department," and there was reason to believe that the rank accorded was not regarded either by the War Office itself or the army as a whole as placing medical officers on equal terms with other officers. The "camp follower" conception still prevailed.

Consequently the Association returned to the charge, and the following five or six years proved a very strenuous period, despite the fact that the Government well recognized the strength of the forces arrayed against it. The Association was fighting for several minor improvements, among them being the limitation of a tour of foreign service to five years and greater facilities in the matter of exchanges. But its principal object was to get the Army Medical Service transformed from a unified department into a corps such as that formed by the Royal Engineers, and eventually it got its way, the intention of the Government to create the Royal Army Medical Corps and accord its officers ordinary military titles being announced by Lord Lansdowne in 1898.

Some four years later—after the South African war—some alterations in the internal organization of the corps were seen to be necessary, and the work then done eventually led to the service being provided with its existing attractive qualities. We use the term "eventually" because some of the modifications originally proposed were of a kind materially different to those finally adopted, and we are betraying what is now simply a *secret de Polichinelle* if we say that some of the features to which the corps owes its present popularity were introduced at the instance of the Association.

The Medical Service R.N.

Since the reconstitution of the British Medical Association on its present basis attention to the interests of medical men in the navy, the army, and the Indian Medical Service has been the duty of a special committee, the Naval and Military Committee. Another standing committee, formerly named the Colonial (now the Dominions) Committee, has among its duties that of performing a corresponding task in respect of those who belong to the various medical services of Crown colonies, including the West African Medical Staff.

Both the committees have done a very great deal of useful work, but have been enabled to perform it with great quietness, thanks to the fact that the Government departments concerned in their operations have for many years past realized the strength that these committees have behind them. As a consequence it has become almost a routine practice for these committees to be informed when changes are in view, and it is only when any representations that they think it necessary to make fail in their object that disputes between the Association and the Government reach the surface. The circumstances that led to this useful state of affairs have, in the case of the War Office, already been described, and those relating to the other services are of a corresponding order.

The Association began to fight for medical officers in the navy at the same date as it began to fight for those belonging to the army, and within a few years it began to fight also for medical men in the employment of the Indian Government. The campaigns undertaken on their behalf were equally determined, but only a very cursory account can be given of them, since the fighting required was as a rule of a somewhat different character and does not lend itself to brief description. In its contest with the War Office the Association had to deal not only with the natural objection of nearly all Governments towards making any alteration of system which would mean spending more money, and the dull conservatism which prevented recognition of the need of any progress at all, but also with a very strong class feeling, which from beginning to end of the contest was perhaps the chief stumbling-block.

The latter influence also played a part at one time in the affairs of the navy, but it began to fade out when, in the early Sixties, admission by nomination was abolished, and seems to have been entirely extinct within fifteen years or so. Meantime a great fight had been going on over questions of pay, study leave, relative rank, allowances, the right of naval medical officers to occupy their time as they pleased on shore, and terms of retirement. Terms of peace were arranged in 1875, when, after a series of memorials and deputations, the Admiralty issued a new warrant dealing with the medical department of the navy. This made a variety of concessions, but the most important of them was, perhaps, that which accorded ward-room rank and ward-room privileges to all medical officers, whatever their seniority. The extent of the victory will be best gauged, perhaps, by the following extract from a letter published in the JOURNAL in the year mentioned:

> One can now conscientiously advise any medical man to enter the service. A young man now enters the service with befitting rank, exceptionally good pay, and every requisite to make him feel that he is in the position of a gentleman. One word in conclusion as to the part played by the Association and your JOURNAL throughout the struggle. We all feel that had it not been for the powerful assistance we derived from our professional brethren who so kindly espoused our cause and made their voice heard, we might long have remained unemancipated, and it is to be hoped that naval medical officers will never forget what is due to the British Medical Association for what it has done during the eventful years 1874–1875.

There were several other letters of the same type, but this will suffice to show that at that time naval medical officers considered they had reason to be satisfied with their position. At later dates various causes of discontent arose, and led to the Association having to bring its influence to bear on several occasions. The most recent of these occurred not many years ago when the Admiralty showed a strong disposition to burke the findings of a commission appointed to consider the affairs of its naval department. Effect, however, was given to most of these some two years ago by the issue of regulations which secured for naval medical officers increased pay and many of the advantages already enjoyed by their fellows in the army. The changes have not succeeded so far in restoring to the medical service of the Royal Navy the popularity which it at one time enjoyed, but it is fair to say that the Admiralty seems disposed to show goodwill in the matter, and the Association has recently been asked for suggestions. These it has now made, and they will certainly—if put into operation—alter the present somewhat unhappy condition of affairs.

The Indian Medical Service.

In the difficulties of the Indian Medical Service class influences have never played any part. Officers belonging to it have always enjoyed an excellent position, and the Government of India has not failed to express its high opinion of the work done by the service. Nevertheless, there have been plenty of occasions when the support of the Association has been eminently necessary.

At one time, for instance, it seemed not improbable that a serious attempt would be made to abolish the service altogether, or make it a kind of appendage to the medical department of the British army; at another, in the early Eighties, a Viceroy proposed by a stroke of the pen to abolish about two-thirds of all the prizes of the department; and again, in the Nineties, a good deal of activity was required to secure for officers of this service just compensation for the loss entailed on them by the fall in exchange values and the gradually increasing expense of Indian life. There has, in short, been plenty for the Association to do in connexion with this service, and its task, unfortunately, is by no means ended.

It may be added that during the last few years the Government has exhibited an unhappy tendency to interfere in various pettifogging fashions with the private affairs, and many of the privileges previously enjoyed by the service, and the prospects offered by it are much less satisfactory than they used to be. It is impossible to discuss this question fully here. It may be stated, however, that there is a movement in favour of displacing

officers of the Indian Medical Service from many of the positions and appointments which have helped to make it attractive. In consequence of this state of things the Association has presented a memorandum and tendered evidence to the Royal Commission on the Public Services in India now sitting.

Colonial Services.

Though the amount of work that the Association has had to do on behalf of medical men in the employ of the colonial Governments is relatively small, it is nevertheless of considerable importance. The Colonial Committee mentioned as having been instituted as one of the standing committees of the British Medical Association after its reconstitution in 1902 was not the first of its race, for at earlier periods the Association had from time to time appointed committees to deal with questions arising in the colonies. Those relating to colonial Branches and their formation and rules were the care of the Council itself, but occasionally when action had to be taken on behalf of individual medical men it was thought desirable to hand over the work to special committees. In the Nineties, for instance, the Association was occupied for a very long time in endeavouring to secure justice for a medical man who had been badly treated by the Government of one of the West Indian islands, and in respect of its labours received the thanks of the West Indian Alliance, as also of a body in this country entitled the Civil Rights Defence Committee.

Again, in the same decade there reached the Association information pointing to the conclusion that the whole system of administration of the medical affairs of the colonies and protectorates scattered along the West Coast of Africa required thorough overhauling, and this led to its appointing a committee to take the matter in hand. The work done resulted in the drawing up of a scheme for the establishment of a unified medical department for West Africa, and on the invitation of the Secretary of State for the Colonies this was submitted to him and became the foundation of the organization now known as the West African Medical Staff. For a few years this service prospered, but some five or six years ago grave causes of discontent arose, and eventually led to the Association making a successful effort to secure the appointment of a commission of inquiry. The net outcome was an extensive reorganization of the service, coupled with the appointment of an advisory board such as was already in existence in connexion with the army and navy. At the present moment it may be said that the affairs of this service are causing some anxiety, but it is to be hoped that the statesman-like views on medical subjects which have usually been taken by the Colonial Office since the time when the late Mr. Joseph Chamberlain was at its head will again prevail. Should they not, the Association will undoubtedly again take the matter up vigorously.

Conclusions.

To sum up, the existence of the Association and its readiness to expend labour, time and money in the interests of all medical men alike, have undoubtedly been of much value to all those who belong to the various services. Apart from the fact that individuals and isolated bodies of medical men are always handicapped when attempting to defend their own interests unsupported by their fellows, it is commonly difficult, if not dangerous, for those serving any of the great Government departments to take any overt action at all. This consideration underlay a communication made last year by a distinguished member of one of the services which contained the following passage:

> The younger members of the profession do not, perhaps, entirely realize the very great importance of supporting an institution which may prove in emergencies their only practical and reliable safeguard against injuries, if not absolute ruin. Without it many would be helpless and powerless, as want of money, want of time, or the peculiar constitution of their work, may forbid the invocation of the law. It was, for instance, owing chiefly to the action of the Association that the Army Medical Service attained its present honourable and useful position. There are numerous similar instances. No one can see the blows that fate may have in store, and the wise man is he who endeavours to protect himself. There are few forms of insurance more reliable than the British Medical Association.

IX.
SOME NOTES IN CONCLUSION.

To the subjects considered in the previous articles more space has been devoted than was intended, and references to other features of the Association's work will necessarily be brief. Many, indeed, it will be impossible even to mention.

SHIP SURGEONS.

Despite the wandering life led by ship surgeons the records of the Association show that their interests have been by no means overlooked. The work done on their behalf appears to have been begun early in the Eighties, when, after a discussion on the subject in the JOURNAL, a deputation from the Association waited on the President of the Board of Trade to press upon him the unfavourable conditions in which ship surgeons did their work. They were less well paid than stewards and other subordinates of that kind; were given the worst cabins themselves, and any accommodation nominally placed at their disposition for the performance of their duties was liable to be taken away from them at a moment's notice, if not habitually used for some other purpose; they were not given any real assistance in looking after the sick, had no definite authority in sanitary matters, and were totally dependent on the goodwill first of the captain under whom they served, next of the owners who employed them.

The remarks of this deputation had application more particularly to medical officers in charge of emigrant ships, and the President of the Board of Trade promised that in a forthcoming Shipping Act should be introduced clauses calculated to place surgeons in a more favourable position to perform their duties on board ship, and to force shipping companies to exercise greater care in their selection of suitable persons. In the same decade the Association was also moving for the appointment at the Board of Trade of a regular medical department, and so far as ship surgeons in charge of emigrants were concerned some improvement was at length effected.

During the last ten years the subject has never for long been left on one side, and as one result of the attention paid to it several shipping companies mainly engaged in passenger trade have during the last few years put their medical officers in a better position than formerly in regard to the receipt of fees from passengers, and other points. Furthermore, the view held by the Association, that medical men can rarely with propriety undertake charge of a vessel during a voyage by way of a holiday and in return for nominal pay only, seems to be making headway. A more important circumstance still is that a special subcommittee that the Association appointed a year or two ago to consider matters has successfully completed arrangements which will ensure that constant information as to what is going on in the shipping world shall be duly received, and ship surgeons feel that they have at their back a strong organization.

PRISON SURGEONS.

In 1878 the Association co-operated with the Irish Medical Association in work on behalf of medical officers in charge of prisons in Ireland, and in the early Nineties began to be active in the cause of the prison medical service as a whole. The work done included the submission to the Government of a memorandum which pointed out that for various reasons the attractions of the service, which had never been excessive, had gradually diminished; the rate of promotion among prison surgeons was unduly slow; pension terms were unfavourable; and distinctions were drawn in respect of salaries between governors and medical officers which could not be justified by anything in the character of their respective work or qualifications. The suggestions made were to the effect that convict and local prison services should be amalgamated, a medical element introduced into the Prison Commission, prison surgeons be regarded as eligible for appointments as inspectors and governors, and that when a prison medical officer was not a whole-time employee the rate of his pay should not be determined by the average resident population of the prison of which he was in charge. Some effect would appear to have been given to these suggestions, but much room for improvement remains, and consequently it is possible that the Association may have to take the matter up again.

LUNACY.

The first definite action by the Association in respect of lunacy would appear to have been taken as far back as 1864, when the Government was urged to alter the wording of a bill regarding prisoners presumed to be of unsound mind in such fashion as to make it possible for holders of the Apothecaries licence as well as other qualified medical men to sign certificates in respect of them, and to provide also for the payment of prison surgeons called upon to perform this duty. Its more important work in this connexion does not seem to have been commenced until the Seventies, and after this, and especially in the Eighties, it was frequently very busy indeed.

Its main aims at various dates would seem to have been to get improvements effected in the position of alienism as a study and field of work, and secure facilities for the treatment of persons not actually insane, but deemed to be in danger of becoming so unless taken in hand and effectively treated forthwith; to secure a certain measure of protection for medical men who in the course of their official or other work had to examine the mental condition of individuals and report thereon; to protect owners of private asylums who in the Eighties were threatened with practical confiscation of their property; and to safeguard the position of medical men who without keeping asylums wished to receive from time to time persons of defective intellect as resident patients. Its work regarding treatment of cases of threatened insanity dates back to 1896.

The records also show that the Association, which at a relatively early date pressed for an adequate system of superannuation for all resident medical officers of county and other public asylums, began to point out a few years ago the great advantages that would accrue if co-ordination were established between such institutions, service in one being allowed to count towards promotion in another, and greater facilities for marriage being offered to senior assistant medical officers. A little time ago a body having objects of this kind in view came into existence, and the Association has agreed to co-operate with it.

An allied subject in which the records of the Association show it to have been very active is that of inebriety and narcomania. It has always been a strong advocate of temperance as distinct from total abstention, and in 1875 it began to agitate for the passage of a legislative measure which should make it possible to submit chronic inebriates to measures of a medical kind instead of dealing with them simply through the operation of the criminal law. One outcome was the holding of a departmental inquiry, and this was eventually followed by the passage of the first Inebriates Act and subsequent amending bills.

VACCINATION.

The work that the Association, in the early years of its existence, did on the subject of vaccination has already been mentioned in previous articles; it may be added that the records show that in no decade has its attention ever been diverted from the subject. The passage of the first Vaccination Act, which provided for gratuitous vaccination out of public funds, was largely due to the report published by the Association a year or two previously, and the Association obtained establishment of the principle of compulsion by the Act of 1853. In 1871 it succeeded in inducing the House of Lords to throw out a clause in a proposed Act which abolished multiple penalties for neglect or refusal of vaccination, and in 1874 it was active in connexion with a bill by which the duties of guardians in relation to enforcing the Vaccination Act were regulated. In 1880 it was successful in inducing the President of the Local Government Board to refrain from proceeding with a measure which would have greatly lessened the legal risks involved by the omission of parents to get their children vaccinated.

It was equally active in connexion with later measures, and besides habitually fighting to maintain the claims of public vaccinators to proper payment and security of tenure of office, issued in 1902, for the information of the general public, a pamphlet containing reprints of a series of articles setting forth the real truth about vaccination. This proved so useful that a revised edition was published in 1905. The records also show that on several occasions the Association made monetary contributions to the funds of the Jennerian Society.

QUACKERY.

The subject of quackery early attracted the attention of the Association, and led to the appointment of more than one special committee to study the question. At one time and another somewhat wild statements seem to have been made, but considered opinion on the subject in early days may be summed up in two sentences: (1) Though by no process of law could credulity and love of self-drugging be abolished, and though the Government was perhaps entitled to take advantage of the sale of secret remedies for the purposes of revenue, it could and should strew the path of the quack with many more stumbling-blocks than he had at present to encounter. (2) Medical men themselves could do a great deal to stem the tide of quackery by demonstrating its irrationality by popular lectures and the like, and by pointing out in the course of their daily work among the public the dangers of indulgence in secret remedies.

Early views, in short, were much to the same effect as recent views. As for what has happened meanwhile, it cannot, unfortunately, be said that quackery has been stamped out, but the position is on the whole less unfavourable than it was formerly. In the first place, the reform described in earlier articles and the strong attitude taken up by the Association on ethical questions went a long way towards abolishing one of the graver evils with which the earlier members of the Association had to contend—namely, the active participation of many members of the profession in quackery of one kind and another. In the second place, a very shrewd blow was struck when the BRITISH MEDICAL JOURNAL began to analyse and record in its columns the composition and true cost of numbers of secret remedies. The articles enabled medical men when discussing self-drugging with their patients to speak *ex cathedra;* and the subsequent republication by the Association of most of the articles in two books, placed on sale at a popular price, served to drive the lessons home. Also useful proved the agitation against massage establishments and public exhibitions of hypnotism, started by the Association in the Nineties, and its exposure at various dates of some of the more blatant quacks.

ANNUAL MEETINGS.

Study of the records of the Association relating to annual meetings shows that, though additions have been made, those now held faithfully reproduce the features of the earliest gatherings. Some of the work originally done at the general meetings is now transacted separately by the Representatives, and the report of Council is taken as read; but the presidential address is still delivered as part of the general meeting, and its contents are commonly closely akin to the retrospective addresses that the early presidents had to deliver on their installation. The formal addresses in medicine and surgery are of the same kind as those which began to be added to the agenda at a relatively early date, and the papers read by many openers of discussions are on all-fours with those summaries of existing knowledge on various subjects which the pioneers of the Association desired to be prepared from time to time.

The chief new feature, in fact, is that the reading of scientific papers by ordinary members is no longer mixed up with other business, but takes place at sectional meetings. Even these are now of old standing, though it was only little by little that the work done at them reached its present importance. Apart from the individual value of the papers, these sectional meetings help to fulfil those scientific aims which, though they existed at the beginning could not be attained except through the imperfect medium of the annual volume of *Transactions*. In other words, they enable members to club their knowledge, collate their experiences, and exchange views, and thus help the Association steadily to increase the breadth and firmness of the foundations on which medical practice ought to rest.

Over and above their merits in this respect, it is clear that the gradual increase in their popularity has facilitated progress in the science and art of medicine in a way not apparently foreseen by those who started them. In the audience at a meeting of an ordinary medical society specialists of one kind and another tend to predominate, but the reverse is the case at the annual meetings. At these the general practitioner is present in his hundreds, and such gatherings therefore afford a quite unrivalled

opportunity to those who have a new gospel to preach or valuable results to record.

This is a point of importance, because, when all is said and done it is the general practitioner, not the consultant, who in the long run decides what line of treatment shall be followed in any given class of case. For this reason it is of great value to all men possessed of original minds to be able to bring to bear upon their contemporaries the magic of the spoken word. It may turn into believers in the treatment described and into active supporters of the man who advocates it hundreds who might not read a paper on the subject, or, who having read it, would still maintain an attitude of passive resistance.

Nor is the benefit of the scientific meetings of the Association by any means confined to those who have new gospels to preach. There must be many an ordinary consultant of conservative mind whose success is in some measure due to the accident of his having attended a meeting of the Association, and either by his mere personality or the making of a few sensible remarks convinced some general practitioner present that he was likely to be helpful in a given class of case. Furthermore it is to be remembered that the general body of consultants includes a very large number of specialists, and study of the history of the Association leaves no doubt that progress in many of the special departments of medicine has been materially assisted by its annual meetings and in other ways. Frank acknowledgement of this fact has been made from time to time, and the records show that a statement of this order—which was especially striking because carefully supported by the deduction of a long series of facts—was quite recently made on behalf of ophthalmologists in particular. The speaker ended his remarks in the following words:

> If I interpret these records correctly, it is obvious that the Association has, through the medium of its annual meetings and its weekly journal, ever at hand, done great service to ophthalmology, and it is right that honour should be given where honour is due.
>
> I have always felt that the Association has never yet had the credit due to it for the stimulus it has afforded to the study of clinical and scientific medicine, and I am glad to have this opportunity of acknowledging my personal indebtedness.
>
> Almost every privilege which our branch of the profession possesses to-day is due to the British Medical Association, and every member should be a loyal and active supporter of it.

Finally, it should be added that much of what has been said in the foregoing paragraphs—and especially the remarks concerning the value of sectional meetings as mediums for the collation of experiences and exchange of views—applies equally well to the scientific meetings that the Branches and Divisions of the Association hold from time to time, and it is satisfactory to be able to note that the records show that these are increasing in numbers of late years.

Collective Investigation.

The records show that from time to time the Association has engaged in collective investigations. The report on vaccination mentioned in the article on State Medicine was based on work of this order, undertaken in consequence of the success of a previous collective investigation relating to the epidemiology, pathology, symptomatology, and therapeutics of influenza. The Therapeutic Committee of the Association, which now works as a subcommittee of the Science Committee, also at a later date used this method in its investigation of the effect of new drugs. Perhaps, however, the most important collective investigations carried on by the Association were those conducted in the Eighties under a committee bearing that title. Among the subjects that it took up were pneumonia, puerperal pyrexia, chorea, acute rheumatism, phthisis, albuminuria in healthy persons, the habits of inebriates and of the aged, and the geographical distribution of rickets and urinary calculus. At somewhat later dates investigations of a corresponding kind were made in regard to mental defects among school children, dental caries, on the eyesight of railway employees, on anaesthetics, and on some other subjects.

These inquiries exercised an influence on the afterwork of the Association, and some of the reports in which they resulted were of a very valuable character. The inquiry on pneumonia, for instance, seems to have suggested for the first time that a contagious form must exist; while that on chorea established the frequency with which "rheumatism" figured in the history of choreic patients. The report on phthisis again materially modified medical opinion as to its etiology. Previous to its appearance only a small minority of medical men in England appear to have really believed that phthisis was a communicable disorder. It exercised equal effect on Continental opinion and was frequently quoted in foreign medical literature of the time. The report on the most recent collective investigation—namely, on the operative treatment of fractures—likewise attracted great attention from the profession both at home and abroad.

Branches Beyond the Seas.

In most of the Dominions and Colonies in which Branches of the British Medical Association exist the medical profession now enjoys statutory recognition, but this was not commonly the case when they were first established, and not infrequent recognition of the assistance that the British Medical Association has rendered to members in distant lands, in this and other connexions, is to be found in its records. These show that the Association comparatively early after the passage of the first Medical Act of 1858 began to endeavour to obtain corresponding advantages for members working in British territory but far away from the United Kingdom, and that later on, when it had obtained influence with the Colonial Office, it was frequently able to do other useful work on behalf of medical men in various Crown and other Colonies. In 1898, for instance, it secured prompt reversal of an order requiring medical men in Jamaica to notify cases of infectious disease under a penalty, but without a fee for performance of this duty.

The records of the Dominions Committee of the Association, which is in charge of all matters arising beyond the seas, indicate that there are still British territories in which statutory recognition for qualified medical men has to be obtained, and that during the last few years it has again been busy in such connexions. They indicate also that even when statutory recognition has been obtained the existence of a Branch greatly strengthens the position of medical men working in the Crown Colonies.

The Branches in the Dominions enjoy a large measure of autonomy, but the records show that delegates from these Branches never fail to receive a very warm welcome at annual general meetings of the Association, and that maintenance of the connexion between them and the parent body is considered by both parties to be of not less importance than in earlier days.

Pure Science.

About the beginning of the sixth decade of its existence there seems to have arisen a cry to the effect that the Association ought to abandon a great deal of the work on which it was engaged and confine itself to its original and only object, this being it was alleged, the promotion of science. The cry rested upon a misapprehension. The objects for which the Association was established were briefly summarized in its Memorandum of Association (1874), which is still operative, as "the promotion of medical and the allied sciences, and the maintenance of the honour and interests of the medical profession." The two limbs of this definition are not to be read, and were never intended to be read, as antithetical. It is clear that the two were regarded as being really one. While some subjects were more cherished by certain of the founders and early adherents of the Association than by others, all alike regarded the material and scientific interests of the medical profession as inseparably bound up together. After initiating reform work, they began to offer monetary prizes for competition among those prepared to take up the study of certain subjects;* and, when funds began to accumulate, a decision was reached that each year a definite sum should be set aside for the purpose of making grants to persons desirous of undertaking researches on subjects connected more or less directly with the institutes of medicine. The net result has therefore been that the Association now not only has its own research scholars, but can rightly claim a share in

* The first of these was "The investigation of the sources of the common continued fevers of Great Britain and Ireland, and the ascertaining of the circumstances which favour the diffusion of these diseases, and also those circumstances which may have a tendency to render them communicable from one person to another."

many of the scientific achievements which have won world-wide renown for some of those who now practise medicine in this country, or have done so during recent years. An examination of the records of the committees which have had charge of the work of the Association in this direction, shows that very few well-known names do not figure in the list of those who at one time and another have received financial assistance from the Association in the work on which they were engaged. In fact, to go no further back than 1874, the Association appears to have spent approximately £30,000 on strictly scientific objects.

One or two of the prizes awarded by the Association in early years have been allowed to drop, but others have taken their places, and are equally helpful in encouraging scientific study, and the foundation of a library in 1887 was a further step in the right direction.

This library originated in a collection of books sent for review to the British Medical Journal, and additions to it are constantly being made from this source, as also by purchase and by gifts from authors and others. The great utility of the library to members was further increased a few years ago by arrangements being made to allow of members borrowing books for perusal at their own homes. It should be added that during the last few years over 7,000 books, of which the library possessed duplicates, have been presented to Divisional libraries both at home and abroad on application.

The records also show that in the Seventies the Association began to take up vigorously the cause of those who find it necessary to perform experiments on animals in pursuit of knowledge. On more than one occasion it paid the expenses of individuals forced to defend themselves from attacks in this connexion, and did so much work through its Journal and otherwise that it seems to have come to be regarded as the chief opponent of anti-vivisectionist views. It performed a further service of the same kind in 1907 and 1908, when it reproduced the essence of the evidence given before the late Royal Commission on Vivisection, with the object of furnishing members of the Association with material for upholding the truth when discussing vivisection with their patients and others.

The "Journal."

The ambitions of the founders of the Association in regard to work of a scientific character, and the means by which they proposed to fulfil them, are at the present time best represented by the sectional work of annual meetings, the scientific meetings held from time to time by many Divisions, and by the publication of its Journal.

As for the Journal, it may in some degree be regarded as the begetter of the Association, for it was the amount of support accorded by provincial practitioners to a medical publication in which Sir Charles Hastings and his friends were interested that led the former to conclude that there was room for an association of provincial medical men. The original subscription to the Association (one guinea) was intended to cover the cost of the Association's annual volume of *Transactions*. As a rule, this sum more than sufficed, and it was out of the balance left that grants towards the expenses of Branches began to be made as these were formed, and that the present financial possessions of the Association gradually accumulated.

Although this annual publication of the Association bore the title *Transactions*, it was not on all-fours with the transactions nowadays published by societies. It is true that each volume supplied an account of the annual meeting preceding its publication, but it was made up of classified papers especially written for inclusion therein. This first publication of the Association was, in short, an annual magazine, and when about the end of the Forties there was substituted for it a weekly journal the change was not so great as it might at first seem.

The original Journal was quite small, but little by little fresh features were added until at length it began to assume its present general form, the excellence of which led to its being adopted as a model by some other medical publications. So far, however, none seems to have attempted—consistently and week by week—to cover with equal completeness the whole territory formed by the numerous fields into which the work of the medical profession is now subdivided.

The Supplement, which was first issued in 1904, is devoted more particularly to the business or medico-political side of the Association's work, and keeps members in touch with what is being done by outside bodies whose aims have a bearing thereon; the Epitome, which had its birth in 1890, mirrors the scientific work which is being done abroad; and the Journal itself, though extended in respect of number of pages, still falls into parts, each of which fulfils its original purpose. The first pages are devoted to considered communications on clinical topics, and the pathological, bacteriological, chemical, psychological, and other scientific subjects which are of direct importance to medical men who desire to keep themselves abreast of the times; the next to brief records of interesting points observed in general practice and to accounts of hospital work. The pith of the work done by various societies is recorded in the next pages, and then come reviews of new publications; information as to new instruments and drugs; literary notes, written chiefly from the standpoint of medicine; articles on the history of medicine, to which more importance is now rightly attached than formerly; and others on various subjects which from time to time become of special interest—motoring questions, the incidence of taxation on medical men, the work of benevolent societies, and the like.

The middle pages are given up to a few leaders, one of which is usually a summary of recent knowledge on some particular subject such as the fathers of the Association used yearly to order to be prepared, and short comments on current events. Next come, so long as Parliament is sitting, notes on its doings in connexion with subjects of medical interest; communications from special correspondents at home and abroad; correspondence between individuals; records of the lives of deceased colleagues; and of cases of medico-ethical or medico-legal interest. Finally, after some special sections of varying number, there is a column or two of news and informal notes and queries. The latter reach the Journal in great numbers every week, but unless they are considered to be of general interest they are dealt with in communications sent by post to those concerned.

The Journal, in short, covers very fully the whole of the objects of a scientific character definitely included in the aims of the Association when it was first founded, and, taken as a whole, supplies so much reading matter each week that probably many members devote their attention merely to the particular section which happens to interest them individually. In view of the preoccupations of many medical men this fact is comprehensible, but nevertheless regrettable, because medicine in many respects advances so rapidly, that a man who has not read papers on some particular subject for a long time is liable, when he does so, to find their statements difficult to follow. Many, however, read their Journal steadily week by week, and the following statement by one of them, which is to be found in a recent record, goes far towards supporting what has just been said:

> It is almost needless to refer to the immense amount of information the Journal contains. To any one whose duty it is to know what is being done on the most advanced lines in every branch of work the Journal is invaluable. It is hard to see what the profession would do without it, especially those members who are not in immediate touch with the great centres of work. Moreover, it brings the reader into personal contact with the leaders of thought. Nothing could be more inspiring to a scientific thinker than the records of the ideas of the most advanced specialists of the modern world, so fully and ably reported in recent numbers.

The Final Question.

The first of these articles[1] pointed out that it could only be said to be the duty of every eligible medical man to seek election to the Association unless an answer favourable to that assertion were forthcoming to each of seven specific questions. This was found to be the case in respect of the first five questions, and the answer to the sixth—which inquired as to the past history of the Association in respect of work for the medical profession—is completed by the foregoing note. That answer leaves unrecorded very many useful pieces of work performed by the Association—for instance, its parentage of the Royal Medical Benevolent Fund, and the assistance it gave to Epsom College and in the foundation of the Medical

[1] British Medical Journal, May 30th, 1914. p. 1190.

Sickness Society; its advocacy of the claims of medical men engaged in duties connected with the law courts; its defence of factory surgeons, and its successful attack on the barrack school system. Nevertheless, it suffices to render superfluous any detailed consideration of the seventh and last question. It is clear, in short, that benefit must accrue from the continued existence and further increase of the activities and resources of an Association which has rendered to the medical profession, to science, and to the public at large services such as those described in this series of articles. Consequently, no further reference to this question is required beyond that to be found in the leader on p. 140.

THE TERCENTENARY OF THE UNIVERSITY OF GRONINGEN.

FROM June 29th to July 4th the town of Groningen gave itself up to joyful celebration of the 300th anniversary of its university. Some account of this charming old town of North Holland was given in our report of the proceedings of the International Congress of Physiologists held there last September. The town is closely identified with the university of which its citizens are justly proud, and from Queen Wilhelmina down to the humblest peasant there was willing participation in the celebrations. Of the five universities of which Holland boasts, the two at Amsterdam, one municipal founded in 1877, the other Calvinistic dating from 1880, are of recent growth; the other three—Leyden, Groningen, and Utrecht—are royal universities of ancient foundation. Leyden is the oldest, dating from 1575, when after the memorable siege its citizens nobly chose the grant of a university from the victorious William the Silent rather than the alternative of a remission of taxation. Utrecht dates from 1636 and Groningen this year commemorates the 300th anniversary of its birth. While described as a Royal University and welcoming most loyally the gracious presence at its function of the Queen of the Netherlands and her consort, we were reminded that the citizens of Groningen traced the origin of their university, not to royal favour, but to their own energy and self-sacrifice. North Holland, indeed, is the home of democracy, and unconquered Friesland claims that her people alone of the Germanic tribes have preserved the same name and occupied the same region since Tacitus wrote his annals. Approaching Groningen from the "oozy rim" of the Zuyder Zee, the traveller passes through the rich pastoral country, with big cattle, sheep and horses, and apart from the university it is an agricultural town of 80,000 inhabitants. While it was perhaps more famous in the thirteenth century as a member of the Hanseatic League the enterprise of its citizens and the culture diffused by its learning have preserved it from the stagnation which neighbouring towns have suffered by the diversion of the great channels of European trade. The Gothic tower of St. Martin's is a landmark far and wide; the Groote Markt affords an animated scene when on market day it is recruited by the peasantry from the surrounding countryside, laden with rich produce of their intensive cultivation. The Stadhuis, rebuilt is 1787 in classic style, is the emblem and abode of its active and democratic municipality.

It is, however, the university, with its 70 professors and 550 students (of whom 140 are women, and 200 belong to the medical faculty), with its magnificent museums, laboratories, hospitals, botanical gardens, and last, but not least, its new central offices (rebuilt in 1909, after the fire of 1906), which gives animation, distinction, and world-wide fame to this old town of North Holland. Hither came some 100 delegates on Monday, June 29th, from the universities of Europe, America, India, and Australia, to offer their salutations on her 300th birthday to their sister of Groningen. They were received with abundant hospitality and unaffected friendliness by the curators and senate, as well as by the kindly hosts and hostesses who placed their homes at the disposal of the delegates from afar.

Like the other royal universities, Groningen is governed by a body of five curators. Jonkheer Geertsema, the Commissary of the Queen, is the president of this body, and received the visitors with the greatest courtesy. The Burgomeister, Jonkheer Tjarda van Starkenborgh Stachouwer, and his family vied with the President in maintaining the reputation of Groningen for Batavian hospitality. They were well supported by the other curators—Jonkheers Binnerts, Lohman, and Homan—who received their guests in the aula of the university on the evening of June 29th. The Rector Magnificus for this eventful year is Professor Hamburger, whose marvellous physiological laboratory is the most modern and well-equipped in Europe; he was assisted in all the arrangements by the ever-tactful Dr. Nijhoff, as well as by the energetic secretary, Dr. B. ten Bruggen Cate, and his gracious wife, a niece of the artist Mesdag.

Tuesday morning (June 30th) was devoted to visiting the laboratories, museums, hospitals, and other interesting buildings of Groningen, and at 2 p.m. the academic assembly met in the Nieuwe Kerk to hear orations by the President and the Rector, and to receive numerous addresses of felicitation from the delegates of other universities. A strict limitation of speeches, both in number and time, had been wisely prescribed, and was for the most part observed. A brilliant Latin address, spoken extempore by Professor Th. F. Zielinsky of St. Petersburg, was especially enjoyed, while a lighter note was touched by the improvised and impassioned address of the representative of the Roumanian University of Jassy.

Great Britain sent representatives from London, Oxford, Cambridge, Birmingham, Liverpool, Leeds, Manchester, Sheffield, Aberdeen, Edinburgh, St. Andrews, Glasgow, Cardiff, and Dublin. Among the British delegates were Lord Reay, Sir E. A. Schäfer, Sir William Collins, Professors Hills, Leedham Green, E. W. Hobson, R. Caton, S. J. Hickson, Kirsopp Lake, H. R. Dean, G. A. Smith, J. Mackinnon, J. Fergusson, Mr. Lynn Thomas, and Dr. D. J. Coffey. Professor George Adam Smith made a brief and appropriate speech on behalf of all the British universities.

In the evening a banquet was given to some 350 guests by the curators and senate of the university. The toast of the guests given by the Minister for Agriculture was acknowledged by Lord Reay, better known as Mackay in Holland, and by Professor Roethe. The former remarked on the value of such international amenities among universities, adding that Jeremy Bentham, who had inspired the University of London, had also coined the word "international," and that the Metropolitan University by its external side spread its influence all over the world. Professor Blanchard, the parasitologist of Paris, worthily proposed the State of Groningen, which was replied to in perfect French by the burgomeister. A gala performance at the Cabaret, which the Prince of the Netherlands honoured by his presence, closed a well-filled day.

On Wednesday, July 1st, at 10.30 the Nieuwe Kerk was again thronged. Queen Wilhelmina and her consort occupied the royal pew, and Her Majesty read a gracious address after having received the degree of Doctor of Netherlands History. Among other recipients of honorary degrees were Sir E. A. Schäfer, Dr. Hickson, Professor Paterson of McGill University, Professor Zielinsky, Mr. Andrew Carnegie, and Lord Reay. There were more addresses and some songs to the accompaniment of the organ, and then a solemn procession was formed of curators, senators, professors, and delegates, who marched in glorious array beneath a blazing sun to the town hall.

A small party of twenty was entertained at lunch by President Geertsema to have the honour of meeting the Queen. The two representatives of London University were included in the party, and were accorded the privilege of an interview with Her Majesty. After this came the turn of the students, who in the costumes of 1648 enacted a pageant in the "Groote Markt," representing the Peace of Münster. The evening was devoted to a musical soirée given by the Senate in the theatre. Thus terminated the official ceremony of the tercentenary, the rest of the week being given up to water parties and excursions. The weather was radiantly fine throughout the celebration, and Groningen's guests parted with reluctance from their kindly hosts, loaded with memories of regal hospitality and full of admiration of her people's university, at once so ancient and so modern.

LITERARY NOTES.

IT is intended that in the future the *St. Bartholomew's Hospital Reports* shall be published in three parts each year; the first two parts containing scientific and clinical papers, the remaining part the hospital statistics, etc. It is hoped that these parts will appear in July, December, and March of each year. The first part will be issued at the end of the present month.

The *British Review* for July contains among various other matter—political, poetical and critical—two papers of special interest to medical readers. Mr. K. L. Kenrick presents the case against eugenics in a vigorous style. In another article "Medicus" discusses the various ways of starting in practice and the conditions for success. Speaking of the Insurance Act, he says it has undoubtedly played great havoc in many practices, but on the other hand it has been the means of increasing and in some cases doubling and trebling the incomes of some doctors. He thinks, however, that the Act has been "the means of ruining good and scientific work." He says:

> For a man with few or no ideals except to make money, the prospects of the medical profession never were so good as they are at the present time; but for the man who has ideals, the rise is as slow, or rather slower than it ever was.

He concludes with the comforting reflection that the prospects of a general practitioner are about as good as they ever were, for fewer men are entering the profession.

Mr. Wilfred Whitten ("John o' London") in his *Londoner's London* (Methuen and Co.) says that Lombard Street has other than banking associations. In Plough Court was born Alexander Pope. Of the poet's boyhood in Lombard Street nothing is known, but Mr. Whitten finds a trace of it in his mocking verses, "To Mr. John Moore, Author of the Celebrated Worm Powder." Moore was a quack doctor living in Abchurch Lane, which leads from Lombard Street into Cannon Street. His "learned Friend of Abchurch Lane," Pope calls him. "John Moore's Worm Powders" were very extensively advertised in the newspapers, with testimonials written in plainer language than would be tolerated to-day. Pope asks Moore to remember that "all humankind are worms":

> O Learned Friend of Abchurch Lane,
> Who sett'st our entrails free;
> Vain is thy art, thy powder vain,
> Since worm shall e'en eat thee.

When Moore died in 1737 the *Gentleman's Magazine* gracefully remarked that he would now "verify Mr. Pope's witty observation"—in the last line of the epigram quoted.

The connexion between the breast feeding of infants and racial decay may at first sight not appear very close; but the loss, whether real or artificially induced, of the mammalian instinct in the women of a nation is not to be lightly disregarded by those interested in the preservation of national health and prosperity. The decline of breast feeding amongst modern mothers forms the subject of an interesting article by Mr. Harold K. Waller which appeared in the June number of *The Child*. In it the author discusses the reasons for this decline and the means of checking an evil which threatens to prove a source of serious danger to the future welfare of the race. "There is a tendency," remarks Mr. Waller, "to consider lactation as an unstable phenomenon, and the privilege accompaniment to robust physique, associated with the type of intellect that is erroneously considered somewhat low in the scale of culture." Public opinion, moreover, especially of late years, tends to regard lactation as an additional burden upon the mother, and one that can be dispensed with without endangering the health of either mother or child. The fallacies upon which such theories are founded are exposed by Mr. Waller, who proves that the successful rearing of children at the breast is by no means so difficult or complicated a matter as it is often asserted to be, and that it is, in fact, far less troublesome and dangerous than artificial feeding upon patent foods. Much, of course, depends upon the patience of the mother and the formation of good habits in the child; but these being once acquired, there is no reason why, in the majority of cases, a healthy woman should not provide her child with that natural food for which, as yet, no satisfactory substitute has been found. The June number of *The Child* also contains articles by Dr. A. Gilmour on school dentistry, and by Dr. Edward F. M. Neave on squint in childhood; whilst Dr. G. de Swietochowski gives some valuable advice as to the prevention and treatment of spinal deformities; and Miss Alice Ravenhill has contributed a short account of the health of children in the public schools of British Columbia.

The *Year Book of Open-Air Schools and Children's Sanatoria*, which will shortly be issued by Messrs. John Bale, Sons, and Danielsson, Limited, under the editorship of Dr. T. N. Kelynack, is a companion volume to *The Tuberculosis Year Book and Sanatoria Annual*. It is intended to be the authoritative directory and guide on open-air education and all matters relating thereto. It will be a reference work for the information of medical, educational, and other leaders engaged in the conduct of State, private, philanthropic, and national schemes for the betterment of child life, and particularly of tuberculous, tuberculously disposed, convalescent, delicate, and other children requiring special medico-educational consideration and care. It will contain editorial reviews, original communications, critical surveys, accounts of open-air education schemes, descriptions of open-air schools and children's sanatoriums, particulars of national associations, societies, and other bodies, reviews and notices of books, records and reports, and much else of practical service.

Among the writings left by Swedenborg is a section of his *Regnum Animale* which deals with the brain anatomically, physiologically, and philosophically. A part of this had been translated and prepared for publication by Professor Rudolf Leonard Tafel, who published one volume in 1882 and a second in 1887; but he died in 1893 before he could complete the work. Dr. Max Neuburger, Professor of the History of Medicine in the University of Vienna, communicated to the meeting of the Association of German Scientists and Medical Practitioners, which met at Hamburg in 1901, a paper on Swedenborg's investigations on the physiology of the brain, laying stress, as Tafel had done before him, on their scientific value. Soon afterwards he placed himself in communication with the Swedish Legation in Vienna, to which he expressed his regret that the manuscript of Swedenborg's work on the brain had not been published. This was submitted to the Minister for Foreign Affairs in Stockholm, who laid it before Professor Gustaf Retzius of the Royal Academy of Sciences, where the Swedenborg MSS. were kept. In *Notes and Queries* of October 15th, 1913, Mr. Charles Higham stated that a cursory examination by Professor Retzius of the manuscripts which treat of the brain and nervous system convinced him that a sufficiently thorough examination would take more time and work than he could devote to them, and the task was postponed. In August of 1902, however, Professor Retzius fortunately met Mr. Stroh, and at the ordinary meeting of the Royal Academy of Sciences in the following December a committee, consisting of Professors C. Lovén, A. G. Nathorst, S. E. Henschen, and S. Arrhenius, with Mr. Stroh, was appointed "to examine all the manuscripts of Swedenborg, and present a report thereon to the Academy, stating whether and to what extent they ought to be published." In the following April a favourable report was presented by the committee, and the printing of a selected number of volumes was decided upon. The plan was to print some three or four volumes, but it developed later into a decision that Swedenborg's physical philosophy of 1710–34 should be represented by seven volumes and his anatomical and physiological works by three. Of these *Opera quaedam aut Inedita aut Obsoleta*, the first three volumes have already appeared under the general editorship of Mr. Stroh, with a preface by Professor Retzius (who also defrayed the cost of publishing the three volumes), and introductory matter by Professors Nathorst and Arrhenius. Arrangements—literary and financial—have been made for the publication of the other volumes. Mr. Stroh's work will also include the collection of documents relating to Swedenborg.

British Medical Journal.

SATURDAY, JULY 18TH, 1914.

IMPENDING DEVELOPMENTS IN NATIONAL INSURANCE.

MEDICAL attention is at present very largely directed to the question of the disposal of the various grants promised in connexion with the Budget. The Chancellor of the Exchequer has indicated that certain of these grants will definitely go to the authorities who administer the Public Health Acts, and that others will definitely go to the authorities who administer the Insurance Acts, but the destination of others is left in suspense. Included in the grants that will go to the insurance authorities are those devoted to the provision of referees and consultants, and also the grants for clinics. Included in the grants the destination of which is undecided are those which relate to laboratories and nursing. The Chancellor indicated that they lay midway between public health and insurance, and that their final disposal was open to discussion. It is important that the medical profession should have clear views on the subject, and should express its views at the earliest possible moment.

The Insurance Act has been accused of tending to commercialize the profession; were it to have this effect the result would be disastrous to the profession, and must eventually destroy the efficiency of the work it does for the public. That the risk exists will not be denied, but we believe there is much to be said for the view that the grants which are still in doubt, if now properly allocated, would tend to bring the profession more closely into touch with science than it has ever been before. There is, however, a risk that a mistake may now be made and the new work sent along the wrong road.

Throughout the country there are numerous provincial hospitals established in towns which are natural centres, and therefore convenient to the medical profession and its patients in the several localities. These should, wherever practicable, be made the centres of activity each for its own area. To establish there the clinics, or most of them, would be in the natural line of development, and it would be equally natural for the referee-consultants to make the hospital their head quarters. In most such hospitals *x*-ray apparatus, electrical appliances, and the rest of the modern armamentarium for the diagnosis and treatment of disease, including, in very many instances, clinical laboratories, are already provided and only need development. It seems obvious that the clinical laboratories required by the Budget proposals should be situated on the same premises, and be in the closest possible relation with the clinics; the two should in fact be part of one scheme. That being so, it seems clear that laboratories situated in municipal buildings, perhaps a mile or two away from the hospitals, would not only be less convenient than laboratories placed at the hospitals, but necessarily less efficient because removed from the influence of the clinical hospitals and the atmosphere they create. The laboratory and the clinic should, in fact, be inseparable. It appears to follow that throughout the country generally the laboratory and the clinic should be under the same administration locally and centrally. Now the administration of the clinic is to be part of the administration of the Insurance Act; so also, therefore, ought to be the administration of the laboratory, or at least the insurance authorities should have the predominant voice. It would be very awkward to have one part of the combined laboratory and clinic managed by a town council, and the other part managed by an Insurance Committee. This consideration points to the propriety of the clinical laboratories being placed in the hands of the Insurance Committees, which will control the clinics, rather than of the public health authorities. To this end a committee of the British Medical Association has suggested that the control should be vested in a joint committee consisting of representatives of the Insurance Committee, the Local Medical Committee, the local hospitals, and the County Council. If there should be any insuperable obstacle in the way of setting up such a new authority as that suggested, the same object might be attained by the appointment of a subcommittee of the Insurance Committee, with, perhaps, additional members co-opted from the other bodies mentioned, for clearly in any case some method of co-ordination will have to be found.

Local laboratories could not always have, in respect of staff and appliances, an equipment sufficient for all purposes—that is to say, difficult cases must occur in which consultation between laboratory workers will be desirable. The local laboratories should therefore be grouped in relation to great medical teaching centres, where there is a school possessing institutes of pathology and bacteriology. Each such centre, which it may be hoped will receive a great impetus as a result of the allocation of the "Research Penny," should have attached to it a convenient group of local laboratories, and it would not be difficult to specify the particular functions that should be performed centrally as distinguished from locally. In all cases the staff of the local laboratories should be placed in direct relation with the staff of the nearest central laboratory, and the growth of provincial universities during this generation facilitates such an arrangement. One important consideration here is that if the body vested with local control were the Insurance Committee it would always contain a representation of the medical profession.

As regards great cities the position is somewhat different. The hospitals in great provincial cities with several hundred thousand inhabitants are seldom so distributed through the area as to make them convenient centres for clinics. In so far as a great hospital in such a city is the centre for medical men of a given district it ought to be so used, but it will probably be necessary in addition to provide clinics here and there in the thickly populated outskirts of the city to suit such members of the profession and their patients as live too far away to make it practicable for them to use the large institutions.

Coming now to the question of the nursing grant, of which the destination was also left open in the Chancellor's speech, the question of control as between the Public Health authorities and the Insurance authorities seems capable of only one reply. Insurance Committees must contain medical practitioners to the extent of at least 10 per cent. of the total membership, and they must also in every case include at least four women. Public Health authorities have very seldom any such representation

either of doctors or women, and where a member of the public health authority happens to be a doctor he is there by the accident of local election, and not by right of statute or because he is a doctor, as is the case with Insurance Committees. Nursing is clearly a part of adequate medical service, and should be administered by the authority responsible for that service.

It is true that at present the Insurance Committees have responsibility only for about a third of the population, but we cannot shut our eyes to the probability that a demand will arise for the extension of the scheme of national insurance to the dependants of the insured. Whether we think this will happen soon or late, we must not lose sight of the possibility, for it makes it all the more important that development should follow the right lines now, at the beginning. If dependants of insured persons were to be brought in, the total proportion of persons under the charge of Insurance Committees would be raised to not less than four-fifths of the whole population of the country, and the remaining one-fifth would be largely made up of those who are so well off as to be quite outside any necessity for such insurance. In so far as nursing functions come in any way under the provisions of the Public Health Act, they are confined to cases of infectious diseases; under the Insurance Act there is no such limitation. For these reasons it is in the interests of the public and of the medical profession that the nursing grant should go, not to the public health authorities, but to the insurance authorities.

The Insurance Act is specially related to the treatment of individuals, whilst the Public Health Acts are specially related to preventive measures applied to communities—mainly measures to deal with environment, water supply, drainage, housing, and the like. The general character of the membership of the two authorities cannot but have close relation to the functions which they are separately to perform. Incidentally in this connexion reference may be made to another point, to which some weight should be attached. In the Insurance Committees an attempt has been made to interest the representatives of the approved societies directly in the working of the Act, and it does not seem politic that these persons should be asked to give their services only when the dry detail work of registration and routine administration is under consideration, and that when work of vital interest affecting every member is to be dealt with it should be proposed to hand it over to some other authority. Such a course would inevitably tend to deter representatives of the societies from taking their legitimate share in determining the policy of the Committees in larger issues.

The prospect opened up by the establishment of medical centres at the hospitals which already exist in connexion with nearly every considerable town throughout the country is very attractive. It indicates how readily the profession, aided by the post-graduate instruction for which so remarkable a demand has arisen within the last decade, may keep itself in close touch with the practical developments of medical science and teaching.

PAST, PRESENT, AND FUTURE.

THE series of articles on the relation of the British Medical Association to the medical profession is brought to a close in this issue. Their preparation has involved no inconsiderable amount of historical research, but the expenditure of time and space has been justified, for despite inevitable shortcomings the articles as a whole may be regarded as constituting what a writer of the late Georgian period—that in which the Association had its birth—would have called a conspectus of the work of the Association since the date of its foundation to the present time.

The study on which the articles were based was commenced with the object of seeing how far the work hitherto done by the Association for the medical profession justified the contention that all members of the medical profession ought to join its ranks, and we have received assurance from keen supporters of the Association, who believed they were already well acquainted with its history, that the articles have shown to them that the Association has done much more than they had hitherto realized. This is all the more satisfactory because in no single instance has any of the crusades mentioned been exhaustively described, and to much that has been done in other directions no allusion has been made.

It is inevitable that the extent to which different parts of the Association's work appeal to individuals should vary with their preoccupations, but the value of no institution having objects at all comparable to those of the Association can ever be judged from any single standpoint, nor should any one who desires to form a sound opinion as to its potentialities allow himself to be influenced either by its success on one particular occasion or by its failure on another. It is by its whole history that it should be judged, and this history must have endured for a period sufficiently long to allow general conclusions to be drawn.

This is the consideration that gives value to the comprehensive sketch of the work of the Association that has now been supplied. The period that it covers is long, and the forms of work described numerous. Summed up it shows that the history of the Association has been one of persistent effort in a multiplicity of directions during eighty-two years, and it is impossible to doubt that the sketch justifies the conclusion that the Association has been remarkably successful in fulfilling the aims with which it was founded.

In regard to those aims, it has sometimes been assumed that they were mainly scientific, but this, as pointed out in the course of one of the articles, is an incomplete conception. The promotion of science, so far as the meaning of that term in 1832 is truly comparable with its meaning at the present day, was one of the main objects the founders of the Association had in view, but they fully realized that only by simultaneous promotion of the social, moral, and financial interests of the medical profession could it ever be attained. Consequently, the Association from the very commencement found itself involved in struggles not essentially dissimilar from those which have attracted so much attention during recent years.

Considering the small beginnings from which it sprang and the immensity of the forces with which it had to contend—not least of which was apathy of politicians, the public, and even the profession itself—as also the great variety of its undertakings, it would not have been remarkable if the impetus with which the Association started had been exhausted comparatively early in its career. But so far from this being the case, it continued to grow in strength and numbers—if not from year to year, yet steadily from decade to decade[1]—in a fashion for which we can find no analogy in institutions connected with other professions.

From time to time, under the influence of waves of feeling, there have been secessions, but as a rule the majority of these wandering sheep have returned to

[1] See JOURNAL, March 14th, 1914, p. 600.

the fold, and the progress of the Association has never seriously been checked.

One reason for its success is to be found, perhaps, in the fact that it has always been thoroughly catholic in its sympathies, and that in its history there is an absence—curiously complete—of any exhibition of jealousy in regard to other medical bodies. It has always been ready to place its machinery at the disposition of blocks of men having special interests, whether scientific or reformative, and on several occasions has even helped to establish and maintain societies or associations formed solely of such men. Some of these bodies have subsequently decided to throw in their lot with the Association, and of those that preserve their identity the majority are still largely dependent on the co-operation of the Association when they desire to influence the general public.

There is room, indeed, for believing that at times the Association has gone somewhat too far in the direction indicated, since the moral and financial strength of the profession, as a whole, is so far limited that none of it can safely be wasted by dissemination over too many separate pieces of machinery. Nevertheless the fact remains that neither this facultative source of weakness nor any internal or external difficulty, numerous as they have been, has sufficed to retard the progress of the Association. Consequently, it has now attained a position of so much importance in the eyes of the general public, as well as of the profession, that prompt notice is taken of any resolutions bearing on the relations of the medical profession to the general public that are passed by the Association as a whole, or by the sections into which its scientific work is divided.

This means that the Association is now in a position to voice the opinions of the profession in a fashion that secures due attention, and side by side with this may be placed the assured fact that not merely boards of guardians and local authorities, but the Government and its various departments now recognize that the Association is a force that must be reckoned with whenever matters of special concern to the medical profession are in question. They realize that while they can count on the assistance of the Association in the promotion of any project having for its object the safeguarding of the public welfare, the progress of science, or improvement in the application of medical art to the relief of individual cases of suffering and disease, it will not suffer the interests of the medical profession to be wantonly set aside, and that if individual medical men are bullied or treated unfairly effective resistance is to be expected.

The fact that these statements can truthfully be made would in itself be sufficient to show that a great gain for medicine has been achieved by the Association, even if the long tale of successful work both for science and for practitioners of every class set forth in the articles under consideration could not have been told.

The Association, in short, is fully entitled to look back with satisfaction on its past and to look forward with confidence to its future. It is not, of course, implied that the Association has always been successful; but its mistakes serve as signposts of what must be avoided by those who have the interests of progress at heart, and its failures have usually paved the way to success. It is not difficult, for instance, for a careful student of its history to detect times at which those then working for reform or any other object were, as the sequel showed, unduly elated, but it is equally easy to detect times when they were unduly depressed. Indeed, the latter greatly outnumber the former, and, looking at them in the light of after-events, it is clear that these failures were often more apparent than real.

The Association, for instance, has caused to be drafted dozens of bills, and only a few of them have ever been debated in the House of Commons; but it would be a great mistake to suppose that the drafting of these bills was labour lost. The drafting was accompanied by much discussion and preceded by continuous agitation, and the two together helped to form the solid opinion which eventually resulted in the desired reforms being obtained either by modifications of the draft bills or by some other more or less closely allied means. It is to be remembered that legislation hardly ever initiates reforms; usually it merely ratifies them. In other words, only in exceptional instances does legislation step in advance of public opinion, and on its success in guiding public opinion the Association may justly congratulate itself.

This statement of the impressions left by the past history of the Association may be completed by saying that it is impossible to rise from its study without being uplifted by a renewed sense of the value of *esprit de corps* and experiencing a feeling of profound admiration for many of the men who at one time and another have played a leading part in its affairs. Their labours, as a rule, have been wholly altruistic, and no small proportion of them have been persons whose prominence either as practitioners or in other ways has been so considerable as to make it difficult to understand how they found it possible to devote so much energy and time to Association work. A good and recent example of such men is the late Sir Henry Butlin, not long ago president of the Association and for many years its treasurer.

It is, in fact, not solely to unremitting effort that the success of the Association must be attributed. It has also been due to an unfailing supply of men of high ability ready to play a leading part in its work, coupled with the willingness of others of not less ability to sink their identity and take a place in the ranks. A further source of strength has been the possession of a JOURNAL which—besides fulfilling the scientific and other requirements described in the ninth article of the series—is conducted on a semi-independent footing, and aims at promoting the Association's objects by keeping the medical profession in touch with the views of the public at large and by getting a hold over the latter through never advocating the claims of medical men otherwise than temperately.

As for the future, one warning note has to be sounded. The number and strength of the forces with which the Association has to contend are not lessening, and in the interests of individuals and large numbers thereof, it may at any time become very desirable that its successes should be achieved with greater rapidity than has sometimes been the case in the past.

This is one reason why all medical men practising in the British Isles or in British territory beyond the seas may rightly be urged to join its ranks, for obviously its driving strength must depend on the justness of its claim to speak in the name of the whole profession; and this, again, must largely be determined by the numbers of those known to be ranged behind its leaders. It is true, of course, that not all members of the medical profession benefit equally by the work of the Association, but it is quite inevitable that all should benefit more or less. Consequently a simile recently used by Mr. Crooks in speaking of trade unionism must certainly be regarded as having some application to members of

the medical profession likewise. A man, he said, who benefited by the work of a union but did not contribute to its support was like a man who stole a wreath from a cemetery and thus won a prize at a flower show.

THE DRUG FUND AND EXCESSIVE PRESCRIBING.

Sufficient information is now available with regard to the drug fund under the Insurance Act to show that in probably the majority of areas the sum of 1s. 6d., or at any rate 2s., has proved adequate to provide a proper supply of drugs and appliances, but in numerous other areas, especially those containing a large industrial population, these sums have not been sufficient to pay the chemists' bills in full, and unless the Government comes to their assistance a large number of chemists in these areas will have to submit to their bills being discounted, in some cases to the extent of over 20 per cent. of the total. It is hardly a matter of surprise that this fact has been seized on as supplying an argument first against the panel system, and secondly in favour of either a State Medical Service or a system in which the approved societies would control the medical service. An article on the subject in a recent issue of the *Scotsman* begins by stating that "the panel system is nowhere more vulnerable than through the administration of the drug fund," and after stating that the sum of 1s. 6d. is "known to be appreciably greater than the charges experienced by the friendly societies in the past," the writer goes on to argue that excessive prescribing by the panel doctors, leading to the necessity of discounting the chemists' bills, is a matter which ought to be dealt with firmly and strictly by the Panel Committees, and ends with the warning, "The panel system is a compromise, and it has the defects of its origin. It is far removed from perfection, and many of its faults are obvious, but it is far preferable to either of the rival schemes which have been suggested to replace it. If at the close of the provisional three years it is decided that it cannot survive, one of the principal reasons given will probably be that the guardians of the drug fund, the panel doctors and chemists, were weighed in the administrative balance and found wanting."

While it is impossible to deny that there is reason and force in this warning, yet the writer of the article hardly lays sufficient stress on two important facts—first, that under the regulations the Pharmaceutical Committee is not authorized to deal with excessive prescribing, except by reporting to the Panel Committee, which is then compelled to investigate the question; and, secondly, that the Panel Committee may, if it so chooses, investigate the question of over-prescribing either by individual practitioners or by the panel generally, without waiting for definite complaints from the Pharmaceutical Committee, though it would have to depend for detailed information on statistics furnished by that Committee. As the Insurance Committee can only deal with the matter on the report of the Panel Committee, the whole responsibility for preventing excessive prescribing practically rests on the Panel Committee, and in so far as any Panel Committee fails in this duty, so far will it be furnishing potent arguments to the opponents of the present system, whether it be the ordinary capitation system or the system of payment by attendance in use in Manchester and Salford, where the chemists are suffering, perhaps, more than anywhere else.

On Wednesday last Mr. Masterman, Chairman of the Joint Committee of Insurance Commissioners, received a deputation from the Pharmaceutical Society, and his reply is published in full in the Supplement, page 71. The report reached us too late to permit of its full consideration, but it will be observed that Mr. Masterman recognized the responsibilities of the Panel Committees, and said that if the machinery of the Act was exhausted by the Pharmaceutical Committees everywhere without result, a new situation would have arisen with which the Commissioners and the Government would have to deal. He asserted that there were great discrepancies between the cost of prescriptions, not only in areas similar in character, but as between individual doctors in those areas, and concluded by stating that he considered the time had come to make a thorough examination of the drug tariff, and that for this purpose he proposed to appoint a small departmental committee.

The duty of recommending that a fellow practitioner guilty of over-prescribing should be penalized is undoubtedly an invidious and odious task, but it seems probable that if the duty be not shouldered by the Panel Committee some alternative will be suggested. It might, for example, be proposed to establish some sort of joint committee containing representatives of the Panel Committee, the Pharmaceutical Committee, and the Insurance Committee to deal with this particular duty, which the Act as it stands leaves to the medical profession to discharge. This is not an alternative the profession could view with satisfaction; it would take out of its hands a matter of strictly professional concern, and would be a confession of failure. An alternative scheme which, early this year, we were given to understand found favour with some members of the Unionist party who have given special attention to national insurance, was to treat the 9s. as a single payment which must be made to cover the cost of medical attendance and drugs, the pharmacists having a definite guarantee of at least 1s. 6d. a head without deductions, any adverse balance being met out of the medical share of the 9s. The argument was that this plan would most effectually arouse the Panel Committee to suppress excessive or over-costly prescribing, since any failure would at once automatically affect the receipts of every panel practitioner. We are not aware that this proposal has yet been officially put forward, but that it commends itself to some politicians we have no doubt.

Both proposals neglect an aspect of the question which is of the first importance, and on it we must join issue with those who favour either. The matter is crudely put by the writer in the *Scotsman* when he says: "Panel Committees throughout the country should make it clear to their practitioners that the fund if properly used can meet all its liabilities." We must emphatically protest against any definition of excessive prescribing which involves the assumption that if the prescribing in any area has cost more than 2s. for each insured person in a year, it must therefore be regarded as excessive prescribing. What if this amount be insufficient in a particular area to provide proper medicines for the large number of patients requiring treatment? Must the practitioners stint their patients simply in order to eke out an insufficient fund? Will they be held guilty of excessive prescribing simply because the drug fund together with the floating 6d. is insufficient to meet the chemists' bills in full? It is quite a false analogy to say that we must cut our coat according to our cloth, for to do anything analogous to this, when

human lives are at stake, would be to become accessories to inefficient medical treatment. That this is no imaginary danger is shown by reports from numerous industrial areas where there is a large proportion of female labour in factories and mills. It is now acknowledged that the amount of sickness among women workers has been greatly underestimated, and even though the total drug fund for the whole country may possibly prove to have been sufficient, there is good reason for believing that in the industrial areas with numerous women workers the local drug fund is not sufficient. This came out very markedly in the report published in the JOURNAL some months ago, showing the position of the drug funds for all the insurance areas of Lancashire for the year 1913. In nine towns—Blackburn, Bolton, Burnley, Manchester, Preston, Rochdale, Salford, Stockport, and Wigan—the average cost of drugs for each insured person for the year was over 2s., varying from 2s. 0½d. in Rochdale to 3s. 2½d. in Manchester. It is significant that in all these towns there is an unusual proportion of female labour in factories and mills, and as a result there is normally a high average sickness incidence as compared with the country generally. It is from these towns, where the chemists' bills have not been paid in full, that the cry about over-prescribing has come. Would the Panel Committees in these towns be justified in taking the suggestion of the *Scotsman* and making "it clear to their practitioners that the drug fund, if properly used, can meet all its liabilities," or that practitioners in these towns, if the cost for drugs they order exceeds 2s., are guilty of excessive prescribing? Or, to put it in another way, would the practitioners there be doing justice to their patients if, knowing that the 2s. was insufficient, they at once, simply to eke out the drug fund or to show their compassion for the chemists, began to stint their patients of medicines which they ought to have? Contrast the towns named with Blackpool, where the average cost of drugs for each insured person was only 1s. 6¾d., Bootle 1s. 6d., Southport 1s. 6½d., Barrow 1s. 8½d., and Liverpool 1s. 9d.; no one of these towns can compare with those in the first list in respect of the amount of female labour in factories and mills. An equally significant fact was reported[1] from Salford, where a number of panel practitioners have been charged with over-prescribing. The cost of drugs for the year in Salford worked out at 2s. 7¾d. in respect of each insured person, but even if all those practitioners who are alleged to have prescribed excessively were cut out, the cost of the prescribing of the remaining practitioners, against whom there is no charge whatever, would work out at considerably over 2s. for each insured person. The explanation given for this is that there is a very high proportion of women workers in Salford, and it seems clear that the consequent high sickness incidence requires more than 2s. to provide a proper supply of medicines.

The moral of all this is, not that the total of the drug fund for the whole country is too small—whether that is so or not can only be determined when full statistics for every area are published—but that, if it is not too small, its distribution is in need of adjustment. To accuse any practitioner of excessive prescribing often carries with it a suggestion of unworthy ulterior motives, and except in flagrant cases Panel Committees will naturally shrink from penalization; but there is a danger that the warnings issued by various Panel Committees may even result in a cheap under-prescribing which would be infinitely worse than any over-prescribing.

[1] JOURNAL for July 4th, SUPPLEMENT, p. 27.

NATIONAL COUNCIL FOR COMBATING VENEREAL DISEASE.

DURING the last few weeks conferences have been held, under the presidency of Sir Thomas Barlow, with a view to the formation of a national council for combating venereal diseases. Those present at such conferences included Sir Rickman Godlee, Sir Francis Champneys, the Bishop of Southwark, Major Leonard Darwin, Sir Clifford Allbutt, Sir William Osler, Sir Henry Morris, Sir A. Pearce Gould, Sir Wilmot Herringham, Mr. Charters Symonds, and others. It has now been decided to form a National Council consisting of representatives of the medical profession and the public. In order to carry this out a circular letter is about to be issued stating the objects of the movement and its method of organization, and inviting recipients to join the council. It may be added that this movement is in no small degree the outcome of two years' work carried out by a committee appointed by the Royal Society of Medicine in conjunction with the Eugenics Education Society.

THE NEW "BRITISH PHARMACOPOEIA."

AT its meeting on July 13th the Executive Committee of the General Medical Council formally adopted as *The British Pharmacopoeia, 1914*, the completed draft submitted by the Pharmacopoeia Committee. It was resolved that copies, in advance of publication, should be made accessible to the public for inspection at the offices of the Council in London, Edinburgh, and Dublin on Monday, August 10th, at 10 a.m., and thereafter from 10 a.m. to 4 p.m. The official publication of the new *British Pharmacopoeia* will be made by notice in the *Gazette* on Friday, October 9th, on which day copies will be on sale by the publishers, Messrs. Constable and Co., Limited, 10, Orange Street, Leicester Square, W.C. The price has not yet been settled by the Treasury.

MEDICINE AND THE WOMEN OF INDIA.

SINCE the Countess of Dufferin, nearly thirty years ago, originated the scheme for the medical treatment of women in India which bears her name, medical matters, and women's hospitals in particular, have been the subject of much attention from the wives of all the Viceroys who have since governed India. Each of them has in turn held the office of Lady Patroness of the Dufferin Fund, and has devoted much time and attention to its management. Lady Minto, the wife of Lord Hardinge's predecessor in office, started a fund for the provision of nurses for Europeans in remote mofussil stations, where trained nurses, under ordinary circumstances, cannot be got. Lady Hardinge, who died last week in a nursing home in London after an operation, was, in her turn, patroness of the Dufferin Fund and of the Minto Nursing Fund. But the two chief developments which will render her name memorable in India are the reorganization, in 1913, of the Women's Medical Service, under the Central Committee of the Dufferin Fund, and the inception of the scheme for the foundation of a special medical school and hospital for the training of female medical students, the Queen Mary Medical College and Hospital for Women at Delhi, as a memorial of the Royal visit to India and of the great Delhi durbar of December, 1911. By the first the medical women employed under the Dufferin Fund, though they did not get all they asked for, obtained more liberal terms of service than before. The second is still in the initiatory stage, but will be carried out within the next few years, and should prove an advance in the medical treatment of women in India second only to the Dufferin scheme itself. Few will dispute that it is better that the medical education of female students in India should be conducted in separate schools rather than along with male students. Lady Hardinge, who was

the daughter of the first Lord Alington, was born in 1868, and married the Hon. Charles Hardinge, who was then attached to the embassy at Constantinople, in 1890. On his appointment in 1910 to be Viceroy of India he was created Baron Hardinge of Penshurst in Kent. In January, 1911, the King bestowed on Lady Hardinge the Imperial Order of the Crown of India, and in December, 1911, the medal of the first class of the order of Kaisar-i-Hind. She accompanied the Viceroy in the State entry into Delhi on December 23rd, 1912, when his life was attempted by means of a bomb thrown from the upper floor of one of the houses in the Chaudui Chauk. Though the Viceroy was severely wounded, and the chuprasi behind him was killed, Lady Hardinge was unhurt. Her courage on this occasion, and her devotion to her husband during the slow process of recovery, were the subject of general admiration in India; and on April 21st, 1913, she was presented with a congratulatory memorial to which over three million Indian women had subscribed.

"CHIROPRACTIC."

Milton tells us that when his *Tetrachordon* was first offered for sale people said,

> Bless us, what a word on
> A title page is this!

Many readers may feel moved to a like exclamation when they see the word at the head of this article. And they may ask, what is "chiropractic"? We ourselves first saw it in a list of "drugless healers" enumerated in a bill for the regulation of medical practice in California, which we read in the *Pacific Medical Journal* not very long ago. Taken at its face value it would mean nothing more than treatment with the hand. But from the *Canadian Journal of Medicine and Surgery* for May we gather that a fuller definition is given in a pamphlet recently distributed in Toronto. According to that authority, doctors of "chiropractic" treat disease with "no medicine, no surgery, no osteopathy." Disease is said to be caused by "displaced vertebrae in the spine." Health results from the free flow of the "life current" from the brain, the dynamo, through the spinal cord and spinal nerves to all parts of the body. If the vertebrae of the spine become displaced and impinge on the spinal nerves, shutting off the life current from wherever the nerves lead to, the result is disease. When consulted by a patient, a doctor of chiropractic adjusts a displaced vertebra, relieves pressure on the nerves so as to permit the life current to flow once more through the nerves; health is thus again established. A chiropractor, therefore, is a sort of electrician, who makes it his business to discover defects in the wiring of a human machine, and to remedy them by adjusting displaced vertebrae. Take a case of abscess in the groin, the chiropractic method of cure is to adjust the displaced vertebrae impinging on the nerves which supply the lymphatics of the groin. After the necessary adjustment has been made, the life current flows once more from the dynamo; the bubo is cured. If the disease to be dealt with is a psoas abscess, a quinsy, an empyema, it is equally curable, for the pathology is always the same. It is as simple as lying. Asthma, appendicitis, anaemia, bladder trouble, bronchitis, Bright's disease, biliousness, cancer, catarrh, constipation, convulsions, deafness, diabetes, diarrhoea, diphtheria, epilepsy, eruptions, eye trouble, female diseases, fevers, and a number of other diseases—*pourquoi s'arrêter en si beau chemin?*—are all cured by the same procedure. The chiropractic art would therefore seem to be sufficiently simple in theory. All that has to be done is to identify the vertebra the displacement of which causes, say, epilepsy, or the one responsible, say, for cancer of the intestine, then adjust it, and hey presto cockalorum! the disease is cured. But how is one to discover the errant vertebra? And is the "adjustment" quite so simple a matter as it would appear? The system seems to be symbolized in Dogberry's instructions to the watch. The "chiropractic" operator is to "comprehend all vagrom" vertebrae, and bid them go to their places. If any refractory bone will not do so, "take no note of him, but let him go; and presently call the rest of the watch together, and, thank God, you are rid of the knave." It is claimed for "chiropractic" that it differs from osteopathy. The difference seems to be like that between tweedledum and tweedledee. What difference there may be is in favour of osteopathy. The results of an impartial investigation of osteopathy—which is a system of curing "subluxations" of bones, thickened ligaments, and contractured muscles by manipulation—by Dr. Alexander Bryce were published in the British Medical Journal of September 3rd, 1910. It is, as he says, a system of one idea, and that, we venture to add, to a large extent a wrong one. This was to be expected in view of the utterly inadequate training given in the eight schools of osteopathy in the United States. An account of these schools was given to the Governor of New York by Mr. Abraham Flexner, who has personally inspected them all. His statement, which was published in the *Journal of the American Medical Association* of June 6th, shows the worthlessness of the educational and scientific claims of osteopathy. We know nothing of the schools—if any such there be—where "chiropractic" is taught, but, to judge from the doctrine on which it is said to be founded, we think it may safely be assumed that the knowledge imparted there can have no scientific value.

THE CHEAP COUNTRY COTTAGE.

At the Surveyors' Institution in Westminster there have lately been on exhibition some two hundred designs for labourers' cottages, brought together with the idea of making a practical contribution to the rural housing problem; seven have obtained prizes in a competition organized by *Concrete and Constructional Engineering*. One of the conditions of the scheme was that the cost of each cottage, exclusive of building profit, sanitary equipment, drainage, and water supply, should not exceed £125; and another that the design should be suitable for execution mainly in some form of concrete, instead of wholly in brick, tile, slate, or stone. This latter condition has at least the merit of requiring great simplicity of external form, and of severely limiting the opportunities for fretful picturesqueness. The rooms for which provision was made included generally a central apartment, answering the purpose of living room and kitchen, and, either on the ground floor or in an upper story, three bedrooms, the largest having, in practically all the designs, a cube of more than 1,000 feet. Both the first and the second prize designs were for one story cottages, in the first instance isolated, and in the second built in a row. In many of the designs the scullery or wash-house contained a bath, usually in a rather cramped area: in one case the space provided for this purpose could not have had a width of more than 20 in., so that adult immersion would be somewhat difficult. It is a gain, however, to have any sort of bathing accommodation in a £125 cottage, and some venturesome architects even provided a separate bathroom. All the designs appeared to provide for a watercloset, but in some comments by the organizers of the exhibition we notice a suggestion that, in view of the expense (which is disproportionate to that of the main building) of providing a watercloset in country districts, housing reformers might consider whether a detached earth closet would not meet the requirements of health and sanitation. The height of the rooms in a country cottage is another point upon which the rules appertaining to a town building might be relaxed, as country folk ought to be able to get a plentiful supply of fresh air without special architectural provision for it. In the design which

won the first prize the rooms had a uniform height of 8 ft., which is lower than what is considered the minimum for a town dwelling. This design also was for a flat-roofed cottage, and the windows were so placed that each room would get the direct sun during some hours of the day. The exhibition has performed the service of bringing to light the ideas of architects upon this special problem, and in the main the designs were to the purpose, although here and there one noticed various ornaments and accessories, rather reminiscent of that cottage with the double coach-house, at which

> The Devil did grin, for his darling sin
> Is pride that apes humility.

TUBERCULOSIS IN IRELAND.

"IRELAND enjoys the unique distinction of being the first division of the United Kingdom to apply the principle of notification to tuberculosis by means of an Act of Parliament." So writes[1] Sir John Moore, who, of all Irish medical authorities, is best qualified to criticize the workings of that Act. Notification, from his point of view, must be compulsory if it is to be effective either for statistical accuracy or for combating the disease in all its stages. As applied to Ireland the Act is only permissive, and it would appear that very little advantage has hitherto been taken of the means which it affords for tracing out and dealing with cases of consumption which are a recognized danger to those about them. Not only is there no compulsion, but even permission to deal with tuberculosis is limited to cases of the disease as it affects the lungs, and of these only such cases as are manifestly discharging bacilli, or are living in insanitary conditions, or are liable to handle foodstuffs. Other forms of tuberculosis are ignored, and the pulmonary disease in its early and curable stages is disregarded. It would thus appear that although first in the field, Ireland lags far behind as regards effective notification, and the need for extension of the powers of the Local Government Board in Ireland is clearly indicated. Government action, as is usually the case, has only been taken after many years of voluntary effort have shown the need for it. A voluntary association was formed in Dublin in 1892 to spread knowledge amongst local authorities, and a hospital for treatment of tuberculosis was opened in 1896. The foundation of the Women's National Health Association of Ireland by Lady Aberdeen carried knowledge and enthusiasm into all parts. Under its auspices sanatoriums have been built and are largely used by local authorities and county councils, who prefer to use the beds thus provided rather than incur capital expenditure in new buildings of their own. A grant from the Insurance authorities renders these institutions available also for beneficiaries under the Insurance Act. But in Ireland, as in many other countries, the provision of beds falls short of the requirements. The death-rate has steadily fallen since the year 1894, but the case incidence remains high. Domiciliary treatment becomes more or less illusory when the conditions of the domicile are incompatible with health. Power is needed to deal with the home as well as with the patient, but no such power has as yet been given, and the appointment of well-qualified county medical officers of health would seem to be the first step to be taken in the direction of domestic hygiene. The segregation of the advanced case is as urgently called for in Ireland as elsewhere, but there are only three institutions in the country into which dying cases are received. The statistics of recent years show a high percentage of deaths in workhouse infirmaries, and this is probably due to the more extended use of these institutions for advanced cases of consumption. In them, at any rate, effective isolation can be enforced. Statistical evidence, founded on notification, is manifestly misleading. The number of cases notified in certain areas falls far short of the number of deaths registered under the heading of tuberculous disease. The information afforded by death registration would seem to prove that in Ireland the female cases preponderate, and among these the highest mortality is amongst the younger patients, whereas in the case of the males the deaths are more numerous in the later years of the susceptible period between 15 and 35. Sir John Moore summarizes his conclusions under several headings, the most important of which relate to the compulsory extension of notification, the appointment of whole-time county officers of health and the cleansing of the home of the consumptive before he is permitted to return to it after treatment in hospital or sanatorium. These points, amongst several others, he rightly regards as essential if the crusade against tuberculosis in Ireland is to succeed.

[1] *Interstate Medical Journal* and *Dublin Journal of Medical Science*, May, 1914.

SCHOOL CHILDREN AND QUACKERY.

THE schoolmaster—and still more, perhaps, the schoolmistress—is abroad at the present day. Children are, in the name of morality and hygiene, initiated in the mysteries of reproduction. The simple explanation of the cabbage stock or the gooseberry bush as the source of babies has been replaced by demonstrations on the sexual system of plants, and the mysteries of the doctor's bag have been dissipated by the light of science which has invaded the modern nursery. Whether this early distribution of the fruits of the tree of knowledge is for good or for evil we do not propose to discuss here; that will be seen only when the young generation now at school has risen to its full stature and is confronted with the problems of life. Another effort in the direction of opening the mind of the child to questions which have hitherto been left for adults to settle in their own way is a plan of systematic education in the evils and dangers of quackery. We learn from the *Journal of the American Medical Association* that in the high schools of La Fayette, Indiana, an effort is being made to instruct the pupils as to the methods of vendors of quack remedies. The idea of this novel addition to the school curriculum, the conception of which belongs to Professor Pierson of the Department of Physiology, is to prevent the influence of fraudulent pretensions on the human mind by teaching the infant Hercules to strangle the snakes of quackery in the cradle. Pupils are invited to bring to school all newspaper advertisements of patent medicines and "quack" doctors. The iniquity of these advertisements and the absurdity of the claims put forward on behalf of quack preparations are then explained to them. These demonstrations have, it is said, been received with great enthusiasm, and we can well believe that they are a welcome relief from the routine of school studies. Combined, as it would seem they are, with instruction in physiology, they can scarcely fail to sow the seeds of a knowledge of the nature of disease and of the processes of cure that will later bear fruit in protecting men and women—who, as the poet says, are but children of a larger growth—from becoming the bondslaves of credulity and superstition. On the other hand, the teaching must be carefully adapted to the young mind so as to give enlightenment without engendering morbid introspectiveness in the matter of health. In many minds the revelations of the folly and wickedness of quackery would arouse a perverted curiosity, the results of which might be mischievous. And in the most favourable conditions too much must not be expected from such teaching, for if man is, as defined by the philosophers, *animal rationale*, he is also by his very nature prone to be the victim of suggestion. As Montaigne puts it, *l'homme se pipe*—man gulls himself, and doubtless will continue to do so to the end of the chapter. To too many mystery is more attractive than common sense.

THE OXFORD OPHTHALMOLOGICAL CONGRESS.

The annual Ophthalmological Congress was held at Oxford on July 9th and 10th, under the mastership of Mr. R. W. Doyne. It was attended by rather more than the average number of members, and proved to be one of the most successful yet held. The addresses given in the mornings were extremely interesting and led to some spirited discussions. On the first afternoon operations were described by several surgeons and some cases of interest were shown. On the afternoon of July 10th an important discussion on the question of compensation in injuries to the eye was opened by Dr. William Robinson of Sunderland, who was followed by Dr. Frank Shufflebotham of Newcastle-under-Lyme. Messrs. Angus MacNab, Jameson Evans, Gray Clegg, G. H. Pooley, and R. P. Coulter also spoke. The annual dinner of the congress was held in the Hall of Keble College on the evening of July 9th, Professor Arthur Thomson being in the chair. After the dinner a discussion on the future of the congress was held, and it was decided, owing to the great success of this and former meetings, that they should continue to be carried on as before. This year the addresses were given and the scientific and commercial museums displayed in the Department of Human Anatomy in the University Museum, kindly lent by Professor Arthur Thomson; that all were under the same roof was a great improvement on the previous arrangement. Amongst the distinguished visitors to the congress from abroad were Dr. Carey Wood, Dr. Rendell Reber, Dr. Brown, and Dr. Gifford from the United States, and Dr. Darien from Paris. The meeting, which ended on July 10th with the usual smoking concert in the evening, reflects great credit on the master and on the energetic secretary, Mr. Sydney Stephenson.

CHAIR OF PHYSIOLOGY AT LIVERPOOL.

Dr. J. S. Macdonald has been appointed to succeed Professor Sherrington as Holt Professor of Physiology in the University of Liverpool. Dr. Macdonald, who is now Professor of Physiology in the University of Sheffield, was at Emmanuel College, Cambridge, and graduated in the mathematical tripos in 1889. In the following year he was elected to a Holt fellowship in physiology in the University of Liverpool. He took the triple qualification of Scotland in 1897, and after holding the post of house-surgeon to the Liverpool Royal Infirmary was appointed demonstrator of physiology in Dundee University College. He was afterwards assistant lecturer in physiology in the University College, Liverpool, until his appointment in 1903 to the chair of physiology in Sheffield. During his residence in Liverpool he at one time held a research scholarship of the British Medical Association; he was president of the Section of Physiology at the annual meeting of the Association in Liverpool in 1912. His contributions to physiology have been concerned chiefly with nerve and muscle.

The Library of the British Medical Association has received, through the kindness of Professor Saundby of Birmingham, Section VI—Medicine I and II—of the *Transactions* of the International Congress of Medicine in London. The volumes so far received include Section XXIII, the general volume, Part II of the Section of Orthopaedics and the Section of Dermatology. The Librarian will be glad to receive any of the other volumes of the series.

The luncheon at which Sir Alexander Ogston is to be entertained by his former dressers and house-surgeons will take place at the Grand Hotel, Aberdeen, at 1.30 p.m. on Thursday, July 30th, when the chair will be taken by Sir James Porter, K.C.B., late Medical Director, R.N. Any former dresser or house-surgeon who wishes to attend to show his esteem and affection for Sir Alexander Ogston, and has not yet informed one of the honorary secretaries, is asked to communicate at once with Dr. J. W. Cook, 26, Manchester Road, Bury, Lancs.; or Dr. W. Sinclair, Royal Infirmary, Aberdeen.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Prospects of the Session.

As has already been announced the present session is to be wound up after the passage of the Finance and various more or less non-contentious measures after dealing with the Home Rule Amending Bill. The Revenue Bill will be taken in a new session which begins in the winter. It is expected that this session will begin towards the end of November and will be devoted to the Revenue and Housing Bills. There will be, of course, the usual massacre of the innocents, but it is generally anticipated that the Milk and Dairies Bills (England and Scotland) will be passed, as little or no opposition is anticipated on the Report stage.

The Criminal Justice Amendment Bill, which is in charge of Mr. McKenna and which has passed through Committee, is in a much more precarious position. At this stage in the Session the fate of a bill on Report depends largely upon the number of amendments which appear on the Order Paper. In the case of this bill there are several pages of them and, although the Home Secretary will doubtless make every effort to get them cleared off, success is very doubtful. It would be unfortunate if the bill were lost, for it embodies several useful reforms in respect to prisoners, especially juvenile prisoners, which are generally accepted; there is, however, a small, but powerful party in the House which is much opposed to legislation of this character.

Milk and Dairies Bill (England).

The Milk and Dairies Bill was considered in Committee on July 9th, and completed on July 14th. On the first of these days the remainder of Clause 2 was disposed of, and was added to the bill without amendment. Clauses 3 and 4 also were added with no material alteration, except that sundry verbal amendments were introduced to make it clear that the invasion of the area of one authority by the officers of another was not intended as a part of the machinery of the bill.

On July 14th amendments to Clause 8 were introduced to secure that the regulations dealing with the importation of milk from abroad should also apply to milk products and to those which were to be sold for the manufacture of products for human consumption.

Considerable discussion took place on Clause 9, under which local authorities are empowered to maintain dépôts for the sale of milk specially prepared for consumption by infants. A good deal of opposition was manifested by some members to this clause, but it was finally adopted by a majority of 22 votes to 7. It is not likely that opposition will be met with on the Report stage, as there is evidently a very general desire among all parties to see the bill passed during the present session. No material alterations were made on Clauses 10 to 14, except that an important alteration was made in subsection 5 of Clause 14, with a view to defining the local authority which is required to enforce the provisions of Clause 1 with respect to the sale of tuberculous milk. As amended the subsection reads as follows:

> The duty of taking proceedings for enforcing the provisions of Section 1 of this Act shall rest on the county council or county borough council, without prejudice, however, to the power of a a sanitary authority in a county to take such proceedings, and the duty of taking proceedings for enforcing the provisions of any Milk and Dairies Order shall rest on the local authority prescribed in the order, and the clerk of the local authority or other officer whom the local authority may appoint shall have power, if so authorized by the local authority, to institute and carry on such proceedings.

Some important additions and alterations were made in the definitions in Clause 15. A discussion took place on

the qualifications of veterinary inspectors, and the feeling was expressed that the qualification of membership of the Royal College of Veterinary Surgeons as required, with the addition of the words, "or having such other qualifications as may be approved by the Board of Agriculture and Fisheries," might possibly be too wide and allow of the employment of persons not properly qualified. Mr. Herbert Samuel contended that the supply of properly qualified veterinary surgeons was inadequate, and that the words were necessary in the interests of some inspectors who are now employed but who had not the statutory qualification, whilst they might fairly, on their own account, be considered as competent to discharge the duties during their tenure of the office. On the motion of Mr. Bathurst, however, supported by Dr. Addison and others, the word "veterinary" was inserted before the word "qualifications," so as to make clear what was intended and to leave the way open for those who might perhaps hereafter become possessed of a degree in veterinary science.

Subsection 4 of Clause 15 was very materially amended. Notice of amendments had been given by Mr. Dawes, Mr. Astor, Dr. Addison, Mr. Hills, Mr. Courthope and others, with a view to providing that the local authority should be the council of the county or county borough, with power to delegate its duties with the consent of the Local Government Board and the sanitary authorities within their area. The section was subsequently submitted in an amended form by Mr. Herbert Samuel, and was approved of. It now reads as follows:

(4) The expression "local authority" in Section 9 of the Contagious Diseases (Animals) Act, 1886, and in this Act shall include sanitary authorities and county councils, but with respect to the provisions of any Milk and Dairies Order, the order may prescribe by what local authority or authorities the several provisions thereof are to be enforced and executed, and any such order may provide for the giving of assistance and information by county councils to sanitary authorities and by sanitary authorities to county councils for the purpose of their respective duties under this Act or under any Milk and Dairies Order.

In Clause 16, which relates to the application of the Act to London, a new subsection was moved by Mr. Herbert Samuel, which reads as follows:

(4) A Milk and Dairies Order affecting London shall provide for the exercise and performance by sanitary authorities in London of all powers and duties under the order which would have been imposed or conferred on sanitary authorities if this Act had not been passed and the order had been made under Section 28 of the Public Health (London) Act, 1891, as amended by Sections 5 and 6 of the London Government Act, 1899, except that the order may provide for the exercise and performance by the London County Council of powers and duties relating to the inspection of cattle in dairies. Nothing in this Act, or in any Milk and Dairies Order, shall affect the powers with respect to the registration of dairymen and purveyors of milk within their own areas conferred on sanitary authorities in London by Section 5 of the London County Council (General Powers) Act, 1908.

Two further subsections were added on the motion of Mr. Dawes:

(6) The borrowing of moneys by any metropolitan borough council for the purposes of this section shall be subject in all respects to the provisions of Sections 183 to 189 of the Metropolis Management Act, 1855, as amended by any subsequent Act.

(7) Where the authority in default is a metropolitan borough council the provisions of the Public Health (London) Act, 1891, shall apply in all respects as if such default had been made under the said Act.

Clause 17 was added without amendment, and a new clause relating to the compensation due to officers was inserted on the motion of Mr. Dawes:

If in consequence of the passing of this Act or of anything done in pursuance or in consequence thereof any officer or servant of any local authority who held office at the passing of this Act suffers any direct pecuniary loss by abolition of office, or by diminution or loss of fees or salary, he shall be entitled to have compensation paid to him for such pecuniary loss by the local authority, and such compensation shall be determined pursuant to the provisions of Section 120 of the Local Government Act, 1888.

Subsection (2) of the third schedule was also materially altered, and now reads as follows:

The local authority in whose district the sample was taken may take or cause to be taken one or more samples of milk in course of transit or delivery from the seller or consignor within forty-eight hours after the sample of milk was procured from the purveyor, who may serve on the local authority a notice requesting them to procure within a period not exceeding forty-eight hours a sample of milk from the seller or consignor in the course of transit or delivery to the purveyor, unless a sample has been so taken since the sample was procured from the purveyor, or within twenty-four hours prior to the sample being procured from the purveyor; and where a purveyor has not served such notice as aforesaid, he shall not be entitled to plead a warranty as a defence in any such proceedings:

Provided that the purveyor shall not have any such right to require that such a sample shall be taken in cases where the milk from which the sample procured from the purveyor was taken was a mixture of milk obtained by the purveyor from more than one seller or consignor.

If a purveyor has served on the local authority such a notice as aforesaid, and the local authority have not procured a sample of milk from the seller or consignor in accordance with the foregoing provisions, no proceedings under the Sale of Food and Drugs, 1875 to 1907, shall be taken against the purveyor in respect of the sample of milk procured from him.

The last subsection of the schedule was also amended so as to read as follows:

(6) If a sample of milk of cows in any dairy is taken in course of transit or delivery from that dairy, the owner of the cows may, within forty-eight hours after the sample of milk was procured, serve on the local authority a notice requesting them to procure within a period not exceeding forty-eight hours a sample of milk from a corresponding milking of the cows, and the foregoing provisions shall apply accordingly.

Provided that the person taking the sample shall be empowered to take any such steps at the dairy as may be necessary to satisfy him that the sample is a fair sample of the milk of the cows when properly and fully milked.

Finally, the first schedule enumerating the diseases of cows for the purposes of Section 1, was added and is as follows:

Acute mastitis.
Actinomycosis of the udder.
Anthrax.
Foot and mouth disease.
Suppuration of the udder.
Any other disease affecting cows which by a Milk and Dairies Order is declared to be a disease for the purposes of Section 1 of this Act.

Milk and Dairies (Scotland) Bill.—Major Hope asked the Lord Advocate whether, under Clause 3 of the Milk and Dairies (Scotland) Bill, as amended in the Standing Committee, it will be competent for a local authority to retain the services of two or more veterinary inspectors, each carrying out their duties in different areas.—The Lord Advocate replied that the effect of the clause in so far as it related to this matter was not entirely free from doubt, but the point could conveniently be dealt with on the Report stage of the bill.

The Mercantile Marine.

In the discussion on the Board of Trade vote on Thursday, July 9th, a considerable part of the time was occupied in a useful debate on the unsatisfactory conditions as regard health which prevail in many vessels in the British mercantile marine, and interesting statements with regard to sight tests were made by Mr. Peto and Mr. Burns.

Health Conditions on Ships.

With regard to the health conditions in the mercantile marine, Mr. Sandys, who raised the question, said:

As our minimum berthing requirements under the Merchant Shipping Act are 72 cubic feet and 12 square feet of floor space, in order to make a proper comparison between the position of the British seamen and the Norwegian seamen we should compare 72 cubic feet and 12 square feet with 140 cubic feet and 18 square feet, which shows, I think, that other nations are going rather ahead of us in the care which they are taking as to the accommodation of the crews on board their merchant vessels. Then, again, the right hon. gentleman's predecessor last year referred to the improvement of the sanitary arrangements of merchant vessels as being urgently required, and in regard to all these matters the legal minimum laid down by Statute becomes, in effect, the practical measure. That shows what an unsatisfactory state of affairs exists in many merchant vessels, and what the results of the conditions are is very clearly shown by the comprehensive and interesting report issued by the medical officer of the Port of London. He dealt with the question of crew space, and he also gave us a table recording the deaths of seamen from various diseases. I do not want to deal with the table, but I will just take from the medical officer's report a summary of the situation. He says:

Excluding diseases of the heart it will be seen that the number of deaths attributed to tuberculosis is larger than that of any other disease, pneumonia coming next with 113, while the total deaths from

diseases of the respiratory system were 265, or 24 per cent. of the total deaths from disease. This proportion of deaths in a class of men who are leading an open-air life is striking, and the prevalence of such diseases among them is no doubt largely encouraged by the want of ventilation in the quarters in which many of them are compelled to sleep and live when actually not on deck.

Those are very weighty words coming from a medical officer who has such experience as the medical officer of the Port of London. The right hon. gentleman's predecessor last year stated in the course of the debate that in his opinion matters were not satisfactory in many vessels with regard to the accommodation provided for the crew. I do urge that something should be done. It is quite obvious that other seafaring nationalities are taking the lead of us in these questions, and I think that this is a matter which might well be discussed at this International Conference. Indeed, in the medical officer's report to which I have referred, that gentleman specially suggests that the whole question of the accommodation for crews on board merchant ships should be regarded from an international point of view, and should be dealt with at the forthcoming International Conference.

Mr. Peto, in support of Mr. Sandys, said the question of ventilation on shipboard has been dealt with in Australia on the basis that for every man there should be 3,000 cubic feet of air passing through in a certain period. If that were done and we had properly ventilated quarters, the great mortality from consumption, pneumonia, and other diseases of that kind would become a thing of the past. It has already been pointed out that we are behind at least two other countries in this matter. That is a very good reason why we should not proceed on the plan hitherto adopted of doing nothing, but that we should seize the present opportunity of discussing this subject with other countries and arranging to proceed on one uniform method.

In replying to this part of the discussion, Mr. Burns said: I had the advantage of being for eight years Minister of Health at the Local Government Board, and by virtue of that experience I was able to take a general view of the conditions of health, not only of the communities in the municipalities, but also in relation to the various aspects of industrial life, and on going to the Board of Trade I was struck by one very remarkable fact. On looking at the figures of our industrial population I found that from 1891 to 1911 the death-rate of men in the Royal Navy between certain ages had diminished from 4.7 per thousand to 2 per thousand, which is a very considerable and creditable decline. The death-rate in the Army had diminished in a more remarkable way. It had gone down from 9 per thousand to 3.6 per thousand in the same period. Among the civil population of similar ages there had been a decline from 8 per thousand to 4.7 per thousand. So, speaking generally, the men and boys in the Royal Navy, the Army, and the civil population, of similar ages, had shown a tremendous and gratifying decline in the death-rate from diseases. Then it struck me that we ought to see how poor "Jack" fared in the same period, and I found, to my disagreeable surprise, that the death-rate from disease in the mercantile marine during the same period was practically stationary, and that there had been a decline only of from 4.9 to 4.7 per 1,000. Knowing the circumstances—for I have been to sea and I know a great deal of the seaport population—the question arises, Are we drawing from a poorer class of population for the mercantile marine as compared to that from which we were drawing many years ago, or are we drawing from classes inferior to those from which we are drawing for the Army, the Royal Navy, and the industrial civil population of the same ages? I thought if that be so, then there is something about the mercantile marine that prevents men of similar ages, of a certain class and type of physique, going into it, as compared with the Army, the Royal Navy, and civil life. If that be so, then short of legislation and pending legislation, it is really up to shipowners and those responsible for conducting the mercantile marine to see that, by every means within their power, it shall be possible no longer to say that the mortality from disease in the mercantile marine does not show the same decline as is shown in the other three grades of the population. I ventured to direct the attention of a great meeting of shipowners in the Hôtel Métropole to this point two years ago and a year ago, and here from my place in the House as President of the Board of Trade I appeal to both owners of ships and holders of shares in ships, and the leaders of all the sections, to do everything in their power, by voluntary, or personal, or business action, to bring the health and the hygienic and sanitary conditions of our sailors on board ship, so far as their accommodation, their food and their treatment are concerned, abreast of all other sections of the population, so that, speaking generally, we should rather have the mercantile marine conditions superior to those of the other three grades, because it is on the sea that Britain has its supremacy; it is on the sea that we depend; and if there is one branch of our social, industrial, and commercial life in which wages ought to be good, food excellent, and sanitary conditions of the highest possible standard, it is for and among those men who go down to the sea in ships. Hon. members may say, "That is very good so far as sentiment is concerned, but what did you do?" I appointed at once a Committee, not of the House of Lords or of the House of Commons, but a small Committee of specialists with medical officers, statistical experts, and others, to find out why it is that during the period which I have mentioned, in three classes of the population the death-rate from disease has declined remarkably, while it has been practically stationary in the mercantile marine. That Committee has been instructed to get to work to examine the whole subject, and I hope soon to have from them a practical and suggestive report. But in the meantime we have no right to wait for that committee's report, if in the interval we can find out anything can be done. I am glad to say that on the subject of hospital accommodation for the crews much has been done, and more than the hon. member for Wiltshire has suggested. For instance, in regard to crew hospital accommodation on cargo steamers, in January, 1912, the Board of Trade issued a notice to shipowners that in cargo vessels suitable hospital accommodation should be provided for sick and disabled seamen. What has been done? Of 150 large vessels built in 1902 there were only ten with crew hospitals, or 7 per cent.; of 160 built in 1912, twenty-eight, or 17 per cent., had crew hospitals provided; of 213 built in 1913, sixty-eight, or 32 per cent., were provided with crew hospitals. We intend by every means within our power to accelerate the provision of hospitals, not only on emigrant ships and large steamers, but on a large number of tramp steamers, where the men, perhaps, require hospital accommodation even more than on the great liners.

Sight Tests.

The position with regard to the Board of Trade sight tests seems to have been cleared up a good deal by the demonstration which was recently arranged by Mr. Burns at Shoeburyness. On this question Mr. Peto said:

Another question which has been raised in this House for the last two or three years—it has been a thorny question in Board of Trade administration—is the question of sight tests for officers of all grades. Since the right hon. gentleman assumed his present office we have had an example of his method of practically dealing with the question. I frankly admit that the practical sight test he was good enough to allow me to inspect, which was held at Shoebury two or three months ago, did more to clear up this question than any amount of speeches from both sides of the House and a great deal of writing by experts of various opinions, because we found that, as usual, the expert opinion was divided on the matter. The merchant service generally has taken the view that before a man lost his certificate it was only reasonable that he should have a practical test under seafaring conditions. That sounded so reasonable and sensible that I frankly admit I was very much taken with it myself, and thought it was a fair proposal. I went to see the test, which was not actually carried out under seafaring conditions, but under practical conditions, when red and green lights were exposed at a distance of a mile, and I saw that, whereas the tests went on for a couple of hours, even in those two hours the conditions were entirely different during the middle period from those that prevailed at the beginning or at the end of the test. Light vapours came over the low-lying land, the moon rose up to a different position, the clouds cleared away, and what was comparatively easy at 9.30 in the evening was almost an impossible task for anybody, no matter how good their sight might be, only an hour later. That, I consider, knocked the bottom out of the practical test, so far as I was concerned. I ask the right hon. gentleman, he having abandoned what is called the single-eye test, and having made the test for form vision much more reasonable than was proposed, to seriously consider whether it is a fair thing to ask men, whose vision is required for the navigation of ships under seafaring conditions, to let the whole question of whether or not they are to have a certificate depend upon whether they can read certain letters at a distance of 16 ft.

I submit to the Committee that this matter cannot be dealt with on purely scientific lines. It is well known that after a man has been at sea all his life he develops what is called "sea vision." He might not be able to pass the oculist's test, with which we are all familiar, but at the same time he might put us, who consider that we have good vision, to shame by picking out objects at sea under seafaring conditions at distances at which we should see nothing at all. There is room in that respect for an improvement in the vision tests, so as to make them more reasonably agree—I am not speaking of colour tests, but of form-vision tests—with what people really have to see. They have not got to read letters on a card; they have to detect all kinds of objects and appearances at sea, under all conditions, both by night and day. With regard to colour vision, if reasonable time were given, if the candidates were in no way hurried, and if the right hon. gentleman could see his way to use his powers to make the actual form of lantern, or rather what is exhibited in the lantern used for the test conform in one particular to seafaring conditions—namely, if he would have the images which are shown representing the port and starboard lights at the distance of a mile, if he would have these miniature images resemble what would be a ship's light on a ship with a 50-ft. beam instead of 25—he would make the test a reasonable one. At present the candidate has to distinguish these red and green lights, or the miniature representations of them, on what is supposed to be a vessel with a 25-ft. beam and a mile away. I submit that vessels with a 25-ft. beam to-day are practically barges, and that 50 ft. would be a great deal under the ordinary average of the beam of vessels which it would be important for them to detect at the distance of a mile.

In reply, Mr. Burns said that a few members seemed to be under the impression that the sight test adopted by the

Board of Trade was unfair to the officers and needlessly stringent, and continued as follows:

I did what I hope Ministers will do increasingly—that is, when confronted with a practical difficulty, and there is a doubt about it in the minds of practical men, subject the question at issue between the two sections to a practical test. I am grateful to the hon. member for admitting so frankly as he did to-day, and as it has been admitted by outside critics during the last three or four years, that the Board of Trade sight test under the material conditions came out of the demonstration with flying colours. The Board of Trade were justified in the present form of test, and to that test we intend to adhere. It is not that we want to be severe on the seaman. On the contrary, the seaman properly evokes the human sympathy of everybody by virtue of the peculiar nature of his calling. We do not want to be unjust to the officers, because it is not the business of any Department to have such an absurdly high standard of examination for anything as to prevent men coming into a particular service such as the mercantile marine. But we have a duty towards the public, and towards the officers and men themselves, and we have a right to say that where a man cannot comply with a reasonable, fair and just sight test such as now operates, his place is not on the deck of the sailing or steam vessel. His place is in an occupation where his defective vision, if put to the test, would not be the danger to the general communities and himself which it would be upon the bridge or upon the deck of either a sailing or a steam vessel. I am satisfied after a practical demonstration, at which our critics had the opportunity of seeing how the Board of Trade test was conducted, that we have done the right thing, not only in the interests of the community, but in the interests of the officers, the owners, and the men themselves. It is very satisfactory to know that that view is endorsed now by men who were critics and opponents of the Board of Trade test.

In reply to Mr. Lynch, who asked how many of those rejected for colour blindness, as indicated in the last report, failed with the lantern but passed the wool test, and *vice versa*, and whether he would consider the advisability of giving this information in the reports in future, Mr. Burns said that he assumed that the question referred to the sight tests used in the mercantile marine; 138 candidates passed the wool test and failed in the lantern test. Of these, 24 subsequently passed on appeal, and thus 114 finally failed; 101 candidates passed the wool test, and in the lantern test were "referred" for further examination. At the latter examination 76 passed and 25 failed. No candidates failed in the wool test and passed in the lantern test; 3 candidates were "referred" in the wool test and passed the lantern test, all 3 subsequently passing a special examination. The number of candidates who passed, failed, or were "referred" in the lantern and wool tests, respectively, would be given in the next return. "Referred" meant that the candidate was not definitely passed or rejected, but was referred to London for a special examination. The old form of wool test had been abandoned. He had had the pleasure of taking the objectors to, and critics of, the wool test, and the critics of the lantern tests, down to Shoeburyness, and after a pleasant night on the marshes, the objectors were silenced and the critics satisfied.

Crew Spaces on Merchant Vessels.—In reply to Mr. Sandys, the President of the Board of Trade said that it had not been necessary to institute any prosecutions during the past five years for non-compliance with the regulations as to crew spaces, as any irregularities could be dealt with by the power of adding the tonnage of the space to the registered tonnage of the vessel; this power had been found to meet the case sufficiently.

Education Grants.—In reply to Mr. Leach, Mr. J. A. Pease supplied the following figures relating to elementary education:

Elementary Schools.

	Expenditure by School Boards out of Rates.	Grants by Board of Education.
1902-3 ...	£6,620,912 ...	£3,938,014
	Expenditure by Local Education Authorities out of Rates.	Grants by Board of Education.
1911-12	£12,596,715 ...	£11,775,017
Increase in rates	... ...	£5,975,803
Increase in grants	... ...	£2,837,003

Between the same years the actual average attendance of children of 5 years of age and over in elementary schools increased by 11.52 per cent., while that of children under 5 years of age decreased by 41.61 per cent.

The Government and Rural Housing.

On July 8th Mr. Runciman, under the ten minutes' rule, introduced a short bill to give power to the Board of Agriculture and Fisheries with respect to the provision of houses in rural districts where the deficiency was serious and pressing and at Rosyth. Under the bill the Treasury is empowered to borrow money by means of terminable annuities for a term not exceeding thirty years the sum of £5,000,000 which the Board of Agriculture and Fisheries is empowered to deal with in respect of £3,000,000 for rural housing and in respect of £2,000,000 for Rosyth. It is intended that the cottages to be built shall be let at an economic rent, but it is not the intention of the Government that the economic rent should cover the provision of a sinking fund on the land value, which may be regarded as remaining, and the rents are not intended to cover the repayment of capital over a period of thirty years, but over such a period as might fairly be said to represent the life of the cottage. In introducing the bill, Mr. Runciman said:

I should not have asked leave to introduce this bill at this late date of the session had it been of a highly contentious nature, but there are some directions in which the Departments require power, if they are to carry out the declared intention of the Government to proceed with rural housing, not along the lines already authorized by statute, or by depending on private enterprise to exercise powers which the Government think can properly be exercised by the Board of Agriculture, the Local Government Board, and the Board of Works. This bill is a small measure of some seven clauses. The first clause provides for dealing with rural housing. The Government have felt for some time past that neither private enterprise nor the activities of the local authorities would in any degree meet the pressing case of housing in the country districts. Either private owners were not able, owing to lack of funds, to do their building, or the local authorities had themselves shown no anxiety whatever to embark on schemes in purely rural areas. Those few private landowners who had themselves indulged in cottage building were the exception and not the rule, and the pressing case of the rural labourer, particularly in country districts, has become increasingly grave. As neither the private landowners nor the local authorities can provide the houses, the Government have decided that it must be done by the central authority, and so far as the agricultural districts are concerned, they have decided to ask the House of Commons to give power to the Board of Agriculture and Fisheries to deal with those districts.

The other object of the bill is to provide for the pressing case of Rosyth. (Hon. Members: "Hear, hear.") I am encouraged by that expression of view on the other side of the House to hope that, so far as Rosyth is concerned, they will enable us to carry the bill at the earliest possible date. Rosyth can best be dealt with by the Government by means either of a public utility company—and already negotiations have proceeded some distance with those who would be prepared to undertake this by a public utility company—or, failing that, a company or association who will be prepared to carry out this work through the Board of Works; and already the necessary practical steps have been set afoot, so that without any unnecessary delay the case of Rosyth may be met, and the employees of the Government, who will shortly find themselves there in large numbers, can be properly housed and have abundance of cottages in which to live.

Mr. J. Hogge: Is that the English Board of Works?

Mr. Runciman: The British Board of Works. It is impossible to carry through these large operations without the use of public funds, and the Government is of opinion that inasmuch as £3,000,000 is to be devoted under this measure for the purposes of rural housing, there would be cheap money thereby provided, to be under the control of the Government department itself and not of private individuals. It is proposed to provide at least £3,000,000 for the Board of Agriculture and Fisheries to deal with the rural housing problem; and, so far as Rosyth is concerned, a sum not exceeding £2,000,000. The Treasury has undertaken to borrow money by means of terminable annuities for a term not exceeding thirty years. This does not mean (although the scheme will be conducted on an economic basis) that the rents will provide for the repayment of the capital over a period of thirty years. It is the intention of the Government, while letting the houses on an economic basis, to make the period more nearly approach the actual age of the cottages which the employees will occupy. With regard to a sinking fund on land, the Government

hold the view that this need not be a charge at all on the occupiers of the cottages, and therefore there will be no charge whatever for a sinking fund on land with respect to any of these cottages. This is a very small proposal. I do not think that it will prove to be very highly contentious, and I hope that not only those who sit on this side of the House but on the other will assist to put both operations on foot as quickly as possible.

Medical Inspectors of the Local Government Board.—In reply to Mr. Astor, the President of the Local Government Board said that the number of sanitary authorities in England and Wales was 1,870. The medical inspectors of the Local Government Board were not specially deputed to make routine inspection of the work of each of these authorities, but in the performance of their various duties, such as the holding of local inquiries, investigations into sanitary circumstances and outbreaks of disease, the inspection of vaccination, the visiting of localities, and conferences with local representatives for various other purposes, they were brought into constant touch with the sanitary authorities and their administration.

Local Government Board Housing Department.—In reply to Mr. Lane Fox, the President of the Local Government Board said that the special Department of the Local Government Board which dealt exclusively with housing and town-planning questions consisted of twenty-three officials, in addition to a staff of eight inspectors, whose time was wholly devoted to this work. The services of the Board's technical officers in the medical, engineering, and architectural staffs were also partly given to housing questions.

Elementary Schools.

Physical Instruction and Playgrounds.

In reply to Mr. King, the President of the Board of Education said that physical training was one of the subjects mentioned in Article 2 of the Code. That Article stated, however, that it was not necessary that all the subjects mentioned should be taught in every school or class. The importance which the Board attached to instruction in this subject was shown in the introduction to the Syllabus of Physical Exercises. In view of what was said there it would be very difficult to satisfy the Board that at any particular school physical training was not required by the needs of the scholars. He did not know of any school in which physical training was not now included in the curriculum, though its efficiency and adequacy varied considerably. He did not think there was any necessity to interfere with the discretion of the local education authorities.

Mr. King asked also a number of questions with regard to deficiencies in the playground accommodation and the facilities for giving physical instruction in various London schools, and was informed that there were thirteen voluntary schools under the London Education Authority which had no playground. The circumstances of the cases were dealt with in official correspondence now under the consideration of the London County Council and the managers. Care would be taken to ensure adequate provision for physical exercises and recreation.

Dental Certificates.

In reply to Mr. Raffan, the Parliamentary Secretary of the Board of Education said that a Departmental Committee had recently been appointed to consider the question of dental certificates, and would report very shortly.

Opium, Cocaine, and Alcohol.—In reply to Sir J. D. Rees, Mr. Harcourt said that the consumption of fermented liquors, especially beer and stout, had considerably increased in the Malay States since 1909, and the working of the Excise enactments was being carefully studied, with a view to the proper control of this consumption. It was also the fact that recent seizures pointed to a certain amount of illicit importation of cocaine. The main object of the Opium Convention of 1912 was to provide for the control of the trade in cocaine, morphine, and their derivatives concurrently with the restriction of opium to medicinal uses.

Bequests to Hospitals.—Lord N. Crichton-Stuart asked the Chancellor of the Exchequer whether he was aware that the Treasury was enforcing the payment of £30, being the duty on a donation of £300 given by the late Mr. William Townsend White to the funds of the King Edward VII Hospital in Cardiff; and whether, having in view the financial needs of this hospital, he would allow the duty to be remitted in this case.—Mr. Lloyd George said: Estate duty at 4 per cent.—that is, £12 and not £30—with interest from the date of the donor's death, is chargeable by statute in respect of the gift in question, and there is no provision of the law under which I could accede to the noble lord's request.

Vaccination.

Telephone Service.

MR. CHARLES DUNCAN asked the Postmaster-General whether the rule of his Department and of the Civil Service Commissioners, that conscientious objection to vaccination should be respected, applied also to the telephone service; and, if so, why it was stated on the Regulations issued to candidates for situations as female telephonists in the London area that no exemption was allowed in respect of primary vaccination.—Mr. Hobhouse said that the rule applied also to the telephone service and was included in the printed Regulations. Owing to a misunderstanding an obsolete copy of the Regulations had been issued in certain cases, but had now been withdrawn.

Appointments of Old Members of Boards.

Mr. Black asked the President of the Local Government Board whether the Worksop Board of Guardians had delayed the appointment of a public vaccinator for the Clowne district of the union for a period of six weeks, in order to enable them to elect a former member of the board who resigned his seat in July last; and whether he would express to the guardians his disapproval of this attempted evasion of the rule of his department making ex-members of boards of guardians ineligible for appointments under their jurisdiction for one year after ceasing to be guardians.—Mr. Herbert Samuel said that the Worksop guardians had made a temporary contract for the performance of public vaccination in the district referred to, but he had no information as to their reasons for delaying to make a permanent appointment. The guardians had been informed of the Local Government Board's views as to the appointment as officers of ex-members of the board, and their attention would again be drawn to the matter.

Glycerinated Calf Lymph.

In reply to Mr. Keir Hardie, who asked a question about a method of killing extraneous microbes in vaccine lymph by ultra-violet rays, reported recently by Dr. Friedberger to the Berlin Medical Society, the President of the Local Government Board said he was advised that the glycerinated calf lymph supplied by the Local Government Board was satisfactory, and, in the circumstances, he saw no reason for suspending its production.

Exemptions.

Mr. Herbert Samuel, in answer to a question by Mr. Norman Craig, supplied the following figures with regard to exemption from vaccination for the years 1906 to 1913, inclusive:

Year.	Number of Births Registered during the Year.	Number of Exemptions Received during the Year.	Percentage of Statutory Exemptions.	Percentage of Children ultimately Unvaccinated.
1906 ...	935,081	52,391	5.6	16.8
1907 ...	918,042	57,675	6.3	20.4
1908 ...	910,383	162,799	17.3	27.9
1909 ...	914,472	190,689	20.9	32.3
1910 ...	896,962	230,947	25.7	36.3
1911 ...	881,138	248,483	28.2	38.9
1912 ...	872,767	275,929	31.6	42.9
1913 ...	881,480	308,235	35.0	Figures not available.

England and Wales.

LONDON.

London County Council.

Voluntary Boarders at the Maudsley Hospital.

The Asylums and Mental Deficiency Committee of the London County Council on July 14th recommended the Council to pass the following resolution:

> That application be made to Parliament in the session of 1915 for authority to make the Maudsley Hospital available for the reception and treatment as voluntary boarders of persons suffering from mental infirmity, upon such terms and conditions as the visiting committee may think fit, and to enable the County Council or any board of guardians in the County of London, if they think fit, to defray the whole or part of the expenses of maintenance in the hospital of such voluntary boarders.

The Committee pointed out that although the Lunacy Act, 1890, provided that a person not certifiably insane might submit himself to treatment for incipient insanity by entering as a voluntary boarder a licensed house or registered hospital, voluntary boarders could not be received in a county asylum, even by payment. It was extremely desirable that there should be power to permit voluntary in-patients to be received for treatment in the Maudsley Hospital, and the Board of Control, which had been informally approached, concurred in this view. As the Maudsley Hospital would be a county asylum for the purposes of the Lunacy Acts special powers would be required. The method proposed would be more simple and satisfactory in regard to cost of maintenance than the alternative of treating the patient after admission as a pauper, and calling upon the board of guardians to pay for him. The Committee could not say at this stage what the cost of provision for voluntary boarders was likely to be, but if a poor patient by early treatment could be saved from the necessity of certification as insane and from compulsory detention in a county asylum, some saving in the total cost of lunacy administration should result.

The Council passed the resolution.

The Medical Superintendent's House at the Maudsley Hospital.

The Committee had decided that it would be best for the medical superintendent of the Maudsley Hospital not to be resident on the hospital premises, but to find his own residence in the vicinity of the hospital. The Board of Control, however, held that the provisions of Section 276 of the Lunacy Act, 1890, that a medical superintendent must reside in the asylum, could not be varied without parliamentary authority. As there would be two resident assistant medical officers and there was not room on the estate for the erection of a house for the medical superintendent, nor could a house adjoining be obtained at a reasonable price, the Asylums Committee advised the Council to insert a clause in its next General Powers Bill exempting the Maudsley Hospital from the provisions of the section referred to. This was approved.

School Medical Treatment.

In order to comply with a requirement of the Board of Education that agreements for the medical treatment of school children shall be made for the year ending March 31st, the Council considered the arrangements to be made for the period from August 1st to March 31st, 1915. The Education Committee stated that for the year ending July 31st provision had been made for the treatment of a minimum of 98,606 cases at forty-two institutions. During the period ending March 31st next it was proposed to make provision for 72,215 cases, being at the rate of 108,216 cases a year, a net increase of 9,610 cases. During the past year the attendance of the children at hospitals and treatment centres had been satisfactory, but variations in the number of cases at different times of the year had caused difficulty. A minimum number of cases should therefore be provided for in the agreements, and additional sessions allowed in times of pressure. Experience had proved that the number of cases of ear, nose, and throat defects was steadily decreasing, and the number to be provided for had accordingly been reduced. The Board of Education having criticized the arrangements for nursing, the Committee proposed to establish four additional nursing centres, affording an increase in the number of children provided for of 3,960 a year, making the total for this branch of the scheme 19,190. During the year ended December 31st, 1913, 31,858 children were examined for dental defects, and 80 per cent. were found to require treatment. The present number of dental centres was twenty-five, providing for 42,020 cases. Four additional centres should be established and the provision at the London Hospital extended; the number treated would then be 49,720. The expenditure to be incurred under the new arrangements, excluding administrative charges, would be £31,700.

The Council decided to renew its agreements with the various institutions and centres, with modifications as indicated above.

MANCHESTER AND DISTRICT.

The Radium Fund.

The energetic campaign on behalf of the Manchester District Radium Fund which is being carried on by the *Daily Dispatch* is now succeeding in a remarkable way. Each day there is published a long list of subscribers, the amounts varying from 6d. upwards; last week-end brought in over £1,000. Collections are being made at garden parties, dinner and supper parties, golf matches, and at schools, theatres, and all sorts of entertainments. Employees at numerous works have made collections, and the nursing staff of the St. Mary's Hospital have evidently been spending most of their spare time in collecting for the fund. The total sum collected up to July 12th was £17,770 and as donations are coming in at the rate of several hundred pounds a day, and have rather increased than decreased daily, there can be little doubt that the required sum of £25,000, about which there was such anxiety at first, will soon be raised.

Ancoats Hospital.

The enormous amount of work now being done at the Ancoats Hospital has made it necessary to resort to special methods of obtaining financial aid, and arrangements are now completed for a carnival and daisy collections on Friday and Saturday, July 17th and 18th. At a meeting of the general committee the chairman made an appeal for the services of ladies to help in selling the daisies, which have been made by crippled children. A section of the fire brigade, and no fewer than forty-five bands, will take part in the carnival, and from the proceeds it is hoped to endow a bed and cot at the hospital, and to form the nucleus of a fund for providing a new ward.

The British Red Cross in East Lancashire.

A useful *Handbook and Rules* of the East Lancashire Branch of the British Red Cross Society has been prepared by Colonel Wm. Coates, C.B., who is chairman of the Executive Committee of the Branch and Honorary County Director. The East Lancashire Branch was constituted in April, 1910, and now comprises twenty-eight Divisions, covering the whole of East Lancashire as far north as Clitheroe and Colne. The handbook contains a sketch map showing the positions and a large diagram illustrating the use of voluntary aid detachments of the branch in time of war. In addition to the rules of the branch, full information is given for both men's and women's voluntary aid detachments as to organization, duties, training, equipment, examinations, etc. It will be almost indispensable to all members of the branch, and even to non-members is interesting, as showing the high degree of organization which the enthusiasm of the branch has reached.

The Royal Schools for the Deaf, Manchester.

These schools during the last fifteen years have risen into great prominence, and are now the largest schools for the education of the deaf in Great Britain. They were founded in 1823 in Salford, but their real home in the present fine building in Old Trafford was not opened until 1837. The schools have been fortunate in their presidents; the late Lord Egerton of Tatton devoted a great deal of his time to their welfare, and the present President, Lord Sheffield, better known, perhaps, as Lord Stanley of Alderley, is one

of the most prominent educationalists in the country. It is greatly due to his guidance of affairs, together with that of the Chairman, Sir James E. Jones, who received the honour of knighthood on the King's birthday, that so many remarkable developments of more than local importance have of late years come about.

Starting with about 50 children, the institution has grown until now it provides places for 367. During the first fifty-five years of the history of the school all the children were taught by signs and finger spelling, but about the year 1880 a gradual change in methods was brought about by the introduction of the "oral" or speech and lip-reading system. The passing of the Act of 1893, which made the education of the deaf compulsory, gave a great impetus to the new system. The Royal Commission presided over by Lord Egerton visited the chief schools in Europe and America, and reported strongly in favour of speech teaching. The school now grew rapidly, two or three new wings being added in quick succession. The Board of Education, too, came in in a supervisory way, and the standard of the teaching rose accordingly. Higher salaries were paid, and attracted better educated men and women to the work. The capacity of the original buildings and grounds, however, in spite of the extensions mentioned, would not carry more than about 240 children, and about ten years ago it was decided to separate the sign-taught children from the orally taught, and the Clyne House Branch School was built to accommodate 65 backward children. This represents a fairly regular ratio between normal and backward deaf—that is, 80 to 85 per cent. normal, 15 to 20 per cent. backward. The complete separation of these two classes of the deaf had a good effect on both. It raised the average of attainment in the oral school and also the self-respect of the children in the backward school, and allowed of concentrated effort on each distinct method of instruction.

The next advance was made in the direction of industrial training. The extreme importance of hand and eye training had always been very fully realized by the committee, and manual instruction and drawing had been a regular and important part of the curriculum long before these subjects were taught in hearing schools. But however well the deaf boys' hands were trained, a large number of them failed on reaching the age of 16 years to secure apprenticeship to handicraft trades—the ideal thing for the deaf. Through the generosity of the chairman, Sir James E. Jones, an industrial training school, in separate grounds, providing both workshops and a hostel of residence, was established, and has been remarkably successful. Some of the apprentice students are taught trades on the spot, and others go out to such trades as mechanical dentistry, lithography, cabinet making, and stained glass window making in town. The apprenticeship lasts from four to five years, and many of the lads hold technical scholarships from the various school authorities. This branch of the school work is so successful and important that the hostel is being enlarged by the chairman to accommodate sixteen more students. It should be remembered in connexion with the training of the deaf that 98 per cent. of them have to earn their living with their hands.

The last move towards efficient and complete classification was the establishment of the Henry Worrall School for Infant Deaf Children. Here children are admitted at 5 years of age. They are entirely in the charge of selected women teachers, and the nurses are specially chosen for their sympathy with the idea of making the education as much like that of normal children as is possible. Every one about the place always speaks to them, so that the tendency to use any kind of signs is very materially minimized. The bungalow school stands in a large walled garden. The results attained have been most surprising and gratifying to the committee, and lead them to believe that if all deaf children could be sent to school not later than 5 years of age the present 20 per cent. of backward deaf would be considerably lessened.

The 98 per cent. of what may be called working-class children leaves 2 per cent. of children from the richer classes. These are provided for. They have all the advantages of a highly classified and well equipped school, but except in regard to dining and sleeping have no special privileges. It is greatly to their advantage and that of the other scholars that they should all mix together for work and play. The corporate life of a big school may be said to be one of its most important features.

Deaf children on admission to school are very generally underweight and undersized. Their feeding and sleeping has been poor and irregular. If they are to survive industrially they must be pulled up to standard. The Committee therefore attaches great importance to good and proper feeding, and regular sleeping in well-ventilated rooms is equally important. A careful and well-organized system of medical supervision is in operation, and covers aural surgery, dentistry, dermatology, and care of the eyesight. The children are examined regularly by the medical officer and specialists, and a card index is used to tabulate weights, heights, and the various medical sides of the work. The result is that the children generally are turned out into the world physically fit as well as mentally and manually capable.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE APPOINTMENT OF LOCUMTENENTS.

THE Local Government Board has written to the Enniskillen Board of Guardians asking it to reconsider its decision in the case in which Dr. Hackett, of Tempo, nominated as his temporary substitute Dr. Charles, of Lisbellaw dispensary district, and in which the relieving officer passed over Dr. Charles and appointed Dr. Betty, of Enniskillen. The Board further desired the guardians to give instructions to the relieving officers whether or not they should accept the nominations of medical officers. The following observations on this subject, which is considered important by all dispensary doctors, are taken from a leader in the *Fermanagh Times*, and are very appropriate:

> Common sense sees in it the only natural and logical positions of medical man and relieving officer, and cannot explain why the latter should be under any circumstances permitted to flout or ignore the suggestion, the recommendation, or the nomination of one who is in every relation, professional and official, his superior.
>
> The law either requires or permits a dispensary medical officer to nominate his substitute when going on leave—either sick leave or vacation. This should be the first and last word with the relieving officer. When the Board next meets, the relieving officer reports that he has appointed the nominee of the absent doctor, and it is then for the Board to sanction that appointment or to appoint another medical substitute. But for a relieving officer to take upon himself to override a nomination, even for a day, is quite preposterous. It is turning the Poor Law itself into an abnormality, and it is humiliating to the whole faculty of medicine.

PAYMENT OF DOCTORS' SUBSTITUTES.

Dr. L. T. Moore (Kilgarvan) wrote recently to the Kenmore Board of Guardians, applying for the usual leave of absence, and stated that Dr. O'Connor (Cork) would do duty for him. One of the guardians spoke strongly against granting leave to doctors unless they paid their substitutes and also appointed as their substitutes doctors other than those elected to their respective dispensaries in this district. It was proposed and seconded that each doctor applying for leave should pay his own substitute. An amendment in the nature of a direct negative was proposed and declared lost. The resolution was then carried.

KINGSTOWN HEALTH OFFICER.

At a recent meeting of the Kingstown (co. Dublin) Urban Council, a councillor, in moving a resolution that the appointment of a superintendent medical officer of health for Kingstown was necessary, that advertisements be inserted, at a salary of £75 a year, and that the resolution of February 13th, 1911, be rescinded, said that when this appointment became vacant in 1910 through the death of Dr. O'Donovan the council then considered that it should be filled, and inserted advertisements inviting applications for the position. The Local Government Board and the Sanitary Association of Dublin stated that it was the duty of the council to make the appointment; but in spite of this the council did not proceed with the election. As chairman of the Public Health Committee he saw that it was absolutely necessary to make this appointment. The

two dispensary medical officers were not always at the council's disposal, because they were not under the management of the board of guardians. Half of the salary of the new officer would be borne by the Local Government Board. Another councillor said that whether the council made the appointment or not it had to pay Dr. Corbet £40 a year and Dr. O'Connor £27 10s. a year as medical officers of health, and it was a very serious thing to contemplate this further appointment. The rescinding portion of the resolution was carried by 13 votes to 5, and the motion to make the appointment by 13 votes to 3.

MENDICITY INSTITUTION, DUBLIN.

The ninty-ninth annual report of the Mendicity Institution, published last week, states that during last year there was a falling off in the number of the artisan class relieved. The number who applied to be sent to other parts of the country was much in excess of that of the previous year. As many as 40,609 persons were supplied with two hot meals a day during the year, so that 81,218 meals were prepared and partaken of in the institution. Thus many a hungry family was saved from entering the workhouse, and the citizens were thereby relieved from increased taxation; 1,060 persons—comprising 518 men, 328 women and 214 children—were the recipients of the Christmas dinner provided by the Committee. During the year 381 persons were sent to their homes, or places of employment. Of these 118 went to different places in England, 125 to Scotland and Wales and 138 to various parts of Ireland.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE ROYAL VISIT TO GLASGOW.

ON July 7th the King and Queen with Princess Mary paid a State visit to Glasgow, during which the King opened the new buildings of the Royal Infirmary, the memorial stone of which he laid as Prince of Wales seven years ago. In reply to an address of welcome from the managers, His Majesty expressed his pleasure at being able to continue the association which has connected the Royal family with this noble institution. It was an additional satisfaction that the buildings had been erected as a memorial of the Diamond Jubilee of the beloved Queen Victoria, who during her long reign was ever mindful of the voice of suffering. "I trust," the King concluded, "that the Royal Infirmary will long flourish as a testimony of Glasgow's care for its sick." A tour of several wards was made by their Majesties, the Queen entering into conversation with two of the patients. Among the presentations made was Nurse Kate Bell, who is a veteran member of the staff, having served under the late Lord Lister so long ago as 1866.

In the afternoon the Royal party drove in state to the new Royal Hospital for Sick Children at Yorkhill, and formally declared it open. Here they were greeted by a gathering of over 3,000 children. The King, in reply to a loyal address from the directors, recalled Queen Alexandra's warm interest in the institution. The directors and a number of the medical and surgical staff were presented. A pleasant ceremony was the unveiling of the nameplate of the "King George V and Queen Mary Ward" by Her Majesty. Passing through the hospital, the King was specially interested in the excellently equipped theatre, and listened with close attention to a description of it by Dr. T. K. Dalziel, the senior surgeon.

Leaving Yorkhill their Majesties drove to the Western Infirmary, where an address was presented, but the crowded nature of the day's programme caused their stay to be very brief. The Royal party afterwards drove through the grounds to the university, where they were received by Lord Rosebery, the Chancellor, and Principal Sir Donald MacAlister.

THE Lord Chancellor has approved the names of Dr. Maxwell Dawson (Buckhaven) and Dr. William Barrie Dow (Dunfermline) as justices of the peace for the County of Fife; of Dr. Robert Clark (Lossiemouth) and Dr. James Alexander Stephen (Elgin) for the County of Elgin; and of Dr. James Davidson Wyness for Aberdeen.

Correspondence.

SPECIAL FUND: TRADE UNION OR TRUST?

SIR,—I would appeal to those Divisions that have already instructed their Representatives to vote at the Aberdeen Representative Meeting in favour of a trade union to meet again before Representatives leave home and reconsider their decision. I have not the slightest doubt that the majority of those Divisions, when voting as they did, did so not because they have any regard for a trade union, but simply and solely because they were under the impression that the only way to safeguard their proposed fund was under a trade union. The most excellent and timely leading article in last week's JOURNAL must, once for all, dispel that "bogey."

It cannot be too clearly pointed out to the members of the Association that, should a trade union be formed, that trade union will be not in association with our Association, but antagonistic to it. One of two things must follow: Either the union will in the course of a short time die a natural death and with it our fund, or, if it is the success that its ardent admirers hope for, it will swamp the Association, which will once again revert to the management of a few scientific meetings. Our constitution, our machinery—everything, in fact, that we have been working for for the last ten years or more—will go. I am sure that point could not have been laid before members voting in favour of a trade union when the vote was taken at their Division meetings.—I am, etc.,

Orpington, Kent, July 13th. A. TENNYSON SMITH.

SIR,—In your issue for June 13th I placed before the advocates of trade unionism for the medical profession certain questions. All tended really to one, namely, *what power of control* did the advocates consider that a *medical* trade union would have which the British Medical Association had not? Those interested have awaited a reply in vain.

It is well known that, when driven to give a reply, these advocates acknowledge that there is no special power of control, and that none can be expected so far as the medical profession is concerned. The only advantage that they urge now is the security of any funds. Let me take that point.

One of the advocates, whilst avoiding answering the set of questions, boldly states in your issue for June 27th that these questions were an attempt to divert the attention of the Divisions from the question which they have to decide, and which appears as the heading to this letter. To one not conversant with the Trade Union Act, 1913, such a statement might appear to be true. But that Act clearly shows that the questions are germane and apposite. With your permission I will quote certain sections in the following order: Section 2 (1), Section 1 (2), Section 2 (2), Section 1 (1). (The italics are mine.)

Trade Union Act, 1913.

Section 2 (1).—The expression "Trade Union," for the purpose of the Trade Union Acts, 1871 to 1906, and this Act, means any combination, whether temporary or permanent, *the principal objects of which are under its constitution statutory objects.* Provided that any combination which is for the time being registered as a trade union shall be deemed to be a trade union as defined by this Act so long as it continues to be so registered.

Section 1 (2).—For the purposes of this Act the expression "*statutory objects*" *means the objects mentioned* in Section 16 of the Trade Union Amendment Act, 1876, namely, the regulation of the relations between workmen and masters, or between workmen and workmen, or between masters and masters, or the imposing of restrictive conditions on the conduct of any trade or business, and also the provision of benefits to members.

Section 2 (2).—The Registrar of Friendly Societies shall not register any combination as a trade union unless in his opinion, having regard to the constitution of the combination, the principal objects of the combination are statutory objects, and *may withdraw the certificate* of registration of any such registered trade union if the constitution of the union has been altered in such a manner that, in his opinion, the principal objects of the union are no longer statutory objects, or

if in his opinion the principal objects for which the union is actually carried on are not statutory objects.

Section 1 (1).—The fact that a combination has under its constitution objects or powers other than statutory objects within the meaning of this Act shall not prevent the combination being a trade union for the purposes of the Trade Union Acts, 1871 to 1906, *so long as the combination is a trade union as defined by this Act*, etc.

From these sections it seems clear that a trade union, to be such, must include certain objects in its constitution; that these objects are those at present carried out by the Association under its memorandum; that if a trade union were formed without these objects and solely for the purpose of protecting a fund, then the courts would not recognize it as such (whether registered or not registered); and if registered with these objects, and these objects were allowed to be idle, the certificate would be withdrawn. This being so, the advocates must undoubtedly urge a trade union that included the statutory objects; in other words, must advocate the formation of a body in active hostility to the British Medical Association, and required by the law, in order to retain its certificate, to continue to be so. Therefore, again, what special power of control do they hope for through such a body?

As I stated in an earlier communication, the only advantages of a trade union that can be advocated are the security for the funds and the liberty to libel your colleagues to your heart's content. Even these advantages the courts are fast whittling away.

The former advantage the National Union of Teachers has secured, whilst its funds are in England; and the militant suffragists (in spite of all the law officers of the Crown) by the simple device of placing theirs in France. Neither body has thought well to adopt a trade union constitution. They see the folly of deliberately asking others to step on their coat-tails.

Which, then, is it that the advocates of trade unionism desire? A trade union in reality, under which the funds would be legally safe and its members compelled by law to endeavour to wipe out the Association from the medico-political field; or a trade union in name only, with no security for the funds, and leaving the Association to continue its work?

Possibly the advocates of trade unionism present at the Representative Meeting will tell us. And, having heard their explanation, it is to be hoped that that body will keep its head, prove loyal to itself, and once more decide to have nothing to do with aiding and abetting the proposal.

Meanwhile, we have the extraordinary situation of the Council of the British Medical Association openly advocating the formation of a new medico-political body that they must know would be legally obliged to compete with the former in the medico-political world. It is time that the loyal members woke up.—I am, etc.,

Hove, July 11th. E. ROWLAND FOTHERGILL.

SIR,—Your leader in the JOURNAL of July 4th seems to me to put the matter very fairly. There is one aspect of the subject which advocates of "trade unionism" entirely ignore, and that is, if the profession goes in for it, it will go in for the whole thing, the good and the bad, the bitter and the sweet, and the bad and bitter include the objectionable fourth clause of the Trade Disputes Act, 1906. This clause renders "trade unionists" immune regarding such acts as the following: "Libels and slanders, negligence or carelessness resulting in injury to another in person or property, nuisance, fraudulent representation in business dealing, omissions of legal duty, etc." I take it the profession does not wish such immunity, and if unwittingly it did any of these things it would want to make the *amende honorable*. It follows that the only real reason in wishing to adopt "trade unionism" is for the supposed better security of the funds, because these would be in danger of attachment in "pursuance of a policy in restraint of trade." But is there not already sufficient security of funds without resorting to "trade unionism"? By the formation of Panel Committees, and in virtue of their legal status, the principle of "restraint of trade" is conceded! And in my opinion all that is needed is fully to develop this, taking care to secure unity of purpose and legislation between the Panel Committees and the British Medical Association (*vide* SUPPLEMENT, May 2nd, 1914, Appendix 1, par. 9, 18 (*d*)), at the same time organizing the profession from the centre to the periphery.—I am, etc.,

Swadlincote, July 11th. DAVID ROBERTS.

HOW TO INCREASE THE MEMBERSHIP.

SIR,—If medical students were admitted to the British Medical Association as associates at a nominal subscription there would be a great probability of them becoming full members when qualified.

I would suggest a subscription of 10s. 6d. per annum, as this would allow the JOURNAL to be sent to them without loss to the Association. I would further allow them to attend all meetings if so inclined, but not, of course, to vote.—I am, etc.,

Bury, July 14th. JAMES HOLMES, M.D.

DIATHESIS IN INFANCY.

SIR,—I hope that the valuable article by Dr. H. C. Cameron on diathesis in infancy and the leading article on a branch of the same subject in your issue of July 11th will receive very full attention.

The doctrine that nearly all infants are born with equal chances of good health, and only require cleanliness and a standard diet in order to thrive, has been assiduously promulgated in some quarters, with the effect of starting many on the search for the "philosopher's stone" of an ideal diet. How widespread is this doctrine is evidenced by the impatience of parents whose infants do not make the average progress under good care and attention, and also by the naïve inquiry often made by medical as well as lay persons, "Is there anything organically wrong?"

In no branch of medicine do we more require to install "morbid physiology" on the throne lately occupied by "morbid anatomy," and here is an unrivalled field for the chemical pathologist.

Dr. Cameron has ably touched on two types of morbid progress, but he rightly says that "many other examples of congenital inborn abnormality of constitution might be quoted." One very striking feature of such abnormalities is their familial tendency.—I am, etc.,

Sheffield, July 13th. A. E. NAISH.

HAEMOSTASIS BY APPLICATION OF LIVING TISSUE.

SIR.—Sir Victor Horsley's article in the BRITISH MEDICAL JOURNAL, July 4th, 1914, upon the employment of the cut surface of fresh muscle tissue as a haemostatic is of interest from the fact that he invariably found blood platelets in the adhesive layer formed between the bleeding surface and the muscle.

That the blood platelets in this method are one of the factors in promoting haemostasis seems likely from the fact that for some years past I have found that blood platelets, when isolated in a manner the technique of which I hope to publish shortly, and applied to the bleeding point or surface after being spread over sterile gutta percha tissue and retained in position by slight pressure, invariably brings about satisfactory haemostasis.

In the many cases in which I have used blood platelets in this manner the resulting haemostasis has been permanent after a few minutes, when the gutta percha tissue can be removed without further onset of haemorrhage. In several cases of haemophilia in which teeth had inadvertently been extracted, the lining of the alveolus with platelet covered gutta percha tissue, the tissue being kept in contact with the alveolar walls by means of a loosely applied plug of sterile absorbent wool, led to rapid cessation of haemorrhage.

In addition to this power which blood platelets possess of promoting local haemostasis, when platelets isolated from 30 to 40 c.cm. of blood are administered hypodermically in cases of severe deep-seated haemorrhage, such as haematemesis, haemoptysis, haematuria, etc., the resulting cessation of haemorrhage is remarkable.

Though the results seem to be better when freshly isolated blood platelets are used, I have found little impairment of their haemostatic power when kept for several months in suspension in a minimal amount of

equal parts of blood plasma and 1 per cent. sodium citrate in normal saline solution and stored at a low temperature in paraffin-lined amber-coloured ampoules.

Nottingham, July 13th. LYN DIMOND.

ROYAL MEDICAL BENEVOLENT FUND.

SIR,—Behind all facts and all arguments about whether the Royal Medical Benevolent Fund or Epsom College should have a particular legacy there is a broader question—Does the profession do its duty, or a tithe of its duty, in the matter of supporting these two medical charities? We all know that most medicos are poor, and are generous in attending poor patients for little or for nothing. Still, have not the charities of a man's own calling the first claim on his philanthropy? Poverty is relative, and surely most members of our profession could, if they chose, give half a guinea, or even a guinea, a year to medical charities which are so necessary, for many reasons, as these.—I am, etc.,

Brent Knoll, July 13th. J. W. PAPILLON, M.R.C.S.

POISONING BY BEETROOT.

SIR,—Dr. J. Johnstone Jervis's memorandum in the JOURNAL of June 27th (p. 1408) on acidosis and hepatic disorder is of special interest to me while studying the physiological action of foods. I find it necessary to cease for a time using any article of food whose action I wish to test. By taking a big dose when I resume taking it, its physiological action on me is easily ascertained, and by repeated experiments in that way alone is it possible to learn what should have been known long ago. Dr. Jervis had no doubt the beetroot was the cause of the alarming symptoms which he describes, and he is not afraid to confess his ignorance when he says: "But what particular element in the composition of that vegetable, and the nature of the changes brought about by it in the tissues, I cannot tell." We know the physiological action of tobacco pretty well from our first attempts to smoke, but the system gets used to it if its use is persevered in, unnatural as it may be to use it. But for that power of the system to accommodate itself to almost anything put into the stomach, many of our articles of diet would not be used. The Yorkshire farmer on return after his first visit to London, being asked how he had got on, said: "The first night we had lobster to supper, and my stomach refused to keep it, but determined to show who would be master, I gave it lobster every night, and it never refused it again." It is probable that if the child had been fed on beetroot, when it recovered, it might, like the lobster, have been retained and its ill effects never suspected. I remember asking an old shepherd among the hills as to his experience of tea. He said, "I never tasted it till I was 20 years of age, when it made me ill, and I never took it again." He was wiser than the Yorkshire farmer, for when the action of tea is studied and known, it will be found to be the unsuspected cause of mental, as well as physical symptoms. We are being told about vitamines and deficiency diseases, which shows that we are beginning to know our ignorance as to the action of food (which is the first step towards knowledge), but there is danger, that a little knowledge of the action of some foods, may induce some to use them as drugs are now used, merely to relieve symptoms, instead of trying to find out the natural food of man, by living on which he will never ail, and die of old age alone. We know something of the grape cure, a careful study of which might be helpful in our search for our natural food. In California some families are known to live on fruit and nuts alone, and though very different in appearance from other people, are said to enjoy exceptionally good health and to be much more active than mixed feeders.—I am, etc.,

Denholm, Hawick, June 29th. JOHN HADDON, M.D.

THE D.P.H. AS AN ESSENTIAL FOR MEDICAL REGISTRATION.

SIR,—The time has come when no medical man should be placed on the *Register* unless in possession of a Public Health diploma. I am of opinion that the General Medical Council should lay down that after the year 1919 they would not register any person without such diploma.

It seems wiser for our own controlling Council to do this voluntarily than to be compelled to do so by some outside agency, as will surely be the case. I cannot myself imagine a man practising medicine without such knowledge, whether without or with a diploma. No doubt many men do understand health matters, but we have now to render it compulsory by legal enactment. The moment this is done the teaching of physiology would be brought closer to hygiene. Pathology would also be more clearly understood. Chemistry would be expanded in its outlook, and even the practice of medicine itself would widen its scope.

The study of health laws and regulations would give to the medical student a deeper interest in State regulations, and a fuller conception of their civic duties would come to all medical men. So educated we could meet the modern State in a better position for defence against it or co-operation with it. Closely allied with such civic teaching would come those ethical lectures so needful in the training of the medical man, fitting us better for those weighty responsibilities which, avoid how we may, are certain to fall to our lot. No ethical teaching whatever is given to us to-day.

What the Army Medical Service began half a century ago may now surely be followed up by the medical profession as a whole.

When well-nigh fifty years ago I heard Edmund Parkes, beautiful as a Greek god, give his hygiene lectures, although I held a medical and surgical qualification, the matter was a complete revelation to me. Never once had I heard health lauded in all my student days till he spoke. Let us all follow in his train.

During the student's holidays yearly he could put in practical work at health studies in our municipalities, and so avoid the delay of special post-graduate study, as is now the case. The change of scene and work would be as good as a holiday. It would be necessary to bring all public health training of medical men under the inspection of the General Medical Council, and the State would nominate to membership of that Council certain public health specialists.—I am, etc.,

G. J. H. EVATT, M.D.,
London, S.W., June 25th. Surgeon-General.

Public Health
AND
POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

(Concluded from page 103.)

The Future of the Poor Law and the Poor Law Medical Service.

AT the annual meeting of this association in Burnley, Dr. Major Greenwood said that there had never been a period in the world's history in which civilized communities had not been confronted with a Poor Law problem. In England the first attempt by the State to grapple with the problem was by the statute of Elizabeth, which laid down the first principles of the present system. By early Poor Law legislation the destitute were regarded more as criminal than unfortunate, and the evil reputation that was still attached to Poor Law administration was an inheritance from those days. The keystone to the present system was put by the Poor Law Amendment Act of 1834, based on the findings of an important Royal Commission that reported in that year. Although there had been no direct legislation since then, there had been certain enactments connected with social reform that had touched on the ground heretofore reserved for the Poor Law—namely, the Old Age Pension Acts, the various Elementary Education Acts, and the Insurance Act. Discontent with the Poor Law system resulted in the appointment in 1906 of another Royal Commission on the Poor Laws, which reported in 1909. Unfortunately, the Commissioners were not unanimous, and two reports were issued. The Local Government Board had, by special orders, carried out some of the recommendations, which were endorsed by the whole Commission. In considering the present Poor Law medical service of the country, the subject naturally divided itself into two parts—the present and the future of the outdoor, and the present and the future of the indoor medical service. The latter would develop more and more on institutional lines, and all indoor Poor Law

medical officers would tend to become whole-time officers. To meet the exigencies of the sick poor the centre for institutional treatment must not be too far away, but wherever possible a central institution, staffed by whole-time medical officers for the service of all the sick poor of the union, would be established. Unions might combine to create a common infirmary, and, as Dr. Thackray Parsons suggested in a valuable paper read at the last annual meeting, the Poor Law infirmary might become a State institution, and be utilized in connexion with State schemes for changes in the general medical practice of the country. As to the outdoor service the district medical officer must remain an important factor in Poor Law medical administration, for a Poor Law administration on anything like the present lines could not exist without him. If in the future the medical wants of the necessitous sick were catered for by a practitioner who, in addition to being district medical officer was also public vaccinator, police surgeon, factory surgeon, medical officer of health, and held any other office that necessitated medical supervision, the poor would not be better off than under the present arrangement. The medley of offices that he held would militate against efficiency in his Poor Law office. In populous areas the whole-time system was more practical, and had been utilized with more success. Sufficient Poor Law work could be found to employ the whole time of a Poor Law medical officer. It was in this way, in his opinion, that in the future part-time district medical officers would tend to be superseded by whole-timers, and if work and salary were equitably settled, it was difficult to see how they could offer opposition, if they wished, to another system which was in practice, or shortly would be, in two of the metropolitan boroughs. The Association of Metropolitan Infirmary Superintendents had recommended that the union infirmary should be made the base of all Poor Law medical relief and the office of district medical officer abolished. The infirmary superintendent was made chief medical authority and supervised all outdoor and indoor medical relief, and assistant infirmary medical officers were put in the place of district medical officers, some residing at the infirmary and others at a convenient site within the district. None of these assistant medical officers had any security; indoor medical officers, except the medical superintendent, enjoyed that right. The scheme, he admitted, on paper looked most tempting, but under the present system of Poor Law administration it meant that all the outdoor poor were in the hands of junior practitioners, for it would not be possible for a medical superintendent of a large infirmary to supervise properly both the indoor and the outdoor work. If he made the attempt he was not unlikely to fail in both. Naturally he would regard the indoor work as his proper function and would relegate the outdoor to his assistants, and the only responsibility he would take would be nominal. Summed up briefly, the changes that were taking place in the Poor Law medical service, both in its indoor and outdoor branch, tended to substitute whole-time for part-time officers.

The Annual Dinner.

In the evening the annual dinner was held at the Bull Hotel, and the members and their guests dined together under the presidency of Surgeon-General Evatt, C.B. Among the guests were: Alderman J. Sellers-Kay, Esq., the Mayor of Burnley and the Mayoress, P. Thomas, Esq., Town Clerk; C. E. Bygrave, Esq., Clerk to the Blackburn Guardians; Dr. Sinclair, Surgeon to the Victoria Hospital, and the following members of the Council of the Poor Law Medical Officers' Association were also present: Dr. Drury (Halifax), Dr. Holder (Hull), Dr. Major Greenwood (London), Dr. Thackray Parsons (London), and Dr. Agnew (Burnley). There was an excellent musical entertainment arranged by Dr. Pullon. After the toast of "The Mayor and Corporation" had been proposed by the President and acknowledged by the Mayor, Mr. C. E. Bygrave proposed "The Poor Law Medical Officers' Association of England and Wales," which was acknowledged by Dr. Major Greenwood.

Mr. Thomas, the Town Clerk of Burnley, proposed "The British Medical Association," and the toast was acknowledged by Dr. Bird, for the last six years Honorary Secretary of the Burnley Division, and now its President. He thought every medical man ought to be a member of the Association, and every student, as soon as qualified, ought to join it. Some such association was absolutely essential from the standpoint of medical science, of medical ethics, and of medical politics. What better organization was there at present than the British Medical Association? Certain people might disparage its efforts during recent legislation, but if they did not get all the points they wanted, they got a good many. The Association was like Hercules, it helped those who helped themselves, and if any Division desired to act it had the Association to back it.

Dr. Holder proposed the toast of "The Guests," to which Dr. Scott (Burnley) responded.

Dr. Pullon proposed "The Health of the President," and Surgeon-General Evatt made an appropriate response.

Dr. Drury (Halifax) proposed "The Health of Dr. Agnew," and "The Health of the Ladies" was also proposed, and responded to by a lady guardian.

Medico-Legal.

"HIGHER THOUGHT HEALING."

AN inquest on the body of Miss Kate Addison Scott, aged 37, who died while undergoing what was described as "higher thought healing," was concluded at Hounslow on July 11th. For some time before her death Miss Scott had been under the care of Mr. Orlando Edgar Miller at Spring Grove House, Isleworth, where she died on June 7th. Mr. Miller told the coroner, Mr. Reginald Kemp, he was a "teacher, lecturer, and healer." At a previous hearing he said he was a Ph.D., a lecturer on higher thought and a practitioner of faith-healing. He was not a Christian Scientist. He had studied medicine in America, but had no medical degree. He described his methods of healing as "mental, and to some extent medical and mechanical." He had opened Spring Grove House as a sanatorium for consumptives where he demonstrated a special method of treatment of his own which he hoped would some day be adopted by the medical profession. According to a report which appeared in the *Daily Telegraph* of July 13th, he went on to say that the house was now used as a kind of nursing home, and people frequently came to stay there to study psychology and the higher thought. He had from thirty-five to forty patients in the home, with a nursing staff of six. There was no medical practitioner in residence, but he called in a physician in certain cases. The local medical men refused to attend. He first met Miss Scott at one of his lectures, and at her request he took her in and treated her for paralysis, from which she had been suffering for fifteen years. She was admitted on June 2nd and her treatment began the next day. She was required to fast for thirty-six hours and he prayed over her. His method was "eliminating treatment," which consisted of exercises, breathing, and injections of distilled water, alcohol, and scopolamine. While he believed in the "laying on of hands and giving the right heart," he administered salts and gave cascara and scopolamine. As the patient got worse he called in a doctor, who diagnosed an internal complaint. Dr. H. L. Wilson, of Gordon Square, said he first attended Miss Scott for dyspepsia early in 1912. She had suffered from a nervous disorder for about thirteen years. She tolerated drugs very badly. He was sent for on the day she died and found her moribund, with practically no pulse. Probably her life would have been saved if she had had medical attendance earlier. For some time past she had been interested in Christian Science. He had treated Miss Scott for paralysis but had simply ordered exercises. Dr. L. B. Christian said that scopolamine would not be a suitable drug to inject in a patient in Miss Scott's physical condition. It was possible that it might have exaggerated her symptoms and hastened death by acting on the heart. Dr. W. H. Willcox, Senior Scientific Analyst, Home Office, said that an analysis showed that in the stomach there was a minute quantity of an alkaloid which would act upon the pupil of the eye in the same way as scopolamine or hyoscine. He found no other poison. The injection of scopolamine was most unsuitable. Death was due to dilatation of the stomach following disseminated sclerosis. The jury returned a verdict of natural death, adding a rider in which they asked that the coroner should severely censure Mr. Miller and report the nurse to the hospital where she had got her certificate. The coroner, addressing Mr. Miller, said, as reported in the *Morning Post*: "You are deserving of the gravest censure for treating this woman in a very improper way. Fortunately the medical evidence is in your favour, or you might have found yourself in difficulties. It was clearly your duty to send for a doctor much sooner than you did. The only extraordinary part of this case is the evidence which it affords of the easy way in which the public are taken in by these quasi-religious faith healers."

Accounts of various enterprises undertaken by Mr. Orlando E. Miller may be found in *Truth* of April 24th, 1912, and April 8th, 1914. From these accounts it would seem that he had a variegated career in America, including a period of imprisonment for a financial operation, of which he informed our contemporary a prejudiced judge and a packed jury took an unfavourable view. From the same source it is to be gathered that in a medical sense he seems to have progressed from grocery through cures for rupture, inebriety, and consumption, up to the "Higher Thought."

BENDLE *v.* UNITED KINGDOM ALLIANCE.

THIS was an action, before Mr. Justice Bray, by Messrs. Sutton Bendle and Co., proprietors of a wine known as Bendle's Meat

and Port Nutrient, against the United Kingdom Alliance (for the legislative suppression of the liquor traffic).

In opening the case on June 15th, counsel for the plaintiffs, as reported in the *Times*, said that in 1908 the British Medical Association, the proprietors of the BRITISH MEDICAL JOURNAL, published a series of analyses of various medicated wines which were being sold and advertised, including a wine which was sold by the plaintiffs' predecessors in title, Messrs. Bendle and Co. That company went into voluntary liquidation in 1912, and the plaintiffs, one of whom had been a director of the company and the other the manager of a wine business, acquired the medicated wine which had been sold by Bendle and Co., and entered into a partnership to deal in it. In June, 1913, the United Kingdom Alliance published in a pamphlet the analysis and statement which had appeared in the BRITISH MEDICAL JOURNAL in 1908, with one important omission. In 1908 the BRITISH MEDICAL JOURNAL was communicated with, and the position of the wine was explained, with the result that in issues of the two weeks following the publication of the analyses the BRITISH MEDICAL JOURNAL published the statements made by the proprietors of the wine in regard to it. The defendants did not publish the two subsequent statements which qualified what had originally been written. For a person to publish that the substance which he sold contained nutritive matter when it only contained meat extract would be a gross imposition. The complaint against the defendants was that in their pamphlet they suggested that the plaintiffs' wine was nothing else than a mixture of wine and meat extract, and therefore did not contain pure meat nourishment, and was stimulative and not nutritious. It did not contain a scrap of meat extract, but contained "Somatose" in sufficient quantities to justify the statement that it was a nutritive wine.

After the first adjournment, the services of the jury were dispensed with. Expert evidence was called on behalf of both parties.

Mr. Justice Bray, in the course of his judgement on July 14th, said that the plaintiffs' advertisement said that the wine was "a really genuine nutritive meat wine," and it was contended for the defence that a substance to be called nutritive must be capable of being used as an exclusive food. The plaintiffs, on the other hand, contended that a substance was nutritive if with or without other foods it helped to build up the human frame, and he agreed with that definition rather than the other. He could not find that the word had any technical meaning. Then it was said that the nutritive power of the meat was diminished or destroyed by its being dissolved in port wine, but the evidence had failed to convince him of that. It was said that in any event the proportion in which the meat was used was so small that the nutritive value must be practically inappreciable. But the plaintiffs advertised their wine as "a really genuine nutritive meat wine," not as a "highly nutritive" meat wine, and in his opinion they had proved the statements in their advertisements to be true. The wine, therefore, had the percentage of nutritive value which was claimed for it, though that was not a large amount. Reading the label fairly as a whole, he held it to be substantially true; and the defendants had failed to support their statement that the plaintiffs' claim with reference to their wine was, in the words of the pamphlet, positively absurd. He found also that the statement in the pamphlet that to obtain the 5 oz. of tissue-forming food required each day by an average adult would require a consumption of 1,925 glasses of the wines at a cost of over £30, was grossly exaggerated. The question remained, then, what should be the damages. The libel was serious, and the defendants had continued to distribute the pamphlet after the plaintiffs had complained to them about it. They had persisted up to trial in maintaining its truth; but it must be remembered in their favour that they had not published it for gain, but with a good object—to promote temperance. Unfortunately, their agents had been too zealous and too careless; and on the whole the damages should, he thought, be fixed at £250. There would therefore be judgement for that amount, with costs.

Counsel for the defendants asked for a stay of execution, undertaking not to continue the publication of the pamphlet. The judge replied that, while not wishing to encourage an appeal, he could not refuse the application on the money being brought into court in fourteen days, and the usual undertaking being given as to costs.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Degrees.

THE following degrees have been conferred:

M.D.—F. R. Martin.
M.B., B.C.—A. G. Evans, F. J. Thorne.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

D.P.H. (*Both Parts*).—R. B. Berry, G. D. Dawson, J. Ferguson, H. M. Fleming, W. M. MacIlraith, J. Ramsbottom, E. A. Ramsden, G. K. Thompson, J. A. Tomb, A. E. Townley.
D. PSYCH. MED.—R. M. Stewart.

QUEEN'S UNIVERSITY OF BELFAST.

THE following candidates have been approved at the examinations indicated:

FIRST M.B. (*Chemistry and Physics*).—H. Abernethy, F. C. S. Bradbury, F. Campbell, A. E. Gallagher, J. Grimson, W. Hoey, G. D. F. M'Fadden, F. S. Mayne, T. Montgomery, A. V. Morrison. (*Chemistry alone*).—D. Cromie, P. J. Doherty. (*Physics alone*).—S. E. Clarke, J. W. C. Colquhoun, A. J. May, J. D. Pinkerton. (*Zoology and Botany*).—H. Abernethy, S. Acheson, J. Black, Winnifred W. Boland, F. C. S. Bradbury, S. F. Breakey, J. H. Calvert, Helen M. Calwell, F. Campbell, T. G. Campbell, T. I. Candy, J. Caruth, Gladys E. Chambers, B. R. Clarke, J. M. Clearkin, T. Dickey, P. J. Doherty, S. E. Duff, S. Fullerton, A. E. Gallaher, S. Hall, A. Henry, W. Hoey, Mary E. Irwin, M. G. Kierans, A. E. Keown, Elizabeth A. K. Law, D. Loughridge, G. L. Love, W. J. Lytle, G. D. F. M'Fadden, J. M'Garvey, D. J. M'Gurk, D. M'Lister, R. J. M'Neill, H. F. Macauley, E. A. Maguire, J. A. Martin, F. S. Mayne, Mary M. Merrick, W. Michael, T. Montgomery, A. V. Morrison, S. Owens, H. Paul, H. Poston, R. B. Quinn, W. W. Rentoul, D. A. E. Scott, L. P. St. J. Storey, P. S. Walker, A. Watson. (*Zoology alone*).—J. Craig, D. Cromie. (*Botany alone*).—J. C. Carson.

SECOND M.B. (*Anatomy and Physiology*).—J. Adams, S. T. Alexander, D. D. Anderson, Olive M. Anderson, C. Barton, Annie E. E. Beattie, J. Boyd, G. J. Crawford, Marion Crawford, W. Cupples, J. H. Davison, Dorothy I. Dobbin, F. Hopkins, J. Lascelles, D. J. Laughran, J. C. Loughridge, R. N. B. McCord, J. McCormick, W. C. McKee, J. O'Kane, C. A. W. Ramsay, J. E. Rea, M. H. Turnbull, N. C. L. B. Tweedie, T. Wallace, C. J. A. Woodside. (*Physiology alone*).—Olga R. I. Love, P. Macarthur.

THIRD M.B. (*Pathology and Materia Medica*).—W. L. Agnew, Eileen M. Bell, W. Bryars, G. Chesney, A. C. Dickey, Grace M. English, Mary E. Henry, Mary M. Keirns, Arabella C. Kirker, *A. L. M'Creary, N. M'Cullough, J. P. M'Ginley, B. W. M'Kinney, M. M'Menamin, J. C. M'Millan, H. F. M'Nally, F. M'Sorley, P. J. M'Sorley, J. J. Marner, D. Mitchell, F. P. Montgomery, Elizabeth M. Moore, Margaret S. Purce, W. Saunderson, R. L. Sinclair, D. K. Watterson, D. R. Wheeler, C. A. Whitfield, F. H. Whyte. (*Medical Jurisprudence and Hygiene*).—W. L. Agnew, G. V. Allen, W. Bryars, A. G. Campbell, G. Chesney, A. C. Dickey, S. J. W. Donald, Grace M. English, F. Ewart, Mary E. Henry, L. Jefferson, Mary M. Keirns, Arabella C. Kirker, J. M. M'Cormack, N. M'Cullough, J. P. M'Ginley, B. W. M'Kinney, M. M'Menamin, J. C. M'Millan, D. Mitchell, Elizabeth M. Moore, W. Napier, Margaret S. Purce, R. J. Rea, J. Scott, R. J. Sinclair, T. R. S. Thompson, D. R. Wheeler, C. A. Whitfield, F. H. Whyte, J. Wilson, J. J. Thompson.

FINAL M.B., B.CH., B.A.O.—‖R. M. Beath, H. T. Chatfield, W. M'M. Chesney, J. Duffin, ‖E. C. T. Emerson, ‡A. Fullerton, D. Gaston, Margaret Gorman, T. Grimson, ‡W. S. B. Hay, J. F. D. Hunter, D. Jamison, W. J. Lascelles, B. Lyons, C. M'M. M'Cormack, R. N. M'Kinstry, E. U. MacWilliam, E. A. Mallon, ‡E. B. C. Mayrs, ‡S. Miller, J. J. Murray, S. E. Picken, ‡G. R. B. Purce, G. W. Rea, Elizabeth M. Robb, J. S. Savage, A. F. L. Shields, J. Tate, J. Warwick, O. Wilson, W. R. E. Wilson, P. P. Wright.

M.D. (*By Thesis*).—D. Finnegan, P. J. Gaffikin, §D. M'Cay, S. M'Clure, W. S. J. Shaw, J. M'G. Williams. (*By Examination*).—¶B. A. West.

M.CH. (*By Examination*).—§T. S. S. Holmes. (*By Thesis*).—F. Crooks.

D.P.H.—Marion B. Andrews, N. C. Graham, W. S. Haydock, W. J. F. Mayne, S. P. Rea.

* Pathology only. ‖ First-class honours. ‡ Second-class honours.
§ Awarded a gold medal. ¶ Passed with commendation.

UNIVERSITY OF ABERDEEN.

THE following were among the degrees and diplomas conferred at a meeting of the Senate on July 8th:

M.D.—‡A. G. Anderson, ‡W. J. Reid, ‡J. R. Murray, ‡A. Wilson, D. Craig, W. B. Keith, A. M. Sinclair, F. W. Stuart.
M.B., CH.B.—§‡N. Cantlie, §‡G. Lipp, A. G. Craib, F. M. Davidson, J. Dow, D. Fettes, J. Foubister, R. W. Galloway, A. M. Gray, W. F. Hawkins, A. J. Ireland, E. A. Mackenzie, D. M. Marr, J. Morrison, J. F. W. Sandison, E. Tawse, W. B. Thomson, W. Walker, W. R. Watt, J. M. Whyte.
D.P.H.—Winnifred M. Gray, J. H. Yule.

‡ Highest honours for thesis. ‖ Honours for thesis.
‡ Commendation for thesis. § Second-class honours.
¶ Passed with distinction.

The Straits Settlements Gold Medal for the best thesis during the three years 1912–14 on a subject of tropical medicine was awarded to Dr. A. F. Wallace, and the John Murray Medal and Scholarship to Dr. A. E. Campbell.

UNIVERSITY OF GLASGOW

New Fellowships.

THE late Mr. W. B. Faulds, of Glasgow, who died in 1897, bequeathed his estate to the University of Glasgow, subject to his wife's life interest. The widow is now dead, and a sum of over £20,000 will shortly be available to found four Fellowships—one in arts, one in medicine, one in divinity, and one in law. The conditions of the will leave full discretionary power in the hands of the university authorities, and Principal Sir Donald MacAlister, in asking the University Court to accord thanks to the trustees, said that the bequest would enable the university to do something towards providing that kind of tutorial instruction which was so much desired in all departments.

The Fellowships are to be known as the "W. B. Faulds Fellowships." They are to be tenable for three years, and to be awarded after such competition as the Senate may prescribe. The Fellowship in Medicine is to be conferred on students who have just completed their medical curriculum and have taken their degree.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council was held on July 9th, Sir Rickman J. Godlee, Bart., President, in the chair.

Election to the Council.

The President reported the election of members of the Council as recorded last week, p. 102.

The Retirement of Mr. William Pearson.

The following resolution was passed by the Council:

That the Council desire to express to Mr. William Pearson, upon his retirement from the post of Prosector, their high appreciation of his services to the College during a period of fifty-eight years.

The Council believe that the many preparations added to the museum as the result of his work are justly counted amongst the most treasured possessions of the College, and that they will stand as a lasting record of his exceptional skill and industry.

Mr. H. C. Wilson was appointed Prosector, to succeed Mr. Pearson.

Clinical Congress of Surgeons of North America.

The following demonstrations will be given at the College in connexion with the above Congress:

Monday, July 27th, 11.30 a.m.—Dr. Keith: The nature of peritoneal adhesions.
Tuesday, July 28th, 11.30 a.m.—Mr. Shattock: Specimens illustrating the growth of tumours.
Wednesday, July 29th, 11.30 a.m.—Sir R. J. Godlee: Hunterian and Listerian specimens.
Thursday, July 30th, 11.30 a.m.—Dr. Keith: Hunter's specimens illustrating growth of bone.
Friday, July 31st, 11.30 a.m.—Mr. Colyer: Specimens from the Odontological Collection illustrating general surgery.
Friday, July 31st, 5 p.m.—Mr. A. H. Cheatle: The surgical anatomy of the temporal bone.

The President stated that a reception would be held in the College from 4 to 6 in the afternoon of Wednesday, July 29th.

Appointment of Lecturers.

The following appointments were made:

Hunterian Professors.—Arthur Keith (6 lectures), Rupert Farrant (2 lectures), William Sampson Handley (1 lecture), John Howell Evans (1 lecture), Frederick Charles Pybus (1 lecture), Harry Blakeway (1 lecture).
Arris and Gale Lecturers.—Frederic Wood Jones (1 lecture), David Waterston (2 lectures).
Erasmus Wilson Lecturer.—Samuel George Shattock.
Arnott Demonstrator.—Arthur Keith.
Odontological Demonstrator.—James Frank Colyer.

Election of President and Vice-Presidents.

Sir W. Watson Cheyne, C.B., F.R.S., was elected President, and Sir Frederic Eve and Sir Anthony A. Bowlby were elected Vice-Presidents.

Imperial Cancer Research Fund.

Sir Rickman J. Godlee was elected to serve as a member of the Committee of the Cancer Research Fund, in the vacancy occasioned by the resignation of Mr. R. Clement Lucas.

KING'S COLLEGE HOSPITAL.

THE following scholarships and other prizes have been awarded as the result of recent examinations: The senior scholarship, the *Tanner* prize in diseases of women and the class prize in diseases of children, Mr. D. J. Platts; the *Jelf* medal, the *Todd* prize in clinical medicine, and the class prizes in medicine, obstetrics, pathology, hygiene, and psychological medicine to Mr. E. Watson-Williams; the class prize in forensic medicine to Mr. H. Rivers Pollock.

LONDON HOSPITAL.

THE winners of the principal prizes for the past session are as follows: The *Hutchinson* prize (value £40), Mr. W. S. Perrin; the *Andrew Clark* prize (value £26), Mr. A. C. Perry; the prizes in clinical medicine, surgery, and obstetrics (each of the value of £20), Messrs. A. C. Perry, S. Batchelor, L. M. Ingle; the *Sutton* prize in pathology (value £20), Mr. F. H. Bray; the *Letheby* prizes in organic and inorganic chemistry (value £10 and £15), Messrs. G. Adler and M. Aronsohn. The prize in anatomy and physiology (value £25) was divided between Messrs. G. P. B. Huddy and A. G. Harsant. Some sixteen other students won prizes ranging in value from £2 to 5 guineas.

Obituary.

WILLIAM HARDMAN, M.B., C.M.EDIN.,

BISPHAM, BLACKPOOL.

THE death of Dr. Hardman on July 7th, in his sixty-ninth or seventieth year, will be a source of much regret to his medical friends and fellow students. He was a man of considerable ability, character, and professional skill; he had also a wide knowledge of music, especially of the history and construction of the violin, and was a master of that instrument.

He was born at Blackpool and educated at Rossall, where he became an athlete in boys' sports and a very strong swimmer in the sea, in which he could continue for hours, unfatigued even in rough weather.

The writer of this notice became acquainted with him in 1865 on entering at University College Medical School, where Hardman had already been a year or two, and first attracted his attention by his habit of tuning his violin on one of his gas globes, which sounded G when struck. Another bond of attachment was his evident sincerity and integrity; and the friendship then formed continued unalloyed ever after. He had then a slight but distinct Lancashire accent, which never left him. He had a very acute ear for music and auscultation, as well as appreciation of many vocal sounds and imitations, but was himself no linguist. About 1866 he was present at the great ice-disaster in Regent's Park, and related how he and another were adrift on the same floe, while scores were drowning around them. He calmly told his terrified companion to lie down; but when the latter hesitated, Hardman said: "If you don't lie down, I'll knock you down"! He himself was a very short man, but his fierce determination on that occasion led to his being obeyed, and both floated safely ashore.

After working at anatomy and physiology he went to Edinburgh for a year or two, during Lister's professorship, taking useful illustrated notes, which he later imparted to the writer of this sketch, who made use of them in his own operations. He took the diploma of M.R.C.S. in 1870, and after taking his Edinburgh degrees in 1871, he became house-physician to Middlesex Hospital. At that time he suffered from typhoid of a dangerous and unusual type, but made a good, though tardy, recovery under the care of the Middlesex physicians, residents, and nurses.

He established himself about 1871 in Blackpool, at the house of his mother, and steadily worked up a good practice in a population to whom he and his family were well known and among the numerous visitors of each season. He was always a master of the physician's art, besides being a successful general practitioner, and laid special stress on the value of prognosis. Many wise and some original suggestions were communicated by him from time to time to this JOURNAL.

In surgical matters he held a most modest opinion of his own powers, and was often shy in discussing details; but his integrity and care in reality made him an excellent surgeon, and in his treatment of fractures, dislocations, and all sorts of minor surgery there was not only nothing to be desired, but much to be learnt by men of wider opportunities and experience than himself. Even in operations of major surgery, which he occasionally undertook, everything was done neatly, skilfully, and, above all, rationally, and with advanced method.

After retiring from practice some years ago he married a widow, Mrs. Coop, with several children, by all of whom he was highly respected and deeply beloved. His wife was unremitting in devotion and affectionate care throughout their married life.

For several years he had had heart trouble, and from being a quick and active walker was latterly prevented by dyspnoea from any but slight exercise.

R. P.

DR. J. B. NICOLAS DUGUET, Vice-President of the Académie de Médecine, and Physician to the Paris Hospitals, died recently at the age of 77. Born in 1837 he first studied medicine in the Rheims School. Proceeding to Paris at the age of 23 he became *interne* in the following year and took his doctor's degree in 1866. His progress in his profession was interrupted by an attack

of typhoid fever which threatened his life, and later by the Franco-Prussian war, in which he served as a medical officer. He was taken prisoner, escaped, rejoined the army of the Loire, and when the armistice was signed returned to Paris. In 1872 he won the title of *professeur agrégé*, and in the following year was appointed physician to the hospitals. After serving some time at the Tenon and St. Antoine hospitals he became attached to the Lariboisière, where he remained for twenty years. He was most punctual in his attendance, and the soundness of his teaching attracted large numbers of students and practitioners. Not a few of the leaders of the profession in Paris to-day owe their training to him. He was a member of the Council of Hygiene and Public Health, of the Health Committee of the Seine, of the General Commission on Railways, and many other committees; in the work of all these bodies he was a force that made itself felt. Somewhat brusque in manner, he was a kind-hearted man, ever careful of the welfare of his patients. The straightforwardness of his character made him respected by every one who knew him. He wrote on early ulceration of the pharynx in typhoid fever, on the pathogeny of the blue spots in the same disease, on the treatment of goitre, and other subjects. But he was too busy with practice and with teaching to have much time for leaving records of his large experience.

CAPTAIN JOHN HAY BURGESS, I.M.S., Surgeon to the Governor of Bengal, died on June 10th, of heart failure after an operation, following a few days' illness, in the Eden Sanitarium, Darjiling. He was born on January 10th, 1880, educated at St. Mary's Hospital, and took the diplomas of M.R.C.S., the L.R.C.P.Lond., and the degree of M.B.Lond. in 1902. He became F.R.C.S.Eng. in 1905, and M.R.C.P.Lond. in 1911. He entered the Indian Medical Service as Lieutenant on August 31st, 1903, and became Captain on August 31st, 1906. The *Army List* awards him no war service. He was appointed medical officer of the 88th Carnatic Infantry on March 11th, 1908, and, when the Province of Bengal became a Governorship on April 2nd, 1912, he was selected as personal surgeon to His Excellency Lord Carmichael, the first Governor.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Karl Breus, Extraordinary Professor of Obstetrics and Gynaecology in the University of Vienna, author of a number of contributions to the literature of his speciality, the most important of which is a monograph on malformations of the pelvis in women, written in collaboration with Alexander Kolisko, aged 64; Dr. Eijkman, of Amsterdam, well known by his researches on tropical pathology, aged 51; Dr. Emil Gruening, Emeritus Professor of Ophthalmology in the New York Polyclinic Medical School, aged 71; Dr. Kehrer, Emeritus Professor of Obstetrics and Director of the University Gynaecological Clinic, aged 75; Dr. E. J. Raymondaud, Professor of Surgery and Principal of the Medical School of Limoges, aged 92; and Professor Edmund Rose, Professor of Surgery at Zurich from 1867 to 1881, when he succeeded Professor Wilms as Surgical Director of the Bethanien Hospital at Berlin, aged 78.

Medical News.

WE propose to publish next week an article by Mr. Massac Buist on the lessons, for medical men, of the Grand Prix race of the Automobile Club de France. The article will deal especially with the fuel problem and with the questions of the overhead valve, and the front wheel and four wheel brakes.

THE summer general meeting and luncheon of the Irish Medical Schools' and Graduates' Association will be held at the Grand Hotel, Aberdeen, on Wednesday, July 29th, at 1.15 for 1.30 p.m., and not as previously announced.

A SERIES of post-graduate lectures will be given at the School of Dental Surgery of the Royal Dental Hospital of London in October and November. The course is free to past and present students of the hospital and internal students of the University of London; the fee to others is £2 2s.

THE following members of the medical profession have been appointed to the commission of the peace for the county of Glamorgan: Dr. Peter O'Donnell (Barry), Dr. Sylvanus G. Morris (Mardy), Dr. Thomas H. Morris (Tylorstown), Dr. David N. Morgan (Gilfach Goch), Dr. William E. Thomas (Ystrad Rhondda), Dr. Robert D. Prichard (Resolven).

THE International Society of Surgery will hold its fifth Congress in Paris in 1917. The questions proposed for discussion are the surgery of the heart and vessels, including thrombosis and embolism; transfusion of blood; the treatment of tumours by means of *x* rays and radium; examination of the blood and biological reactions in surgical diseases; fractures of the leg and the ankle-joint; the diagnosis and treatment of tetanus.

A COMMISSION for the study of pellagra—consisting of officers of the medical corps of the United States Navy and Army, the Public Health Service, and the New York Post-graduate Medical School—is now at work at Spartanburg, South Carolina. It was joined on June 20th by Dr. Simon Flexner and Dr. Peyton Rous, of the Rockefeller Institute, New York, and Dr. Linsly R. Williams, Deputy Commissioner of Health of New York State. It has been estimated that there are between 50,000 and 75,000 cases of pellagra in the Southern States.

AT a meeting in Cardiff, on July 15th, Colonel Bruce Vaughan, chairman of the King Edward VII Hospital, Cardiff, announced that Mr. Lynn Thomas intended to present his private nursing home known as Bedford House to the King Edward VII Hospital as an annexe for paying patients. Colonel Vaughan said that it was a splendid gift as the house had only recently been brought up to date for hospital purposes, and was estimated to be worth £4,000. Mr. Lynn Thomas is, we understand, retiring from private practice, but will retain his connexion with the King Edward VII Hospital and with the Glan Ely Surgical Tuberculosis Hospital of the Welsh National Memorial.

AT Gloucester County Court on July 14th, His Honour Judge Ellicott gave judgement in the case (BRITISH MEDICAL JOURNAL, June 20th, p. 1387) in which a school girl, through her father, claimed £6 15s. from Dr. J. Middleton Martin, Medical Officer of Health for Gloucestershire, in his capacity as school medical officer, as general damages in respect of defendant having cut plaintiff's hair without permission. The jury awarded the plaintiff one farthing damages, but, as defendant had paid into court 10s. and costs up to the time the claim was issued, with a denial of liability, his honour gave judgement for defendant with costs subsequent to the payment into court, and ordered the payment out to the defendant of the money paid into court.

MR. JOHN D. ROCKEFELLER has recently given £510,000 to the Rockefeller Institute for Medical Research, New York, for the provision of opportunities for the more complete investigation of the nature and causes of human disease, and methods of prevention and treatment. Part of the sum will be applied to the purchase of additional land, which will give the institute a site covering an area of about four acres. The remainder will be used to erect and equip additional laboratories, buildings, and plant, and to ensure the maintenance and conduct of the extended work for which provision will thus be made. This gift is in addition to the sum of £200,000 given recently by Mr. Rockefeller for the establishment of a department of animal pathology. His previous donations to the institution amount to about £1,800,000; the total endowment is therefore about £2,500,000. The work of the institute includes pathology, bacteriology, protozoology, biological chemistry, physiology and pharmacology, experimental biology, and animal pathology, besides a special hospital for the study of any diseases under investigation at a particular time.

THE Third International Congress on Radioactivity and Electronomics will be held in 1915 (June 27th to July 2nd) at Vienna under the presidency of Professor Sir Ernest Rutherford of Manchester. Among the questions on the programme of the Medico-biological Section are the general biological effects of radium and Roentgen rays on plant life (by Professor Koernike of Bonn), on animal cells and tissues (by Dr. Dominici of Paris), and on the whole organism (by Professor Wiechowski of Prague). The influence of radium and *x* rays on tumours will be dealt with in an introductory address by Professor Aschoff of Freiburg; Professor Kroenig of Freiburg will discuss the principles of the *x*-ray and radium treatment of malignant

growths; Professor Albers-Schoenberg of Hamburg will treat of the *x*-ray treatment of uterine myoma and climacteric haemorrhages. Professor Howard Kelly of Baltimore will discuss the radium and mesothorium treatment of benign tumours. The effect of radio-active substances on the blood, the glands, and the circulation will be dealt with by Docent H. Hansen of Copenhagen, and their influence on gout, rheumatism, and nerves will be discussed by Professor Falta of Vienna. There will be demonstrations of cases and visits to the radium station of the General Hospital. Injuries caused by *x* rays and radium will be discussed by Professor Holzknecht of Vienna.

HEISER reports that over 60,000 fewer deaths occur annually in the Philippine Islands than was the case in 1905. As this reduction has occurred almost entirely among the preventable diseases, it may be regarded as an index of the effect of health work in the Philippine Islands. If the knowledge which is now available could be applied, at least another 100,000 deaths per annum might, it is thought, be avoided by reducing the ravages of tuberculosis, malaria, beri-beri and its indirect effects, and the intestinal diseases. During the year 1913 a general hospital with 60 beds was opened at Cebu, and arrangements have been completed for providing for the sale of quinine at a nominal rate by each of the 789 municipal and township treasurers throughout the Philippines. Four persons were discharged from the San Lazaro Hospital after having been apparently cured of leprosy for a period of over two years. Measures against plague were very successful, and demonstrated in a conclusive manner the control which modern sanitation has over this disease. During the fourth quarter of the year 147 cases of cholera with 104 deaths occurred in Manila, making a total of 161 cases and 110 deaths in the city since it first appeared on August 24th, 1913. There were also suspicious cases for two months before a definite diagnosis of cholera was made. Cholera vibrio carriers were found in practically every community in which cholera had made its appearance. So far it has been possible to eradicate the disease within a comparatively few days in each instance in which prompt measures were taken with the first cases that were discovered. In only a few instances could any connexion between cases occurring even in the same town be traced. The experience in this outbreak is held to emphasize the urgent necessity of making a thorough laboratory study of the disease. The present knowledge with regard to its etiology is not sufficiently satisfactory to explain the spread of the disease during this outbreak.

THE annual meeting of the Association for the Oral Instruction of the Deaf and Dumb was held at the Portman Rooms, W., on July 8th, under the presidency of Sir Gerald H. Ryan. The director, Mr. G. Sibley Haycock, gave some interesting particulars of the Training College for Teachers and School for Deaf Children in Fitzroy Square, where between thirty and forty children are under instruction. Experience of results attained by the pure oral method tended, it was stated, to confirm belief in its efficacy, and the demand for teachers trained on this system continued to be in excess of the supply. The course of training for student teachers extends over two years, and their technical proficiency is tested by the Joint Examination Board for Teachers of the Deaf, which grants a diploma recognized by the Board of Education. At the last examination all the students of the college with a full course secured the Board's diploma with honours, and one was first on the general list of passes. Increased accommodation both for students and pupils was, it was stated, an urgent need. Mr. C. P. Trevelyan, M.P. (Parliamentary Secretary to the Board of Education), spoke of the claims of the association to support, stating that there were known to be some 5,000 absolutely deaf children under 15 in England and Wales, of whom 3,500 received special education, and that the scope of the skilled teacher's work was likely to be considerably extended owing to medical inspection having discovered a large number of partially deaf children in the elementary schools who needed oral instruction. Increased grants were being made by the Board of Education to the deaf and dumb, as well as to the blind and the mentally defective. Grants of something like £33 to £38 a year were paid also on account of each student in the Training College. But the association still stood in need of private subscriptions as well as State grants to enable it fully to accomplish its excellent objects. A demonstration of the methods of instruction used was subsequently given, and prizes were distributed by Mrs. Trevelyan.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

RETIRED G.P. asks for advice in the disposal of a library of medical works.

B. asks for outline of treatment for chronic painless chordee, causing a large upward curve.

TREATMENT OF SYPHILIS.

J. L. asks for suggestions as to a safe and sure treatment of syphilis for the ordinary patient under the care of his own doctor. From six to eight Wassermann tests and an equal number of salvarsan injections are out of the question. When one injection of salvarsan was supposed to cure, one had no hesitation in encouraging the patient to undergo the treatment. I have used intramuscular injections of grey oil and found them very efficacious. But is the cure permanent? Any one with much experience of Lambkin's calomel cream, or whatever its up-to-date equivalent is, would be doing us all a good turn by telling us how best to use it and for how long.

ANSWERS.

ULCERATIVE STOMATITIS.

DR. DRURY (Birmingham) writes to advise the use of thyroid extract for the relief of ulcerative stomatitis. I took this hint, he writes, from a suggestion in the BRITISH MEDICAL JOURNAL some years ago for a similar case, and found it quite successful.

HERYNG'S INHALER.—Several correspondents have written to inquire as to Heryng's inhaler referred to in the Epitome of Current Medical Literature of April 25th, paragraph 243. A description with illustrations may be found in Dr. Heryng's treatise on laryngoscopy, a French translation of which (*Traité de laryngoscopie et de laryngologie opératoire et clinique*), by Dr. Charles Siems, revised and enlarged by the author, was published in 1912 by Masson et Cie, 120, Boulevard Saint Germain, Paris, VIe. The apparatus is there described (p. 155) under the name of thermo-regulator for spray inhalations.

LETTERS, NOTES, ETC.

A DISCLAIMER.

DR. R. FORTESCUE FOX (London) writes: May I ask the courtesy of your columns to state that an article purporting to express my opinions and quoting from my medical writings, which appeared in a daily journal on July 14th, has been issued entirely without my consent or authority, and to my great annoyance?

THE HIGHEST VILLAGE IN SCOTLAND.

A CORRESPONDENT in the south of Scotland claims for Wanlockhead in the north-west of Dumfriesshire, that it is the highest village in Scotland, and that the claim for Tomintoul in Banffshire made in the SUPPLEMENT of July 4th, p. 11, cannot be sustained. The mistake, he says, is a very common one. We find on reference to gazetteers that the height of Wanlockhead is given as 1,350 ft., whereas Tomintoul is at the more moderate elevation of 1,160 ft.

THE INTENSIVE METALLIC IODINE TREATMENT FOR RHEUMATIC ARTHRITIC AFFECTIONS.

DR. THOMAS DUTTON (London, W.) writes: Dr. William Ewart states in the JOURNAL of May 16th, p. 1068, in reference to the above subject, that "hitherto iodine had practically not been tried internally." I may say I have been using iodine internally for more than twenty years, from the tincture to the syrup of iodine, both in rheumatic and tuberculous affections of joints (vide some unique cases of positive cures in the *Medical Press and Circular*, September 25th, 1913). The cases are all private patients who pay fees, who, I consider, are much more valuable in a clinical point of view than hospital patients. The cure was, I think, greatly helped by heliotherapy, another form of treatment I have practised for about the same period, although some of our Continental colleagues would lead the world to suppose they introduced this treatment to us because we have not their climatic advantages.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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THE SERUM DIAGNOSIS OF PREGNANCY AND OF CANCER:

A CRITICAL STUDY OF ABDERHALDEN'S METHOD.

BY

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I. THE THEORY OF PROTECTIVE FERMENTS AND ITS PRACTICAL APPLICATION TO THE SERUM DIAGNOSIS OF PREGNANCY.

An amazingly fruitful period in the progress of our knowledge of pathological processes was ushered in with the discovery that the blood serum in certain germ-caused diseases possessed the property of destroying these organisms or of neutralizing their toxic powers. There resulted from this, inspired, helped, or hindered by the theories of conflicting schools, countless experiments that taught us to recognize the fact that the blood serum gives evidence of reaction bodies (immune bodies) to very diverse substances (antigens) that have gained access to the system. Diverse though these substances be at first sight, they can all be classified as complicated proteins. They may be bacteria, toxins, products of vegetable origin, tissues or tissue constituents of other animal species, but they are all foreign to the economy of the particular animal into which they have been introduced by the breaking down of some natural barrier of defence. It is almost certain that the activities of all the reaction bodies towards such foreign substances are differently manifested in test-tube experiments and within the body, but by means of these test-tube experiments we can form some idea of the defensive mechanisms.

When we come to deal with substances less foreign to the body, such as the cells or cellular proteins of other animals belonging to the same species, the biological methods hitherto employed are generally useless to detect the presence of any reaction substances in the serum. That the system elaborates means of defence against them is evident, but we almost always fail to find evidences of that defence in the serum. It is true that occasionally such evidence may be forthcoming, but it is haphazard at the best. For example, Ehrlich, on one occasion, by injecting into a goat overwhelming amounts of the lysed corpuscles of other goats, produced in the serum a reaction body capable of setting free the haemoglobin of certain goats' corpuscles, but the experiment has never been successfully repeated, and had it not been that the name of this great authority was attached to the observation the possibility of its occurrence would have been disputed. At the most it is a rare experimental phenomenon, and no general conclusion can be drawn from it—a point that must be borne in mind when considering the details of Abderhalden's theory. Sometimes human serum exhibits a certain amount of haemolytic power towards the corpuscles of other individuals, and attempts have been made to connect this phenomenon with certain diseased states, but it is very inconstant, and is without any diagnostic value. Experiments in tissue transplantation, and especially the numerous experiments in mouse cancer inoculation, have shown us that the resistance to such grafts is very feeble, and, though an artificial resistance may be induced, it, too, is feeble and transitory, and no evidence of it is traceable in the blood serum by any present methods.

Few and fortuitous as these results are with substances so closely allied as the tissues of other animals of the same species, they are absolutely negative when we attempt to trace reactions to injections of an animal's own tissues. A resistance of a kind to mouse cancer inoculation may be induced by the previous injection of mouse spleen, but the injection of the animal's own splenic tissue is followed by no resistance whatever. This experiment, which we owe to Woglom, is one of the most important in recent cancer research, and quite crushed the expectations entertained by enthusiasts of being able to induce a specific resistance to cancer along the lines of previous research. Four years ago I endeavoured by injections of their own corpuscles into rabbits, subcutaneously or intramuscularly, every other day for a period of six weeks, to produce a haemolytic reaction body in the serum, but the experiments were quite negative. We have, in short, no experimental evidence along the lines on which we have gone that the blood serum shows any power of dealing with the cells of the body by producing reaction substances to them. We cannot, however, deny the possibility of the metabolic products of injected cells being dealt with by some bodies that may be present in the serum. Let me take an example that will focus the problems. In cancer we have a progressive growth, beyond their natural confines, of cells that have sprung from the normal body cells and still retain many of the parent properties. Apart from the extremely rare instances of spontaneous cure, the body shows no resistance against these cells; no state of immunity is induced. They go on growing, and they finally produce death. Omitting those cases in which the cancer prevents the discharge of some vital function, why should the disease be fatal? It can only be that these cells set free metabolic products which, either by their nature or by their amount, upset the regulating mechanisms of the body. It may quite well be that though there is no lethal reaction-body elaborated against them yet an attempt is made to cope with their products. And the question is, how is this attempt made? Are these products dealt with by the normal body cells, or does the blood serum acquire the power of breaking them up into less harmful constituents? If the latter could be shown to be the case we might hope to trace the changes. Here the genius of Abderhalden illumined the beginnings of a road into the fruitful unknown.

Abderhalden imagines that just as the cells of the intestinal tract have at their disposal ferments which split up the complicated food constituents into simple products suitable for absorption, so the cells of the body, having taken what they require from the blood, build it up and break it down into suitable combinations by the help of ferments. Thus in normal circumstances. But if anything foreign gains access to the blood stream, without having undergone preliminary degradation in the alimentary canal, then new and specific ferments are elaborated capable of breaking it down into simple constituents. These new ferments, originating without doubt in the body cells, will be set free in the blood plasma, and as we can only detect a ferment by means of its specific activity, so their presence will be demonstrated if we trace what occurs when the ferment-containing serum is brought into contact with the foreign substance on which it acts, or to use the appropriate nomenclature, when the specific *substrate* is provided. If we add gastric juice to such a protein as egg-albumen we find that the latter is digested into peptones in virtue of the presence of the ferment pepsin. Similarly we test for the presence of proteolytic, peptolytic, or inverting ferments in the blood by adding the plasma or serum to proteins, peptones, or sugar and observing the changes produced in these substrates. We cannot recognize a ferment apart from its action. This being so, it is obvious that we are faced with the question, Given the changes we should expect from the action of a ferment, are these changes due to the ferment or are they due to other causes? We shall only be entitled to assume ferment action when we can rule out of account the operation of all other factors producing the same result. This is the crux of Abderhalden's theory, and, as I shall show later on, he has not taken into account the extent of the other factors that contribute to the results on which he depends.

Abderhalden depends on two chief experiments for the basis of his theory. In the first place, he claimed to have observed in the blood plasma or serum of animals which had been injected with foreign peptone (that is, a peptone not derived from their own tissues) a ferment action on these peptones. This experiment was made by taking a mixture of the serum of the treated animals and a solution of the peptone, observing the polarimetric reading at once and noting the change produced after the lapse of varying periods of time. With the fresh serum of untreated animals or with the heated serum of treated animals (the heating would of course destroy the fermentative power) the initial rotation did not alter, whereas with the unheated serum of treated animals it increased. This observation he verified by repeated experiments. The second set of experiments dealt with the changes produced in mixtures of sugar solutions and the serum of animals which had previously had parenteral injections of sugar. In both cases the polarimetric readings were taken

to demonstrate the presence of peptolytic or inverting ferments respectively. In neither case, if one may take as typical the graphic representations which he gives, was the rotation considerable. The extreme rotation is to be reckoned not in degrees, not even as a rule in tenths of a degree, but in hundredths of a degree; and even supposing we were to admit that such small rotations were conclusive evidence of cleavage of the substrate by a ferment, yet even with the most delicate polarimeters and with the most experienced eyes it is gravely to be doubted if any one working with such a complicated substance as serum can be certain of reading with such meticulous exactitude. We know serum to be very unstable, and very slight departures from the strict isotonicity of added fluids are capable of producing evident changes in it. Generally speaking, it is questionable if polarimetric readings are more delicate than titration methods, and in such an important fundamental experiment it is unfortunate that Abderhalden neglected to bring forward the confirmatory evidence that could be supplied by such methods. He states, however, that the polarimetric readings in the experiments with protein are confirmed by the dialysation method, which will be considered in detail afterwards, and he admits that in the sugar injection experiments the desired results could only sometimes be obtained. If the serum of rabbits which have received injections of egg-albumen be added to this egg-albumen and the mixture dialysed, it will be found that the amount of ninhydrin-reacting substances in the dialysate is not appreciably, if at all, increased beyond the amount obtained when normal rabbit serum is used. I have repeated in rabbits his sugar experiments, but have failed to convince myself that any increase of the initial polarimetric rotation was produced or that the amounts of glucose found by titration differed when the mixtures of sugar and unheated serum were compared with those of sugar and heated serum. Complement deviation experiments were quite negative. In view of the experiments of Weinland previous to those of Abderhalden, and of those of Röhman and Kumagai subsequently, there is some independent support for this part of his claim, but there is considerable divergence as to how the result may be produced and as to what actually occurs.

But however favourably we view these fundamental experiments, we cannot fail to notice that the reactions claimed are against substances, quite foreign to the animal, which have gained access to the circulation in an abnormal way. And just as we have seen in discussing the reactions of immunity that there were reaction-bodies elaborated against proteins quite foreign to the animal body, scarcely any at all when the proteins were foreign to the animal but proper to the species, and none whatever when the proteins were derived from the animal itself, so it behoves us to be cautious before accepting a sweeping theory in which similar experimental links are wanting, all the more so because Abderhalden recently has brought his protective ferments into line with the immune bodies. That this is no captious criticism is evident from some experimental work published by Pincussohn and Petow.[1] These observers found that the *normal* serum of an animal has the power of splitting up the muscle peptone of its own species or that of allied species, but manifests no such action against the muscle peptone of foreign species. Indeed, the average polarimetric rotation in these experiments was greater than the small rotation depended on by Abderhalden for the diagnosis of pregnancy. If this observation be correct, then the polarimetric readings which have been relied on in the diagnosis of pregnancy and diseased conditions must be received with great suspicion. Human serum will break down placental peptone, not because the serum is that of a pregnant woman and the peptone is derived from a placenta but just because the serum *and* the peptone are from human beings.

In pregnancy there is a new organ interposed in the economy, existing only for a time. It will take up from the blood certain constituents for its requirements and it will return to the circulation certain products of metabolism, and it is assumed that these are dealt with, not so much by endocellular ferments as by special specific ferments in the plasma elaborated *ad hoc*. It seems rational, but it may or may not be true. Whether the placenta sets free into the blood characteristic proteins which are broken up by the supposed proteolytic ferments is a question vaguely discussed, but it seems to be assumed that the ultimate cleavage products of a protein are capable of calling forth a whole order of ferments acting specifically on all the higher combinations of these constituents. Thus, for example, the introduction of a peptone into the blood may call forth in response a ferment for the protein from which the original peptone was derived as well as a ferment for the peptone itself.

Two separate methods are employed for the detection of the presence of ferments, the polarimetric method by which the degradation of peptones may be observed, and the dialysation method by which the degradation products of proteins may be separated. The latter is the method on which most of the work has been done. According to Abderhalden, the results of the two methods always agree. I have used the dialysation method solely in the following experiments. If we take the procedure adopted in the diagnosis of pregnancy as an example, the technique is briefly as follows:

Fresh healthy placental tissue from which the blood clot has been removed is cut up into pieces and washed until it is colourless. It is boiled several times in five times its volume of distilled water, until the water when filtered fails to give a colour when boiled with 1 c.cm. of a 10 per cent. solution of ninhydrin. The pieces of placental tissue may then be stored in sterile distilled water under a thick covering of toluol. These pieces contain the coagulated placental protein, in addition, of course, to other substances which are not of immediate importance, and they serve as *substrate* for the demonstration of the ferment action. The serum under examination for the presence or absence of specific ferments is obtained by removing a quantity of blood from the patient by venipuncture, and allowing this to clot spontaneously. Special dialysation tubes are used, which are supposed to retain proteins and to allow peptones and amino-acids to diffuse through. These tubes are placed in 20 c.cm. of sterile distilled water in small Erlenmeyer flasks. Into one tube we put a teased-out portion of the placental tissue (roughly about ½ to 1 gram) and add to this a certain fixed quantity of the serum (either 1 c.cm. or 1.5 c.cm.), taking care to avoid any of the serum getting into the water outside the tube. Into another tube, which is to serve as a control to this test, we put 1.5 c.cm. of the serum only. In both cases we cover the contents of the tube and the surrounding water in the container with a thick layer of toluol in order to prevent evaporation and bacterial contamination. The tubes are incubated at 37° C. for sixteen hours. At the end of that time 10 c.cm. of each dialysate is removed and tested with 0.2 c.cm. of ninhydrin solution, the test tubes being boiled uniformly for exactly one minute. A violet colour denotes the presence of peptones or amino-acids.

Supposing a specific proteolytic ferment is present in the serum, then the dialysate of the first tube will contain peptones and amino-acids, and these will be demonstrated by the violet colour with ninhydrin. If the ferment is absent, then there will be no production of peptones and no reacting substance will be found in the dialysate. On the other hand, the dialysate of the second tube, containing serum alone, will show no ninhydrin-reacting substance, because there is no *substrate* on which the ferment can act; the water will remain colourless. However, some serums contain diffusible substances in sufficient amounts to be detected in the dialysates by ninhydrin, and in such cases we shall have to judge of the presence or absence of specific ferments by the comparative depths of colour in the two tubes. If, therefore, we obtain a violet colour when we add ninhydrin to the dialysate of a tube containing serum *plus* placenta, and no colour (or one much less marked) with the dialysate from the tube containing serum alone, then the conclusion is that the individual from whom the serum was taken is pregnant. If no colour is found in the case of either tube, or no comparative difference of colour, then the individual is not pregnant. Similarly for the diagnosis of certain diseased conditions: in cancer we employ cancerous tissue as substrate; in exophthalmic goitre, thyroid tissue; and so on.

The method has a wide application in the serum diagnosis of disease. Hundreds of papers have been published giving uniformly good results. The conception has deeply stirred the minds of investigators in all parts of the world. It is true that there have been a few doubters, but these sceptics are met with the constant assertion that their methods are faulty, and that they have not taken into account certain possible fallacies.

These fallacies can be invoked to explain away almost every conceivable mistake in diagnosis.

We must seriously ask ourselves if the method is to be relied on for information in clinically doubtful cases. According to Abderhalden, the proper reading of the result is never wrong—a claim that reminds one of the Delphic oracle.

The method of performing the reaction, which has been sketched roughly above, is given in very voluminous detail in Abderhalden's *Abwehrfermente des tierischen Organismus* and in numerous publications in various journals. The method is by no means difficult, and the technique is easy to follow. A method that cannot be carried out by the average laboratory worker who exhibits ordinary care is not of much utility. Though I have worked with this reaction for more than eighteen months, I have rejected the results obtained during the first half of that period, so as to avoid the criticism of being unfamiliar with the technique. During that first period, however, the results were much more favourable to Abderhalden's claims than afterwards. The reason is not far to seek. Captivated by the theory which opened up for us great possibilities in cancer investigation, carried along by the host of communications that hailed the method as well-nigh infallible, perhaps intimidated by the scorn poured on the few that doubted, I accepted uncritically the good results, shut my eyes to those that were doubtful, and found excuses to reject those that were adverse—for a time. In the later period, when I was untrammelled by authority, it was found that the results were far from supporting the claims put forward. The technique given by Abderhalden was slavishly followed. His retort to that is: "I treat such assertions with the scepticism born of a rich experience." Such a reply might be overwhelming if his own published technique were above reproach. I can only say that I have done my best to follow his directions without actually having made the customary pilgrimage to Halle to receive the direct apostolic revelations from the master.

In the following examples of the practical application of the method I first investigated the reaction in pregnancy because the true diagnosis of the condition cannot long remain in doubt and we are soon enabled to verify our results. It is seldom that the condition is doubtful, and the serum diagnosis of pregnancy would only have a limited value. In cancer, on the other hand, a method of serum diagnosis would be of the utmost practical importance. I have tried all the methods hitherto advocated; they are all worthless in practice. But if the procedure of Abderhalden was capable of giving good results in pregnancy it might reasonably be expected to give good results in cancer, though the relation of the placenta to the maternal organism is not strictly comparable to the relations existing between malignant tumour cells and the rest of the body. In every case here recorded the true diagnosis is known. To prevent the knowledge of the condition of the patient furnishing the serum having any effect on our reading of the reactions—a vital point—the tubes were numbered, the numbers written down for later identification, and the tests conducted and the final readings made without being aware of the clinical diagnosis of the conditions. It is impossible to avoid bias otherwise. Again, the tests were manifolded. It sometimes happened that very strange results were recorded. For example, the controls might give deeper colours than the actual tests themselves, or the readings might be equivocal throughout any set. In such cases I rejected the result altogether as well as the dialysation tubes in these cases. The colours obtained with ninhydrin varied from light lilac to deep violet. In making a comparison between the tubes I have neglected weak tints, representing these as negative, except where there was a difference between the test and its control, and in this way I have been generous towards the method. The deepest colours are represented throughout by +++.

The figures in Table I show that 34 cases gave more or less clear positive results, but two cases were absolutely negative; in these two cases the serum was quite fresh. In one of these cases the clinical diagnosis was doubtful; the reaction was negative; the further history of the case showed that the patient was three months pregnant at the time. Positive reactions are therefore the rule in cases of pregnancy, and have been found much more frequently in this than in any other condition I have examined. Unless I have been unconsciously generous in my readings to the theory, or unless the serum of pregnancy is more unstable than is the rule in other conditions, then a certain amount of support might be accorded to Abderhalden's idea of specific guardian-ferments.

TABLE I.—*Tests with the Serum of Pregnant Cases.*

Thirty-six cases were investigated. For most of the material I am indebted to my friend Dr. S. J. Cameron, of Glasgow (26 cases). These serums were sent to me by post and were two to four days old when used. In the other 10 cases I withdrew the blood myself, six of these patients having been sent to me by my colleague Mr. Dinnick.

	Age of Pregnancy, etc.	Serum alone 1 c.cm.	Serum alone 1.5 c.cm.	Placenta, + 1 c.cm. Serum.	Placenta, +1.5c.cm. Serum.
1	Second month	0	0	0	0
2	,, ,, ...	0	0	+++	+++
3	Second month (pelvic abscess)	0	0	++	+++
4	Second month (pernicious vomiting)	—	0	—	+++
5	Third month	0	0	+	+
6	,, ,, ...	0	0	0	0
7	Third month (aborting) ...	0	0	+++	+++
8	,, ,, ,, ...	0	0	++	+++
9	Fifth month	0	0	++	+++
10	Fifth month (albuminuria)	—	0	—	+++
11	Sixth month	0	+	++	+++
12	Sixth month (pernicious vomiting)	0	0	+++	[illegible]
13	Seventh month	0	0	+++	[illegible]
14	,, ,, ...	0	0	0	++
15	,, ,, ...	0	0	++	+++
16	Eighth month	0	0	++	+++
17	,, ,, ...	0	0	++	+++
18	,, ,, ...	0	0	+++	+++
19	Ninth month	0	0	+++	+++
20	Ninth month (threatened eclampsia)	0	0	+	+
21	Full term	0	0	0	[illegible]
22	,, ...	—	0	—	+++
23	,, ...	0	+	++	+++
24	,, ...	0	0	++	++
25	,, ...	0	0	+++	+++
26	,, ...	0	0	+	++
27	,, ...	0	+	+++	+++
28	Full term (syphilitic) ...	—	++	—	+++
29	,, (eclampsia) ...	—	0	—	++
30	,, (eclampsia) ...	—	0	—	+
31	Three hours after delivery	0	0	++	++
32	Twelve hours after delivery	0	0	+++	+++
33	Twenty-four hours after delivery	—	0	—	+++
34	Ectopic gestation (fifth week)	0	0	+++	+++
35	Ectopic gestation (second month	0	0	+++	+++
36	Ectopic gestation (tenth week)	0	0	+++	+++

The serum in Nos. 4, 10, 12, 15, 17, 27, 28, 32, 34, was haemoglobin tinted; in the other cases it was free. In Nos. 1, 34, 35, 36, more than four hours elapsed between the taking of a meal and the withdrawal of the blood; in the other cases I am unaware of the times elapsing.

Control Tests with the Serum of Other Gynaecological Conditions.

Particulars of the eleven cases tested are given in Table II. The first case of chorion-epithelioma was only detected after hysterectomy had been performed. There was no suspicion of its presence, but the reaction, as we might have expected, was positive. The serum was again examined after an interval of twenty days, and again one month later, no symptoms or signs of metastases having manifested themselves, but the reaction in both cases was still positive. The case of endometritis (No. 4) might possibly have been one of retained products of conception, as the curettings were not microscopically examined. The other three cases that gave clear positive results

were not pregnant (two of them being re-examined with the same result), and are practical demonstrations of the unreliability of the reaction. No. 6 was considered clinically to be a pregnancy of the third month; the reaction was positive; the case was followed up; she was not pregnant, and had not aborted. The last case of uterine fibroid (No. 11) is of interest because there was a conflict of opinion as to its nature, and the Abderhalden reaction was twice invoked to assist in the diagnosis. Twice it pointed to pregnancy; the surgeon removed the uterus; it was a soft fibro-myoma, and there was no pregnancy. The times that elapsed between meals and the withdrawal of the serum in this case are unknown to me.

TABLE II.—*Control Tests: Gynaecological Patients.*

	Disease.	Serum alone, 1 c.cm.	Serum alone, 1.5 c.cm.	Placenta, + 1 c.cm. Serum.	Placenta, +1.5 c.cm. Serum.
1	Chorion-epithelioma ...	0	+	++	+
2	Uterine polypus	0	0	0	
3	Vaginismus	0	0	0	0
4	Endometritis	0	0	+	++
5	Uterine fibroid	—	0	—	0
6	Dysmenorrhoea	0	0	+	+
7	Pyosalpinx	0	0	+	+
8	Uterine fibroid	0	0	0	0
9	Uterine fibroid	0	0	0	0
10	Chorion-epithelioma ...	0	0	+++	+++
11	Uterine fibroid	0	0	+++	+++

All the serums were fresh. Only the serum of No. 5 was haemoglobin-stained. The blood in all cases, with the exception of No. 11, was withdrawn at time of operation.

Control Tests with the Serum of Cancer Patients.

The following cases were all operable, and the blood was withdrawn from them at the time of operation when they were in a fasting condition.

TABLE III.—*Control Tests: Cancer Patients.*

The first 10 cases are females, the other 12 males. In Nos. 7 and 17 only had the serum a haemoglobin tint. Throughout the tests were duplicated, with the same results as given below.

	Disease.	Serum alone, 1 c.cm.	Serum alone, 1.5 c.cm.	Placenta, + 1 c.cm. Serum.	Placenta, +1.5 c.cm. Serum.
1	Carcinoma of breast ...	0	0	0	0
2	" " ...	0	0	0	+
3	" " ...	0	0	+	++
4	" " ...	0	0	+	+
5	" " ...	0	0	0	+
6	Carcinoma of breast (recurrent)	+	+	+	+
7	Epithelioma of tongue ...	0	0	0	+
8	Carcinoma of splenic flexure	0	0	+	+
9	Carcinoma of rectum ...	0	0	+	++
10	" " ...	0	0	0	0
11	Epithelioma of lip (early)	0	0	++	++
12	Epithelioma of tongue ...	0	0	+	+++
13	" " ...	0	0	0	++
14	Epithelioma of tonsil ...	0	0	0	+
15	Epithelioma of fauces ...	0	0	0	0
16	Epithelioma of larynx ...	0	0	+	++
17	Epithelioma of penis ...	0	0	0	0
18	Epithelioma of bladder ...	0	0	0	0
19	Carcinoma of rectum ...	0	0	0	0
20	" " .	0	0	0	+
21	" " ...	0	0	++	++
22	" " ...	0	0	+	++

In No. 6 dialysation of the serum against running water for a few hours failed to remove from the serum all its dialysable ninhydrin-reacting constituents. I have frequently noticed this, and it is probably due to the progressive spontaneous cleavage of the serum proteins. I cannot vouch for the sterility of a serum after it has undergone dialysis against running water, but I do not think that bacterial contamination has much to do with the result.

Several authors have said that cancer serum may break down placental protein, whilst others deny this. If both in pregnancy and in cancer there exist ferments in the serum capable of degrading placental and cancer-cell protein respectively, we should expect *a priori* that these ferments would operate on allied substrates, though perhaps to a lesser extent, because none of the immune reaction bodies that we know is strictly specific. Abderhalden recommends that only placentas should be used in the pregnancy reaction which fail to give reactions with cancer serums. Personally I have never encountered such a placenta, and I doubt if it exists.

Control Tests with Serums from Normal and other Conditions.

With the exception of Nos. 1, 2, 9, 18, 21, 24, 25, 26, in which the length of time that elapsed between the last meal and the withdrawal of the blood is unknown to me, all the others were operation cases, and the blood was removed at the time of operation.

TABLE IV.—*Control Tests: Normal and other Conditions.*

Cases 1 to 20 are females; 21 to 31 males.

	Condition.	Serum alone, 1 c.cm.	Serum alone, 1.5 c.cm.	Placenta, + 1 c.cm. Serum.	Placenta, +1.5 c.cm. Serum.
1	Normal female	0	0	+	+
2	" "	0	0	0	0
3	Chronic appendicitis ...	0	0	++	++
4	" " ...	0	0	0	+
5	Cholecystitis	0	0	0	0
6	"	0	+	0	+
7	Cholecystitis (impacted stone)	0	+	+	+
8	Tuberculous adenitis ...	0	0	0	0
9	Lupus	0	0	0	0
10	Lipoma of arm	0	0	0	+
11	Lipoma of shoulder ...	0	0	0	+
12	Adenoma of breast ...	0	+	0	++
13	Pyloric stenosis	0	0	0	0
14	" "	0	0	0	0
15	Intestinal adhesions ...	+	+	+	+
16	Inguinal hernia	0	0	0	0
17	Hydrocele of hernial sac...	0	+	+	+
18	Tertiary syphilis	0	0	0	0
19	Proptosis of sigmoid colon	0	0	0	0
20	Abnormality of caecum ...	0	+	0	+
21	Normal male	0	0	+	+
22	Wound of lip	0	0	0	0
23	Tuberculosis of lip ...	0	0	0	0
24	Syphilitic glossitis ...	0	0	0	0
25	Locomotor ataxy	0	0	0	0
26	Tertiary syphilis	0	0	0	0
27	Pyloric stenosis	0	0	0	0
28	" "	0	+	0	+
29	Tuberculous peritonitis ...	0	+	+	+
30	Haemorrhoids	0	0	+	++
31	Chronic appendicitis ...	0	0	+	++

The serum of Nos. 13, 19, 23, 24, 25 was haemoglobin-stained; in No. 25 the serum was more deeply stained than in any other case examined. All the serums were fresh.

This table shows, better perhaps than any of the others, that different readings can be obtained as we compare the tubes containing 1 c.cm. of serum, or those containing 1.5 c.cm. of serum; but taking the readings of the two sets together and leaving out of account the indications

given by a single set, we find that the best we can say for the reaction is that it makes mistakes in 5 cases out of 31. If we believe firmly in the reaction, we may make excuses for two of these five cases (1 and 21) by saying that the blood was withdrawn too soon after a meal, and we may excuse the other three palpable lapses by saying that we must have committed some error of technique, for no man is infallible, and we can the more readily accord the vice of fallibility to others than to ourselves. Judging from the large amount of other work that Abderhalden turns out of his laboratory, it is scarcely possible that he can have personally attended to the examination of the very large number of cases on which he or his assistants have reported.

Summary.

To sum up the results of the above 100 cases tested to prove the diagnostic worth of the dialysation reaction in pregnancy, we find that by the most generous reading possible, judging by two sets of experiments and not by the usual one, making allowances for all the hypothetical fallacies, we have still 17 most glaring mistakes in diagnosis, which of itself is a large percentage, sufficient to destroy the diagnostic worth of the reaction. But if we apply to the good results the same code of ethics by which we reject the undesired, then the whole theory becomes worthless.

In a second article the question of protective ferments in cancer will be considered, and the inherent fallacies of the method will be examined in detail.

REFERENCE.
[1] *Biochem. Zeitsch.*, October 23rd, 1913.

Presidential Addresses

TO THE

BRANCHES OF THE BRITISH MEDICAL ASSOCIATION.

BORDER COUNTIES BRANCH.

NATIONAL HEALTH INSURANCE.

BY

JOHN BELL FISHER, M.D., D.P.H.,

WHITEHAVEN.

In the first place permit me to express to you my best thanks for the honour you have done me in electing me President of the Border Counties Branch. It is a position I appreciate very highly. Our Association has been and is passing through troublous times. We have had dissensions within and attacks from without; a rush to join our ranks when danger threatened; withdrawals and resignations when these same persons failed to get all their own way. Grumblings we have had in plenty, because the Association failed to secure all the advantages for the profession that these most exacting critics demanded—the critics being for the most part those who did nothing themselves either for the Association or the profession, but thought apparently that membership of the Association entitled them to be spoon-fed with benefits without any effort on their own part.

These tribulations, however, we have survived, and will survive; they should only serve to bind more closely together those who have the best interests of the profession and the Association at heart. For the interests of the profession and the interests of the Association are one, and the Association is doing its best work when it is safeguarding the interests of the profession at large and not of any particular section.

The National Health Insurance Act directly affects the great majority of the profession, and profoundly alters their relation to their patients, to the general public, and to the State. Even those who are not on the panel are bound to be affected sooner or later, for it is quite certain that this Act is only the beginning of still greater changes. Dependants will be brought within its scope; institutional treatment cannot for long be confined to tuberculosis; our general hospitals cannot be expected to undertake the wholesale treatment of insured persons and continue to be supported by voluntary contributions. State aid or municipal aid will have to be accorded them, and this inevitably involves more or less State or municipal supervision. The Act has already checked the flow of voluntary contributions. It will doubtless continue to do so in an ever-increasing degree. Where the end will be no one can tell.

Certain it is, however, that greater changes than we have yet seen will be brought about, and it behoves us to consider and anticipate these changes, so that, as far as possible, they may be so controlled and directed as to secure the best possible results for the profession and the public weal.

I believe most strongly that there is no subject of such vital importance to the profession at the present time, and none so essential to the welfare of our patients, as the establishment on a sound and just basis of the relation that is to exist in future between doctor and patient. That the old relation is to be changed fundamentally none can doubt. It has been altered already for some fifteen million persons, and a vast majority of the profession. The full extent of the change is not yet appreciated, but it is not the less on that account a change of the most radical kind, and whether it is to be for better or worse depends very largely on the wisdom of the course taken by the profession as a whole, and the unity and singleness of purpose with which they persist in carrying out what they conceive to be the best policy alike for themselves and for their patients.

We have to recognize the fact that insurance is the law of the land, and that the vast majority of the medical profession have accepted service under the National Insurance Act as it is. What I want to insist upon to-day, with all the force of which I am capable, is that we are not on that account to consider that there is nothing more for the profession to do than merely go on quietly and submissively attending to the bodily ailments of our patients, leaving the arrangements for organization and control of the relations between the doctors and their patients to committees and Commissioners. It is now for the first time that the necessity has arisen for doctors to attend to their own business. Under the conditions of State insurance unless the doctors look after their own interests they will certainly suffer. The State undertakes that the insured person shall have proper medical attention, and the insured person himself expects it, and the approved societies complain that the demands on their funds are excessive. Amongst so many contending forces the doctor will fare badly unless he can protect his own interests, and this he is absolutely unable to do individually against such powerful influences. Let no one suppose that finality has been reached in the arrangements made for providing and paying for medical attendance, or in the conditions imposed upon doctors.

The National Insurance Act, 1911, only came into operation, so far as medical service is concerned, in January, 1913, yet an amending Act was passed during 1913, and only pressure of other business in Parliament has prevented the introduction of another amending Act in 1914.

We know that the approved societies are exerting their influence to secure that the next amending Act shall restore to the societies the "control of their own doctor," as they term it. We know one great reason for this to be that many of the societies have been very hard hit. The amount of sickness benefit they have been called upon to pay has greatly exceeded their estimate, and they desire the control of the doctor because they think it will enable them to influence him in the direction of giving fewer certificates of incapacity for work, and such as he does give for shorter periods.

I think myself that both the societies and the doctors made a mistake in the first instance in attaching too much importance to this matter of control of the doctor, to the neglect of other and more important issues. When the Insurance Bill was first under discussion it was generally anticipated that the "approved societies" contemplated in the bill were the old-established friendly societies, such as the Oddfellows, Foresters, and the like, together with clubs providing medical attendance as one of their benefits in connexion with certain localities or industries. The inclusion of trade unions, and more especially of the large industrial insurance associations, amongst the approved societies has entirely altered the outlook. I think the objection on the part of doctors to

"society control" as it previously existed was much exaggerated. Each lodge, or court, consisted of local men, who had no antipathy to doctors in general, and certainly none to the doctor of their choice—"our own doctor," as they called him. Little differences necessarily arose, but the objection to "society control" was not found to exist chiefly amongst the supposed victims of a pernicious and tyrannical system, the club doctors. Rather was it a bogie raised to frighten the uninitiated by those who had no connexion with, and knew very little about, club practice. Our own Journal at one time said some very unkind things about the demoralizing effect of "contract practice" alike on patient and doctor, but these persons themselves did not seem to be aware that they stood in need of sympathy or commiseration. The advent of the large industrial insurance companies has entirely altered the conditions. Instead of having to deal with a committee of local men, mostly kindly disposed towards the doctor, we have a huge association of members whose very number prevents them having that personal knowledge of one another from which sympathy and co-ordination spring—an association governed and controlled by a bureau, the constitution of which is absolutely unknown to most of the members, acting through agents who are the mere tools of the managing committee. The members know nothing of their society except as represented by the agent, the agent can only give unquestioning obedience to the instructions of the managing committee, and the managing committee is a body of business men who are guided solely by financial and statistical considerations, to whom insured persons and doctors alike are mere factors in their calculations. The element of personal knowledge and individual sympathy is entirely wanting.

That is what I mean by saying that the friendly societies and doctors alike made a mistake in making this question of control of the doctor a leading plank in their platform at a time when more important matters should have engaged their attention. For, as the matter stands at present, neither has successfully attained what was aimed at. The societies have lost their power of selecting their doctor who shall be entirely responsible to the society, and no one can pretend that "free choice of doctor" is anything more than a pious opinion in the vast majority of cases.

In the case of trade unions or similar bodies, and in pre-existing clubs, free choice of doctor is out of the question for the vast majority of the members, accustomed as they are to acquiesce in the views and obey the orders of their leaders.

In the future, however, this question of control, of which free choice is only one feature, is destined to be the most important that the profession will have to deal with. It may at first sight seem like putting the cart before the horse to attempt to speak about control before settling the question of free choice, for it is obvious that if there is not at least a nominally free choice of doctor—that is, if the doctor is not chosen by the individual patient, but by his society—that doctor will be under the control of the society or the society's managers. He will have to carry out their wishes in all essential particulars, or they will change their doctor if there is another available. It is for this reason that societies so much object to free choice of doctor by the patient. They think, no doubt rightly, that if they have the legal right to engage or dismiss their doctor, the difficulty of control will be reduced to a minimum.

But first of all let us consider what is meant by "control of the doctor," as it is not very euphemistically called. It does not, or should not, mean interference in detail with the medical treatment of a patient by his doctor. But it is essential that either the societies or the State which provides the money, or administers the funds, should have some power to prevent wasteful and extravagant expenditure either in the drugs they have to pay for, or in the cash benefit they have to provide when a patient is certified unfit to follow his occupation.

How can this control be exercised in the most efficient manner and with the least possible interference with the doctor's right to do what he thinks best for his patient?

Compulsory sickness insurance is a new thing in this country. We have had no experience of it. Our views are therefore apt to be distorted or one-sided, according to our preconceived notions. Can we learn anything from the experience of other countries in which insurance laws have been in operation long enough to show the good and bad effects of different methods, the dangers to be feared, and how these may best be avoided?

Germany has had compulsory insurance since 1884. Generally speaking, insurance against sickness has been compulsory for all manual workers except agricultural workers and domestic servants, and for some other classes of workers, such as foremen and commercial employees, if their income did not exceed £100 a year. Under the new law agricultural workers and domestic servants are included, and the income limit for other classes is raised to £125 a year.

In 1909 over 13,000,000, or 21 per cent. of the total population, were insured against sickness. In 1885 it was 10 per cent., in 1890 it was 14 per cent., in 1895 it was 15 per cent., in 1900 it was 18 per cent., in 1905 it was 20 per cent., and in 1910 it was 22 per cent.

Sickness insurance is effected through local societies of insured persons. These societies are of several kinds, and the insured person has no choice of society; it is automatically determined for him by the locality in which he lives or works and the nature of his employment. The only exception is that a person who is adequately insured in a registered society—corresponding to an English friendly society—is released from other insurance, but in this case he has to pay the whole cost himself, his employer has not to contribute to the credit of such an employee.

In ordinary cases (that is, apart from these registered societies) the contributions are a percentage of the wages. The workman pays two-thirds, the employer one-third. The public authorities do not directly grant any subsidy towards sickness insurance, but they supervise the administration, and the cost of this is considerable.

The societies are self-governing. The governing bodies are directly elected by the insured persons and the employers, the number of representatives being proportionate to the contributions—that is, two-thirds are elected by the insured, one-third by the employers.

From what I have said it will be evident that the circumstances in Germany differ from those in England to a considerable extent, and these differences have to be taken into account in applying the lessons of German experience to our own requirements. In the first place, free choice of doctor is not a statutory right of the patient in Germany as it is with us. The societies are left to make arrangements with the doctors as best they can; the State lays down the benefits which the societies must provide, and only interferes when it appears that a society or all the societies in a district have failed to carry out their legal obligations.

In 1903 a new or amending law was passed in Germany which failed to satisfy the doctors because it did not concede the demands which they considered reasonable. Accordingly, they resolved to adopt an independent course of action. At Cologne, in particular, the doctors, who were strongly organized, gave notice to terminate their agreements with the sickness societies at the end of the year. They demanded organized free choice of doctor, higher remuneration, and better conditions of service. The "Federation of Sickness Societies" in Cologne, to which were affiliated all the sickness insurance societies, proceeded to secure the services of doctors from outside Cologne, though continuing negotiations with the Cologne doctors in the hope of a peaceful settlement.

Some of these doctors from outside, on whom the societies had relied, realizing, I suppose, the actual position of affairs, refused to continue their services, despite their contracts. This led to a shortage of doctors, and complaints were made to the local supervising authority that the sickness societies were not providing a sufficient number of doctors to ensure proper and adequate treatment, as they are required by law to do. The local authority called upon the societies to provide more doctors within a very short time. The societies were unable to do so. The local authority accordingly made agreements with the organized doctors over the heads of the sickness societies for the treatment of insured persons. These agreements were made for five years, terminating at the end of January, 1909, and provided for free choice of doctor and increased remuneration. During this period the bitter feeling between the doctors and the

sickness societies was intensified by the fact that the societies had taken action for breach of contract against the doctors who had refused to continue their services in 1904. Before the end of January, 1909, the societies had been busy, through their federation, obtaining doctors in different parts of Germany who were willing to serve them on the terms offered, and were able to enlist a sufficient number to prevent the local authority renewing the arrangements with the organized doctors. The societies had seventy to eighty doctors, mostly imported, whilst over three hundred organized doctors refused to have anything to do with the sickness societies. With the aid of these doctors, gathered from all parts of Germany, the societies are able to carry on their operations, but it is certain that these imported doctors do not represent a high standard of professional efficiency, and the medical treatment provided for insured persons is far from satisfactory.

Such was the position at the end of last year, after thirty years of compulsory sickness insurance law. Surely it behoves us to think seriously and act discreetly, so as to secure that, profiting by their experience, we shall not repeat their mistakes, but from the first combine in an effective organization to safeguard the interests of the profession.

During last year (1913) matters had reached such a pass that throughout Germany doctors had posted up in their surgeries notices to the effect that after the end of the year they would cease to give service under the insurance law, and that all persons requiring medical attendance would be required to pay as private patients. This course was taken partly on account of the inadequacy of the existing rates of remuneration, but chiefly, I believe, to obtain recognition of their organizations, both in the settlement of terms of service and in the exercise of control over medical service, including disciplinary measures. The doctors in Germany are now well organized. Owing to the fact that the societies are self-governing—there is no administrative authority corresponding to our County Insurance Committee—the conditions differ in different localities, and the organizations of the doctors are consequently somewhat of a local character. This has made it more difficult to secure uniformity. With us the existence of Insurance Committees and of Insurance Commissioners tends to secure uniformity, and should render easier an effective organization of the profession.

In Cologne both sides have made great sacrifices for what they consider their rights, and neither has succeeded in obtaining what they desire. It is impossible to believe that either side is absolutely blameless and the other entirely in the wrong.

The doctors, as I have said, failed to secure the insertion in the law of 1903 of the amendments which they desired, and gave notice to terminate their engagements. The societies set to work to secure doctors from outside.

The doctors wanted increased remuneration, free choice of doctor, and "better conditions of service," the last mentioned term meaning, I take it, freedom from lay control.

The societies complained that the cost of medical service was very high, that with free choice of doctor the societies could exercise practically no control over the doctors, who ordered drugs and appliances extravagantly, and gave certificates of inability to work much too freely, with the result that the expenses of the societies were unduly increased.

During the period that the arrangements made by the local authority over the heads of the societies were in force in Cologne and the neighbourhood it was asserted that the expenses of the societies in medical and money benefit had increased 49 per cent. whilst the membership had only increased a little over 21 per cent. Since the societies have resumed the appointment of doctors, and brought in those from outside, it is a remarkable and significant fact that the high level of expenditure for medical benefit attained during the compulsory period has been maintained. The service is admittedly less efficient, its cost to the societies is not diminished. The one fact that stands out prominently is that the result of combination by the doctors is the increased rate of remuneration.

But there is another side to the question. If the societies have not gained anything in the cost of medical benefit, they have certainly effected a saving in respect of other benefits. One of the largest of the Cologne societies found its reserve fund gradually diminishing under the compulsory system (that is, when the arrangement between doctors and the local authority were in force), and in spite of increased subscriptions was getting into financial difficulties. Since the society has appointed the imported doctors, it has been able to commence the rebuilding of its reserves, whilst at the same time increasing its benefits.

These are facts which cannot lightly be set aside. The doctor, like every other expert, is impatient of lay control. Yet it is absolutely essential that some effective control should be exercised over the prescribing of expensive drugs in inordinate quantity, the giving of certificates of unfitness for work on the most trivial pretence, the continuance of certificates of inability after the necessity for them has ceased. Under the old friendly societies there was much less tendency on the part of the patient to get all he could out of the society. On the whole, the members of these societies were the more provident and thrifty men, of independent spirit, who took a pride in never having made a demand on the funds after a long membership. They realized, too, that after all it was their own money that they received in benefits, and that excessive and unnecessary demands on the society's funds weakened their society, the welfare of which they had deeply at heart. The doctor was therefore not so often asked to certify as unfit for work a person whom he thought fit, and on the comparatively infrequent occasions when he refused to certify a patient on the club he was sure of the support of the other members, who realized that he did so in the interests of the society.

Under the new conditions of National Insurance the case is different. We may not have secured free choice of doctor to the extent that is desirable, but the very persons who are most troublesome in this respect are those who know best what freedom they have under the Act. They know they can change their doctor at the end of each year without having to give any reason for doing so, and the doctor knows, too, that if he is too strict in the matter of certificates of unfitness for work he will lose his popularity, and his patients will seek other more obliging practitioners. Without intending to be unduly lenient, even when he thinks that he is acting with all due stringency, the doctor may err from want of consideration of other factors than the purely medical aspects of the case. The doctor must, if he is to do justice to the society to which the patient belongs, endeavour to look at the matter from their point of view. Approved societies consist of persons whose narrow means habituate them to a much sterner standard of life than obtains amongst many of his private patients, and than he is himself accustomed to. And unless this fact is recognized; that is, if the doctor applies to these cases of insured persons the easy standards of persons in more comfortable circumstances, it is quite impossible for the societies to meet their liabilities. In the case of the old friendly societies especially (and these are deserving of the greatest consideration at the hands of the doctor), it is by the contributions of workmen who are living close to the hard realities of a strenuous life that the society is maintained. If every applicant for medical treatment is to be given a few weeks' relief from work at the expense of his club, if we are to ignore the financial side of the question altogether and give to every such applicant the consideration that is given to the opulent valetudinarian, the bankruptcy of the societies is imminent. It may seem that I am pointing out self-evident facts, and making merely general and indefinite statements that have no practical bearing. I am speaking from experience of actual cases when I say that certificates are given too often without due consideration; they are given, no doubt, with a kindly intention, with a sympathetic regard for the comfort or convenience of the particular patient, but at the same time without regard to the interests of those other persons, scarcely less requiring rest and medical treatment in the meantime and whose prospective relief when their turn comes is being frittered away in undeserved charity.

In the matter of prescribing, too, during the short experience we have had of National Insurance, it has been made abundantly evident that a very rigid system of control is necessary.

In Germany, it will have been noticed that whenever the local supervising authority has been appealed to it is with the "organized doctors" that a contract has been made. More and more the doctors throughout Germany have found, as time went on, the absolute necessity of organization. These organizations, at first local and tentative, have so far justified their existence and proved their value that at the end of last year (1913) it was found to be possible to secure practical unanimity throughout Germany, notwithstanding the difficulties inherent in the German system of individual control of its own affairs by every little local society.

The conflict between the organized doctors and the Sickness Society of Leipsig is equally instructive as to the value of organization, and has brought about a generally satisfactory state of things in this society, which is recognized as the most important in Germany. The members have free choice of doctor, and what is of the very greatest importance, the doctors are represented by a committee, which is mainly responsible for control over the doctors. Any complaint against a doctor is made to this committee, which is empowered to take such disciplinary action as may be necessary if the complaint is found to be well founded. The remuneration of the doctors is distributed through this committee, which examines the accounts and prescriptions and checks the extent to which doctors have certified persons as incapacitated for work, with power to fine the doctor and require him to refund any money paid to an insured person on an improper certificate. This, I think, is the best possible kind of control of medical service. The doctors as an organized body agree as to the terms on which services shall be rendered, receive and distribute the remuneration, and themselves exercise disciplinary powers independently of any lay interference.

In addition to this the Leipsig society (not the doctors' committee) employs "confidential medical advisers," as they call them, or, as we should say, "medical referees."

A consideration of the actual experience of Germany seems to me to be useful at the present time, in so far as it shows us what has actually occurred there. The facts revealed and difficulties encountered, it is true, are only such as might almost have been anticipated, still we are on surer ground when we can refer to actual experiences. It is an unfortunate fact that at present the vast majority of the profession in this country take very little interest in the subject of National Insurance, except in so far as it affects their own individual practice. Very few, indeed, consider its bearing on the future, or take any trouble to understand the importance of the change which is taking place.

I attended the conference at Westminster in June of the chairmen and secretaries of the various Panel Committees with the Insurance Commissioners for England, at whose invitation the conference was held, to consider "medical certification for sickness benefit under the Insurance Act and proposals for the improvement of procedure in reference thereto."

What surprised me most of all was the lack of appreciation by many of the speakers of the altered position of the doctor towards insured persons and approved societies that has been brought about by the Act, and the relation of both to Insurance Committees and the Insurance Commissioners.

Various suggestions and arguments were advanced which would have been good in themselves as regards friendly societies before we had any Insurance Act, but which a moment's consideration showed to be absolutely inconsistent with the actual provisions of the Act. The consequence was that very little was done beyond an explanation by the Commissioners of what was expected of the doctors. A circular (marked "Confidential") had been issued to those present on behalf of the Panel Committees, and the different paragraphs of this circular were taken one by one, and after some discussion by the doctors and explanation by the Commissioners, mostly agreed to as they stood. The proposals in the circular were for the most part fair and reasonable, and the attitude of the Commissioners conciliatory and explanatory. What was disappointing was that, owing to the lack of appreciation of the altered conditions created by the Insurance Act to which I have referred, some of the doctors took up so much time in futile advocacy of methods impossible under the Act that suggestions of real value were crowded out and could not be considered.

I refer to this matter here simply as illustrating the impotence of the profession for want of co-ordination or organization. Had the doctors present prepared their case with the same care as the Commissioners there can be no doubt that it might have been presented in a much more effectual form.

It is for organization I am pleading to-day. We have seen that one amending Act has already been required. Others are to follow. In these, and in the amended Regulations which will be made by the Commissioners many matters of vital importance to the profession will be dealt with.

At present certification is engaging the attention of the Commissioners, who purpose to hold conferences with Panel Committees on the subject.

The following and many other subjects will have to engage the attention of the profession if it is not to be hopelessly reduced to a position of abject servility:

The payment for mileage is on a very unsatisfactory footing.

The fact that there is no provision for the payment of an anaesthetist or for assistance in emergency operations;

That abortions and premature confinements are included in the capitation fee;

That persons whose illness is due to their own misconduct are deprived of other benefits, but are still entitled to medical attendance for their capitation fee;

That whilst we engage to attend insured persons for a capitation fee of 7s., deductions are made without our consent, or even in spite of our protests, for the payment of "case values" to other districts.

Then it is to be remembered that 2s. 6d. of the 7s. a head depends, not on the Act itself, but on a Treasury grant. Already there is an outcry in certain quarters that the doctors are overpaid. Unless the doctors can put forward their own claims with some authority, what assurance have we that that grant will not be reduced, or withdrawn altogether, at the end of the three years for which it was made?

One matter of real importance that has not obtained the consideration it deserves in connexion with control of the medical service is the constitution and working of the Medical Service Subcommittee under the Act—the "Complaints Committee," as it was called in the bill as originally drafted. This committee consists of three doctors, three representatives of insured persons, and an independent chairman; many matters have to be referred to it which ought to be dealt with by doctors alone. This view was strongly urged on the promoters of the bill, but was rejected. In Germany it was not provided for at first, but has been obtained by organization amongst the doctors, and doubtless if the doctors here will combine effectually they will be able in future legislation to secure that strictly medical matters shall be left to medical committees, as in the case of the Sickness Society of Leipsig to which I have referred. It is true we have the Panel Committees, and it is perhaps too soon to pronounce definitely on their actual powers and utility, but, judging from appearances at present, I am of opinion that Panel Committees are likely to be bound up in so much red tape and so much under the thumb of the Insurance Commissioners that they will have no real power to protect the interests of the profession, and will be employed simply to assist in the administration of the Act in an advisory capacity. A strong, independent, unofficial body is required to look after the real interests of the profession.

In Germany it was by organization amongst themselves that improvements in the conditions of service were at last obtained by the doctors. They first tried to regulate their conditions of service and protect their interests through the official channels. Medical councils sought to lay down the terms on which service should be rendered, and threatened penalties if compliance was not given to their directions. But this was forbidden by the Government authorities as beyond the province of the medical councils.

A society, roughly corresponding with the British Medical Association, had existed in Germany since 1873, but in 1900 another society was formed to protect the economic interests of doctors, especially against sickness societies. This is really a trade union of medical practitioners, and is described as an "aggressive fighting

machine." It has a membership of nearly 24,000, which is said to be over 95 per cent. of the medical practitioners in Germany who have anything to do with insurance practice.

This society tried at first to secure its ends by legislation, but after three years of failure in this direction, by a resolution passed at its annual meeting in 1903 definitely took up the methods of independent action on trade union lines. Since then the doctors' campaign is reported to be on the whole very successful. They have not got all they wanted, but have gained a great deal, both as to conditions of service and remuneration. In many cases there has been a sort of strike or boycott, such as that at Cologne, to which I have referred, and at Leipsig. As I have mentioned also a general strike was threatened last year, but this was averted, the doctors securing much of what they asked for. The method, which is only adopted in extreme cases, takes the form of refusing to treat members of insurance societies on the terms offered. Provision is made by the society for assisting doctors who suffer pecuniary loss through the strike, and in Germany, as here, appeals have been made for contributions to their war chest or guarantee fund. The society of organized doctors reports:

Total number of conflicts	1,022
Decided in favour of doctors	921
In favour of sickness societies ("for the time being")	11
Still pending (May, 1911)	90

This report, dated May 1911, gives the result after twenty-seven years' experience of insurance law, during the first sixteen of which there was nothing in the nature of a trade union. Since then, of course, there has been, amongst others, the threatened general strike of last year, when the doctors won considerable advantages.

With these facts before us, surely we are not going to take sixteen years to make up our minds about the necessity of a trade union. The idea of trade unionism is not attractive to the professional mind; to many it is specially repugnant. But the whole scheme of National Insurance was distasteful to many, and the Act as passed was approved by very few of us. Yet we have accepted it and have entered into agreements to give service under it. It matters not now one iota whether that acceptance was voluntary and cordial or obtained by duress. The profession has accepted the Act and can never repudiate it. What does remain to us is to see that the conditions it imposes on us are not made too irksome or degrading, and that we are properly remunerated for our services. Extension of the Act is certain. Dependants will come to be included and other great additions will doubtless be made.

Let us, then, once for all, make up our minds that organization is as necessary for us as it has been found, after so many wasted years, in Germany. And, whatever organization is adopted, let it be one that can be described, like the German one, as "an aggressive fighting machine."

I am not going to attempt to enter at length into the arguments as between a trust fund and a trade union. That would require a lengthy address to itself, even if I were competent to explain the legal technicalities of each. But I would ask each and every one of you to think seriously over the matter. For my own part, I have no hesitation in saying that I am altogether in favour of a trade union, entirely independent and apart from the British Medical Association.

I rely on the legal opinion, which does not seem to be disputed, that only by forming a trade union can the fighting fund be protected. The funds of a trade union are free from any action for damages for any wrongful actions committed by the members in the prosecution of a trade dispute. A fighting fund which, amongst other uses, would indemnify members who suffered loss through carrying out the policy of the union, is the first necessity of any organization, and it is obviously essential to secure for such a fund the greatest possible measure of protection. This can be done, as I understand the matter, by forming a trade union, and in no other way.

A trust fund which was not a trade union, it appears to me, could have no protection, and would therefore be useless.

The suggestion that the British Medical Association should itself become a trade union is one that I think will obtain little support. The process would be beset by many difficulties, would require considerable time, and would destroy the character of the Association. The British Medical Association is a great power for good; it has a splendid record and a promising future in its own sphere, but trade unionism is not its sphere. Originally an association for the consideration of medical and scientific questions, it has considerably widened the circle of its activities, but to adopt trade unionism as its constitution would be to cripple it in all its most useful functions.

The proposal to form a trade union as a sort of branch or offset of the British Medical Association, with the Council of the Association as the governing body of the union, is even less attractive. The members of the Council are elected to their honourable position for far other qualifications than those required of the managers of a trade union. And beyond this it seems to me that there would be great difficulty in steering clear of the danger, on the one hand, of rendering the whole of the funds and property of the Association liable, in certain eventualities, for the action of the Council in restraint of trade outside the functions of the union; and, on the other hand, of their pursuing a too timorous and ineffective course of action through fear of this very catastrophe.

I sincerely hope, therefore, that the British Medical Association will itself have nothing to do with trade unionism. Let it pursue its own proper course, advocating trade unionism in its JOURNAL, advising its members for their own protection and the good of the profession to join the union, and in any other way furthering the objects of the union, but not itself having anything whatever to do with its management.

There are at present, I believe, in this country only two trade unions, registered as such—the National Medical Guild and the Leicester and Rutland Society.

There is on the agenda of the forthcoming Representative Meeting a resolution, from the Altrincham Division, to instruct the Council of the British Medical Association to advise their members to join the National Medical Guild. I hold no brief for the Guild, and if a better organization can be devised, or one that would obtain more general acceptance, I should gladly support it. Meanwhile it holds the field. Its promoters deserve great credit for their prompt action in forming the Guild as an avowed trade union, at a time when trade unionism was looked upon with contempt or abhorrence by so many of the profession. Now opinion is divided between trade unionism and a trust fund; it is generally admitted that one or other is a necessity. I sincerely hope trade unionism will prevail, and if it does and becomes the accepted policy of the profession, I think the National Medical Guild deserves to be the accepted body to carry on the work which it was the first to undertake, unless, or until, a better scheme is produced. Let us remember, too, that much time would be lost in bringing any new scheme into operation. The National Medical Guild is already constituted and doing good work with the comparatively limited means at its disposal. Much harm has already been done because the profession was not organized or prepared for the fight. The battle was lost while we were floundering about in disorder trying vainly to get into line. Let us not repeat that mistake, but make use of the organization that is ready to our hand, and not waste time and lose opportunity by accepting any new scheme of trade unionism, unless it can be shown clearly to possess very great and obvious advantages which cannot be obtained by the National Medical Guild.

NOTE.—Those interested in the subject will find much useful information in *Medical Benefit in Germany and Denmark*, by I. G. Gibbon, B.A., D.Sc., published by P. S. King and Son, Westminster, to which I am indebted for many of the facts concerning events in Germany.

THE tenth International Congress of Esperantists will be held in Paris in August (2nd to 10th). The Committee of Patronage includes the names of ninety-three of the leading men of France. Among the representatives of medicine are Professors d'Arsonval, Daniel Berthelot, Charles Bouchard, André Broca, Gariel, Landouzy, Charles Moureu, and Roux. During the congress the association of esperantist doctors of all nations (Tulmonda Kuracista Asocio Esperantista) will be held.

An Address
ON THE
POSITION OF THE COUNTRY DOCTOR IN 1879 AND TO-MORROW.

DELIVERED TO THE MEDICAL SOCIETY OF THE VALE OF TEIFI, LLANDYSSUL, CARDIGANSHIRE.

BY J. LYNN THOMAS, C.B., F.R.C.S.,
CARDIFF.

WHEN I received an invitation to deliver an address before your newly-formed society I readily obeyed the command of your first President for two reasons: the first was that I have not yet been able to shake off the authority and control he exercised over me when I had the privilege of serving my apprenticeship under him in 1879 after I left the Grammar School which then flourished in this town of Llandyssul; the other was that I am much impressed with the idea and the possibilities for good of the new organization of medical practitioners practising in the Vale of the river Teifi (called on the maps Tivy). I feel certain it will be the means of adding new interests and pleasures to your life, which in the pre-motor days would not have been possible of fulfilment. May I venture to hope that in addition to your immediate object of improving, advancing, and co-ordinating the medical service of the district, you will also at least once a year get outside your profession and have a field day under the guidance of an archaeologist, antiquarian, geologist, or philologist, etc., amongst the very interesting relics and the traditions of the past which Nature and man have left in this beautiful area?

Speaking from personal experience, I would venture to suggest to you, as you will be a small manageable band of workers, to pay an occasional visit to a medical and surgical centre, and invite the staff to give you a field day in clinical and operative work. Nothing within the profession can, in my opinion, be more helpful, instructive, and pleasant than such periodical visits to big teaching centres which are now within easy reach.

Since the days of my apprenticeship changes of a radical nature have continuously taken place in matters medical, social, and scientific. As a topical illustration of things as they were then existing, let me recall that it was necessary to take a whole day journey to London, a distance of over 260 miles, to sit for the preliminary examinations. There is now a new and quicker route to London, but it is no longer necessary to travel so far to sit for examinations in order to enter the portals of the medical profession. Devolution in medical education and training has become a note of the day. The University of Wales with its constituent colleges, and county councils with their education authorities have been created, and have revolutionized the conditions of our national life.

When reviewing the changes which have taken place since the beginning of my medical career, I was tempted for a moment to address you upon "things medical which a man of 50 has seen," but that subject proved startling in its magnitude and so bewildering in its diversities, that I decided to drop it in favour of some reflections upon the past, the present, and the future position of the country doctor.

Personally, I am always glad that I went through the days of my apprenticeship, for it instilled into my mind in the impressionable teens the spirit of independence and the ambition to attain, if possible, all those qualities and powers which were necessary to meet the great and variable responsibilities and the inordinate demands made upon my chief, who was sole and absolute monarch of an immense district. The head quarters of my apprenticeship were in a country house, which formed the eccentric pivot of his field of practice, which was done on horseback or in a gig; the area was limited on one side by a ten-mile coast line, the nearest point being six miles off, on the other by the nearest railway station, which was eight miles distant. I had the opportunity of witnessing operations which varied from arm-to-arm vaccination to amputation of the breast and the restoration of sight to the blind by removal of cataract. To me these performances were miraculous. Sometimes on wet days I was left at home to make pills and study pharmacy and pull out teeth on a few occasions to the accompaniment of the click-clack of flails threshing corn.

One of the treasures which I carried away with me at the end of my apprenticeship was my admiration for the mutual relation that existed between the doctor and his patients; at that time they were my public. To-day is the attitude of the general public towards the general body of the profession what it used to be? I think not. I am of opinion that one of the factors which has largely contributed towards this unfortunate condition is of our own making—too much dogma. Dogma in a progressive profession in which empiricism still prevails is unwarranted.

It was not long after I entered hospital that one of the leaders in our profession proclaimed that surgery had practically reached finality; it was difficult for a medical student not to be influenced by the traditional force of authority, but the difficulty soon vanished when successful surgical raids were made into abdominal territories hitherto sacred to pill, physic, blister, and the leech. The old order was passing away, younger members of the profession characterized the methods of the old schools as unscientific, useless, and effete. This outspokenness within our ranks did not pass unnoticed by the public. Orthodoxy in treatment of abdominal organs in the pre-antiseptic days was swept away by the surgical inventions of the Eighties and Nineties. There is nothing sacred to the surgeon; successful anastomosis of the common bile duct to the common hepatic duct (hepatico-choledochotomy) and of severed vasa deferentia have been done with resulting functional efficiency. Twenty-year-old operations become antiquated as records of surgical progress. There is yet no room for dogma and orthodoxy.

I think we must take the public much more into our confidence if we are to put an end to its peculiar attitude towards us. We are accused of all sorts of wickednesses in our endeavour to benefit the human race from the health point of view. I will give you an example from the expressed views of a distinguished adult member of the public. Mr. Bernard Shaw, in a note on "Modern Prize-fighting," writes:

> The legalization of cruelty to domestic animals under cover of the anaesthetic is only the extreme instance of the same social phenomenon as the legalization of prize-fighting under cover of the boxing glove. The same passion explains the fascination of both practices, and in both the professors—pugilists and physiologists alike—have to persuade the Home Office that their pursuits are painless and beneficial. But there is also between them the remarkable difference that the pugilist, who has to suffer as much as he inflicts, wants his work to be as painless and harmless as possible whilst persuading the public that it is thrillingly dangerous and destructive, whilst the vivisector wants to enjoy a total exemption from humane restrictions in his laboratory whilst persuading the public that pain is unknown there. Consequently, the vivisector is not only crueller than the prize-fighter, but, through the pressure of public opinion, a much more resolute and uncompromising liar. For this no one but a Pharisee will single him out for special blame. The labouring masses do not believe the false excuses of the vivisector, because they know that the vivisector experiments on hospital patients; and the masses belong to the hospital-patient class. The well-to-do people who do not go to hospitals, and who think they benefit by the experiments made there, believe the vivisector's excuses, and angrily abuse and denounce the antivivisectors.

Mr. Bernard Shaw is a man who, while acting in his own sphere, is doing what a medical man is doing in his: he is endeavouring to benefit the human race by experiment on social sufferers. The meaning of the word experiment is quite clear, but it is used by the public in an offensive sense when applied to us. Experiment in any sphere or phase is a departure from orthodoxy and may be attended by success or failure. If the medical orthodoxy of 1879 were governing the surgical practice of to-day we should be letting tens of thousands die from diseases of the digestive organs alone. Thanks to successful experiments they are now cured.

Progress in medical matters is likewise suffering from the state of the law of our land. Judges suffer from "precedent" just as the public suffer from "experiment." From the medical point of view both require radical cure. If we suffered from "precedent" there would be an end to progress. The inherent human force which impels medical men to forget precedents when seeking to benefit humanity by introducing new and better methods cannot be stifled in its quest of ease instead of suffering for children, women,

and men. In medical phraseology we would designate men like Mr. Bernard Shaw not only experimenters but vivisectors in the cause of social reform. He inflicts pain, I am sure quite unconsciously, on account of his enthusiasm, very real pain, upon the sensorium of those he criticizes adversely or dissects in the open theatre of the public press. Has he been called names by the medical profession for performing a vivisector's experiment without an anaesthetic upon the Chancellor of the Exchequer? There exists no more justification for hurling back at Mr. Shaw's head offensive but painful criticism than there is for him to fling poisoned darts at the honour of the profession.

We want to restore the profession to the proud position it was in years ago, and it will be done if it is left in the hands of family doctors who understand the inward history of progress of our science and art.

The State and the Need for Further Organization to Meet the Requirements of the Country Doctor.

This society will be able to do much good by helping to place the medical service in country districts in a better position than it is at present with regard to the treatment of medical and surgical emergencies.

When I was apprenticed the medical profession had not discovered the methods which should be adopted in acute abdominal emergencies. The public to-day require to be informed that it is not possible for any doctor to treat certain medical and surgical cases under conditions now existing in such districts as this. Many cases in their early stages require frequent visits from the doctor and constant observation by a trained nurse before a decision to take action can be reached; hospitals are too far away to take patients to for prompt surgical action, the homes are hopelessly unfit and unsuitable: operating in them is unthinkable, and patients naturally do not like to be turned out of their own homes when suddenly taken seriously ill, and placed under strange doctors far away. They will not hear of it, notwithstanding that prompt action may be the only means of saving life. What, then, can be done in your district to meet the demand and to improve existing conditions?

Patients' homes are often far away from you, almost inaccessible, telephonic communication does not exist, suitable ambulances are not to be had, nurses for the homes are not available, women or the folks at home have not yet been taught how to assist by taking the pulse and temperature and to report. Rapid and decisive action cannot be undertaken. Patients are every moment in the firing line, but the country is not yet properly organized to meet these casualties, and loss of life is inevitable. You have the knowledge but not the means to meet the situation.

The public through the State has since my days of apprenticeship thrown new responsibilities upon you; county and district councils have been instituted, and probably it will be indirectly through these bodies that you will be able to get some of the essentials necessary for raising the standard of treating people living in the country to that level which now exists in big cities.

You have gone a long way towards the solution of the difficult problem of how to render the best medical service in country districts by adopting a river valley as the unit of co-operation. With the aid of motor cars, motor ambulances, "a nursing home" for medical and surgical emergencies, and an efficient telephone system, I see no very great difficulty before your society in making the vale of the river Teifi your future unit of administration. The State has quite recently shown its great concern in the medical service by voting funds for the provision of nurses.

I propounded last year a scheme for the organization of voluntary aid in connexion with nursing in Wales, at the annual meeting of the South Wales Nursing Association, taking as my subject "the trained nurse, the village nurse, and nursing in the home." Your President is taking a very active part in the organization of Red Cross voluntary aid detachments, and I feel certain that, with your hearty co-operation, it will be possible to train the men and the women of the voluntary aid detachments to be of great value to your medical service in rendering aid in stretcher and other methods of transport work, and in carrying out intelligently your orders in the homes.

In conclusion, I thank you sincerely for giving me an opportunity to express views which were in the realms of imagination in the days of my apprenticeship, but are to-day realizable, thanks to experiment, which, unfortunately, has not been unassociated with loss of human lives.

[The meeting passed resolutions that steps be immediately taken to approach the proper authorities to provide a nursing home and a suitable motor ambulance for medical service in the Vale of Teifi.]

SPRUE.

BY

P. H. BAHR, M.A., M.D., D.T.M. AND H.CANTAB.

(From the London School of Tropical Medicine.)

THE researches upon which this paper is founded were conducted in Ceylon, where sprue has been especially prevalent in the European planting community during recent years, and has occasioned considerable inconvenience and loss of valuable lives.

The expenses of this work on which I have been engaged for the last two years were met by a combined grant from the Ceylon Government and from the Ceylon Planters' Association.

Since the classical clinical studies of Van der Burg and Manson in 1881 it may be said that no serious or systematic attempt has been made to make a thorough study of the etiology of this disease: I need, therefore, offer no apology for presenting the following communication, which may be regarded as a preliminary to a more detailed study which will be published shortly.

Physical Features of Ceylon.

It is necessary that I should briefly describe the physical features of Ceylon in so far as they have a bearing on the epidemiology of sprue. It has been rightly said that no tropical island possesses such a variety of climatic conditions in so confined an area; four-fifths of it consist of an undulating plain surrounding a mountainous zone, in which the temperature and rainfall are subject to considerable fluctuations, the former ranging from an average of under 60° F. in Nuwara Eliya (6,200 ft.), the sanatorium of the colony, to an average of over 80° F. in Colombo and the low country. The rainfall also varies considerably, from an average of under 75 inches in the north and east—the dry zone—to over 200 inches in the elevated tea-bearing provinces.

Definition of Sprue.

Sprue is a chronic and particularly fatal tropical disease characterized by diarrhoea, progressive emaciation and anaemia, by a specific denudation of the buccal mucosa, and by symptoms suggesting atrophy of the organs subserving digestion. The diarrhoea is of a peculiar kind: the stools, which are large, pale, and frothy, are generally passed in the early morning, and are accompanied by much flatulence. At the same time there is a grave flatulent dyspepsia which becomes particularly severe towards the later hours of the day, and which is only relieved by the passage of stool. In the early stages there is a specific inflammation of the tongue, involving especially the fungiform papillae on the anterior portion and on the edges. At times small, painful, and evanescent aphthous ulcers make their appearance on the tongue itself, the fraenum, and especially on the buccal mucosa in the vicinity of the opening of Stenson's duct. After repeated attacks of the specific inflammation the tongue becomes glazed and superficially fissured, and the papillae are entirely destroyed. Dysphagia, suggesting an involvement of the oesophagus, is often a terminal symptom. Persistence of these symptoms leads to an atrophy of all the organs of the body, and eventually to a fatal termination.

General Geographical Distribution of Sprue.

Recent evidence suggests that sprue has probably a world-wide tropical and subtropical distribution. It is encountered, in this country, in its most virulent form in Europeans hailing from Eastern seaports. It has been

reported from the following countries: India, Burma, Siam, Malaya, Cochin China, China, Japan, Java, Sumatra, Celebes, Macassar, Borneo, Ceylon, the Philippines, Fiji, Porto Rico, Haiti, West Indies, Mexico, South America, Gold Coast, Upper Congo, and Morocco. The scanty records from tropical Africa are of doubtful value.

I made extensive inquiries amongst the European community in Ceylon with the object of ascertaining whether the incidence of sprue were greater in any particular region or district, but I was unable to ascertain any strictly topographical limitation. Cases were found in which the first symptoms occurred in Nuwara Eliya, as also in Colombo, where the mean average temperature is 22° F. higher.

Sprue in Native Races.

All authors who have so far written on the subject are agreed that sprue is pre-eminently a disease of the European in the tropics, and that the native is only occasionally, if ever, attacked. I do not consider this statement to represent the true facts of the case. It is more than probable that it is extremely common amongst the indigenous natives, and that in this respect it conforms to other tropical diseases of known specific origin. I need hardly say that there are certain real difficulties in diagnosing a disease of such an ill-defined nature as sprue in natives, who are so liable to ankylostomiasis and malaria. I managed, however, to obtain notes of eleven cases in natives, members of all the principal races—Moors, Cingalese, and Tamils—inhabiting Ceylon, in whom there could be no reasonable doubt about a correct diagnosis. Five were seen shortly before death; in only one instance was a complete *post-mortem* examination obtained.

Amongst the Europeans, the majority (19) of my 36 cases occurred in females, a figure which, taking into account the disproportion (two to one) of the European males to females in Ceylon, denotes a special liability of the female sex to the disease. Though sprue generally occurs in adults, age is apparently no bar to infection. The youngest case I saw was in a Eurasian boy of 13, the oldest in a Ceylon burgher of over 70 years of age.

Predisposing Causes.

Features in the immediate environment of each case—such as housing, water supply, and food—were each made the subject of a separate investigation. The question of food and water supply being in any way concerned in the production of sprue could easily be ruled out. There is, however, a popular idea in Ceylon that the "dry rot" which infests nearly every wooden tea estate bungalow is in some manner directly connected with the occurrence of sprue cases in "dry rot" bungalows which are considered to be unhealthy. This is not invariably the case, for I found a number of planters in whom symptoms had first commenced in bungalows built entirely of stone or of brick.

A previous attack of some intestinal disease, as dysentery, may be regarded as a most important but not as an essential etiological factor; in one half of my cases no history of such an illness was obtainable. There are ample grounds for regarding sprue as a primary disease, but any depressing influence, such as debilitating disease or unhealthy surroundings, may lower the vital resistance, and thus render the alimentary canal more liable to attack by the specific sprue germ.

Is Sprue Communicable from Man to Man?

The occurrence of sprue in all classes of the community in Ceylon, irrespective of age, race, sex, or environment, suggests that either it is caused by exposure to similar surroundings, or that it is a directly communicable disease. The latter suggestion received support from my discovery of six instances in which one or more members of the same family were simultaneously affected. In one case more or less reliable evidence of direct infection was forthcoming. This was a boy of 13, in whom symptoms commenced while he was living in close association with his mother, who eventually died of the disease.

The Symptoms of Sprue regarded from an Etiological Standpoint.

The symptoms of sprue and the manifestations of the specific desquamation of the epithelium of different portions of the alimentary tract vary so considerably that I concluded that the only possible clinical classification was one which had as its basis a hypothesis that the disease affects the various regions of the alimentary tract to a varying degree, thus giving rise to symptoms according as one or other portion is specially affected.

As *typical or complete sprue* I have included all the cases in my series exhibiting the two cardinal symptoms—the characteristic tongue and stools—but even in this type I have notes of cases in my series which I feel I am justified in regarding as acute, mild, and chronic manifestations of the same disease.

As *incomplete sprue* I classified a number of cases which exhibited the typical intestinal symptoms and the pale and frothy stools, but in which there was—for a period of some years in some instances—no involvement of the tongue and mouth whatever, and also a series of diarrhoea cases with massive bilious and frothy stools accompanied by emaciation, flatulence, and dyspepsia, without any involvement of the mouth, and which I regarded as early cases of sprue, involving especially the intestinal tract.

Finally, I found a number of cases, both in Europeans and in natives, in whom the disease had apparently attacked the buccal cavity alone. The tongue showed the lesions—destruction of the filiform papillae and superficial fissures—which are typical of the sprue tongue. As further evidence in favour of this assumption I may mention that I found four cases in which these tongue symptoms developed during the time the patients were living in close association with typical cases of the disease. These tongues, which appear to be etiologically related to sprue, and cannot be regarded in any way as a local manifestation of syphilis, I have termed for convenience and for the purposes of description "tongue sprue." Although I am inclined to regard tongue sprue as being a distinct affection produced by the same agency as complete sprue, yet it must be borne in mind that an atrophy of the lingual papillae is found in other diseases characterized by general nutritional changes and anaemia, such as chlorosis, pernicious anaemia, ankylostomiasis, and chronic malaria. The clinical evidence I have collected on this point seems to suggest that the loss of the filiform papillae in sprue is the result of some active destructive process, while that in the other diseases I have enumerated is the result of some passive process dependent possibly on a lack of nutrition.

Pathology of Sprue.

(*a*) *Stools.*—The pale colour of the sprue stools is probably due to several causes—first, to the farinaceous or milk diet with which the patients are generally dieted; secondly, to the presence of a colourless reduction product of hydrobilirubin, the normal faecal pigment, which is known as leucourobilin; and, thirdly, to the abnormal proportion of undigested fat they contain. The reduction of hydrobilirubin to leucourobilin is said to take place in the absence of the normal pancreatic juice, and may occur, according to Mayo Robson, in malignant disease or in chronic inflammation of the pancreas in which the glandular secretion is deficient in amount or is prevented from entering the duodenum. The reoxidation of this colourless compound—leucourobilin—to hydrobilirubin takes place with great ease outside the body, an alcoholic extract of a sprue stool, which is at first colourless, soon becomes converted to a brown colour when exposed to direct sunlight. There can be little doubt that normal bile is secreted in sprue, and as such enters the intestinal canal. In six autopsies which I performed I found in all unaltered biliverdin and bilirubin in the gall bladder, so that any change in the chemical composition of the biliary pigments must take place during the passage of faecal matter through the intestinal canal. The fat absorption was found to be reduced in my cases, and was from 70 to 90 per cent., whereas in milk-fed normal subjects it is said to be over 95 per cent. I regret that I was unable, owing to the lack of suitable apparatus, to perform more elaborate analyses on the process of fat splitting in these cases. The reaction of sprue stools was found to be—almost invariably—acid, and was due to the presence of lactic and of butyric acids.

The complete absence of trypsin, which is said to be present in the majority of normal stools, appears to be a further peculiarity of the sprue stool.

(*b*) *Urine.*—The quantity of urine passed by sprue patients appears to be normal, and the urea excretion, on the whole, to be purely of exogenous origin—that is to say, proportionate in amount to the proteins ingested in the food. Indicanuria and urobilinuria were observed during the acute as well as the terminal stages of the disease; the excretion of the former substance is dependent probably on the amount of intestinal putrefaction, the latter on the degree of blood destruction at the time. I found that the excretion of these substances ceased immediately the stools became normal, and the patient reacted to the appropriate treatment. Cammidge's reaction, though performed in twenty-seven cases, was invariably negative.

(*c*) *Saliva.*—The saliva was found invariably acid to litmus paper; this was especially the case in cases with acute tongue lesions and those in the terminal stages of the disease and those whose mouths were overgrown with the thrush fungus.

(*d*) *Blood.*—In the early stages of the disease no alteration in the structure or number of the red cells, the leucocytes, or in their relative numbers was noted, but in two fatal cases a poikilocytosis, polychromatophilia, and normoblasts were present. In fact, the blood picture in these cases resembled, save for the absence of megaloblasts, that of pernicious anaemia. It is probable that the exact degree of anaemia is dependent, as in other anaemias, on certain factors, such as the duration and severity of the intestinal symptoms, the amount of toxin absorbed, and the individual susceptibility of the patient.

Morbid Anatomy and Pathology of Sprue.

Conclusions from *post-mortem* examinations in the tropics are open to the obvious objection. Tissue destruction takes place with great rapidity; this is especially the case in such a delicate structure as the intestinal mucosa. It is possible that the gross tissue changes which have been described as being pathognomonic of sprue are really in great measure the result of *post-mortem* decomposition.

The following account is based upon two autopsies I was able to perform—both in Europeans—within two hours of death. The tissues were immediately fixed in 4 per cent. formalin.

The bodies presented all the external appearances of a chronic starvation: there was a complete absence of fat: all the muscles were dark in colour; the heart small, dark, and atrophied; all the organs exhibited a proportional degree of wasting, and weighed less than half the normal. The liver was yellow and fatty—bile-stained in one case, the gall bladder was full of bile. The most noticeable feature was the transparent and distended ileum. The whole of the intestinal mucosa was covered with ropy mucus. The tongue and oesophagus were overgrown by a white film composed principally of the thrush fungus. The bone-marrow was dark in colour, and exhibited no peculiar macroscopical or microscopical features.

In microscopic sections desquamation of the epithelial coats of the tongue and of the oesophagus and a superficial infiltration with yeast cells and mycelial threads penetrating into the deeper tissues were the most noticeable features. The mucus lining the intestinal canal was overgrown by these organisms in a similar manner, though I could obtain no evidence that any actual invasion of the intestinal mucosa had taken place. In smears from the liver in one *post-mortem* examination these organisms were also sparsely noted. They were cultivated in glucose broth from every part of the intestinal canal, from the liver and spleen in one case, and from the kidneys in the other, but not from heart blood.

Sections made of various portions of the intestinal canal from stomach to rectum exhibit chronic inflammatory changes; the columnar surface epithelium is mostly preserved. It is possible that a certain amount of epithelial destruction took place previous to death. In sections of the liver the hepatic cells have undergone fatty changes, and contain a few granules of free iron, though this reaction is by no means so positive as in pernicious anaemia. In sections of every organ such as the tongue, the stomach, duodenum, ileum, caecum, sigmoid and rectum, the heart, suprarenals, mesenteric lymphatic glands, bone marrow, and spleen, numbers of Gram-positive, acid-fast, hyaline and spherical bodies, which I consider identical with Russell's "fuchsine bodies," were found in abundance.

The endothelial cells of the smaller veins in the trabecular tissue of the spleen were filled with minute hyaline bodies of a similar nature—that is to say, they are Gram-positive, though they differ in not being acid-fast. These bodies are a striking feature in all the six sprue spleens I have examined, and I have failed to find them in forty-three spleens from tropical cases which I examined as controls. (In twenty-two of these cases the immediate cause of death was diarrhoea; amongst them were 4 cases of amoebic dysentery, 10 cases of ankylostomiasis; in the remaining 8 the exciting cause of the diarrhoea could not be ascertained. The controls also included 3 cases of malaria, 2 of kala-azar, 2 of pernicious anaemia, 2 of ankylostomiasis without diarrhoea, 3 cases of tuberculosis without diarrhoea, 1 case each of lymphatic and spleno-medullary leucocythaemia, trypanosomiasis, pellagra, pneumonia, uraemia, lymphosarcoma, filariasis, bacillary dysentery, etc.) I am inclined to regard these bodies as being of a degenerative nature, and as possibly characteristic of sprue. Their homogeneous structure and the lack of surrounding tissue reaction negatives their parasitic origin.

Microscopical sections from a case of "tongue sprue"—that is, from a native who exhibited tongue symptoms only during life—show the same desquamation of the surface epithelium and infiltration with yeast cells as the true sprue tongue. The microscopical structure of these tongues does not differ in any important particular from those of two infants which were overgrown with thrush during life, and with which they have been compared.

Etiology of Sprue.

Several investigators during recent years have favoured the fungoid origin of sprue. Kohlbrugge[1] in 1901 found in the intestinal mucus, in the lymphoid patches of the intestinal canal, and in the epithelial covering of the tongue and of the oesophagus great numbers of yeast cells, which he regarded as being the causative organism, and resembling *Monilia* (*oïdium*) *albicans*. His results have been partially confirmed by Le Dantec.[2] In favour of this theory I can only bring forward as a result of my work the following evidence:

1. Yeast cells and mycelial elements are found *intracellularly* in scrapings of the tongue lesions at an early stage of the disease, and cannot be found in scrapings made from the former site of the lesion at a later stage when symptoms have subsided.

2. Yeasts are the only organisms found in the deeper layers of the tongue in microscopical sections. The evidence that the infection is not one of recent date receives support from the chronic inflammatory changes in the epidermis and corium of the papillae.

3. The desquamation of the epithelial cells accompanied by a subacute inflammation of the tongue and of the oesophagus are changes such as would be expected from a study of the mode of growth of the fungus and of its low order of virulence.

4. A general infection of the intestinal mucus with yeasts was found in sprue autopsies, but no such general infection was found in other chronic wasting diarrhoeas. Yeasts were also the most abundant organisms in the stools and saliva of victims of the disease, especially during the acute and during the terminal stages.

5. The stools of sprue, their frothy and gaseous character, are such as one would expect in a blastomycotic infection of the intestinal canal.

6. The relapsing nature, the chronicity and latency of the disease, are symptoms such as one would expect from a knowledge of the life-history of the blastomyces, their periods of attenuated growth and of sudden recrudescence.

7. There is no evidence in favour of the sprue yeast fungus being otherwise than identical with the thrush fungus *Monilia albicans*—an organism possessing a very low pathogenic power; but it is possible that under certain unknown conditions, more or less peculiar to the tropics, this power may become greatly augmented. In support of this view I may add that it is a well-recognized fact that there are endless varieties of yeasts employed in the brewing of beer and the making of wine, and the predominance of a variety in certain districts imparts, presumably, to the local wine much of its characteristic flavour. These yeasts, though differing widely from each other in their powers of growth and fermentation, yet

resemble each other minutely in their morphological and cultural characters. May it not be that the pathogenic yeasts can be altered similarly by local conditions? It is possible that these fungi, though normally non-pathogenic, can, as in the case of the pneumococcus and diphtheria bacillus, assume at times a pathogenic rôle.

A minute study of the microscopical sections of the tongue and oesophagus in sprue shows that there is a considerable reaction on the part of the host to the invasion of the superficial tissues by this fungus, and there can be little doubt that these fungi in their downward growth are capable of exposing the taste buds and nerve terminals and of causing the very lesions which the lingual and oesophageal symptoms of sprue suggest.

8. Wasting and anaemia—both symptoms of sprue—can be produced in rabbits by continuous intravenous injections of small doses of a broth culture of a pathogenic yeast.

9. Diarrhoea, atrophy of the lingual papillae as in sprue, digestive disturbances, and aphthous ulceration of the mouth are commonly found in children the subjects of a thrush infection in temperate zones.

10. It is possible that obscure alimentary diseases of children in temperate zones—such as Gee's coeliac diarrhoea—are of the same nature as sprue in the tropics. A hypothesis of this sort would explain the occurrence of sporadic cases of sprue in temperate zones.

11. The local affection of different portions of the digestive tract with this fungus would best explain the varying clinical manifestations of sprue.

12. To maintain such a hypothesis it is necessary to stipulate for a third factor, a predisposing cause which may exist in local tropical conditions—conditions which favour a more precocious and luxuriant growth of all fungi, a matter of common observation to laboratory workers in the tropics.

General Conclusions.

Finally, as a result of my investigations I am able to put forward the following conclusions:

1. Sprue is a specific disease of tropical and subtropical countries, though it is possible that cases occasionally originate in temperate zones.

2. It is a prevalent disease in Ceylon, especially amongst the Europeans. Contrary to the opinion hitherto held, it occurs amongst the natives irrespective of race or mode of life.

3. This fact, together with the occurrence of the disease in people closely associated with one another, suggests some local influence or some communication of the specific cause from man to man.

4. Sprue is a variable disease. It may occur in a mild or in a particularly virulent form, and, in common with many other serious diseases, is prone to sudden exacerbations, remissions, and periods of latency.

5. There is evidence that the disease may occur as distinct clinical forms, according to the portion of the alimentary canal attacked.

6. Researches in the composition of the stools point either to a complete absence or inadequacy of the intestinal digestive ferments.

7. Researches on the blood and on the urine suggest that certain of the more important clinical features of sprue are dependent on an alimentary toxaemia.

8. The pathological findings are also in favour of such a conclusion, and, if anything, point to an invasion with the thrush fungus (*Monilia albicans*) as being concerned in their production.

References.

[1] Kohlbrugge: *Ned. Tidjschr. v. Geneelsk.*, 1901, ii, No. 16; and Mense's *Archiv*, 1901, vol. v, No. 12, p. 394. [2] Le Dantec: *Compt. rend. de la Soc. de Biol.*, 1908, lxiv, No. 21, p. 1066.

THE report presented to the annual meeting of the Automobile Association and Motor Union shows that it has 86,402 members. In addition to ordinary members, there are light car members who pay an annual subscription of 1 guinea and 32,000 motor cyclist members paying half a guinea. Mr. Joynson-Hicks, in moving the adoption of the report, said that proposals for the further taxation of motorists should be resisted. He believed that a properly made road was not damaged by motor traffic, and that, as ratepayers and taxpayers, motor users were entitled to demand that roads should be up to sufficient strength to carry the heaviest form of traffic.

THE "CONTROLLED" USE OF NEW TUBERCULIN IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY

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AND

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LATE HOUSE-PHYSICIANS AT THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

It is obviously absurd to say that tuberculin is of value because two or three patients have improved under it, just as the converse is equally absurd. What we have done here is to attempt to work on some fair system by which to prove the efficacy or otherwise of tuberculin, and the system we adopted was one of controls. As many cases as possible of pulmonary tuberculosis (the criterion for which was the presence of tubercle bacilli in the sputum) were collected and paired off in such a way that a febrile patient was paired with another febrile, whilst an afebrile was paired with an afebrile. Then by lot it was decided which should be given tuberculin, so that there should be no suggestion as to picking cases, for if tuberculin is to be given with any idea of proving its value, it is, of course, useless to administer it only in cases in which the prognosis is distinctly favourable. Further, as fresh patients were admitted into the hospital, it was decided by lot which should be given tuberculin and which should act as controls.

Although we admit that it is practically impossible to select two cases precisely similar in degree and extent, yet we think that if a sufficiently large number of cases is observed on this plan this difficulty is to a great extent abolished.

The period over which the treatment should extend was decided as three months. This, unfortunately, is too short, yet we find that it is a period commonly chosen for tuberculin treatment in private practice, and the difficulty of keeping several patients in hospital for a longer period was very great.

The cases were classified into three groups:

1. *Afebrile cases.*
2. *Intermittently febrile cases*—that is, using the term "intermittent" in the sense that after a day or two rise the temperature would fall to normal, and then a further rise would be recorded.
3. *Febrile cases.*

A temperature of 99° F. was our standard; anything over that was considered to be febrile, and the patients were consequently kept in bed. If, however, at the end of the second day following this the temperature was below 99° F. they were allowed up for two hours, this period being gradually increased day by day as long as there was absence of fever. Many of the patients remained febrile as long as a month, and then would pass into an intermittently febrile or afebrile condition, but to overcome this difficulty the original classification was adhered to. Such cases as were severely ill, and those complicated with pleural effusion which masked the signs, by severe recent haemoptysis so that they could not be examined fairly, and extensive laryngitis which obscured the pulmonary sounds, were not included in our series.

Method of Administration.

The tuberculin selected to be used was the new tuberculin T.R., and it was decided to give minute doses, increasing the doses gradually every second or third day at first and later at longer intervals in the case of the afebrile patients, while the febrile patients received a dose every fifth or seventh day. The initial dose in the former case was 1 one hundred thousandth milligram, and was increased to 2, 3, 5, 8 and 12 one hundred thousandths milligram, and then again about three-fourths as much again every dose. In the febrile cases the original dose was 1 two hundred thousandths milligram T.R. The object was to work up to the strength of T.R. the patient would take without producing a reaction. When a reaction did occur the patient was kept quiet, and after a few days the same dose was repeated, and if no reaction followed the treatment was continued as before. If, however, a reaction occurred a second time, then a further

period of rest from tuberculin was given and was followed by a smaller dose than those which produced reactions. The maximum dose reached was one-tenth milligram, and this in the case of one patient only.

Method of Investigation.

We decided that the factors on which improvement or otherwise should be based must be two—namely:

1. The pulmonary condition as determined by the physical signs.
2. The general condition as determined by the weight, temperature, pulse-rate, cough, and amounts of sputum brought up daily by the patient.

These facts were all recorded daily about every patient in our series of cases, except the weight, which was taken fortnightly.

Special attention was paid to the physical signs. A systematic physical examination of every new patient was made and recorded without any information as to his history and without any reference to out-patient notes. A separate examination was made by the physician in charge of the case (Dr. Batty Shaw) in the same unbiassed way, and the two results were then compared. If any discrepancy appeared, an agreement was arrived at and the combined result recorded. Fortnightly examinations of the chest were made by one of us to note any gradual increase or decrease of signs, and prevent the fallacy of attributing a slight superimposed attack of bronchitis, etc., to the original condition. As it was noticed that after a day or two of rest in bed the physical signs tended to subside, the first examination for the comparison was not made on the day of admission. This may not seem fair, as at the end of the three months the patient in many cases was doing exercise, but it must be remembered that he had gradually worked up to this exercise and that he was doing no more than his condition was capable of; whereas several of the patients who had been working up to the time of admission had been doing more than their condition allowed and the lung was consequently very irritable. After rest of a day or two the lung in these cases had returned to what we might call its normal condition, and then a fair comparison could be made. A comparison of the relative increase or decrease of physical signs has been accepted as the only reliable clinical method of estimating the lung condition, but no one imagines the markings of physical signs to indicate the exact extent of the lesion, for *post-mortem* examination almost invariably proved the contrary.

At the end of three months each patient was examined separately by Dr. Batty Shaw and by one of us, and after a comparison of results an agreement was arrived at. The position of the apex beat and the mapping out of the cardiac dullness were found to be very important signs in the diagnosis of fibrosis, and in more than one case a distinct alteration in the position of the heart, due to fibrosis of the affected lung, was noted.

We must state further that when we report that a case showed an increase or decrease of signs at our final examination, it must be understood that the final estimate represents the end of a crescendo or decrescendo movement.

Results.

	Improved.	In statu quo.	Worse.
PHYSICAL SIGNS.			
Afebrile cases (18)—			
Under tuberculin	5	3	1
Without tuberculin	2	5	2
Intermittently febrile cases (40)—			
Under tuberculin	3	6	11
Without tuberculin	7	8	5
Febrile cases (4)—			
Under tuberculin	0	2	0
Without tuberculin	0	1	1
GENERAL CONDITION.			
Tuberculin-treated patients ...	13	10	8
Controls ... ... —	16	9	6
WEIGHT.	Gained Weight.	Lost Weight.	In statu quo.
Tuberculin-treated patients (31) ...	20*	7	4
Controls	22†	7	2

* Average gain = 7¾ lb. † Average gain = 8¾ lb.

It will be noticed that in the table of results the weight statistics are recorded separately, though we have declared above our intention to include them under "General Condition." Further, it will be seen that the two records do not correspond, though we admit that the weight factor is an important one in estimating the general condition of a patient. The extreme difficulty of adding together all these varying factors—physical signs, weight, temperature, etc.—has deterred us from publishing a summary of our results under one heading. The above statistics were compared in three sections quite independently of one another, and we conclude by drawing our inferences in the same independent manner.

CONCLUSIONS.

1. With regard to the local lesion, tuberculin seems to have done good in the afebrile cases, and though it will be pointed out, perhaps, that these are the only cases suitable for tuberculin, it must be remembered that such cases formed less than 30 per cent. of our total. Tuberculin was apparently harmful to the intermittently febrile patients who formed the bulk of our series.

2. Tuberculin had no apparent effect in increasing the weight or in improving the general condition, and in both these cases the balance of improvement is on the side of the controls.

In conclusion we should like to take this opportunity of thanking Dr. Batty Shaw for his kindness in allowing us to pursue these investigations among patients under his care.

A NOTE ON SIXTY-THREE SUCCESSIVE CASES OF ENTERIC FEVER TREATED WITH VACCINES.

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DURING the past year and a half I have been responsible for the vaccine-therapy of 63 cases of typhoid fever. Although so small a series is of little statistical value its publication may interest those at least who wish to collect lists of such cases from as wide a field as possible, since this is the first series published from Mauritius.

From 61 of the 63 the causative organism was isolated, either from the blood (58) or from the faeces (3). All the cultures made from the two remaining cases were negative, but there is little doubt as to the diagnosis.

I have been accustomed to classify the cases as "favourable" and "unfavourable." The former class being those coming under vaccine treatment not later than the tenth day of the disease; and the latter those in which treatment was delayed until the fourteenth day of the disease, or later. No doubt this division is somewhat arbitrary, but some such classification is necessary. It may be mentioned that the date of onset of any febrile infection can usually be determined much more readily here than at home, owing to a pronounced Mauritian weakness for taking temperatures on every possible occasion.

Of the 63 cases under review, 45 belong to the "favourable" class, and 11 to the "unfavourable." They were average examples of the variety of enteric fever endemic in the colony, which resembles that found elsewhere. Some, however, believe that in Mauritius the disease tends to run a longer course than at home—possibly the septicaemic stage lasts longer—certainly, in my experience, the causative organism can readily be isolated from the blood at a period of the disease when, according to home teaching, cultures are likely to be negative. Thus I was successful in isolating the bacillus from the blood in 12 out of 14 cases between the fourteenth and twenty-fourth days of the disease.

The age of the patients in this series varied from 18 months to 70 years, and they usually came under observation as undiagnosed cases with febrile symptoms. The routine procedure was then an immediate blood culture. If the symptoms suggested possible enteric fever, an injection of a stock typhoid vaccine was given at the same time.

If the cultures showed *B. typhosus*, an autogenous vaccine was prepared without delay, with which the patient was treated subsequently. It appeared advisable

to treat a few cases which presented symptoms of profound toxic poisoning with a stock vaccine prepared from an old and very avirulent strain, but the great majority of the cases received autogenous vaccines. The disparity in numbers between the two groups is too great to allow of any comparison of results.

Mortality.

There were two deaths in this series—a percentage mortality of 3.1. The "favourable" and "unfavourable" groups supplied one death each.

The patient belonging to the former class came under treatment on the third day of the disease; he appeared to be progressing most satisfactorily, when he suddenly developed acute bronchopneumonia, and died of this complication two days later.

The other fatal case had already had several haemorrhages before coming under treatment—about the fifteenth day of the disease. She appeared to react neither to her own infection nor to the vaccine, which was administered most cautiously. She had several other haemorrhages, one of which terminated fatally.

Complications.

With the exception of the fatal attack of bronchopneumonia mentioned above, all the complications and relapses were confined to the 11 late cases. Three of this group suffered from haemorrhage subsequent to coming under treatment; of these, one—the second fatal case—had had haemorrhages previously, as already noted. In another the single haemorrhage occurred only the day after treatment was begun.

Two cases suffered during convalescence from localized staphylococcus infections; these can hardly be considered typhoid complications, since they might occur with equal readiness in any other debilitating condition. These complicating infections yielded to autogenous staphylococcus vaccines. There were no other complications.

The "unfavourable" group supplied the only two relapses that occurred. Two of the cases were pregnant, but both passed through the attack without mishap.

Results.

The results in the cases under treatment early were most striking. There is no doubt that the disease was rendered definitely milder, and most of the patients progressively improved from their first or second injection. Three showed a constant and progressive fall of temperature after each injection, but this marked sequence was not a usual feature. The most striking point was the absence of symptoms other than the pyrexia; the headache, lumbar pains, abdominal distress, etc., disappeared, and the patients felt well and slept well; they did not look ill. In the words of one Mauritius practitioner, "My vaccinated enterics give me no anxiety."

From such small numbers it cannot be said that the disease was distinctly cut short, although there seemed to be clinical evidence of this in several instances; certainly the period of convalescence was markedly shortened owing to the mildness of the course and the freedom from distressing symptoms and complications.

These remarks apply especially to the "favourable" group; the advantages of vaccine treatment in the late cases were much less marked, and sometimes there was no appreciable benefit whatever. In spite of the small actual numbers, the distribution of deaths, complications, and relapses in the 11 late cases and the 52 others respectively, is significant. In no case did the treatment cause any appreciable ill effects.

Dosage.

The dosage varied with the age and condition of the patient, but for well-built adults the initial dose was usually from 150 million to 300 million. Increasing doses were given at two or three days' interval. In two cases only was the dosage controlled by opsonic observations. The largest dose given to any patient in this series was 1,500 million.

Of the 63 cases of enteric fever, 7 were treated in the military hospitals, and I am indebted to superior authority for permission to include these; my thanks are due to several Mauritius practitioners for permission to include the remaining 56. These latter were regarded largely in the nature of test cases, and were discussed from time to time at the meetings of the medical society. The results obtained were considered so satisfactory that vaccine therapy is being adopted in the civil hospitals, and generally throughout Mauritius, as routine treatment for enteric fever.

Paratyphoid and Other Infections.

A smaller series of paratyphoid fevers was treated during the same period on similar lines; with one exception all these cases ran a mild course, and there were no deaths.

Amongst the cases regarded as possibly enteric fever until the result of the blood culture became evident may be mentioned — streptococcal endocarditis (one case); septicaemia due to *B. coli communis* (two cases), to *B. lactis aërogenes* (one case), to a bacillus of Group "G," subgroup "*m*," variety 14* (one case), and to a bacillus of Group "H," subgroup "*d*," variety 14* (one case). In the limited literature available I can find no record of the two last-named organisms having been isolated from the blood before. However this may be, their occurrence is probably sufficiently rare to deserve mention.

HERNIA OF THE UTERUS, VAGINA, AND FALLOPIAN TUBES IN A BOY.

BY

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THE following case is recorded, first because it is a very good example of "hermaphroditism" in a boy of 14, and secondly because it illustrates what must be excessively rare contents in the hernial sac of a male.

Virchow in 1872, Boddaert in 1875, Marchand in 1883, and others at a later date have reported cases of reduplication of the genitalia.

There is a specimen in St. Bartholomew's Hospital of a man aged 44. He had the normal conformation of a man with a beard and a full sized penis. He was married, and is said to have had two children. The bladder and external organs of generation were those of a man in whom neither testis had descended into the scrotum. Internally the uterus masculinus and vagina were unusually developed. The uterus, which was nearly the size of that of an adult female, lay between the bladder and rectum, and was enclosed between two layers of peritoneum to which on either side of the uterus were attached the testes.

At a meeting of the British Medical Association in London in 1895 the internal organs of a child who died after operation for inguinal hernia were shown. There was a normal bladder with prostate gland. Projecting backwards were a vagina, uterus, and broad ligaments, round ligaments and Fallopian tubes, with testes in the position of the ovaries.

On May 16th we operated at the Bingley Cottage Hospital on a boy aged 14 years, Dr. Dixon giving the anaesthetic.

The boy was the youngest of a family of eight children. The oldest child is a male; the others are all girls. None of them exhibit any unusual anatomical condition. In addition to the living family the mother had four stillbirths, the first at full time, when both the child's feet were deformed, and three at three months.

The mother said that the boy had always been "boyish" in his ways and habits, fond of boxing and other athletic pursuits. About his sixth year he developed enuresis, which had continued to the present time, but was always most marked when he had discomfort in the region of the hernia. His voice began to break about a year ago, and at the same time he complained of pain in the nipples; the mother found a swelling, which she described as hard and lumpy and the size of a pigeon's egg, round each nipple. As this was only noticed for two or three days, she did not take him to see a doctor. A few months later there was a recurrence of the condition, which lasted less than twenty-four hours; it had not recurred since. Until the hernia began to trouble him he never had occasion to see a doctor.

* Classification of "bacilli which neither ferment lactose, nor liquefy gelatine," as in Local Government Board Report, 1911-12, etc.

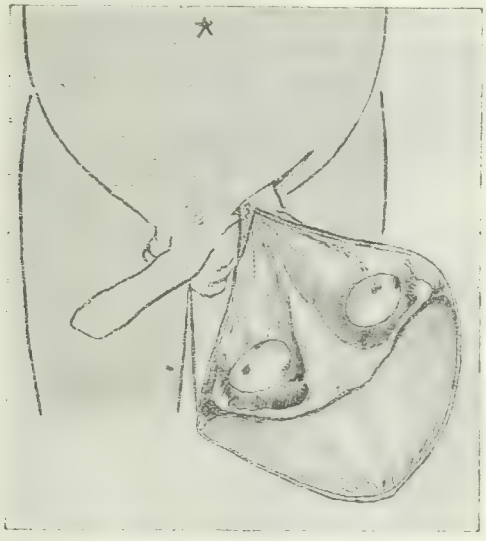
The external conformation of the boy was perfectly normal. There was some growth of pubic hair; the penis was unusually large and perfectly formed. There was no alteration in the formation of the scrotum, and the perineum was not dimpled. The right testis had not descended; on the left side there was a normal-sized testis lying horizontally at the bottom of a hernial sac which reached to the lowest limit of the scrotum. The sac contained what was thought to be omentum, which could be traced up to the internal ring as a thickened cord.

The usual oblique incision was made in the left inguinal region and the hernial sac exposed. Slight traction resulted in delivery of the whole sac on to the surface of the left thigh, bringing with it the left testis.

An incision was made into the sac, and the testis, lying horizontally, was drawn upwards; with it there appeared a perfectly formed Fallopian tube, having no apparent direct connexion with the testis.

Pulling the testis downwards brought into view the whole of the internal organs of generation of a female (as shown in the drawing), with the exception that the positions usually occupied by the ovaries were filled by testes

The uterus was deep red in colour and the normal size for a female of this age; it lay between two layers of peritoneum, was slightly bicornuate, and traces of round



ligaments passed away from its two cornua forwards. The lower part of the uterus ended in a thickened cone at the cervix, and from this there passed off a wide band of fibrous tissue in the position of the vagina; this band of tissue ran up into the abdomen behind the bladder and became lost on the pelvic floor. The vaginal tract did not appear to be hollow at any part.

Behind and below the uterus on either side lay a perfectly formed Fallopian tube; attached to each at its free end was a hydatid of Morgagni. There was a fine fibrous band passing from the uterus below the attachment of the Fallopian tubes to the region usually occupied by the ovaries. These bodies (proved to be testes) lay horizontally, and were attached to the broad ligament by a mesentery. They were of the normal size for a boy of 14, but devoid of epididymis or of vas deferens; in shape they were ovoid, the surfaces being shiny, smooth, and clear white, except for a few areas of a light brown tint apparently due to fat. From the lower part of each testis a sheaf of large veins ran up into the abdomen.

The mobility of the whole sheet of tissue containing the organs was remarkable, and the organs could be drawn out exactly as we have shown it in the sketch, made immediately after the operation.

The question of treatment presented considerable difficulty. Excision of the whole area would have been easy, but removal of the uterus and tubes alone would have been difficult. Reposition of the testis on the left side might have been the correct thing to do, but separation of its blood supply could not be ensured.

Eventually it was decided to close the opening in the sac and return the whole to the abdomen; this was very easily done, and the usual radical cure for hernia performed.

The boy made an uninterrupted recovery.

A portion of each testis was excised and sent for microscopical examination; the report states that both are testes with some excess of fibrous tissue.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ACUTE VARICOCELE DUE TO THE PRESSURE OF A GREATLY DISTENDED LEFT KIDNEY (NON-MALIGNANT).

C. J., aged 38 years, came to my out-patient department complaining of a large varicocele on the left side, which had developed during the preceding six weeks. Inquiry elicited a history of intermittent haematuria and left renal pain extending over several years, and on examination a large fluctuating tumour could be made out in the left lumbar region, while the cystoscope showed a "pus shoot" from the left ureter.

The kidney was removed intact after resecting the twelfth rib. It contained several branched calculi and a large amount of pus, and weighed 5¼ lb. There was no evidence of a neoplasm. The patient made an uneventful recovery and his varicocele rapidly subsided.

The appearance for the first time of a left-sided varicocele in an adult suggests carcinoma of the corresponding kidney, and clinical teachers love to dwell on the point as being a good example of "diagnosis by induction" based on an accurate knowledge of the destinations and modes of termination of the spermatic veins.

This case is recorded to demonstrate that non-cancerous lesions of the left kidney may also give rise to an acute varicocele.

Sheffield SINCLAIR WHITE.

MEMBRANOUS NON-DIPHTHERIAL LARYNGITIS.

THE rarity of this condition and the fact that primary membranous laryngitis is almost universally attributed to diphtheria are sufficient to justify a review of the following case. It may also, as far as it goes, afford slight proof that our predecessors in medicine were not altogether wrong in differentiating between diphtheritic and non-diphtheritic croup, especially in adults. It is also noteworthy because, although it is common knowledge that there have recently been many cases of membranous pharyngitis characterized by high fever, great pain in swallowing, the presence of a membrane clinically indistinguishable from diphtheria and limited to the tonsils, with absence of the Klebs-Loeffler bacillus and of paralytic sequelae, this is the only case I have heard of in which the membrane has appeared in the larynx.

On May 24th, 1914, I was consulted by a married woman, aged 32, on account of pain in swallowing. The only explanation she could give of her illness was that she had been dusting a very dusty room two days previously. Beyond slight congestion the pharynx was normal, and there was no loss of voice; the case was regarded as one of mild pharyngitis. The next day the pain was much worse, there was tenderness over the larynx, and the patient could only swallow liquids and even those with the greatest difficulty, so that she practically starved herself for several days. She only spoke in a whisper. On laryngoscopic examination congestion of the whole larynx was seen with marked oedema of the arytenoids and aryteno-epiglottidean folds. Respiration was forced, and the patient was afraid that she might choke. Inhalations of compound tincture of benzoin were ordered, the room kept steamed, and antiphlogistine applied externally. Cocaine lozenges failed to relieve the pain of swallowing. There was frequent dry, painful cough. The following day (May 26th) a pearly-white membrane, apparently diphtherial, was seen on both arytenoids, in the inter-arytenoid region, and on the epiglottic folds, but the swelling was less and the temperature, which the day before was 103°, had come down to 101°. Antitoxin was injected and a swab taken, but the report

from the medical officer of health was that diphtheria bacilli were absent. A throat spray containing sanitas was ordered. The next day the oedema had further subsided, but as the membrane was as clearly defined as before, I saw the patient in conjunction with the medical officer of health (Dr. Linton), and we agreed that the case was probably not diphtheria. A further swab was taken and examined by Dr. Linton, who reported the presence of a few diplococci resembling pneumococci, abundant streptococci, and Hoffman's bacilli in fair numbers.

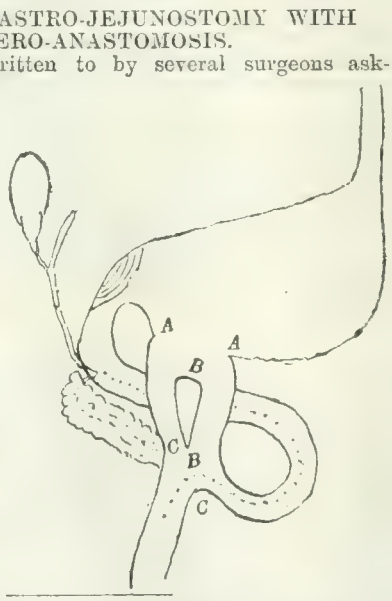
Further progress was uneventful—the temperature rapidly came to normal, the pain subsided, but the membrane persisted for several days, gradually diminishing in size and not separating *en masse*, as in diphtheria. There was never any haemorrhage.

The points that were relied upon as distinguishing from diphtheria were: (1) The absence of toxaemia (the general condition, apart from exhaustion from lack of nourishment and pain, remaining good); (2) the marked pain on swallowing; (3) the high initial temperature; (4) absence of involvement of vocal cords; (5) separation of membrane by dissolution, and not *en masse;* (6) absence of Klebs-Loeffler bacilli.

Tunbridge Wells. FRANCIS RILEY, M.D., B.S., F.R.C.S.

POSTERIOR GASTRO-JEJUNOSTOMY WITH ENTERO-ANASTOMOSIS.

As I have been written to by several surgeons asking me to describe my method of doing the double operation for gastric or duodenal ulcer (April 25th, p. 914), and as some confuse my procedure with that of M. Roux, which is a much more complicated and prolonged affair, I append a diagram showing the completed operation. From A to A = 3 in., B to B = 2 in., C to C = 1½ in.



G. GORE GILLON, F.R.C.S.Ed.,
Surgeon, Auckland Hospital, N.Z.

A CASE OF GANGRENOUS LITTRE'S HERNIA.

THE occurrence of gangrene of Meckel's diverticulum in a hernial sac appears to be of sufficient rarity to make it worth while to put the following case on record. Apart from the rarity of the condition found, the case presented a great deal of interest from a diagnostical point of view, though it need scarcely be said that a correct diagnosis was not made before operation.

On June 5th, 1914, I was asked by Dr. Johnson, of Callington, to see in consultation a farmer, aged 27; the only noteworthy feature in his previous history was that when he was 4 years old he had a sudden right-sided scrotal swelling. This disappeared within an hour or two and never returned until his present illness. No truss had been worn and he felt no weakness. One week before examination, while he was dancing, he felt an acute pain in the right inguinal region and had been unable to pass urine for several hours. Next day he noticed an inguinal-scrotal swelling; the pain and swelling gradually increased. There was no vomiting, and the bowels had acted well as the result of purgatives. The patient looked ill, the temperature was 100.8° F., the pulse 104, the tongue dry and coated, and there was an extremely painful inguinal-scrotal swelling. The overlying skin was red and oedematous. The swelling was irreducible, there was no impulse on coughing, and the fingers could not be got above the mass. The testicle could not be differentiated owing to the pain, the scrotum was not translucent, and there was no urethral discharge. We considered that possibly the condition might be one of four things: (1) Torsion of the testicle; (2) rupture of spermatic vein; (3) strangulation of an omental hernia; (4) appendix abscess pointing in a hernial sac.

On the next day I explored the swelling and opened into the sac of a congenital hernia; this contained a quantity of thick pus, the testicle being literally in a bath of pus. Protruding through the external ring was a dirty grey substance which readily broke when fingered; with very gentle traction I pulled upon this, and a piece of gut appeared which ended blindly in the grey substance. On further traction a loop of small intestine presented, and the first piece of gut was then seen to be a blind diverticulum of the same diameter as the small intestine, about 4½ in. long, and strangulated about 2 in. from its proximal end. The loop of small intestine was clamped and the diverticulum removed, the stump invaginated and carefully washed with lysol and returned to the abdomen. Owing to the condition of the patient and the suppuration present, I made no attempt to deal with the hernia beyond placing a few catgut sutures in the inguinal canal. Probably the sac will become obliterated as the result of the inflammatory conditions present. The patient has made a good recovery, and no peritoneal inflammation occurred, in spite of the purulent surroundings from which the diverticulum was removed.

BRIAN METCALFE, M.R.C.S., L.R.C.P.,
Cornwall. Honorary Surgeon, Liskeard Cottage Hospital.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

MANCHESTER CHILDREN'S HOSPITAL, PENDLEBURY.

TUBERCULOUS PERITONITIS IN AN INFANT FED ON UNBOILED COW'S MILK.

(By HUGH T. ASHBY, B.A., M.D.Cantab., M.R.C.P.Lond., Physician to the Hospital.)

THE following case is interesting in that tuberculous peritonitis is very rare in a child so young, and also because it had been entirely brought up on unboiled cow's milk.

Up to 9 weeks of age the infant, a male, had thriven well, but it then had an attack of gastro-enteritis, which lasted four to five days. Directly afterwards it began to waste steadily, and the abdomen gradually enlarged. When seen, three weeks after the onset of the illness, it looked ill; it had evidently wasted, and the abdomen was very distended and tense all over; it was refusing food; the motions were slimy and undigested, and there was slight vomiting. The abdomen was uniformly distended, but was not tender to palpation, and the infant never appeared to have any pain. Rectal examination revealed nothing abnormal, except the distension of the abdomen. The temperature had been raised to 100° to 101° F. each evening, and it was obvious that the baby was steadily going downhill.

It was decided to ask Mr. C. Roberts to explore the abdomen and, if possible, relieve the distension, which was beginning to embarrass the breathing. At the operation about a pint of clear fluid was removed; in the upper part of the abdomen were some miliary tubercles on the peritoneum which gave rise to some opaque cheesy thickening, and the intestines were matted together. The adhesions were separated as far as possible and the abdomen closed. The baby rallied from the operation, but afterwards became worse, and died ten days later.

Tuberculosis of the peritoneum is far more common in children than in infants, especially so young as this (three months). On the other hand, it is more common in infants to have a miliary tuberculosis of the peritoneum in the course of general tuberculosis, which does not, as a rule, show abdominal symptoms. In this case the tuberculosis was limited to the abdomen.

The infant had been brought up entirely on unboiled cow's milk. The family live in the country. No member had had any tuberculosis, all being perfectly healthy. I think it is safe to conclude that the milk was the infecting agent in this infant. The diagnosis was at first not straightforward, but as the abdomen became steadily larger, remained painless, and as there was no serious diarrhoea or vomiting, it was evident that there was a more serious condition present than gastro-intestinal

catarrh. The question of a growth, such as a renal sarcoma, came up for consideration, but the abdomen was always uniformly distended, and no tumour could be felt at any time.

Pituitary extract mj subcutaneously seemed to brighten the infant up each time it was injected, and a few minutes after each injection a motion was passed, showing the very marked effect on the unstriped muscle of the intestines.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

DORSET AND WEST HANTS BRANCH.

THE summer meeting of the Dorset and West Hants Branch was held at the Town Hall, Bridport, on July 8th, when the President, Mr. H. H. DU BOULAY, was in the chair, and thirty-one members signed the attendance register.

Autumn Meeting.—It was decided that the autumn meeting should be held at Bournemouth.

A Bridport Worthy.—Mr. C. EDWARDS, Vice-President, gave an interesting account of the life of Dr. Roberts, a Bridport worthy. The PRESIDENT thanked Mr. Edwards for the care he had given to the historical research, and congratulated him on the interest his paper possessed.

The Theory and Practice of Tuberculin Treatment.—Dr. H. C. MANNING (Dorchester), in opening a discussion on this subject, said that tuberculin caused tubercle, and was the weapon with which the bacilli first entrenched themselves and then made further inroads. Efforts towards inflammatory protection after the first few days were cut short, owing to the toxins hindering the nutrition of the newly-formed epithelioid cells. It was the central zone of the tuberculous nodule that tended to break down. Here the toxins were most concentrated, and there was an absence of capillaries, which were unable to grow into the dense nodule. Capillaries already formed became thrombosed and then disappeared. Tuberculosis was indeed a bloodless scourge. Immunization aimed at habituating the body tissues to tolerate contact with tuberculin without affecting their vitality. The healthy man had a natural immunity up to 0.01 c.cm. of old tuberculin, but this, by carefully increasing the doses, could be raised until 1 c.cm. or even 2 c.cm. could be borne. This acquired tolerance was due to the production of an antisubstance capable of neutralizing the toxins and thus protecting the tissues. Ehrlich's hypothesis explained the formation of antitoxin as being due to an over-production of receptors by the central atom of the protoplasmic molecule. In the case of tuberculosis, in such tissues as the lungs and serous membranes, this defensive process was slow and weakly performed. The receptors were not cast off or reproduced quickly enough, and the attached toxins were able to act destructively upon the whole molecule. By concentrating in one spot the bacilli were able to prevent defensive co-operation on the part of the other cells. But tuberculin given subcutaneously was carried by the blood stream into contact with every tissue, and sensitive cells were stimulated to develop defensive powers. The treatment, as it were, inflicted a scratch upon the cell and hurt it so as to harden it; whereas the bacilli, with their concentrated toxins, stabbed it to the heart. Absorption of autogenous tuberculin from the lesion into the general system, with consequent formation of anti-tuberculin, was to be regarded as the natural cure. The strict localization of the bacilli and the non-vascularity of the part, would seem, *a priori*, to impede the absorption of autogenous toxin in sufficient quantity. Possibly, also, the tuberculin lost much of its toxicity in being fixed by the cells, as happened to tetanus toxin with emulsions of nervous tissue. Introduced tuberculin caused, or accentuated, a zone of inflammation round the tuberculous focus where the autogenous toxins had begun to act. Large overdoses might cause necrosis in this situation. The aim was by carefully regulating this inflammation finally to produce cicatrization. Tuberculin stood foremost as a remedy in tuberculosis, but its value would be found to be priceless when used as a prophylactic in the predisposed. The discussion was continued by the PRESIDENT, Mr. C. EDWARDS, Dr. MACPHERSON LAWRIE, and Mr. C. HINE. Dr. MANNING replied to various questions, and at the close of the meeting he showed members the Tuberculin Dispensary at Bridport.

Abdominal Cases.—Dr. NORMAN FLOWER (Yeovil) read notes on the following abdominal cases:

CASE I. *Long-standing Duodenal Ulcer.*—A man, aegd 59, gave a history of duodenal ulcer for thirty years, with frequent attacks of melaena—the last, a very severe one, occurring after he came under observation. Posterior gastro-enterostomy ("no-loop" anastomosis with vertical opening) was done, there being evidence of previous subacute perforation in the shape of numerous adhesions throughout the abdomen. The after-history of the case was complicated by obstruction of the afferent limb of the anastomosis on the fifth day, necessitating a reopening of the abdomen on the left side; later by a giving way of the first wound on the eleventh day during coughing, with prolapse of several coils of small intestine into the bed; and lastly, by an attack of right-sided lobar pneumonia with empyema. The patient recovered, and the ultimate result left nothing to be desired.

CASE II. *Rupture of Bladder.*—A man, aged 70, height 5 ft. 8 in., weight 19 st., an alcoholic, returning home one night, semi-intoxicated, tripped over a stone and fell on his face. Early next morning he was seized with severe abdominal pain, with ineffectual desire to micturate. A catheter drew off 4 oz. of blood-stained urine. The abdomen was opened twenty-four hours after the accident and drained as a preliminary measure, a catheter being tied in. Four days later, his general condition being more satisfactory, the abdomen was reopened and the wound in the bladder sutured, with considerable difficulty, owing to the extreme obesity of the patient. Recovery was uneventful, with the exception of the formation of a left-sided scrotal abscess, the result of percolation of urine through the excessive pre-vesical areolar tissue. This case, Dr. Flower observed, showed how slight an accident might be responsible for rupture of the bladder, and also that signs of rupture might be delayed some hours; in this case, the delay was probably due to his intoxicated condition.

CASE III. *Impacted Gall Stone Simulating Obstruction.*—Mr. H., aged 63, gave a history of intestinal obstruction for three days. There was general abdominal tenderness, but pain was referred to the lower abdomen. A median subumbilical opening revealed no obstruction, but a large gall stone was found impacted in the cystic duct. Cholecystostomy was performed, with relief of all symptoms. The case was of interest as one of absolute reflex inhibitory constipation simulating obstruction, and on account of the misleading distribution of the pain.

CASE IV. *Ruptured Tubal Gestation.*—Mrs. M., aged 39, married, with one child aged 7, had two attacks of sharp epigastric pain radiating through to the right shoulder at intervals of two days, with obstinate constipation. Menstruation was affirmed to be regular. There was slight abdominal distension, but no free fluid. The following day she became suddenly collapsed, with symptoms of internal haemorrhage. Vaginal examination was painful, and there was tenderness in the right fornix. The patient was *in extremis*, and was transfused intravenously during the operation, which revealed a four months ruptured tubal gestation. Recovery was uneventful. The patient subsequently admitted that she had been losing on and off for the previous five weeks.

CASE V. *Carcinoma of Ovary.*—R. W., aged 46, was seized with acute pain in the right iliac region while turning a mangle. She was transferred nine miles to hospital in a cab. The abdomen was acutely tender, especially over the lower part of the right rectus, but rigidity and distension were slight. There was a small area of dullness just above the symphysis, which did not wholly disappear after micturition. The abdomen was explored through Battle's incision; fresh blood escaped, and in the pelvis a thin-walled unilocular ovarian cyst was found, with a rupture at its fundus large enough to admit two fingers. It was removed, and recovery was uneventful. Examination showed it to be a spheroidal-celled carcinoma.

CASE VI. *Pregnancy and Retrocaecal Abscess.*—A woman, aged 30, seven months pregnant, with one child, aged 2 years, became ill with acute abdominal pain, tenderness in the right iliac fossa, vomiting, and absolute constipation. Acute appendicitis with intestinal obstruction was diagnosed, and the question arose as to the best plan of treatment. The uterus was emptied and all the symptoms were relieved. Two weeks later the pulse and temperature rose again, and on opening the abdomen a retrocaecal appendix abscess was found. The appendix was not removed, and the patient is now in robust health and refuses to entertain the idea of appendicectomy.

CASE VII. *Pregnancy and Strangulated Ovarian Cyst.*—A woman, aged 25, four months pregnant, a primipara, on April 30th had an attack of abdominal pain and vomiting lasting two hours. She was seen first on May 3rd. She had then pain and tenderness in the right iliac fossa and a soft swelling. The temperature was 100.8°, the pulse 120, and there was obstinate constipation. On May 4th I found a large tender and painful, but not tense, tumour on the left side of the abdomen, extending from pelvis to costal margin. On May 5th she was removed to hospital, and on May 8th the temperature was normal and the pulse was 110. The periodic vomiting and constipation still persisting, the abdomen was opened on May 9th, and a strangulated cyst of the right ovary was found, which in course of strangulation had rotated to the left side.

There were patches of gangrene in its walls and some peritonitis. It was removed; recovery was uneventful. The interest of the case lay in the fall of temperature and pulse after removal to hospital, while the local lesion within the abdomen was going from bad to worse.

The PRESIDENT and Dr. MACPHERSON LAWRIE discussed the cases; the latter emphasized the marked improvement in surgery in Dorset in the last thirty years.

Luncheon.—The members were most kindly entertained to luncheon at the Greyhound Hotel by the Bridport practitioners before the meeting, and by Mr. and Mrs. Edwards to tea. On the motion of the PRESIDENT, a very hearty vote of thanks was accorded to Mr. and Mrs. Edwards and the Bridport practitioners for their hospitality.

Proposed Hospital for Bridport.—Plans of the proposed hospital for Bridport were shown and explained to members.

Municipal Hospitality.—The Mayor of Bridport kindly allowed a number of papers of historical and antiquarian interest to be shown. Mr. Edwards was asked to convey the thanks of the Branch for the privilege, and also for the use of the Town Hall for the meeting.

Reviews.

APPENDICITIS: THE EARLY OPERATION.

MR. EDMUND OWEN defines the purpose of his short and pithy book on *Appendicitis*[1] in the sub-title, "A Plea for Immediate Operation." In the preface he states that by "immediate operation" he means "that operation ought to be urged as soon as it is well-nigh certain that the appendix is inflamed—that there should be no speaking with the enemy in the gate." We find the doctrine expressed more at length towards the end of the book, when he makes this answer to the question why early operation in appendicitis is not the rule:

> The reply may be that it is all very well to talk about *series of cases*, but when the family doctor is in attendance on any particular case, and is surrounded by anxious parents and apprehensive and criticizing friends, he has to disregard the average and think only of the *individual*. That, in other words, circumstances alter cases. Still, if circumstances do alter cases, they ought not to disturb the principles on which surgical cases should be treated.
>
> But hitherto there has been no principle laid down by general professional consent and teaching in England, as to what should be the rule and guide in the treatment of appendicitis. It must come ere long; and when it comes it will be, I think, in some such form as this: "As soon as it appears fairly certain that the appendix is inflamed it should be removed by operation." The rule of treatment should be made as definite and rigid as is that for the treatment of a strangulated hernia or a cancer of the breast.

More than two years ago Mr. Edmund Owen contributed to this JOURNAL a short paper on "Appendicitis—and quickness"—the quickness with which the process may run its course, and the quickness, therefore, with which the surgeon should make up his mind to operate "when once the presence of the disease is recognized—or, on good grounds, suspected." This article led to much correspondence and discussion, and in particular to a debate at the Medical Society of London introduced by Mr. Owen on February 10th, 1913, in a paper which was published in this JOURNAL (vol. i, 1913, p. 321). The general discussion in the medical press has gone on intermittently ever since, and Mr. Owen has done well to sum up the case and to set out fully the facts and arguments upon which he relies.

The book is addressed especially to the physician and general practitioner. Other books on the subject which we have seen have not been of the type a busy and overburdened practitioner could read with advantage. They have been books essentially written for the pathologist and operating surgeon, but this book should find its way into the hands of every man whose daily avocation brings him to the bedside of the victim of appendicitis in the earliest phases of the lesion. Mr. Owen has dealt with every phase in his own inimitable language, and the book will become a classic, for few writers in our profession possess the ease and grace of style by which this valuable monograph is distinguished. The author marshals his facts in logical order, examines the subject from all points of view, argues whole-heartedly and fairly with his opponents, and finally states in clear, concise and masterly language the way in which experience teaches that this many-sided, treacherous, and too often fatal disease can be met. The many deaths from appendicitis which occur every year are to a great extent preventable, and Mr. Owen's book should lessen this appalling death-rate; it ought to be read by every practitioner, and its publication should result in a great and lasting good.

[1] *Appendicitis: A Plea for Immediate Operation.* By E. Owen, F.R.C.S., D.Sc. (Hon.) Bristol: J. Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd; Toronto: The Macmillan Co. of Canada. (Cr. 8vo, pp. 226; 4 figures. 3s. 6d. net.)

DERMATOLOGY.

A PRACTICAL test of Dr. STELWAGON'S very complete treatise on *Diseases of the Skin*,[2] on all subjects—diagnostic, controversial, and therapeutic—connected with the speciality, justifies the statement that it is one of the most useful textbooks on the subject in the English language. A very convenient feature, and one that should appeal particularly to the busy man, is the printing of references to literature in journals and other textbooks in the form of footnotes on the same page as the subject discussed in the letterpress. Of undoubted value, moreover, is the simultaneous projection in brackets of the Continental value of every prescription cited in English terms. The illustrations, of which there are a very generous number, are particularly good, and the majority will stand magnification with a small lens, which is good evidence of the excellence of the photographic technique employed. The histological reproductions are simple, and should impart a concise and easily remembered knowledge of all the most salient pathological features of the conditions illustrated. The chapters on blastomycosis, sporotrichosis, and pellagra are thoroughly up to date, and contain references down to April, 1913. The treatment of syphilis is fully discussed under such headings as duration of treatment, and duration of treatment based upon the serum test. This chapter is particularly vivid and carefully considered, and agrees closely in the record of its experiences with those published by authorities in Europe. The writer shows no bias in favour of any special form of treatment, and he is particularly careful in the wording of his eulogies of some of the newer remedies, which, to take radium as an example, "in the hands of those skilled in its use produces brilliant results in some conditions." Of the *x*-ray treatment of acne he says, "The Roentgen rays have been used in this, and sometimes with brilliant results. I can add my endorsement of its value. Many cases can be managed just as well without it." That is the attitude of the cautious and experienced practitioner, who has seen too many changes to be easily carried away by the swing of the therapeutic pendulum. From cover to cover the book is full of sound sense and originality, and the careful reader will extract many a valuable hint in the course of his leisured study of its pages.

In his *Einführung in die Dermatologie*,[3] Professor S. BETTMANN has not adhered to the conception suggested by the title. The book is not in any sense an "introduction," but an advanced histo-physiological study of dermatological principles, and certainly presupposes a textbook knowledge of dermatology. The style is discursive and vigorous, but would hardly meet with the appreciation it deserves in any but the specialist's hands. There are no illustrations, and only one really practical chapter, that on the common localization of the various types of skin disease, in the arrangement of which the author follows the original lead of Sabouraud's *Dermatologie Topographique*. The histology and physiology of the skin are discussed on general lines in the opening chapters, but the absence of photomicrographs and diagrams in illustration of the text renders the meaning somewhat obscure at times, and demands a very close application and concentration on the reader's part. Eruptions are divided into ephemeral and stable varieties,

[2] *Treatise on Diseases of the Skin: For the Use of Advanced Students and Practitioners.* By H. W. Stelwagon, M.D., Ph.D. Seventh edition, thoroughly revised. Philadelphia and London: W. B. Saunders and Co. 1914. (Roy. 8vo, pp. 1250; 334 figures; 33 plates.)

[3] *Einführung in die Dermatologie.* Von Professor Dr. S. Bettmann. Wiesbaden: J. F. Bergmann. Glasgow: F. Bauermeister. 1914. (Sup. roy. 8vo. pp. 194. 6s.)

and the specific types are then dealt with in detail. The nomenclature devised by Hebra and the Viennese school—macule, papule, vesicle, wheal, etc.—is closely followed, and the various diseases enumerated and discussed under one or other of these types. Where they do not conform to them, or are of a mixed or polymorphous character (for example, dermatitis herpetiformis, erythema exsudativum multiforme, etc.) they are treated in a separate chapter, headed "aberrant types." Particular interest attaches to a series of paragraphs on diseases of the nails, which are here more concisely tabulated than in most textbooks, and a new departure—the chapter on the involvement of mucous membranes in skin diseases—is a really valuable contribution to a somewhat neglected subject. There are several other original paragraphs, which include such subheadings as "diagnostic difficulties," "atypical dermatoses," "localizations, courses, and complications of skin diseases," and there is a complete chapter on clinical microscopic methods, and animal experiments. The etiology of skin disease, both exogenous or parasitic, and endogenous or toxic, finds separate treatment in a chapter towards the end of the book, and the relation of the nervous system to skin eruptions is also a new and interesting feature in a work of this kind. As a dermatological treatise and as an aid to the lecturer no more suitable or up-to-date volume exists, but an alteration in the title would prevent much misconception of the contents, and would assuredly be more in keeping with the author's acknowledged reputation.

PHARMACOLOGY.

PERHAPS no branch of biology has made greater progress during the last twenty years than has that of pharmacology. But it is only quite recently that its direct relationship with pathology has been appreciated fully, and the future is full of hope that a symbiosis of these two sciences may explain how pathologically disturbed functions of tissues or organs may be influenced by drugs. MEYER and GOTTLIEB'S *Pharmacology*[4] has as its aim and object this ideal. A translation of this work has now been made by Dr. J. T. HALSEY, which brings before the English reader German conceptions of the science. The arrangement of the book is essentially different from the textbooks of pharmacology with which we are familiar in this country. The drugs are divided into two classes—those which influence organs or functions and those which act on causative agents of disease. Thus chapters are devoted to drugs influencing motor nerve-endings, drugs influencing the eye, the blood, metabolism, and so on. This treatment of the subject certainly commends itself when it is required to be used as a work of reference or by the advanced students, but for the ordinary student of medicine it presents great difficulties. Should he require, for example, to assimilate the general action of caffeine, it becomes necessary to consult the chapters dealing with the central nervous system, voluntary muscle, heart and respiration. So that by this means of developing the subject the attention is directed rather to the tissue which is affected by the drug than to the drug which affects it. Organic chemistry was at one time taught on this same broad principle; the alcohols, ketones, and aldehydes were treated generally, and in groups, but this broad method of teaching, excellent as it may be for the advanced student, is unsuitable for the beginner; experience has shown that it is much more important that the characteristic properties of ethyl alcohol should be fixed on the mind of the beginner than that he should attempt generalization on alcohols as a whole.

We think, then, that this textbook is not for the elementary student of pharmacology. The chapters are for the most part clearly written and intelligently translated, though occasionally words are used which sound strange to English ears, such, for example, as "obstipants" (p. 211), a word used to indicate a drug which stops peristaltic movements. The subject is treated almost entirely from the experimental point of view, and the text contains abundant references to which the reader can refer for additional information. Many drugs of little or no practical importance receive an amount of attention quite out of proportion to their significance; curare is a notable example. Considerable space is also allotted to the vegetative nervous system. It is, we think, a matter of doubt whether any real advantage is derived by using the term "autonomic nervous system," instead of speaking of the nerves to glands or involuntary muscle.

The subject matter of the book is for the most part correct and in conformity with modern ideas, but several remarkable views are set forth in different places which have long since been disproved. Two or three examples of these may be mentioned; on page 247 pilocarpine is stated to act on the vagus in the same position as nicotine. It has, however, been clearly shown that it acts more peripherally than nicotine and that its action is associated with "nerve-endings." Again, nothing can be more certain than that the nitrites act peripherally, directly on plain muscle, yet here we find the old experiments of Filehne (1874 and 1879) recorded as if they were the last word on the subject, and the nitrites are stated to act centrally.

The chapter on the circulation, and especially the references to the mode of action of digitalis, leaves much to be desired. Cardiac slowing is regarded as entirely vagal in origin; the effect of drugs on conductivity and irritability is hardly mentioned, and the translator has commented on this and inserted a paragraph; no intelligible reasons are suggested for the cardiac acceleration under caffeine, whilst the action of camphor and some other drugs on the heart receives an amount of attention which its importance does not warrant.

This is not in any sense a textbook of materia medica and the preparations of the various drugs are not even mentioned. Besides the pharmacological action the indications for the use of the drugs are given or suggested. One distinct feature of considerable value is the discussion of new remedies which have come into use, and in this respect the book is surprisingly complete. It is clearly written, the illustrations are excellent and for a translation the subject matter is particularly easy to follow. As a work of reference it should find a place in the library of all those interested in the progress of pharmacology.

INDUSTRIES FOR THE FEEBLE-MINDED.

Industries for the Feeble-minded and Imbecile[5] is written by Mr. BICKMORE, who has had the advantage of being craftsmaster in charge of the industries for the feeble-minded and imbecile at Darenth during the ten years which saw its transformation into the leading industrial colony for defectives in this country. This position has given him an experience which has fallen to the lot of few others in any part of the world, as Dr. Rotherham, in his introduction, points out. The book is written in a direct, practical manner, and is marked by shrewd observation and common sense.

The last forty pages are devoted to a description of the trades taught at Darenth, which number some seventeen in all. The special merits and difficulties of each trade are discussed, and a brief account given of the apparatus required and most convenient order in which to build up the industry, together with the general principles to be observed by the trainers.

In the opening pages more general questions are dealt with, such as the economic aspect of the matter, the general benefit conferred on the patients, the grading of the patients for work, the training staff, etc. Mr. Bickmore holds the view that it is useless to continue kindergarten methods after the patients have reached 12 years of age; these methods should then be superseded by practical teaching and by the making of articles which the patients see in everyday use. A boy or girl learns more from 12 to 16 than after that age.

The author is fortunate in having had an enlightened board of management who were prepared to spend £9,000 on the erection of workshops and workrooms; this expenditure was more than justified by the results. In considering these, it seems clear that the success achieved was due not a little to certain special factors. In the first place, Darenth contains 2,000 patients, a large number

[4] *Pharmacology, Clinical and Experimental: A Groundwork of Medical Treatment. Being a Textbook for Students and Physicians.* By Dr. H. H. Meyer of Vienna and Dr. R. Gottlieb of Heidelberg. Authorized translation into English by J. T. Halsey, M.D. Philadelphia and London: J. B. Lippincott Co. 1914. (Med. 8vo, pp. 616; 65 figures. 25s. net.)

[5] *Industries for the Feeble-minded and Imbecile: A Handbook for Teachers.* By A. Bickmore. London: Adlard and Son. 1913. (Fcap. 8vo, pp. 72; 11 illustrations. 2s. net.)

of them defectives of very high grade, from whom to draw; of these, 830 are employed in the adult shops; this enables a large number to be employed in the various stages of each industry, and also allows of the provision of a wide choice of industries to suit different capacities. Moreover, the Metropolitan Asylums Board has nearly sixty institutions of its own in which to dispose of the goods made without competing with the market in regard to quality—a most important point on the economic side.

The author calls his work a handbook for teachers, and no doubt it will be serviceable in this way, though it is possible that rather more detailed information in regard to some of the trades, and particularly as to where some of the material and apparatus may be procured, would be helpful to them. It is even more likely to appeal to the managers of institutions now in contemplation, in guiding them in the organization and planning of buildings and the general scope of their work.

A HANDY ENCYCLOPAEDIA.

THE *New Encyclopaedia*[6] has the great advantage that it is in one volume, and therefore is more convenient for reference than works of larger scope, in which one may have to hunt for the information wanted through a number of different volumes. The articles, many of which are written by specialists, are in general short but fairly adequate for the purpose intended, and the information as a rule is brought up to date. The needs of the average man have been kept in view, and in the best sense this new encyclopaedia is a popular work of reference.

The medical articles, as far as we have tested them, are, on the whole, accurate, though they are necessarily so short that we venture to doubt whether they are of any more practical use than the definitions of words given in a big dictionary. To this statement, however, there is at least one notable exception. Gynaecology is treated in an article which seems to us quite out of place in such a publication; no good purpose can be served by describing diseases of the ovary, vagina, and vulva in sufficient detail to make women imagine that they are the subjects of these conditions. On the other hand, the article on surgery is just what it should be: it is written on general lines, states principles briefly and clearly, and is largely historical. In the article on medicine, too, an excellent account of the development of the healing art is given. We think, however, that the names of Manson, Ross, and Bruce, who have done so much to advance tropical medicine, should have been mentioned. The articles on parasitic disease, bacteriology, and pathology give just the kind and amount of information that all educated people should possess. Under the heading "Larynx" the only disease mentioned is laryngitis, of which an account is given that is too detailed for a popular work and too scanty for any scientific purpose. The laryngoscope is not mentioned, and the name of its discoverer appears in two lines under that of his father. In the article on cancer it is said that cancer is increasing, for reasons which are not fully understood, although the eating of meat, and particularly tinned meats, is suggested as a cause. We are glad that our old friend the tomato finds no place in the etiology, as it did in an encyclopaedia of much more ambitious pretensions. In the note on Oliver Wendell Holmes no mention is made of his medical writings, even of the essay in which he showed the contagiousness of puerperal fever. The article on Lister is very poor and sketchy. That on vaccination, though short, is satisfactory enough; but nothing is said of vaccinotherapy, which might well have found a place. The work of Pasteur is dismissed in sixteen lines, which give no real notion of the scope and results of his work. Servetus did not, as is said, foreshadow the discovery of the circulation of the blood, though he actually described the pulmonary circulation. The article on vivisection is written in a reasonable and enlightened spirit, and it is rightly stated that the cause of antivivisection has been greatly harmed by ignorant advocates. The article on homoeopathy is likely, we think, to convey a wrong impression. So far from advancing, it is admitted by its own adherents to be receding, even in America. According to Abraham Flexner, in his report on medical education in the United States and Canada (Carnegie Foundation for the Advancement of Teaching, *Bulletin* No. 4, 1910), in the year 1900 there were twenty-two homoeopathic colleges in the United States. In the succeeding ten years the number had fallen to fifteen; during the same period the number of students enrolled dwindled from 1,909 to 1,009, and the graduating classes from 413 to 246.

On the whole, however, the *New Encyclopaedia* fully justifies its claim to existence. Within the compass of its sixteen hundred pages it contains an amount of information sufficient for the requirements of the ordinary reader.

[6] *The New Encyclopaedia.* By H. C. O'Neill, assisted by a staff of specialists. London: T. C. and E. C. Jack. 1913. (Sup. roy. 8vo, pp. 1633. 7s. 6d. net.)

NOTES ON BOOKS.

X-RAY literature commonly is so very practical and pedestrian that it is something of a refreshment to come upon a book which has *X Rays* on its title-page and professes no immediately utilitarian purpose.[7] Dr. KAYE is one of that small band of young physicists who have been attracted by the problems opening up fascinating vistas ever since Roentgen's discovery. He is not so much immersed in physical theorizing, however, as to fail to give a brief but able account of *x*-ray practice and application. The work is not a popular treatise, for the author, while he is painstaking and even elementary in his description of *x*-ray technique, assumes that his reader has a good mathematical grounding and that he is familiar also with recent developments in physics. It is useful to have within the covers of a moderately priced book an account of those investigations which have not hitherto reached beyond the scattered and somewhat inaccessible pages of society transactions. The most recent research, and in some respects the most influential in its results, concerns the reflections and diffractions of *x* rays by crystals, and the collected account of these investigations makes, perhaps, the most valuable section of the book. There are several appendices, in one of which Sir James Mackenzie Davidson gives his recollections of an interview with Professor Roentgen; and that the subject is capable of lighter treatment than the mathematical formulae would suggest is shown in some verses by a Cambridge friend of the author, who describes first the freeing of the corpuscle from the atom, and then the birth of the *x* ray:

> The corpuscle won the day,
> And in freedom went away,
> And became a cathode ray.
> But his life was rather gay,
> And he went at such a rate,
> That he ran against a plate;
> When the aether saw his fate,
> Its pulse did palpitate.

The marked improvement in the anatomical textbooks of the present day over those of twenty years ago, particularly in respect to illustrations, has made it possible for the medical student to acquire a knowledge of anatomy sufficient for the purpose of passing the ordinary examinations while evading to a greater or less extent the one and only true way of obtaining a sound and permanent knowledge of the subject—namely, dissection. Teachers have become more and more alive to the dangerous and disastrous effect of such a short cut, rendered as it is all the more seductive by the steady increase of the subjects in the medical curriculum with no corresponding increase in its length. Professor A. M. PATERSON'S volume, *The Anatomist's Notebook*,[8] is written for those students, wise in their generation, who wish to follow the old accredited path. In it are given plans of dissections, the order in which structures should be found, and outline drawings to be filled in during the actual dissection. It is a book for notes rather than a book of notes, notes made by the student himself from his own observation. It is in the truest sense educational, both in object and plan, and can be warmly recommended to all those who are willing and wise enough to spend a little extra time in laying a secure foundation for their future studies. The figures, which are purposely diagrammatic, are helpful and on the whole accurate. The drawing of the feet of the subject in Fig. 1 is, however, quite unnecessarily bad, while the course given to the deep epigastric artery in Fig. 17 is definitely wrong. These are, however, small blemishes, and in no serious way detract from the value of the book.

[7] *X Rays. An Introduction to the Study of Röntgen Rays.* By G. W. C. Kaye, B.A., D.Sc. London: Longmans, Green and Co. 1914. (Demy 8vo, pp. 272; 97 illustrations and 28 tables. 5s. net.)

[8] *The Anatomist's Notebook. A Guide to the Dissection of the Human Body.* By A. Melville Paterson, M.D.Edin., F.R.C.S.Eng. Oxford Medical Publications. London: H. Frowde; Hodder and Stoughton. 1914. (Demy 8vo, pp. 361; 26 figures. 6s. net.)

MOTOR NOTES FOR MEDICAL MEN.

By H. MASSAC BUIST.

THE OVERHEAD VALVE ENGINE AND THE PRIVATE MOTORIST.

DESPITE the fact that the Grand Prix race of the Automobile Club de France was for machines with engines of moderate size, coming within the six-guinea tax, otherwise 274½ cubic inches cylinder volume, and that the winning speed over perfect roads, with a minimum of hill-climbing, was only 65½ miles an hour, there was little enough in the event at Lyons to interest the medical motorist. It was again a race between multi-valve motors of very high compression, wherein the overhead setting was used, with its present disadvantages of noise and inaccessibility. If the side-set touring form of mushroom valve ordinarily used goes wrong, it is generally possible to attend to it on the high road. In any case, it is not necessary to break up the engine. But the Grand Prix, like the Tourist Trophy race, showed that when anything goes wrong with the overhead form of mushroom valve, there is no option but to consider the car quite out of the running and to stay by the roadside until somebody comes to tow it home, for it is not possible to get at the valve without dismantling the engine.

If we are looking to the future of motor design, we may of course assume that presently we shall find out enough from racing to be able to construct overhead valves so that they will be at least as reliable as the sort set at the side of the engine. But design will have to be improved besides if overhead valves are ever to come into general use, because there are occasions when side valves go wrong, even to-day, after the many years of experience of them. Therefore it will be necessary to find out how to employ overhead valves so set that in the event of their failure, however rare, it will not do considerable damage to the engine, as we have seen happen so very often in connexion with this year's racing. Further, apart from the matter of damage done in the event of failure, we must consider the question of accessibility. There is no more reason why either of these points should prove insurmountable difficulties when enough experience of the business has been gained than there is that we should not find out how adequately to silence engines with overhead valves.

ECONOMY OF FUEL.

To the question Why should we trouble to develop a new system of valve operation at present attended with such obvious disadvantage? the answer is—Chiefly because it was demonstrated in the Grand Prix race of 1913, run on a fuel consumption limit, that the overhead valve engine gives better results for the amount of petrol used, and last year's Coupe de L'Auto race for 3 litre cars, this year's Tourist Trophy race for 3.31 litre cars, and this year's Grand Prix race for 4½ litre cars, have all shown that the highest efficiency so far obtainable is got with overhead valve engines.

Thus we have the almost picturesque situation that the overhead valve engine, which perhaps comes into most prominence through this business of racing would be obviously the most suitable type for the commercial motor vehicle, for example, which is nevertheless in other respects the antithesis of the racing proposition. Maybe for touring purposes we shall first come to the use of the overhead valve engine, in a general sense, through its gradual exploitation for commercial motor vehicles, where the question of quiet running is not of so much importance as it is to the private motorist. Roughly, by the use of the overhead valve motor, it should be possible to save anything up to 20 per cent. on the fuel consumption, so that under this heading alone there is something worth striving for in pursuing the problem of the overhead valve motor to a stage further.

Of course, the overhead valve has not been unknown to touring car practice in standardized form for a long period, as instance notably the Bedford-Buick car. But in it there is no attempt to exploit the business in its most complicated form, as in racing cars, where the majority are using two inlet and two exhaust valves per cylinder.

PHASES OF THE PETROL PROBLEM.

Though there are only enough supplies of crude oil above ground at the moment to run the world for six months, it is quite possible the price of fuel may be further reduced at no distant date. This is not, according to popular error, because the profit on selling petrol is much higher than the profit on selling crude oil. On the contrary, the chief reason that petrol costs as much as it does is that the demand for it is out of proportion to the demand for the residuary product after the process of distillation. Therefore, when a gallon of petrol is bought in the circumstances which are and have been obtaining, the purchaser has also to pay for a considerable amount of crude material which is simply wasted. Create a demand for those residuary products, and the petrol purchasers would no longer have to pay for them; hence the price of fuel could be lowered. It is largely through the rapidly increasing use of liquid fuel for ships that a demand is arising for residuary products, apart from which it is fortunate that the world supplies of the raw material are being opened up at an enormous rate. Had they not been developed thus rapidly, the expansion of the motor movement would have received a sudden check. As it is, we have merely seen high prices ruling for fuel.

There is some talk that the co-operative and other organizations to which the public has been invited to subscribe in face of the high price of motor fuel are the causes of the price being brought down. This, however, is wildly inaccurate. Of the many proposals that have been put forward under this head, the majority have not been practical propositions. Only a handful have materialized into producers; some of those that are giving delivery buy their supplies in the open market, so that the business is not on a sound basis. There is, nevertheless, a residue of genuine enterprise to relieve the situation. But it is proportionately so small in regard to the total requirements of the country that it figures only as a drop in the ocean, and has no effect whatever on controlling the market. For example, what could any enterprise producing five million gallons of fuel in a year do in the way of causing a lowering of price in a country that requires over a hundred million gallons of petrol per annum?

The chief factors that control the present and future price of the motorist's fuel are the ratio of expansion of the world's supplies to that of the motoring movement. If we are arrived at the point when the former is about to outgo the latter, then the price of fuel must become cheaper. An investigation of the world's motor trade at the moment suggests that, as regards private vehicles of the middle and the large sort, the possible rate of expansion has reached something like a fixed quantity. Therefore, as far as these are concerned, fuel production is either going ahead or is about to go ahead of demand.

On the other hand, we are only beginning to develop the light car and the commercial motor vehicle. The latter would upset all calculations were it not certain that it will soon either be run on other fuel than petrol or on much cruder spirit than is used for the pleasure car, therefore creating a demand for the residuary product and so making for cheapness all round. But the light car, which is perhaps the vastest field we are about to enter, will call for the use of the highest grade spirit. The situation of supply and demand would look grave were it not for the fact that the average light car is extremely economical of fuel; a vast number of these machines can be brought into use without making any heavy additional demand by comparison with the increased consumption of fuel when big batches of large cars are brought into use. Add, therefore, to these facts the all-important one that the requirements of shipping service are all the time creating a demand for residuary products, and it is seen plainly that the price of fuel will probably not rise, but on the contrary come down somewhat in the near future, particularly in face of the fact that the next year or two will see some ambitious projects materializing for producing fuels alternatively to petrol. These, however, are scarcely likely to be used in any appreciable quantities by the private motorist for years to come. They are more suitable for agricultural motor work and for service where unpleasant odours, and so forth, are matters of indifference.

Front Wheel Brakes and the Grand Prix.

Anybody who watched the Grand Prix race being run on the Lyons circuit could not have failed to be struck by two things. A few years ago, when British inventors introduced the detachable wheel, the Automobile Club of France forbade the use of it in racing, on the ground that it was dangerous. A fortnight ago in the biggest international road race yet organized, not a single competitor started without detachable wire wheels either of the Rudge-Whitworth sort or those of its licensees in the various countries.

The other point was that front wheel brakes—which were first brought into use in this country, standardized in many cases too hastily by those who had not mastered the principles, and therefore withdrawn after much trouble had been experienced, save in such a singular case as that of Argylls, who have mastered the underlying principles—were adapted from touring-car practice to racing practice by the French champions, Peugeot and Delage; were used by the Swiss Piccard-Pictet, and by sundry Italians, including Fiat; but not by the Germans, in whose country the invention has not been developed yet; nor by the British, in whose country there has been accumulated more experience concerning front wheel brakes than anywhere else in the world.

The race was over roads of the billiard-table variety as regards surface, compared with what one meets with when motoring out in the world, say in the colonies, where there are tracks instead of roads, or in Russia or Sweden. It was possible to race two cars abreast all round the course. Only a couple of miles of it presented the semblance of hill-climbing work. On the outward legs of the course, however, the route abounded in turns. This fact made the motor engineers who designed the competing machines pay more attention to qualities of acceleration than ever. Those who put on their thinking-caps also realized that it is no less important to economize time in reducing speed than it is to save it when gaining speed. Hence they harked back to touring-car practice by distributing the braking effort over four instead of two wheels.

We were told before the race that disaster could only attend such a policy, that the tyres would be destroyed in a hair-raising manner, and so forth. None of these things occurred. On the contrary, front wheel brakes, of course, proved a saving of tyres in relation to the actual amount of braking work done. To judge this it should be known that those who had front wheel brakes would rush up to the corners with the accelerator pedal full down for anything from fifty to seventy yards after those with brakes working on the back wheels only had applied them to those wheels. Therefore the total amount of braking effort on the cars with four wheel brakes was of course vastly in excess of those with two, because the machines were slowed in about half the distance. In the words of one mechanic on board one of the racers: "When they put the brakes on all four wheels, it is like going into butter."

Where the Saving Occurs.

This was certainly worth a minimum of a minute a lap in time saving, therefore the total amount of tyre wear per car must have been greater in the machines with four wheel brakes than on those with two. Nevertheless the result was no more extravagant because, to do the best with brakes on two wheels only represents, let us say, straining the two tyres 100 per cent., whereas to do 50 per cent. better by using brakes on four wheels represents straining each of those tyres only 75 per cent. Of course, it is the last 25 per cent. that spells the ruin. Stress anything well below its limit, and you can go on wearing it for a great length of time without any appreciable deterioration. Let it be had in mind, moreover, that the front wheel brake men did not all quite understand their business, as is proved by the fact that some of them used smaller tyres on the front wheels than on the back ones.

Moreover, this must not be considered a full test of the possibilities of front wheel braking, because the majority of the competitors so designed their brakes that they could not be used on the front wheels while steering round corners; whereas it is a point of the principle behind the Argyll system that when going round the corner the steering is rather assisted than impeded by the braking action.

Nevertheless, such as it was, the demonstration of the use of front wheel brakes was remarkable. The Peugeot cars were not as fast as the Mercédès, but by reason of the French vehicles having front wheel brakes they could take shelter from pursuit, and delay the inevitable overhauling whenever they came to a series of corners or bends. This difference in the powers of decreasing speed, contrasting as it did with the different powers to increase it, made the race as a spectacle fresh and unprecedented.

It should be appreciated that the moment braking is applied to the front wheels the result is to throw weight forward on to those wheels, thereby increasing their power of adhesion to the road surface, and accordingly preventing the wheels locking and skidding. It is skidding that destroys tyres and that reduces braking effort to its least possible value. We see, therefore, that a natural physical law assists those who desire to employ the principle of brakes on all four wheels. One result of the race will be to give a big impetus to the employment of front wheel brakes for touring cars. But the medical man must be warned that it is one thing to want to have brakes on the front wheels and quite another so to scheme them that they shall prove a blessing instead of a bane. In this country we have already seen very numerous examples of how not to employ front wheel brakes. We may be sure that if there is any sudden demand for the motor manufacturers to employ the system, a number of them will rush into the business without realizing the difficulties ahead. Argylls and some Italians are, so far, about the only folk who have mastered even the rudiments of the matter.

Large-sized Tyres.

Another feature of the race was that the winning Mercédès cars used proportionately larger Continental tyres than their rivals; also they employed plain treaded ones from the start to the finish of the race. What the larger-sized tyres took off in speed was more than saved by what was gained in their extra wearing qualities; there was in those tyres more material to be worn away before the time came to change. Translated into terms of the private motorist's position, this means also that, within reason, it is more gainful to use large than small tyres. On the other hand, when employing large section tyres on small rims, the motorist must be careful to keep an eye on his pneumatics. Thus if he allows them to get slack he has that amount more twisting action of the walls when taking corners, and that extra liability temporarily to displace the bead, which in flying back may perchance nip the tube. On the other hand, he must not go to the other extreme of keeping tyres too hard in summer weather. Many motorists remember to their cost the hot summer of two or three seasons ago when tyres burst wholesale about the country through being kept at too high pressure in hot weather. We are still at the period when the individual motorist has as much to gain from carefully studying his own case as regards tyres as he has as regards carburation, electric lighting, or engine starting gear. Pneumatics have been so vastly improved of recent years that it is easy to fall into the habit of comparatively neglecting them; but it pays to take the opposite course. No general rule applies equally to all sorts of vehicles, from heavy, high-powered ones to the lighter sort, unless it be such an obvious thing as that it is foolish to run on slack tyres, to neglect ugly cuts, to leave nails or horse shoes stuck in treads, and so forth. Provided corners are not taken too fast, large section tyres which are now made by Dunlops, as well as by the Continental Company, have many advantages.

The *American Medicine* gold medal for 1914 has been awarded to Dr. George W. Crile, of Cleveland, Ohio, as the American physician who, in the judgement of the trustees, has performed the most conspicuous and noteworthy service in the domain of medicine and surgery during the past year.

The Royal Academy of Medicine of Turin announces that the thirteenth competition for the Riberi Prize, of the value of £800, is open. The prize will be awarded for scientific researches in medical science. Competitors may enter their names up to December 31st, 1916. Forms to be filled up may be obtained from Dr. V. Oliva, the secretary of the Royal Academy of Medicine, 18, Via Po, Turin.

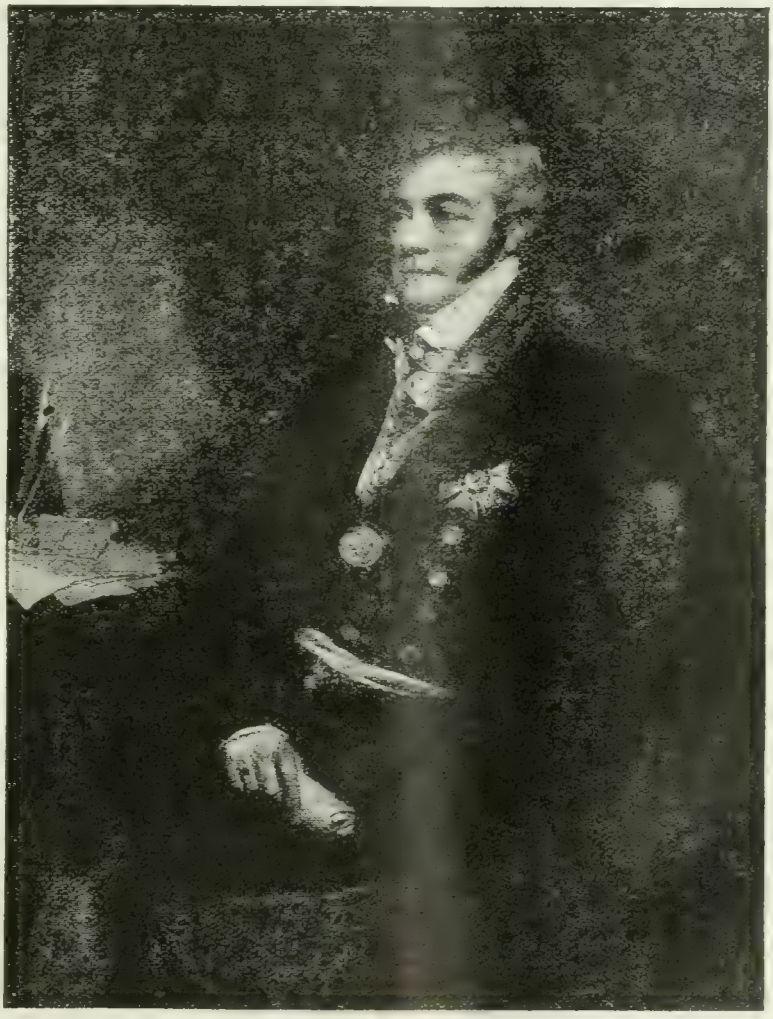
SOME FIGURES IN MEDICAL HISTORY.

SIR JAMES McGRIGOR, BART.

SOMETIME DIRECTOR-GENERAL OF THE ARMY.

In the list of men who have been at the head of the medical service of the army there is none whose name shines with a brighter lustre than that of James McGrigor. He served his country for more than half a century with rare distinction and efficiency. The early years of his service were passed in a period of almost unceasing war; he had to wage battle against death in every form in the most various climes, to suffer the attacks of dangerous disease in his own person and to face danger on the sea and in the field. Tried by every kind of difficulty and emergency, he was never found wanting, and he won the esteem and warm personal regard of Wellington, Marshal Beresford, Sir David Baird, and the other generals under whom he served, the respect and devotion of the officers of his own department, and the affection of the fighting men among whom his lot was cast. He did much to increase the efficiency of the medical service of the army and to improve the position of medical officers. He died in the fullness of years, with the record before his mind of a life spent in the unfailing fulfilment of duty, and having about him—

> That which should accompany old age . . . honour, love, obedience, troops of friends.



SIR JAMES McGRIGOR.
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James McGrigor was born in 1771 at Lethendrey in Strathspey, Inverness-shire, and was educated at the Grammar School of Aberdeen. Entering at Marischal College, he in due course took the degree of M.A. "which was then," he says, "obtained after an examination not the most severe and searching."

Having no inclination to follow the occupation of his father, who was a merchant, he hesitated for some time as to the choice of a profession. Of his early associates and friends a large proportion had entered on the study of medicine. With these young men he spent much of his time. He accompanied them to the Royal Infirmary and read their books; this aroused in him a strong interest in medicine, and he determined to take it up as a profession. He admits that he was also attracted by the cockade and cocked hat of a senior student who got an appointment as assistant surgeon to a regiment in Jamaica, and the impression was not entirely effaced from his mind after he joined the army. He attended the few lectures then given on the different branches at Aberdeen, and after three years' attendance at the infirmary and dispensary he proceeded to Edinburgh, where he attended Munro's class of anatomy, Gregory's course of practice of physic, and some other classes. He studied so hard that his constitution gave way and several months elapsed before he recovered his health. On his return from Edinburgh he took a leading part in founding the Medical Society of Aberdeen. This society was formed in 1789, and McGrigor continued throughout his life to take a keen interest in it, watching its advancement and success, as he says, with the anxiety of a parent. Becoming united with Marischal College, though never forfeiting its independence, the Medical Society of Aberdeen attracted, in addition to the youths who were its first members, an increasing number of doctors, and became a potent educational influence in the profession.

In 1793 McGrigor purchased a surgeoncy in the 88th Regiment, or Connaught Rangers, then just formed, and joined the corps at Chatham. In 1794 the regiment was sent to Jersey, which was then full of French exiles. Typhus was raging in the regiment and in the army. He himself was attacked by the disease in its severest form. His popularity with the men is shown by the fact that when it was considered necessary to move him from St. Helier's into the country soldiers volunteered to carry him in a framework made to hold his bedding, as they thought this would be easier for him than being drawn in a wagon. Before his convalescence was complete the regiment was ordered to Flanders where there was much fighting. He shared the hardship of the winter retreat in 1794-95. The hospitals were filled to overflowing and the mortality among medical officers in particular was very heavy. At Norwich, where the regiment was stationed after its return to England, fever again made terrible havoc, and the situation was made worse by the prevalence of a strong republican feeling among the inhabitants, who insulted the officers and encouraged the soldiers to desert. The regiment, which was to form part of an expedition for the capture of the French West India Islands, was sent to Southampton to join the force which was to embark there. The hospital was full and there were many sick in barracks. The commanding officer, Colonel (afterwards Field Marshal) Beresford, was very angry and told McGrigor that he was being deceived by malingerers. McGrigor on his part attributed the sickness to the filthy state of the barracks in which they were quartered. After the colonel had visited the barracks, abusing most of the officers, McGrigor begged that he would accompany him to the hospital. With this he could find no fault, but relations continued strained, and McGrigor negotiated for an exchange. Beresford.

however, apologized, and explained that he had been dissatisfied with the state in which he found the corps, and that the only department of it of which he could say anything favourable was the hospital, and that he had so reported to the Horse Guards. They became warm friends, and continued so throughout life. Owing to a mistake in signals McGrigor sailed for the West Indies in a ship to which he had been sent to select some recruits for his regiment; he had only the clothes he stood up in, but the officers of the 48th on the *Betsey* between them made up a kit for him. The *Betsey* reached the West Indies a fortnight before the rest of the fleet. When the fleet did arrive McGrigor learnt that one of the transports with his regiment on board had been obliged to put in at Gibraltar, and that the *Jamaica*, in which he was to have sailed and in which he had left all his baggage and clothes, had been captured a few days after putting to sea by a French frigate and carried into Brest. He was thought to be dead, as on the day when the fleet was getting under way at Portsmouth an officer in attempting to pass from one transport to another, had been crushed to death. From the description the officer was supposed to be McGrigor and another surgeon was appointed in his place. This chapter of accidents was really a blessing in disguise, for it caused him to escape a French prison. The island of Grenada had been seized by the blacks some time before, and the governor and twenty of the principal inhabitants had been shot in cold blood. The whole island except Georgetown and Richmond Hill was in their possession. A transport with a number of men of his own regiment arrived and McGrigor was hailed with cheers by the soldiers and carried forward in triumph. He was placed at the head of the medical staff. There was some heavy fighting. When the island was recaptured and quiet was restored yellow fever appeared and caused frightful mortality. The deaths from disease were four times as many as those due to bullet and bayonet. McGrigor was severely attacked by dysentery, and in the autumn of 1796 was sent home with dispatches for England. The voyage was marked by adventures which make this part of the *Autobiography* read like one of Marryat's novels.

On Christmas Day, 1798, McGrigor went with his regiment to Bombay. The Connaught Rangers were soon ordered to Ceylon, the objective of the expedition being Batavia and ultimately the Isle of France. But its destination was changed to the Red Sea, and great was the joy of the soldiers at the prospect of helping to drive the French out of Egypt. McGrigor was appointed head of the medical staff by the Medical Board of Bombay, being the first King's Medical Officer employed by the Company, and was presented to Colonel Wellesley, who was to command the expedition. McGrigor was to see much of that officer later, but the future Lord Wellington was prevented by illness from going to Egypt, and the expedition was commanded by Sir David Baird. It landed at Cosseir in the early summer of 1801 and, crossing the desert, went down the Nile to Rosetta. McGrigor, who had been attacked by fever, which was at first thought to be plague, was carried on board by the soldiers, and he bears testimony to the kindness always shown to the doctor by men who were among the wildest of a wild regiment. To mend his diet they stole sheep and fowls for him, and when he insisted on paying the owners, the Rangers thought this a very unnecessary proceeding. The Indian Army was encamped at El Hamed, about two miles from Rosetta; the King's troops whom they found there gibed at the luxury with which they had crossed the desert, likening them to the army of Darius. And, indeed, the Indian contingent made itself very comfortable, if we may judge from McGrigor's account of his own quarters:

> I had upwards of a dozen Indian servants, with their wives, besides my English soldier servant, and for my stock three camels, two horses, twenty-four sheep, three goats, several dozen of fowls, with a good many pigeons, rabbits, etc. My own large Indian marquee was in the centre, and around were the small Arab tents which my Indian servants had raised for themselves. In another quarter were found all my animals and a store tent, in which some of the servants nightly kept watch, and made rounds to see that no marauders made incursions upon us; which, however, they did occasionally, carrying off fowls, sheep, etc. Outside the whole I had a high mound thrown up, made from the vegetation on the bank of the river, having only one large gate to my premises. El Hamed was on the border of the desert and a sandy plain, but my animals were fed with the grasses from the bank of the river and the grain which my blacks, with two Arab servants, could collect. I can never forget the astonishment of some officers of the English army, old friends who had visited me, on my showing them the extent of my premises. They told me that I brought to their mind the age of the patriarchs of old, with their herds and their flocks, their man-servants and their maid-servants.

Soon McGrigor was called upon to move into Rosetta to assume the medical superintendence of the army from India. He was then stationed at head quarters in Alexandria. There plague broke out but was quickly subdued.

On the cessation of hostilities McGrigor returned with Sir David Baird to Bombay, where he was appointed superintendent of quarantine. On the return journey to England he and his companions learnt from an American privateer that England and France were again at war. They were dogged for a time by a suspicious looking vessel, but frightened her off by "bluff"; the captain had wooden guns made, and these, with the outside of the ship, were painted so as to make her look like a frigate. Every one on board paraded in uniform, and the sailors, some of them invalided men, ran up and down the rigging so as to create the appearance of a strong crew.

In February, 1804, McGrigor left the Connaught Rangers, in which he had served eleven years, and became surgeon of the Horse Guards Blue, then stationed at Canterbury. A few months after he joined, gangrene ran rapidly through the hospital. In every case, even the slightest, of wound or contusion, where venesection had been performed or a blister applied, hospital gangrene appeared. When the regiment moved to Windsor, where the hospital was large and roomy, the disease was checked.

At Windsor McGrigor came under the notice of George III, whom he found fully acquainted with his services. The Queen did him the honour of prescribing for him when he was afflicted with whooping-cough; she advised him to have oil of amber rubbed on his spine. McGrigor, like other patients prescribed for by less august physicians, did not follow the royal counsel.

McGrigor, who in 1804 had proceeded M.D. at Marischal College, was in 1805 gazetted deputy inspector, an advance of three steps, which was first announced to him in a curious manner. The adjutant of the regiment came to his room one morning and said the King while being shaved said to the non-commissioned officer in attendance: "You are about to lose your surgeon in the Blues; I have this morning signed a new commission for him on his promotion." McGrigor's new sphere of duty was very congenial to him, for from his first entrance into the service he had a turn for the collection of statistics. The Medical Board had, he says, till then, in the reports and returns required from the medical officers, looked solely to fiscal concerns, to the neglect of professional matters.

> The most minute and scrupulous attention was not only exacted in the number of ounces of soap, salt, oatmeal, etc., given to each patient, but an error even in the fractional parts brought down the animadversion of the board, and was frequently the subject of protracted correspondence; while no notice was taken of any new or extraordinary feature of prevailing diseases, no proposition for the trial of new remedies and for the return of reports thereon, nor any injunctions issued to notice *post-mortem* appearances. In short, nothing with regard to professional duty in the interests of science was noticed, unless there happened to be an extraordinary mortality in a corps. About this time, and for some time afterwards, the duties of regimental surgeon and assistant-surgeon were chiefly those of clerks, as accounts to the public for their expenditure on each sick man.

McGrigor was appointed to the Northern District, the head quarters of which were at Beverley. He cautiously introduced his new system, first impressing on the medical officers what a fine field for experience and observation lay before them. He showed that a military hospital was the best for trying the effects of all new remedies or methods of treatment, because there the patient was more under the control and observation than anywhere else. His plan in the inspection of hospitals was to examine each patient's history, the medical officer reading the particulars of the case at the bedside and the treatment adopted. McGrigor then questioned the patient, generally approving of what had been done, but suggesting anything that occurred to him in the way of further treatment. In the evening he had the hospital books sent to him, and made notes on the reports. These remarks he embodied in a letter to the surgeon, referring to the different authors on the diseases

which were prevalent or on those in which the surgeon appeared not to have been successful. These letters, which were always expressed in a friendly manner, had, he says, with only few exceptions, the best effect, and he seldom had occasion to report any of his officers to the general in command of the district. The reports of his inspections were communicated confidentially to the inspector-general, who generally approved of what he did. Nevertheless, he slyly remarks, he found that he had not satisfactorily accomplished all that was expected of him, for he had not scrutinized so minutely as was desired the expenditure on each article of hospital consumption!

Soon afterwards McGrigor was transferred to the larger sphere of the South-west District, which included Hampshire, Dorset, Wilts, Somersetshire, and South Wales. To this area Portsmouth and the Isle of Wight, which had previously formed a separate district, were soon added. This added largely to the work of the deputy-inspector, for all the great embarkations took place at Portsmouth; almost all the great expeditions were equipped at that port; there was a very large dépôt of prisoners of war afloat as well as ashore, while in the town and its neighbourhood there was a garrison of nine or ten regiments. In the Isle of Wight was the dépôt of the recruiting for all the regiments of the service; there was also a large general hospital. At Portsmouth McGrigor received the sick and wounded after the battle of Corunna. After occupying all the ordinary hospital accommodation in and about Portsmouth, and converting some barracks into hospitals, and getting leave from the Admiralty to use the unoccupied part of Haslar, the number of typhus cases continued to increase, and McGrigor was compelled to have recourse to floating hospitals, such as transports, prison ships, and so forth.

It was the Peninsular war which gave McGrigor the great opportunity of his life. At first his old friend, Marshal Beresford, asked that he should be sent to Portugal as chief of the Portuguese medical staff with the rank of inspector of hospitals. Before he could start for Lisbon, however, he was ordered to Walcheren to take the place of Sir John Webb as head of the medical department. The ship in which he sailed was wrecked, and the people she carried had to be taken off in boats from Flushing. McGrigor says the amount of sickness at Walcheren was beyond all comparison greater than anything he had seen elsewhere. The troops were surrounded by the French force, and orders came that they were to return to England. It was acknowledged on all hands that he had done his work well, and the parliamentary inquiry which followed did him no harm. He returned to his old duties at Portsmouth.

In June, 1810, McGrigor married Miss Grant, a sister of Wellington's famous scout, Colonel (afterwards General) Colquhoun Grant. In due course his wife presented him with a son, but he was not allowed long to enjoy family life, for in 1811 he was ordered to the Peninsula to be chief of the medical staff under Wellington. On January 10th, 1812, he reached Lisbon where he found a great accumulation of sick. To relieve the congestion he proposed that each corps should have a temporary hospital of its own where all slight cases should be dealt with, only serious cases being sent to the rear. When he joined Wellington at head quarters, he found the general much pleased with what had been done.

McGrigor remained throughout the campaign in close touch with Wellington, who evidently recognized the value of the man. Though it was inevitable that differences of opinion should arise between two men of such strong character, there seems to have been only one serious quarrel, and that was soon over. This occurred at Madrid soon after the battle of Salamanca. McGrigor when he called found Wellington sitting for his portrait to a Spanish artist. This was probably Goya, to whom we owe the most living, if not the most attractive, likeness of the great commander. Asked to give an account of the wounded at Salamanca, McGrigor told him of the number of sick he had found at so many places, and described their miserable state. But when he reported that for their relief he had ordered up purveying and commissariat officers, Wellington started up, and in a violent manner reprobated what he had done, exclaiming:

> I shall be glad to know who is to command the army? I or you? I establish one route, one line of communication for the army; you establish another, and order the commissariat and the supplies by that line. As long as you live, sir, never do so again; never do anything without my orders.

It was in vain that McGrigor pleaded that there was no time to consult the general to save life; he was told peremptorily never again to act without his orders. Wellington's sudden passion soon died out, however, for he asked McGrigor to dine with him that day, and at dinner he showed him marked attention, making him sit next to him on his left, the Prince of Orange always sitting on his right hand.

The influence McGrigor had with Wellington is shown by the fact that after the siege of Badajoz he induced the general to mention the services of the medical officers in dispatches. This was the first time their merits were thus publicly acknowledged. When, after the passage of the Bridge of Salamanca, McGrigor was severely kicked by a horse, Wellington, as soon as he heard of the accident, sent his own carriage, the only one in the army, for him. The most masterful of men, Wellington, on one occasion when he dissented from an opinion expressed by McGrigor, took the trouble afterwards to set forth his reasons in a letter written with his own hand on two sheets of foolscap paper. This is all the more remarkable, as at the time Wellington's mind must have been fully occupied with the manifold and complicated preparations for moving his whole army against the enemy.

McGrigor was present at every battle from the time he joined up to the last engagement at Toulouse. Striking witness to the efficiency of his medical administration is given by Napier in his *Peninsular War*:

> During the ten months from the siege of Burgos to the battle of Vittoria the total number of sick and wounded which passed through the hospitals was 95,348. By the unremitting attention of Sir James McGrigor and the medical staff under his orders, the army took the field preparatory to the battle with a sick list under five thousand. For twenty successive days it marched towards the enemy, and, in less than one month after it had defeated him, mustered, within thirty men, as strong as before; and this, too, without reinforcements from England, the ranks having been recruited by convalescents.

In London McGrigor continued to pay his usual visit to Wellington, who one day, after winding up the usual business, said:

> Mac, we are now winding up all arrears with the Government; I have asked them how you are to be disposed of, and I am told you are to be placed on half-pay; but I consider your peculiar services will entitle you to a specific retirement.

The end of this little negotiation was that near the end of 1814 McGrigor retired with an allowance of £3 a day, and received a knighthood.

It is characteristic of the man that he used his newfound leisure in attending lectures on anatomy and chemistry. But he was not long left unemployed. On June 13th, 1815, he was appointed Director-General of the Medical Department with a salary of £2,000 a year and the relative rank of major-general. That position he continued to hold till 1851. In 1848 he expressed a wish to retire, but Wellington, then Commander-in-Chief, said, "No, no, McGrigor; there is plenty of work in you yet." The financial head of the army, in bringing forward his estimates in the year 1851, said:

> In the army medical department the service has lost by the retirement—not, I am happy to say, by the death—of Sir James McGrigor, an officer to whom the public is much indebted.

Wellington, in his *Dispatches* (vol. xii, p. 79), had written of him:

> I have every reason to be satisfied with the manner in which he conducted the department under his direction, and I consider him one of the most industrious, able, and successful public servants I have ever met with.

How popular McGrigor was with the officers who served under him is shown by the fact that on his return to England after the Peninsular war he was presented by them with a service of plate of the value of one thousand guineas. When he finally retired from the army it was proposed to present him with another costly testimonial, but this he would not accept. An address signed by more than five hundred officers of the medical department was, however, presented to him.

McGrigor's services were rewarded with many honours. In 1831 he was created a baronet, and in 1850 he was made a Knight Commander of the Bath. For his services in the Peninsula he was made a Knight Commander of the

Tower and Sword of Portugal, and for the part he played in the Egyptian campaign the Turkish Order of the Crescent was bestowed upon him. He was a Fellow of the Royal Society and of many other learned bodies, British and foreign. Marischal College, Aberdeen, thrice elected him Lord Rector—in 1826, 1827, and 1841. The students presented him with his portrait, painted by William Dyce, R.A., now in the hall of Marischal College. Another, painted by Sir David Wilkie, is in the officers' mess at the Army Medical College, Millbank, where there is also a statue of him. The portrait here reproduced was painted by J. Jackson, R.A., and presented by his brother officers to Lady McGrigor. After his death an obelisk of polished granite, seventy-two feet high, was placed in the quadrangle of Marischal College. It now stands in the Duthie park, Aberdeen, by the side of the Dee.

McGrigor wrote little. His principal contribution to medical literature is a book entitled, *Medical Sketches of the Expedition from India to Egypt*. He was also the author of a *Memoir on the Health of the 88th and other Regiments, from June, 1800, to May, 1801*, presented to the Bombay Medical Society in 1801; *Medical Sketches of the Expedition to Egypt from India*, London, 1804; *A Letter to the Commissioners of Military Enquiry*, London, 1805—this was a reply to animadversions on the fifth Report of the Commissioners of Military Enquiry, which had been published by Dr. E. N. Bancroft. McGrigor instituted a system of medical reports and returns intended to advance the interests of science and the improvement of medical officers of the army. During his long tenure of office as director-general he collected a vast number of records which he had bound up in folio volumes, each duly lettered with the name of the colony or district to which it related and indexed. This formed the basis of the *Statistical Returns of the Health of the Army* now published yearly as a Blue Book. His *Autobiography*, published in 1861, is a fascinating volume which throws a vivid and often amusing light on the conditions of the service of which he was so conspicuous an ornament.

Among other things which he did for the benefit of the medical officer, McGrigor founded a museum of anatomy and natural history bearing on military surgery. To this he attached a library to which he himself gave a number of books. To him was due the establishment of the Army Medical Friendly Society, in 1816, and of the Army Medical Benevolent Society, in 1820. He also presented some prizes to be competed for by the students of Marischal College.

Sir James McGrigor spent nearly fifty-seven years of his life in the active service of his country. Few men had seen more of disease and suffering; he had passed through many dangers of shipwreck, siege and battle, but the end of his strenuous life was peaceful. He died in London on April 2nd, 1858, within a week of the completion of his eighty-eighth year, "without pain and almost without disease."

In addition to his great ability as an administrator, McGrigor had the qualities of character that command success. Ever straightforward in his dealings, he combined tact and courtesy with firmness in a most unusual degree. From the time of his joining the Connaught Rangers to the very end of his career he was recognized as an officer who could be trusted to do his duty at whatever cost to himself. The confidence of the soldiers in him reminds one of the story of Ambroise Paré's reception by the garrison of Metz, "Our Ambroise is with us; we shall not die." From first to last he was on the best of terms with the officers of his own department, and also with those of the combatant branches. He was always treated by them as one of themselves, dining with generals and royal dukes, being present at Court balls at Windsor and sharing fully in the social life of the army. In the Peninsula he was a frequent guest at Wellington's table. The man, as well as the officer, was evidently held in the highest respect. In his personality he combined the best qualities of the doctor and the soldier.

AN illustrated handbook to medical Bern has been issued by the general inquiry office in that city. It gives particulars about Bern and its medical institutions, and among the pictures is a portrait of Professor Kocher, the grand old man of surgery. Copies can be obtained on application to the Verkehrsverein, Bern.

ROYAL COMMISSION ON VENEREAL DISEASES.

THE following is the official report issued to the press by the Secretary of the Commission:

The Danish System.

At the forty-sixth meeting of the Royal Commission on Venereal Diseases evidence was given by Dr. Svend Lomholt, Surgeon at the Municipal Hospital at Copenhagen, regarding the methods adopted for dealing with venereal diseases in Denmark. The principle has been to provide free treatment and to render it as easily accessible as possible. As early as 1773 a rescript provided for free treatment of all poor persons suffering from venereal diseases in one of the provinces of Denmark, and similar regulations were made from time to time, until by an Act of 1874 it was laid down that every person should be entitled to free treatment for venereal disease without regard to his ability to pay. In reality little was done to make this right to free treatment of practical value until 1906, when an Act was passed which contained a provision compelling the municipalities to arrange easy access for free consultation and treatment for all persons suffering from venereal disease. Since that date, especially in Copenhagen, in which town probably 80 per cent. of the disease occurring in the country was to be found, a great deal had been done. Very complete hospital facilities had been provided, and in addition there were three public consulting-rooms for contagious and venereal diseases, at one of which evening consultations were held.

Twelve municipal doctors (two of whom were women) had been appointed for the purpose of giving free treatment of venereal diseases.

The experience had been that patients had shown themselves very ready to take advantage of these facilities. In some directions compulsory measures had been adopted. A doctor treating a case of venereal disease was required to point out all the consequences of the disease, and there was also provision for securing that persons suffering from venereal disease should continue their treatment. Dr. Lomholt thought that this latter provision had been very useful. A system of confidential notification of venereal diseases was in force. The names and addresses of the patients were not notified and the cases were identified only by numbers; the notification was consequently only of use for statistical purposes. Dr. Lomholt had made a critical examination of the published figures and showed that they could only be accepted with a good deal of reserve.

Facilities for Treatment: Notification.

Mr. Charters Symonds, consulting surgeon to Guy's Hospital, giving evidence, laid stress on the need for largely increasing the means available for treating venereal diseases. He thought that existing institutions should be utilized as far as possible, and that these, together with any additional provision which might be made, should be linked up with Insurance Committee areas and with panel doctors. Evening clinics should be provided at every centre. It would be necessary that a scheme of this kind should receive adequate subsidies from the State. Mr. Symonds advocated the formation of a National Society which should supervise the selection of lecturers, the scope of teaching, and the publication of books and pamphlets, with a view to the education of the public respecting venereal disease. Such a society, he thought, should be voluntary and should be ready to assist the Government in any measure of which the Government approved. He would propose that the Royal Society of Medicine should nominate persons to serve as a committee of this National Society, and that a definite sum of public money should be placed in the hands of that committee.

With regard to the question of notification, Mr. Symonds said that the experience of other countries showed that in the present state of mind of the people notification was ineffective. It led to greater concealment of disease and tended to drive sufferers to quack treatment. He thought there could be little doubt that notification would help towards suppression of disease, but it was necessary to wait until people had become educated in the matter, the demand for notification and international action might then come from the great mass of the population of this and other countries.

Mr. Arthur J. Evans, honorary surgeon to the Stanley Hospital, Liverpool, was of opinion that if better facilities for treating venereal diseases could be provided at the general hospitals the spread of the infection would be reduced. The establishment of such a clinic to a hospital should, he thought, be financed and controlled by the State and not by the committee representative of the charitable public.

Poor Law Patients.

Mr. Evans stated that in his capacity as visiting surgeon to the Brownlow Hill Poor Law Infirmary, a very large number of venereal cases were brought to his notice. He thought that in Poor Law patients the general percentage of the later manifestations was very high. In the male sex this was exceedingly striking, and in a larger number of cases permanent incapability of earning a livelihood was produced; many also were beyond any hope of benefit even by modern treatment. A great difficulty in regard to Poor Law patients arose from the fact that there was no law to compel these patients to remain till properly cured; patients frequently left the hospital while still in an infectious state.

Importation.

As medical adviser to an important shipping company, Mr. Evans said that it was his experience that a great deal of venereal disease was introduced from abroad, and it was his opinion that this continuous introduction of disease into this country should undoubtedly be brought under control. He recommended that the Board of Trade should take steps to warn and explain to seamen and others the dangers of contracting venereal disease and the danger of infecting others of the community. The importation of disease would, he thought, be greatly lessened if sailors were aware of the risks encountered in foreign ports and especially in the tropics.

IMPERIAL CANCER RESEARCH FUND.

THE annual meeting of the General Committee of the Imperial Cancer Research Fund was held at the Examination Hall, Queen Square, Bloomsbury, on July 21st, the DUKE OF BEDFORD, K.G., President, in the chair. Among those present were Sir R. Douglas Powell, Sir Thomas Barlow, Sir Rickman J. Godlee, Sir William Church, Sir W. Watson Cheyne, Sir John Tweedy, and Professor Sims Woodhead.

REPORT OF EXECUTIVE COMMITTEE.

In the report it was stated that the committee had had under consideration a proposal that a notice should be issued to the medical profession and the general public, calling attention to the importance of the early recognition of the symptoms of cancer. In this connexion much information was collected relating to the practice adopted in France, Germany, the United States, and other countries, but after mature deliberation it was decided that it was not desirable at the present time to issue any general pronouncement. The committee had been glad to accept an offer from the Radium Institute, through Sir Frederick Treves, to supply radium emanation for researches. Further investigation would therefore be carried out during the ensuing year.

REPORT OF GENERAL SUPERINTENDENT OF RESEARCH.

Dr. BASHFORD stated that during the past year fewer claims to the possession of a cure for cancer had been brought to the notice of the fund. In no instance was the information of a kind to necessitate further inquiry. None of the alleged remedies were new, all having been brought to notice in one form or another in earlier years.

The Two Categories of Transplanted Tumours.

During the year it had been stated by a distinguished German investigator that transplanted tumours in mice might be made to disappear by an injection of thiosinamin, and it was deemed desirable to repeat the experiments. It was found, however, that thiosinamin had no power of arresting the growth of the mouse tumours on which it was tested in the laboratory. The source of error appeared to be insufficient knowledge of the biology of tumour cells. As the result of the work carried out in the laboratory, it was becoming more and more generally recognized that transplanted tumours fell into two main categories—namely, a very small group which grew progressively because they did not produce resistance to their own growth, and a large group in which the tumours tended to disappear spontaneously in varying proportions because of the resistance to their growth, which was induced in the body as a result of their presence; indeed, in extreme cases every animal, as it were, cured itself. The claims to cure cancer in mice had without exception been made by investigators who had not recognized the latter fact with regard to the propagation of tumours, and who had been dealing with the latter class of tumours not supplied from the laboratory of the fund. The Imperial Cancer Research Laboratories had distributed widely a tumour-strain of the former class which grew progressively in all animals and produced metastases, and these were the tumours which ought to be employed for the purposes of therapeutic experiments; up to date no successful results had been obtained with them. It seemed well to emphasize these facts because most, if not all, the transplantable tumours in the possession of other investigators did not fully reproduce the natural features of cancer, and a large number of proprietary preparations, many of them metallic and possibly dangerous, were now on the market as cures for cancer, on the basis of these unreliable laboratory experiments. It appeared from correspondence that these preparations were being extensively tried on man, and that patients or their friends were urging their medical attendants to employ them, not only in cases which had passed beyond the aid of surgery, but even as an alternative to surgical removal. Up to the present time, even in the laboratory, the only way in which rabbits, guinea-pigs, rats, and mice could be freed with certainty from transplanted and often spontaneous tumours was by early surgical removal.

Abderhalden's Serum Test.

Owing to the urgent necessity for the early diagnosis of cancer, if tumours were to be successfully treated by surgery, many attempts had been made to obtain aids to diagnosis in suspicious cases. None of these had up to the present given constant or entirely specific results, and all were therefore unreliable. The latest method was that announced by Abderhalden. It was claimed that the serum of cancer patients had the power of breaking down or digesting tumour tissue in a test tube in a way that normal serum did not, and by a special technique a colour-reaction might be obtained which, if present, was held to be diagnostic of cancer. This reaction had been studied for many months in the laboratory, in the first place with the object of doing away with the admitted irregularities and imperfections in the method quite apart from any diagnostic value in the reaction. The technique had been improved, and it was now possible to avoid contradictory results. As regards the diagnostic value of the reaction the investigations were not quite complete, but it appeared expedient even now to sound a note of warning that too great reliance ought not to be placed on this reaction either in pregnancy or in the diagnosis of cancer.

Increase of Cancer in Certain Situations.

It was quite justifiable to make such a crude statement as that the number of deaths assigned to cancer had increased in 1911 for females to 1,038 per million living in 1911 as compared with 500 in 1860, and for males to 891 from 200 during the same period. It was also justifiable to express these facts in another way (also crudely), namely, that of women attaining the age of 35, 1 in 12 was recorded as dying of cancer in 1889, but 1 in 7.4 in 1911, and of men 1 in 21 in 1889, but 1 in 9.7 in 1911. The latter statement also brought out more clearly how the male rate had been overtaking and approximating to the female. But these figures ought not to be set out, as they still were, before the public without any qualification and interpreted forthwith as a demonstration of the reality of the increase of cancer. The increase in the number of deaths was not uniform for the different parts of the body, and for some parts, notably the uterus, an actual fall was persistently evident since 1902. For that organ diagnosis was relatively easy. Therefore, the number of cases treated probably approximated more closely than in other sites to the absolute number, and the effects of successful surgery were showing themselves in diminution of the

deaths. For other parts of the body the increase might be apparent, for others real, although it was as yet impossible to decide. All the statements widely circulated in the newspapers as to the increase of cancer as a whole should be ignored and attention only paid to those in which cancer affecting the different parts of the body are considered.

Heredity.

There were still no reliable data available as regards cancer in man. In mice hereditary predisposition had been shown to exist, sufficient to double the incidence of cancer in female mice in the ancestry of which cancer had occurred not further back than the grandmother, as compared with animals in which the cancerous ancestry was more remote.

Cancer Areas and Cancer Houses.

The question of cancer houses had been allowed to stand over till experiment and the improvement in the collection and tabulation of statistics had advanced to a point which made it possible to discuss the subject on the basis of positive knowledge. With the awakening of interest in the study of cancer in animals, the belief in cancer houses was naturally transferred to "cancer cages," largely on the basis of statements made by breeders. The extensive experience of the Royal Prussian Institute for Experimental Therapeutics agreed with the even larger experience of the Imperial Cancer Research Fund under laboratory conditions. Cancer cages, in the sense that animals housed in them became infected, were a myth. Contact with animals with natural or inoculated cancer did not increase the liability to the development of the disease.

A considerable part of the report was devoted to the discussion of the question of "cancer houses." It was stated that the determination whether cancer was more frequent in certain houses was very much more complex than the simple arithmetic of enumeration. All the details of the population, not only of the "cancer houses," but also of the other houses in the same neighbourhood, must be known as regards numbers living in each house, sex, age, nature, and site of the growth, duration of stay, occupation (environment and irritation), habits (alcohol, tobacco). Economic considerations must also be taken into account, since a house might be sought after by old people who had to content themselves with old or insanitary buildings because of the low rental, or a house might be let to couples without children, or be frequented by aged lodgers.

Five of the best known instances of cancer houses had been inquired into and the places visited. Inquiries had also been instituted into a sixth area which had also been visited. Full details as to population and deaths of these alleged cancer areas and houses would be published in due course. It appeared, however, that the facts elicited for these human populations accorded with the more exact data for a laboratory population of mice. There was no positive evidence of infection of any kind whatsoever. Aggregations of cases of cancer to have any significance at all must occur with a frequency which removed them from all possibility of being merely what would be expected owing to the great frequency of the disease. In the course of years it was quite natural that a number of cases should occur in a village, a street, a house, or even a family which had inhabited the same house for generations, without the numbers necessarily meaning anything more than what was to be expected according to the theory of probabilities. This criticism applied without exception to all statements as to cancer houses, cancer streets, and cancer villages, which had been adduced as evidence that cancer was infective, although this statement must not be understood as denying that cancer, or rather certain forms of it occurring on different parts of the body, may, and actually do, vary in different areas. So far as the investigations into "cancer houses" and "cancer areas" had proceeded, they accorded with what had been established by experiments on animals. "Cancer houses" were as much a myth as were "cancer cages."

Sir William Church, Chairman of the Executive Committee, moved the adoption of the report, and gave a concise account of its tenor. Professor Woodhead seconded the motion, which was carried.

Report of Honorary Treasurer.

Sir W. Watson Cheyne stated that, unlike last year, he was unable to report any increase in the total receipts for the researches. The total number who had subscribed to the fund during the year was 146, as compared with 137 in 1913, but whereas the number of small contributions had increased, those of higher amounts had somewhat declined. The total expenditure had exceeded the fixed income of the fund from investments by £1,444 18s. 9d.

LITERARY NOTES.

The July number of *Science Progress* contains an editorial article on irrationalism which is said to be generally the enemy of humanity.

> It is a defect of the reason comparable to that defect of the vision which we call colour blindness; but while colour blindness is admitted by those who suffer from it, because it does not affect their reasoning powers (as, for example, in the distinguished case of Dalton), those who suffer from reason-blindness are unable, from the very deformity which afflicts them, to recognize their deficiency. They therefore pursue their fad at all costs, whatever mischief they may inflict by their efforts upon humanity or upon individuals. And we see innumerable examples of this in our present state of civilization—antivaccination, antivivisection, militant suffragism, anarchism, and nihilism are some of them. It is a difficult question to know what to do with these forms of semi-insanity. There is one way in which the press could help towards disarming them—simply by placing their propagandisms on the same level as personalities, indecencies, and libels, and by refusing to publish them. We think, however, that the time has come when a more organized campaign should be conducted against them by bringing certain forms of them within the action of well-considered laws.

Legislation, we fear, would only tend to aggravate the evil. Among the rest of the contents are papers on the terrestrial distribution of radium, by A. Holmes; on the cause of variation, by A. D. Wilde; on the awakening of pond life in the spring, by A. H. Drew; and on coloured thinking and allied conditions, by Professor D. Fraser Harris.

The *Undergraduate* is the title of the University of London magazine published by the Students' Representative Council. It is intended that it should be both a common medium of expression for all members of the university and at the same time the official organ of the council. Among the contents of the first number we would call special attention to a paper by Sir Sidney Lee on the importance of practice in literary composition. He lays down the axiom that no one writes well who has not read well, that no one writes good English who has not read good English with appreciation and intelligence. The magazine, besides reflecting undergraduate life in the results of examinations, in its academic and social aspects, and in its sports, contains articles on general subjects and discusses matters affecting the prosperity and future development of the university. We wish it success.

In a book entitled *Things I Remember*, by Frederick Townsend Martin (Eveleigh Nash, 1913) reference is made to Sir Oscar Clayton. He is described as a quaint-looking little man, a distinguished physician, and a great favourite with the late King, whose recovery from typhoid fever was always attributed to his skill! This is a remarkable specimen of history as it is written. The doctors who snatched the Prince of Wales, as he then was, from death were Jenner and Gull, who had the assistance of the late Dr. John Lowe. Mr. Martin goes on to say that Sir Oscar Clayton dearly loved a lord, a weakness, by the way, which Mr. Martin seems to share with him and with less excuse, for lords and ladies were the doctor's living, while the love of titles, though so common in Americans, is incongruous in a Republican. Mr. Martin once heard Clayton say with tremendous pride, "I've been in luck to-day; I've met no less than seven duchesses." Some curious stories used to be told about Oscar Clayton's reverence for royalty. Mr. Martin, however, bears witness that he was a kindly man, and on one occasion, when he complimented him upon his wonderful success in his profession, he replied with a smile:

> Ah, Mr. Martin, I should have been far more successful if I had been able to write cheques instead of prescriptions for my patients. I have not reached the age of eighty-three without knowing that worry kills most people, and that want of money is often the root of bodily evil.

One thinks of Thackeray's physician who used to leave sovereigns surreptitiously on the mantelpiece with the instruction, "One to be taken p. r. n."

British Medical Journal.

SATURDAY, JULY 25TH, 1914.

THE INSURANCE ACT IN WORKING.

THE Second Report of the National Health Insurance Commissioners, of which an account, containing a reprint of the Commissioners' general review of medical benefit, appeared in the SUPPLEMENT of July 11th, is a document which will well repay detailed study.

It may be noticed in passing as an interesting sociological fact that the number of deposit contributors is surprisingly smaller than was anticipated, and that, although there have been 454,000 at various times, the effective number left paying contributions during the sixth quarter was only 194,994. From the low average age and the surprisingly low sickness rate they present, it would appear that they must consist to a great extent of relatively young workers, a large number of whom only expect to remain in insurance for a short period because they are likely to rise above the income level. It appears, therefore, that practically the whole of the working industrial population has been absorbed into the various approved societies. We are afraid that when the new arrears scheme comes into operation it will be found that the number of those who may have to be penalized will be materially larger than would have been the case had the original anticipation of the number of deposit contributors been realized.

The sickness rate, as we anticipated would be the case, has proved to be generally in excess of the actuarial estimates, particularly amongst women; especially is this the case in sickness associated with pregnancy. Apart from these considerations the sickness rates vary materially in different societies and in different localities. The actuarial anticipations were based mainly upon statistics of the Manchester Unity, and represented its average with an additional 25 per cent. "loaded" on for the extra risks. But the insured persons are not all members of one great society; they are grouped to a great extent locally, and by trades in a large number of different societies, so that the rate of sickness, for example, amongst chemical workers and miners is not averaged down by a low rate of sickness prevailing amongst agricultural labourers. This segregation of workers accounts to some extent for the variations shown by different societies. The character of the work in which the people are engaged accounts in another way for some of the diversities. What would be considered incapacity in a miner or in a railway worker where heavy labour is required would not be considered incapacity in a clerk or in some other kinds of indoor work. There is evidently also a considerable degree of looseness in the administration of some societies as compared with others. Some of the excessive sickness is attributed by the actuaries to laxity in medical certification, it is stated that "there is no doubt that great improvement in certification is both necessary and practicable." We commented on this statement recently and are certainly not disposed to accept findings of this kind without material proof, though some of the evidence before the Schuster Committee is said to indicate that in some districts careful inquiry may be called for. The profession has always recognized it to be both its duty and its interest that scrupulous care should be taken in the granting of certificates, and we have nothing to fear from any proper inquiry that may be undertaken to discover and rectify any irregularities that may have occurred. The experience of Bristol seems to show that the services of referees will go a long way to abate unnecessary and ill-founded claims, but the report confirms the opinion, which the Chancellor of the Exchequer appeared to accept in his Budget speech, that, beyond this, it will be necessary to make separate arrangements for the sickness associated with pregnancy in married women, and possibly generally to alter the apportionment of the contributions of women between the societies and the sinking fund, so as to provide a greater margin for sickness benefit amongst women generally.

The report contains some very important statements with reference to medical benefit, and in some of them the profession may justly take pride. The Commissioners say that the working of medical benefit has already revealed, more clearly than had previously been possible, the loss which the country has suffered through the past inability of large sections of the community to obtain adequate treatment of the diseases from which they suffered. They describe the arrangements as a machine which needs to be "not only far-reaching and comprehensive, but elastic and adaptable; not only complex, by reason of the many intricate personal relations involved, but also swift in action and responsive to the sudden emergencies of disease," and they are of opinion that up to the present the system has provided a scheme for treatment by general practitioners for cases suited to home treatment, as well as a foundation on which extended provision can suitably be based. As regards the standard of the treatment given, they state that an enormous number of men and women are now receiving treatment for their ailments who previously were accustomed to go without, and that insured persons "have been enjoying at the hands of the more conscientious and competent doctors a service of the standard of that accorded to remunerative patients of the well-to-do classes." There is nothing new to us in this, as it has been a tradition and a pride of our profession for generations, but it must be a source of satisfaction to find that the Commissioners report that "definite tendencies are in operation, originating with the medical profession themselves and fostered by the responsible authorities, to raise the standard of the whole of the industrial practice of the country." We have said many times and are fully assured that it would always be found that the medical profession was ready and willing to co-operate in any well-thought-out scheme for raising the standard of professional work, and the Commissioners' statement only emphasizes the importance of the fact that the new services now under consideration should be so modelled and directed as to enlist its hearty support and co-operation.

It would appear that the system of green and yellow vouchers for temporary residents and travellers has gradually become understood by insured persons generally and is being more freely used, although progress is slow. On the whole, it is probably true to say that the return of 800,000 medical cards out of the 10½ million medical cards dispatched was less than might have been expected, considering the enormous number of removals which take place among the industrial classes. London is behind-

hand in regard to medical cards, and in regard to the allotment of medical funds, as well as in regard to the arrangements for sanatorium benefit; the London County Council, too, in the matter of sanatorium benefit, is clearly not worthy of imitation. It is sincerely to be hoped that in the new London Insurance Committee, which meets during the course of the present month, we shall have a body which will be more concerned in the efficient administration of the Act.

The percentage of insured persons who have placed themselves upon the panel lists is surprising. The report states that by the end of 1913, 96 per cent. of the insured persons in England had entered their names on the medical lists. Even in London, where there are greater difficulties to contend with, the percentage is as high as 90. We are all interested to discover the reasons which have operated in the case of the 10 per cent., or so, of the insured who have not placed their names on medical lists, and the investigation into this question, which is recorded in the report provides some very interesting and striking results. It appears from the inquiry made in one of the home counties that nearly 70 per cent. of those returned as not having had their names put on a doctor's list had either actually put their names on some list, though they had not been returned owing to some misapprehension or clerical error, or that they had left the district or the country or had ceased to be insurable. In the case of another 24 per cent. they had either neglected to do anything at all or were ignorant of the procedure. Of the remainder, 0.6 per cent. had paid privately for treatment, and 3.8 per cent. preferred a private medical man who was not on the panel, and it is reported that these two classes together comprised 1.97 per cent. of the total insured population of the area.

Some evidence is given of the migrations of medical practitioners into industrial areas; they relate, however, chiefly to London boroughs, and after all only indicate a very small number of additions to the medical men in those districts.

A tribute is paid to the Insurance Committees, and, in view of the great difficulties which have confronted those Committees and the enormous amount of work they have had to undertake throughout the whole country of an entirely novel character, the tribute is, on the whole, well deserved. The report says that "Insurance Committees have successfully discharged many onerous duties of administration and negotiation, and their enthusiasm and interest in the problems with which they have to deal is uncommon in the history of similar local bodies."

NERVE CELLS IN THE AORTA AND ANGINA PECTORIS.

In a histological study of the innervation of the ascending and transverse parts of the aortic arch in dogs, Manoélian was struck with the existence of numerous nervous centres in the posterior cardiac plexus.[1] This plexus, situated in front of the trachea and behind the aorta, is composed of a rich anastomosis of nerve filaments, and here were found ganglia composed of cells of the sympathetic type. For the most part these were microscopic, but sometimes it was possible to detect them with the naked eye in silver-impregnated sections. Their number was found to vary, and in addition it was not uncommon to find in the interstitial tissue of the plexus solitary nerve cells. Seeing that the posterior cardiac plexus is formed by the majority of the sympathetic cardiac nerves and the cardiac nerves of the vagus, and that the cardiac plexus itself plays such an important part in the innervation of the heart and large vessels, the existence of these nerve cells would appear to be a very important observation. More remarkable still, Manoélian found solitary nerve cells of the sympathetic type in the connective tissue of the middle coat of the aorta. Nerve fibres, of varying thicknesses and more or less wavy, ran from the connective tissue towards the elastic fibres and the smooth muscle cells where they terminated, either in a rounded knob-like swelling or in a finely-drawn-out end. Close to the smooth muscle cells there were arborizations similar to the motor plates of striated muscle. The connective tissue of the middle coat was found to be richly innervated, and apart from the fibres to the elastic tissue and the muscle cells a large number of these nerve fibres were found to end in this situation. The way in which these fibres terminated varied. Some had a club-shaped extremity, and these clubs might be grouped together in numbers; others had a knob-like ending, whilst others again became resolved into fine fibrillae, which formed a delicate skein. Since all these nerve fibres were not in connexion with motor elements but terminated in the connective tissue, Manoélian considered that they were sensory in nature. Sensory terminations have never before been observed in the middle coat, but they must play an important part in the mechanism of dilatation and constriction of the arteries. It would appear that the stimulus is carried by the sensory vascular fibres to their cells, which by their central prolongation send it directly or indirectly to the vasomotor neurones, the peripheral prolongation of which receives the stimulus to the arterial muscle cells, and that, in short, we have to deal with a reflex arc beginning with the sensory arborization and ending with the motor nerve termination.

The idea formerly held that angina pectoris was due to lesions of the coronary vessels has not been supported by pathological observation, for no lesion of the coronaries has been found at autopsy in cases of angina pectoris, whereas stenosis and even obliteration of the cardiac arteries have been observed in cases in which during life there had never been any attacks of angina. Further, it is a matter of experimental observation that ligature of a branch of a coronary artery is followed by cessation of contraction in that part of the heart supplied by it; after ligature of the two coronary arteries the heart ceases to beat. Nothnagel, in studying the relation between angina pectoris and peripheral vascular spasm accompanied by hypertension, distinguished a vasomotor type of angina pectoris. Vaquez and others have shown that the blood pressure, even if it is normal or diminished during the intervals, rises very considerably during an attack. The increase of arterial tension is attended by hypertrophy of the left ventricle and dilatation of the commencement of the aorta, but even before the production of this definite lesion a transitory distension may be inferred from the accentuation during acute rises of tension of the second aortic sound, which becomes normal again as the tension falls.

The point to bear in mind is that it is not only the heart but also the aorta that bears the brunt of increased arterial tension. Vaquez concluded that any accidental increase of pressure, distending an already diseased aorta, would bring about anginal attacks. This theory is strongly supported by Manoélian's discovery of numerous

[1] *Annales de l'Institut Pasteur*, June, 1914.

sensory nerve terminations and nerve cells in the middle coat of the aorta, as well as the large number of nerve centres externally in the posterior cardiac plexus, all the more so as aortitis and periaortitis are almost constant phenomena in cases of angina pectoris.

OPINION OF THE PROFESSION ON THE BUDGET PROPOSALS.

THOSE who have followed the discussion of the Budget proposals, and have read the report (SUPPLEMENT of June 13th), issued on the authority of the Council by the Future Developments of the Insurance Acts Committee, appointed by the Council last October in accordance with the instructions of the Annual Representative Meeting last year, will see with interest the analysis of the replies of the Divisions in the SUPPLEMENT for this week.

The Committee, in its report, expressed the opinion that to place arrangements which are mainly clinical under the care of an authority whose work is mainly concerned with sanitation, and whose medical adviser, the medical officer of health, tends by the steady imposition on him of more and more administrative duties to be forced out of actual personal participation in clinical work, would be a mistake. Such a course, the Committee considered, would tend to overburden an officer already fully occupied, and would not be likely to give the new clinical proposals a proper opportunity of developing on satisfactory lines.

It will be seen that not a single Division is in favour of control by the public health authority, and that many of them state with great emphasis the opinion that it would be unwise to place clinical arrangements in the hands of that authority. With regard to the authority by which the new systems should be administered, a majority of the Divisions which have replied are in favour of establishing a joint committee of the Insurance Committee, the County Council, the local hospitals and Local Medical Committees, as was suggested by the Association's Committee in its report.

With regard to the proposed clinical laboratories, valuable suggestions are made by various Divisions, among others that local practitioners should be encouraged to attend the laboratories, and that great stress should be laid upon the personality of the head of the laboratory, who should be a well-qualified pathologist. Practically all the Divisions approve of the proposal that the laboratories should be linked up with universities and similar institutions, although difficulties in the way of establishing a connexion with a university in some districts are pointed out.

All the Divisions are in favour of the provision of a nursing service to be utilized for the whole working-class population, except two which consider that the work is already adequately done by charitable associations; all agree that such associations should be utilized. Several urge the necessity of State registration of nurses before the new service is instituted in order that a proper standard may be maintained; and others advise that the model rules of the Association as regards nursing associations should be incorporated in any rules for a nursing service. Some of the replies utter a warning note as to the need for safeguards lest nurses be used as independent practitioners, and several Divisions suggest that there should be a wage limit for persons entitled to use the nursing service.

A large majority of the Divisions which have replied to the questions as to referee-consultants express the opinion that they should be appointed by the Commissioners, that they should be whole-time officers, and that they should advise the proposed joint committee, or failing that the Insurance Committee, on medical questions. The majority appear to agree also that in ordinary circumstances a specialist should be called in by the referee after consultation with the practitioner in attendance, but that arrangements should be made entitling the practitioner in an emergency to call in a consultant, and afterwards to report to the referee. There is almost complete unanimity that these consultants should not be whole-time officers; the majority would seem to be in favour of requiring the attending practitioner to furnish a report of the case to the referee, while one Division suggests that a practitioner should be required either to furnish a report or to attend the consultation. There is unanimity in answering in the affirmative the question whether an approved society desiring the services of a referee should be required to make a full report as to its reasons.

With regard to treatment centres or clinics, the majority of Divisions which have expressed an opinion are in favour of the recommendation that such centres should be provided for cases the treatment of which cannot be properly carried out at the surgery of a practitioner, and that they should be used as consultation centres at which the referee could examine cases sent to him, and at which the consultant or specialist could examine and treat suitable cases. On the other hand, a number of Divisions disagree with the plan outlined, and point out various difficulties and make certain suggestions, especially with regard to country districts.

The report and the analysis of the replies of Divisions will come before the Representative Body during its meeting in Aberdeen, and it is hoped that the practical unanimity of the Divisions will enable the meeting to give instructions to the Council at once to press on the Government the opinion of the medical profession, as expressed through the local organization of the Association throughout Great Britain, on these important and urgent matters.

A GUIDE TO ABERDEEN.

WE are indebted to the kindness of Mr. Scott Riddell for the opportunity of studying the *Handbook and Guide to Aberdeen*[1] which he has compiled at the request of the Local Executive Committee for the use of members attending the Annual Meeting. It is a compact and businesslike volume, and the only regret that it rouses is that it should not, equally early, have been in the hands of every member going to Aberdeen, that he might become the better acquainted beforehand with the ancient and modern interests of the granite city, and learn the general disposition of its streets and institutions from the very excellent detailed map the volume contains. Mr. Scott Riddell has done us the compliment to reprint three illustrated articles published in the BRITISH MEDICAL JOURNAL some months ago on the city of Aberdeen, on the history of the city, and on the University. These are followed by chapters on the Royal Infirmary by Mr. J. Wallace Milne, senior assistant surgeon to the infirmary; on the Royal Hospital for Sick Children, opened in 1877 and since greatly enlarged both on the site and by the acquisition of convalescent homes in the country, by Mr. H. M. W. Gray; on the City Hospital for Infectious Diseases, by Professor Matthew Hay; on the Maternity Hospital, established in new buildings in 1900, by Emeritus Professor W. Stephenson;

[1] British Medical Association, Aberdeen, 1914. *Handbook and Guide to Aberdeen.* Compiled for the Local Executive Committee by J. Scott Riddell, M.V.O., M.A., M.B., C.M., Senior Surgeon, Aberdeen Royal Infirmary. Cheltenham: E. J. Burrow and Co. 1914. (Cr. 8vo, pp. 162; 3 plans and numerous illustrations.)

on the Aberdeen Dispensary, by Dr. Middleton Connon; on the Eye Institution, founded by Sir James McGrigor, Director-General of the Army Medical Department, in 1835, where students have ever since been trained in ophthalmology, by Mr. A. Rudolf Galloway; on the Morningfield Hospital for Incurables, by Dr. G. M. Edmond; on the Royal Asylum, Aberdeen, and the Kingseat Mental Hospital, by Drs. William Reid and H. de M. Alexander, their medical superintendents; on the Newhills Convalescent Home, by Mr. Walter A. Reid, Chairman of Directors; on the Nordrach-on-Dee Sanatorium, Banchory, by Dr. Geoffrey Lucas; and on Duff House, Banff, by Dr. E. I. Spriggs. After notes on the nursing homes in Aberdeen there follows an interesting summary of the rise and growth of the educational institutions of Aberdeen by Mr. George Smith, LL.D., Director of Studies; it is concerned chiefly with the Grammar School whose history goes back many centuries; with Robert Gordon's Technical College dating from 1732 and opened in 1750, with the training centre for elementary school teachers and with the work of the School Board. Then come four other special articles: the first on Aberdeen doctors, by which title is to be understood eminent physicians or surgeons educated at Aberdeen, by Professor John Marnoch; the second on the Aberdeen Medico-Chirurgical Society, founded and long maintained by students, by Dr. J. R. Levack, President of the Society; the third on Aberdeen artists, recalling the achievements of Jamesone, who made a portrait of Charles I when he went to Edinburgh to be crowned in 1633, of Dyce the pre-Raphaelite, and of "Philip of Spain," by Dr. W. R. Pirie; and the fourth on Aberdeen and the Medical Services, by Dr. David Rorie. The volume concludes with extracts from the publisher's guide to Aberdeen giving a topographical account of the city, and a list of cycle and motor excursions, illustrated by a bird's-eye view and a map. There are many illustrations from photographs and the frontispiece is a very characteristic portrait of Sir Alexander Ogston.

THE SCHOOL OF TROPICAL MEDICINE, CALCUTTA.

IN February last, as recorded in an illustrated article in the JOURNAL of March 7th, the foundation stone of the new laboratories of the Calcutta School of Tropical Medicine was laid by Lord Carmichael, the Governor of Bengal, and messages of sympathy and approval were read from the Viceroy and high officials of the Government of India. Within a few weeks a sensational article was published in a Calcutta paper to the effect that the Governments concerned were unwilling to provide the whole-time staff asked for by Lieutenant-Colonel (now Sir Leonard) Rogers, who has been so closely identified with the whole scheme, and that the resignation of that officer was feared. The Bengal Government promptly contradicted this report. It issued a statement to the effect that there was no truth in the rumours regarding Colonel Rogers's resignation, nor was there any difference of opinion between him and the Government of Bengal regarding the employment of Indian Medical Service officers in the Tropical School; that the question of the necessary staff was under consideration; that Colonel Rogers was being fully consulted in the matter; and that the probable delay in opening the school was due to considerable difficulties which had to be overcome in obtaining a fair foundation for the new building. We are now glad to learn that the Bengal Government has submitted to the Government of India proposals for supplying a distinguished whole-time staff for the school. When these proposals have been accepted by the Government of India only financial questions will remain, which, it is hoped, will be settled without much difficulty. Moreover, the Government of India has already addressed a letter to all the local Governments, setting out the courses of instruction in the school, and stating that it will be opened very soon after the new buildings are completed. The difficulties with the foundations have been overcome; two out of the three stories have already been constructed, and the arrangements for supplying the fittings and apparatus are far advanced. What really prevented the opening of the school in October next, as originally contemplated, was the necessity of preparing entirely new plans and estimates as late as November last, owing to a portion of the site which the former plans were designed to cover having been required by the Improvement Trust for the new central road of Calcutta. This left only nine months for building and equipping the school, while the foundation difficulties reduced still further even this short period. It is now expected that the school will be ready to be opened for a three months course for assistant surgeons on June 15th, 1915, and be in full working order for the six months' post-graduate course for the diploma in tropical medicine commencing on October 15th, 1915. The Government of Bengal has also acquired a site continuous with that of the new laboratories for the special hospital for tropical diseases, which will enable the research work to be organized on the lines of the very successful Rockefeller Institute of New York, and much of the money for building the hospital has already been obtained in response to the appeal issued by Sir Leonard Rogers last February. Considerable annual contributions for the endowment of research work have also been promised. All that is now required to ensure the success of this great scheme is the sanction of the Government for the staff asked for, and a substantial annual grant from Imperial revenues towards the cost of upkeep. Such a grant is fully justified by the fact that the whole of India, far beyond Bengal, will be benefited both by the teaching and researches of the new institution. In view of the encouraging messages of the Viceroy, and Sir Harcourt Butler, the Member for Education on the Governor-General's council, and the sympathetic speech of Sir Pardey Lukis at the foundation stone ceremony, this essential and crowning help may reasonably be expected from the Government of India. It was indeed with that Government that the proposal "to establish a fully equipped school of tropical medicine in Calcutta, with a special staff of its own," originated in 1910.

THE TOMB OF AVICENNA.

SIR WILLIAM OSLER has recently suggested that the tomb of Avicenna should be restored. An account of a pilgrimage to the last resting place of that famous philosopher and physician at Hamadan is therefore especially opportune. It is contained in the July number of the *St. Bartholomew's Hospital Journal*. The pilgrim was Dr. A. R. Neligan, physician to H.B.M.'s Legation, Teheran. Abu Ali al Hussein ibn Abdullah abn Sina, to give the old Arab physician his full name, was born near Bokhara in 980 A.D. At 16, after studying mathematics, philosophy, metaphysics, and medicine, he was already practising as a doctor. At 17 he was appointed physician to the Amir of Bokhara. This post gave him access to the celebrated library of Bokhara, and thus enabled him to pursue his studies. After travelling in north-eastern Persia he settled at Hamadan, where he spent the rest of his life. He became physician to the ruling prince, Shams-ed-Dowleh. But, says Dr. Neligan, like many a Persian doctor of the present day, Avicenna took to politics and became a Minister. The sea of Persian politics has always been particularly stormy, and therefore it is not surprising that Avicenna was often in peril of his life, and was at one time thrown into prison. After a time he made his escape from Hamadan and took refuge in Isfahan, where the governor welcomed him and made him his physician. In that capacity he made several campaigns, and in the course of one of these, which was directed against Hamadan, he was attacked by colic, and thus it came to pass that he died in the town from which

he had fled, and was buried there. Wherever Avicenna was and in whatever circumstances he found himself he was an indefatigable writer. His varied adventures did not prevent his going on with his great treatise, the *Kanun*, or Canon of Medicine. In that work, which was divided into five books, Avicenna collected all that was best in the medical knowledge of his time. It was the textbook at the universities of Louvain and Montpellier up to the middle of the seventeenth century, and it is read in Persia, Arabia, and India at the present day. It was taught in the royal university at Teheran as recently as twenty years ago. It was translated into Hebrew and Latin, and the Latin version went through thirty editions. Avicenna is said to have written in all more than 100 books, most of them dealing with medicine, but others with logic, philosophy, music, natural history, astronomy, and physics. His grave, says Dr. Neligan, is in a simple brick building near the steep banks of the river which flows through Hamadan. A little mausoleum of fire-burnt bricks with a mud dome stands at one end of a small compound, surrounded by a low stone and mud wall. The building is square, but inside there are small arches at each corner, which give it the appearance of being eight-sided. The internal measurements are as follows: Floor, 15 ft. by 15 ft.; apex of dome from floor, 16 ft. The floor is paved with large square bricks. Immediately opposite the doorway is the tombstone, 49 in. long, 21 in. wide, and 24 in. high. The inscription is carved in large bold characters. It begins with the usual invocation "To Him who is and does not die"; this is followed by a verse from the Koran reciting the virtues of the Almighty. Then come lines of verse, in the translation of which, as well as of the verses that follow, Dr. Neligan acknowledges the help of his friend Moin-ul-Vazarch: "Worthy testimony upon earth of the omnipotence and wisdom of God, Abu Ali Sina sprang from non-existence into being in the year 373. He had mastered the sum total of knowledge in 391; in 427 he bade farewell to this transitory world." Then comes the usual conclusion to epitaphs on the graves of Mohammedan sages or celebrated men: "The death of Sheikh Abu Ali Sina, may his tomb be surrounded by light! 427."

SCIENCE AND THE STATE.

SIR RONALD ROSS has in a very spirited manner taken up the cudgels on behalf of men of science who, by their discoveries, have conferred great benefits on the State, but receive from it no reward for their life's work and the pecuniary sacrifices entailed upon them. Taking his own case as an example, he has presented a petition asking for compensation for loss in his profession incurred through his long-continued investigations on malaria. His object clearly is to revive a precedent which has fallen into desuetude, under which early in the last century Parliament voted grants of money to men of science. Last week Mr. Cowan addressed a question on the subject to the Chancellor of the Exchequer, who replied that the the petition was not in accordance with modern usage. On the following day the same member asked the Prime Minister whether there was any fund in existence out of which men of science might be compensated for losses incurred by them in doing unremunerative scientific work, but which proved of advantage to the Government and the community, and if not, whether he would consider the advisability of providing funds for meeting such cases in the future. The answer the Prime Minister returned was, in fact, in the negative, although the point was somewhat confused by his reference to civil list pensions. Nine such pensions, he said, were awarded last year for scientific work, two to scientists themselves, and seven to their widows or daughters. In reply to a further question, he denied that such civil list pensions were of the nature of charity, and asserted that they were rewards for services rendered by deceased persons who left their families in necessitous circumstances. The reply has drawn a strong protest from Sir Ronald Ross, who, in a letter to the *Morning Post*, says that "the wretched Civil List pensions are frequently allotted to those who have conferred great benefits on the nation, or to their widows who have been left nearly destitute by the self-sacrificing labours of their husbands. How should we describe these pensions, then? They place the British Empire in the position of a manufacturer who has attained enormous wealth by the inventions of some of his workmen, but who is not noble enough to give them or their widows more than the most wretched subsistence money in return. I venture to maintain that all these pensions are a disgrace both to the intelligence and the morality of the country." The matter, we understand, is not to be allowed to rest where it is, but will be again brought to the notice of Parliament. Meanwhile the British Science Guild has appointed a Special Committee, consisting of the President, the Right Hon. Sir William Mather, Sir Norman Lockyer (Chairman), Lieutenant-Colonel Sir Charles Bedford, Hon. Sir John Cockburn, Professor Meldola, Major O'Meara, Sir Boverton Redwood, Major Sir Ronald Ross, and Professor Silvanus P. Thompson, to consider and report upon various matters arising in connexion with science and the State and the encouragement of discovery referred to in an address delivered by Sir Ronald Ross at the annual meeting of the Guild, at the Mansion House, on May 22nd last.

MR. H. P. SYMONDS AND THE RADCLIFFE INFIRMARY.

ON the evening of July 16th a dinner was given at Christ Church by the committee and medical staff of the Radcliffe Infirmary, Oxford, to the senior surgeon, Mr. H. P Symonds, on the occasion of the presentation to the Infirmary of a portrait sketch by Mr. John Sargent, R.A. Among those present in addition to the medical staff were the Mayor of the city, the President of Magdalen, Mr. Gamlin, the treasurer of the Infirmary, the secretary (Captain Rynd), and in addition a number of old house-physicians and house-surgeons, of whom the senior was Mr. Wingfield, to whom Mr. Symonds was originally apprenticed. Sir William Osler, in presenting the portrait, remarked that Mr. Horatio Symonds was the seventh surgeon in direct succession from Richard Symonds, who practised at Atherstone in Warwick in the early part of the seventeenth century. His son Joshua was a surgeon at Shrewsbury, the third, John, practised at the same place, the fourth, also a John, at Kidderminster. His son John practised at Oxford and was the father of Frederic, for many years surgeon to the Radcliffe Infirmary, whose son Horatio succeeded him. For three centuries members of the Symonds family had served the public of that part of England in the capacity of surgeons. A son of the first John who settled in Oxford, John Addington, who practised at Bristol for many years in the middle of the last century, became one of the most distinguished physicians of his generation. His son, of the same name, became the interpreter of the Italian Renaissance to the last generation, and his daughter, Mrs. Green, a member of the committee, was one of the warmest friends the Infirmary had ever had. Horatio Symonds studied at University College, London, and, after qualifying in 1874, settled in practice with his father, and soon became a leading surgeon in the Oxford district. He was elected on the staff of the Infirmary in 1878, and was largely instrumental in introducing the new methods of Listerian practice. It is well known that it was through his influence that the late Mr. Briscoe left the Infirmary the large sum of nearly £65,000, which has made possible the recent additions. Sir William Osler then read an exceedingly gracious letter from Mr. Sargent, to whom the company voted their hearty thanks for the splendid representation of the well known features of their old and valued friend.

THE FALLOPIAN TUBES AND STERILIZATION.

In order to prevent the recurrence of gestation in a subject whose life has already been imperilled by pregnancy or parturition, the most logical procedure would seem to be ligature of both Fallopian tubes; but now that Caesarean section is frequently performed and operations for ectopic gestation are yet more often undertaken, experience has proved that whatever may be the best way to ensure sterility, ligature, section, and even cauterization of the Fallopian tubes, are all untrustworthy. Pregnancy after double ovariotomy has been recorded by Meredith, Doran, and others within the present century, and several authentic records have been published of women becoming pregnant after the old—that is, Lawson Tait's—operation for the removal of diseased appendages. These cases prove that the stumps of the Fallopian tubes and the relics of ovarian tissue on the ovarian ligaments may function perfectly, allowing of impregnation and transference of the ovum to the uterus. In the case of the old, very incomplete "salpingo-oöphorectomy," a considerable piece of the ovary itself was often left behind. An ovum has been known to become implanted on a tubal stump, and in one such case reported by Vineberg the condition was betrayed by intestinal haemorrhages. Recurrence is so frequent in the opposite tube that when a tubal gestation sac is removed some surgeons consider that it is safer to amputate that tube, while in Caesarean sections on rachitic dwarfs and other subjects to whom pregnancy must involve permanent danger, sterilizing procedures have been repeatedly applied to both tubes. The results have not been satisfactory, and an instructive summary of the subject[1] has recently been published by Dr. V. N. Leonard, of the gynaecological clinic of the Johns Hopkins Hospital, Baltimore. Kossmann, in 1875, showed by experiments on hens that ligature of the oviduct did not prevent gestation. Zweifel and Thomas tied both tubes with stout silk ligatures during a Caesarean section, and Pissemsky, Stansbury-Sutton, and Fritsch adopted the practice, using silk, yet the patients all became pregnant again; and Kossmann himself, as well as Arendt, experienced similar failures after the use of catgut ligatures. Taylor performed Caesarean section on a rachitic dwarf and ligatured both tubes. The patient became pregnant and he repeated the operation, not omitting the securing of the tubes. Gestation occurred once more, and Martin of Birmingham did Caesarean section. He removed both tubes with a small portion of each corresponding cornu of the uterus. Dr. Leonard has traced 14 out of the 23 instances in the Johns Hopkins Hospital in which it was deemed advisable to attempt sterilization by ligature of the tubes; 5 out of the 14 were over 40 years of age at the time of operation. Out of the remaining 9, no less than 2 became pregnant after the operation. These cases are described by the author, but both were suspensory operations, not Caesarean sections. Kehrer introduced division of the tubes between two catgut ligatures placed about the isthmus. Abel adopted this practice in a second Caesarean section on the same patient, but three years later the patient again became pregnant, and at the operation both tubes were found to have become reunited and one was patent throughout its entire length. Braun-Fernwald and Bühl introduced resection of the tubes with burial of the uterine end in the broad ligament, the peritoneum over it being closed. On the occasion of a second laparotomy, Bühl found the uterine end of the tube opening freely into the abdominal cavity. Reifferscheid operated on a lady with markedly contracted pelvis; she had already undergone one Caesarean section, and consented to a second operation only on the condition that sterilization was ensured. Two centimetres of each Fallopian tube were resected between two non-absorbable ligatures, and the uterine stumps were buried and closed over carefully with peritoneum. Yet one year later the patient became pregnant once more. Bilateral salpingectomy, as above stated, is no guarantee against impregnation, nor is section by the cautery reliable. Kossmann and others have practised it, but Fränkel has shown that it cannot ensure complete atresia. Lastly, even resection of the interstitial portion of the Fallopian tube by removal of a wedge shaped piece of the uterine cornu has been known to fail. Küstner recently reported two instances of pregnancy after this method had been adopted; the operation was in each case not Caesarean section but ventrifixation. Polk removed a dermoid cyst of the right ovary, excising a wedge-shaped piece of the adjacent uterine cornu. Two months later the patient had characteristic symptoms of ruptured ectopic pregnancy; the ruptured sac, it was found, had developed not in the left tube but in the right cornu, of which so much had been excised only four months previously. The obliteration of the mucous channel is always hard, but there is an additional feature of interest in Polak's case, as there must have been transmigration of the ovum. Dr. Leonard considers that this last mentioned method seems, after all, that which affords the most reasonable assurance of preventing subsequent conception, but the evidence he brings forward shows that it is far from sure, and it would seem better surgery, in many cases, to amputate the uterus.

[1] The Difficulty of Producing Sterility by Operations on the Fallopian Tubes, *Amer. Journ. Obstet.*, March, 1913, p. 443.

THE NATURAL LIGHTING OF SCHOOLS.

Daylight seems to be the illuminant about which mankind knows least, at all events in terms of scientific precision. This fact is brought home again in connexion with the lighting of schoolrooms, where, as the school day usually ends at about 4 p.m., the proper admission of daylight is obviously far more important than the installation of artificial light. Yet what experts have to say on the subject of the natural lighting of schools is vague and inconclusive when compared with their recommendations on the subject of artificial lighting. When, last year, a report on the artificial lighting of schoolrooms was presented by a joint committee, representing the Illuminating Engineering Society, some educational bodies, and the Medical Officers of Schools Association, it was possible to set up an absolute standard or minimum of illumination. The same committee has since been grappling with the problem of natural lighting, and has found it extremely difficult to fix an equivalent standard, or at least to express it in simple terms. One of the troubles is due to the fact that accommodation plays a great part in daylight phenomena, whereas in artificial lighting, in which the factors are approximately constant, it is comparatively unimportant. At the annual meeting of the British Medical Association in 1911,[1] Mr. Bishop Harman suggested a standard of 9 foot-candles for daylight illumination in schools, but a whole set of physiological and even psychical factors have to be taken into account before any figure is accepted. On a dull day, for example, it has been found possible to work comfortably with 5 foot-candles, whereas on a bright day, in a shaded corner, 8 and even 15 foot-candles have seemed insufficient. At the same time, there is some ground for suggesting, tentatively, that the minimum daylight illumination for reading should be the same as in artificial lighting—namely, 2 foot-candles on the printed surface. This is one of several useful suggestions to be gathered from the interim report of the committee.[2] Perhaps the most simple and practical recommendation is that no place is fit for use in a schoolroom where diamond type cannot be read by a normal observer at a distance of 20 inches. More difficult to grasp, save by the experienced photometrist, is the requirement that the darkest desk should receive an illumination equivalent to that derived directly from

[1] British Medical Journal, November 4th, 1911, p. 1177.
[2] *Illuminating Engineer*, July, 1914.

50 reduced square degrees of visible sky; but the thing that seems most desirable to the layman in these matters is that some constant and, if possible, automatic means of registering the failing illumination on the darkest desk should be provided, so that when a minimum is reached—2-foot candles or otherwise—artificial light may be brought into use. The windows in the ideal schoolroom will be placed in the wall to the children's left, as right-hand lighting causes confusing shadows; in the absence of any structural reason to the contrary, the glass will be carried up to the ceiling, and no desk will be further from the window wall than twice the height of the top of the glass above the desk surface. The lighting expert is equally concerned for the blank wall as for the window spaces, and it is urged that the wall opposite the windows and the wall behind the children should be lightly coloured from 30 in. above the desk level, while the wall around the blackboards should be somewhat darker than the rest of the room. The ceiling, of course, should be white. The report urges, finally, several lines of investigation which require to be carried out on a scale beyond the resources at the command of the committee. The principal labour to which it points the way is the making of some tests to show the average daily variation of daylight. Data on a subject so important to the eyesight and the energies of the community seem to be curiously scanty.

ANOMALIES OF PIGMENTATION AMONGST NEGROES.

STANNUS[1] has recently described some very interesting anomalies of pigmentation amongst natives in Nyasaland, and has presented an interesting study of albinism in general. From the numerous photographs which are given, absence of pigmentation seems to be fairly common amongst natives in Nyasaland. The condition generally seen is local and limited, but may, however, take on a general characteristic, resulting in a pure white negro. Such cases are seen in other parts of the world; for example, they are not uncommon in the West Indies, all varieties of piebalds and spotted cases existing. It is not, of course, easy to determine whether a case is one of albinism or of leucoderma. Dr. Stannus believes that melanin, to which skin pigmentation is due, is not a direct (and probably not an indirect) product of haemoglobin but of the splitting of a complex lipoid substance, possibly as the result of a ferment action, akin to the formation of pigment from tyrosin by tyrosinase. The complex granules containing the lipoid substance are, he believes, produced as the result of the metabolic activity of the individual cells of the epiderm. Melanin in the cutis is probably derived from the epidermis; the explanation of its more or less complete absence in albinism is by no means easy. He considers Pearson's hypothesis a masterly summing up of the position, and that it is certainly warranted in the light of his own series of cases.

THE FUTURE OF THE LISTER INSTITUTE.

EARLY in the present year, at a meeting of the governing body of the Lister Institute, it was proposed by Lord Iveagh that the institute and all its resources should be offered to the nation as the head quarters of national medical research. The conditions to be attached to the offer were that the name of the institute should be retained, that the governing body should have the privilege of nominating representatives to serve on the National Medical Research Committee, and that suitable employment, or compensation, should be offered to the existing staff. Before this proposal was made it was ascertained that it had the unofficial but cordial support of Lord Moulton, Chairman of the Medical Research Committee, and of Dr. C. J. Martin, Director of the Lister Institute, to whom, we are informed, the inception of the proposal was largely due. About this time the Research Committee had purchased the Mount Vernon Hospital for purposes of clinical and pathological research, and this fact made it at first a little difficult to see how the proposed gift could be best utilized. The difficulty was, however, overcome by an offer from Lord Iveagh to build a hospital in place of the Mount Vernon, adjacent to the Lister Institute, in order that the institute should then become the national head quarters of both clinical and pathological research. We are informed that the Medical Research Committee at once intimated to the responsible Ministers that it approved of the proposed offer, and was informed in return that the Ministers were prepared to approve and endorse the arrangement, including the conditions attached to the offer to which the Committee had already given its cordial assent. On July 17th the governing body of the Lister Institute received the report of a subcommittee appointed to conduct negotiations on its behalf, and decided to recommend to the members that the proposed offer should be made. It will be remembered that, in response to a public appeal made by Lord Lister, a quarter of a million was given by Lord Iveagh to the institute. The amount expended on the buildings at Chelsea was £71,000. We are given to understand that the chief object of Lord Iveagh and his advisers in offering the Lister Institute to the Medical Research Committee as a central institute of research was to enable that committee to utilize the funds available under the Insurance Act for purposes of research throughout the kingdom under conditions which would not require too large a capital expenditure in London. The proposed gift was also intended by Lord Iveagh as a deliberate endorsement of the principle of assumption by the State of the burden of medical research, and as a mark of his confidence that the Research Committee appointed by the Government was fully competent to discharge its difficult functions. At the same time it was recognized that the suggestion of entrusting to Government control the destinies of an institute of research that had hitherto enjoyed, under wise governorship, a position of freedom and independence involved a grave responsibility, the assumption of which was certain to invite criticism. It was foreseen that the proposal would meet with well-grounded opposition if it were thought that the establishment of a central institute necessarily implied adherence to the obsession of centralization to the exclusion of the universities and other centres of learning in London and outside it. Those who are primarily responsible for the idea of offering the Lister Institute to the Medical Research Committee desire to avoid these dangers, and entertain the hope that all existing agencies for the prosecution of medical research can be utilized to the full if immediate provision were made of such ways and means as the State might not at once be able to provide. The originators of the idea, we are informed, are opposed to lending support to the domination of research by State officials merely because the cost of that research is to be borne by the State. They believe that a central station with radiating lines for reciprocal interchange of supplies and workers should be established and that in this way the activities of outlying centres will be given full scope. They believe that the Government authorities will be wise enough to bestow full independence of action on their delegates; they believe also that this object has been attained, and that a scheme may be evolved under which the universities and other centres of research will retain their independence, and that the Research Committee may be trusted not to sterilize research by discouraging voluntary enterprise, or by interfering with the teaching responsibilities of research workers.

THE Edinburgh University Court, at its meeting on July 20th, received and approved a proposal from the honorary secretaries of the Royal Victoria Hospital for Consumption for the foundation of a chair of tuberculosis.

[1] *Biometrika*, vol. ix, Nos. 3 and 4, 1913.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Prospects of the Session.

In the review of the prospects of the session which the Prime Minister gave on July 17th, in what is commonly known as the "Annual Massacre of the Innocents," it was gratifying to notice that few of the bills relating to national health are likely to be interfered with by the curtailment of the session.

The Elementary Education (Defective and Epileptic Children) Bill was read a third time at the conclusion of that day's sitting. The Criminal Justice Administration Bill passed through Report on Monday, July 20th. The Prime Minister anticipated that both the English and the Scottish Milk and Dairies Bills would be passed, and, as there are very few notices of motions for the Report stage, they are likely to be disposed of at an early date. Mr. Asquith expressed the hope that Mr. Runciman's Housing Bill, which we noticed in our issue of last week, would be passed before the end of the ssssion. Some parts of this bill, however, are very controversial, and the prospects of the measure are not bright. The Prime Minister recognized this by placing it in a doubtful class of its own.

The Direct Representatives of the General Medical Council Bill is to be dropped. It is unfortunate that this simple measure, removing a standing difficulty in connexion with the election of members to serve on the Council, should have to be dropped. It was, however, likely to meet with considerable opposition, and there are some members who appear to entertain a strong antipathy for medical tribunals of all sorts, and without any particular reason other than this—they have expressed their intention of obstructing medical bills.

The Insurance Act (Amendment) Bill, Part I, will be introduced in the next session, so as to enable any amended proposals relating to deposit contributors and other matters to be passed in time to give effect to them before the end of 1915. The nursing grants, it was announced, in answer to questions, would be dealt with on a supplementary estimate. We may take this to mean probably that it has been decided—for the present, at all events—that they should be administered through Insurance Committees. The county and county borough councils would need legislation to enable them to make use of the grants, except as agents, whilst Insurance Committees already have statutory power to provide nursing. No definite announcement was made, but a strong hope was expressed that if the nursing grants are to be administered through Insurance Committees some arrangement will be made to give dependants of insured persons the benefit of the service as far as possible.

Science and the State.—Mr. W. H. Cowan (East Aberdeen) asked the Chancellor of the Exchequer, on July 14th, whether he had received a petition from Sir Ronald Ross, K.C.B., F.R.S., asking for compensation for loss in his profession incurred through his long-continued investigations on malaria; whether the petition was based upon the precedents of similar petitions successfully submitted to the House by Dr. Edward Jenner in 1802 and again in 1807, and by George William Manby in 1823; and whether he would recommend Sir Ronald Ross's petition, as required by Standing Order 66, in order to enable it to be laid before the House. Mr. Lloyd George replied: I have seen the petition referred to, but have not felt justified in taking the course suggested, which is not in accordance with modern usage. On the following day Mr. Cowan asked the Prime Minister whether any existing fund was available out of which men of science might be compensated for losses incurred by them in doing unremunerative scientific work when such work had proved to be of advantage to His Majesty's Government and subjects: and whether, if no such fund were available, he would consider the advisability of providing funds for meeting such cases in the future. The Prime Minister said: I am not aware of any fund other than the Civil List. The conditions for the granting of Civil List pensions are laid down by Sections 5 and 6 of the Act 1 and 11 Vict., c. 2. I am not satisfied that further provision is necessary. I may add that nine pensions were awarded last year for scientific purposes—two to scientists themselves, seven to their widows or daughters. Mr. Cowan: May I ask whether it is not the case that Civil List pensions are in the nature of charity and not a reward for services? The Prime Minister: No, sir, I never regarded them as in the nature of charity. They are a reward for services rendered by deceased persons who have left their families in necessitous circumstances. Mr. J. Hogge: Can the right hon. gentleman state on what basis the Government gives grants for these scientific purposes, and will he explain, for example, why £10,000 is given to the Sir Edward Shackleton expedition before he makes any investigation, and will not give anything to Dr. (Sir David) Bruce? The Prime Minister: That does not arise out of the question. I personally investigate every one of these cases.

Housing Acts.—Sir Arthur Griffith-Boscawen asked the President of the Board of Agriculture on what principle it was decided to borrow £3,000,000 for building houses in agricultural districts; and whether he expected to build with this sum sufficient cottages to make good the shortage, which both he and the Chancellor of the Exchequer estimated at 125,000 last year.—Mr. Runciman replied that the estimate of £3,000,000 was necessarily conjectural, for it was impossible to foresee to what extent the building of cottages would be undertaken by authorized societies under the bill, and to what extent the Board itself would have to build. The answer to the last part of the question was in the negative: he had never estimated the shortage of cottages at 125,000, but hoped that the sum named in the bill would be sufficient to enable at any rate a substantial beginning to be made. In reply to Colonel Yate, Mr. Runciman said that a cottage let by the State at an economic rent would be let at such a rent as would be sufficient to pay interest on the capital expended and provide for other regular charges on the cottage. In those districts in which the wages of labourers were insufficient to enable them to pay an economic rent, the Government's land proposals would provide means for raising their remuneration to the level of a fair living wage.—Sir A. Griffith-Boscawen asked whether it was intended by Clause 2 of the Housing Bill to give the Government power to house permanent employees of Government departments or only men employed temporarily on contract work for the Government; and, if the former, whether the Government proposed to build houses for postmen in places where a scarcity now existed.—Mr. Runciman said that the object of Clause 2 of the bill was to provide dwelling accommodation for permanent employees of Government departments, including postmen, where sufficient accommodation was not already available. In reply to Mr. Lane-Fox, he said that the number of local authorities carrying out building schemes in agricultural districts was extremely small. In selecting the agricultural districts in which cottages were to be built under the provisions of the Housing Bill, the Board would have regard to the urgency of the demand and to the practicability of obtaining land at a reasonable price. Any representations which might be made on behalf of local authorities would be considered, but the Board could not bind itself to refrain from exercising its powers in any particular district merely on the ground that the local authority had or had not taken action under the Housing and Town Planning Act.

Public Health Lectures.—Mr. Astor asked the President of the Local Government Board whether either county councils or local sanitary authorities had any power to provide for lectures on matters relating to public health, and, if so, under what statute or statutes.—Mr. Herbert Samuel replied that Section 60 (1) (*b*) of the National Insurance Act, 1911, provided that the Insurance Committee of a county or county borough might make provision for the giving of lectures and the publication of information on questions relating to health, and Section 61 (3) of that Act empowered any local authority to subscribe such sums as it thought fit towards the general purposes of the Insurance Committee. Subject to this he was not aware of any general statutory authority for county councils or sanitary authorities in England and Wales to provide lectures of the kind. He assumed that the inquiry was not intended to relate to the powers of the local authorities

as education authorities. The President of the Board of Education, to whom Mr. Astor addressed a similar question, said that the Board did not itself in the usual course arrange for the provision of lectures. The duty of the Board under the Board of Education Act, 1899, was to superintend matters relating to education in England and Wales, and lectures on public health came within its cognizance only in so far as they were related to education. Grants were payable by the Board under the "Regulations for Technical Schools, Schools of Art, and other Forms of Provision of Further Education in England and Wales," in aid of suitably organized courses of instruction provided by local education authorities in accordance with their powers under the Education Act, 1902. Grants were made also in aid of medical schools, which in some cases provided lectures of the kind mentioned.

Inspectors under the Mental Deficiency Act.—Mr. Snowden asked the Home Secretary what appointments had been made to the posts of medical inspectors under the Mental Deficiency Act; if all the persons appointed were men; at what salaries they had been appointed; if the posts were advertised; if it was intended to appoint a woman or women medical inspectors; and, if so, at what salaries.—Mr. McKenna replied that three such appointments had been made, all of men, at the following salaries: Chief inspector, £200, in addition to his salary as inspector under the Inebriates Act; one inspector, £500, rising to £800; one inspector, £400, rising to £600. The last two posts were advertised. It was intended to appoint a woman medical inspector, and provision was made in the estimates for a salary of £350, rising to £550; the Board of Control had not yet secured the services of a suitable person. In reply to Lord Ninian Crichton-Stuart the Home Secretary said that the names of the medical inspectors lately appointed under the Mental Deficiency Act were, in order of seniority, Dr. R. W. Branthwaite, Dr. A. E. Evans, Dr. S. E. Gill.

Education of Crippled Children.—Mr. Goldsmith asked the President of the Board of Education whether he was considering the advisability of giving Education Committees power to board out crippled children not needing special treatment in suitable homes near ordinary elementary schools, and if he would say under what Act and clause Education Committees were at present denied that power. —Mr. Pease promised to consider the matter, but added that, as a rule, an ordinary public elementary school was not a suitable place for crippled children. Such children should usually attend a special school. He was not aware of any statutory provision conferring the power on Education Committees, and thought statutory authority would be required for the purpose.

Notification of Births Act.—Mr. Alden asked the President of the Local Government Board whether, in order to assist the working of the Notification of Births Act, he had any objection to the superintendent registrars handing to the parents who attended to register a birth a notice containing a short reference to the provisions of the Act; and, if he had no such objection, whether he could see his way to issue a circular to the various superintendent registrars calling their attention to the matter.—Mr. Herbert Samuel replied that, in view of the fact that notification under the Notification of Births Act had to be given within thirty-six hours of the birth of the child, while a period of six weeks was allowed for registration, he feared that the advantage of adopting the suggestion would not compensate for the additional trouble caused.

Medical Inspection of Secondary Schools.—In reply to Mr. Astor, the President of the Board of Education said that medical inspection was provided in some secondary schools, and was paid for out of the funds available for the maintenance of the school. Where medical treatment was provided, it was generally, he thought, provided at the cost of, and by arrangement with, the parents. Some information on the subject would be found in the annual report for 1912 of the chief medical officer of the Board.

A Suffragist Prisoner in Perth.—Lord Hugh Cecil (Oxford University, Opp.) asked the Secretary for Scotland whether his attention had been called to the forcible feeding and medical treatment of a female prisoner recently confined in Perth prison, and Mr. Pratt (Linlithgow, Min.) asked whether his attention had been called to the condition of Miss Frances Gordon on her release from Perth prison on July 3rd. Mr. T. M. Healy (Cork, N.E., Nat.) also asked a question on the medical treatment of Miss Gordon. Mr. McKinnon Wood said: Miss Frances Gordon was sentenced to one year's imprisonment for breaking into the mansion house of Springhall, near Rutherglen, with intent to set fire to it. Among the articles found on the premises were three flasks of paraffin and other combustibles, and a revolver. The prisoner fully admitted her intention to set fire to the house. I asked for and received a report from the prison doctor which contradicts a number of allegations contained in Mr. Healy's question, of which the most important are the statement as to her treatment when asleep and the statement that the quantity of food was diminished day by day and never retained. The doctor states that he is convinced that she had undergone a course of systematic drugging before entering the prison. She was found to be suffering from sickness and vomiting shortly after admission and before she had been fed or received any medical treatment in the prison. She was not fed till June 25th. On admission she was at once put to bed and treated as a sick prisoner. Her condition required the administration of enemata, and I have no reason to doubt that in the circumstances the doctor treated her case properly and humanely. The doctor states that there was very little difference in her appearance when she was discharged. She was carefully examined before leaving the prison, and the doctor states that there was no swelling of the wrists, that she made no complaint of pain, that she was able to converse, and did converse freely with the doctor's assistant who accompanied her on the journey to Glasgow; that it is true that the breath was offensive, but that it had been offensive from the date of admission, and that generally the statement as to her condition is exaggerated.—Lord Hugh Cecil asked Mr. McKinnon Wood to lay on the table the report he had received from the medical officer, and to say whether he was guided wholly by the opinion of the medical officer whose action was called in question, or had he had any independent opinion?—Mr. McKinnon Wood replied: I must be guided by the report of the medical officer who is responsible for this woman. I will consider the question of laying the report. I wish to do so.—Sir W. Byles (Salford, N., Min.) asked whether Dr. Jones had reported that the statements contained in the report of the medical officer were in the main inaccurate?—Mr. McKinnon Wood said that the report of Dr. Mabel Jones was largely founded on the statements made by the prisoner herself and not on the observations of Dr. Jones. The answer he had given dealt with the allegations in that report.—Mr. Healy asked whether it would not be possible to establish the facts by an independent inquiry.—Mr. McKinnon Wood said that the prisoner had been released, and he did not see how an independent investigation could bring out any fresh facts, but if it could he would be perfectly willing to grant it. In reply to Mr. F. Whyte (Perth, Min.), Mr. McKinnon Wood said that women prisoners in recent cases had been sent to Perth prison because the doctors there were thoroughly skilled in the matter of forcible feeding. In answer to Lord R. Cecil, Mr. McKinnon Wood said that Miss Gordon was able to walk to a cab and to walk from the cab to the station, and in the railway train to Glasgow was able to sit up and, as the doctor said, to admire the scenery and to chat to the assistant doctor who was with her.

Small-pox Outbreak, Rochdale.—In reply to Mr. Albert Smith, the President of the Local Government Board said that thirteen cases were notified as small-pox at Milnrow. Two of these, however, proved to be measles. The eleven cases of small-pox all occurred among adults. One patient was unvaccinated; ten had been vaccinated in infancy; none revaccinated. The medical inspector had investigated the source of the small-pox infection, and the evidence clearly pointed to the conclusion that infection originated within the mill where the patients were employed. The sanitary condition of the stream running near this mill did not come within the scope of his inquiry; but there were no epidemiological facts supporting the notion that small-pox could originate from such a source.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

PRESENTATION TO PROFESSOR WILLIAM STEPHENSON OF ABERDEEN.

AT a meeting of representatives of the University and of the medical profession in Aberdeen and district, held some months ago, it was resolved to commemorate the retirement of Professor Stephenson from the Chair of Midwifery, which he had so long and honourably held. A large general committee with a small executive subcommittee was formed and it was arranged that the presentation should take the form of a portrait.

The response to a circular issued to former students and colleagues requesting subscriptions has been most cordial and satisfactory. Mr. C. Lindsay Smith was entrusted with the commission, and he has now completed two portraits, the larger of which is to be accepted by the University Court, while the smaller is to be presented to Professor Stephenson.

Arrangements for the presentation have had to be somewhat hurriedly completed in order that it might synchronize with the meeting of the British Medical Association and it is unfortunately impossible to notify subscribers individually. This opportunity is taken to announce that the presentation has been fixed for Tuesday, July 28th, at 3 p.m., in the Midwifery Class Room, Marischal College. Professor Matthew Hay will hand over the portraits and it is hoped that the Principal, George Adam Smith, will be present to accept it on behalf of the University. The committee hope that a large number of subscribers and their friends will find it convenient to be present. A photogravure, a copy of which will be forwarded to each subscriber in due course, has been prepared by Messrs. Annan, Glasgow.

CONGRESS OF THE ROYAL INSTITUTE OF PUBLIC HEALTH AT EDINBURGH.

The annual congress of the Royal Institute of Public Health was opened in Edinburgh on the evening of July 15th by an address by its President, the Marquis of Linlithgow, and it was closed on the evening of July 20th by a public lecture on the history of hygiene by Dr. Otto Neustätter of Dresden. The President touched upon many important matters in his address, including the education of public opinion, towards which the Child Welfare Exhibition in connexion with the congress would lend efficient aid, the fight with tuberculosis, the problem of the milk supply, and the care of the child. Two sentences from the address may be specially referred to. There was that one in which he said, "A young girl of 15 or 16 will own hardly a sound tooth in her head; yet in a few years she may be the mother of a child, and every ounce of food that goes to support life in both her and her child must pass through a mouth so violently septic as to make it only a matter of surprise that either can survive the ordeal"; and there was the other, "I wonder if the general public realizes that ours is the only country in which the leading surgeons, physicians, and specialists do not as a general rule control laboratories and so research work."

On July 16th the sectional meetings began at 10 a.m. in weather which was a dreary contrast to the magnificent sunshine which had marked the King's visit in the preceding week, and the photographing of the members of the congress had to be abandoned. There were six sections—namely, State medicine (with subsections of epidemiology and urban, rural, and port sanitary administration), bacteriology and comparative pathology; child welfare; industrial hygiene; naval, military, and colonial hygiene, and tuberculosis. The respective presidents were Dr. Leslie Mackenzie, Professor Hunter Stewart, Dr. Maxwell Williamson, Professor James Ritchie, Dr. John Thomson, Professor Sir Thomas Oliver, Fleet Surgeon Bassett-Smith, and Sir Robert W. Philip. These meetings were continued on July 17th and July 20th, whilst Saturday, July 18th was given up to excursions and to the dinner by the Royal College of Physicians; on Sunday there was a special service in St. Giles's Cathedral, when the Rev. Professor W. P. Paterson, D.D., preached, and the military stationed in Edinburgh were in attendance. Among the subjects of interest discussed in the various sectional meetings special reference may be made to cancer, to sexual disease and the education of the individual, to housing and tuberculosis, to the care of children under school age, to the incidence of tuberculosis in childhood, to isolation and quarantine periods, to the problem of the declining birth-rate, to the milk supply, and to national insurance and public health administration. There were dozens of separate papers dealing with subjects so diverse as toilet soaps and the control of rat plague, tubercle bacilli in Edinburgh milk and prematernity nurses at the Royal Maternity Hospital, the campaign against mosquitos and the early diagnosis of syphilis. Alcoholism, a hindrance to national health, was discussed at a breakfast given to the delegates by the president and committee of the National Temperance League; whilst at the congress dinner reference was made to the institute's history, and Sir Thomas Oliver drew attention to the fact that last year in Scotland there were only eight deaths from typhoid fever, whereas not so many years ago they constituted a considerable part of the mortality. It was generally felt that, with the exception of the miserable weather prevailing on the first two days, the congress had been very successful.

The Glasgow water supply, which was the subject of much controversy recently in Parliament, was referred to by Professor Glaister when dealing with the subject of "The conservation of Scottish watershed areas." Within the Glasgow water supply area the number of persons to whom water had to be purveyed amounted in 1913 to 1,151,240 persons, or practically a fourth of the entire population of Scotland. When the bill for an extension of the supply was recently before a committee of the House of Lords opponents contended that Glasgow should not be allowed to encroach further on the watershed of the Forth, as sources of supply of that commodity were still available in the head waters of the Clyde on their own watershed, as well as from sources in the vicinity of Loch Lomond. Professor Glaister said that the principal gathering grounds at the head waters of the Clyde had already been taken up as sources of supply by other communities within the same watershed, and there were few available gathering grounds left for appropriation. Another problem was that of the prevalence of rickets, referred to in Dr. Scott's paper on "Deformity as a cause of industrial disablement and inefficiency." Fifty per cent. of the Glasgow deformity was due to rickets, which, however, was decreasing.

GLASGOW BACTERIOLOGIST'S REPORT.

The report for the year 1913 by Dr. R. M. Buchanan, Bacteriologist to the Corporation of Glasgow, affords evidence of the useful work undertaken in this branch of the Glasgow Public Health Department. No fewer than 7,234 specimens were submitted during the year to the bacteriological laboratory by medical practitioners in the city from suspected cases of diphtheria, enteric fever, and tuberculosis; positive results were obtained in 28 per cent. of the cases. This is an increase of nearly 2,000 specimens as compared with 1912, and brings the total number, since the establishment of the department in 1900, to 51,791. The work is performed without any charge to practitioners. Last year the cases were: Diphtheria, 3,078 specimens, positive 27 per cent.; enteric fever, 595 specimens, positive 19 per cent.; tuberculosis, 3,561 specimens, positive 31 per cent. In addition to this routine work from practitioners there were received from diphtheria contacts 1,364 specimens; from patients attending the tuberculosis dispensaries, 1,419; and for the diagnosis of ophthalmia neonatorum, 664. The Wassermann test has also been carried out since September 24th for practitioners free of charge, and 159 specimens were submitted. Miscellaneous investigations undertaken by the laboratory for the medical officer of health, the sanitary inspector, the veterinary surgeons, and other departments totalled 1,415, and included examinations of milk and foodstuffs, water from the public baths, tissues for glanders, etc. In addition 1,236 rats taken from the city, from ships, and from the docks were examined for plague. The volume of work was much increased last year owing to the increased area of the city, the total examinations amounting to 13,940, as compared with 9,912 in 1912.

GLASGOW POST-GRADUATE COURSES.

A course of post-graduate classes will be held at the Glasgow Royal Infirmary during the autumn, commencing on September 4th. Particulars of the course will be found in the advertisement pages. They include classes in clinical medicine, surgery and gynaecology, in surgical diagnosis, in diseases of the ear, the skin, the throat and nose, and the eye, in urology, and diseases of the bladder and urethra, in the clinical examination of urine and digestive products, and in haematology, electro-therapeutics, and anaesthetics. Special classes will be given also in clinical gynaecology and operative surgery.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE DROUGHT AND THE WATER SUPPLY.

THERE have been various warnings in the press recently advising the inhabitants of Dublin to spare the use of water, as owing to the dry season there is a danger of the Vartry supply running short. The chairman of the Waterworks Committee stated last week that the total storage capacity of the Roundwood reservoir might be taken at 2,500,000,000 gallons. Since April 25th last only 5 in. of rainfall have been recorded. The daily consumption in the city and townships averaged about 15,000,000 gallons. He continues: "Even with the decreased quantity of water available, if the citizens confined themselves to the economic use of the water, namely, 25 to 30 gallons per day per head of the population, instead of using, as at present, 40 gallons per head, there would be little cause for alarm." He states that "the frequent use of baths should be discontinued for the present, and drain-flushing likewise should not be indulged in." This statement and advice has called forth some strong protests; it has been asked whether Dublin is to run the risk of a typhoid epidemic because the Roundwood reservoir is at a low level. The droughts of of 1893 and of 1911 ought to have warned the corporation that Roundwood is insufficient for all the calls that may be made upon it. An additional reservoir at Roundwood was begun over three years ago, and was due to be completed this year. It is stated that work on this has been practically at a standstill for months, but no mention is made of this additional reservoir by the chairman of the Waterworks Committee, and it does not appear to the ordinary observer as if it could be of any practical value in guarding against a water famine within any reasonable time. There may possibly have been exceptional causes which have brought about this delay, but it is a very serious state of affairs when the chairman of the Corporation Waterworks Committee advises the citizens against the frequent use of baths and flushing of drains, in order to avoid a water famine.

The long spell of dry weather has resulted in the drying up of the source of supply of the Cashel reservoir. Only on a few days in the week are the public given any water from the mains, and, if there is not a change in the weather, even this meagre supply will have to be discontinued.

SUPERANNUATION OF ASYLUM ATTENDANTS.

Dr. Kirwan, Resident Medical Superintendent, recommended to the governors of the Ballinasloe Asylum that future appointments to the asylum staffs should be subject to three years' probation. The employees could be insured under the National Insurance Act, and if they broke down in that time, physically or mentally, the governors would not be responsible. Under the existing arrangement, if they were only two days in the asylum service, they would be entitled, through the Asylum Officers Superannuation Act, to compensation. The suggestion was adopted.

DEATH OF AN ASYLUM PATIENT.

Last week an inquest was held with regard to the death of an inmate of Londonderry Asylum, aged 51, who escaped from the asylum after stabbing a warder. He was painting buckets and suggested that if he had a knife he could cut out a stencil containing the word "Fire" for the buckets. A warder refused the knife, but proceeded to cut out the stencil himself. Shortly afterwards Dr. Watson, assistant medical officer, found the warder with seven serious gashes in his face, shoulders, and arms, and another patient injured in the neck. The deceased had fled and was pursued by warders, while other warders from Strand Road Asylum were directed by telephone to intercept the runaway. When he reached the centre of Carlisle Bridge in Derry, three miles from the asylum, finding the warders closing in on him, he jumped into the Foyle and, making no effort to save himself, was drowned.

SALARIES OF MEDICAL OFFICERS.

At the last meeting of the Birr Board of Guardians Drs. Dalton, Fitzgerald, O'Sullivan, Meagher, and Houlihan made applications for an increase of £10, and a further increase of £10 every three years until a maximum of £180 was reached. On the suggestion of the chairman, who said the insurance business was not settled and it was not known how the doctors would benefit, the matter was adjourned for three months.

England and Wales.

FROM OUR SPECIAL CORRESPONDENTS.]

WALES.

KING EDWARD HOSPITAL, CARDIFF.

Two important gifts to the King Edward Hospital, formerly called the Cardiff Infirmary, were announced at a meeting held at the hospital on July 13th. The anonymous donor, who had already promised the sum of £50,000 conditionally that an additional £10,000 was subscribed, has now consented to make himself responsible for the £60,000. This, with the £30,000 given by Sir William James Thomas, makes possible the extension and completion of the medical school, which will be immediately started. Discussion is still proceeding in the Interdepartmental Committee appointed by the Treasury to determine the amount of grant from the Government.

The other important announcement was to the effect that Mr. Lynn Thomas, C.B., surgeon to the hospital, intended, as mentioned last week, to present to the institution his private nursing home, known as Bedford House. This is a fine building, which immediately adjoins the existing main buildings of the hospital, and has only recently, at considerable cost, been fully equipped as a private hospital.

This gift constitutes a most valuable extension of the hospital, and probably the new wing will be reserved for private or paying patients belonging to the middle classes, many of whom find it difficult to defray the cost of treatment in the ordinary nursing homes. Thus the great work of the hospital will be brought to the notice and consideration of this important section of the community, and this can but redound to the advantage of all concerned. Moreover, these gifts will serve to stimulate public spirit and generosity to further the beneficent work of the premier hospital in the principality, and also to advance the project of the completion of the Welsh medical school. Mr. Lynn Thomas is relinquishing private practice, and intends to devote his time to the hospital and medical school of the Welsh University, of which he is Junior Deputy Chancellor, and the Welsh National Memorial Association, to whose surgical tuberculosis hospital he is consulting surgeon.

Mr. Lynn Thomas has been connected with the hospital for twenty-six years, and for twenty years has been on the honorary surgical staff. In 1900, when on active service in South Africa, Mr. Lynn Thomas was appointed full surgeon to the hospital, and great satisfaction is expressed that his valued services will still be given to it. He was the first medical man to practise as a consulting surgeon in the Welsh metropolis, and he has always been regarded as the apostle of asepsis at the King Edward Hospital. He has built up a great reputation, not only in this country, but also on the Continent, which he frequently visits for the purpose of studying foreign methods. His work and efforts have been of national importance, and the Welsh

University in particular is to be congratulated upon his decision to devote still more time to its interests and aspirations.

BIRMINGHAM.

CHILD WELFARE.

A REPORT on child welfare in the city of Birmingham for the year 1913 has been published by the medical officer of health. It shows that in districts where careful artisans live under fair conditions the infant mortality-rate is half that in districts where there is poverty and accompanying carelessness and inefficiency. The infant mortality-rate for the whole city was 129 per 1,000 births, but in St. Mary's and St. Bartholomew's wards it was 229 and 205 respectively, while in Balsall Heath, Saltley, and Sparkbrook wards (all more or less inhabited by artisans) it was 99, 94, and 98. Taking the mean mortality in the last two years, the wards might be divided into a central group, with rates varying from 130 to 210; a middle ring, in which they ranged from 90 to 130; and an outer ring, in which they were below 90 per 1,000. While it is true that the present mortality-rate is still heavy, although much of it is preventable, it is equally true that the prospects of substantial reduction are most hopeful. The following table shows the mortality among infants during 1913 from the main groups of diseases:

	Deaths.
Diarrhoeal diseases	746
Prematurity and malformation	599
Debility, marasmus, etc.	506
Bronchitis and pneumonia	480
Convulsions and meningitis	202
Measles and whooping-cough	147
Suffocation	91
Tuberculous diseases	85
Syphilis	37
Scarlet fever and diphtheria	16
Other causes	161

The experience in the third quarter of 1913 shows that breast feeding, because it ensures cleaner conditions than can bottle milk, is a great safeguard from diarrhoea and enteritis. Up to the age of 3 months the deaths of bottle-fed babies were twenty times more frequent than those among an equal number of breast-fed babies. Summer diarrhoea is limited to the small house property, and is practically non-existent among that half of the population which lives in five-roomed houses or houses of larger size. In 54,000 houses with four rooms or less there were 756 deaths, and in 55,000 houses with five rooms or over there were only 33 deaths from diarrhoea. There is no doubt that alcoholism plays an important part in increasing infant mortality. It produces carelessness, dirtiness, and poverty, and if the evidence recently obtained in the Ladywood area by the licensing justices of Birmingham be correct, it indicates that a large proportion of the family income is often misspent. The conditions surrounding infants born in the central areas of a large city make it very difficult for even a reasonably careful mother to rear her child without exposing it to the infections of epidemic summer diarrhoea.

Prematurity and malformation accounted for 599 deaths, while debility and marasmus caused 506. It may be said that nearly all these deaths (1,105 less 100 malformations) were preventable and largely due to some defect on the part of the mother before the birth of the child.

The lines along which further work must go in order to prevent this great waste of infant life are those of better education of the parents, and particularly of the mothers of the children, as to what constitutes healthy conditions of feeding and rearing of young children. Of less importance and of a more temporary character will be the advice and treatment given to mothers, infants, and children who are actually ill in the areas where ignorance exists, and where immediate advice and perhaps temporary removal may save life or prevent serious illness. The two main lines to be followed by further educational work are: (1) A more extended and detailed training of children in public elementary schools, and (2) further means to impart information to adults as to the rearing of young children, and to deal with the health of parents, so that a healthy stock may be produced. At present this work is performed by voluntary associations and by the municipality. There are numerous voluntary associations doing excellent work by visiting the mothers, giving them advice, food, clothing, etc., and also by the holding of infant consultations. Municipal consultations are held, and health visitors attend within ten days or a fortnight of the birth if it is thought that such a visit will be useful. During 1913, 16,219 primary visits were made by the special baby visitors or the ordinary health visitors. These visits are of immense value, and one important result is the supervision of the midwives. Frequently it is found that there has been neglect on the part of the midwife, and such instances are reported to the inspector of midwives. Other agencies indirectly bring influence to bear on the health of mothers and infants. Some of these are the tuberculosis visitors, a large number of organizations engaged in social work, which report to the Public Health Department cases requiring attention, and the Poor Law officers when dealing with boarded-out children. It is suggested that special buildings should be erected, or old buildings converted so as to form institutions which might properly be called welfare stations for mothers and children, and that these institutions should cover the whole area of the city. The following, it is said, would be the minimal requirements at these child welfare stations:

(*a*) A medical consultation for mothers to enable ante-natal conditions to be thoroughly dealt with.
(*b*) A consultation for infants.
(*c*) A consultation for older children up to school age.
(*d*) Various classes for mothers for the teaching of elementary cookery and the type of needlework required in the designing and making of infants' clothing. Incidentally, a good many other matters might be introduced, such as saving clubs, the question of food values, etc.

Another very important means to prevent infant deaths would be the provision of a very much larger hospital accommodation for sick babies during certain periods of the year.

MANCHESTER AND DISTRICT.

A HOSPITAL FOR BABIES.

THE medical women of Manchester have just resolved to open a hospital for babies, especially for those suffering from gastro-intestinal disorders and defects of nutrition, and as it is felt to be important that it should be ready for the season when diarrhoea prevails, a house has been taken at Chorlton-on-Medlock, where it is hoped to begin work early in August. It has been urged that infants suffering from diarrhoea and other disorders are taken to the existing hospital out-patient departments by their mothers in such numbers that it is impossible to devote more than a few seconds to each case and to give a prescription and advice to the mothers, whereas what is wanted is more continuous treatment, which the proposed hospital will attempt to provide. Only about twelve beds will be provided immediately, but the promoters hope that the public will soon appreciate the work done and will be willing to support a larger scheme. The committee feels confident that there is ample room for such a hospital without overlapping any existing institution. By a combination of trained nurses with young women who desire training in the nursing of children, and who would give their time in return for such training, it is hoped that the experiment of running a hospital completely staffed by women, which is already being done in London, may succeed in Manchester. It is estimated that the expenses during the first year will amount to about £800, and a lady has offered £300 if the expenses of the opening in August are secured.

Sydney.

[FROM OUR SPECIAL CORRESPONDENT.]

A TRAVELLING HOSPITAL.

A SCHEME of medical and dental treatment of State school children, whose parents are unable to procure it in the ordinary way, has been outlined by the New South Wales Minister for Education. Dr. Willis, Principal Medical Officer of the Department of Public Instruction, who has

been engaged on the details of the scheme, reports that 54 per cent. of the children found to be physically defective in the metropolis and 73 per cent. or more of those found to be physically defective in the country remain untreated. He ascribes this to three causes:—First, to some extent indifference on the part of the parents; secondly, the inability of parents to afford treatment; thirdly, the want of facilities for obtaining treatment. Dr. Willis regards the latter as perhaps the most serious of all, especially in the country. In the metropolitan area the greatest difficulty among the poorer people appeared to be in obtaining dental treatment. In the larger country centres the greatest difficulty experienced by patients was in regard to obtaining treatment for bad teeth. The following recommendations have been made by Dr. Willis: (1) The establishment of travelling hospitals (clinics) in the country districts to treat practically all the conditions found in school children; (2) the establishment of a dental clinic in Sydney; (3) the establishment of a travelling dental clinic for the larger country towns; (4) the appointment of an ophthalmic surgeon to follow the school medical officers round the larger country towns, prescribe glasses when needed, and treat eye defects generally. The dental clinic in Sydney is intended for the children attending the metropolitan schools. The total cost per annum, starting with one travelling hospital for the country, a dental clinic in Sydney, a dental clinic for large country towns, and a travelling ophthalmic surgeon is estimated at £3,445. Steps have been taken to initiate the scheme, which will involve an outlay of £522 for the remaining months of the financial year 1913-14.

The Treatment of Mental Diseases.

The Inspector-General of the Insane in New South Wales has issued a statement containing recommendations for improvement in the care and treatment of mental diseases and allied conditions. Dr. Sinclair says: "What is specially needed is a more vigorous treatment of early cases with a view to preventing them becoming less curable." It is pointed out that the lunacy laws in the past have taken more care of the legal requirements than of the medical. The report then goes on to state: "The best prospects of successful treatment in mental, as in other diseases, lie in its treatment in the early stages." He emphasizes the point that the patient's disease should not remain undealt with owing to legal formalities until it had advanced to a stage in which it was certifiable. His recommendation is that provision should be made for mental cases in the general hospitals, which should be open to patients without legal formalities on the simple recommendation of their medical attendants, certificates for those whose illness required legal restraint to be provided at a later stage.

Since cases of mental disease occur generally throughout the community, the treatment of the early stages cannot be reserved for mental specialists. Facilities must be offered to the general practitioner for this purpose in the shape of suitable hospital accommodation and of education during his career as a student. Accommodation requires to be available even in remote country towns. In the metropolis, however, the numbers are large enough to warrant a ward in each of the large general hospitals. As these hospitals are used for clinical teaching, the student would become familiar with the early symptoms of the disease, the cases being more like those they meet in practice than those in the later stages usually observed in the ordinary mental hospital. Greater attention to the teaching of mental diseases at the university is also necessary, and the subject should no longer be regarded as one of minor or optional ones. The lunacy department need not be associated with the work, except so far as it may be desired to have inspection. For more advanced cases the Inspector-General recommends: (1) The enlargement of the mental hospital; (2) remodelling of the reception house; (3) further classification of existing hospitals; (4) classification of all mental cases into (*a*) those to be treated medically without certification, (*b*) those to be treated needing moderate certification, (*c*) those to be treated needing full certification. He also considers the cases of the feeble-minded, imbeciles, inebriates, epileptics, and the criminal insane, in each of which he makes certain recommendations necessary to the bringing of lunacy administration in New South Wales abreast of the most modern practice.

The Medical Journal of Australia.

Dr. Armit, who was selected to be the editor of the new *Medical Journal of Australia*, was warmly welcomed by the profession when he arrived in Adelaide. He was also welcomed at Melbourne, and arrived in Sydney on June 4th. Last week he was entertained at dinner by Dr. David Thomas, the President of the New South Wales Branch of the British Medical Association. The *Medical Journal of Australia*, the first number of which is to appear on July 4th, is a new journal, in which are incorporated the *Australasian Medical Gazette*, which has been the organ of all the Branches of the British Medical Association in Australia except Victoria, and the *Australian Medical Journal*, which has been the organ of the Victorian Branch.

Canada.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Co-operation among Medical Officers of Health.

An effort is being made in Ontario to bring the medical officers of health into closer touch with each other, and societies are being formed with that object in view. Such meetings will give opportunity for the discussion of questions concerning public health. On May 21st eighteen medical officers of health, representing the counties of Wentworth, Norfolk, Haldimand, and Brant, in the province of Ontario, met at Hamilton at the invitation of Dr. McClenahan, the district medical officer of health, to form an association which will meet in May and October of each year. The appointment of county officers to co-operate with local officers and the establishment of rural laboratories from which practitioners could secure emergency supplies were discussed. These matters will be given further consideration in October, when the association meets at Hamilton. On June 9th the medical officers of health of the counties of Lincoln and Welland met at St. Catharines, Ontario. On this occasion the Association of the Medical Officers of Health of the Niagara District was formed, with Dr. King, of St. Catharines, as president.

The Nova Scotia Sanatorium.

The provincial sanatorium at Kentville, Nova Scotia, was established in 1904 by the Government for the treatment of persons suffering from pulmonary tuberculosis. A weekly fee of 5 dols. is charged, which must be paid in advance, and only those who are in the early stage of the disease and have no serious complications are admitted. The ninth annual report states that during the year 1913 64 patients received treatment in the sanatorium and 38 were discharged; of the latter only 2, or 5 per cent., failed to respond to treatment. Two pavilions, each with accommodation for 16 patients, were added to the sanatorium last year. Since January, 1910, 94 patients have received treatment and 59 of them are well and working, 19 are well but are not working, 15 are dead, and the fate of one is not known. The report states that tuberculin appears to be of benefit to patients while in the sanatorium but that it has little ultimate effect. The Kentville sanatorium is the only institution of its kind in the province of Nova Scotia, the population of which is 492,338. The sanatorium contains 40 beds, and there are 23 antituberculosis leagues in the province. There is great need for free hospitals to which needy patients may go, especially those in the later stages of the disease. Throughout the Dominion, with its population of something over 7 millions, there are 31 sanatoriums, providing altogether 1,423 beds for patients suffering from tuberculosis.

Tuberculosis and the Milk Supply.

For the past two years the question of bovine tuberculosis and its relation to human tuberculosis has been under consideration by the Federal Department of Agriculture. The problem in Canada presents much the same difficulty as in other parts of the world and an Order in Council has now been passed to authorize the Department of Agriculture to enter into an agreement with cities whereby some arrangement may be made to lessen the possibility of infection through the milk supply. In the province of British

Columbia provision is made to pay compensation for dairy cattle infected with tuberculosis and, so far, the results of this regulation have been most satisfactory. A good deal has been accomplished in certain cities in Canada to prevent infection through the milk supply, but it is hoped that the Minister of Agriculture will now be able to make arrangements to ensure an improvement in dairy conditions throughout the Dominion.

SCARLET FEVER AND MEASLES.

Both scarlet fever and measles have been very prevalent of late throughout the country. Many of the cases are slight and it frequently happens that a physician is not called in. In Hamilton, Ontario, 267 cases of measles were reported during the month of May, and in June as many as 108 cases are said to have been reported in a single week. In Moose Jaw, Alberta, 101 cases were reported during the first three weeks of June.

THE MONTREAL ASSOCIATION FOR THE BLIND.

In addition to the Mackay Institute, which for many years has done much good work, a second school for the blind was opened in Montreal about eighteen months ago. It stands on eight acres of land, and has accommodation for forty pupils. The course of instruction includes an elementary commercial course, technical training in piano tuning, typewriting, machine knitting and sewing, and instruction in the piano, organ, and violin. An industrial home for the adult blind is now in course of erection on the school grounds. A social club, also, has been organized in connexion with the Association and has proved most helpful, especially to those who recently have lost their sight.

THE ST. JUSTINE HOSPITAL.

The new building of the St. Justine Hospital for Children at Montreal was opened on June 22nd. It contains eighty beds, and has one private and three public wards. It is the intention to give a course of lectures, which will be free to the public, on the care of infants and the treatment of minor ailments; these lectures will be given in connexion with the outdoor department of the hospital.

Special Correspondence.

PARIS.

Parameningococcus Serum.—Diabetes Insipidus.

M. PASTEUR VALLERY-RADOT reported to a recent meeting of the Société Médicale a case of cerebro-spinal meningitis in which, after three injections of antimeningococcus serum amounting together to 120 c.cm., the symptoms of the disease became more accentuated, and the cerebro-spinal fluid remained turbid. The patient became comatose, and it was then decided to try the antiparameningococcus serum of Dopter, although the parameningococcus had not then been identified in the case; 40 c.cm. were injected into the spinal canal, and on the following day there was a great improvement both in the patient and in the appearance of the cerebro-spinal fluid. Three more injections of Dopter's serum were given; altogether 145 c.cm. After each injection the turbidity of the cerebro-spinal fluid lessened and the general condition of the patient improved. Eventually the cure was complete and the fluid normal. M. Dopter himself identified the organism in this case as a parameningococcus. M. Hallé observed that if before the complete bacteriological examination antimeningococcal serum did not improve the condition, antiparameningococcal serum should be tried. Dopter, in discussing the bacteriological diagnosis of cerebro-spinal meningitis, pointed out that formerly the differentiation of the meningococcus and the parameningococcus was considered relatively simple by the agglutination test. But coagglutinations were frequently observed, and the problem could not be solved quite satisfactorily by the relative amounts of agglutinations. He preferred the test of the situation of the agglutinins, and with it his results had been very accurate. To the tubes necessary for this test he added another containing saturated antimeningococcal serum, which he kept prepared for this purpose. If coagglutination occurred in the two serums and no agglutination in the saturated serum the organism was the meningococcus. If agglutination occurred in the saturated serum also the organism was the parameningococcus. The method, he said, was both quick and accurate.

Experiments by Professors Camus and Roussy have thrown some new light upon the etiology of diabetes insipidus, and upon the function, or rather lack of function, of the pituitary gland. Numerous researches, both experimental and clinical, during the last few years are held to suggest that hydruria depend either upon a lesion of the nervous centres in the base of the brain, or in the medulla, or upon a perversion of the function of the pituitary gland. The researches of MM. Camus and Roussy point very strongly towards the former. In the first series the relation of removal of the pituitary gland to polyuria was studied. The glands were removed in a number of dogs by the buccal and trans-sphenoidal route. In the majority of cases an abundant polyuria occurred, but in a few there was no diuresis. The autopsies showed that in the former cases the base of the brain had been slightly injured in the course of the operation, and that in the latter the brain was quite intact.

The second series of experiments was concerned with the relation of polyuria to lesions of the base of the brain. The base in the neighbourhood of the pituitary gland was injured in five dogs, and all showed an abundant polyuria, notwithstanding the integrity of the pituitary glands, as shown later by the autopsies. In two other dogs the pituitary gland was removed without producing polyuria; after a few weeks the base was injured in these two dogs, and intense polyuria followed immediately. The duration of polyuria produced by lesions of the base was found to be variable. In some cases it was transient, but in the majority it lasted from two to six months. Occasionally a transient glycosuria appeared immediately after the puncture. Injection of many different preparations of pituitary extract did not in any way modify the experimental polyuria. The region, lesions of which were followed by polyuria, appeared to be limited to the opto-peduncular space, especially in the neighbourhood of the infundibulum. Lesions in front of the optic chiasma did not produce polyuria. The hydruria in the animals was accompanied, as a rule, by a corresponding polydipsia. In one case in which the amount of water allowed after the operation was restricted, the polyuria was quite as intense, the excess of water being abstracted from the tissues. When the dog was allowed to drink water freely it soon repaired the loss. Some animals after the experiments drank very much more water than was necessary for them, and others seemed inclined to take very little extra. In the latter cases MM. Camus and Roussy hold that the centres for water metabolism had either been injured or were defective developmentally.

Correspondence.

THE UNIVERSITY OF LONDON.

SIR,—In an annotation under this heading in your issue of July 11th, to which my attention has just been directed, you comment on the question of providing a new site for the University, and you refer to a resolution passed by the Senate at its meeting on June 17th, from which you draw the conclusion that "the Senate therefore would seem to have stepped aside, at any rate for the present, and the next move lies with the Departmental Committee, but there is no indication of when this move will be made." The assumption, inherently improbable, that the Senate had "stepped aside" in a matter so vitally important to the University which it controls is immediately disproved by a reference to the preamble to the resolution as it appears in the minutes of the June meeting confirmed at the meeting of July 15th.

The occasion of the resolution was the report to the Senate of its Sites Committee, and in its preamble to the resolution, which was ultimately endorsed by the Senate, the Sites Committee state that they "have had before them particulars of a large number of sites, eight of which they have investigated in detail." (Your annotation refers to only three sites as having been "spoken of.") The preamble then goes on to say:

Your Committee are of opinion *that some steps should be taken to counteract the effect of ill-informed criticism in regard to the action or inaction of the University with reference to a site for its head quarters.* The position of the University is set forth in Senate Minute 2,992 of May 30th, 1912, and your Committee think it would be wise for the Senate to make clear to His Majesty's Government the attitude of the Senate towards the site question at the present time.

Then follows the resolution, which in effect advises the University to hold on to what it has, unless very definitely assured of something better. If the words which I have italicized constitute a rap upon your editorial knuckles, I am not responsible for the punishment, and it is not undeserved: your criticism cannot escape the reproach that it is ill-informed.

The interpretation of the resolution presented by the Sites Committee—which includes, in Lord Moulton, Lord Cozens-Hardy, Sir Edward Busk, and Mr. Budd, a sufficiently remarkable combination of legal authorities—is to be found in the events, some of which have been made public, which followed in the train of the very interesting, but wholly unsuccessful, attempt of the Royal Commissioners to commit the university to the Bedford site before the Commission's final report was published. The Senate very properly refused to be hustled. They could not imitate the rapidity of decision of the Commissioners who accepted, *on the same day on which it was made to them*, the proposition for the removal of the University laid before them by Sir Francis Trippel. The Senate with a higher sense of its responsibilities than was exercised by the Commissioners adopted the wiser course of entrusting to a very authoritative committee the duty of investigating patiently and fully all the possibilities open to them. The present report conveys their considered judgement to the effect that the Senate ought not to exchange the undeniable substance of their present advantages in the engagements of His Majesty's Treasury towards the University, which are recorded in the Minute 2,992, for the shadow of nebulous offers, chief among which I would instance Sir Francis Trippel's "million pound fund," which was launched with such a flourish of trumpets by the Commissioners, and which was so speedily discredited.

The degree to which His Majesty's Treasury is committed to the University by the minute quoted seems a little uncertain; but in the opinion of the present Master of the Rolls, who is a member of the Sites Committee, there is, at the lowest estimate, "a very good parliamentary case" for the undisturbed possession by the University of all its present privileges of tenure and maintenance; and there seems, moreover, a reasonable prospect of the reversion to the University of the remainder of the buildings of the Imperial Institute. This happens to be one of the finest of modern examples of the architectural art, and its near proximity to the Imperial College and other great educational institutions and museums, makes it peculiarly well adapted for the purposes of a university.

Equally infelicitous with your reflection on the Senate is your statement that the next move in direction of the choice of a site "lies with the Departmental Committee." Now inasmuch as that committee was appointed solely "to give effect to the recommendations of the Royal Commission," and further comprises a large proportion of past members of that Commission, it must find itself in a peculiarly unenviable position as regards the selection of a site. It cannot ignore the Commissioners' recommendation of the Bedford property, so flamboyantly eulogized by Lord Haldane; and it is even more impossible to resurrect a scheme which, shorn as it now is of all those early anonymous and, as many of us think, largely mythical promises of support, is surely as dead as mutton. The committee may indeed sorrowfully address to Sir Francis Trippel a query similar to that of his illustrious compatriot, Hans Breitmann, and ask him, "Vhere ish dat million now?" Your annotation closes with the prudent reflection that there is no indication of when the Departmental Committee will take action in this matter; and it may confidently be predicted that that is one of the very last questions on which it will be anxious to make a pronouncement.—I am, etc.,

E. GRAHAM LITTLE, M.D., F.R.C.P.,
Member of the Senate: Vice-President of the University of London Graduates' Association.

July 21st.

*** Our knuckles are not very badly bruised. Shorn of rhetoric, the main facts are that on May 30th, 1912, the Senate of the University appointed a committee "to consider and report on the question of an adequate site for the head quarters of the University and generally on the question of accommodation from the point of view of the development of the University as a whole." On June 17th, 1914, the Senate resolved to inform His Majesty's Government that, having considered various sites, it was of opinion that it was "undesirable to proceed further with such consideration," and so on as printed in the JOURNAL of July 11th, pp. 86 and 100. This action of the Senate is, we think, quite fairly described as stepping aside. In assuming that the next move lay with the Departmental Committee we may have erred, though but for our correspondent's authority we might have supposed that the President of the Board of Education meant what he said in his letter of November 12th, 1913, to the Vice-Chancellor of the University. In that letter Mr. Pease stated that the Government had decided that the scheme of the Report of the Royal Commission was "calculated to produce a University of London worthy of the name," and that "the business of the Departmental Committee" would be "to discover how far the numerous bodies and persons concerned are prepared to co-operate on the basis of the principles underlying the scheme" which Mr. Pease considered to be "in themselves simple." The fourth of these simple principles was:

> That as much of the University work as possible, together with the University administration, should be concentrated in a central University quarter. (The question of the particular site to be selected is one on which the Departmental Committee will be able to advise the Government after they have considered the various alternatives that have been proposed.)

The Senate is quite right not to be hustled, and there seems to be no real risk of any such untoward result, but it may be recalled that on May 30th, 1912, the Senate adopted a resolution welcoming "the efforts of Lord Haldane and of other friends of university education in London to raise funds towards the present and future needs of the University." We do not altogether sympathize with our correspondent in his joy that these efforts have so far failed of success.

CARDIAC THROMBI.

SIR,—In a recent annotation on free thrombi and ball thrombi in the heart (p. 33) no reference is made to one form of cardiac thrombosis of great importance and by no means uncommon. It is met with in patients who have been "long-a-dying," as in phthisis or cancer. These thrombi are flat, and moulded to the shape of the ventricle and auricle, and represent the cavities in the condition of extreme contraction. They have the ordinary character of *ante-mortem* clots, being firm, pale, and fibrinous. They measure from an eighth to a quarter of an inch in thickness, but this varies in different parts, and they may be several inches in length. They form in the ventricle or auricle, commencing probably behind the columnae corneae, or in the irregular meshwork of the auricular appendix. In extreme cases they may occupy both auricle and ventricle, with a narrow band connecting the two parts, and with extensions into the great vessels—the pulmonary artery on the right and the aorta on the left. Generally they are kept *in situ* by bands which are felted in with the chordae tendinae and columnae corneae. They may be detached, and then cause sudden death. On the right side this would lead to pulmonary embolism. But detachment may occur on the left side also, though much more rarely. An instance of this I described some years ago under the title of "Embolism of the aorta." The arch of the aorta was found plugged with a large mass of decolorized clot. On unravelling this in water it displayed a large, flat clot such as I have described, which could be replaced without difficulty *in situ* and shown to correspond exactly with the cavities of the left ventricle and auricle.

This form of cardiac thrombosis is by no means rare. It has escaped description, I suppose, because these thrombi have not been distinguished from the soft, gelatinous, *post-mortem* clots which are so much more common.—I am, etc.,

SAMUEL WEST.

London, W., July 20th.

MITRAL OBSTRUCTION AND PULMONARY PHTHISIS.

SIR,—In Dr. Price's article on cardiac disease, in the JOURNAL for June 20th, there occurs a statement which appears to require modification. On p. 1342 he states that "the most common cause of haemoptysis in pulmonary phthisis is mitral stenosis."

Rokitansky taught that all conditions which induce a state of venosity of the blood impart an immunity from tuberculosis. Whether this is strictly correct or no may be open to argument, but it has certainly represented general medical opinion for many years.

It is currently believed that while congenital heart disease, especially pulmonary stenosis, predisposes to phthisis, acquired forms of heart disease, particularly mitral stenosis, are antagonistic to its development. Dr. Percy Kidd states[1] that most writers agree in saying that mitral stenosis is scarcely ever met with in association with phthisis, but that he has met with at least a dozen clinical examples. In the same work[2] is found the statement "only two (*post mortem*) cases of tuberculosis in association with mitral stenosis came under the notice of Sansom, but according to Potain the coexistence is frequent." In face of this conflict of opinion among authorities it seems premature to assert that the most common cause of haemoptysis in pulmonary phthisis is mitral stenosis.

In my limited experience as physician to a sanatorium and large general hospital for thirteen years, I cannot recall a single case of phthisical haemoptysis which presented the physical signs of mitral stenosis. Some years ago I attended a girl who had repeated haemoptysis, crepitations at one apex and a mitral systolic cardiac bruit. I recently saw this patient again after an interval of seven years. I could find no sign of phthisis except that the heart was somewhat exposed from retraction of the left lung, suggesting a healed lesion. My inference from this is either that my original diagnosis of phthisis along with heart disease was mistaken, or that the heart disease increased the patient's resistance (Rokitansky's immunity) to the tuberculous process. The cardiac bruit remained, and there were signs of heart failure.

There is certainly a source of "error in the diagnosis of cardiac disease" which it seems desirable to mention in connexion with those alluded to by Dr. Price. I do this not in a spirit of criticism but from a desire to supplement what he has said. I allude to difficulties in the diagnosis of mitral stenosis, particularly where, as Dr. Price says, murmur and thrill are absent. A patient comes with a history of cough and haemoptysis, and crepitations are heard at the apex of one or both lungs. I have myself diagnosed such a case as phthisis when after-events proved the incorrectness of the opinion, and that the mistake is a common one I feel quite sure from the numbers of cases of haemoptysis sent to me as due to phthisis where the real disease is mitral stenosis. The wasted appearance of many of these patients increases the suspicion that they are phthisical. The crepitations at the apices generally clear up with rest, and seldom develop into the signs of definite and advancing phthisis. No doubt phthisis and heart disease are occasionally found associated, but my experience tends to confirm Dr. Kidd's statement, "All diseases of the heart which bring about passive congestion of the lungs confer a certain degree of protection against pulmonary tuberculosis" (Allbutt).—I am, etc.,

Nottingham, June 23rd. C. H. CATTLE, M.D., F.R.C.P.

THE BRITISH MEDICAL ASSOCIATION AND THE MEDICAL PROFESSION.

SIR,—When expenditure exceeds income, it is time to seek out the cause and remove it. When the *Lancet* is a commercial success at a subscription of £1 1s. per annum, reduced from £1 11s. 6d., it is surely a huge mistake to increase the British Medical Association subscription to £2 2s.

The fight for the partial recognition of the rights of the profession cost the Association a large amount, to which many subscribed, and, with the increased subscription, caused a loss of about 2,000 members. Would it not be the best thing to set one's house in order—to abolish the Representative Meeting, which, in my opinion, is simply a waste not only of time, but also of money (speaking roughly, £2,000 a year)—to restrain and prevent further officialism? The Association was much better and more economically managed by the Council elected by the Branches, before the formation into Divisions, etc., and laid a good foundation. Why not revert to the former method?

Why should the ordinary member of the British Medical Association have to pay for working up the panel system, with which, perhaps, he has no sympathy? and why should he be compelled to become a trade unionist, which possibly he regards as a degradation to the profession?

Would it not be wiser and more just to have a Panel Committee, or guild, or branch of the Association, with its own secretary, for which it paid, and, if it were considered desirable, for it to become allied under the Trade Union Act? Also to lower the general subscription to £1 1s., or, say, 10s. 6d. for membership and 10s. 6d. or £1 1s. for the JOURNAL, and so on, so as to embrace all who have an interest in their profession, as only by union and organization can influence be obtained. Now is the time; delays are dangerous.—I am, etc.,

Harrogate, July 14th. CHAS. GIBSON.

SIR,—There seems a tendency on the part of the profession to split up into various political societies and trade unions; this will be absolutely fatal to it. Could not the British Medical Association try and get the whole profession into its ranks? This can only be done by dividing definitely into two sections—(1) scientific, (2) political—and having a separate subscription for each, the subscription to the scientific section to include the JOURNAL, and the subscription to the political side the SUPPLEMENT. I believe there would be a very great increase in the number of members. A slightly reduced subscription might be made to members of both sections.

Depend upon it that if a crisis occurred the scientific members would back up the political ones, whereas if we are split into numerous societies each will claim prior right to represent the profession, and the various societies will quarrel with each other, and meanwhile the Government of that day will just do as it likes with the profession. A number of men say the profession will never be united, but I still believe it is possible, but only if the Association takes immediate and prompt action.—I am, etc.,

Leytonstone, July 17th. ARTHUR TODD-WHITE.

THE METHODS OF THE CHILDREN'S COUNTRY HOLIDAYS FUND.

SIR,—May I ask you to find space for a few comments on the circular on "Children's Country Holidays" issued by the Local Government Board? The Board draws attention to the allegation that from time to time infectious disease has been introduced or spread in country areas, and that overcrowding in country cottages has also been caused by the boarding out of town children during holiday time.

The Children's Country Holidays Fund, which sent over 45,000 London children into the country for a fortnight last summer, and since its establishment by Canon Barnett thirty years ago has provided holidays for more than a million children, has for many years given close attention to the points mentioned in the circular. As the fund draws support from such a wide circle of sympathizers, I am sure your readers will be interested to know what regulations are laid down to avoid the dangers suggested.

1. To prevent any risk of sending children to cottages where infection or overcrowding might be possible, the fund allows no centre to be used unless a lady or gentleman resident in the place has undertaken supervision, and children are only sent to cottages which have been inspected by these honorary "visitors." The latter also see that the definite restrictions as to numbers accommodated in each cottage are observed, and visit the children during their stay so that no breach of the regulations may pass unnoticed.

2. The fund enjoys the co-operation of the L.C.C., whose nurses inspect all the children on the score of health and cleanliness before they go away, and report three times on each child before the holiday is given.

3. Honorary assistants of the fund visit the home of every child at least once before the holidays, and in case of any suspicion of illness in the house or immediate neighbourhood,

[1] Allbutt's *System*, vol. v, p. 290.
[2] Ibid., vol. vi, p. 345.

a doctor's opinion is obtained. Before the children leave London their parents are required to see that they take with them a supply of clean clothes.

4. A special fund is set apart for medical assistance when required at the country centres, and this fund is drawn upon up to a specified amount in case of need for medical advice, special food or hospital charges.

Seeing that the Children's Country Holidays Fund has been at great pains to minimize any risks attendant on its work, I should be glad if you would put this brief statement before your readers.—I am, etc.,

F. MORRIS,
Chairman of Executive Committee.

Children's Country Holidays Fund,
18, Buckingham Street, Strand, W.C.,
July 9th.

A PROBLEM OF DENTAL LEGISLATION.

SIR,—As the progress of dentistry is closely associated with that of medicine, it is gratifying to find, as is shown by the recent judicious leader, that you are disposed to take an interest in "a problem of dental legislation," which, as you say, the British Dental Association has been for some time aware is "serious and difficult." The unregistered men are also aware of this, and are busily studying the situation from their own point of view. They are scarcely, as you say, "an unorganized mass," and as a body they have naturally sympathies and interests in common. It will be very awkward if registered dentists in alliance with medicine are not the first to understand the true nature of the conditions that have led to the present unfortunate state of dental affairs, and the first also to propose and institute the necessary reforms to rectify it. It would be humiliating, although not from the numerical point of view, for the registered dentists to be outwitted by the unregistered, which will inevitably happen if the former do not immediately proceed with the necessary reforms.

It may be readily shown that neither the registered nor the unregistered practitioners have yet grasped the true nature of the problem with which they are confronted; at least, if they have, they have not yet honestly stated it. Those who had interpreted the meaning of the Dental Act properly and calculated that it would be carried out were confident that the recent decision given by the Lords would turn out as it did, and it was those few who knew this who prevented the matter being tested by the House of Lords sooner. So that apart from the delay occasioned by this false waiting policy and making the situation clear to a greater number, the state of matters in dentistry was not affected by the decision.

The practice of dentistry in a professional sense as well as of medicine must be based on other considerations than mere law, although regular dental practice may be fortified and protected by law. Victory lies with that dental party or body which first recognizes the true nature of dental reform and initiates and promotes it. So much the better would it be if registered and unregistered by conciliation and compromise acted conjointly, but that is unlikely. The necessary reforms indicated below are sure to come sooner or later.

Instead of saying as you do that the "object of the Dentists Act is to a large extent defeated," perhaps it would have been nearer the mark, as I am inclined to think, to say that the Act aggravated the very evils it was intended to reduce. Your opinion also that "it is clear that nothing short of a prohibition of unqualified practice, such as exists in other countries and many of our colonies, would have the desired effect," is open to grave doubt, although that opinion is widely shared, not only by the leaders of the British Dental Association and other qualified practitioners, but also by unregistered and unqualified men. There is a suspicion of some fallacy lurking in their arguments when opposed parties are in complete agreement as to the main aim and issue. The unregistered are satisfied that their claims for some kind of recognition cannot in the end be withstood, so they at least may be excused for adopting the creed that prohibition of practice is good law.

The policy of direct prohibition either of the use of the title of dentist or of practice in dentistry is obnoxious to the widespread British sentiment of the freedom of the individual, both as to speech and action, so that prohibition of practice in this country would be difficult to secure, and if secured, proportionately less effective and more harmful in its results. There is, however, a perverted taste for legislation in this country at present, and the medical Insurance Act has whetted the dental palate. Surely Parliament will not pander to it, but let it cure itself by wholesome reflection. Even although there were only 8,000 unregistered dentists in established practice, as I am inclined to estimate, and 4,000 registered dentists—that is, about one-third of the number of men in active medical practice—would Parliament be inclined immediately to increase the machinery of the medical Insurance Act so that it could produce an additional one-fourth revenue to pay the dentists? The medical Insurance Act requires simplification first rather than to be complicated by a large addition, and for this among several other less obvious reasons dental insurance benefits of a comprehensive and substantial kind are probably somewhat far off.

It is chiefly by the improvement of dental education and the curriculum that progress in dentistry and especially the increase of the number of men that will become dentists, will be attained. The curriculum is ill conceived, it is unattractive, and having been gone through, the graduate is ill equipped and consequently vulnerable by the "dental artificer" or dental mechanic.

The medical and dental curriculums resolve themselves into two chief parts—a general, and a special or technical part. The general part in both should be the same, namely, physics, chemistry, and biology. Biology, including protozoology, has been, by some grave error, omitted from the dental curriculum, whereas aspects of human anatomy and physiology, medicine, and surgery that are irrevelant to dentistry, are included. Instead of having full courses of, and his attention concentrated on, dental anatomy and physiology, dental surgery and pathology, and mechanical or prosthetic dentistry, the dental student's mind is distracted by a multiplicity of cognate subjects. Dentistry being to all intents and purposes an operative and mechanical art, the pupilage or apprenticeship should run throughout the whole course, which undoubtedly should have a minimum duration of five years.

Dentistry, besides, as a profession, suffers badly because knowledge of dental diseases or dental pathology is merely empirical and not rational. Dentists neither know the etiology of nor how to prevent dental caries, dental pyorrhœa, the deposition of tartar on the teeth or dental erosion; at least no textbook gives a rational account of these diseases. Is there any virtual argument concerning their cause or etiology and of their prevention in current dental literature? There was never greater general discord on these aspects of dental and peridental diseases than at present. This constitutes a grave drawback to the professional aspect of dental surgery.

But as dentistry is an art so nearly associated with medicine and surgery, it might nevertheless be a more honourable institution in civilized life were not presumption and quackery such prevalent failings as is alleged, probably with truth. These failings, if they really exist, should have the serious consideration of those who would reform dentistry: for if they exist among registered men to any considerable extent, no law can effectively defend such an institution from presumption and quackery from without. In order to counteract this tendency the public also require education in certain essential dental matters. The Dentists Act was in a sense the product and expression of the dental snobbery and ignorance of the third quarter of last century. These lower sentiments, the lack of a rational knowledge of dental pathology and a lax and scrambling dental curriculum, lie at the root of present dental troubles rather than defective legislation. Dental regeneration will certainly come when these defects are rectified, but not till then.

Instead of 5,000 names being on the *Dentists' Register* there should be 15,000 if the work confronting us is to be successfully coped with. Ostensibly the General Medical Council is to blame for the present scarcity of qualified dentists, and this it ought to have observed long ago. But the Representative Board of the British Dental Association, having voluntarily taken upon itself the burden of the conduct of the Dentists Act, is the real culprit. An analysis of its proceedings will show that it has never revealed that it was conscious at any time of the real cause of dental troubles. Its policy and actions have for the most part, both on broad issues and in detail, been

detrimental to dentistry, and its present attempt to institute an anticipatory public service is doomed, like its past successive attempts at reform, to abject failure. In a word, there is something rotten in the state of dentistry in this country.

In order to have raised the number of names on the *Register* since the passing of the Act to 15,000 an average annual increment of 285 would have been necessary. The average annual increment is *nil*. To make up the deficiency in ten years it would require an annual addition of more than 1,500. The problem now presents itself, How within a reasonably short period can this deficiency be supplied? Obviously special means must be adopted, both to attract more recruits and by some means to reduce the numbers of the unregistered and make unregistered practice less attractive.

Under the present régime the mechanism for this purpose should emanate from the Medical Council. The Dental Act does not confer on the Medical Council the power of forming a supplementary list. The licensing bodies should be vested with powers to modify their curriculums as above suggested, and, if they see fit, to admit unregistered practitioners to examinations *sine curriculo* or after a modified course of classes. It is an obvious logical deduction that, if existing examining bodies examine the hitherto unqualified practitioners, existing teachers should be allowed to afford instruction.—I am, etc.,

WILLIAM WALLACE, M.D., L.D.S., R.F.P.S.Glasg.,
Glasgow, June 15th. Lecturer, Glasgow Dental School.

PRACTICE IN BRAZIL.

SIR,—By the courtesy of the Privy Council I have received a dispatch from His Majesty's Consul-General at Rio de Janeiro, stating the conditions under which persons holding foreign diplomas are permitted to practise medicine, surgery, and dentistry within the Federal district. This I shall be happy to show to any one who cares to call at this office; it will be incorporated in the next edition of the pamphlet published by the Council giving the conditions under which persons qualified in their own country may practise abroad.—I am, etc.,

NORMAN C. KING,
General Medical Council Office, Registrar.
299, Oxford Street, W.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Degree.

THE following degree has been conferred:

D.M.—G. H. Hunt, Christ Church.

Awards.

The Theodore Williams Scholarship in Anatomy has been awarded to K. F. D. Waters, Keble College, and the corresponding scholarship in pathology to H. St. H. Vertue, University College.

UNIVERSITY OF LEEDS.

Degrees.

THE following degrees have been conferred:

M.B., CH.B.—J. C. Gillies, H. R. Knowles, *W. H. Lonen, *H. Shochet, *C. Wilson.

Examinations.

The following candidates have been approved at the examinations indicated:

SECOND M.B., CH.B. (*Part I. Anatomy and Physiology*).—E. W. Drury, E. E. V. Glover, K. Jaidka, I. Silverstein. (*Part II. Pharmacy*).—Z. P. Fernandez, F. H. Goss, H. V. Horsfall, C. R. Knowles, A. L. Telling.

FINAL (*Part I, Pathology and Bacteriology*).—J. J. D. La Touche, H. Hyman, W. L. Ingham, C. E. Leake, J. Rosencwige, R. S. Topham, A. Umanski. (*Part II, Forensic Medicine and Public Health*).—W. D. Anderton, S. N. Cohen, C. M. Goznoy, A. S. Hebblethwaite, H. R. Knowles, H. S. Lockwood, H. W. Whitteron, H. Shochet, J. Wilkinson, C. Wilson.

* With second-class honours.

UNIVERSITY OF LIVERPOOL.

FACULTY OF MEDICINE.

AT the end of a meeting of the Faculty of Medicine the Dean reported a considerable increase in the number of students taking courses of instruction in the medical school. The number of new undergraduate students preparing for medical degrees and diplomas who registered during the session was 49. The number of new dental students registered for dental degrees and diplomas was 31. He further reported that the total number of undergraduate students taking complete courses of instruction in the school was 166, which was 23 in excess of the previous maximum. In addition to the increased number of undergraduate students, there are also considerable increases in the numbers taking public health courses, and in those registered as research students.

VICTORIA UNIVERSITY OF MANCHESTER.

CERTIFICATES in School Hygiene and in Factory Hygiene have been awarded to Drs. G. D. Dawson and W. M. MacIlraith.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated:

SECOND M.B.—E. J. Ball, R. B. Britton, N. Durant, F. V. Jacques, R. H. Tasker.
FINAL (*Part I*).—O. C. M. Davis.
D.P.H (*Part I*).—W. T. Torrance. (*Part II*).—J. R. Kay-Mouat.

UNIVERSITY OF EDINBURGH.

UNIVERSITY COURT.

A MEETING of the University Court was held on July 20th, when Principal Sir William Turner was in the chair.

Medical Education of Women.—An application on behalf of the teachers for the medical education of women in Edinburgh for renewal of recognition for next academical year was granted.

Additional Vans Dunlop Scholarships.—The Senatus reported that the funds for the endowment of the Vans Dunlop Scholarships would now admit of the foundation of two additional scholarships of £100 each, and that they had resolved to institute a new scholarship in pathological bacteriology and another in modern languages.

Extensions at the Royal Infirmary.—Payment was authorized of the cost of the work carried out at the Royal Infirmary under an agreement between the Court and the Infirmary in connexion with the fitting up of rooms for "side-room" teaching and the extension and equipment of the pathological department.

Degrees.

The following were among the degrees and other awards distributed at a graduation ceremony on July 10th:

M.D.—T. M. Anderson, ‡J. W. Cairns, E. F. Coghlan, J. Crocket, ‡J. A. Cruickshank, ‡J. M. Dewar, ‡T. R. Evans, ‡K. Fraser, *J. D. Gunn, ‡W. R. C. Heslop, J. Hume, E. C. C. Maunsell, R. C. J. Meyer, R. Park, ‡A. H. Porter, J. N. M. Ross, S. F. Silberbauer, W. D. D. Small, M. W. Smart, *S. A. Smith, K. R. Tampi, J. Tennant, A. B. M. Thomson, M. A. Wajid, A. S. Walker, ‡A. Watson, W. H. Williams, †L. S. Willox.

M.B., CH.B.—R. C. Aitchison, H. S. A. Alexander, R. H. Alexander, B. C. Ashton, C. Atkinson, Mary A. H. Baird, §R. G. Bannerman, Rachael M. Barclay, §R. C. Batchelor, H. W. Bell, J. G. Bell, J. W. Bennett, S. E. Bethell, J. Biggam, H. B. Binks, W. Bird, E. J. Blair, A. B. Brook, H. P. Caithness, A. Cameron, R. E. Cameron, H. E. Collier, A. N. Craig, J. W. Darling, T. M. Davie, W. M. Dickson, C. L. Dold, C. E. Dukes, G. K. Edwards, ‖J. D. Evans, F. B Eykyn, G. D Fairley, S. S. Fenwick, T. C. Findlater, E. S. Fowler, H. R. Friedrichs, T. A. Fuller, H. J. C. Gibson, R. E. Gibson, D. J. Glen, A. S. Glynn, H. P. T. Haddow, A. R. Hamilton, N. E. M. H. Hay, J. J. Healy, G. F. P. Heathcote, F. Henderson, Gertrude M. A. Herzfeld, J. B. Hogarth, K. Husain, Florence E. Inglis, B. O. Jarrette, C. P. M Joubert, P. W. J. Keet, C. G. Lambie, S. J. A. Laubscher, L. Levy, §P. MacCullum, T. M Fetridge, R. M. Mackay, E. F. W. Mackenzie, E. L. Mackenzie, J. J. M. Mackenzie, Jessie A. MacLaren, I. K. F. MacLeod, Jean M. M'Minn, F. G. Macnaughton, E. Mansfield, V. H. Mason D. J. Max, B. Mendelssohn, G. Millar, R. W. Miller, E. M. Molesworth, G. T. Mowat, R. McI. Muir, W. Murdoch, J. C. Neil, H. S. Palmer, C. C. Philip, G. S. Pirie, R. Power, §J. M. Pringle, M. Razakhan, H. A. Rippiner, R. L. Ritchie, H. C. Robins, C. Sand, A. C. Shaw, H. K. Shaw, B. Shires, H. J. Simson, H. C. Sinderson, T. W. Smart, ‖A. H. D. Smith, D. M. Smith, A. S. Taylor, J. S. Taylor, A. B. Theron, A. R. Thomson, §R. O. C. Thomson, R. Thorp, F. E. Tillyard, P. du Toit, Janet P. Walton, C. H. Wan, H. D. Welply, H. P. W. White, G. S. Williamson, ‖D. G. Wishart, E. W. N. Wooler, P. C. V. Woudberg, B. E Wright, G. D. Yates, J. B. Young.

D.P.H.—J. W. Gray, V. M. Lambah, N. S. Williams.

DIP. TROP. MED. AND HYG.—G. A. Borthwick, L. G. Fink, W. Mackenzie, D. Martin, S. L. Mitra, S. R. Rao.

* Awarded a gold medal for thesis. † Highly commended for thesis.
‡ Commended for thesis. § First-class honours.
‖ Second-class honours.

Prizes.

The Cameron Prize in Practical Therapeutics was awarded to Professor Paul Ehrlich; the Gunning Prize in Forensic Medicine to S. A. Smith; the Ettles Scholarship to R. C. L. Batchelor; the Allan Fellowship to D. J. Glen; the M'Cosh Graduate's and Medical Bursaries to R. G. Bannerman; the Beaney Prize to P. MacCallum; the Mouat Scholarship to R. C. L. Batchelor; the Conan Doyle Prize to C. P. M. Joubert; the Annandale Gold Medal to I. Keith-Falconer MacLeod; the Buchan Scholarship to P. MacCullum; the James Scott Scholarship to A. B. Theron; the Dorothy Gilfillan Memorial Prize to Gertrude M. A. Herzfeld; the Wellcome Medals in the History of Medicine to J. Schneider and W. Everett; the Pattison Prize to A. J. Caird

and W. Goldie; the Wightman Prize to R. G. Bannerman; the Cunningham Memorial Medal to R. Walker; and the Whiteside Bruce Library to H. J. Parish.

Examinations.

The following candidates have been approved at the examinations indicated:

FIRST M.B. (*Zoology*).—M. S. Abasa, A. F. Abbassi, A. Ainslie, Catherine J. Anderson, W. Anderson, T. F. Andrew, G. S. Bainbridge, R. F. Balmain, I. C. C. Barclay, R. B. Barnfather, J. J. R. Binnie, C. Blake, S. Boodoosingh, H. Booth, K. S. Brown, C. Brownlee, R. M. Burnie, R. M. Cairns, A. Campbell, E. Chonglop, A. C. Y. Chow, E. H. Connell, J. A. L. Cook, J. H. Crawford, Mary E. Cripps, A. W. G. Cumming, D. A. Cunningham, J. Davidson, W. H. Davies, F. J. Dean, A. A. Denham K. S. Dick, Isabel M. Don, Jean D. Don, A. E. Dowden, W. J. Dunn, D. N. Dutt, C. G. L. van Dyk, C. G. N. Edwards, D. Fergusson, J. E. Fletcher, Millicent Fox, E. M. Fraser, G. S. Freeman, R. L. Galloway, R. M. Gardner, M. J. Gibson, G. S. Gill, J. Glover, E. H. Goodfellow, E. F. Gordon, G. H. Gunn, S. D. Gupta, H. Hastings, A. H. M. Henderson, W. H. Herberg, G. C. I. Hervey, C. Edith L. Hole, H. M. Horrox, L. J. Howie, G. J. Hughes, G. M. W. Johnson, Hana D. Knott, J. Laltoo, D. C. Lamont, R. L. Langley, J. Learmont, J. E. C. Liddell, R. K. S. Lim, M. Lipschitz, T. W. Louden, G. A. Macadie, W. M. M'Alister, J. I. M'Caa, J. F. M'Conchie, Anne L. MacDonald, M. Macdonald, J. C. Macgown, R. B. MacGregor, D. P. M'Iver, D. Mackay, G. S. Mackay, Ella G. F. Mackenzie, J. F. Mackie, A. R. M'Lean, J. M'Nabb, Jane S. M'Phail, W. M. MacPhail, A. MacPherson, R. C. B. Macrae, Elizabeth M'Vicker, M. Melvin, R. M. van der Merwe, B. St. C. Miller, Joyce C. B. Mitchell, F. J. C. Moffatt, J. S. Moroka, C. S. Nimmo, O. P. Nimmo, S. D. Nurse, E. P. O'Dowd, D. J. T. Oswald, H. J. Parish, Mary S. Paterson, C. W. Patterson, A. Peffers, H. S. Percival, E. H. Ponder, K. M. Purves, A. M. W. Rae, D. Rankin, P. P. Rao, W. B. Reid, E. M. S. A. Renner, R. J. W. Ritchie, Annie C. Roberts, E. Robinson, W. G. Robson, E. O. Ruddock, J. D. Russell, I. Sanderson, R. Sandilands, M. Sash, I. H. L. Shapiro, J. Sharp, S. S. Silva, C. Simpson, F. W. Simson, T. R. Sinclair, T. Skene, J. M. Smith, M. R. Soni, T. R. C. Spence, A. V. Stewart, Marguerite R. Stirling, J. A. H. Sykes, R. J. O. Taylor, E. B. Theunissen, A. A. Thomson, E. J. Thomson, H. Thomson, P. C. Uys, J. Veitch, A. R. Walker, May L. Walker, W. D. Walker, P. F. V. Walsh, R. B. Watson, D. T. Watt, T. J. White, K. B. Williamson, D. C. Wilson, J. T. Wilson, C. C. Winchester, J. F. S. Wiseman, C. Wood, D. F. Yuille. (*Botany*).—A. F. Abbassi, A. Ainslie, Catherine J. Anderson, T. F. Andrew, E. Arosemena, I. C. C. Barclay, I. A. Beckles, C. Blake, S. Boodoosingh, H. Booth, K. S. Brown, R. M. Buncle, R. M. Burnie, R. M. Cairns, D. H. Cameron, J. H. Cameron, E. E. Candlish, E. Chonglop, E. H. Connell, J. H. Crawford, Mary E. Cripps, A. W. G. Cumming, D. A. Cunningham, J. Davidson, W. H. Davies, F. J. Deane, A. A. Denham, R. G. A. Dickson, Isabel M. Don, Jean D. Don, C. G. L. van Dyk, W. Y. Eccott, C. G. N. Edwards, E. L. Ewan, D. Fergusson, J. E. Fletcher, Millicent Fox, G. S. Freeman, R. L. Galloway, R. M. Gardner, M. J. Gibson, G. S. Gill, J. Glover, E. H. Goodfellow, E. F. Gordon, E. G. R. Grant, Oliver Gray, G. H. Gunn, S. D. Gupta, H. Hastings, A. H. M. Henderson, J. A. Hennessy, W. H. Herberg, G. C. I. Hervey, C. Edith L. Hole, L. J. Howie, G. J. Hughes, G. M. W. Johnson, N. W. Johnston, H. E. Kavanagh, Hana D. Knott, J. Laltoo, D. C. Lamont, R. L. Langley, J. K. C. Liddell, J. B. Liggins, R. K. S. Lim, T. W. Loudon, L. K. Lwin, G. A. Macadie, D. I. O. Macaulay, J. I. M'Caa, J. F. M'Conchie, Anne L. MacDonald, M. Macdonald, J. C. Macgown, R. B. MacGregor, D. P. M'Iver, G. S. Mackay, Ella G. F. Mackenzie, J. F. Mackie, A. R. M'Lean, J. M'Nabb, R. Macnair, Jane S. M'Phail, W. M. MacPhail, A. MacPherson, A. T. W. Macrae, R. C. B. Macrae, Elizabeth M'Vicker, Mary P. Mair, E. R. Manning, H. O. Marks, M. Melvin, R. M. van der Merwe, B. St. C. Miller, Joyce C. B. Mitchell, F. J. C. Moffatt, D. M. Morison, O. P. Nimmo, E. P. O'Dowd, D. J. T. Oswald, H. J. Parish, C. W. Patterson, A. Peffers, M. S. Peralta, H. S. Percival, H. B. Pierce, I. Platzky, H. S. Plowman, E. H. Ponder, K. M. Purves, A. M. W. Rae, P. P. Rao, W. B. Reid, E. M. S. A. Renner, R. J. W. Ritchie, Annie C. Roberts, W. B. Ross, E. O. Ruddock, A. S. Russell, I. Sanderson, C. E. Scott, T. A. Seilar, I. H. L. Shapiro, M. Z. Sheriff, S. S. Silva, C. Simpson, F. W. Simson, D. W. Sinclair, T. Skene, T. R. C. Spence, A. V. Stewart, N. W. Stewart, Marguerite R. Stirling, Eliza J. Stuart, R. J. O. Taylor, A. A. Thomson, E. J. Thomson, H. Thomson, M. S. Tun, P. C. Uys, W. S. Valentine, J. Veitch, Vera C. Veitch, A. R. Walker, W. D. Walker, P. F. V. Walsh, R. B. Watson, K. B. Williamson, D. C. Wilson, J. T. Wilson, D. F. Yuille, M. R. Zada.

SECOND M.B. (*Physiology*).—J. J. Ackerman, J. Aitken, J. G. Allan, L. G. Allan, A. Badenoch, R. E. Batson, C. G. Booker, J. S. Bow, G. B. Brewster, J. C. Burns, W. E. Canekeratne, Gladys Carleton, Y. Y. Chan, F. Chilton, A. C. C. Craig, W. C. Craig, P. C. Datta, G. W. Dunlop, H. C. Elder, W. Everett, J. W. C. Fairweather, A. S. Garewal, B. R. Handoo, J. W. A. Hunter, R. H. R. Innes, A. Joe, D. A. Knight, J. L. Laidlaw, J. L. Lamont, J. P. Leckie, H. S. Lucraft, R. MacGarrol, A. G. Mackay, R. D. Mackenzie, W. D. Mackinnon, P. D. M'Laren, G. J. M'Lean, H. H. Macrosty, R. Mailer, F. A. Meine, D. A. Miller, R. N. Oldholm, R. D. Osler, H. Patlansky, A. S. Paranjpe, J. E. Purvés, A. Robertson, Susan A. Robertson, S. S. Rosenthal, A. O. Ross, F. B. Sanderson, J. Schneider, S. Schwars, J. O. P. Smith, J. H. R. Smith, R. B. Smith, S. L. Smith, J. A. Stirling, V. A. Stookes, D. G. Stoute, J. H. Sypkens, H. W. Y. Taylor, J. M. Tyrrell, L. Walker, R. Walker, W. A. Weatherhead, E. W. Wilbourne, B. O. Wilkin, J. Wolfson.

THIRD M.B. (*Materia Medica*).—A. G. Anderson, C. B. C. Anderson, H. F. Armour, A. Aziz, D. L. Baxter, K. P. Brown, R. B. Buchanan, H. W. Burne, A. J. Caird, R. D. Cameron, A. F. Campbell, J. E. Chow, F. W. Clark, A. Cleland, R. P. Cormack, J. A. Crawford, H. J. Davidson, D. G. Duff, J. J. B. Edmond, E. C. Fahmy, H. F. Ferguson, A. K. Gibson, W. N. Greer, Jane E. Hay, C. E. Hill, L. W. Innes, T. Janakiramiah, J. M. Johnstone, Muriel H. Kerr, J. B. Kirk, A. C. Kirton, A. R. Laurie, P. M. Little, T. J. Lloyd, A. L. M'Ilwaine, W. K. M'Intyre, I. Mackenzie, J. A. Mackenzie, R. M'Kinlay, R. M'Laren, Isobel M. MacLullich, J. de V. Meiring, J. Milne, H. S. Moore, G. Morris, W. G. F. O. Morris, G. Nicholson, F. H. Nixey, J. M. Norman, J. L. Owen, G. Paris, A. M. Paterson, J. R. Payn, J. E. Phillips, A. Prentice, E. G. Pyott, P. V. Ramanamurty, C. B. B. Reid, A. Robertson, P. A. Rostant, A. J. D. Rowan, B. J. Ryrie, G. C. Sahgal, J. G. R. Scarff, E. S. Seah, J. J. Shannon, B. H. Simon, C. I. Stockley, T. J. Sumner, A. J. Taylor, D. R. Thomas, W. E. Thompson, W. G. Thomson, R. A. Warters, R. R. S. Weatherson, M. E. Willcock.

THIRD M.B. (*Pathology*).—A. G. Anderson, C. B. C. Anderson, R. Andrew, Dorothea I. Baird, D. L. Baxter, J. Bennet, K. P. Brown, R. B. Buchanan, A. J. Caird, R. D. Cameron, A. H. Chu, T. F. Corkill, W. F. Craig, D. G. Duff, H. B. Dykes, J. J. B. Edmond, E. G. Fahmy, W. H. Ferguson, A. M. Ferrie, M. Foster, G. H. Fraser, A. M. Ghosh, N. Gilbin, A. K. Gibson, W. N. Greer, C. Harris, Jane E. Hay, C. S. van Heerden, Wilhelmina W. Hendry, C. E. Hill, F. Holmes, W. L. Hunter, R. L. Impey, E. Jamieson, H. B. Kirk, J. B. Kirk, A. C. Kirton, A. R. Laurie, Marjorie I. S. M'Gregor, J. R. S. Mackay, J. A. Mackenzie, N. Macleod, Isobel M. MacLullich, P. T. Majmundar, J. O. Marais, J. de V. Meiring, F. H. van der Merwe, G. H. Middleton, C. Milne, H. S. Moore, Isabella Morison, W. G. F. Owen Morris, D. J. Morrison, G. Nicholson, J. L. Owen, G. Paris, A. M. Paterson, D. H. Paterson, J. R. Payn, J. E. Phillips, A. Prentice, J. Ratcliffe, K. S. Ray, J. O. Reid, C. D. Ritchie, A. Robertson, B. J. Ryrie, J. G. R. Scarff, B. H. Simon, E. O. A. Singer, J. M. Smellie, E. D. Söderström, E. T. N. Taylor, G. R. Waller, Gladys Ward, R. A. Warters, A. A. Watson, T. P. Woo, P. H. Young, C. W. Ng-a-Yow.

FINAL (*Forensic Medicine*).—M. H. Alikhan, F. A. Anderson, J. M. Anderson, J. S. Armstrong, F. W. W. Baillie, T. Y. Barkley, I. J. Block, R. B. Boston, T. C. Bowie, J. Brown, H. J. Bruwer, W. K. Chalmers, W. M. Christie, A. G. Clark, T. L. Clark, A. Clarke, I. A. Clarke, W. A. Cochrane, C. H. H. Coetzee, M. K. Cooper, J. R. Crolius, M. W. Danzig, J. C. Dobson, D. Dunlop, R. B. Eadie, Dallas S. Falconer, A. J. Ferguson, Mary O. Fergusson, G. W. M. Findlay, F. J. Ng-a-Fook, A. W. Forrest, E. Fullerton, E. L. Galgut, W. Goldie, A. W. Gunn, F. M. Halley, J. A. Henderson, J. Hepburn, H. A. Hewat, R. M. Hume, J. E. Hurworth, E. B. Isreal, O. D. Jarvis, G. G. S. Johnston, F. J. C. Johnstone, C. W. S. D. Jones, S. A. Kuny, A. C. Laing, P. W. Lam, J. L. Lamond, E. Law, J. Lawson, R. Lawson, H. Lewis, A. J. E. G. Lim, H. H. Lim, J. G. Louden, J. E. M'Cartney, Helen M'Dougall, I. M'Dowall, R. J. S. M'Dowall, G. C. M'Ewan, M. M'Kerrow, Marjory Macnaughton, P. C. MacRae, J. W. Malcolm, D. Malloch, Mary Martin, A. P. Meiring, M. F. Meiring, R. W. H. Miller, S. N. Mitra, J. J. Molyneux, T. C. StC. Morton, R. F. T. Newbery, C. H. Newton, R. N. Phease, W. B. Postlethwaite, J. W. Potter, W. J. Purdy, N. L. Reis, C. Resnekov, J. W. G. H. Riddel, J. W. Riddoch, J. Rodger, G. M. Scott, A. H. Shenuan, J. M. Smith, R. B. Stewart, S. H. Stewart, T. M. J. Stewart, B. P. Varma, J. Walker, J. W. Watthews, L. H. Werden, J. M. Wishart, A. Wotherspoon, F. G. Wright, Margaret K. J. Wright, C. J. Young.

FINAL (*Public Health*).—F. A. Anderson, J. M. Anderson, J. S. Armstrong, F. W. W. Baillie, T. Y. Barkley, I. Block, R. B. Boston, T. C. Bowie, J. Browne, B.A., W. K. Chalmers, W. M. Christie, A. G. Clark, T. L. Clark, I. A. Clarke, W. A. Cochrane, C. H. H. Coetzee, M. K. Cooper, J. R. Crolius, M. W. Danzig, J. G. Dobson, D. Dunlop, R. B. Eadie, D. S. Falconer, Mary O. Fergusson, G. W. M. Findlay, F. J. Ng-a-Fook, A. W. Forrest, E. Fullerton, E. L. Galgutt, Helen M. Gall, W. Goldie, A. W. Gunn, F. M. Halley, J. A. Henderson, J. Hepburn, H. A. Hewat, Helen G. Hewat, Y. H. Hoashoo, R. M. Hume, J. E. Hurworth, M. P. Inglis, O. D. Jarvis, L. F. E. Jeffcoat, G. G. S. Johnston, C. W. S. D. Jones, S. A. Kuny, A. C. Laing, P. W. Lam, N. B. Laughton, E. Law, J. Lawson, R. Lawson, H. Lewis, A. J. E. G. Lim, H. H. Lim, J. G. Louden, J. E. M'Cartney, Helen M'Dougall, I. M'Dowall, R. J. S. M'Dowall, G. C. M'Ewan, Marjory Macnaughton, J. W. Malcolm, D. Malloch, A. P. Meiring, M. F. Meiring, E. S. Mellor, R. W. H. Miller, S. N. Mitra, J. J. Molyneux, T. C. St. C. Morton, R. F. T. Newbery, C. H. Newton, R. N. Phease, J. W. Potter, O. D. Price, W. J. Purdy, A. Ravanni, N. L. Reis, C. Resnekov, J. W. G. H. Riddel, J. W. Riddoch, J. Rodger, C. Russell, G. M. Scott, W. Shanks, A. H. Shennan, J. M. Smith, L. J. Spence, R. B. Stewart, S. H. Stewart, T. M. J. Stewart, H. Tren, B. P. Varma, J. Walker, J. W. Wathews, L. H. Werden, J. M. Wishart, A. Wotherspoon, F. G. Wright, Margaret K. J. Wright, C. J. Young.

UNIVERSITY OF DUBLIN.

Degrees.

THE following degrees have been conferred:

M.D.—H. R. M. Ferguson, E. S. Johnson, C. O'Brien, R. O. Smyth, R. E. Tottenham, H. L. W. Woodroffe.

M.B., B.CH., B.A.O.—T. W. Allen, J. N. Armstrong, C. D. M. Buckley, J. G. Butt, J. C. A. Dowse, J. S. English, H. R. Ford, N. H. H. Haskins, Rev. E. E. Lavy, T. A. Lawder, H. C. D. Miller, J. D. Oliver, T. D. Power, F. A. Roddy, W. A. Ryan, W. O. Tobias, W. R. L. Waters, G. H. Wood.

Examinations.

The following candidates have been approved at the examinations indicated:

PRELIMINARY SCIENTIFIC (*Chemistry and Physics*).—A. G. Bewley, R. P. Hemphill, T. M. Bentley, F. Gill, R. M. D. Devereux, P. C. Parr, L. Albertyn, J. F. Stewart, E. E. Rollins, J. W. Scharff, J. Posner, E. B. Edge, W. F. McConnell, J. M. Semple, E. F. Wilson, T. H. R. McKiernan, J. M. Hill, J. H. B. Levis, J. A. Acheson, T. S. McDonald, D. McElwee, J. C. Fouché, J. N. H. Murphy, T. B. H. Tabuteau, J. C. Campbell-Henry, P. C. Cowan, N. Grey, S. W. Russell. (*Botany and Zoology*).—R. P. Hemphill, L. Albertyn, J. A. Acheson, R. G. Lewis, E. F. Wilson, Gertrude Rice, W. B. Briggs, S. A. Clark, W. L. Lloyd, W. L. Young, G. H. Davis, J. W. Scharff, S. W. Russell, E. B. Edge, A. H. Thompson, C. W. Parr, H. A. Lavelle, R. M. D. Devereux, W. F. McConnell, J. E. McCormick, J. H. Coolican, T. Madill, J. F. Stewart, E. F. W. Smith, H. Birney, E. S. E. Mack, E. E. Rollins, I. W. Beatty, A. Blagoff, T. R. Warren, R. N. Nunn, H. J. Wright, G. C. Robb, W. Sweetnam, C. D. Shortt, P. Casey, F. W. Godbey, W. A. Shannon, S. J. Laverty, G. R. G. Smyth, J. D. Watson. (*Botany*).—J. M. Hill.

INTERMEDIATE M.B., B.CH., B.A.O. (*Part I*).—E. D. McCrea, W. R. Fearon, B. A. McSwiney, A. R. Barlas, A. L. Gregg, R. N. Murray, J. R. Duggan, W. P. Elford, W. H. Flinn, S. C. Mitchell, J. J. Beasley, W. P. Lubbe, F. J. Smith, C. P. Chambers, G. W. B. Shaw, P. S. Snell, W. J. M'Clintock, R. W. Nesbitt, C. L.

McDonogh, A. H Davidson, F. C. Tucker, M. C. Dippenaar, H. H. Molloy, F. G. Heuston, J. McClelland. (*Part II*).—T. J. Lane, S. V. Furlong, S. R. Hill, J. P. Macnamara, E. Parker, F. J. Murphy, J. T. Westby, F. M. Ferguson, F. A. McHugh, B. A. Merrin, J. J. Keatley, R. Gordon, G. L. Murphy.

FINAL, (*Part I*).—H. Daniel, E. D. T. Hayes, J. W. Bigger, R. W. Shegog, G. Joughin, Violet M. Deale, G. O. F. Alley, D. S. Martin, H. Mitchell, W. F. Wilson, A. F. Grimbly, T. Stanton, A. J. Horne, E. J. Hamilton, R. W. Acheson, D. H. Hall, A. L. Wilson, W. J. Dowling. (*Materia Medica and Medical Jurisprudence*).—F. W. O'Connor, T. G. Roche. (*Pathology*).—W. B. Walker. (*Part II, Medicine*).—J. N. Armstrong, P. W. McKeag, G. H. Wood, F. J. O. King, T. D. Power, H. C. D. Miller, J. C. A. Dowse, C. D. M. Buckley, W. A. Ryan, Dorothy E. Webb, F. A. Roddy, H. R. Ford, T. A. Lawder, W. H. Elliott, W. O. Tobias, Amy F. Nash, J. S. Dockrill, J. H. Fletcher. (*Surgery*).—J. C. A. Dowse, E. E. Lavy, J. C. Ogilvie, J. P. Quinn, T. W. Allen, E. Evans, F. S. Mitchell, C. D. M. Buckley, R. I. Sullivan, A. G. Varian, W. R. L. Waters, J. H. Fletcher, G. H. Wood, F. R. Dougan, N. H. H. Haskins, B. C. O. Sheridan, W. O. Tobias, F. J. O. King, J. N. Armstrong, H. R. Ford, R. A. Anderson, W. M. Snodgrass. (*Midwifery*).—N. M. Boyce, W. E. Tyndall, R. R. G. Atkins, J. S. Robinson, E. Robinson, F. Harris, J. V. Cope, H. S. Collins, Clara B. M. Adderley, W. B. Cathcart, W. M. Snodgrass.

D.P.H. (*Part I*).—J. R. D. Holtby, E. O'Connor, A. V. J. Richardson, H. T. S. McClintock, K. L. Kapur. (*Part II*).—A. V. J. Richardson, G. H. Culverwell, K. L. Kapur, R. H. C. Lyons, E. O'Connor, H. T. S. McClintock.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following candidates have been admitted to the Fellowship:

R. B. Blair, J. J. Brown, A. B. Cardew, H. A. Gibson, D. P. Goil, W. W. Greer, A. G. Hamilton, L. Hirsch, J. Honeyford, E. H. Howard, G. L. Little, J. McClellan, J. D. MacEwen, E. Muir, J. B. Wilkie.

The following have been granted the single Licence of the College:

T. J. Williams, Vinayak L. Sathe.

UNIVERSITY COLLEGE, LONDON.

Appointment.

THE newly-created office of Lecturer and Demonstrator of Anatomy in the Faculty of Medical Sciences has been filled by the appointment of Dr. T. B. Johnston, a graduate of Edinburgh and Lecturer on Anatomy in its University.

Awards.

The following silver class medals have been awarded: Senior Anatomy, E. Sakoschansky; Junior Anatomy, G. V. Anderson; Senior Physiology, M. Schwartz; Organic and Applied Chemistry, J. de S. Wijeyeratne; Hygiene, C. I. de Silva. The winner of the gold medal in the Junior Pharmacology Class is Mr. B. Maclean.

CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE (*Part IV, Practical Pharmacy*).—E. B. Alabaster, H. Amin, G. K. Arthur, E. Atkinson, E. R. Batho, J. H. Bayley, A. G. Bodman, M. V. Boucaud, C. R. Cade, P. Cheal, G. E. Chissell, P. C. Collyns, A. R. Crane, T. H. R. Davies, L. B. A. de Kretser, E. R. Dermer, M. A. El Dardiri, A. M. El Mishad, A. H. El Rakshi, T. G. Evans, M. Fahmy, A. Foster, A. A. E. R. Galal, E. F. Gillett, F. E. Harger, A. G. Hewer, C. E. Hopwood, E. L. Ivens, W. A. Jolliffe, F. C. Lapage, G. N. Lomax, A. V. Lopes, J. McDonnell, B. H. Mellon, T. S. Nelson, T. Owen, C. S. Parker, F. Y. Pearson, D. J. Platts, J. W. Rammell, C. R. Reckitt, J. H. E. Sandiford, J. M. Smith, J. M. Stack, F. R. Sturridge, C. P. Thomas, H. M. Wharry, R. H. Williams, S. Yahilevitz.

SECOND COLLEGE (*Anatomy and Physiology*).—E. Ahmed, D. H. Anthony, P. A. Ashcroft, R. Aspinal-Stivala, Y. Aziz, P. Banbury, N. A. H. Barlow, M. C. Breese, J. L. D. Buxton, H. H. Castle, E. A. Clegg, A. M. Clément, G. F. Cobb, C. J. C. Cooke, Jean Crétin, C. L. Curle, A. V. S. Davies, A. B. Dummere, S. G. Dunn, F. O. Fehrsen, P. E. F. Frossard, A. Girgis, Constance Hart, J. A. Hill, G. Hoffmeister, F. H. Hyland, L. G. C. Itriago, M. Kamil, G. S. L. Kemp, G. E. Kidman, K. F. McAlpin, M. W. H. Miles, J. O. R. Montocchio, R. Moser, W. W. Newton, A. L. Packham, J. A. P. Perera, A. Rose-Innes, A. H. Samy, J. A. A. P. Scott, N. M. Sen-Gupta, J. P. R. Tennekoon, I. Tewfik, K. R. Traill, W. A. Turner, P. Ward, W. H. White, J. H. Wiseman, A. F. Wyatt.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—A. I. Meek, L. Macduff, J. Chambers, P. C. H. Homer, W. V. Jackson, H. G. Smith, D. C. Thiems, S. D. Vania, E. L. Adendorff.

SECOND COLLEGE.—J. C. Bedwell, W. A. Mein, F. C. J. Mitchell, J. H. Brown, D. M'G. Stewart, J. Byrne, Martha H. Hoahing.

THIRD COLLEGE.—E. A. Neilson, B. C. Haller, T. D. Renwick, J. Bannerman, W. J. F. Craig, A. Evans, J. V. R. Rohan, A. W. M'Gregor, J. E. Ainsley, W. H. A. D. Sutton, R. V. Clarke, J. P. Fairley, L. Fraser, J. H. Blackburn, A. Parker.

FINAL.—J. K. Venables, K. G. Fraser, T. E. Lawson, D. C. Graham, R. M'C. Paterson, R. E. Illingworth, J. M. Chrystie, E. C. Brooks, N. R. Whitaker, W. Millerick, J. M. Beyers, W. Chapman, T. B. Truter, J. V. Duffy.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Promotion to Staff Surgeon.

AT the recent examinations held at Greenwich and London the following officers qualified for promotion to the rank of Staff Surgeon, R.N.:

George M. Levick, Arthur T. Rivers, Thomas R. L. Jones, Kenneth H. Hole, M.B., Gilbert F. Syms, Hugh F. Briggs, M.B., Michael P. Fitzgerald, M.B., James Barrett, M.B., Gordon A. Jackson, M.B., B.A., Alfred G. Malcolm, M.B., Horace C. Devas, Harry W. Nichols.

Two of these officers—Surgeons Hole and Syms—obtained first class certificates, thus becoming eligible for accelerated promotion to the extent of twelve months' seniority.

THE TERRITORIAL FIELD AMBULANCES.

A Model for Teaching Wagon Drill.

CAPTAIN JOHN MILLER (R.A.M.C.T.), 3rd North Midland Field Ambulance, writes: One of the greatest difficulties of a Territorial field ambulance is the proper teaching of the wagon drill to both officers and men. In many cases the drill halls are too small to admit an ambulance wagon, or where the ambulance wagon is housed away, it cannot be brought to the drill hall on account of the want of horses. Wagon drill is therefore limited to two or three afternoon field days before camp, when the time is too short to teach the details of wagon drill in a proper manner.

It occurred to me to construct a dummy ambulance wagon which can be put up in any drill hall or lecture room. It consists of a half long section of the body of an ambulance wagon Mark 5 star, the off side, full size, with the upper and lower compartments, the locker under the upper compartment, and



the whole width of the gangway. The front is boarded up to the level of the driver's seat, having the two holes in it for the passage of the handles of the upper stretcher. The sides and seats are a facsimile of ambulance wagon Mark 5 star. The back is open, having no tailboard, only a fixed step as is shown in the photograph. The body of the dummy wagon is bolted on to two four-legged trestles, so that the dummy stands at the same height as an ambulance wagon on wheels; two of the legs of each trestle are screwed to the floor by iron brackets, so that the dummy stands quite steady, the whole being painted the regulation colour.

The dummy was made under my directions by two members of the unit, the wood part being done by Quartermaster-Sergeant Tonks and the iron work by Staff-Sergeant Richards; the whole cost was £9. It is quite easy to take the dummy off its trestles for removal.

In this unit we have found the dummy to be of great value in teaching the whole of the wagon drill to all ranks. The above dummy wagon would be of great service not only to the Territorial field ambulances, but also to ambulance brigades anxious to learn the wagon drill.

FIELD-MARSHAL EARL ROBERTS announces that the committee of the Capetown Cathedral Memorial Fund, which was formed in 1901 for the purpose of building the east end of the cathedral at Capetown as a memorial to those who died and a thank-offering for those who were spared in the war in South Africa, has almost finished the work entrusted to it. The Roll of the Dead, written on vellum and beautifully illustrated, will be open to the inspection of the subscribers to the fund, and to the general public, at the Royal United Services Institution, Whitehall, until the end of the present month. The manuscript will eventually be deposited in the Shrine in Capetown Cathedral.

Medico-Legal.

STEVENS v. BRITISH MEDICAL ASSOCIATION.

THE second hearing of this case was commenced before Mr. Justice Shearman and a special jury on July 15th. On the former occasion (October, 1912) the jury failed to agree. The action was brought by Mr. Charles Stevens, managing director of Stevens and Co., Ltd., a company formed for the sale of a specific for the cure of consumption, to recover damages for a libel alleged to have been published in *Secret Remedies*. The defendants denied that the words published were capable of the meaning alleged, and said that so far as the allegations consisted of fact they were true, and so far as they were expressions of opinion they were fair comment on a matter of public interest.

The plaintiff appeared in person; Mr. Colam, K.C., and Mr. Dickens (instructed by Messrs. Hempsons) were for the defendants.

The plaintiff, in opening his case, said that he claimed to have discovered a positive cure for consumption which had made a new man of him some seventeen years ago. He had been sent out to South Africa with two months to live. The book, *Secret Remedies*, in effect charged him with being a swindler. If the Association's analysis was correct it was true that he had been foisting a worthless remedy upon the public; but if the analysis was incorrect they (the Association) were getting money by false pretences, besides committing a gross libel upon him. A number of doctors had been called at the last trial and had said——

Mr. Justice Shearman: We cannot have what was said at the last trial.

Mr. Stevens then proceeded to read passages from *Secret Remedies*, p. 29 et seq. He had complained in his statement of claim of the following: "... But with other proprietary medicines it is quite clear that the makers cannot in the slightest degree believe in the claims they make; the 'remedy' in these cases is some substance or mixture devoid of medicinal activity, or possessing some slight therapeutic property having no relation to the disease for which the nostrum is put forward as a cure. It is often, indeed, for inert preparations that the most extravagant and emphatic claims are made; the makers and the advertisement writers whom they employ are untrammelled by any necessity of squaring their statements with the real properties of the thing to be recommended, and having set out consciously and deliberately to deceive, they are able to give their whole attention to telling the most effective stories in the most plausible manner and reaping the maximum of payment for the minimum of expenditure. ..."

"It is the victim's money that is wanted; therefore let the price be fixed high, and the advertisements be written up to it. ..."

"The sale of another preparation advertised as a cure for consumption, Stevens's Consumption Cure, is conducted in a very similar way, but this time the herbs are said to be African, and the odd names they bear certainly have a Kaffir flavour. ..."

"Although Stevens is so engagingly candid about his rivals, he follows the plan of sending one letter after another to any sufferer whose name he may have obtained, a system which seems to have been invented in America; it is certainly cheaper than bold advertisement in newspapers, and is apparently found even more satisfactory, as it enables the vendor to give individual attention to the depth of his correspondent's pocket, if not the severity of his disease. ..."

"The farce of revealing a formula by the employment of such fancy names as these is one of the oldest dodges of the quack medicine man, and no such names as 'umckaloabo' and 'chijitse' appear in any available work of reference on pharmacy."

The analysis was as follows: "The medicine was a clear red liquid, and analysis showed it to contain in 100 fluid parts 21.3 fluid parts of alcohol, 1.8 parts of glycerine, and 4 parts of solid substance; this solid substance contained about 1 part of a tannin and 0.2 part of ash, the remainder being extractive. No alkaloid was present, and no other active substance could be detected. The solid substance agreed in all respects with the solids of decoction of krameria, or a mixture of this decoction with a little tincture of kino. The formula thus appears to be approximately: Rectified spirit of wine 23.7 parts by measure, glycerine 1.8 parts, decoction of krameria (1 in 3) to 100 parts by measure."

What he (the plaintiff) objected to was the suggestion that his remedy contained krameria or kino, which it did not do. He pointed out that he first put his remedy on the market as sacco, but was swindled out of it.

Mr. Colam: If the plaintiff is going to merely read the libel and then put us to proof, he cannot make statements or comments.

Mr. Justice Shearman: That is so.

Having read the libel, the plaintiff said that was his case. He was now entitled to call upon the defendants to justify.

Mr. Justice Shearman: The plaintiff may by leave call rebutting evidence.

Mr. Colam, in opening the defendants' case, said that the object of the book referred to was to protect the public either against remedies which do actual harm or which are not apt to perform the cures they are said to perform. If a man appealed to the public as the plaintiff had done, persons were entitled to fairly comment upon his statements.

Mr. Justice Shearman: That is for me.

The comment would, of course, have to be fair and accurate. The defence was that the facts were true and the comments were fair. There was no doubt that the substance which the plaintiff sold was a good cough mixture. It relieved the cough, and a consumptive patient, being of a sanguine temperament, was inclined to imagine that it was a cure; but to say that it was a cure for the "Great White Plague" was a total misrepresentation.

Mr. Justice Shearman: You are relying on fair comment. The case has been opened by your opponent as a libel which is justified. If you mean to justify, ought not the pleadings to be amended so as to let the plaintiff treat the case in that way?

Mr. Colam: I do not desire to amend.

Mr. Justice Shearman: I do not desire to rule whether it is justification or fair comment, but the bent of my view at present is that you are only entitled to treat it as fair comment. The stronger the comment is the more facts you must prove.

Continuing, Mr. Colam said that this mixture could not from any point of view be said to be a cure for consumption in any sense of the word, much less a cure for consumption in its last stages. In an advertisement in the *News of the World* this gentleman said that persons should consult him when doctors and specialists could do no more for them. His cry was, "No cure, no pay," and that he could give an absolute cure when every one else had given up the case. Was not that trying to frighten people? It was against advertisements of this kind that the defendants protested. He had published advertisements galore—"No cure, no pay," and "Absolute cure." He had written: "It has been admitted the world over that there is no remedy known to the medical fraternity to really cure consumption, so it is preposterous to claim the ordinary drugs that are known to every chemist to cure this disease, just because they are given a fancy name, and are advertised by a Polish or German Jew; it is not only preposterous but a wicked swindle." He also said: "I do not say in my advertisements 'Consumption can be cured,' 'Consumption is curable,' or any such evasive remarks, but I say *I will guarantee to cure you* if you are consumptive, or *return your money* in full, and that my terms are 'No cure, no pay.'" Moreover, as to the analysis, the defendants did not say the medicine appeared to be made of krameria; they merely said it might have been so made. The plaintiff wanted to create an appearance of being perfectly fair by desiring to have a doctor in attendance; but in one of the cases he would show that the plaintiff had told the patient not to pay any attention to the doctor. He (counsel) would prove by many eminent medical witnesses that there was no drug which could cure consumption, and that for an all-sufficient reason. When the bacillus once got hold in the lungs it became entrenched behind a wall of tissue, and the blood could not get at it. He would be able to prove that, so far from being a germ killer, the bacillus would grow in the plaintiff's mixture. The plaintiff offered his remedy free to the doctors. That was a very safe offer to make, as no doctor would venture to give to his patient a drug the properties of which he did not understand. Although the public advertisements spoke of absolute cure, when it came to the actual guarantee it was that no trace of tubercle would be found after three months' treatment. It would be found that in a number of cases which could be proved the plaintiff did not repay the fees when his treatment failed. The statements that the cure was "a vegetable germicide, a blood purifier, stomach cleanser, and a nerve stimulator" were entirely false. The plaintiff had issued a circular to the medical profession saying that the formula for his remedy was "80 grains of umckaloabo root and 13 and one-third grains of chijitse to every ounce prepared according to British Pharmacopoeia methods." But this was vain and illusory, because neither of the two substances mentioned could be found in any pharmacopoeia in the world. As to the analysis, he (counsel) would call the gentleman who made the analysis, and he would prove that it could be made from krameria. In *Truth* of September 14th, 1905, at p. 631, an article had appeared with reference to the plaintiff.

Mr. Colam read this article, and said that the plaintiff had subsequently published extracts from it which were calculated to mislead, inasmuch as certain expressions of opinion were wholly omitted. For instance, *Truth* had condemned the plaintiff's statement that he had found a cure for consumption. He would now draw attention to some of the "cases" with which the plaintiff had dealt. On July 15th, 1908, a man wrote from Spain saying that he had spent several years working in the mines in the Transvaal, and that he was suffering from a bad cough. On July 22nd the plaintiff wrote saying that his correspondent probably had a "touch" of miner's phthisis, and that some years before he (the plaintiff) had discovered a cure for this complaint. After undergoing the treatment for three months the patient lost weight to the extent of 20 lb. He went on procuring further supplies of medicine for many months. In a letter written in March, 1909, the plaintiff said, in effect, "This is a complicated case, which I ought to have seen." That was his method of hedging! Later on the patient wrote to point out that he had been taking the medicine for six months, when the plaintiff said, "It all depends upon the state of the lungs and the grip which the disease has of one." He did not say that in his advertisements. He had said in the first instance, "You seem to have a touch of the

disease!" A month later the patient's wife wrote to ask for something to relieve her husband, and eventually, when the patient died, the plaintiff refused to pay back anything which had been paid. The plaintiff wrote in one of his pamphlets: "If it fails, no matter through whose fault, I will return the money!"

In another case, that of a man named Bramley, after treating him for some time, he wrote to his patient, "Think yourself lucky if you get cured within a year." Counsel proceeded to read a number of letters passing between the plaintiff and various persons whom he had treated. He also mentioned a case in which the widow of a man who died of consumption had to bring suit in the county court to recover money paid for medicine. It was noteworthy that although the plaintiff said in his advertisements the cough would be the first thing to disappear, he pointed out in a letter to Bramley that the cough might be one of the last symptoms to disappear. Mr. Colam said that the cases to which he referred showed that the plaintiff professed to effect cures which he could not do. Consumption was one of those peculiar diseases where patients suddenly recovered without treatment of any kind. A change of scene, climate, and occupation, might also assist nature to throw it off. Although there were some cases in which the plaintiff may have thought that his remedy had effected a cure the fact probably was that the cure was due to a change of surroundings.

Mr. E. F. Harrison, B.Sc., analyst and consulting chemist, of Chancery Lane, examined by Mr. Dickens, said that in 1908 he made certain analyses for the British Medical Association which were to be published in *Secret Remedies*. He was partly responsible for the articles which had appeared in the JOURNAL and were republished in *Secret Remedies*. He ordered a bottle of Stevens's medicine in April, 1908, and received a letter from the plaintiff offering to guarantee a cure or return the money. On May 3rd he had another letter from the plaintiff again pressing him to take up the treatment. A number of printed documents were sent with the letters.

Mr. Justice Shearman: You will notice, gentlemen, that these letters were written in 1908.

Continuing, witness said he received a bottle containing a red clear fluid. He stood by his analysis. The word "extractive" meant material which could not be identified. In the present case on examining the solid extract he had found a tannin, that is, a substance which belonged to the class of tannins. The ash was a mineral residue which was present in all drugs. He tested specially for alkaloids and found there were none. He also applied as many general tests as were reasonably available for any other active substance but could detect none. The tannin and red colouring matter were rare in medicinal drugs, and he tried to remember one which did contain it. Krameria or ratany (to give it its common English name) was one, and kino was another. He then examined various preparations of krameria.

Mr. Justice Shearman: It was by various experiments that you came to the conclusion that the substance resembled tincture or decoction of krameria?—Yes.

Continuing, witness said that in April, 1912, he made another examination, when the result was different. The medicine then contained less alcohol and more tannin. The extractive was the same as before. He had had other bottles sent him this year, one labelled "Stevens Mixture (1908)," and the other "Umckaloabo tincture." The latter contained 18.9 parts alcohol, 5.9 glycerine and 1.7 of deposit. The liquid after the deposit contained rather less than 1 per cent. of tannin. He had also examined some 1914 medicine, in which case the alcohol was 12.8 and glycerine 6.7. The deposit at the time of analysis was 0.7 and tannin 0.5; extractive including ash 2.3. As regards the qualitative result all the samples had a general resemblance to krameria and kino but they differed quantitatively and in their reactions.

Cross-examined by the plaintiff, witness said he was 45 and had examined drugs for many years. This kind of analysis required a good deal of experience. Some part of what appeared in *Secret Remedies* was not in the JOURNAL, but he wrote the whole of the two articles in the BRITISH MEDICAL JOURNAL. He was not a medical man.

Mr. Stevens: Do you say that that analysis on p. 32 is correct?—I intended to state what appeared to be in the medicine which I analysed.

Continuing, witness said he did not know whether the medicine was made of krameria. Nor did he know whether there was kino in it, and he did not intend to convey that there was.

Mr. Stevens: You say "It appears to be approximately——." If his lordship said to you "You appear to be telling the truth," would you infer that he thought you were telling the truth?—No. I would infer that he thought I appeared to be telling the truth.

Mr. Justice Shearman: The meaning of the words of the libel is for the jury.

Continuing, witness said that krameria was not a cure for consumption.

Mr. Stevens: If a man sold it as a cure for consumption, would he be a swindler?—No, he might be a fool. If he was not a fool, he would be a swindler.

Continuing, witness said that the alcohol was probably used as a means of extracting a medicine. In addition to the alcohol and glycerine, he could swear to the existence of a tannin.

Mr. Stevens: Can you tell me the percentage of hydrogen in tannin?—No. I cannot carry such figures in my head.

Continuing, witness said it was true that there was a large difference between different kinds of tannin. There were possibly twenty tannins in that class, and he could not say to which class it belonged. As to "extractive" that was an unidentifiable substance.

Mr. Justice Shearman (at 4.15 p.m.): I shall sit until you finish with this witness.

Continuing, witness said that he had made many analyses in 1908. He evaporated down a 2-oz. bottle.

Mr. Justice Shearman: The only evidence this gentleman has given is contained in his analysis which is here set down in the book.

Mr. Stevens: Upon what grounds do you say I victimized people?

Mr. Justice Shearman: That is for the jury.

Continuing, witness said that tartarated antimony to the best of his recollection precipitates every kind of tannin.

Mr. Stevens: Do you say that I deliberately set out to deceive?

Mr. Justice Shearman: That is for the jury.

Re-examined by Mr. Colam, witness said that having regard to the analysis it was obvious the substance could not be a germicide. There was no active principle in it.

On July 16th, 1914, Mr. Hempson having proved the purchase of certain bottles of the plaintiff's remedy in 1912, Dr. Landon Hill gave evidence.

Charles Edward Sage, F.I.C., M.P.H.C., consulting and analytical chemist, examined by Mr. Dickens, said that he had had many years' experience of analysing drugs. He had a sample of the so-called cure before him on April 24th, 1912. It contained by weight alcohol, 11.23; glycerine, 6.84; tannin, 1.04; organic colour substance, 2.76; mineral matter, 0.2; water, 77.93. He could identify no special drug and no active substances. In most respects the medicine agreed with krameria. He had also tested the cure and a bottle of umckaloabo extract in 1914. He found no active medicinal principle in either sample; the only thing was tannin, which was slightly astringent. These samples varied slightly, both qualitatively and quantitatively, from the 1908 mixture.

Cross-examined by the plaintiff, he said he could not say whether the various samples were or were not made from the same plants. In the umckaloabo extract he found a trace of glucose after several months. He could not find krameria. He could not say whether the residue had any medical activity or not. He did not know what it was or what it came from. He tested the medicine with tartar emetic, but found nothing conclusive.

Mr. William Hardcastle Smith, a clerk in the Great Northern Railway, said he went to see Mr. Stevens in 1911 about two fellow clerks who had been treated. He told Mr. Stevens that he suffered from colds, which had a tendency to go to his chest. Mr. Stevens offered to examine him, and did so with a stethoscope. He led witness to understand that his left lung was in a bad condition, and had been so for several years. Witness was upset, and went to see Dr. Distin on the following day. Mr. Stevens had given him a bottle of medicine. After seeing Dr. Distin he saw Dr. Price. Having seen them, he wrote to Mr. Stevens to say the doctors told him there was nothing wrong with his lungs. In reply Mr. Stevens wrote asking him to see him again, but witness did not do so.

Cross-examined, witness said that he did not visit the plaintiff as a prospective patient. Witness was prepared to pay for what was done, but was not asked to pay. When he went to see the plaintiff witness had a cold in the head. He was still subject to colds, but during the last two years he had had better health than ever before. He did not remember the plaintiff asking him to let him have a sample of his sputum.

Dr. Bulloch, M.D., F.R.S., Professor of Bacteriology in the University of London and Bacteriologist at the London Hospital, examined by Mr. Colam, said that a bottle of umckaloabo extract was handed to him in April, 1914. The bottle of 6 oz. was marked 11s. Certain documents were in the case with the bottle. One of these was a certificate by a consulting bacteriologist. This gentleman had certified that the medicine contained no harmful ingredients; that certain medical men had found it beneficial in consumption cases; that it contained no poison or alkaloid; that it was capable of killing the bacillus of phthisis; and that it contained a new drug of some kind. It was stated in the pamphlet that a 1 in 100 solution was able to kill a bacillus in ten minutes. The witness set about making a test to see the effect of the medicine on bacilli. He took a pure cultivation of the bacillus from a patient at the hospital and also a bovine culture. He tested the effect of the medicine on a culture of bacilli. In one case the medicine was diluted to one in a hundred. He shook them together so as to give the medicine as much chance as possible. At various periods he took a quantity of the bacteria out, and planted them on a good medium to see if they were alive. He found that with the dilution of 1 in 100 there was still an abundant growth of tubercle after ten minutes in the medicine. The pure medicine also failed to kill the bacillus in fifteen minutes, and it was still living after forty-eight hours. The latest period was six days, when there was still an abundant growth, but after twenty-six days he could get no further growth. Apparently the medicine was capable of destroying the growth in time, but growth would be stopped in time by alcohol or tannin. When medicine was taken it was very much diluted in the blood, and if taken through the stomach much of it was digested and very little got into the blood. One must admit that it had a certain amount of retarding action, but in the human body its power was infinitesimal. A large

number of experiments had been made and various substances had been tried as cures for consumption, but none had succeeded. It had been discovered that cyanide of gold to a dilution to one in a million would prevent the growth if injected into the blood, but he knew of no medicine which would do so when taken through the stomach. The tubercle bacillus was notoriously hard to kill. When the lung became consumptive it became infected with other bacteria, with the result that it was coughed away. In the course of his experiments he found that he got other bacilli besides those of tubercle. He found that there were 60,000 bacteria in every cubic centimetre of the umckaloabo mixture itself, which clearly proved to him that it was neither antiseptic nor germicide. He had also injected the medicine in which a culture had grown into a guinea-pig when the guinea-pig weighed 610 grams. Seven weeks later it had lost a third of its weight, and it died in an emaciated condition of extensive tubercle. As to the "amorphous body quite new to science" which the medicine was said to contain, he knew nothing about it.

Cross-examined, he said that tubercle bacilli might sometimes encapsule themselves, but there was some doubt about it. He did not admit that they generally do. It was possible to kill the tubercle bacilli by pressure between glasses. No one had ever seen an encapsuled tubercle. He did not know what chemical action this medicine had when mixed with human blood. A second bottle which he opened contained bacteria in the medicine which might have come from the cork, but he did not say they were harmful bacteria. His point was that they could not have lived if the liquid had been a germicide.

At the conclusion of Dr. Bulloch's evidence one of the jurors inquired whether they were bound to sit and listen to this evidence.

Mr. Justice Shearman: The plaintiff is entitled to be heard. You must trust me, gentlemen, as the plaintiff is not represented.

Mrs. Sarah Archer having given evidence,

Dr. Howard Distin said he had seen and examined Mr. William Smith. There was nothing whatever wrong with his chest.

Dr. Price gave similar evidence. He said that consumptive patients were generally sanguine, and a new medicine tended to make them hopeful. In his opinion it was not possible to cure consumption by means of drugs. The tubercle bacillus was a very virile organism, and it got surrounded by inflammation in the lung. Anything injected which was strong enough to kill the bacillus would at the same time kill the patient.

Cross-examined, witness said that the administration of tuberculin was intended to affect the tissues of the body to which it got through the blood.

Mr. Justice Shearman: When a person is cured of consumption what becomes of the bacillus?—It is destroyed by the natural powers of the body. The development of the general powers of the body has a tendency to enable the body to deal with the tubercle, and extra food is generally necessary.

Dr. Theodore Dyke Acland, M.D., M.A., F.R.C.P., Physician to St. Thomas's Hospital and Consulting Physician to the Brompton Hospital, said he had studied tuberculosis and diseases of the chest throughout his medical life. When the tubercle bacillus effected a lodgement it was either destroyed or created inflammation. The witness explained how the disease of consumption might get hold in the lungs. Anything which tended to weaken the patient enabled the disease to grow. Infection might take place through the blood stream. No two people were alike, and the disease would attack different people in different ways. It was absolutely essential to see each patient before treating him. Recovery might take place owing to expectoration or the formation of fibrous tissue. In his view it was impossible to reach the tubercle bacillus by means of anything circulating in the blood. If one was told that a case was silicosis, it was not safe to treat it as if it was not tuberculous. If he heard that a man was coughing up black stuff from his lungs he would assume that he was a miner, but the matter coughed up might even be blood or a part of the lung itself. The fact that a man was bringing up more secretion might indicate that he was worse instead of better.

Cross-examined by Mr. Stevens: Silicosis might tend to make the chest expansion less, but a definite rule could be applied to varying conditions.

Mr. Stevens: If a man who was bringing up a white sputum took the medicine, and then brought up a black sputum, what would you deduce?—That depends upon a number of considerations.

Continuing, witness said that cavities in the lungs did exist in cases of miner's phthisis. That was to the best of his knowledge.

Mr. Stevens: If fifty British medical men wrote saying they had found a cure for consumption, would you believe them?—I would like to know their names.

If fifty reputed medical men whom you knew, or whose names are in the *Directory*, wrote me telling me of the amount of good it had done to their patients, would not that justify my believing in it?—I do not know what you are, and I would want to know their names.

Sir Douglas Powell, Honorary Physician to the King, etc., examined by Mr. Colam, said he knew of no drug which could cure consumption. He had heard Dr. Acland's evidence, and he agreed with it. It very often happened that a consumptive patient got quite well, but scars would remain, and the disease might light up again. There was no analogy between the treatment by serum and the treatment by drug.

In cross-examination, witness said that in 1912 he saw Mrs. Whiteman, who had recovered from disease of the lungs.

In re-examination, he said he found no cavities in her lungs, but there may have been one. There was nothing on the certificate he gave to indicate that her getting well was due to any particular treatment.

On July 18th Dr. Arthur Latham, examined by Mr. Colam, said it was very unlikely that any drug would ever be discovered which would cure consumption. The plaintiff's specific could not do it.

Cross-examined, he said that there was no drug which could get at the bacillus in the lungs. He did not know what chemical action the plaintiff's medicine had on the gastric juices of the stomach. He had not tested it, but he was confident from his knowledge of chemistry that it could have no useful effect. The analysis conveyed to him that the medicine was practically inert and incapable of doing any good. He had not sufficient experience of krameria to say whether continual doses for a fortnight would be harmful. He knew of no medicine which could be given to a consumptive patient which would always relieve a cough.

Mr. Stevens: Can you give me the names and addresses of patients who have been in an advanced state of consumption and were cured?

Mr. Justice Shearman: He need not state them openly but may write them down.

Witness: They were mostly hospital patients.

Continuing, witness said that he had given a certificate in which he said a Mr. Hodson was not suffering from consumption, but he knew nothing about his having undergone a cure. Had he known what use was going to be made of his certificate he would have required proof that the sputum he examined was the sputum of Hodson.

Re-examined, he said that he had brought an action to restrain the plaintiff from publishing his name in connexion with his cure, and an injunction was granted. He then ascertained that Hodson had been sent to him at the instance of the plaintiff. It was concealed from him that the certificate was wanted as an advertisement.

Mr. Stephen Morrey, employed by the British Medical Association, produced correspondence between the Association and persons in South Africa as to the existence of the drugs. The Chief Government Analyst at Capetown wrote saying that, as to umckaloabo and chijitse, he could get no information about them. Nor was there anything in the South African *Materia Medica* about them.

This concluded the defendant's case, the learned judge intimating that he would allow the defendants to call further evidence in certain eventualities.

Dr. Edwin Grün, L.R.C.P., M.R.C.S., medical officer of the Steyning Union, said he was in general practice, but he had taken a great deal of interest in consumption. In 1890 he went to Berlin to investigate Dr. Koch's treatment with tuberculin, and got out a report on the subject. He had heard of the plaintiff in 1898.

Mr. Colam: I submit that evidence as to cases treated by this witness is not relevant.

Mr. Justice Shearman: You have written a long article attacking the plaintiff, and I think he is entitled to call general evidence in rebuttal. You have tried to prove that cures by the drug were impossible, and he is entitled to call evidence to show that it is possible.

Continuing, witness said he had used Mr. Stevens's preparation on a patient.

Mr. Colam: If the plaintiff is going to deal with particular patients, I shall have to call evidence to deal with those cases. That is a test to show that this is not really rebutting evidence.

Continuing, witness said that he had used the plaintiff's medicine for four or five years. In his opinion, the result was extremely good, and until quite recently he found it more useful than any other remedy. He had found it act favourably even on advanced cases. As soon as it was used the patients immediately and rapidly improved. He would not say on oath that it had a germicidal action. He believed it had. It acted well on a patient with a cavity in the lung. He had treated patients with cavities and the cavities had so disappeared that it was impossible to say that they had been present. He was a member of the British Medical Association, but that made no difference whatever. He considered this was a matter which should be investigated, as the investigation would do harm to no one.

Cross-examined by Mr. Colam: Would you like to say that you would guarantee a cure with this remedy?—I would not guarantee to cure any one of anything.

Would you like to publish to the whole world that this is the only remedy for consumption?—No, I am a doctor.

Assuming you were not a doctor?—If I had the evidence from my own experience, I might delude myself into believing it. I say *caveat emptor*.

Mr. Justice Shearman (interpreting to the jury): That means, "The buyer must look after himself."

If you thought, as a medical man, that it contained tannin, alcohol, and glycerine, would you think it could cure consumption?—I do not believe in any chemical analysis.

Continuing, he said that medical men did rely upon analyses in a rough way. They wanted to know roughly what was in a drug. The condition of the tubercle bacillus in the body was so different from its condition in a test tube that he did not think the tests were final. The medicine affected the tubercle through the blood. It raised the resistance of the body.

Mr. Colam: Is not the tubercle bacillus cut off from the

blood, as Dr. Acland said?—There are many things in which I differ from Dr. Acland.

Continuing, witness said that each germ had its own antidote. It would be quite wrong to say that anything was a universal germicide.

Mr. Colam: In how many cases have you given this medicine?—Twenty.

Have any of them died?—Yes.

Did not one die after three weeks' treatment?—Yes.

Continuing, in another case he had examined the sputum, and found that after three weeks' treatment there were still bacilli to be found. In one case a patient had certainly been cured. He had recently begun to use the strong solution of iodine internally. That had not been used internally before, and he had certainly found results better than he had before. There were some cases which were not, in his opinion, apt for Stevens's treatment. He did not think it right to give this medicine to patients without seeing them, but the British law did not prevent that.

Re-examined, witness said that although he would not like to give it himself unless he could see the patient, he might do so if the patient were abroad. Doctors based their treatment on empirical remedies. It was impossible to tell by any analysis what a drug was going to do.

Mr. Parry, B.Sc., F.I.C., said he had analysed several samples of the plaintiff's remedy and had seen it made. There was certainly no krameria in the medicine.

Mr. Justice Shearman: What did you find there?—On February 16th, 1914, I found on analysis that the figures agreed substantially with those on p. 32 of *Secret Remedies*. The only variation was rather less alcohol. Of the solids 75 per cent. were extractive which was certainly not krameria, but the results of his tests were that the extraction agreed in all respects with umckaloabo and chijitse. He produced specimens in bottles.

Continuing, witness said the extractive was vegetable matter from a plant containing neither alkaloid or glucoside, but it did contain a trace of fluorescent body, which he could not identify.

Cross-examined by Mr. Colam, witness said that he had the greatest respect for Mr. Harrison. He thought that the analysis was careless in that there were three or four conclusive tests for krameria. That substance contained an intense red dye and another substance which could be easily identified.

Mr. Justice Shearman: What would you have described this as if you did not know of the two African drugs?—I know of nothing.

Continuing, witness said the only active principle isolated was tannin. He had given evidence on the Select Committee on Patent Medicines.

Mr. Colam: Did you state in 1913 to that Committee that diseases like consumption and cancer were incurable by mere drugs?—I said that and I meant it.

Re-examined, witness said that if consumption was shown to be curable by drugs he might modify his view.

By the Court: There was no reason to say one way or another why this substance was inert. The fact that it could not be identified did not prevent its lung action. A large number of medicines were so.

Mr. A. H. Bennett, examined by the plaintiff, said he was M.B., C.M.Aberd., and surgeon for the Liberian Frontier Force. He had decidedly heard of and used umckaloabo, which means "life everlasting." It was produced from a plant which grows in Liberia. He was employed by the Government. The heathens were more civilized than the Liberians. He had administered this drug to 1,000 cases. In all chest complaints it was used by the negroes. The natives made a decoction of the leaf of the plant with salt. It contained a vegetable substance which was an antitoxin in all chest complaints. He himself treated the drug with sodium salicylate. He brought the plant over to England in order to try and get it included in the *Pharmacopoeia*. He had only seen this case in the paper the previous day, when he communicated with the plaintiff's solicitor.

Cross-examined by Mr. Colam, he said he took his degree in 1891, and he afterwards practised on the "Lord's Pathway," having been medical officer on many ships for ten years. He then went to Japan. He had formerly lived in Australia. Having been ten years at sea, he settled in Liberia. He was a Commissioner there; he added, "I could hang you there if you committed an offence." His duty was to keep the peace.

Mr. Colam: Did you keep the peace?—Yes; I disarmed my own soldiers.

Mr. Justice Shearman: Is there any salary attached to the post?—Yes; it is sometimes paid.

Mr. Colam (producing a piece of umckaloabo root) asked whether this was not like a Spanish onion. Witness said it grew on the St. Paul river, and the Chief Justice of the colony would prove what he said. That was a small specimen of "the life everlasting." It grew to a height of three or four feet in semitropical Africa. He had picked that specimen on June 4th, and brought it home in a Saratoga trunk. The nation did not know it. It was called "the life everlasting" because nothing but fire would kill it. He was going to bring it to Mr. Holmes.

By the Court: You told us that the medicine was made from the leaves. Why did you bring over and produce the root?—The leaves fell off, and are now in my trunk.

It was arranged that the specimen brought home by the witness from South Africa should be examined by a botanist.

Mr. Chamberlain, a commercial traveller, said he suffered from chest trouble in 1911. He saw various doctors, and then went to the Brompton Hospital. He finally went to a place called the Home for the Dying Poor, where he stayed for about two months. Subsequently he tried the plaintiff's treatment, and he was greatly improved in about six months' time. He was up and down. He also saw a Dr. Harvey, of Watford, who told him there was no hope for him. So far as he felt, he was now perfectly well. He had, however, seen a medical man for an attack of pleurisy since he underwent the plaintiff's treatment.

Cross-examined by Mr. Colam, witness said that he was not free from colds. He now got phlegm at times.

Mr. Skipwith and his mother, Mrs. Skipwith, having given evidence.

Mr. Albert George Hodson said he first became ill with consumption in 1894. In 1908 he went to Mr. Stevens who guaranteed to cure him in eight months, the money being lodged in a bank. He was cured and told the bank to pay over the money. He had been attending work since March, 1909. He saw Dr. Latham in 1911 by appointment. He sent him his own sputum.

In cross-examination, witness said it was true that he told Dr. Latham that he was being shunned by his friends as they thought he was infectious.

Mr. Justice Shearman: Who paid the fee to Dr. Latham?—Mr. Stevens.

Mr. Colam: Did he tell you to go to Dr. Latham?—Yes.

Mr. Justice Shearman: Do you consider that an honest way of obtaining a certificate?—Yes.

The Judge: Well, I express no approbation of it.

A bank manager who was called said he had held as much as £6,000 as stakeholder for patients of the plaintiff. He had returned one sum of £2 12s. 6d. to a patient.

Cross-examined by Mr. Colam he said that probably he had some hundreds in the bank at a time. The plaintiff probably had £5,000 or £6,000 a year coming in.

Mr. Pollock, having given evidence, Captain Bailey said he had been in South Africa and had seen the herb used as a styptic and antiseptic applied externally. He also knew that the natives took it for chest trouble.

Captain Bailey, continuing his evidence on July 20th, said that it was exceedingly probable that a plant which grew on swampy ground would develop differently in dry ground. He was not, however, a botanist, but he had been meticulously careful to be exact. It looked like a Spanish onion with rings, or had a long root like a parsnip.

In re-examination, he said that he had seen potatoes growing. He would judge from what he saw that tubers formed on the plant, a specimen of which had been produced.

Mr. Stevens: Did you write about this plant long before you heard of me?—Yes.

What did you write?

Mr. Justice Shearman: You can't have that.

Mr. Howard, the cashier to a firm in Liverpool, who described himself as a prominent church worker, said he had a brother who suffered from consumption. He thought it was rheumatism.

Mr. Justice Shearman: You are only entitled to tell us what you saw yourself.

Mr. Stevens: Is your brother here?—Yes, but he does not know so much about the case as I do.

Continuing, witness said that his brother took the plaintiff's medicine and was cured. The doctor had suggested a sanatorium, but his brother did not go there.

Cross-examined, witness said the doctor who attended him was not present.

Mr. Stevens: He refuses to come.

Mr. Justice Shearman: You have no right to say that here, Mr. Stevens.

Continuing, witness said that his brother lived in an ordinary bedroom in his own house. He suffered from a tuberculous abscess, which burst. He did not know that such an abscess would either cure or kill a patient.

Mr. Joseph Howard, examined by Mr. Stevens, said that he had suffered from tuberculosis, and his weight had gone down to 8 st. 2 lb. He was "aspirated" several times when at the convalescent home. After he had taken the plaintiff's medicine for three months the abscess ceased to discharged. He now weighed over 12 st.

Cross-examined, witness said that he began to get well after the aspiration.

Dr. J. Elliot Jamieson, before being sworn, said he wanted to make a statement that he was a member of the British Medical Association and was not there as a voluntary witness: he had been subpoenaed.

Mr. Justice Shearman: You are not entitled to say that before you are sworn.

Upon being sworn and examined by the plaintiff, witness said that he had used the plaintiff's medicine in six cases. In the first case he thought a child of 6 was suffering from consumption. He attended it for three weeks, and gave it some medicine which seemed to do it good. The second was a genuine case of chronic pulmonary phthisis which had been under his treatment for a year. It was still suffering but had improved considerably, having lost all the bad symptoms. No. 3 was a very bad case with haemorrhage. She died, but she had stopped using the medicine for about a month. No. 4 was the case of a boy who had had symptoms. He certainly improved, putting on a stone in weight, but he left the district. No. 5 was a bad case, in which the patient refused food and died of starvation. As to No. 6, that was a case of tuberculous peritonitis, which was better one day and worse the next.

Mr. Stevens: Have you used any medicine which has as good

an effect as this?—Well, to tell you the honest truth, I have not formed any opinion about the medicine.

Mr. Colam: I ask no question.

Mrs. Ethel Neville, who did not like to give her address, said she had suffered from consumption. A doctor told her it was tuberculosis. She was twelve weeks at the Brompton Hospital. She took the plaintiff's medicine and felt better. She was able to get married, and could do the housework and the washing.

Cross-examined, she said she felt better after leaving the sanatorium, owing to the exercise.

Mr. Colam: When did you feel able to get married?—About June, 1913.

And then I suppose you got well rapidly?—Yes, but not on account of that. (Laughter.)

Mr. C. E. Cassal, Public Analyst for the City of Westminster, F.I.C., etc., said he had had over thirty-five years' professional experience. He had analysed the plaintiff's medicine on February 26th, 1914. His analysis was as follows: Specific gravity 1075, total solids 2.35 parts, ash 0.26 part, absolute alcohol 13.99 parts by measure, glycerine 11.45, tannin 0.722 parts per 100 fluid drachms. From other experiments he found that a medicine made according to the formula in *Secret Remedies* contained three times as much tannin as the plaintiff's medicine. He found that umckaloabo and krameria roots were quite different.

Cross-examined, witness said he did not know whether his figures varied from those of Dr. Parry. It was not a matter of opinion whether a test was absolute or not. It was, however, true that there might be a difference of opinion as to the cause of a reaction. He did not know which kind of krameria was being used—there were three kinds.

Mr. Justice Shearman: It is fairly clear that umckaloabo root was used to make the plaintiff's medicine.

Mr. Colam: I am on the point that it is said to have been negligent on Mr. Harrison's part not to find it was not krameria.

Continuing, witness said that tannin might get deposited if a mixture were to stand some time.

Mrs. Mary Morrison said she began to suffer from consumption sixteen years ago. She went to Canada, but returned. The plaintiff's medicine had done her good. She had got a doctor's certificate, but the doctor took none of her sputum, as she had none at the time. Her husband was called to prove that his wife had spoken the whole truth and nothing but the truth.

Miss Annie Keene, living at Hove, said she had been to the Brighton Sanatorium. Within a month of taking the plaintiff's medicine the cough was better, and in three months there was a decided improvement.

Miss Lucy Keene, sister of the last witness, corroborated. She had been a mother to her sister since she was ill.

Mr. William Stannard, living at Epsom, said that his sister-in-law had had consumption.

Mr. Dickens: How is this relevant?

Mr. Justice Shearman: I cannot exclude it. He is entitled to say what he knows.

The witness said that she had been cured by the plaintiff's medicine.

George Green, an ex-warrant officer in the navy, said he had suffered from consumpton, and had had to leave the navy. The doctors considered him hopeless, but the plaintiff's medicine caused him to improve month by month. He was now in good health. He was not, however, allowed to go back to the navy, as the certificate merely stated that the disease was quiescent.

Miss Florence Teddington, of King's Lynn, having given evidence,

Mr. George Isaac Cooper said that in 1900 he went to South Africa for consumption. From there he went to Australia, and thence to London. Since 1906 he had been in bed off and on for three years. In October, 1913, he began taking the plaintiff's medicine. Three months later there was some improvement.

In cross-examination, he said that he left the Bournemouth Sanatorium because he was a vegetarian. He took milk from doctors under protest.

Mrs. Wigley said that she had suffered from consumption and that since taking the medicine she had never brought up any blood, except on one occasion after she took dumbbell exercise. She had taken the medicine ever since the last trial—for example, November, 1912. She now felt splendid.

Cross-examined, she said that two doses of the plaintiff's medicine had been sufficient to make a change. She always had her window open at night.

Mr. F. D. Bowden, living at Beaufort Park, said he had had tuberculosis of the glands of the neck for the last sixteen years. His last operation, of which he had had eight, was in February, 1912. When he visited the plaintiff the plaintiff injected his neck, with the result that the gland disappeared. He had five or six injections at the most. Each time the gland discharged it got smaller.

In cross-examination, witness said that his glands had been removed by operation. On the last occasion the place did not heal. The doctor tried to make it discharge and opened it for that purpose. It was in that condition when witness went to Mr. Stevens. He pricked it with a needle and it discharged three weeks later. The doctors told him that patients generally grew out of glands.

In re-examination, witness said he was better in his general health after the glands were removed.

Another witness said that in October, 1904, she had double pneumonia and pleurisy. She lay at home, and then went to St. Mary's Hospital for about seven weeks. Her temperature was up and down. She got a little better in St. Mary's Hospital, but she could not sit up when she went home. They wanted her to go to a convalescent home, but she could not go. In February, 1913, she began to take Mr. Stevens's medicine, at a time when she had given up hope. After taking the second bottle she began to feel better and began to get fatter. The doctor said——

Mr. Justice Shearman (to the plaintiff): You cannot get out of the difficulty of not calling doctors by making statements as to what the doctor said.—I am sorry, my lord.

Mr. Stevens: Were you given to understand that it was a perfectly hopeless case?

Mr. Justice Shearman: You cannot have that.

Continuing, witness said she saw a doctor upon the question whether she should get married, and she was now married.

In cross-examination by Mr. Colam, witness said that a specialist advised her to go to a sanatorium, but she did not do so. She had been lying about out of doors for four weeks before she began to take Mr. Stevens's medicine.

Mrs. Hevman, in giving evidence, said she went to the Mount Vernon Hospital in 1909. Her husband died of consumption. She went to a hospital, where they could do no more for her. She suffered from haemorrhage. She was quite well about four months after she commenced to use the plaintiff's cure.

In cross-examination she said she had a bad attack of blood-spitting after she took the medicine, and she afterwards picked up.

Mr. Frederick Charles Monk, living at Peckham Rye, produced a pair of crutches and a leather support which he used to use. He suffered from a tuberculous knee when he was 15 years of age. He saw Dr. Hill of Peckham, who advised an elastic knee-cap. That made no improvement. He then went to St. Thomas's Hospital, where he was told that the knee was tuberculous. He was attended there for three years, during which his knee got worse. In September, 1910, he first heard of the plaintiff. His knee was then so bad that he could not bear it on the ground. He went to see the plaintiff on crutches, his leg being wasted away below the knee. The plaintiff injected him every week, and he also took the plaintiff's medicine. In two months there was an improvement. The leg began to fill out after he began to put it to the ground. He continued using the plaintiff's remedy for about two years. The knee was now perfectly well itself.

In cross-examination, witness said he had not known any other cases of tuberculous knee. He was not told that he would be able to get rid of the crutches, etc., if the disease ran its normal course.

A juror: Are we compelled to sit here for a year to hear these witnesses?

Mr. Justice Shearman: We cannot refuse to hear any evidence which may be relevant.

The Plaintiff: I could go on calling witnesses for a month, but will try and conclude it to-morrow evening. I shall then have my own evidence to give.

Mr. Harry Earle said that in March, 1912, he was suffering from consumption, and he went to a sanatorium, and was not benefited by that.

Mr. Justice Shearman: We are not here trying the question whether sanatoriums are efficient.

Continuing, witness said that he commenced taking the plaintiff's medicine in September, 1913, and as a result he regained his strength.

In cross-examination, witness said that when he went back to work his duties were lessened.

Mrs. Florence Wood, examined by the plaintiff, said she had heard Mr. Monk give evidence. She had suffered from tuberculosis, and was told so by a doctor. She went to the Chest Hospital in City Road. Having attended hospital for fifteen months, she first heard of his cure in March, 1908, and it did her good.

Mr. Edward Spencer, no occupation, of Cropstone Road, said he had suffered from consumption, and first knew of it in October, 1910, when he had a bad haemorrhage, and they continued on and off until the following July. In 1912, he had the plaintiff's medicine, and he saw two doctors later, in 1913. He was very low when he first took the medicine. He had no great faith in it when he commenced taking it, but after the first bottle he had, and in June, 1912, he started work.

In cross-examination, witness said he thought he could now do a day's work, but did not think of starting.

Mrs. Fell, 77, West End Road, Southall, said she commenced to suffer from consumption in February, 1913. After six weeks she began to take the plaintiff's medicine. One bottle cured paroxysms of coughing. She could now do her work without any difficulty.

At the resumed hearing on July 21st, Mr. George Fell and Mr. W. J. Stephens, M.A., having given evidence, Mr. Archibald Thomas Alexander Stewart said that since 1908 he had been shipping sacks of roots from South Africa to Mr. Stevens. In answer to the learned judge, he said that about sixty-four bags came over each year.

Dr. Buchanan Hamilton, L.R.C.P.Edin. and L.R.C.P.Irel., said he was not in general practice, but he sometimes attended friends and relatives. He had been a medical officer in the navy. He had ordered umckaloabo for a patient at Southsea, but he took it himself, as he suffered from a cough. He began with small doses, and in a fortnight's time all the barking and coughing disappeared as if a wizard had come to the house. He had other remedies which also did well.

Cross-examined, he said that he took the medicine two months ago—that was this summer; but he had not yet tried it in winter.

In re-examination, he said that as a man of honour himself he would prescribe it for a patient.

The plaintiff then gave evidence on his own behalf. In about the month of September, 1897, he became very ill and went to his family doctor in Bermondsey—Dr. Taplin. He had been his doctor when he was brought into the world.

Mr. Justice Shearman: You cannot know that of your own knowledge!

Continuing, witness said that Dr. Taplin told him he was suffering from pulmonary tuberculosis, and in consultation with a specialist advised him to go to South Africa. Having arrived in Capetown he went up country to Bloemfontein. On the morning after his arrival he went into the market square and began talking with a Dutchman named "Pepper" in charge of a wagon. This Dutchman said he knew a native who had cured an Englishman of consumption. In consequence, he went to Maseru, on the outskirts of Basutoland. The Dutchman had supplied him with a little tarpaulin with which he erected a tent. On the following evening an old native arrived dressed in a leopard skin and a blanket. Witness made him understand that it was consumption which had brought him from England, although he found it difficult to make him understand. Two hours later the native came up with an old grain sack, in which he had some crushed roots. Having got a Kaffir pot he boiled some of the roots. When it cooled he gave Mr. Stevens a dose of the infusion, which caused him to vomit. Subsequently he took it many times, and he vomited every time. After taking it for a week he found his energy returning, and in two months, with the exception of a cough and slight expectoration he felt as well as ever he did. Returning to Capetown he brought about 40 lb. of the root with him. He booked a passage home on January 13th, 1898. He thought that all he had to do was to get his stuff analysed and he would have discovered a cure for consumption. His little sister, who was now gone—(here the witness was overcome with emotion). After pulling himself together he said that his sister took him to a doctor in Clerkenwell. He spent quite a long time trying to get at the active principle of the root witness had brought him. Later on he returned to South Africa. He had given the remedy free of charge, and had never asked a single individual even for postage money. The testimonials that he received—

Mr. Justice Shearman: We cannot have that.

Continuing, witness said that after closing the business of C. H. Stevens and Co. he went with his medicine to Dr. Anderson, who was lecturing for the Society for the Prevention of Consumption. He did not take any interest in it. Dr. Gregory, medical officer of health for Capetown, refused to have anything to do with it. A Mr. Harris made a communication to him, after which he decided to offer his remedy to the public generally. He did so, putting it on the market as "Sacco," a proprietary medicine. In the first year he made £6,000 clear profit; £5,000 at least out of the £6,000 went to the poor consumptives of Capetown and district.

Mr. Justice Shearman: Do you mean you made donations?—In a Jewish quarter there was great poverty, and I relieved their suffering by giving them medicine, and what they needed to sustain life.

Continuing, he said that he gave away in actual solid cash £5,000, but it was only given to those poor unfortunate consumptives who appeared to be in such position that they could not pay for medicine. He gave some of it in orders to grocers and butchers. He made a very large income in Capetown—about £1,000 a month. A lady, Miss Lee, came to him—

Mr. Justice Shearman: You cannot say what Miss Lee said.

Continuing, he said that owing to certain litigation he decided to give up all claims upon the company "Sacco Limited." That litigation had damaged the business to such an extent that he decided to leave, and he then started a business at Johannesburg for "the sale of Lungsava." He began to mix chijitse with Lungsava. That substance acted as a styptic.

At this point Dr. Smith Whitaker was interposed.

Examined by the plaintiff, he said that at the present time he was Deputy Chairman of the National Health Insurance Commissioners. He had been Medical Secretary of the Association. He recollected seeing some paper, and he could identify it as a prospectus of Lungsava, Ltd., which he dealt with in his official capacity.

Mr. Stevens: Did you count the testimonials?

Mr. Justice Shearman: You cannot have that.

Mr. Stevens: In 1907 were the British Medical Association aware that I had testimonials from a number of names of medical men?

Mr. Justice Shearman: Do you object, Mr. Colam?—No, my lord, I shall have to bring it out.

Continuing, witness said that he wrote to a number of medical men who were mentioned on the prospectus. He probably wrote to all, and received a number of replies.

Mr. Colam: I do not object to the replies going in. I have no question for Dr. Whitaker.

Continuing his evidence, Mr. Stevens said that the business in Johannesburg was more successful than in Capetown, as there was no haemorrhage, even in advanced cases. In Johannesburg it was illegal to give alcohol in any form to a native. He had been prosecuted for doing such things as belonged to the medical profession. He was fined £10 in the first case and £25 in a second, having cured two miners of phthisis. In 1907 he came to England and settled down at Wimbledon. Shortly after he returned the British Medical Association published a scathing article about him in the JOURNAL on August 22nd, 1908, pp. 506, 518. It was then dealt with as "Stevens's Treatment for Consumption." He wrote to the Association on August 28th, saying that any journal which would publish mutilated extracts must have for its proprietors the most unscrupulous persons existing. Their analyst was either a fool or he was ignorant. In reply he got a letter on September 1st which was not even signed. The witness went through the correspondence which he had with the manager of the JOURNAL. He then went on to say that in treating patients he only took their money if there was an improvement. He also undertook to remove all traces of the disease, and the money was paid over to the manager of a bank. Eighty-five per cent. of the patients who came to him expressed gratitude for the improvement made. When the guarantee was given he received nothing unless a cure was effected. In his practice generally he treated a large number of persons both by correspondence and in person. The patients he treated free of charge did not even pay the postage on their medicine. The number of patients he saw free were two-thirds of the whole number. One day last year he saw nineteen patients, of whom seventeen paid nothing. The greater number of them were Jews employed in sweated labour. In many cases he could give their names and addresses; and he had even supplied them for months at a stretch with the necessaries of life. He ought, perhaps, not to have mentioned that fact. No matter where he came from, the patient was entitled to treatment free of charge. At least 95 per cent. of the patients improved; for him to get a failure where he could *see* a patient was almost unheard of. He did not undertake to cure when there was a complication. Even in cases treated by correspondence 90 per cent. were cured. It had been said that patients were hopeful. The people who came to him said—

Mr. Justice Shearman: You will have a right to reply. If you indulge in this now it may weaken the effect of your address to the jury hereafter.

Continuing, witness said that he had treated thousands of cases of miner's phthisis, and he had never come across one that had produced a cavity. In that respect he disagreed with Dr. Acland. With regard to Smith, the Great Northern Railway clerk who came to see him, he said that he had been suffering from continual colds for the last six years. He told Smith there was nothing to worry about if he only did what he was told for a few months. He had asked Smith for a specimen of sputum, as witness did not like to say anything definite until then.

Mr. Justice Shearman: Did you say to Smith: "Your left lung is in a bad condition, and has been so for three years"?—I may have done.

Continuing, witness said that one case in a hundred needed diagnosis, as his patients had been at hospitals, etc.

Mr. Justice Shearman: Is not that argument and not evidence?—I withdraw it.

In 1908 a gentleman came to see him in Wimbledon. He was local representative of the British Medical Association.

Mr. Justice Shearman: He could not make admissions for the Association.

Continuing, witness said he had treated a Mr. Bowman. He asked for his money back, and witness had sent it back. That was before the libel was published. When he returned to England he saw a number of medical men.

Mr. Justice Shearman: Really, I shall have to stop this! I do not want to shut out anything that is evidence, but I have told you that what passes between you and medical men who are not called cannot be stated.

Continuing, witness said he sent his medicine to many medical men. With regard to the witness Langford, he remembered having correspondence with him. Witness told him that he was not suffering from consumption. He could guarantee no cure in such a case. A judgement was given him for £10 and costs. He went round to every solicitor in Basingstoke. As to Mrs. Archer, she came and said she had a son. He denied that he guaranteed to cure her son. He did tell her that he never guaranteed to cure a patient for £25 or upwards. She first came to see him on June 15th, 1908. He did not say that he would give £10 if he could not cure—that only applied to cases in which he had given an undertaking. Her son collapsed when his mother brought him to the office at Wimbledon. It was untrue that he said that Brompton was no good, nor had he ever said to any patient or in any circular that Brompton or any other hospital was no good. He did consider from the way he saw Archer's mother treating him that he got little help to enable him to get rid of his trouble.

Continuing, witness said that Dr. Latham had applied for an injunction to restrain the use of a certificate. He had not opposed the application and had to pay £100 in costs, as he found, on consideration, that the advertisement was open to misconstruction. Whilst in South Africa he had supplied the medicine to a large number of medical men, who assured him——

Mr. Justice Shearman: Once again, we cannot have that.

Continuing, witness said that Dr. Bulloch had given evidence. In August, 1911, he (witness) had obtained cultures of tubercle bacilli from Baird and Tatlock, 14, Cross Street, Hatton Garden, London, E.C. It was a poor culture. He placed them in his own incubator to develop. On September 20th, 1911, after the cultures had been growing since August 28th, he intended to carry out certain experiments. He took two microscopic slides. The growth which he had received had developed sufficiently to take a specimen. He treated some of the cultures with a filtered decoction of umckaloabo 1 in 16 for five minutes. It

was then put in 10 minims of distilled water. He then took two rabbits and inoculated them.

Mr. Dickens: I do not know whether the witness knew it was a criminal offence.

The Witness: I know it, and I am here to tell the truth. It was done for the benefit of humanity! They would not let me have a licence.

Mr. Justice Shearman: I hope you do not suggest that unlicensed persons should be allowed to carry out such operations.

Continuing, witness said he injected the transparent portion of the eye of one rabbit with some distilled water which contained bacilli. The other rabbit was injected with the washing from a slide which had been in contact with his medicine. The first suffered from a tuberculous discharge from the eye. The other rabbit developed no disease, but remained perfectly well. He carried out the same experiment with bovine tuberculin with the same result.

This concluded the plaintiff's evidence-in-chief.

Mr. Stevens was then cross-examined by Mr. Colam: He did not think that his own cure from consumption was a good advertisement of the medicine. He had exploited no other medicine except those connected with African herbs. He had a large sack of roots at home which could cure rheumatism, but did not advertise it, as his time was taken up with this cure for consumption. He had never been connected with any other cure for consumption. He denied that he procured his present remedy from a Mr. Weimann. He knew that gentleman.

Mr. Colam: Did you get a consumption cure from him?—No, he used to get roots for me.

Was it his or yours?—It was mine when I bought it from him.

The roots or the cure?—The roots.

Did you go into partnership with him?—No; he was a farmer.

Continuing, witness said that the bottles labelled "Umckaloabo" were pure extract. When called "his mixture," it contained chijitse. He meant to tell the jury that before the fire took place he had run the business as a charity. After the fire—some time in May, 1904—he was nearly ruined, and had to carry it on as a business for the first time. That was at 29, Long Street, Capetown.

Mr. Colam read a letter headed from a cycle agency addressed by the plaintiff to Mr. Weimann in which he referred to the money the plaintiff had spent on Weimann's medicine, saying that he would get it back 10,000 times over. The plaintiff said that the herbs referred to in the letter referred to the bubonic plague.

Mr. Colam: Do you say that what you were dealing with with Mr. Weimann was the cure for bubonic plague?—No, he was collecting the roots for rheumatism and umckaloabo.

Continuing, witness said that the business he had was formerly carried on as Leslie and Smuts. He did not at that time know the name umckaloabo.

Mr. Colam: How did you tell him to get the medicine if he did not know the name?—He knew where the herb grew.

Mr. Justice Shearman: Where did it grow?—I saw it growing from Port Elizabeth to Basutoland.

Continuing, witness said that one of his circulars which stated that he had spent thousands of pounds in procuring the medicine had been written by an advertising agent. Although it was true, he withdrew it from circulation as he did not like the wording. He had suggested the name "South African Microbe Killer" to Mr. Weimann in November, 1903, but he thought that might refer to bubonic plague.

Mr. Justice Shearman: You have called your medicine a germicide.

Continuing, witness said that in September, 1904, he was receiving herbs from Mr. Weimann. In a letter written to him he said, "Did you put any of the leaves in this medicine?"

Mr. Colam: Does not this show that you were speaking of a medicine made up by him?—I think that refers to the rheumatism cure.

Listen to the next line, "Send me a few of the leaves, as there are so many people here with colds on the chest."—Oh! that was another medicine used by the natives for colds.

You also say in the letter, "There is £1,000,000 for anyone who can bring a consumption cure to light. I only want half of it and you shall have the other"?—Certainly, if he was true to me.

Let me see the stuff which comes over from South Africa.

At this point two sacks in court were opened and what were stated by the witness to be chijitse and umckaloabo were produced. Witness said that the second was a tuber root. He had never said it was a bulb; it was a bulbous tuber.

Mr. Colam: I am suggesting you have not got the umckaloabo which Captain Bailey produced?—The roots have skins which peel off.

Continuing, witness said he had heard Captain Bailey describe the cure for wounds as something like the rind of a Spanish onion. Although he had had nearly two years since the last trial to produce an original plant, he did not do so because that was what the medical profession were waiting for.

Mr. Colam: It is said in the alleged libel that you kept the real article from the medical profession?—I have told them what the original plant is, but I will not show it to them after the way your Association has treated me.

Continuing, witness said the plant was not cultivated, although attempts had been made to cultivate it. He knew that Mr. Weimann did not know the name.

Mr. Colam: Did you ever tell him the name?—I do not think I knew the name until after the date when Mr. Weimann stopped collecting in 1906 or 1907.

Did you say on the last occasion that you told him the name in 1904?—It would be later than that.

Continuing, witness admitted that he wrote to Mr. Weimann saying he was Stevens and that Weimann would be the Company, and that Stevens and Co. would be successful. In June, 1905, he wrote to Mr. Weimann saying that he might grind the herbs with the skins on as soon as he liked. That was the time when he was making a big income.

Mr. Colam: Did you write to Mr. Weimann saying that things were so tight you could not send him anything?—That must have been after the litigation.

Continuing, witness said that, notwithstanding the correspondence, he adhered to what he said, that he had got the remedy originally from a native. The medicine had been advertised originally as "Sacco." As to some of the advertisements, he did not recognize and was not responsible for them. He did recognize a little grey-covered book which had a picture on the outside of "The Last Victim." It was published in England in 1905.

Mr. Justice Shearman: The outside of the cover suggests Perseus and Andromeda! The pamphlet states that "An Englishman travelling in South Africa was cured by a native." Were you the Englishman?—Yes.—Why did you not say so?—Because I did not wish to brand myself as a consumptive.

Continuing, witness said he had sent the Lungsava prospectus to the British Medical Association. The testimonials went to show that it contained some medicinal activity. He did not rely upon the testimonials sent with them. He relied on his experience.

Mr. Colam: Did the letters fall very far short of any recommendation?—I know that your Association has intimidated a large number of my witnesses.

Continuing, witness admitted that a Dr. Riordan wrote saying that he never had such a patient as was alleged, and it was a most unwarranted use of his name, that he had never been approached by the Lungsava company, and that it was an impudent fraud. His answer was that the testimonials related to Sacco.

Mr. Justice Shearman: The point is that this doctor wrote to say he had no such patient. The witness is entitled to show that he was mistaken.

Mr. Stevens produced a letter from the same doctor written about a fortnight ago, in which he said that in 1905 he was led to express his satisfaction with a case treated with the plaintiff's medicine.

A juror: I should like to hear the letter to which that is an answer.

Mr. Justice Shearman: Mr. Stevens has produced this letter to show that the doctor was mistaken. The defendants, on the other hand, may use this doctor's first letter to justify their comment.

Continuing, witness said he had added the letters "M.D." in one case. The originals of some of the testimonials were not in existence. One doctor was described as Dr. Wilson although not on the *Register*. This gentleman, writing to the Association, said he had tried it and found the drug was worse than useless. He (witness) was responsible for the prospectus which was published in 1907. He had not asked the permission of the doctor or any of the doctors to publish the testimonial.

Mr. Justice Shearman: Did you try to raise money on these certificates?—Yes.

Mr. Stevens (to Mr. Colam): Dr. Wilson was afraid of you. You have power to strike him off the rolls any time.

Mr. Justice Shearman: You should not make statements of that kind. They have no such power. I want to know the connexion between Sacco and Lungsava.

Continuing, witness said Sacco went into liquidation, and he published the testimonials as they were addressed to him. He sold Lungsava at Johannesburg, and he then tried to float a company for Lungsava in England. He did start a branch of "Sacco" in England; it was carried on from Basinghall Street. Sacco was still being sold in England by people calling themselves the Sacco Co., down in New Cross. A man named Pickering bought the right to use Sacco from the liquidator for £126, and witness did not know whether they obtained their stuff from Mr. Weimann in East London.

Mr. Colam next referred to a letter from Mr. A. E. Price, of Cheltenham, who said that he had never heard of Lungsava and had never signed himself "M.D." In the course of his letter he said that it was private and confidential and that it was evident that they (the promoters) had taken pieces of it and strung them together. He had written to Sacco to say that he had no faith in the medicine. The patient subsequently died.

Mr. Colam also referred to an alleged testimonial given by Dr. A. Stoddart Kennedy. Dr. Kennedy received a letter from the Sacco company expressing regret and saying that the letter referred to something different, and had been taken from them by a former employee. Witness said he suggested that these doctors did not desire to fall out with their own trade union.

Mr. Justice Shearman: How were these reports obtained?—The profession were circularized and these are the letters they sent after trial.

Did not the Sacco company write (August 23rd, 1905): "If you give us a report we will undertake not to publish without consent"?—That was after I left the company.—Who was carrying on the business then?—I do not recognize the letter. I never sent it out.

Mr. Colam: The dilemma is that the testimonials were either

obtained by you on a promise not to publish without permission, or that they were published without authority?—Not at all.

Mr. Justice Shearman: How did you get the testimonials?—Mr. Whiteman gave me a bundle of letters.

Continuing, witness said that he prescribed the medicine when the patient stated he had consumption. He did not always prescribe merely on symptoms. He did not know what bronchiectasis was, although he was a lung specialist. He did not know that its symptoms were similar to those of consumption. He knew that empyema was a fluid which collects close to the pleura, and that its symptoms were not similar to those of consumption. He did not know the treatment of that disease.

Mr. Colam: Would you take it from me that it would be dangerous to treat it as for consumption?—I will not take anything from you.

What would happen if it burst into the lung?—It would wash the lung away.

Continuing, he did not know what subphrenic abscess was, and did not know anything about the diseases below the diaphragm. As regards Mrs. Archer's son, it was untrue that he said at the last trial it was a hopeless case to cure. He gave her to understand, after treatment, that it was not a hopeless case. He said he did not undertake to cure for less than £25.

Mr. Colam read from an advertisement issued by the plaintiff which stated that when patients had been given up by the doctors, and disease was "slowly devouring all but your soul and your bones," they should "send a postcard to Stevens."—That was not meant to frighten but to give hope. He suggested that the profession would not even give it a test, let alone recognize it. He never said that sanatoriums would not cure. He had said that "a landslide to the grave" would be a more accurate description. He did not know that the statistics given in one advertisement stating that but 3 per cent. of the cases were cured were founded on one particular sanatorium. He had not published these statements about sanatoriums since the last trial He had heard Dr. Acland's evidence. The statements he made were true all the same. On December 31st, 1911, he had referred in advertisement to a Miss Olley as having been sent from Brompton incurable, and was now enjoying good health.

Mr. Colam: Do you know that she has since died of consumption?—I thought she died of bronchitis.

Counsel produced a death certificate showing that Miss Olley had died of pulmonary tuberculosis. The witness now was publishing a certificate by Mr. Lord who upon the document stated that he was public analyst to various public bodies.

Mr. Colam: Was not Mr. Lord a man to whom you paid 30s. a week to address envelopes?—Certainly not, he may have addressed a few envelopes. He had a retainer to come in and examine sputums.

Mr. Justice Shearman: Is he alive?—I do not know.

Mr. Colam: Is he not in a Church Army home and a dipsomaniac?—I do not know.

Mr. Colam then referred to the evidence given by Mr. Lord on the former occasion. Mr. Stevens said that it was untrue that he was a mere clerical assistant. Mr. Colam then read the certificate sent in the packet with the bottles of medicine.

Mr. Colam: Was he not employed by you to make this certificate?—No, not at first; but the certificate was obtained by me from him after your analysis had appeared.

Continuing, witness said that there was no word of his in the pamphlet. He wanted to show that it contained no kino or krameria, and he asked Mr. Lord to make the analysis with that object.

Mr. Colam: Do you suggest this was a certificate a bacteriologist would give?—Yes.

Mr. Justice Shearman: Was this a qualified medical man? He recommends the treatment to persons suffering from tubercle.—He is not; he is an analyst.

Continuing, witness said that amongst the documents which he circulated was a photograph of a hand purporting to have been cured by his medicine. It was a photograph of a photograph. The first photograph could not be used, because it was under exposed. The picture was made from a painting of the hand and the man's description.

Mr. Justice Shearman: Is the original here?

Continuing, witness admitted that the same pamphlet contained the following passage: "If I do not completely cure every such case of external tuberculosis within one month and every clear case of pulmonary consumption within a few months from the date the treatment is commenced, no matter how many hospitals have failed to even give relief, then I will consider the name 'quack,' which so many medical men give me, to be a just description of myself, but if I can cure every case submitted to me in the time mentioned above, I must ask to be considered a man who has the ability to save his fellow men from this insidious scourge—consumptive tuberculosis."

Do you really tell the jury that you honestly believe that you can cure every case of pulmonary consumption within six months?—I agree, and so I will, provided there is a possible chance. I will cure them if they are not half in the grave.

Continuing, witness said that he was afraid it was worms killed poor Miss Olley. As to Archer, he was not properly looked after by his mother. As to Bramley, he went back to work. Witness did not remember the name of a man named Brunt.

Do you say that your medicine will build up a broken-down system entirely by itself?—Yes; that is true in the way that any one with common sense would take it.

In further cross-examination, witness said that he brought no action against *Truth* in 1906; he had no money, and could not afford to leave South Africa. Although he disclaimed medical knowledge, he considered himself competent to make the experiments on rabbits.

Mr. Justice Shearman: Did it not occur to you that your experiments on rabbits should have been attended by a man with scientific training?—Yes; but it was a criminal offence and I could not get a licence.

Did it not occur to you that if you wanted to see if the bacilli were killed it would be well to submit them to a trained man?—No.

In re-examination, witness said that when he found out what umckaloabo actually was he was in Maseru. With regard to the correspondence with the British Medical Association, witness referred to a letter which one Bell had sent to the Association. Witness said he had received a large number of letters from patients whose money had been returned.

Mr. Charles Coster, a dentist practising at Wimbledon, said he knew Mrs. Archer. She never told him that she had paid twenty guineas.

Professor Henry George Greenish, author of various standard works and one of the editors of the *British Pharmacopoeia*, said that he knew a good deal about the anatomy of plants. Having examined the plant and pieces of root, he came to the conclusion that they were entirely different. The small, slender plant could not have produced the dried root. The structure and type of the two roots was entirely different. In the small root there were small crystals of calcium oxalate. He would not say that the root was bulbous or tuberous. The plant had dried considerably since he first saw it.

In cross-examination, he said he could not tell the court what natural order it belonged to merely by looking at the stem. He had never to his knowledge seen either of these plants before. A juror asked whether the plant was tropical, but witness could not say.

Dr. Theodore Dyke Acland, recalled, said he had been in court while all the plaintiff's witnesses were called, and he said that in every case the evidence was quite inconclusive that the drug had done any good. He could give many instances of pulmonary cases in which patients had been cured without any drug. Were the powers of resistance of the individual sufficient, the glandular disease was overcome. Young people had it and recovered from it. Operation for glands was often performed to prevent scarring. Tuberculous knee was not very rare. That was a complaint which also attacked young people. Rest was part of the treatment. Surgical treatment, with which he was not familiar, was also common. He had heard the description of Mr. Stevens's experiments with tubercle. Those experiments would convince no one with technical knowledge. There was no evidence of sterilization of himself or his instruments. The alleged tuberculous bacilli in the rabbit's eye might have got there when the injection was made. They were extremely delicate experiments, to which no importance would be attached unless they were done by an expert. Of the diseases mentioned, the first—dilatation of the bronchial tubes—was often mistaken for tubercle. It was important to examine a patient personally in order to distinguish the two complaints. To give a medicine which increased expectoration in a case of bronchiectasis was to expose the patient to grave risk of being drowned in his own secretion. If empyema manifested itself at the upper part of the chest it was difficult to distinguish from tubercle. There were also the same physical signs outside. As to subphrenic abscess there were certain abdominal diseases where discharge took place through the lung. That was very fortunate for the patient. Such cases were very difficult to distinguish from pulmonary tuberculosis, but they required absolutely different treatment. As to miner's phthisis cavities were certainly formed as a result of that disease. As to the statement that only 3 per cent. of the persons who went to sanatoriums went back to work, that was quite untrue. Mr. Stevens's statistics must have been derived from a misreading of some German figures.

In cross-examination, Dr. Acland said that he had not said that all the witnesses on the other side were dishonest.

Mr. Justice Shearman: He says that the evidence of the thirty witnesses you have called is consistent with their having got well apart from your medicine.

[After a lengthy summing up, which we hope to publish in full next week, the learned judge invited the jury to answer two questions—namely, (1) Are the words libellous? (2) Were the comments fair? The jury after an absence of ten minutes answered the first question in the negative and the second in the affirmative. Upon the application of Mr. Dickens, the learned judge entered judgement for the defendants, with costs of both trials. He also certified for a special jury. Mr. Stevens applied for a stay of execution pending an appeal. Mr. Justice Shearman said that as it was only as regards costs he could not do it.]

ALLEGED NEGLIGENCE: VERDICT FOR DEFENDER.

IN the Court of Session, on July 14th, Lord Anderson and a jury heard evidence in an action by Mrs. Edgar against Dr. A. Lamont, Chryston, Lanarkshire. The pursuer stated that while pruning in her garden she cut her left little finger very deeply. She washed and dressed the wound, but next day sent for the defender, who diagnosed that the finger was poisoned. The pain and swelling increased, in spite of the defender's treatment, and the pursuer went to Glasgow and consulted another doctor, who amputated the finger. She complained that the loss of the finger was occasioned by the defender's treatment of

it. The defender denied that he was guilty of fault or negligence. He was, he said, most careful in his attention to the pursuer's wound, and there was no negligence or failure in skill as regarded his treatment.

The case occupied the greater part of two days, and the jury, after an absence of an hour and three-quarters, returned a unanimous verdict for the defender.

HIGHER THOUGHT READING.

CHARLES W. J. TENNANT (Christian Science Committees on Publication) writes: In your issue of July 18th a report is given of the inquest held on Miss Scott. A statement is made by one of the witnesses that for some time past she had been interested in Christian Science. The mere fact of her having Higher Thought treatment would disprove this statement, as Christian Science and Higher Thought have nothing whatever in common.

Obituary.

SIR CHRISTOPHER NIXON, BART., M.D.,

SENIOR PHYSICIAN, MATER MISERICORDIAE HOSPITAL, DUBLIN.

WE regret to have to announce the death of Sir Christopher Nixon, Bart., which took place on July 19th at his residence, Roebuck Grove, Milltown, County Dublin. His health had not been satisfactory for some time, but it was only recently that it became a cause of anxiety to his family and friends.

Christopher John Nixon was born in Dublin on June 29th, 1849. He was educated at Trinity College, and at the Catholic University, Dublin. He obtained the licence of the Royal College of Surgeons in 1868, and took the degree of M.B.Dublin in 1878. He became a Fellow of the Royal College of Physicians in 1876, and was afterwards its President. He received the degree M.D. (*honoris causa*) from the Royal University in Ireland in 1885. He was also an LL.D. of Trinity College, Dublin.

He practised as a physician in Dublin, and was appointed physician to the Mater Misericordiae Hospital, which post he held till the time of his death. He was Professor of the Practice of Medicine in the old Catholic University, and was appointed Professor of Medicine in University College, Dublin, when the National University was founded. In these chairs he gained distinction as a teacher, and won the esteem of the students. He was also Visiting Physician to the Criminal Asylum, Dundrum, and St. Patrick's College, Maynooth, and Consulting Physician in Lunacy to the High Court of Chancery, Ireland.

He was a member of the General Medical Council from 1897 until his death—for the first twelve years as representative of the Royal University of Ireland, and afterwards of the National University. He worked actively for the new university, as a member of the Senate, and was also its Vice-Chancellor. He was a Fellow of the Royal Academy of Medicine in Ireland, and had been President of its Pathological Section. He took a leading part in bringing the scheme for a Royal Veterinary College in Ireland to fruition, and was elected its first President.

His publications include *A Handbook of Hospital Practice and Physical Diagnosis*, and several papers on diseases of the heart and nervous system.

In 1895 he was created a Knight, and in 1906 a Baronet of the United Kingdom. In the New Year's Honours list of this year he was nominated a member of the Privy Council in Ireland. He married in 1872, Mary Agnes, daughter of Dominick Edward Blake and grand-daughter of Joseph Blake, of Castlegrove, County Galway, by whom he had issue one son and three daughters.

H. H. B. writes: Dr. HUGH THOMAS SHAW died at his residence in Liverpool on July 16th, at the age of 57, from acute nephritis, which came on a few weeks after a severe attack of streptococcus tonsillitis. He retired some years ago from a very large private practice, transferring it to his partner, Dr. O'Connell. Later he became medical referee to the Royal Liver Assurance Company, and also resumed private practice. He was extremely well informed, and his deep knowledge and his sound judgement made him respected by all those who came into contact with him, while his unassuming kindness of heart, sympathy, and generosity made him loved by them. He cared nothing for social position, and held a too modest opinion of his own powers. Those of us who were proud to believe ourselves his intimate friends found that he endeared himself to us more the longer we knew him. The writer read with him for the diploma in eye surgery of the University of Liverpool, and was especially deeply impressed by his knowledge of bacteriology and the ease with which he overcame problems in physiologic optics. He was M.D., M.Ch., R.U.I., and held also the diplomas of public health, of tropical diseases, and of ophthalmology of the University of Liverpool. He was laid to rest at Yew Tree Cemetery on July 19th in the presence of a large number of his colleagues, friends, and former patients, the funeral affording impressive testimony to the great respect and affection they entertained for him.

MAJOR NICHOLAS MARDER, R.A.M.C. (retired), died at Exeter on July 10th, aged 50. He was educated at St. Bartholomew's Hospital, took the diplomas of M.R.C.S. and the L.R.C.P.Lond. in 1891, and entered the army as Surgeon-Lieutenant on July 27th, 1892, becoming Surgeon-Captain on July 27th, 1895, and Major on July 27th, 1904. He retired on July 27th, 1912, and joined the Reserve of Officers. He served on the North-West Frontier of India in 1897–98, in Tirah, and in the operations on the Samana range, receiving the frontier medal with three clasps; and in South Africa in 1899–1901, when he took part in the operations in Natal in 1899–1900, including the action at Talana and the defence of Ladysmith, and in the Orange River Colony in the second half of 1900, and gained the Queen's Medal with four clasps.

Medical News.

SIR JOHN TWEEDY, formerly President of the Royal College of Surgeons of England, has been elected President of the Medical Defence Union, in the room of Dr. Edgar Barnes, who has retired.

THE medical staff of the Central London Throat and Ear Hospital, Gray's Inn Road, will entertain American members of the Clinical Congress of Surgeons in London at breakfast at the Great Northern Railway Hotel at 9 a.m. on Thursday, July 30th, and afterwards, at 10 a.m., at a demonstration of cases at the hospital.

THE gold medal of the Royal Institute of Public Health, awarded annually to a public health medical official at home or abroad, in recognition of conspicuous services rendered to the cause of preventive medicine in the British Empire, has been conferred for the year 1914 upon Dr. James Niven, M.O.H. Manchester.

THE following Hull medical men have been made justices of the peace for the city: Dr. Frank Nicholson, Senior Physician, Hull Royal Infirmary, late president of the East Yorkshire and North Lincoln Branch of the British Medical Association; Dr. George Gautby, ex-sheriff of Hull, and Dr. C. H. Milburn, of Hull, a member of the Central Council of the British Medical Association.

WE are informed that the Life Assurance Medical Officers' Association intends to extend the scope of its work in order to include all medical questions connected with assurance. The next meeting of the association will be held in November and will be devoted to a discussion on the certification of incapacity under the National Insurance Act. The honorary secretaries are Dr. R. A. Young, 57, Harley Street, W., and Dr. Otto May, 19, Well Walk, Hampstead, N.W.

A COURSE of instruction for qualified practitioners will commence at St. Bartholomew's Hospital on Tuesday, September 8th, and conclude on Tuesday, September 22nd. Those entering for the course will be entitled to attend any part of the practice of the hospital as well as special classes, which will include clinical classes on medicine and surgery, electro-therapeutics and *x*-ray work, and diseases of children, of the eye, and the ear, throat, and nose. There will also be demonstrations of modern methods of examining the blood, the gastric contents, and cases of nerve disease, and others dealing with such subjects as vaccine treatment and modern therapeutic methods. Further information may be obtained on application to the Dean.

THE report of Colonel D. Wardrop, House Governor and Medical Superintendent of the Convalescent Home for Officers of the Navy, Army, and Marines, Osborne, for the

year ending March 31st, 1914, shows that 272 officers and the wives of 60 officers were admitted during the year. Of the 272 officers, 15 belonged to the Royal Navy. Of the officers admitted, 35 per cent. had been invalided home from tropical and subtropical countries. The recoveries among the officers numbered 206; of the remainder, 29 were improved, 13 were transferred to military hospitals, and 23 remained in the home on March 31st. One officer, who had shortly before undergone a very severe operation, died four days after admission. Various methods of physical treatment, including massage and electricity, radiant heat baths, ionic medication, and mechanical appliances, were used in 116 cases.

THE usual monthly meeting of the Executive Committee of the Medical Sickness and Accident Society took place on July 17th at 429, Strand, W.C. Dr. F. J. Allan was in the chair. The half-yearly balance sheet, which was submitted, showed that the society's reserves continue to expand. The funds amount to over £260,000, and the income of the society to over £35,000 per annum. The claim account presented was slightly lower than that of last year, and was under the expectation provided for by the tables. The report on new business showed an increase over that for the same month of the preceding year. For prospectus and all information apply to the Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

WE had occasion about a year ago to notice the reproductions made by Messrs. W. H. Beynon and Co., St. Alban's Lodge, Cheltenham, of drawings of Guy's Hospital and King's College Hospital by Mr. Hanslip Fletcher, and the same firm has now issued eight corresponding drawings of St. Bartholomew's Hospital. Those we have seen include the entrance in West Smithfield, with the tower of St. Bartholomew-the-Less, the fountain in the quadrangle, the great staircase, and the tomb of Rahere in St. Bartholomew-the-Great. All are excellent in their several ways, but especially attractive perhaps are those of the fountain and of the West Smithfield entrance; the set will certainly appeal to old St. Bartholomew's students as a charming memento of their hospital life. The subscription price for artist's signed proofs, printed on Japanese paper, with plate paper mounts, is 42s. the set.

A QUARTERLY Court of the Directors of the Society for Relief of Widows and Orphans of Medical Men, was held on July 8th, when seventeen members of the court were present. Dr. Rigden, senior vice-president present, took the chair. Nine gentlemen were elected members of the society. The sum of £1,890 was voted for the payment of the half-yearly grants to the widows and orphans. At the present time there are 45 widows and 13 orphans in receipt of grants. The invested funds of the society now amount to £139,500. Membership is open to any registered medical practitioner who at the time of his election is resident within a 20-mile radius of Charing Cross. The annual subscription is 2 guineas; the terms for life-membership vary with the age of the member. Relief is only granted to the widows and orphans of deceased members. Since the last court five letters had been received from widows of medical men asking for relief, but this had to be refused as their husbands had not been members of the society. Further particulars and application forms for membership may be obtained from the Secretary, at the offices, of the Society, 11, Chandos Street Square, W.

THE annual meeting of the Society for the State Registration of Trained Nurses was held at the rooms of the Medical Society of London on July 16th, Mrs. Bedford Fenwick, the President, in the chair. A resolution was passed in support of the memorial recently presented to the Prime Minister by Dr. W. A. Chapple, M.P., on behalf of the Central Committee for the State Registration of Nurses, urging the Government to grant facilities for the Nurses' Registration Bill which passed its first reading by a majority of 228 on March 3rd last. During the meeting a message was received from Dr. Chapple, stating that the Home Secretary had consented to receive a deputation from the society. A resolution was also carried, pointing out that "under the National Insurance Act the qualifications of medical practitioners and midwives attending insured persons are registered under State authority," and urging that nurses subsidized by State funds should be similarly guaranteed. Sir Victor Horsley addressed the meeting on the registration question, and said the movement did not aim at the selfish aggrandizement of nurses, but had in view the benefit of the public. Whilst the very poor obtained the best of nursing in public institutions, those in moderate circumstances had no security that they would receive trained nursing aid.

Letters, Notes, and Answers.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ASTHMA desires to hear of a public school within thirty miles of London suitable for a boy of fifteen suffering from asthma.

DOCTOR HURRYING TO AN ACCIDENT.

DR. EDWARD JEPSON (Ruislip) writes: A short time ago I was hastily summoned to a serious accident; I availed myself of the nearest vehicle at hand, and the man drove the horse as fast as he could, but we happened to meet a motor, which must assert a sort of precedence, and did not make way, and so stopped me in my hurried course, thereby causing me to lose some minutes of very valuable time. I ask if we cannot establish some signal whereby a doctor in a vehicle or motor shall secure a free course before him. I would suggest that the waving of a handkerchief should be accepted as a signal on those occasions. The police, on being properly instructed, would, no doubt, gladly accept this as a signal to be regarded, and make a clear course for a doctor hurrying to an accident, or where medical aid is urgently needed. In the case of a wrong use of the signal a penalty should be inflicted.

ANSWERS.

THE FLY NUISANCE.

DR. J. N. TURNBULL (United Free Church Mission, Bhandara, C. P., India) writes: With regard to the fly nuisance (BRITISH MEDICAL JOURNAL, June 13th, p. 1330), received here by last mail, you may have heard of many formulae containing formalin. The following one, which hails from America, was reproduced in the *Indian Medical Gazette* in August, 1912. It is: Formalin, 1 fluid oz.; Milk, water, of each 8 fluid ozs. This mixture is to be placed in five or six shallow plates, with a piece of bread in the centre of each on which the flies can alight and feed. My experience has been that this method is very efficacious, the flies falling dead a few seconds after drinking.

LETTERS, NOTES, ETC.

A DISCLAIMER.

MR. W. THELWALL THOMAS (Liverpool) writes to disclaim any responsibility for an article in a Blackpool newspaper with reference to a case of a bullet wound admitted to the Blackpool Victoria Hospital. The article appeared, he informs us, without his knowledge, and is an exaggerated and highly-coloured account of a consultation he attended at the hospital.

FLIES AND AËRATED WATERS IN STOPPERED BOTTLES.

A MEDICAL OFFICER OF HEALTH writes: The other day I sent for a bottle of lemonade and noticed all around the mouth of the stoppered bottle evidence of filth deposited there by flies. It is clear that the flies had been attracted by the remaining saccharine matter. This would, of course, also apply to the mouths of siphons. I write this letter in order that some inventive genius may bring forward a stopper—a simple matter—which will cover, as a shield, the aperture of the bottle and prevent flies depositing their filth there. A paper cover over the stopper could be used for bottles, as in the case of a well-known brand of bottled beer, and a small metal shield or cap, with chain, for syphons. It must be patent to every one that if some protection is not made, when the fluid is poured out of the bottle or syphon, the filth of the flies must become mixed with it.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

President's Address

DELIVERED AT THE

EIGHTY-SECOND ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION

BY

SIR ALEXANDER OGSTON, M.D., K.C.V.O.,

EMERITUS REGIUS PROFESSOR OF SURGERY IN THE UNIVERSITY OF ABERDEEN.

ON THE MAKING OF A SCOTTISH MEDICAL SCHOOL.

My first word to-day from the presidential chair must be to wish the members of the British Medical Association a very cordial welcome to this city, and at the same time to offer them my thanks for electing me to this honourable position.

It is a frequent custom for whoever presides at the Annual Meeting of the Association to open the proceedings by an address dealing with the progress that medical science has made in the year that has just terminated, or on some kindred topic; but I may perhaps be excused for departing from this custom, particularly since those who, like myself, have withdrawn for several years from the ranks of investigators, and fallen out of touch with the medical problems and questions of the day, quickly lose the knowledge requisite for treading in this path.

It may, however, add much to the interest and profit of your stay in Aberdeen if I venture to draw your attention to the city and neighbourhood which you have come to visit, and tell you something of their history in so far as it led to the establishment of what is said to be the oldest Faculty of Medicine in any university in Great Britain or Ireland. For while our town and district may appeal to those who love the beautiful by their physical attractions; and their inhabitants interest anthropologists, philologists, and students of character, as exhibiting a highly successful amalgamation of many races; yet their history is chiefly that which, were it properly told, should touch a responsive chord in Englishman and Scot alike.

A word in the first place as to the inhabitants. The earliest race of whom we possess anything that can be called knowledge was a Celtic stock, as was also the case in England, and down to the time of the Roman conquest of Britain they were the undisturbed possessors of these, the north-eastern counties of Scotland. Though they have left their language in the names of the localities along the sea coasts, they were not a maritime race, but placed their settlements far inland, and evidently neither loved the sea nor made use of it as a regular means of trading or procuring supplies of food. So far as these earlier generations belong to the age of prehistory, they have left behind them, in this part of Scotland, a large number of structures of various kinds, such, for instance, as the so-called "Druidical" circles, and especially, on the higher hills, mountain forts of a magnificent character, exceeding in number, antiquity, and perfection anything that exists in any other country except perhaps Ireland. A full interpretation of the meaning of these constructions has not yet been attained to; and those who have antiquarian interests ought not to miss the present opportunity of inspecting them.

Except for place-names, the Celtic language has died out as a living tongue in this vicinity; but the personal type of the Celt is still strong among us. From personal observation of the students attending our university, I should incline to estimate that 7 per cent. of the population still exhibits a tolerably pure Celtic type.

From days earlier than can well be dated, however, other and non-Celtic immigrants, maritime in their tastes, crept gradually along our coasts, coming mainly from the north and east, and did not so much dispossess the Celts as settle along the less occupied shores, which the latter did not covet; there they practised the art of fishing, finding abundant reward in doing so, and were the main channels through which elementary trade began. They were the introducers of the Lowland Scots tongue, and were partly Scandinavians, partly Teutons and Saxons. Their physical difference from the Celts can still be readily observed among the inhabitants of our coastal villages and hamlets. The newcomers gradually fused with, and no doubt in some cases dispossessed the Celts, who were mostly hunters, and introduced better methods of agriculture into the country. In this manner, by the amalgamation of these stocks, the people and speech of this part of the kingdom of Scotland were formed, and Aberdeen eventually came to be their chief town.

The Times in which the University and Medical School were Established.

If you will now take a long step of a thousand years or so, forwards into historical times, during which interval the autochthones and immigrants had amalgamated into a harmonious whole, and progress in the arts and industries been made, a progress due chiefly to the increasing numbers of the settlers along the sea coasts, it will bring us to the time to which I wish specially to invite your attention, the latter part of the fifteenth century, which was not only one of the most interesting periods in the history of Scotland, but also the epoch in which are found the earliest beginnings of organized medical tuition in Great Britain.

At that date, towards the year 1500, the wars of York and Lancaster, after lasting half a century, were drawing to a close in England, and, surprising as it may seem to us, owing to the very indirect connexion, it was indeed partly due to these Wars of the Roses that the earliest of all the British schools of medicine was established in our city. It came about in this wise.

When there was turmoil in England, Scotland could never be quiet. England's difficulties were the opportunity of France, and France was perpetually requisitioning the help of Scotland. Consequently, in the entire period of 170 years preceding 1500, Scotland, although she may have had an occasional moment of imperfectly-kept truce with England, had virtually been uninterruptedly at open war with the latter kingdom, and therefore never enjoyed the quiet necessary for developing the arts that thrive only in time of peace. But the impulse to do so was felt only the more keenly for its repression, and acted the more powerfully when the restraint was removed. There were many directions, as we shall presently find, in which these wars affected Scotland, and indirectly brought about the foundation of our university and school of medicine; but, before dealing with them in detail, it may be advantageous to pause for a moment and endeavour to trace the condition of Scotland at that time.

The few accounts that have come down to us of the state of our country in the latter half of the fifteenth century vary according to the prepossessions of their authors, but suffice to show that while Scotland was not altogether destitute of products which she could advantageously barter with the rest of the world, she was so exceedingly wealthy in fighting men and a warlike spirit, that ambassadors and diplomatists were continually streaming to her Court from the Continental Powers or across the borders from England, with the mission either to incite the Scots to make war or induce them to make peace. Several of these emissaries, in their written reports to those who sent them, have left interesting narratives of the condition in which they found the country. A Spaniard, for example, called Don Pedro de Ayala, gave a business-like account of the trade and commerce which he found there about the year 1498; while an Englishman, John Harding by name, who was sent to spy out our nakedness (it is said about 1460, but from his mentioning the university here, we think possibly forty years later) has left behind him a minute and detailed statement in rhyme of the different parts of Scotland, how it could best be invaded by the English, and its several provinces be destroyed in succession.

From these and other similar writers it may be discovered that, at the date of which we speak, the greater part of our country was a cold, treeless, barren moorland, where intersecting mountains and arms of the sea impeded development by interposing barriers insuperable except to the few whom necessity compelled to traverse them at much risk and discomfort. Where, however, there was a good harbour, or the mouth of a river, there had sprung up little towns which drove a trade with the Continent and England in fish, furs, hides, wool, and similar produce. All these places were as yet but small; St. Andrews, perhaps, was the largest; but there was no recognized

capital; and possibly the then citizens of Edinburgh would have been astonished had it been foretold them that their town was destined to be the future metropolis of Scotland. Around these towns the land was cultivated, and sheep were generally pastured; while the harbours served as centres for the distribution of Continental produce. Yet, taken as a whole, the commerce was by no means great, for all the customs of the kingdom were not worth more than £3,000 a year. That figure gives us a measure of the poverty of Scotland.

Regarding the roads, one may gather that probably the eastern Roman road of northern England was connected in Scotland with that which led by Berwick and the Lothians to Edinburgh and Stirling, extending to Perth, and even, after a fashion, on to Aberdeen; but as the condition in which they were was of the worst, most of the northern traffic that existed was sea-borne; and even anywhere it was a toilsome enterprise, and one not lightly to be undertaken, for even a wealthy traveller to proceed from one part of Scotland to another by land.

The Condition of Aberdeen in 1490.

Could we cast an eye backwards on our city, and describe what it was like in those days, as we may suppose it would have impressed a stranger who had elected to come to it by land, we should find that he could reach it only by undertaking a weary ride of twenty miles or more, probably from Bervie, where he might have passed the night, and his way would have lain over uninhabited moors by rough hill-tracks, until he reached a ford of the river Dee a couple of miles or so above the town. There he might have forded the river if the water had been low; possibly he might have been ferried across; but not improbably he and his horses might have had to wait for days till the river had subsided. As he neared the town after overcoming this and minor obstacles, his path would have led him to the valley where the railway station at which you arrived now stands, where the ground was then a quagmire, partly covered with mud and seaweed, and partly a reedy expanse where the wild-fowl bred in summer; while where the railway runs northwards under Union Street Bridge he would have had to ford a stream which the salmon ascended in order to reach a loch, now no longer in existence, on the eastern side of the present Infirmary, while a few crofts would have been visible fringing the left bank of the stream.

On the western side of the stream, where the music hall in which we are assembled now stands, there were no houses, but there stretched out for many miles a great moor, nearly devoid of trees, with here and there some of those pillar-like upright stones (erected by a forgotten race of menhir-worshippers), such as the "Lang Stane" and the "Crab Stane"; it was a hunting ground, a camping place for the kilted Highlanders and others when they approached the town for spoil or more peaceful objects, and on it more than one battle was also fought.

Where spacious docks now accommodate our shipping, the river Dee then ran; a tidal stream, with channels winding about among numerous islands which were nearly covered by the sea at high tides; and on the northern bank of the Dee was the small town of Aberdeen, of 1,500 or perhaps 2,000 inhabitants, who carried on their Continental trade in ships of 20 or 40 tons burden, and were many of them occupied in the capture of the large quantities of salmon and herring, which even in those days formed a considerable part of their trade with the rest of the world. This was the infant stage of the huge fishing industry which now adds so much to the prosperity of the town, but it was a sturdy infant, for between 50,000 and 100,000 salmon alone were yearly caught, and mostly cured and exported; though that may seem small in comparison with the 200 to 1,000 tons of fish now daily landed here preparatory to being sent away to many parts of the world.

The population of the town was indeed but small; probably no more than one or two hundred fighting men could have been mustered; it has never been a really fortified city or a place of great strength, and was, therefore, frequently taken and retaken in the wars that preceded and followed the period which we are considering.

Though far from being large, yet Aberdeen was then one of the five chief towns of the kingdom, for Cosmo Innes, in his preface to Parson Gordon's *Description of both Towns of Aberdeen*, tells us that "long before Edinburgh had acquired the precedency of a capital, or even the first place among the four burghs of Southern Scotland—while Glasgow was yet an insignificant dependent on its Bishop—Aberdeen had taken its place as a great and independent royal burgh"; and John Major, who wrote his *Historia Majoris Britanniae* a year or two after 1495, testifies that "ea tempestate Aberdonia Scotorum erat regia"; so that our burgh, had it not been for its remote situation, was in the running for being the metropolis of Scotland. It was not till about 1503 that Edinburgh was recognized as occupying that position.

The town, lying on the slope of the hill, extending from the shore upwards to where Marischal College now is, or a little farther, presented many signs of prosperity in its own way. Small ships were being loaded for Continental ports; fishermen, in small boats came and went with their cargoes of fish; and boats and nets were plying for the capture of salmon both on the river and on the loch which, as we said, lay in what is now the northern centre of the town. It was even then a place which pleased strangers. Kings resided and Parliaments were held in it. Parson Gordon of course praised his own town; "The citie of Aberdeen," he wrote, "exceeds not onlie the rest of the touns of the north of Scotland, bot lykewayes any citie quhatsumever of that same latitude, for greatness, bewtie, and frequencie of trading"; but even a foreign traveller like Jean de Beaugue said in 1548 that "Aberdeen is a rich and handsome town, inhabited by excellent people."

Our independent little burgh had a fair chance of prospering, for it possessed a good many advantages to counterbalance its remote situation. The harbour, though only a second class one, has always been a most valuable asset, and the fishing trade which then flourished there has now so grown as to have become one of the sights of the world. But even four centuries ago the harbour was, in the words of Gordon and de Beaugue, very easy and safe for ships to make, were it not for its entrance, which is narrow. The trade consisted of salmon, herring, woollen goods, linen, stockings, skins, and hides, and all that the country yielded, to quote the Parson once more, and the traffic in his day was, as it still is, with "Norroway, Swethland, Denmark, Pole, Germany, Holland, Flanders, France, Spayne, and England." Moreover, owing to its having been, as early as the ninth century, made a royal burgh by Gregory, King of Scots, all the market towns, villages, and hamlets which were in the neighbouring shires, exceptiug the other royal burghs, were so far subject to it that they could trade neither by sea nor land without its licence.

Though the picture thus drawn of our city by contemporary writers in and before 1500 shows that it contained many elements of future prosperity, yet it is plain that the tints they used ought not to have been altogether rose-coloured. Though the sides of the roads leading out of the city exhibited fruitful fields and good pastures, yet everywhere beyond a mile from the town the country was barren, with stony hills or extensive plains full of marshes and mosses, interspersed with moors covered with heather or expanses of stony, unprofitable ground; and, moreover, we learn that in 1482, just before the time we are concerned with, "There was great dearth and hunger in Scotland which continued for two years and more, while also there was great war between England and Scotland and great destruction through the wars of corn and cattle. And these two things caused both hunger and dearth, and many poor folk died of hunger." The country, too, was full of a debased currency, which added enormously to the general distress.

The State of Culture and Education in Aberdeen.

Turning from the material to the intellectual aspect of things, there can be no doubt that the oasis of the city was so isolated by the surrounding desolation and its great inaccessibility that it had more than its share of the rudeness and illiteracy of the rest of Scotland; we find that this was recognized by the older historians, while the contemporary sources of information tell the same tale. When writing of this period Cosmo Innes says: "It is not easy to overstate the physical and ethnical impediments to education in the Highlands and Isles of Scotland"; and Pope Alexander VI (otherwise Rodrigo Borgia, father

of Caesar and Lucretia Borgia), in his Bull regarding the foundation of the university, uses the following terms concerning our district at the very time of which we are treating: "In the Boreal and northerly parts of the kingdom of Scotland there are certain places so distant from other parts and so cut off by arms of the sea and the highest mountains, wherein live rude and illiterate men, almost savages, and who on account of their great distance from spots where there are schools of learning find it dangerous to travel to where letters are studied, who, moreover, are so ignorant of learning that persons cannot even be found capable of reading the word of God, preaching, or administering the sacraments."

While one must fully admit that the state of affairs existing in Aberdeen warranted such statements, yet it should not be overlooked that the character of its inhabitants, who were a mixture of the finest and most energetic races, as we may without boasting claim them to have been, was not one to have passively submitted to such ignorance without efforts to remedy it. Pope Alexander expressly admits this: "Si in inclita civitate veteri Aberdonensi, que locis predictis satis vicina est, vigeret generale Studium literarum, . . . quamplures homines ipsius regni et precipue partium illarum, tam ecclesiastici quam laici, literarum studio libenter intenderent" (if in the town of Old Aberdeen, which is in the immediate neighbourhood of such places as the aforesaid, a university of letters were carried on . . . many inhabitants of the kingdom of Scotland, and particularly in that neighbourhood, ecclesiastics as well as laymen, would gladly avail themselves of the opportunity of cultivating such literary studies).

There is no lack of corroborative evidence that the Pope had been correctly informed of the Aberdonians' eagerness to learn, and that they had a taste for letters; for without pretending that the pre-university tuition could have amounted to much, we have the notable fact, of which the city is justly proud, that there was a Grammar School in Aberdeen in 1262, and more or less continuously ever since. Even a hundred years before the date of which we speak it was under the management of the magistrates, community of the burgh, and the Chancellor of the diocese; while the interest which our city took in schools at the time we are describing is shown by the King, acting under influences which, as will be mentioned later, emanated from Aberdeen, having in 1496 passed a law for Scotland "That all barons and freeholders were to send their eldest sons to the schools from the time they were eight or nine years old. At the Grammar Schools, says the Act, they were to remain till they had acquired perfect Latin. They were then to proceed to the schools of art and law, where a curriculum of three years would qualify them to administer law and justice to the parts of the country where they belonged, so that the poor 'should have no need to seek our sovereign Lord's principal Auditors for each small injury'" (Hume Brown).

It is rather wonderful to think how much natural appreciation of literature existed in Aberdeen in those days. Long before 1500 there had been in it poets of no small merit, who composed their verses in the Scots tongue, though fragments only of their works have as a rule come down to us, and some 120 years previous to that date John Barbour, Archdeacon of Aberdeen, a contemporary of Chaucer, had written (in 1377) a poetical history of the Bruce, as well as other poems, all in the Scots vernacular. It is not possible to conceive that a cultured cleric like Barbour would have been the author of works in the ancient Scottish language unless he had had a large and appreciative audience to address; and it is evident that such had existed for centuries in Scotland, as well as in Aberdeen, for writers elsewhere used the same speech, and besides many poets who flourished about 1500. Wynton's "Chronicle," or History of Scotland, written in Scottish verse by a monk of St. Andrews, was composed about 1400, a date not very much later than Barbour.

Such, then, was the educational state of this part of the world. Its people had a natural love of letters, cherished their vernacular poetry, did what was in their power to maintain education in their midst, and were ripe for further enlightenment when it could be obtained.

The Advent and Character of Bishop Elphinstone.

Some time about the year 1483 there came to Aberdeen, in all probability by land, one who was destined to be its greatest benefactor, William Elphinstone, who had just been nominated to the bishopric of the diocese. It is difficult to reconcile the dates given by his biographers, but it must have been within a year or two of that time, and Elphinstone was a man approaching 60 years of age, when the churchmen, nobles, and citizens alike went out in procession, with music, to meet him and do honour on the occasion to one whose advent they had greatly desired.

We possess a portrait of him in King's College in Old Aberdeen, which shows, I think, that he was a person of not more than medium height, with a sweet benevolent expression of face; his features indicating that he was a healthy man who had led a temperate life, and being unmarked by any lines that point, as do so many portraits of Scots of that period, to hardness or unscrupulousness, but showing thoughtfulness, earnestness, and goodness; altogether a beautiful character, in every respect coinciding with what we otherwise know of him. If one were to judge from the portrait alone, one would perhaps rather rank him among dreamers and visionaries, than among men of affairs.

Before he came to Aberdeen as its Bishop, Elphinstone had already occupied a post of high preferment in the diocese of Glasgow, and those were days which soon tested the characters of men, particularly of such as held high positions in the Church, both in England and Scotland. The ancient Church was being threatened, and the seeds of heresy were springing up in both countries. The "New Learning," as it was termed, was teaching men everywhere to think for themselves regarding religious matters, and Scotland was notoriously a bad place for churchmen if the laity were to think independently and to criticise them, for "there was no Christian country where ecclesiastical scandals had been more flagrant than in Scotland," and according to all historians that century "was marked by a rapid declension both in the morals of the clergy and the government of the Church. By the sale of benefices and the appointment of unfit persons to important offices even the King and his courtiers were giving abundant proof that the good of religion was not very near their heart" (Hume Brown). Hence the ecclesiastical dignitaries had found it expedient, in the beginning of the century, to burn the free-thinking James Resby at Perth, and only three years before Elphinstone was born the Bohemian envoy Paul Craw was also burnt at the stake for his doctrines. Moreover, at the very date we speak of, the thirty "Lollards of Kyle" were already giving trouble, and a year or two later were to be arraigned before King James and Archbishop Blackadder of Glasgow on the charge of heresy, and probably they would have been burnt too had not the good-natured King turned the whole matter into a jest. It was indeed a thorny problem for the priesthood how to deal with such disturbing opinions, and it is greatly to the honour of Bishop Elphinstone that he sought what he believed to be the more excellent way to encounter heresy than by an *auto da fé*. His very portrait tells that he was not the material of which his contemporary Torquemada was made.

In more than spiritual matters Elphinstone appears to have kept his conscience clear. At that particular time in the history of Scotland (and it was the same, though perhaps to a less degree, in England) the clergy had attained to a power and influence which they did not enjoy to quite the same extent at any subsequent period. This was greatly due to the civil wars in England—the Wars of the Roses—and war in England was a galley in which Scotland must needs always pull an oar. Their exigencies called for the employment of numbers of skilled jurists to act as negotiators, experienced diplomatists, and ambassadors to foreign countries, who must also be linguists, to carry on the negotiations between nations and arrange their treaties. This work fell mainly on the churchmen, who were almost the only persons possessed of real education, skill in documents and legal questions, and the gift of tongues. In such positions their power became very great. Thus, in the Scots Parliament of 1478, out of thirty-nine real members—for the extra commissioners of burghs, fourteen in number, had no influence at all—there were sixteen ecclesiastics, not

much less than one half of its working body. Again, during the first five years of James III's minority, that is from 1460 onwards, the good Bishop Kennedy of St. Andrews was the main administrator, and carried on the government of the country well and successfully; and when the King was being kept in ward in Edinburgh Castle in 1482, his government was carried on by five persons, two of whom were the Archbishop of St. Andrews and the Bishop of Dunkeld. Similarly, previous to the battle of Sauchieburn, wherein he lost his life, the same King James sent six envoys to negotiate with his rebellious son and nobles, and one of them was a cleric, no other than our Bishop Elphinstone; while of the five negotiators on the opposite side the Bishop of Glasgow was one. This was in 1488. Lastly, in Anglo-Scottish affairs, Bishop Fox of Durham was chosen by Henry VII of England to arrange the marriage of his daughter Margaret with James IV of Scotland. A host of such examples might be cited.

The temptation to use such positions for their own temporal interests was too much for the integrity of many of the churchmen, and they acquired riches by means that were highly questionable. The most shameful Scottish cleric was Andrew Forman, Bishop of Moray, whose name is still vile in his countrymen's ears; for when he acted as James IV's ambassador to congratulate Henry VIII of England on his accession to the throne and at the same time negotiate treaties of peace; also when in 1511 he went again to the English Court to make peace; and when for the third time in 1513 he went back there for the same purpose; he accepted rich ecclesiastical preferment from England, and was the cause of that fatal battle of Flodden Field where Scotland's King was slain and Scotland's nobility almost exterminated. He appears to have had his pockets open to every purchaser, for when he was dispatched to France in order to tell how affairs in Scotland stood, he came back Archbishop of Bourges, for which substantial honour he no doubt gave an equivalent. He was a man of whom the historian Hume Brown, in words which are mild enough, says, "A counsellor in James's later years was Forman, Bishop of Moray, whose promptings emphasized the weakest sides of his nature, and involved him in a policy which had such a tragic result for himself and his country." Forman's prosperity in Scotland received no check, for the Pope made him Archbishop of St. Andrews before he died.

Elphinstone's History.

Elphinstone was a man of a very different character from Forman, and it was not from want of opportunities to enrich himself that he came a comparatively poor man to Aberdeen in 1483, since four years previously he had been marked out for preferment in being sent by the King on a mission to Louis XI of France, and in the preceding year had been ambassador to Edward IV of England.

James III appreciated Elphinstone's abilities and honourable nature; created him a Privy Councillor in the same year as he received his bishopric; twice afterwards—in 1484 and 1485–6—sent him on embassies to England; and appointed him Lord High Chancellor of Scotland in 1488. Loyally in return Elphinstone served his master James III, a difficult service in which he yet secured the esteem of all; and it is one of the finest possible testimonies to the respect and trust which he inspired, that although he had at the battle of Sauchieburn been in the camp opposed to the succeeding King, James IV, and also in spite of the fact that it was in the bishop's own diocese that the turbulent Aberdeenshire men had, the next year after Sauchieburn, risen in rebellion, exhibiting as their banner James III's blood-stained shirt, yet the new King almost at once received him into favour, made him ambassador to France in 1493, and gave him the office of Lord Privy Seal, which he held from three years after Sauchieburn until his death. Our local records tell the same tale of how Elphinstone was esteemed by his opponents; for prominent among those who helped him by their donations to found his university were some of those very landholders who had been in the ranks of his enemies at the battle of Sauchieburn.

To the new King also he gave wise and faithful counsel, and there can be little doubt that it was he who inspired that monarch to pass the Act to which reference has already been made for the better education of the eldest sons of barons and freeholders. It will be remembered that the Act included compulsory Latin instruction from nine years onwards, and thereafter a three years' curriculum in a school of art and law, which is in fact the curriculum of a university. The inference is unavoidable that this legal definition of what a lad ought to study, dated in 1496, coupled with Elphinstone's being at work planning the machinery of his university in that same year, and also then holding the office of Lord Privy Seal, almost certainly earmarks the legislative measure as having originated with the bishop. If we are correct in drawing this conclusion, it follows that to Elphinstone belongs the credit of having anticipated, by several hundred years, the introduction by the State of the principle of compulsory education, which first appeared in England in the Education Act of 1870; in Scotland in that of 1872; and in France in 1882. Even before these dates, however, some of the burghs and town councils of Scotland had tried to give effect to the principle which he had been the means of first placing on a British statute book.

Such were the personality and character of the new prelate. He was, it is true, only the illegitimate son of a canon of Glasgow, but he had taken the degree of Master of Arts in its university; had studied in the University of Paris and there taken the degree of Doctor of Decrees; had been lecturer in Orleans and Rector of Glasgow University; and had proved himself a ripe scholar and experienced politician. He was, in fact, one of the foremost statesmen as well as one of the finest characters of his day, and is well summed up in the words of the *Dictionary of National Biography*: "Elphinstone was at once the foremost churchman and statesman of his time in Scotland; his pre-eminence in wisdom, learning, benevolence, and generosity has never been questioned, nor his name mentioned except in terms of high praise."

Elphinstone's Reception in Aberdeen.

Some people are of opinion that the better the Aberdonians are known the more they are found worthy of respect and even liking; although this opinion is not universally held, and "the sainted Samuel Rutherford," who was banished for two years to Aberdeen on account of his treason, while acknowledging that the citizens were kind to him, has put it on record that they were "dry, cold, and general," and that in 1637 there were only two pious persons in the town. However this may be, one good quality at least they may claim, that they know how to esteem men of ability and honour who come amongst them; and though some coolness is said to have existed in those days between the Church and the city, they received the good bishop so warmly that thenceforth he devoted the best part of his time and thoughts to planning and promoting their interests and those of their town.

It is probable that he found the strangeness of the northern city mitigated from the first by ties of relationship; for his family seems to have belonged to those Elphinstones who were lords of Kildrummy in Strathdon. At all events, he was soon at home with the people and their wants. He appreciated with the insight of a great administrator the possibilities of the place, and foresaw future greatness for it, not as a factor in war, which to ordinary minds would have seemed most imperative in those days of trouble, but in the development of commerce and culture. On his decision to promote the latter depended much of the subsequent eminence of Aberdeen, and Elphinstone went to the very root of this matter, as only a man of the most uncommon foresight could have done.

As a question of necessity his first care was to regulate the condition of his diocese. The shocking condition into which the Ancient Scottish Church had fallen in those days has already been intimated; and from various sources it may be discerned that it took the bishop five or ten years to restore it to proper order; while the thoroughness with which the task was accomplished is shown by the absence of scandals which local history reveals for many decades, one may even say for centuries afterwards. One is sometimes inclined to think that Elphinstone's spirit still survives among the various religious bodies here, for any bitterness that a layman observes in their relations seems to be invariably stirred up by some stormy petrel from elsewhere.

While he was engaged upon Church reforms, however, it is clear that Elphinstone was also considering his other benefits to the city, for when his schemes regarding them came to be produced, they all bore the stamp of long and careful consideration and ripe planning.

In all things Elphinstone was a contrast to most of the other Scottish prelates of his time, with the exception of his senior, Bishop Kennedy of St. Andrews, who had now been dead for twenty years, but whom he must have known well, and possibly taken for his model. It is pleasing to think that he was happier in his remote diocese, with no one to envy him, than Kennedy and his successors were in the more central see, for he is known to have refused the offer of the Archbishopric of St. Andrews.

Elphinstone's Schemes.

Elphinstone's principal schemes for the benefit of Aberdeen were three in number, and we shall take them in our own order, not chronologically. They were — the restoration of the cathedral; the provision of a good and practicable access to the city by land; and the foundation of a university. We, who witness the results of his designs, which to him can have been only dimly viewed in the future, can best appreciate the wisdom of the man who, though a churchman, devoted less attention to the first of these than to the latter two, or at least seems to have assigned to it but a secondary importance.

Cathedral.—The financing of his schemes must have caused Elphinstone much consideration; he himself was a poor man, and at this time poverty was sore in Scotland; indeed, the best that could have been said for the prospects of his carrying out his plans was that, provided there were no further famine, although money might locally be scarce, other things would be plentiful enough (Estienne Perlin). A choice of priority had, however, to be made among them, and accordingly he first built the great steeple or tower of the Cathedral of Old Aberdeen (long since fallen), placed in it a large peal of bells, covered the steeple and Cathedral roof with lead, and left the work on the rest of the edifice to be completed by his successor, Bishop Dunbar. All Elphinstone's labours on the Old Town Cathedral have long since disappeared, but his other benefits to Aberdeen still remain.

The Old Bridge of Dee.—Next, as to his second scheme. When Elphinstone arrived in Aberdeen access from the south by land could be obtained only by a difficult and often impassable ford across the river Dee, just above the town, or by other similar fords up the river towards the west. It is said that once previously there had been a sort of bridge over the river, but if this had been the case it had long ago disappeared. It is to Bishop Elphinstone that we owe the beautiful Old Bridge of Dee, two miles up the river, though now reached in a few minutes by the tramway, which long remained the only, and still forms the chief, means of approach to the city for southern road traffic; and, although he did not live to see it finished, he collected the materials and bequeathed a large sum of money for it to his successor and executor, Bishop Dunbar, by whom it was supervised and completed in 1527. It deserves the quaint encomium it received from Parson Gordon 150 years later: "Two mylls from Aberdeene, towards the south-west, standeth the bridge of Dee. It hes 8 pyks and 7 arches, the greatest and brawest bridge now to be seen in Scotland, built at first at the cost of William Elphingstoune, bishope of Aberdeen, about the yeer 1518."

King's College and University of Old Aberdeen.

There are few beyond our walls who realize how magnificent a gift Elphinstone bestowed on Aberdeen and the North of Scotland when he founded our university, and there are still fewer who appreciate the wisdom he displayed in its organization.

The bishop lived in an era of intellectual restlessness. From Italy and Germany, as we know, the "New Learning" was spreading, and altered ideas of morals and religion were being accepted in England and Scotland as the Middle Ages gave place to the Renaissance, but all that must have been familiar to Elphinstone, and caused him and the other prelates of the Ancient Scottish Church much disquietude. The appropriate remedy was to be sought, so he believed, in a wider development of learning and the better instruction of the priesthood of his church, while if these objects were to be carried into effect the only possible means were the establishment of a "Studium Generale," or, in modern phrase, a university. Eighty years previously Bishop Wardlaw had been the means of founding such a place of study in St. Andrews, where it proved successful; while thirty-seven years after that Bishop Turnbull (or, according to Boece, Bishop Dursdeir) had done a similar service for Glasgow, where it had been less satisfactory. In the latter university Elphinstone himself had been a graduate in Arts as well as Rector, and he therefore possessed the knowledge requisite to avoid the errors which had caused it to be a comparative failure. His father, moreover, was in Glasgow University the Dean of the Arts Faculty, so we perceive that, besides being well versed in the methods of working such institutions, and familiar with the benefits to be derived from them, Elphinstone possessed a hereditary attachment to them, a force not to be overlooked in the consideration of his mental operations.

It was fortunate for the bishop's design that he stood high in the confidence and esteem of the King of Scotland. As Lord Privy Seal he participated in his sovereign's most intimate counsels; and to understand the import of this connexion, it is necessary to know something of the monarch, King James IV, who then occupied the throne.

King James IV.

James was one of the ablest, most brilliant, and most picturesque of the Scottish kings, and though his memory is darkened by his faults, and by the calamity which, through the influence of unwise advisers, against Elphinstone's counsels, and at the cost of his own life and that of almost his whole nobility, he brought on his country by the fatal battle of Flodden, yet he is still dear in fact and fiction to the inhabitants of Scotland. James was a most active and energetic administrator, and was the first Scottish King who fairly faced the rebellious and turbulent Highland tribes, penetrated with his forces into the fastnesses of the clans, reduced them to such order that his mandate ran throughout all Scotland, and ruled so effectively and wisely that those Highland warriors were among the bravest troops who followed him to Flodden. During his reign "Scotland increased her resources and her prosperity to a degree greater than at any former period of her history . . . and his nobles, who had caused such trouble to preceding kings, were content to be his servants and counsellors" (Hume Brown). With a wisdom which was much in advance of his contemporaries, he strove to strengthen Scotland, which though very formidable on land was weak at sea, by the creation of a powerful navy. The English fleet regularly harried the commerce and coast of Scotland, and seven years before the commencement of his reign the English, under Lord Howard, had carried off eight large vessels, probably the whole Scottish navy, from the Frith of Forth; and James set himself to repair the loss by bringing trained shipwrights over from France and importing wood for building vessels from that country and Denmark, owing to the wood in Scotland, which was never abundant, being soon exhausted. By the conclusion of his reign he had so far succeeded in his purpose that in 1502 he was able to send two ships and 2,000 men to the aid of his uncle, the King of Denmark, and in 1513 another fleet to the assistance of France.

James's right-hand man in forming his fleet was Sir Andrew Wood of Largo, the Scottish Sir Richard Grenville, who with only two ships made prizes of five English vessels which were working havoc among the shipping in the Frith of Forth, and in the same year (1489) after a sea fight that lasted for two days, and was waged along the coast from St. Abb's Head to opposite Dundee, defeated and captured Stephen Bull and his three English ships, by means of the same two vessels, and brought his captures into that port. Wood was a trader as well as a naval commander, and not above a little piracy at times, but he was a gallant man, and no worse than other sailors of the period. Naval warfare was a rough trade in those days: another commander of James's, Andrew Barton, being commissioned to effect reprisals on the Dutch who had been pillaging the Scottish merchants, sent the King home certain casks with the heads of the Hollanders whom he had slain, after taking many ships. Scotland's naval strength was

eventually so much augmented by James, that a mere letter from him sufficed to bring to reason the magistrates of Dantzig, who had been dealing hardly with Scottish traders to the Baltic.

For peaceful as well as warlike objects James IV fostered the building of ships, and passed a law for the benefit of the fisheries, ordaining that all towns should construct boats of not less than 22 tons burden, and compulsorily man them with all their waifs and idle men, for the prosecution of that industry.

These instances of James's energy and forsight must suffice; but it has also to be borne in mind that he was fully alive to the value of learning. He introduced printing into Scotland; he himself spoke five Continental languages, besides Latin, and in addition "the language of the savages who live in some parts of Scotland and on the islands," as we are told by Ayala. In bringing up his talented natural son Alexander Stewart, he also showed his appreciation of study by having him well taught by his own secretary, Patrick Panter, before sending the lad abroad to finish his education under Erasmus of Rotterdam.

Perhaps the less said about James's morals the better; but he evidenced so much interest in ecclesiastical matters that in 1507 he received from Pope Julius II the title of "Protector of the Christian Religion."

The Charters of the University.—There could hardly have been a ruler to whom the bishop might have applied with more hope of finding sympathy with his plans for the intellectual improvement of Aberdeen, and accordingly we find the King writing, in terms inspired doubtless by Elphinstone, to the Pope for his authority to found the university.

Unfortunately, no traces of King James's letter, or of any correspondence of Elphinstone with the Holy See relating to the proposed creation of the university, now exist in the archives of the Vatican, for they would likely have revealed much that would have been instructive about the condition of Scotland. But what their terms were may be inferred from the wording of Alexander VI's Bull, which bears the date of February 4th, 1494. They are, that Old Aberdeen was a centre of a district inhabited by ignorant and nearly savage men, many of whom were desirous of being taught, but were destitute of instructors, and were separated by dangerous and arduous ways from those who could impart knowledge, while it was nevertheless possessed of a good climate and fertile soil; and finally, that owing to unfavourable local conditions the ministrations of the Church could hardly be carried on.

Almost exactly a year later than this Bull, on February 5th, 1495, the Pope gave the first donation to the university of the revenues of the Hospital of St. Germanus in East Lothian, which had been attached to the diocese of St. Andrews, but had fallen into disuse, and these were to form an endowment for the maintenance of the three faculties most nearly connected with instruction in religion.

Three weeks later still, armed with these documents, Elphinstone published *his* proclamation that the university was now established; and the date of this, February 25th, 1496, is the real date of the birth of the University of Aberdeen. From that time onwards it had an actual existence, and taught, though as yet it possessed no buildings; for however important, these were but the garments, not the body, of the university.

The Medical Faculty.

At this point we pause to hold up to admiration the great wisdom of the bishop in respect to the study of medicine. Not a single university in the British Islands had up to that time, we believe, seriously set itself to establish a teaching Medical Faculty as part of its machinery; and indeed this is not to be marvelled at. The profession, or rather trade, of medicine had sunk very low, particularly in Scotland, and the specimens of the physicians to be met with there would not have encouraged an ordinary mind to provide a faculty for them in a university. The bishop must have been personally acquainted with two of the Court physicians of his former master King James III, namely, William Scheves, who flourished about 1472, and was acceptable to James on account of his knowledge of astrology—a reptile who schemed for the deposition of Bishop Graham of St. Andrews, successor to Kennedy, so effectually that he himself stepped into his shoes in 1478; and also his successor in the King's favour, Dr. Andrews, likewise an astrologer, in 1479, who as it proved lost his master both his life and kingdom by some pretended message from the stars warning him against his brothers, the Earl of Mar, and Albany "the father of chivalry." James III was indeed a facile prey to adventurers of this kind; one may almost read his character in Scott's description of his contemporary, Louis XI, with whom he has more than once been compared. In truth even his successor, James IV, though inheriting a stronger character from his mother, a daughter of the virile King Christian I of Denmark, and though he possessed many fine qualities, and gave enlightened help to the bishop in founding the northern university, was not a great deal wiser than his father in the matter of superstition, though his leaning was to the more excusable belief in alchemy.

Whether or not Elphinstone was one of the small body of scholars who were acquainted with Greek, and knew or had heard of the writings of Hippocrates, Galen, and Aretaeus, which were then beginning to be translated into Latin on the Continent, and to revive the science of medicine, but were unknown in Britain, we cannot pretend to say, though it seems probable enough. But his clear vision saw, what most of his contemporaries did not discern, that medicine, like other branches of knowledge, was likely to share the impetus resulting from the "New Learning," and not only was a proviso introduced into the Bull founding the university that there should be a faculty "tam in Theologia ac iure Canonico et Civili, necnon Medicina et Artibus liberalibus quam quavis alia licita facultate"; but he was so concerned about the interests of medicine that he procured from James, within a year of the inception of the university, a charter which, while repeating the Pope's injunctions about the teaching of theology, civil and canon law, medicine, and arts, gifted to God the Omnipotent, the most glorious Virgin Mary, all the Saints, the university, and to a graduated Doctor in the faculty of medicine, the sum of £12 6s. yearly, thus supplying the deficiency in the Pope's endowment. From this charter, and the King's co-operation in founding the university, it came eventually to be called King's College, as Elphinstone had always wished it to be named.

The Selection of the Principal.

The narrative of Elphinstone's care in the establishment of his university would be incomplete without an account of the foresight he displayed in selecting the first Principal. Knowing well how much depended on the character of that official, and solicitous to avoid the causes which had made the University of Glasgow a partial failure, he cast about to select one who should ensure the full success of that in Aberdeen.

Of all the men available for the post there were two marked out by their promise of eminence in scholarship as by far the most suitable, and these were John Major and Hector Boece, both of them Scots, and both at the moment in France. Each was destined to be a future historian of Scotland.

John Major.

John Major, or Mair, born in Haddington, who had studied first in Christ's College, Cambridge, and then in Ste. Barbe's in Paris, and been for two years a graduate of the University of Paris, had acquired a tremendous reputation for learning, and become Regent, Fellow, and Lecturer in the College of Navarre. There seems reason to believe that he was an unstable and difficult, but at the same time an austere, man; and, though his subsequent career was one of the greatest eminence, it was probably well that Elphinstone's choice did not fall upon him. He was one of those bigots who wrote in defence of the martyrdom of Patrick Hamilton by Beaton, the Archbishop of St. Andrews. When Boece vacated his professorial chair at Montaigu, Major succeeded him in that office, became Doctor of Divinity in 1505, lectured in the Sorbonne, and was the author of many works on Aristotle's Logic and Ethics, Peter the Lombard's "Sentences," and the Four Gospels, as well as of a history of Great Britain. Though he undoubtedly became a marvellously learned man, he could not be contented to

settle anywhere for long. After declining the Treasureship of the Chapel Royal, which was offered to him by Gavin Douglas, he became Principal of the University of Glasgow, was the teacher of George Buchanan and John Knox, went back to Paris in 1521, wrote more books, finally held the appointment of Provost of St. Salvator's College in St. Andrews for seventeen years, and died in 1550. I do not know of the existence of any portrait of John Major.

Hector Boece.

Hector Boece, or Boyce, a native of Dundee, on whom Elphinstone's selection fell, was a very different kind of man from John Major. A portrait, reputed to be his, and full of character, hangs in the staircase of the Senatus Room of King's College, though in a poor light for being seen. Intellect and thoughtfulness are indicated by the beautifully shaped cranium and well-opened eye; blood, breeding, and refinement by the finely formed, delicate features of the face and ears; and in the 400 years old likeness there looks down upon us the presentment of a gentle scholar. Fortunately it has escaped damage from the brush of the restorer. When we study Boece's and Elphinstone's portraits we can understand that the two men must have harmonized with one another.

Boece was a man of about 33 years of age when Elphinstone and he came together at the starting of the university. His early education had been in Dundee, after which he had studied in Paris for ten years, and he then became for five or six years professor of philosophy in the College of Montaigu. Among his contemporaries and acquaintances were Panter, Secretary to the King of Scotland, John Major, and Erasmus of Rotterdam. Boece and Erasmus were intimate friends, and corresponded with one another during their whole lives, even up to the year 1530, when they were both old men. None of Boece's letters have been preserved, but no apology is needed for quoting one delightful letter from Erasmus to him, as it throws into relief his genial side and also that of the Principal of Elphinstone's new university. It was written from Paris in 1497, and Nichol's translation of it runs thus: "What is the meaning of so many scolding letters? What is all this insistence about? You write again and again, you threaten, reproach, and in fact declare open war against me, if I do not send you a copy of some of my poetry. Only look how unfair it is of you to demand from me a copy of that of which I have no copy myself. I solemnly swear that I have not for a long time been versed in such studies; and if I did as a boy amuse myself with them, I left all that behind me at home. For how could I dare to bring my barbarous Muses with their dull and foreign tones to this famous school, in which I knew there were so many persons absolute in every sort of letters? But I see you do not believe this, and suspect my professions to be themselves poetical. Who on earth induced you to believe that Erasmus was a poet? For you repeatedly call me in your letter by that name, once honourable, but now odious, thanks to the stupidity and incompetence of many that are so called. Therefore, if you love me, pray do not address me again by that title.

"However, Hector, my dear friend, that you may not tire yourself and annoy me by writing the same thing over and over again, it is well that we should speak more freely and plainly of the matter. In the first place, I am not such a fool as to wish to be taken by any one at more than my true value. Although, when I was a boy, the Muses were above all things my delight, I have not laboured so carefully in this sort of study as to produce out of my workshop anything worthy of Apollo. . . .

"It is no pleasure to me, when I fail to satisfy my own judgement, to be approved by that of the unskilful; of whom *one* admires nothing but what he does, or could do, himself, another on the contrary nothing but what he does not comprehend. This person is captivated by fine writing and ornament, 'tuneful trifles,' as Flaccus has it. Another reads with respectful emotion, *aurai frugiferai*. A third, delighted with a heap of words, takes garrulity for eloquence. What is solid is admired by few, as indeed there are few that recognize it. The painter Apelles (unless my memory fails me) disliked to have his works criticized by Alexander, a powerful monarch. May not, then, a learned man well dislike to be judged by every cobbler or by every clown? Consider, too, that persistent monster of jealousy, which attacks most eagerly everything that is best. Why should I for no reason at all provoke the hissing of that cobra? No, I leave the contest for those who are charged to utterance by the command of hunger, or who, at any rate, are so charmed by that siren of praise and fame that they had rather be ennobled after the fashion of Herostratus than live inglorious. For my part, I will not buy glory at such a cost.

"But what does all this tend to? you will say. Simply to this, that as I am not learned enough to satisfy the ears of the learned, if there be any such, and am too learned perhaps, or at any rate too proud, to condescend to a contest with these busybodies, I am resolved, if I have written anything, to dedicate it rather to Harpocrates than to Apollo.

"Nevertheless, not to appear too much in the character of Demea towards a friend who is united to me by so much kindness, I have taken Mitio for a pattern, and allowed myself to be overcome; for who can resist Hector? Departing, therefore, a little from my plan, I send you a few verses with which I lately amused my leisure when taking a country walk by the side of a stream, and in which you must not look for the felicity of Maro, the sublimity of Lucan, the copiousness of Naso, or the seductiveness and learning of Baptista Mantuanus. For while I appreciate all excellences, yet in writing I somehow prefer that Horatian dryness and simplicity. If your admiration is given to solid and more ambitious works, I still hope you will not altogether despise what I send.

"I had almost forgotten, by the way, what of all things I most wished to enjoin on you. If you have any love for Erasmus, do not bring his trifles out anywhere. Farewell.

"Written in haste in the country, 8 November."

We should like to know a great deal more than we do of Boece's life in the university, and his doings there, but perhaps the scantiness of such information is the best indication of the quiet prosperity which the institution enjoyed under him, while he was gradually raising it to be the first in popularity and efficiency among the Scottish universities. It was probably characteristic of the man that he came to King's College for the small salary of £2 4s. 6d. per annum: though that sum was soon considerably augmented by other benefices, a plurality necessary in his case. Here he wrote his great *History of Scotland;* became Doctor of Divinity of King's College in 1528; and on that occasion the magistrates of the city "voted him the present of a tun of wine when the new wines should arrive, or, according to his option, the sum of £20 to purchase a new bonnet." He died here in 1536, and his body lies under the stone floor of King's College Chapel on the north side of his patron the bishop, whom he long survived. His only harmless little vanity as a scholar seems to have been that of calling himself Boetius or Boethius, the name of the fifth century author of the *Consolations of Philosophy*, etc., under which appellation he published his historical and other works.

There remains little more to be told here about the founding of the university. The Scottish records of the period are scanty; but there are enough to enable us to discern another trait of Elphinstone's sagacity—namely, that when he had founded the teaching part of the institution, and was devising the ways and means of establishing it in suitable buildings, it was not from the great territorial magnates, whose influence in the university might have overshadowed to its hurt that of any others, but from the burgesses, lesser nobility, and gentry that he sought and obtained endowments for his work. These endowments were given mostly in the shape of revenues of portions of land, for coined money was scarce in the kingdom, and by such donations the bishop was enabled to have his schemes carried out, particularly that of building our beautiful King's College Chapel, with its quaint, and in some respects unique, work in wood and stone.

A terrible epidemic of plague prevailed in Aberdeen in the years 1499 and 1500, but it does not seem to have in any way hampered Elphinstone's good works, nor cooled the helpfulness of his many warm friends.

When the bishop died, in 1514, his body was embalmed

and now rests under a great slab of black marble in the centre of the old chapel in his own university.

Medicine in Aberdeen.

The medical seed which Elphinstone planted in his college did not at once spring up into full vegetation. It could not have been expected to do so under the conditions then prevailing. The English masters of medicine had not yet arisen; the scientific foundations on which modern medicine rests were not even begun to be laid. Linacre had not then introduced the works of the ancient Greek physicians to the profession in this country, and the great Harvey did not appear until a generation later. Physicians were barely more than herbalists and surgeons than barbers. We have mentioned some of the positions attained to by those who added quackery and astrology to their healing functions; but for the honest practitioners knowledge was but obscurity, and their recompense small. I am indebted to our Public Librarian, Mr. G. M. Fraser, for information as to the status of doctors in Aberdeen about the time of Elphinstone. In 1417 there was in the city an English physician of the name of John, but he does not appear to have found his practice very satisfactory, if one may judge from the solitary record of him which remains—that he sold his crofts beside the Stockrud in the Denburn, at the end of the castrum of John de Ressivat, which is called the Kilecroft, for four shillings.

The first "Mediciner," or Professor of Medicine, in the university was James Cuming, who before 1503 had been selected by Elphinstone and appointed to lecture on that subject. Elphinstone built him a house, as he did for the other professors, and it was probably through the bishop's good offices that the city assisted in providing him with a more adequate salary than he received from King James's benefaction, for it is recorded that in the year 1501 the aldermen, baillies, council, and community consented to give him ten marks yearly, "aye and until they promote him to a half of a net's fishing in the Dee, free of entry money, he paying for it the usual rent, and engaging that he, his wife, children, and household, shall personally reside within the burgh, go and visit the sick, and show them his medicines, they paying for them, but the town is to pay nothing till Cuming has actually come to reside in it.' From this it may be seen that Cuming was not a priest, but a regular medical graduate and a married man, with his patients to look after as well as his university duties.

It does not detract from Elphinstone's merit in taking specific steps to ensure that medicine should have a due place in his university, that another Scottish "Studium Generale," even earlier than that in Aberdeen, should have had a similar authority to establish regular medical instruction conferred on it at its commencement. As early as 1413 St. Andrews had that right conceded to it in its Bull of Foundation; and possibly the licence for a Faculty of Medicine may have been a not unusual portion of the formula which the Popes employed when bestowing their sanction on universities modelled on those of Paris and Bologna. Glasgow University, however, had no such privilege, only three faculties—Theology, Law, and Arts—having been specified in its Bull. In Aberdeen alone, however, was there found a prelate sufficiently far-sighted to recognize the full value of such a licence, and at once establish practically what in other places was a dead letter for many years after his day.

Though the intentions of Elphinstone regarding the full success of the Faculty of Medicine were a long time in coming to fruition, nevertheless his foresight had prepared the ground, and his endowments planted the seed which was afterwards to spring up into the flourishing school of medicine of which all Aberdonians have good reason to be proud.

James Cuming died in 1521, having held office for about twenty years, and was succeeded in the following year by Robert Gray, of whom almost the only record we have is that he was a Doctor of Medicine, and that he died not earlier than 1549.

Marischal College and University.

It may be interesting, and at any rate it enhances our appreciation of Elphinstone, to remark that when the second University of Aberdeen—that of Marischal College—was founded, in rivalry to the earlier one, a hundred years later, no provision was made in it for a Faculty of Medicine. It was instituted under the sour atmosphere of Calvinistic reform, and concerned itself more with religion and politics than with science.

What we have said above regarding some only of the many claims which Elphinstone has to be honoured is no more than a just tribute to the memory of a truly great man, whose marvellous wisdom and prevision it is a duty to acknowledge; it is a tribute heartily paid by us all, whether we were alumni of King's or Marischal universities, now happily fused into one. But here our brief sketch must stop. Worthily to tell of the after-history of the Aberdeen universities and our medical school would demand greater eloquence than nature has allotted to me, but a visit to the beautiful window in the Mitchell Hall of Marischal College will, I am sure, add an interest to your visit to this city, by calling to your minds a few of the men whom they have sent forth, whose names are known wherever the English tongue is spoken, while there are others, and these not a few, whose memories are cherished by at least every well-informed inhabitant of this district, men whose deeds and works have been such that Scotland, and even England, would be shorn of a portion of their glory, were their names to be deleted from the rolls of fame of our common fatherland.

(In addition to the authorities mentioned in the text, I have to acknowledge the valuable assistance, in my historical researches into the life and times of Bishop Elphinstone, of the Right Reverend Æneas Chisholm, Bishop of Aberdeen; Sir Donald MacAlister, Sir James Donaldson, and Dr. George Adam Smith, Principals respectively of the Universities of Glasgow, St. Andrews, and Aberdeen; and Professor Grierson and Mr. P. J. Anderson, of the University of Aberdeen.)

Address in Medicine

DELIVERED AT THE

EIGHTY-SECOND ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

BY

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MEDICINE FROM THE CHEMICAL STANDPOINT.

MR. PRESIDENT, LADIES, AND GENTLEMEN,—So rapidly is our field being extended that year by year it becomes more difficult to deliver an address in medicine which shall treat of the subject in any of its wider aspects. None the less I would express my sincere gratitude to the Council of the British Medical Association for the honour which it has done me in inviting me to essay the task.

Seeing that we are met together within the precincts of an ancient seat of learning, which was the first of all British universities to establish a Chair of Medicine, it might be fitting that I should take as my subject some phases of the past history of our science and art. However, we see around us so many signs of a spirit of emulation and progress, and of a vitality which has been stimulated rather than inhibited by the lapse of centuries, that I have no fear lest, in selecting as my theme some of the most recently acquired aspects of medicine, I shall be in less complete accord with the *genius loci*.

The curriculum laid down for our students bears witness to the complexity of medical science. No student is held competent to enter upon his clinical studies until he has acquired some grounding in chemistry, physics, and biology, and a more detailed knowledge of human anatomy and physiology. In a word, medicine rests upon a substructure of other sciences, and the entire system of medical education is based upon the fundamental truth that a knowledge of the normal must needs precede any profitable study of the abnormal.

It need hardly be pointed out that such a curriculum in no way reflects the path along which medicine, as we know it, has been evolved. Hippocrates, Galen, and their contemporaries enjoyed no such advantages as do our

students of to-day. They initiated the study of clinical medicine at a time when the very foundations of chemistry and physics were as yet unlaid—when the anatomy of the human body was, to all intents and purposes, a sealed book, and when physiology, pathology, and pharmacology did not yet exist. At a later period, and with the passing of the Dark Ages, science began to awaken from her long sleep, and there came, with the revival of learning, a realization of the need of a new medicine, freed from the trammels of tradition, and based upon observation and experiment. Physicians began to observe for themselves once more, and no longer relied almost wholly upon the teachings of the ancients. Step by step the study of those primary branches of science upon which rational medicine needs must rest was pursued, to a large extent by medical men who recognized, and strove to supply, the growing demands of the healing art. Thus it has come about that, immense as is the debt of medicine to the pure sciences, the reciprocal debt of those sciences to medicine is hardly, if at all, less.

The more ancient sciences were studied, at the outset, merely as stepping-stones to practical ends—ends which were, for the most part, far less worthy than those of medicine, were sometimes grotesque, and usually unattainable. Thus astronomy had its origin in astrology; the earliest chemists were alchemists who were intent upon the discovery of the philosopher's stone and the elixir of life; and physics is beholden, in no small degree, to the futile quest of perpetual motion.

Then came a time when knowledge began to be pursued for its own sake, and the true scientific spirit was born. But progress was for a long time slow, and only now, when chemistry has advanced beyond all recognition, when every detail of structure of the human body has been revealed by anatomy, and when physiology and pathology find many who make them the study of their lives, are the foundations of the clinical edifice being securely laid.

So complex is modern medicine, and so diverse are its aspects, that we cannot hope to attain to any comprehensive notion thereof if we regard it from any single point of view. We need to adopt, on the one hand, the standpoint of the human organism engaged in its unceasing struggle to ward off the assaults of disease, and, on the other hand, that of the agents of disease which are as incessantly striving to gain a foothold. The clinical worker whose task it is to diagnose the nature and seat of the malady, and to intervene in the interests of the patient, has *his* special outlook; and the pathologist, who studies the havoc worked by disease, has *his*.

Again, we may contemplate the human organism as a whole, or as a complex structure built up of diverse organs and tissues, each with its assigned functions, or once again, as a nation of cell units endowed with manifold activities. Lastly, we have to picture each individual cell as a congeries of chemical molecules which are being continually pieced together and broken down by the agency of intracellular enzymes.

Thus physician and physicist, physiologist and pathologist, biologist, bacteriologist, and chemist, each looks out upon the field of medicine from his own standpoint, and to each it wears a different aspect. Only by the combination of the several mental pictures can a stereoscopic presentation be obtained.

Many of the early chemists were practitioners of medicine, and from the days of that eccentric genius who assumed the name of Paracelsus, and of van Helmont, the father of physiological chemistry, down to the earlier years of the nineteenth century, the chemical outlook was that most widely adopted by medical men. But in those earlier days chemistry itself was in far too embryonic a stage to lend much aid to the elucidation of the problems of disease, and, as time went on, the chemical outlook was abandoned to a large extent in favour of that afforded by the rapidly advancing study of morbid anatomy. Throughout the greater part of the last century morbid anatomy and histology held the field unchallenged; and they were justly entitled to do so in view of the progress made in the macroscopic and microscopic study of diseased structures, upon which was reared the imposing edifice of cellular pathology.

If, of recent years, morbid anatomy has yielded the foremost place to other branches of pathology, this should not be interpreted as showing that the subject is exhausted, nor that its value is less than used to be supposed, but rather as evidence of the need to bring forward the less advanced branches to the same level. The advance guard is being strengthened by calling up the supports, in order that the army of progress may present an even front.

Yet, during the period when morbid anatomy and pathology were synonymous terms, the science of chemistry, both in its inorganic and organic branches, was making rapid strides, and when medical investigators turned back once more to pick up the chemical threads, they found, in the chemistry of that later day, a mass of systematized knowledge ready prepared to aid them in their advance. This new science—for such it is—had its birth in the epoch-making discoveries of Priestley and Lavoisier.

Nor had that side of chemistry which bears most directly upon medicine been neglected. The syntheses of urea, by Wöhler in 1828, brought the products of life within the province of the pure chemist, and there had always been investigators who, with Liebig, studied the intake and output of living organisms, and who added to our knowledge of the chemistry of the urine, and of the problems presented by such maladies as diabetes and gout. Amongst these not a few countrymen of our own will always be remembered with honour.

In any modern treatise on chemistry the section which deals with the compounds of carbon far exceeds in bulk that which is devoted to the inorganic branch. Carbon compounds of ever greater complexity have been built up, step by step, from their elements, and even the synthesis of proteins is being brought within our reach, thanks to the labours of Emil Fischer and of a body of workers who have derived their inspiration from him.

Thus have been gained possibilities of fresh and conspicuous advances in the field of physiology. A new era of pathology has dawned. Side by side with the new science of bacteriology, which has already, in but a few years, transformed our conceptions of disease, there is growing up a vigorous science of chemical pathology, and, for the moment, morbid anatomy is resting upon its laurels.

The provinces of bacteriology and pathological chemistry are very different. Whereas the former investigates the actual agents of disease, the latter reveals the disturbances which result from their invasion. If I may venture to employ again an analogy already used elsewhere, the bacteriologist deals with a stone which, falling into the pool, ruffles its surface, whereas the chemist directs his attention to the ripples which spread outwards, in expanding circles, from the point of impact of the stone.

Yet bacteriology is ever setting new tasks for the chemist, who, just as he is coming to grips with the older problems of the structure of proteins, carbohydrates and fats, and of the chemical changes which constitute the life of the tissues, is confronted with a demand for information regarding substances and processes which are still beyond his reach—intangible entities revealed as yet by single properties. As he surmounts the foothills there open upon his view loftier heights beyond.

Biochemistry presents itself under two aspects: a static, which is concerned with the study of chemical structure, and a dynamic, which deals with the chemical changes of which the living tissues are the seats.

Thus we may wander among the streets of some deserted city of the past, may study the fabric of its buildings—the stones, bricks, and mortar employed in their construction, and in this way may gain some knowledge of the uses for which the several buildings were designed. Just so the anatomist investigates the structure of the organs of the dead body, and the chemist, by his analyses, gains a minute insight into the molecular groupings of the materials of which its tissues are composed.

Even in the dead city all is not still and at rest. The ancient walls are subject to weathering and decay, and gradually crumble under the influence of air and rain. Yet other changes are wrought by lowly forms of animal and vegetable life, which undermine the ruins and, in the end, bring about their downfall. So, too, in the dead body, destructive agencies are constantly at work until the dust returns to its dust again.

Once more we may tread the streets of a city of to-day, may watch the movements of the crowds as they pass,

the gathering and dispersal of groups of people. We may study the arrangements for the disposal of waste products, the ways in which food supplies are brought in, dealt with, and distributed. Or we may investigate the police arrangements, the sanitary services, and the various devices resorted to by the community for its protection. The study of the human organism on such lines is the province of physiology, and it is to designate the sum total of the manifold chemical processes in action within the living organism, and which constitute its life, that the term "metabolism" is employed.

But the chemical physiologist is far from sharing the opportunities afforded to our wayfarer. He is hardly permitted to set foot within the walls of the living city, and on that account his investigations are carried on under serious disadvantage. Determination of the balance of intake and output affords clear indication of the grosser chemical interchanges in the body, but the study of the intermediate stages is a far more difficult task, and only now are we beginning to gain an insight into the details of metabolism. Such knowledge of these details as we have acquired is largely based upon circumstantial rather than upon direct evidence. But here, as in so many fields, pathology lends valuable aid to physiology, and Nature's experiments and her mistakes afford, to him who is able to read them aright, insight into the methods of her orderly working.

Among the building materials employed in the construction of living organisms the proteins hold a place apart. They are the actual vehicles of life, and upon their properties the very possibility of life depends. Important, and indeed essential, as are the parts played by compounds of other kinds, carbohydrates, fats, water and inorganic salts, their functions within the organism are secondary. They are employed in the service of the proteins of the tissues. Fats and carbohydrates are in part burned to supply the daily demand for kinetic energy, the energy expended in muscular action, in glandular activities, and in the maintenance of the temperature of the body, and are in part stored for future use. Even much of the protein of the food is, as we now believe, stripped of its nitrogen and utilized as fuel, whereas another portion is employed in the reconstruction of the tissues.

No less essential to the organism are the inorganic salts, in the regulation of the osmotic phenomena, in the maintenance of the alkalinity of the body fluids and the acidity of the gastric juice, in conferring the required rigidity upon the skeleton, and in a hundred other ways.

The more intimate knowledge of the structure of protein molecules which we now possess is an acquisition of the still young twentieth century. The huge molecules have been teased out—to borrow a term from histology—and, as a result, the conception of an unwieldy group of atoms has been replaced by that of an orderly structure composed of comparatively simple building stones, of a neatly constructed block of masonry rather than an amorphous mass of concrete. These building stones are the now familiar protein fractions. Some of them have long been known as rare ingredients of the excreta—such, for instance, as tyrosin, leucin and cystin—but whence they came and how they were formed in the body was, until recently, unknown.

Widely as the protein fractions differ in their structure, they have this in common—that they are amino- or di-amino-acids. Seeing that they share the properties of acids and bases, they are capable of combining with each other to form the complicated chains or networks which constitute the protein molecules; and since they admit of combination into many different groupings, there is a possibility of almost infinite varieties of protein structure. The number of distinct fractions is by no means large, but every change of grouping, however slight, brings into existence a new protein.

The poet Lucretius, whose marvellous insight led him, as by instinct, to views of the constitution of matter which science has only reached after centuries of observation and experiment, was fully alive to these capabilities of atomic rearrangement. Writing before the commencement of the Christian era he tells us how, just as in his verses many different words are formed by the rearrangement of but a small number of letters, with the result that word from word, and verse from verse, differs both in sense and sound; so also, by the various groupings of a few essentials, are built up all the objects of animate and inanimate nature: "Tantum elementa queunt mutato ordine solo."

Abderhalden has estimated that the possible combinations of the twenty known protein fractions, in which each individual fraction is represented once, and only once, need for their expression a number composed of no less than thirteen digits. When we consider that from some proteins one or more of the amino-acid fractions are missing, and that in almost all of them the representation of the several fractions differs widely from that assumed in the calculation, we can realize that the number of possible varieties of grouping can only be expressed by figures which surpass those with which the astronomer is wont to deal. Nor is evidence lacking that the proteins of living organisms do actually differ among themselves in ways not dreamed of until quite recent times.

The dictum, so painfully familiar, that "all flesh is not the same flesh, but there is one kind of flesh of men, another flesh of beasts, another of fishes, and another of birds," has acquired a new reality. We are learning, upon evidence which admits of no question, that the very proteins which perform identical functions in different animals are not themselves identical, but differ from genus to genus, from species to species, and differ the more widely the further the several species are separated from each other in the evolutionary scheme.

Much of this evidence is derived from delicate and subtle reactions, such as the precipitin test, and from the study of the response of the organism to the introduction of foreign proteins, the phenomena of anaphylaxis, and the formation of protective enzymes; but some facts which have been demonstrated to generations of students, such as the differences in the crystalline forms of the haemoglobins of animals of different species, bear witness to specificity of chemical structure. Nor can we suppose that the differentiation stops short at the boundaries of species; chemical individuality follows as a necessary corollary to chemical specificity.

The effect upon physiological thought of this conception of chemical specificity has already been far-reaching. We no longer think of the proteins of food as utilized, after comparatively slight change, and in such complex forms as albumose and peptone. The differences between the food proteins and those of the animal fed necessitates the assumption that their disintegration by the digestive juices is far more thorough than used to be supposed, and that reconstruction of the proteins in the organism fed starts from the primary amino-acid fractions. That the primary fractions are able to be so utilized has been demonstrated by experiment.

During the earliest period of life, when the digestive functions are as yet but imperfectly performed, Nature supplies for the infant organism a natural diet exactly adapted to its requirements, and containing, in due proportions, all the materials necessary for its nutrition. Mother's milk has the additional advantage that its components have the specific stamp, an advantage which is, in all probability, connected with the phenomenon known as anaphylaxis. In later life any such exact adaptation is clearly unnecessary, and vegetivorous animals, whose earliest food was mother's milk, thrive upon a diet of which the protein constituents are not even of animal kinds.

Even this does not exhaust the complexity of protein structure, for each tissue-protein bears not only the impress of the specific stamp, but also of a second stamp derived from the organ of which it forms part. The recent work of Abderhalden and the study of cytolysins afford evidence that the proteins of the liver, spleen, pancreas, or any other organ have their special peculiarities. It seems probable that the liver proteins of the sheep and dog, although they exhibit specific differences, agree in containing in their molecules some particular group of atoms the possession of which confers the hepatic impress. Thus an independent system of cross classification is indicated.

It has long been known that sulphur is a constituent of proteins, and that in some of them phosphorus is also contained. We have now learnt that the small quantity of sulphur met with is contained in one particular amino-acid fraction—namely cystin—and that an unusually large proportion of sulphur indicates a large cystin

content. The phosphorus, on the other hand, is a constituent of the nucleo-proteins, which, as essential constituents of the cell nuclei, may lay claim to an importance second to that of no members of the protein group. In them also is included the purin grouping, the parent complex of most of the uric acid of the urine. As another example of a protein to which a special atomic group is attached haemoglobin calls for mention, seeing that, in virtue of the iron-containing haematin which it includes, it is able to fulfil the all-important function of carrier of oxygen to the tissues.

The highly complicated protein molecules naturally afford the greatest scope for specific differentiation, but differences of a like type are exhibited by the fats of different animals, and are manifested not only in the results of chemical analysis, but also in such naked-eye appearances as depend upon a lower or higher melting point. The far simpler carbohydrates admit of but slight variations, and the inorganic salts of *none at all*. However, in some species of animals, elements which but seldom enter into the composition of organic compounds are embodied in the tissues, as, for example, copper, which is a constituent of the blood pigments of some lowly animal forms, and of the red pigment turacin which colours the feathers of certain birds.

The flight of time forbids me to dwell at greater length upon the diversity of the chemical structure of the animal organism, but enough has been said to show how essential is an acquaintance with the leading facts of the statical side of biochemistry, if we are to gain any adequate conception of metabolism, of that bewildering whirl of chemical activities of which the tissues are the seat.

In every organ and every cell in the body chemical changes are constantly in progress. Processes of synthesis and of analysis, of oxidation and reduction, of anabolism and catabolism, proceed side by side in the same tissue, and even in the same cell, smoothly and without clashing or mutual disturbance.

The foodstuffs which enter the alimentary canal are dealt with by the digestive juices, are broken down into their simple fractions, and are so prepared for absorption. The products thus yielded are employed in part for the maintenance of the optimum body temperature and for the supply of kinetic energy of muscular movements, both voluntary and involuntary. Another portion is stored for future use, either in the fat dépôts, storehouses of potential energy which serve the additional purpose of providing a warm covering for the deeper structures, or as glycogen in the liver and muscles. From the glycogen reservoirs glucose is distributed in a continuous, regulated supply to meet the requirements of the tissues.

Some of the protein fractions are built up anew into specific proteins to replace the loss which results from the wear and tear of metabolism, and may be utilized in other ways. The remainder, and probably the greater part, are stripped of their amino-groups and used as fuel.

What has been learnt of the intermediate steps of metabolism has already served to modify profoundly our conceptions of the metabolic processes. We no longer think of the foodstuffs as so much gross fuel cast into a furnace, but of each kind of foodstuff, and indeed of each individual protein fraction, as following its own special metabolic path. Moreover, there are paths for fats and paths for carbohydrates, and it is evident that even dextrose and laevulose are dealt with in different manners, for a patient whose power of burning dextrose is grossly impaired may deal with laevulose with far better success.

In the same way the power of catabolizing a single protein fraction may be lacking in an individual who is able to dispose of the other protein fractions in a normal manner.

It is believed that these changes are wrought by specialized enzymes, many, if not all, of which are capable of reversed action. We may picture to ourselves the individual protein fraction as handed on from enzyme to enzyme, each responsible for some particular step in the series of changes, until the series is completed and the specific protein has been built up, or the final excretory product has been reached.

Thus are produced numbers of intermediate products which are subjected to further changes as soon as they come into existence, and which call to mind a moving staircase rather than a flight of steps. Most of these intermediate products are never met with in an examination of the excreta, or only when the further transformations which they naturally undergo are in some way arrested.

Regarded from the chemical standpoint, each cell in the body is an individual member of a community, although, in all organisms but the simplest, the various cells are differentiated for the performance of special functions, and to that extent have sacrificed their individuality. Each product of glandular activity bears witness to specialized metabolic processes in the cells by which it is produced.

So far is the differentiation carried out that, as in a highly civilized community, the destruction of a single part may suffice to bring the life of the community to a standstill.

We may ponder over this conception of the elaborate metabolic activities carried on in the living organism until the brain reels, and the imagination is no longer able to cope with their infinite variety.

It is only to be expected that, in the course of evolution, a state will have been brought about in which the end products of metabolism will be harmless to the organism in which they are formed; but so delicately are the relations of tissue change adapted to the requirements of the organism that any deviation from health which disturbs the chemical processes, however slight the disturbance may be, leads to the formation of products which are less well adapted, and tend to do harm. Some are so little noxious that their deleterious action is only manifested after the lapse of many years, whereas others, such as the substances of the acetone group, lose no time in working mischief.

This harmonious working, side by side, of antagonistic processes will continue for many years, unless it be disturbed by influences from without. But such are the conditions of life upon this planet that the vital processes seldom have the chance of working themselves out to their natural termination in death from sheer old age, their natural ending, because the human machine is not perfect, and gradually deteriorates from the cumulative effects of infinitesimal errors of experiment, until it is brought to a standstill at last.

Obviously, it is only by a rigid system of control that the orderly working of the intricate metabolic changes can be maintained, and the working of regulating mechanisms in the animal body is made manifest in a variety of different ways. Only by strict regulation can the breakdown of tissues be kept within bounds, can the uniform composition of the blood be maintained, and the optimum temperature of the body be ensured—to quote only a few examples out of many. Yet the regulator mechanisms are not devoid of flexibility, as witness the phenomena of fever, the growth of the body in early life, the developments which constitute puberty, the coming into play and passing into abeyance of specialized functions, and the adaption of the organism to changes of environment.

In recent years we have gained some insight into the mechanisms by which regulation is affected, and of the importance in this connexion of the internal secretions of glands, ductless and others. We see how disease of a gland which yields such a secretion may disturb the metabolic balance in the direction of excess or defect, and in so doing may influence growth and development. Such studies are profoundly modifying our conceptions of such anomalies as obesity and infantilism, and we are learning that the glands which may be classed together as members of a hormonopoietic system constitute a group of balanced regulators of metabolism, although it may be conceded that, in this connexion, theory tends for the moment to outstrip established fact.

However, the internal secretions are implements, rather than originators of control. The hormones are themselves but chemical products of certain specialized cells, and the activities of the glands which produce them are themselves under the control of the vegetative nervous system, which transmits to them impluses in response to the chemical demands of the tissues. Thus, in a sense, the regulation of metabolism is automatic.

The chemical processes in the tissues are not moulded upon uniform lines throughout the animal kingdom, any more than is chemical structure. Evidence of this is afforded by the formation of special protective secretions,

of specific bile acids, and of peculiar excretory products, such as the kynurenic acid found in the urine of members of the canine tribe.

Moreover, just as certain individuals of a species exhibit conspicuous deviations from the structure of the species, malformations by arrest or of other kinds, so also individuals are met with who exhibit some striking metabolic anomaly, a chemical freak.

These inborn errors of metabolism are individually as rare as structual malformations, and much more liable to be overlooked. Their scientific value far exceeds their clinical importance, for they constitute true natural experiments. Those which are known advertise themselves in conspicuous ways, and appear to have their bases in failures to carry out some special catabolic process, rather than in a deflection of metabolism into unusual paths. Thus, in cystinuria, cystin, and sometimes other protein fractions also, escape their normal fate, and appear unchanged, or only slightly changed in the urine. In alcaptonuria, on the other hand, there is a failure to complete the breakdown of the aromatic protein fractions, and the homogentisic acid which is excreted is thought, with good reason, to be an intermediate product of normal metabolism. From the study of alcaptonuria we have learnt nearly all such details as we know of the fate of tyrosin and phenyl-alanin in the body, and have gained an insight into the differential treatment of the protein fractions in general, and into the intermediate steps of their catabolism.

I set out to draw a sketch of the normal metabolic processes; the outcome of the attempt is but a crude diagram. Time will not permit of any attempt to fill in details, nor to put before you the evidence upon which the outlines of my description are grounded. I am content if I have succeeded in conveying some notion of the ceaseless chemical turmoil in the living human organism.

When into this field of intricate, but orderly, metabolic activities there intrude the agents of disease, a new set of phenomena is brought into action. The entire community bestirs itself to beat off the intruders, and there are called into play protective mechanisms of immense variety and displays of infinite resource; just as a national community, whose members are at ordinary times engaged in the calmer pursuits of commerce and agriculture, may, on the occurrence of a hostile invasion, assume the attitude of a nation in arms. Such a transformation involves profound disturbance of the ordinary life of the people, and so, too, the invasion of morbific agents produces derangements of metabolism which are the more profound and far-reaching the greater the danger to be faced. We must suppose that in many, and indeed in most, instances the forces of defence gain the upper hand, and the invaders are beaten off. When the first line of defence is overcome disease results, but even then the defences of the second line usually suffice to counter the attack, and the patient recovers.

The mechanisms of defence are of various kinds. Some are comparatively simple chemical reactions, as when free acids are neutralized by ammonia diverted from its ordinary path to the formation of urea; or when aromatic poisons are combined up with sulphates, and are excreted in harmless forms. But aromatic poisons are also combined with products of protein or carbohydrate metabolism, with the protein fraction glycin to form the harmless hippuric acid and its allies, or with glycuronic acid to form compound glycuronates.

Other mechanisms are far less simple, and the very nature of the protective agents is beyond the ken of the chemist. These are the agents known as antitoxins, agglutinins, precipitins, opsonins, and the like.

Quite recently the researches of Abderhalden have opened up a new field of such studies by revealing the production of protective ferments, capable of destroying protein substances foreign to the organism. It would seem, indeed, that each constituent cell of the body brings into play its enzyme-forming powers to meet an emergency.

It is a question of much interest whether or no the various protective mechanisms have been evolved to meet the assaults of those toxic agencies to which the organism is specially exposed, or whether an entirely new mechanism can be devised, at any moment, to meet an unforeseen emergency. Evidence may be adduced in support of either hypothesis. The laws of chemistry are so immutable that, given certain conditions, definite reactions may be expected to occur. We are able to predict the formation of compounds which may never have existed previously, and to foretell their properties with some degree of accuracy. So we might expect that a given poison launched into a medium in which a number of metabolic products are present, will combine with one or other of these. But in the human organism the conditions are far less simple than in the laboratory, and we are driven to suppose that enzyme action is concerned in the production of such compounds as hippuric acid or a compound glycuronate; and we may well imagine that, even when the requisite materials are forthcoming, combination may fail for lack of the required enzyme.

As Hopkins has pointed out, it is unlikely that until Baumann administered brombenzine to a dog, that compound had ever found its way into the canine organism. Yet any dog to which that substance is given excretes it in combination with the metabolic product cystein, in the form of a so-called mercapturic acid. The mechanism is ready to hand, although we can hardly suppose that special provision is made for the contingency.

The simpler mechanism for the neutralization of acids by ammonia supplies an argument in support of the alternative theory, for this is not developed in herbivorous animals, which, from the nature of their diet, are far less exposed than the carnivora to poisoning by acids.

There are many other ways in which derangements of metabolism are brought about by disease, apart from the calling into play of protective mechanisms. When an important organ becomes the seat of structural changes its functions become disturbed, and their normal orderly working is put out of gear, either permanently or only for a time.

Thus if the lungs are rendered inefficient the respiratory interchange is interfered with, and deficient supply of oxygen to the tissues, and imperfect removal of carbon dioxide, being in their train obvious and well-recognized results. Diseases of the heart muscle produce similar effects by impairing the circulation in the lungs and elsewhere. When the liver is attacked, either primarily or as the result of circulatory disturbances, the assault falls upon an organ which is the seat of more multifarious chemical activities than any other in the body. When the bile ducts are blocked the absence of bile from the intestine grossly impairs the absorption of fats, and the constituents of the retained bile fluid find their way into the circulation, and are deposited in the tissues. When the parenchyma suffers many metabolic processes which are carried out in the liver are disturbed, yet the effects of these disturbances are less conspicuous than might be expected.

The effects of disease of the pancreas are less obvious, but the absence of pancreatic juice from the intestine causes profound derangement of the digestion of proteins and fats, and the effects of the failure of its internal secretion upon carbohydrate metabolism are familiar to all.

Diseases of the alimentary tract cause impairment of the intake of nutritive materials, and changes wrought, by the bacteria which inhabit the intestines, upon the intestinal contents, may result in the formation of poisonous products which undergo absorption, to the great detriment of the organism. When the kidneys are the seats of disease, the elimination of waste products—the hygiene of the tissues—is impaired, to a greater or less extent, and these products accumulate in the organism where they induce a chain of morbid effects which culminate in the stormy symptoms of uraemia.

It is because diseases of glands of internal secretion produce such profound disturbance in the chemical field that we have learnt to recognize the important part which they play as regulators of metabolism. We see how functional inactivity of the thyroid gland renders sluggish the metabolic processes as a whole, whereas its over-activity—if that be the correct interpretation of the phenomena of exophthalmic goitre—causes the metabolic fires to burn too brightly. We see also how a too active pituitary gland stimulates the organism to abnormal growth, whereas loss of its functional activity brings in its train obesity and recessive infantilism.

Phenomena of a like order result from diseases of the

adrenal and pineal glands, and we are only beginning to learn how great a part variations in the secretion of adrenalin by the chromaffin tissues may play in connexion with a number of maladies in which the adrenals themselves are not primarily implicated.

Indeed, it may be said that all diseases, whether they affect the organism as a whole or whether their brunt be borne by single organs, bring about greater or less disturbance of metabolism. The field of chemical pathology is practically coextensive with the field of medicine.

In the case of many maladies, even of the more acute and graver ones, the chemical disturbances which they bring in their train are far less conspicuous than the structural changes. In others, again, the metabolic disorders occupy the forefront of the clinical picture, as is the case in those maladies which we are accustomed to group together under the collective name of "diabetes."

In not a few cases of diabetes grave, and even fatal, metabolic disturbances are attended by no structural lesions which we can detect.

It is natural that the attention of chemical workers in medicine has always been directed to such "diseases of metabolism," and the problems which they present are still very far from solution.

Hitherto we have been considering what may be described as *positive* diseases, which result from attacks upon the organism by morbific agents introduced from without; but there remains to be considered a group of maladies which may be classed as *negative*, seeing that they have their origin in the withholding of some portion of the supplies which the organism derives from external sources, and upon which its well-being depends. The extreme example of such a disease is starvation—a condition in which the body, being deprived of its food supplies, lives for a time upon its own fats and carbohydrates, and ultimately upon the proteins of its tissues. Minor degrees of the same condition are induced by restriction of the intake below an adequate calorie value, of proteins below the amount compatible with maintenance of nitrogen balance, or by complete deprivation of carbohydrate foods.

The cutting off of carbohydrates, or failure to assimilate them, is promptly responded to by disturbance of fat and protein metabolism, with the result that the substances of the acetone group, aceto-acetic and β-oxybutyric acids are formed and excreted in large quantities. This condition of acetonaemia, which plays so important a part in diabetes, and is met with in children suffering from many diseases, affords the most conspicuous example known of the formation of actively harmful products as a result of the throwing out of gear of the normal metabolic processes.

There is much that is still obscure in the pathology of acetonaemia, and it is probable that future researches will profoundly modify the current views on acidosis. This much is certain—that many facts of clinical observation can with difficulty be reconciled with the prevalent theories.

Of equal interest are certain maladies which result from dietetic shortcomings of far less obvious kinds—defects which cannot be estimated in terms of calorie value or nitrogen balance. It is becoming evident that a normal dietary must contain constituents of which we have hitherto taken no reckoning, just as the air which we breathe contains gases of the existence of which we had no inkling until recent years.

The new study of vitamines and of the effects of a diet consisting of pure proteins, fats, and carbohydrates upon the growth of young animals, is beginning to throw light upon the nature of such factors—exogenous hormones, if I may so style them.

That scurvy results from errors of diet has long been known, but the dietetic factor in the causation of beriberi is of far more recent recognition.

It is not surprising that such diseases of defect, when once recognized as such, are far more readily amenable to treatment than any others. The missing factor supplies the specific remedy. Starvation is readily cured by food, and scurvy by a diet of fresh meat and vegetables, just as myxoedema yields to treatment by thyroid extract; but in all such cases continuous administration of the missing factor is essential for the continuance of well-being.

Thus we see how delicate a matter is the maintenance of the integrity of the metabolic processes in the human body, and how slight disturbing influences may lead to their derangement. Any failure of adaptation to environment, any attack from without, any failure of supply of foodstuffs, water or oxygen, produces effects which are not merely local, but which awaken chemical echoes throughout the entire organism.

To us who are engaged in the practice of medicine the knowledge which has been gained of the chemical structure of the human body, and of the dynamic chemistry of its tissues, has no mere academic interest. It cannot fail to influence profoundly our conceptions of disease, and no less profoundly our therapeutic measures.

At the outset the feeling induced by such studies is one of awe. We are impressed by the infinite complexity of the mechanism with which it is our business to interfere, as would be a man ignorant of horology who undertook to repair a watch.

No less profound is the feeling of admiration aroused by the contemplation of Nature's methods for the combating of disease. We appreciate the force of Paracelsus's rebuke to his professional brethren: "Nature is the physician, not thou. Thou must learn of her, not of thyself."

We realize how inefficient are our therapeutic efforts as compared with the powers of protection with which our patients are themselves endowed. Yet the physician has the satisfaction of knowing that he can often render valuable aid, and that by his care many a life is saved. In some maladies, due to animal parasites, he can even attain to the final aim of therapeutics—namely, to destroy the agents of disease without damage to the tissues of their host. But Nature has means by which to parry each stroke in detail, can produce antidotes to specific toxins, or substances lethal to specific bacteria, and can sometimes protect the patient from a repetition of a particular infection for the remainder of his life.

It is in the field of diagnosis that the practical utility of chemical knowledge is most obvious. The derangements of metabolism caused by disease are reflected in the excreta. In these, and especially in the urine, are found abnormal ingredients indicative of the nature of the disturbance at work. Some are substances which are present in normal urine, but in traces so small as to escape detection by the simpler methods of analysis; others are intermediate products of metabolism which have escaped destruction, and are excreted as such or in slightly altered forms, or in combination with toxic substances, which they render innocuous. In the urine, too, we find evidences of undue waste of tissues, or of failure to eliminate waste products.

Methods of ever greater delicacy and precision are being applied to urinary analysis. Quantitative estimations supplement qualitative findings, and many of the modern methods can only be carried out in a well-equipped laboratory.

By examination of the urine we learn much concerning the condition of the kidneys and urinary tract, and by the application of functional tests we may get to know something of the incidence of disease upon different parts of the renal apparatus. Indications are afforded of the activities of intestinal bacteria and of the absorption of toxic substances from the alimentary canal. We can trace the development of acetonaemia in the maladies in which it occurs, and can obtain evidence of disease of the liver, pancreas, and other glands, and even of the bone marrow, in certain cases.

Analysis of the gastric contents is giving us a new insight into diseases of the stomach, and the chemical examination of the faeces affords indications of hardly less diagnostic value, amongst others, of the presence of occult blood, and of derangements of the splitting and absorption of fats.

But perhaps the greatest recent advance in diagnosis by chemical means is the perfecting of methods which enable accurate and reliable estimations to be carried out, of such substances as glucose and uric acid, in small quantities of blood drawn from a vein, and even in a few drops of blood from a prick in a finger. Now that it has become possible to estimate the glucose content of the blood from day to day, a new chapter in the study of diabetes is being opened.

Again, the diagnostic methods of Abderhalden, which reveal the workings of protective ferments, afford means of

diagnosis of a subtlety hitherto not dreamed of, and give promise of widely extended utility in the near future. However, these methods are complicated in technique, and reliable results can only be got by those who have had experience of their working.

Although there are few diseases in which, as in diabetes, chemical findings supply the diagnosis, shape the prognosis, and guide our treatment from day to day, it may be asserted with confidence that there is no branch of medical practice in which a knowledge of chemistry and of its methods is not of service to the practitioner of medicine.

To turn to the field of therapeutics, there is no branch of treatment in which chemistry should help us more than in dietetics, but there is none in which we rely less upon the guidance of science, and in which the influence of tradition is so powerful.

In so far as tradition embodies the accumulated experience of mankind, and of generations of sufferers from particular maladies, it is entitled to our fullest respect, and is sometimes our safest guide. But too often it rests upon the dicta of some teacher of the past, which have been repeated so frequently that they assume an authority to which they have no real claim. I am far from maintaining that our dietetic prescriptions must always have a scientific basis, for our knowledge does not suffice to render this possible. Indeed, in matters of treatment, there is danger in setting up too rigid a standard. A prescription which aims at the attaining of some particular object, although based upon scientific reasoning, may fail because we are not able to take into account all the conditions of the experiment. Not a few therapeutic measures have been introduced in deference to scientific reasoning which has since been shown to be unsound, and some of these—such is the irony of things—have nevertheless proved of real value.

There are scientific grounds for the belief that mankind habitually takes more protein food than is required for the due nutrition of the tissues, and undoubtedly the amount taken habitually exceeds that required for the maintenance of nitrogen balance. When, however, it is realized that the lower animals and savage races have adopted a standard of diet quite apart from medical advice, and presumably in accord with their needs, it seems more probable that our reasoning fails to take into account some unknown factors than that the instinct of whole races is at fault. But when we find bodies of men living under conditions which are in no sense natural, men leading sedentary city lives, but who habitually consume quantities of protein food suited to the strenuous existence of members of nomad races who seek their meat from day to day, we are certainly called upon to interfere, and can do so with confidence in the strength derived from the teachings of experience and the knowledge which physiology supplies.

As regards details of dietary, I would venture to assert that two-thirds of the restrictions imposed upon sufferers from particular maladies find no real justification in the teachings of science or of experience. How contradictory are the directions given by different advisers to gouty patients as to details of dietary, and how few of them can be justified by argument when called into question!

Certain general principles are clearly defined. We should aim at a diet of adequate calorie value, with due representation of the main classes of foodstuffs. The food should be so prepared as to be easily assimilable, and with due regard to the condition of the patient's alimentary canal. Some at least of it should be in a fresh state, and special restrictions are often desirable in view of defects of excretion, to rest damaged mechanisms, or to limit accumulation in the blood of metabolic products which fail to be dealt with in the normal ways.

Yet it should be realized that, in prescribing a restricted diet, we incur serious responsibility. A diet from which one of the chief food factors is missing can hardly be maintained with impunity over long periods. Thus, although there can be no doubt that restriction of carbohydrates is of great value in the treatment of diabetes, a restricted dietary, if imposed by rule of thumb, and unless carefully watched, may do far more harm than good. In any case of diabetes a careful study of the response of the patient to carbohydrate restriction is desirable; a strict diet should only be reached by degrees, and throughout the course of the case the medical attendant needs to keep his hand on the tiller, ready to turn now in the direction of increased strictness, now to relax.

So, too, as regards treatment by drugs. Throughout the centuries drugs have been employed in the treatment of disease, and we almost forget that the control of disease by such means was a discovery, and not part of instinctive knowledge. Remedies introduced on empirical grounds, or in deference to superstition or fantastic hypothesis, have nevertheless proved valuable weapons in the hands of many generations of medical men.

In default of knowledge of anatomy and physiology, therapeutics could not be other than empirical; but step by step, as we learn more of the ways in which drugs act, and of the morbid processes which we seek to influence by their means, a scientific system of therapeutics is being built up. We are learning of Nature, as Paracelsus bade us do. When we administer a serum or a vaccine, or such a drug as thyroid extract, we are copying Nature's methods, and employing her own weapons; and even when the results do not come up to our hopes, we have the satisfaction of knowing that we are working upon sound lines, and may expect that, as technique improves, many difficulties will disappear.

When, on the other hand, the drugs which we employ are toxic substances, foreign to the organism, we need to realize that, in giving them, we often produce not only the effect aimed at, but by-effects which we cannot fully estimate. Pharmacology is teaching us how such drugs act, the limitations of their utility, the nature of their active principles, and how they may best be employed. In this way the discoveries of empirical therapeutics are being placed upon a scientific footing, and the blunderbuss prescription is giving place to the employment of single drugs of known efficiency.

Not only are the weapons improved but the progress of knowledge is making our aim more sure. We have learnt that, although it often is necessary to treat special symptoms, all morbid symptoms do not call for treatment, since many of them are manifestations of protective mechanisms; and even pain leads to the saving of many lives. But in guarding against a particular danger Nature sometimes imperils the organism as a whole. Thus increased blood pressure is doubtless advantageous to many who possess it, but when it reaches such a degree as to endanger the integrity of the arteries, or to cause symptoms distressing to the patient, we feel justified in attempting to lower it.

Nor must mention be omitted of the triumphs of preventive medicine, which bear eloquent witness to what science can accomplish in the medical field—triumphs exemplified by the guarding of communities from epidemic diseases, and the ridding of huge tracts in tropical lands of insect-borne maladies. Modern hygiene is a vast protective mechanism which aims at doing for the community what Nature does for the individual.

It is clear that we shall err greatly if, to quote the words of Kipling, "We are afflicted by what we can prove, we are distracted by what we know"; and if we allow our sense of the boundless complexity of the human organism to engender undue timidity in interference.

That in proportion as we know more we can better diagnose disease, and can the more prudently and efficiently help our patients, daily experience teaches us. The immense progress of surgery in recent years, which has resulted from the strictly scientific work of Pasteur and Lister, impresses profession and laity alike, but the advances of medicine can challenge comparison even with those of surgery.

Modern diagnostic methods enable us to recognize diseases of which our fathers never dreamed, and to detect the more familiar maladies in those early stages in which they are most amenable to control. So long as they are used in conjunction with the older clinical methods, and not merely as short cuts to diagnosis, they prove unqualified boons. Nor can it be questioned that the range of efficient treatment is being extended widely.

But let us not forget how much we owe to the work done by our fathers with the less efficient methods at their disposal. We begin where they left off; the harvest which we are reaping they sowed; thanks to their advances we are able to advance yet further. If they knew less than we do, they had one great advantage over us, in that they had more time for thought.

That the progress of medicine has been more rapid in recent years than ever before is due to the cumulative advance of science as a whole. Modern physics and chemistry, and the borderland science of physical chemistry, have rendered possible modern physiology and pathology, and upon the foundations thus provided is being raised the stately edifice of a modern medicine in which the scientific spirit shall have freer play than heretofore. Just as the spirit which animated those who worked and those who taught in the humbler buildings of the ancient Marischal College finds in these noble halls more ample opportunity and wider scope.

Address in Surgery

DELIVERED AT THE

EIGHTY-SECOND ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION

BY

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THE SURGEON OF THE FUTURE.

The perusal of addresses in surgery delivered at annual meetings of the Association during the last ten years leaves an impression on the mind that some of the surgeons who delivered them resembled proud conquerors on a battlefield, vain of their victories, brandishing their swords, and sighing for more foes to vanquish. Accounts of battles contain sickening lists of the killed and wounded and longer lists of those who die from infectious diseases in camps; records of surgical procedures always contain a mortality bill even for the most trifling operation.

The art of surgery is probably as ancient as the art of war, and is practised by warlike savages who have never been influenced by civilization. The antagonistic callings of the soldier and the surgeon have been markedly modified by the progress of science. It is believed by many that the ingenuity exercised in the invention of methods for destroying life will make war impossible, and the discovery of the causes of diseases and the perfection of preventive medicine will render physicians and surgeons unnecessary. The belief in each instance is futile. Soldiers and surgeons will be required as long as civilization endures; but their methods have undergone great changes, and greater are impending. Gunpowder revolutionized warfare; the discovery of anaesthetics and the invention of the microscope completely changed surgical methods. The enormous impetus which the discovery of anaesthetics gave to surgery threatened to extinguish it as an art, for post-operative suppuration and pyaemia became endemic plagues in all populous cities where the surgeon plied his craft. It was on this unfavourable flood that some of the most notable ventures of modern surgery were launched, but their progress was slow. Traditions and methods die hard! A famous surgeon told me that when he began to perform operations under chloroform an old pupil of Guy's Hospital came in to see a leg amputated under the new conditions. When the surgeon pointed out the merciful nature of anaesthetic sleep and the change it had wrought in the methods of removing limbs, the old fellow sighed, and said he had a fancy for the old ways, and liked to see some blood and sawdust about! Sir William Fergusson delivered some lectures on the progress of anatomy and surgery at the Royal College of Surgeons, England, in 1855, and described operations performed at that date in London in this rough and ready style. You will acquit me of exaggeration when I state that the arena of an operating theatre in the first half of the nineteenth century smacked of the bull ring, and the board in the old operating theatre, that bore a notice regarding the reservation of the arena for the surgeons and the two first rows of stalls for privileged spectators, recalls the notices *Sol* and *Sombra* in the Plaza de Toros.

In the early stage of a great discovery few men perceive its significance. When anaesthesia began to make progress, although surgeons recognized its importance, many years elapsed before it was fully utilized. Chloroform had been in constant use for operations before its usefulness in the reduction of dislocations was recognized. Operating theatres had iron bars and racks fixed to the walls and ring-bolts let into the floor for the attachment of cords and pulleys employed in the forcible reduction of dislocated shoulders and hips. In the Middlesex Hospital the dislocation fixtures and tackling were abolished with the old operating theatre in 1895. To-day a dislocated hip is reduced with the help of chloroform without pulleys, almost in the twinkling of an eye. When done expertly it resembles a conjuring trick. Let me briefly describe an actual case to show what harm sometimes followed the use of pulleys in reducing a dislocated hip. In 1889 the chief officer of a ship had his hip dislocated by a derrick-boom falling upon him during a voyage in the Atlantic Ocean. The captain attempted to reduce it. As a preliminary the patient drank half a bottle of brandy and fifty drops of laudanum. Being drunk he was fastened by a perineal band to a ring-bolt on the deck and ten seamen under the superintendence of the captain hauled steadily on the leg. Their efforts were unavailing. Four days later the ship touched the Canary Isles and the officer was sent ashore; the head of the thigh bone was promptly reduced by a surgeon under chloroform. On recovering the patient was unable to walk without pain. When the limb was extended he felt a pricking pain down the back of the thigh to the knee, then it divided and "one stream of painful sensations" ran down the back of the leg and the other along the front of the leg to the toes, and the sailor found it hard to kick against the pricks. I saw him in London and came to the opinion that the efforts of his shipmates had broken the rim of the acetabulum and a spicule of bone interfered with the great sciatic nerve. By means of an incision in the buttock the nerve was exposed as it issues from the great sciatic foramen. I found a hook-shaped piece of bone on the rim of the acetabulum in such a position that its sharp end pricked the nerve when the limb was extended. This piece of bone was removed. The officer recovered and reported himself in good health twenty years afterwards.

The utility of chloroform in the diagnosis of hysterical contractures, phantom tumours and spurious pregnancy was its last merit to be appreciated. The surgery of the viscera is one of the remarkable extensions that followed the introduction of anaesthetics. Abdominal organs such as the spleen and omentum were removed when extruded through accidental rents made by knives, spears, swords, scythes, sickles, cart-wheels, or similar forms of violence, and extruded intestines were returned with success centuries before the discovery of ether and chloroform. Caesarean section was successfully performed in Roman times, and many a child, to use Shakespeare's phrase, "was from his mother's womb untimely ripp'd." This form of delivery has been effected by midwives, and butchers; by a patient on herself, and by the horn of a mad bull; in some instances mother and child survived. The success that followed this inartistic mode of delivery is instructive: forty years ago Caesarean section had an astounding mortality when performed by surgeons, whilst the spayer and gelder carried out his calling with almost invariable success. Lister unravelled the riddle. To-day wounds made and closed in the course of a surgical operation unite with a certainty that ceases to attract attention. Surgeons rarely pause to think on what would happen if surgical wounds failed to heal. In the pioneer days of abdominal surgery the incisions often failed to unite and such patients frequently died. I shall later on place facts before you to show that failure of intestinal wounds to unite is one cause of the high mortality following operations for cancer of the colon. Union of healthy intestine takes place quickly and perfectly.

New Diseases and the Plagues of Egypt.

We marvel to-day at the frequency of the disease called appendicitis that became endemic in great centres of civilization in the last quarter of the nineteenth century. This disease occurred sporadically, and had been known as perityphlitis and iliac abscess for many years, but the cause of the present epidemic has not been discovered by pathologists or bacteriologists. A study of the history of diseases shows that they wax and wane. In the fourteenth century lepers were common, and leper houses as numerous in Europe and the British Isles as lunatic asylums

to-day. Leprosy lingered longest in Scotland. I thought it probable, reflecting on the prevalence of leprosy in Iceland and Norway, that there may be some lepers in the northern islands of Scotland. I have been assured on reliable authority that there is no leprosy in the Orkneys. Whilst pondering on the absence of this disease in Britain, doubts arose in my mind on reading in Lord Strathcona's will (*Times*, May 28th, 1914) a bequest of £5,000 to the Right Hon. John Burns for a home for fifty lepers in the United Kingdom, none of the sum to be expended upon lepers coming into the kingdom.

In Europe generally, leprosy diminished greatly without any recognized cause in the fifteenth century, but its decline was coincident with a great increase in syphilis. One disease tramples out another. In the vegetable world grass, and what we call weeds and the Bible tares, choke the nobler plants. When from accidental causes weeds are held in check, the suppressed plants revive and flourish again. It was a great discovery to detect the part played by insects as unconscious pimps in the fertilization of flowers. No one can doubt that the disappearance of many species of flowering plants, and variations in the abundance or the scarcity of particular species of flowering plants depend not merely on favouring conditions of weather, but on the abundance or scarcity of the insects that act as vectors of the precious pollen from the flowers of one plant to the flowers of another of the same species. Diseases supply parallels. To-day we are staggered by the important observations that many infections are conveyed from man to man, man to beast, and from beast to man by insect agency. Flies act as vectors of the parasites of sleeping sickness, gnats spread filaria, malaria, and yellow fever; fleas infect man with plague, and bugs can convey the leprosy bacillus.

The famous plagues of Egypt fraught with such important consequences to the Israelites were intensified by flies. When the narrative is considered in the light of modern knowledge, it is a fair inference that the dust storm which fouled the Nile water and rendered it undrinkable, killed the fishes, and caused the frogs to take refuge on the land. The dead fishes and frogs provided breeding places for flies, and they hatched out in myriads.

During the last decade the fly has come to be regarded as a conveyer of disease, and the indictment is very strong. The biting fly conveys parasites in its proboscis, and the common non-biting fly carries on its body, legs, and wings the infective agents of typhoid, tuberculosis, ophthalmia, and perhaps small-pox. The sequence of the Mosaic visitations is significant; the plague of flies was followed by a murrain among beasts and boils and blains on the Egyptians. The death of the children was the last plague, and it is the last to be explained by modern science. Dr. E. H. Ross was medical officer in Cairo in 1909. He tells us the spring of that year was ushered in by a heat wave on May 1, and the temperature rose to 102° in the shade. Fourteen days later the greatest plague of flies ever remembered appeared in the city. Food, milk, and fruit were contaminated by them. In two months 3,000 children under 5 years succumbed to enteritis—a disease due to infection.

It is not an unreasonable assumption that the death of the Egyptian children, which induced Pharaoh to let the children of Israel go, was due to an epidemic of infantile enteritis spread by an enormous swarm of "divers sorts of flies."

One of the greatest plagues which troubled surgeons and destroyed millions of lives is known as suppuration or pyosis; it was spread widely by surgeons. When Pasteur discovered the cause of fermentation and Lister gave this discovery a practical application in the daily work of the surgeon, it was not suspected for many years that the most dangerous items in a surgical operation were the infected instruments and fingers of the surgeon. The importance of this observation cannot be overestimated; surgeons admit its truth by wearing sterilized rubber gloves when performing operations.

The Microscope in Surgery.

It is usual to ascribe the remarkable progress of surgery to the discovery of anaesthesia and the perfection of methods designed to prevent wound infection, but we must not forget that most important was the invention of the microscope; without its assistance the minute bodies which effect such great changes in organic and inorganic nature, and cause so many varieties of infective disease in animals and plants, would have remained not only hidden but unsuspected. This important instrument of research, perfected by earnest workers mocked at as "brass and glass men," is now indispensable in clinical research. Every improvement in the construction of the microscope has led to an increase in knowledge of the cause of disease. It has also become a means of popular instruction and amusement. Even embryologic processes are displayed to interested pleasure seekers on cinematographic films in "picture palaces," and school children are instructed in physiology, including the microscopic features of the blood. The numerical estimation of blood corpuscles is a regular exercise for the clinical clerk, and corpuscles are scrutinized in the laboratory by experts with microscopes as diligently as physicists examine the solar disc with telescopes for sun-spots. Specks in the white and in the red corpuscles, barely visible to the highest powers of the microscope, may have more influence for evil on the health of a community than a sun-spot big enough to be visible to the naked eye exercises on the weather.

Derangements of the functions of blood-forming organs, especially red marrow, and the significance of an excessive production of leucocytes has come to be so thoroughly appreciated by surgeons that under certain conditions an excessive proportion of white corpuscles in the blood is a more emphatic bar to a surgical operation than sugar in the urine. It is in this direction that the increase of pathological knowledge, especially the form of it called clinical pathology, will influence operative surgery in the future. The light microscopic studies of the blood throw on leukaemia acts as a danger signal to the surgeon when contemplating the removal of an enlarged spleen. The extirpation of a leukaemic spleen is always followed by death, and this experience is crystallized in practice, for an abdominal tumour resembling a spleen always suggests a blood count.

The Influence of Chemiotherapy on the Surgery of the Central Nervous System.

Disease was formerly regarded as something that entered the body, and the idea of evil spirits, or devils, entering men and women led, even before the dawn of Christianity, to surgical practice consistent with such belief, for there is evidence that the skulls of epileptics were trephined to afford incarcerated evil spirits a chance of escape. Fifty years ago our knowledge regarding the physical condition of the brain and spinal cord was of an elementary kind. It was the custom to teach that the cerebro-spinal fluid served as a waterbed for the brain in order to preserve it from harmful concussions. In my student days this teleological explanation tickled my fancy, and I suggested to the lecturer on anatomy when he waxed enthusiastic, after the style of Hilton, on this wise precaution of Nature, that the explanation was absurd, for the relative bulk of brain and cerebro-spinal fluid resembled an ironclad in a duck pond. Now cerebro-spinal fluid is used as a medium for inducing temporary paraplegic analgesia—a method of conscious anaesthesia of great advantage to the surgeon when he is called upon to operate in conditions where a general anaesthetic would be attended with unusual risks. The diagnostic importance of cerebro-spinal fluid obtained by lumbar puncture is not only great but its utility is increasing. Examination of samples of the cerebro-spinal fluid obtained by tapping the spinal theca is a routine in diagnosis. Flexner's demonstrations, that the olfactory nerves are routes by which the microbes of influenza and cerebro-spinal fever infect the central nervous system, add a new interest to the physiology of those remarkable secretory organs in the brain called "choroid plexuses."

In discussing influenzal meningitis he tells us that the fluid secreted by the choroid plexuses in infected monkeys contains an antiserum which escapes by the meningeal veins, and it may become possible to arrest the development of bacilli in the blood by means of compounds injected into the cerebro-spinal fluid. Here is a method of specific therapy unsuspected in our wildest dreams—Science transforming the cerebro-spinal fluid into a pool of Bethesda! Enterprising surgeons are now devising

methods by which they can "trouble" the pool to the best advantage. No one can doubt that bacteriologists are in their methods as ingenious as surgeons. Crowe and Cushing ascertained that urotropin (hexamethylenamin) given by the mouth is excreted into the cerebro-spinal fluid and inhibits the growth of pyogenic bacteria. Surgeons turn this observation to practical account; it is now the custom to administer urotropin internally two or three days before an operation on the brain or spinal cord, and continuing it for a few days afterwards. Post-operative meningitis occurs occasionally in spite of it!

Orr and Rows have found that micro-organisms use neural lymphatics as routes for infecting the cord. Thus a bedsore or any septic area of the skin can lead to an infection of the spinal cord at a spot corresponding to the roots of origin of the implicated nerves. This will intensify the interest of surgeons in neuritis complicating septic lesions. The brilliant demonstrations that spirochaetes use the lymphatics of nerves as avenues for invading the spinal cord will modify the treatment of syphilitic diseases of the cord.

Intrathecal injections of salvarsan, in common with all arsenical compounds, irritate the spinal cord. To overcome this difficulty salvarsanized serum obtained from the patient is injected into his cerebro-spinal fluid and tolerated. This is a good example of practical ingenuity.

The results of surgical enterprise on cerebral tumours are unsatisfactory; the mortality is great and the condition of the survivors in many instances sad. The indefiniteness of gliomatous formations makes them extremely unfavourable for operation, to say nothing of the difficulty in localizing cerebral tumours in non-motor areas. It is probable that compounds will be discovered that can be injected into the cerebro-spinal fluid and cause gliomas to shrivel in the same way that gummas disappear under potassium iodide, mercury, or salvarsan, and thus abolish some of the most uncompromising operations of modern surgery.

Surgical Gambling with Malignant Disease.

Investigations of the minute structure of morbid growths have been mainly useful in separating the so-called benign tumours from those which inevitably destroy life. Thirty years ago the two groups were regarded as distinct. It is true that type forms can be distinguished as innocent or malignant, but each genus of the so-called innocent group, with the exception of lipomas, contains species in which the histological features of innocency shade away into those indicating malignancy. This is a matter of great importance when a declaration of malignancy entails the sacrifice of an organ, or a limb. The horror patients entertain of malignant disease, and the stigma they think it imprints on the family reputation, leads to willing submission when the surgeon offers operative treatment. It is an impression deeply ingrained in the profession that the presence of malignant disease justifies an operation, however extensive or dangerous, for its relief. Let us satisfy ourselves that surgical gambling with malignant disease is justified. There are two organs in the body often the seat of cancer and often attacked by surgeons—the uterus and colon—in connexion with which this question may be fairly considered.

The results of removal of the uterus for cancer in its neck are by no means uniform even when the conditions are apparently similar. The microscopic features of cancerous growths do not help in explaining variations in the clinical course of the disease. There are intrinsic and extrinsic factors concerned in estimating the malignancy of uterine cancer which have only recently been appreciated. Our predecessors in the art of surgery recognized a remarkable alteration in the appearance of patients the subjects of advanced malignant disease, which they expressed by the phrase "cancerous cachexia." This "bad habit" of body has no special relation to cancer; it is due to the entrance into the circulating blood of toxic substances secreted by the bacteria and cocci which colonize cancerous growths in exposed situations. The relation of bacteria to cancer is a matter of first-rate importance to the surgeon, and influences his work very markedly. I find, as a rule, that non-ulcerating cancers of the breast are sterile. Cancer of the tongue usually swarms with streptococci, and the neck of a uterus when cancerous is colonized by staphylococci, or streptococci, and the *coli* group. This led me to make bacteriological investigations of the necks of cancerous uteri before undertaking their removal; I quickly found that the fate of a patient submitted to operation for this disease depends not so much on the skill of the surgeon as on the nature of the infecting micro-organism. Many patients submitted to hysterectomy for cancer of the neck of the uterus die within a few days of the operation from septic peritonitis, pulmonary embolism, or acute bacteriaemia if the cancerous tissues are colonized by streptococci.

In the general hospitals of London during the year 1912 the mortality of radical hysterectomy for cancer of the neck of the uterus varied from 10 to 48 per cent. This forms a striking contrast to hysterectomy for fibroids of the uterus, for the mortality of this operation in the general hospitals of London is about 2 per cent., the difference being almost entirely due to the presence of bacteria and cocci in the cancerous tissues. It cannot be too emphatically stated that the virulence of cancer, as a rule, depends on its septicity, and cancers in exposed situations are rapidly destroyed by bacteria.

Sepsis in Relation to Cancer of the Large Intestine.

The relationship of sepsis and cancer is an important matter for the surgeon. During the last ten years there has been great activity in developing radical measures for the treatment of cancer of the large intestine. The results are not gratifying. Resections of the caecum, or portions of the colon, are attended with a high rate of mortality, and of those who survive operation early recurrence or dissemination is the rule. Surgeons know this, and in order to improve the results of operative treatment painstaking investigations have been made on the distribution of the blood and lymph vessels of the colon. In spite of much admirable work and surgical enterprise, cancer of the large intestine is as opprobrious to the surgeon as hysterectomy for cancer of the neck of the uterus to the gynaecologist, and for the same reason—sepsis. The mortality of radical operations for cancer of the caecum and colon in London during 1912 was 30 per cent. In the London Hospital, during the years 1901–11, resection of cancerous portions of the large bowel was performed on 95 patients; 49 recovered and 46 died (Sir Frederic Eve). In these days of boastful surgery this may be called a superlative death-rate.

The radical method of dealing with cancer of the colon consists in free resection of the cancerous portion in favourable cases; this requires a complicated operation for the reunion of the bowel, entailing a sutural junction that must be not only water-tight but gas-tight. One of the first requisites for immediate union is the absence of pyogenic bacteria. In operations for intestinal anastomosis success depends on early and firm union of the apposed surfaces of the bowel. There is nothing more amazing in relation to the healing of wounds than the rapidity with which peritoneal surfaces join when they are carefully sewn together with sterile sutures. In regions of the gastro-intestinal tract free from pyogenic bacteria union occurs after surgical operations safely and quickly; thus a gastro-jejunostomy in the hands of competent surgeons is devoid of risk from septic peritonitis. How different the picture for radical operations performed for cancer of the colon! Septic peritonitis destroys the lives of at least 30 per cent. of those who submit to it. Death is due to septic peritonitis from infection during operation, leakage at the junctions, or failure of union due to the colon bacillus and its congeners.

Cancer of the colon is an extremely insidious disease; in the early stages it is symptomless, until it becomes septic or obstructs the flow of faeces, then the patient complains of pain. When cancer becomes septic, it sloughs and bleeds. Infected cancer impairs the patient's health, because the toxins brewed by the schizomycetes colonizing it enter the circulation. Colic cancer sometimes leads to abscess when it is infected by the *coli* group. The frequency with which visceral cancer mimics inflammatory conditions and misleads physicians and surgeons alike is due to sepsis. The appreciation of the causes of failure in the surgical treatment of colic cancer should exercise some influence for good. Statistics indicate that the risks of operations performed for cancer of the colon are as great as for the operations of general surgery in pre-Listerian

days, with this difference—the mortality of that period was due to sepsis from infection of the wound that often arose from the use of dirty sponges, instruments, sutures, and the septic fingers of the surgeon and assistants. In operations on cancerous viscera the diseased tissues are already infected and taint the fingers and instruments of the surgeon, hence the danger of such operations.

SURGICAL COQUETRY.

It is by no means uncommon to see surgeons clad in sterilized overalls, gloves, caps, masks, and top boots resecting a cancerous segment of colon swarming with pyogenic micro-organisms. This can only be described as surgical coquetry. Some of our methods for destroying bacteria in the course of an operation are almost as clumsy as attempts to kill fleas with bludgeons.

In order to improve the results of operations for visceral cancer means must be devised for sterilizing them, or a specific remedy found for cancer. There are indications that both methods will be available. Cancerous organs are sometimes submitted to the action of radium as a preliminary to operation, and histological examinations of malignant tumours affected by radium emanations show that the gamma rays find distinctions in tissue cells imperceptible to the microscope. We need a compound which can be introduced into the circulation to destroy streptococci and its kind. This is no idle dream. Huxley suggested that it would become possible in view of the discoveries in therapeutics "to introduce into the economy a molecular mechanism which like a very cunningly contrived torpedo shall find its way to some particular group of living elements, and cause an explosion among them, leaving the rest untouched." This sounded fantastical in 1881, but Ehrlich has discovered "molecular mechanisms" more subtile. There are drugs (organotropic) which injuriously affect the organs of the body and fasten on them like aniline staining reagents cling to special tissues. He speaks of compounds that injure the intestinal tract of mice, and they die of profuse diarrhoea. Sometimes the red blood corpuscles are attacked, and the animal dies of severe anaemia. Curious drug affinities occur in the central nervous system; in mice the vestibular nerve is attacked, and they gyrate like Japanese waltzing mice. The derivatives of phenylarsin acid attack the optic nerve, and large doses of atoxyl produce blindness.

What surgeons urgently need is a molecular compound which will either kill the bacteria and cocci that colonize cancer or neutralize their harmful toxins in the same way that salvarsan renders spirochaetes inert without destroying the organs or tissues of their host.

THE SURGEON OF THE FUTURE.

In pre-Listerian days the path to surgery lay through the dissecting-room. A thorough practical knowledge of the anatomy of man was and is indispensable to a sound surgeon. Many surgeons whose names are prominent in the history of surgery—from John Hunter to Fergusson—taught anatomy by dissection. Surgeons no longer act as demonstrators of anatomy or conduct *post-mortem* examinations; the principles of antiseptic surgery forbid such occupations. The practical training in the dissecting-room and *post-mortem* room teaches men something they cannot learn from books—the appreciation of tissue; this means, in plain terms, the power to recognize organs and tissues, normal and abnormal, at sight or by touch in the course of an operation.

Surgeons are of two types, they are either craftsmen or biologists. The surgical craftsman invents variations in technique; metal plates, wires and screws for bones; or fancy methods of suturing wounds. Some expend their ingenuity on surgical cutlery and improve the knives and needles. The utility of a simple tool such as the clip forceps is inestimable. In spite of much ingenuity among surgeons, an ideal ligature material awaits discovery. Clever contrivances like the laryngoscope, bronchoscope, and cystoscope have revolutionized special branches of surgery. Another useful instrument, the oesophagoscope, requires for its successful use a surgeon with the instincts of the sword-swallower and the eye of a hawk. Recently through the kindness of my colleague, Alfred Johnson, I witnessed through the cystoscope a stone slowly extruded from the vesical orifice of the ureter.

The biological surgeon studies pathology in its broadest aspect and investigates, in the laboratory, problems of morbid anatomy and bacteriology. The diagnostic value of reports issued from the laboratory by the pathologist and the bacteriologist, to be of value, must be estimated with the help of clinical experience. If the surgeon has had no experience in bacteriological methods he must accept the reports from the laboratory with the hopefulness of a patient swallowing physic compounded from a prescription he does not understand and which he is often unable to read. The training of surgeons in clinical pathology is of great importance, and it requires little foresight to recognize that for men ambitious to attain high places in surgery the high road lies through the pathological institute.

Morbid histology has been and still is of great use in classification, diagnosis and prognosis of morbid growths; for a knowledge of their cause new methods are required. For these we fix our attention on the men along the skyline—bacteriologists, experimental physiologists, physiological chemists, and physicists; the future lies with them. As it is of the utmost importance that surgeons shall have a practical knowledge of clinical pathology, it becomes essential to bring the wards, operating theatres, and laboratories into the closest intimacy. From this union of workers means will be found for curing diseased organs by chemiotherapy rather than by extirpating them. Until the right compound for curing cancer has been discovered, surgeons will continue to excise cancerous viscera, and this makes it more necessary to discover means for ridding cancer of pyogenic bacteria.

The skill, ability, and dexterity with which surgeons remove a kidney, the uterus, or perform extensive resection of the intestine, great and small, can be witnessed almost daily in the splendid hospitals of large cities, but surgical effort is handicapped by streptococci and the *coli* group, which are very resistant to chemiotherapy. There is something fascinating in submitting septic morbid growths to what Ehrlich picturesquely terms a "bacteriological siege." Our difficulty is to destroy these seeds of disease without serious damage to the organs and the delicate tissues in which they flourish. The antiseptic solutions employed against bacteria are powerful cell poisons. We need therapeutic agents which destroy parasites but do not kill the tissues of the host. Acute minds are busy with these problems, and surgeons may hope to remove visceral cancer with no more risks than attend gastro-jejunostomy or hysterectomy for fibroids.

The magical effects of salvarsan on the lesions of syphilis, acute and chronic, lead us to hope that this compound will assist in the elimination of cancer of the mouth and tongue, for in these situations cancer is often engrafted on chronic syphilitic lesions. It is reasonable to believe that within a few years surgeons will notice a marked decrease in the number of men with cancer of the lips, gum, tongue, and pharynx, and of women with cancer of the vulva. The extinction of these forms of cancer will relieve surgeons of some of the most distressing and unsatisfactory operations they are called upon to perform.

In regard to the cure of malignant disease, there is most hope in chemiotherapy. In detecting the cause of cancer histology has proved a false dawn, but, like that peculiar light which precedes the dawn in the tropics, it is very fascinating. Who can tell how long we shall have to wait for the real dawn! We need not despair; the zeal, enthusiasm, and acumen of laboratory workers fills us with the hope that the ideal of all practitioners of medicine and surgery is attainable—the control of all forms of infective disease.

THE Russian Imperial Duma has voted in favour of the proposal to establish a Faculty of Medicine in the University of St. Petersburg.

WE learn from the *Journal of the American Medical Association* that the trustees of the University of Pennsylvania have voted in favour of admitting women to the medical college of the university. The new regulations will take effect in the autumn of the present year.

THE latest "A. F. pamphlet" supplies a description of methods that have been found useful in organizing and conducting local movements in favour of humane slaughtering. Copies (price 2d.) can be obtained post free from the Animals Friend Society, York House, Portugal Street, Kingsway, W.C.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TWIN TUBAL PREGNANCY WITH TUBAL ABORTION OF ONE TWIN.

E. P., a multipara, aged 33, was admitted to the Royal South Hants Hospital on April 28th, 1913, suffering from severe uterine haemorrhage. There was a history indicative of six months pregnancy, abdominal tumour to about the level of the umbilicus, and milk in the breasts. No fetal heart sounds were heard. The os was patulous, but very little else could be made out on vaginal examination, owing to excessive tenderness. As the patient was having continuous haemorrhage, it was thought advisable to empty the uterus without delay. She was anaesthetized and placed in the lithotomy position. On passing a sound I noticed that its direction did not correspond with the axis of the tumour, nor did it pass as far as I expected. A bimanual examination under the anaesthetic showed the tumour to be distinct from the uterus. A diagnosis of tubal pregnancy was made, and the abdomen prepared with acetone and iodine for laparotomy.

I opened the abdomen from umbilicus to pubes a little to the left of the middle line. A large dark-coloured tumour was exposed with omentum adherent to its upper pole. The adhesions were easily separated, and then, having packed abdominal swabs around the mass, I opened it freely. A quantity of old blood and clot escaped, and passing my hand into the cavity I extracted a fetus. There was no sign of life; using the umbilical cord as a guide, I easily found the placenta in the antero-inferior portion of the gestation sac, and stripped it from its site. As I brought it into view I saw another umbilical cord springing from the same placenta. This I traced out, and found another fetus free in the peritoneal cavity, and situated just below the liver. It was as large as the fetus first removed, but showed signs of degeneration in the toes of one foot. I ligatured the uterine artery near the fundus, and then removed as much of the gestation sac as possible. The oozing from the walls of the sac, and especially the placental site, was rather alarming, and I could only arrest it by gauze packing. This I used freely round a tube which I passed to the bottom of the sac. The abdomen was then closed in layers. The patient made a slow but uninterrupted recovery, and left the hospital on June 18th.

The interest of the case, apart from the rarity of the condition, would seem to centre round the position of the second fetus. It seems improbable that a fetus of such size could escape past abdominal swabs, at the time of operation, unrecognized. The length of each fetus was about 7 in. It is possible that tubal abortion of one embryo had occurred at an earlier date, and that the anastomosis in the fused placentae had been sufficiently strong to nourish the intra-abdominal fetus until some factor brought about the death of both embryos.

I am indebted to Mr. Shettle, the senior surgeon of the hospital, for his kindness in referring the case to me, and also allowing me to publish the result.

Noel Braham, F.R.C.S.Edin.,
Late R.M.O. Royal South Hants and Southampton Hospital.
Southampton.

Reports of Societies.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

At a meeting on Tuesday, July 7th, Dr. F. May Dickinson Berry in the chair, Dr. E. Bolton gave a summary of 19 cases of tuberculous disease of the female generative organs that she had collected from the records of the New Hospital for Women. During the last ten years 75 cases of tubal disease had been operated upon, and of these 19 had been microscopically determined to be tuberculous in nature. She held that the diagnosis of tuberculosis was sometimes very difficult. As regards symptoms, menorrhagia and metrorrhagia were marked and amenorrhoea was rare. Among the married women sterility was a very noticeable feature. Pathological findings in the uteri removed showed evidence of tubercle in 66 per cent. of the cases, and she was of opinion that for this reason it was wiser to remove the uterus. Dr. L. LeppER having demonstrated specimens and microscopic preparations from some of the cases described, Dr. Louisa Garrett-Anderson agreed that the difficulty in diagnosing tuberculous from non-tuberculous conditions of the adnexa was very great. She had found that prolonged anaesthesia in these cases was sometimes followed by tuberculous chest trouble. Dr. Maud Chadburn also described the difficulties arising in diagnosis. She had found tuberculosis localized in the tubes in the routine examination of a woman who came for treatment of varicose veins, and who did not complain of pelvic trouble. The symptoms usually complained of by those suffering from tuberculous pelvic disease were menorrhagia, amenorrhoea and sterility, and very rarely pain. She advocated early surgical treatment and the removal of all obvious disease, preserving the uterus and ovaries whenever possible. Dr. Hilda Clark gave her experience of diagnosis and treatment by means of injections of tuberculin. In one case the distorted tubes had resumed their normal contour; dysmenorrhoea was frequently improved. Dr. Forrester-Brown drew attention to the good general condition and appearance of a woman who had undergone operation for severe tuberculous disease of the adnexa.

Reviews.

AMERICAN WORTHIES OF MEDICINE.

Professor Howard A. Kelly has compiled a *Cyclopaedia of American Medical Biography*,[1] the object of which is to give a short account of every medical worthy who has lived in the United States and in Canada. By "worthy" he means one who has won distinction either as an original thinker or writer, or as a teacher or leader in medicine. Others, too, are included, such as pioneers who did great work with insufficient means and assistance in the border countries in the early days, and men who after taking a degree have not practised medicine, but became eminent in some other branch of science. There are also a few biographies of men who have done no special original work, but who widely influenced their fellows by their strong personality. The book, which contains sketches of more than 1,200 worthies, closes with December 31st, 1910.

Some interesting articles on special subjects serve as an introduction to the lives. From an essay on anatomy by Dr. C. R. Bardeen, we learn that Philadelphia was the first place where anatomy was studied in the United States; New York came next. The first teacher of practical anatomy was Thomas Karl Wallader, who had worked under Cheselden, and who in 1730 or 1731, made dissections and gave demonstrations for the instruction of two or three students. Dr. Valentine Mott, who about 1806 was demonstrator of anatomy at Columbia, has recorded his experiences as a resurrection man. On one occasion he drove in disguise a cart containing eleven subjects from a burying ground, sitting on the bodies and "proud," he said, of his "trophies." In a paper on surgery Dr. Martin B. Tinker claims among the pioneer work done by Americans, spinal anaesthesia, the modern operation for hernia, excision of the Gasserian ganglion, and decortication of the lung for old empyema. Philip Syng Physick first advised the use of animal ligatures in 1816; he used ligatures of buckskin, rolling them under a marble slab; he cut them close and left them buried in the wound. About ten years later Jameson made a number of experiments on animals which he thought showed the superiority of animal ligature material. Tinker says that Benjamin Winslow Dudley was one of the first to trephine successfully for the relief of epilepsy. He operated on his first case in 1819 and reported 6 successful cases in the *American Journal of the Medical Sciences* in 1832. Benjamin B. Simons is credited with the first operation for brain abscess; it was reported in the *Carolina Journal of Medicine, Science, and Agriculture,*

[1] *A Cyclopaedia of American Medical Biography. Comprising the Lives of Eminent Deceased Physicians and Surgeons from 1610–1910.* By H. A. Kelly, M.D. In two volumes. Philadelphia and London: W. B. Saunders Co. 1912. (Roy. 8vo. pp. 969; illustrated. 42s. net.)

vol. i, 1823. About one-half of the whole number of operations on the Gasserian ganglion so far reported are said to have been done by Americans, and a complete tabulation of all recorded cases of brain tumour operated upon down to 1903 shows that nearly one-third of something over 300 brain tumours then reported had been operated on by American surgeons, with a proportionately large number of successful cases. Intubation as a substitute for tracheotomy was introduced by O'Dwyer. McDowell performed the first ovariotomy in 1809, and afterwards operated in 13 cases with eight recoveries. Professor Howard Kelly gives an excellent review of the work done in America in gynaecology and obstetrics, and Dr. Alfreda B. Withington gives an account of women in medicine in America, in which she says that Elizabeth Blackwell, who recently died, lived to see 7,399 women physicians and surgeons in America. Thomas Shastid contributes a critical essay on medical jurisprudence.

Of the biographical part of the *Cyclopaedia* we can speak with high praise; but it is impossible to review such a work in detail. We therefore only take a few selected lives as specimens. The account of Oliver Wendell Holmes is excellent, and eminently readable. It is quite rightly dealt with from the medical rather than the literary point of view. Crawford Williamson Long is credited with the first use of ether as an anaesthetic, though he did not make it known to the medical world. Professor William H. Welch, therefore, says that while the credit of independent experiment and discovery need not be withheld from Long, we cannot assign to him any influence upon the historical development of our knowledge of surgical anaesthesia or any share in its introduction to the world at large. As Sydney Smith said, it is not the man who stumbles on a new truth, but he who by crying it from the housetops gets it accepted, that is the real discoverer. The account of W. G. T. Morton is very brief, and scarcely does justice to the man or to his work. Of Elisha Perkins, whose name is known in connexion with the once famous tractors, there is a good account, though short, but it is odd to read that "it was owing to the exertions of *one* Dr. Haygarth, of Bath, England, that the idea of any healing power resident in the tractors themselves was refuted." The younger William Pepper was a man into whose life manifold activities were crowded; among his most important works were the reorganization of the University of Pennsylvania, and the establishment of a great museum and free library.

The lives are all commendably short, and the more important of them are "documented" with abundant references. Owing to the number of authors, they are inevitably unequal in execution, but altogether they are very interesting. The whole book is a record of splendid achievement in every province of medical science, and gives the impression of great activity, often along original lines, and of freshness, vigour, and originality in the men whose work is recorded. The book is illustrated with several portraits.

ALCOHOLISM AND ITS EFFECTS.

THERE is a certain fitness in noticing the two works cited in the footnote in one article.[2] Dr. CLIFFORD'S Raper Memorial Lecture is an eloquent denunciation of the evils associated with the traffic in alcoholic beverages, and a glowing account of the advantages of total abstinence. In addition to quotations from the writings of numerous professional men of distinction, Dr. Clifford remarks (p. 7) that "it is no longer a guess that total abstinence is the royal road to longevity," and cites the statistical data of certain insurance companies which maintain separate classes for abstaining and non-abstaining members. Mr. PHELPS'S pamphlet consists for the most part of a pungent criticism of this species of evidence. Mr. Phelps quotes some observations by Dr. Dwight, medical director of the New England Mutual Life Office, which indicate the statistical complexity of the problem. One passage from Dr. Dwight's remarks may be cited. He says:

> We divide them (that is, the insured lives) into the total abstainer, rarely use, temperate, and moderate. By "rarely use" we mean the man who says that he, perhaps, twice a year at a dinner drinks two glasses of champagne. While we have every reason to believe that this is an honest statement, it is not quite fair to say he is a total abstainer. Otherwise they are divided by the individual's own statement—in many instances incorrect. In many instances the total abstainer is a total abstainer because he has to be and has been advised to be, but take them as they run, we find the total abstainer with a mortality of 59 per cent. of the American table—these are rough figures; rarely use, 71 per cent.; temperate, 84 per cent.; and moderate, 125 per cent. If we let these figures stand as they are it is accumulative evidence to demonstrate that we ought all to stop drinking the next minute, and that we ought to divide our applicants into abstainers and non-abstainers; but let us see what the effect of tobacco is. We find that the total abstainer from tobacco has a mortality of 57 per cent. as against 59 per cent. when he is a total abstainer from alcohol; that the rarely use is 72 per cent. as against 71 per cent. from alcohol; that the temperate is 84 per cent. as against 84 per cent. for alcohol; and that the moderate is 93 per cent. as against 125 per cent. for alcohol. In other words, the mortality on the total abstainer from alcohol is almost absolutely the same as that on the total abstainer from tobacco. It may be said that a man is usually a total abstainer from both, but he is not necessarily so. It does mean, I think, that we are describing the same kind of groups, the same type of man, the same conservative type of man in the total abstainer from both kinds. Then to show you the numbers—we find that out of 180,000 cards, 42,700 were total abstainers from alcohol—at least, they said they were—while the total abstainers from tobacco were 41,100, almost exactly the same number; 13,000 rarely used tobacco, while 20,000 rarely used alcohol. I only bring them up as they are, simply as a suggestion that before we accept all total abstainers on a different premium, or before we talk very much about doing it, we had better be sure that it is all due to total abstinence from alcohol or tobacco, and we had better go a good deal further in our investigations in our attempt to make these groups homogeneous before we here as an Association or as individuals advocate very strongly the wide separation between total abstainers and those who rarely use.

This passage very clearly brings out the difficulty which some statisticians have felt in assessing the importance to be attached to the quoted differences in mortality between abstaining and non-abstaining sections. It would also appear to be necessary to allow for occupational differences in the sections and the amount of experience available is not sufficient to allow of much subdivision. Mr. Phelps calls attention to the marked variations from quinquennium to quinquennium in the relative mortalities of the temperance and general sections of the United Kingdom Provident Institution. Thus the percentage excess of the general section was 25.1 in 1866–70, 45.2 in 1871–5, 42.9 in 1876–80, and only 29.4 in 1881–5. For the most recent period (1906–10) the figure is 27.7. Such large fluctuations make it difficult to draw simple inferences from the figures.

In the concluding pages of his book, Mr. Phelps criticizes with extreme severity certain abolitionist literature and legislation, but these remarks have not any direct bearing upon conditions in this country. While some passages in Mr. Phelps's book would have lost nothing had they been worded less strongly, he deserves credit for once more calling attention to the rash manner in which statistical conclusions are drawn. Dr. Clifford in the lecture under notice roundly asserts that "Half the crime of the country is directly due to drink, and a further fourth is indirectly incited by it." But, in a work by Dr. Charles Goring, entitled, *The English Convict*, recently issued by His Majesty's Stationery Office, with a preface by the chairman of the Prison Commission, the author concludes (p. 277) that "alcoholism is not directly related to crime but only indirectly, through its relation to defective intelligence."

We do not desire to underrate the evils associated with the excessive indulgence in alcohol, but a sense of those evils constrains us to protest against exaggerations, which in the long run must tend to discredit the temperance movement in the eyes of impartial persons.

HORMONE THERAPY.

PRACTICAL medicine has gained a great deal in recent years by the introduction into therapeutics of the principles contained in the various ductless glands. *Hormone Therapy* is the term used by Dr. HARROWER[3] to express the "therapeutics of the ductless glands and internal secretions," an idea more or less conveyed by the name "opotherapy" borrowed from the French. Dr. Harrower believes that

[2] *Temperance Reform and the Ideal State.* A lecture by Dr. John Clifford, M.A. London: Macmillan. 1913. (Pp. 26. Price 4d.) *The Supposed Death-Rates of Abstainers and Non-Abstainers and their Lack of Scientific Value.* By E. B. Phelps, M.A., F.S.S. New York: Thrift Publishing Company. 1913. (Pp. 50.)

[3] *Practical Hormone Therapy: A Manual of Organotherapy for General Practitioners.* By H. R. Harrower, M.D. With a foreword by Professor Dr. A. Biedl (Vienna). London: Baillière, Tindall, and Cox. 1914. (Demy 8vo, pp. 508; 8 figures. 15s. net.)

the medical men of America and England do not take advantage of hormone therapy as much as they should, and he has written his book in order "to broaden the therapeutic horizon and to stimulate the reader to include in his armamentarium such of the hormones as are of proved utility." He has endeavoured to collect from the literature all references bearing on the therapeutic use of the many animal extracts now on the market—the hormones derived from the pancreas, spleen, liver, bile, thyroid gland, thymus, kidney, suprarenal and pituitary bodies, epiphysis cerebri, testis, ovary, placenta, lungs, lymphatic and carotid glands, and so forth. An appendix contains a most useful glossary of some of the many new names and words applied to these various animal extracts, and a table of the doses and diseases in which they are to be administered. Numerous references to the literature are given at the end of each of the thirty-four chapters of the book.

Dr. Harrower is to be congratulated on the skill with which he has put together the results of his study of the very extensive literature of hormone therapy. He does not set out to give his own clinical experiences with the multitude of preparations he mentions, but is satisfied to quote their eulogies from the current medical literature, largely from various French, German, and Italian periodicals, and he seems at times to be perhaps a shade uncritical in his quotations or appreciations. None the less he has collected a great quantity of valuable matter bearing on the therapeutic uses of glandular and tissue extracts, and his readers will surely thank him for countless useful hints and suggestions in the treatment of acute and chronic diseases. The book is clearly and concisely written; it may be warmly recommended to the attention of all medical practitioners.

HEALTH TEACHING FOR THE PEOPLE.

THE series called "People's Books"[4] includes a set dealing with matters relating to everyday life. They cover a large variety of subjects, and the writers for the most part have been selected for their special knowledge and also for the sanity of their views. It is this that gives them their value for popular guidance. Dr. ALEXANDER BRYCE, in a volume on *Dietetics*, expounds briefly but lucidly the principles underlying nutrition, and he has given a personal character to the book by setting forth his own views on important points. He is not a faddist, recognizing that what is one man's meat is another man's poison. While admitting that vegetarianism has many advantages to some persons, his experience of vegetarians of all classes has not convinced him that they are stronger, healthier, longer lived, better tempered, or in any way better than the average mixed feeder who takes moderation and regularity as his rules of life. He says that in too many cases the effects of a pure vegetarian, or fruitarian, diet is disastrous. This statement does not apply to those who take animal protein in the shape of eggs and of milk and its products. But even they, though in health and vigour quite up to the average of the mixed feeder, are, except in a few isolated cases, not conspicuous for vitality, "energy" in the fullest sense of the word, initiative, or outstanding merit in the ordinary affairs of life. The uric acid craze he thinks has been overdone. Dr. Bryce's small book is throughout marked by a spirit of common sense, and may be read with advantage by members of the medical profession.

Dr. HUGH S. DAVIDSON'S *Marriage and Motherhood*, described as a wife's handbook, gives a popular description of the signs and symptoms, hygiene, and complications of pregnancy and labour, with information as to the newly born child and its deformities and diseases. It is eminently sensible and practical, and may be warmly recommended to those for whom it is intended. It may be mentioned that the author preaches the advantages of a large family, one being that the children are happier in themselves and pleasanter to other people.

The Baby, written by a university woman, is marked by good sense and motherly tenderness. It is written in simple language, not overloaded with medical details, and may be recommended as a safe guide for all mothers.

In *Youth and Sex* the dangers and safeguards for girls and boys are described by Mrs. SCHARLIEB and Mr. F. ARTHUR SIBLY respectively. Mrs. Scharlieb's part of the book could scarcely be bettered. Mr. Sibly, we venture to think, in his zeal for purity, rather exaggerates the danger which he exposes. At any rate, he gives one the impression that the larger part of boy life is taken up with thoughts about sex, and the longings and practices that grow from that habit of mind.

G. SPILLER'S *Training of the Child* is intended to meet the demand which is said to exist for a manual of home education dealing with the moral and intellectual training of children. It is all very well intended and mostly very sound and sensible, but the feelings of the average man or woman on reading it might be expressed in an adaptation of the words of Rasselas on hearing of the qualifications required for a poet: "Thou hast persuaded me that it is impossible to be a parent." All this talk of training and making the child walk in the way it should go is excellent in intention, but we have a suspicion that it must tend to the production in many of a moral invertebracy which will in time sap the efficiency of the nation.

In Mr. WATT'S little book on *Psychology* the attention of the reader is directed mainly towards the study of experiences, their analyses, description, classification, and connexions. We can commend it as a sound and lucid introduction to psychology.

Dr. A. M. HUTCHISON gives a clear account of the phenomena of *Hypnotism*, and treats psychotherapeutics in a temperate and rational spirit. The applicability of suggestion to education is discussed in an interesting manner; the author always stimulates thought, even if he sometimes fails to convince.

Of Mr. J. ARTHUR HILL'S book on *Spiritualism and Psychical Research*, all we can say is that it has not convinced us that there is any scientific proof of the reality of the phenomena of spiritualism. However interesting the subject may be to persons of a mystical turn of mind, it may be doubted whether it is worth the serious attention of any one who has work to do in this world.

[4] The People's Books. *Dietetics*, by Alexander Bryce, M.D. *Marriage and Motherhood*, a wife's handbook, by Hugh S. Davidson, M.B., F.R.C.S.Edin. *The Baby; a Mother's Book by a Mother*, by a University Woman. *The Training of the Child; a Parent's Manual*, by G. Spiller. *Youth and Sex; Dangers and Safeguards for Girls and Boys*, by Mary Scharlieb, M.D., M.S., and F. Arthur Sibly, M.A., LL.D. *Psychology*, by Henry J. Watt, M.A., Ph.D., D.Phil. *Hypnotism and Self-Education*, by A. M. Hutchison, M.D. *Spiritualism and Psychical Research*, by J. Arthur Hill. London: T. C. and E. C. Jack. 1913. (Fcap. 8vo. 6d. each volume.)

MEDICINAL AND DIETETIC PREPARATIONS.

Coloured Chloroform and Ether.

DR. P. F. BARTON, M.A., M.B. (Wimbledon, S.W.), writes: There are definite dangers due to the fact that chloroform and ether are similar in appearance, and only to be distinguished by their weight and smell. Now that so much ether is given by the open method, different coloured drop bottles are sometimes used, but this does not prevent chloroform being put into the ether drop bottle by mistake. The greatest danger of all is when chloroform has been by mistake put into a Clover's inhaler. I have heard of two fatal accidents from this, and almost witnessed a third myself. The profession has become accustomed to coloured antiseptics, and provided the colouring reagents are absolutely innocuous to the patient, are permanent, and do not affect the properties of the chloroform and ether, there is much to be said in their favour in the case of anaesthetics. At my suggestion, after some months of experimenting, Messrs. Duncan, Flockhart and Co. have succeeded in producing a pink chloroform and a green ether which are perfectly satisfactory, and which they are now prepared to dispense if they are asked for them. The mixture of equal parts shows a clear brown. I have exposed them to sunlight for some weeks without their fading, and used them frequently with perfectly satisfactory results. I gave the ether by the open method for over two hours a few days ago, using the same piece of lint, and found it perfectly satisfactory, and have found the pink chloroform equally good. Probably chloroform is never mistaken for ether in hospitals or in the practice of the professional anaesthetists, but surely such a mistake ought to be made absolutely impossible. At times anaesthetics are given in a bad light, with indifferent assistants, and for an exacting surgeon, who is inclined to flurry the anaesthetist. The green used for the ether is a pure vegetable product, 1 in 1,400; the red in the chloroform is an aniline product 1 in 200,000.

CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.

THE Clinical Congress of Surgeons of North America—to give the full and correct title—which is being held in London during the present week, is the fifth session. The previous meetings were held in Chicago on two occasions and in Philadelphia and New York. The meeting has been essentially a clinical one, and from 9 a.m. to 5.30 p.m. each day of the week there have been operative clinics and demonstrations in the hospitals. The institutions which have co-operated in providing the clinical programme included seventeen general and fifteen special hospitals, the intention being to afford the visiting surgeons an opportunity of seeing the surgeons and specialists of London at work in their own hospitals according to their accustomed routine and in their own environments. Care was taken to prevent overcrowding at the hospitals; admission to the various clinics and demonstrations was strictly by numbered tickets, which were issued only up to the capacity of the room in which the clinic or demonstration was given.

The members of the Congress dashed *in medias res* on Monday morning, July 27th, at 9 o'clock by visiting the operating theatres of the several London hospitals contributing the large clinical programme arranged for that day.

Formal Opening.

The formal opening of the Congress was held in the Grand Hall of the Hotel Cecil on Monday evening. The meeting was largely attended, every seat being occupied.

Sir RICKMAN GODLEE, in his capacity of Honorary Chairman of the London Committee, gave a brief address of welcome, in which he expressed regret that several well known London surgeons were unavoidably prevented from taking part in the Congress owing to the annual meeting of the British Medical Association unfortunately taking place during the same week.

Professor J. B. MURPHY, the President-elect of the Congress, introduced to the meeting the American Ambassador, the Hon. WALTER HINES PAGE, who gave a most cordial welcome to the American surgeons.

Professor MURPHY then introduced to the meeting, Dr. W. L. RODMAN, President of the American Medical Association, who brought greetings from that association to the medical profession in this country.

Presidential Address.

The proceedings concluded with a presidential address by Professor J. B. MURPHY entitled, "Arthrodesis and bone transplantation; its limits and technique."

Operative Treatment of Ulcer of Stomach.

Professor A. VON EISELSBERG of Vienna read a paper entitled, "The choice of the operative method for ulcer of the stomach." The paper was discussed by Sir WATSON CHEYNE and Mr. JAMES SHERREN.

Suture of Levator Ani in Perineorrhaphy.

On Tuesday, July 28th, Dr. HENRY JELLETT (Dublin) read a paper on "The suture of the levator ani muscle in perineorrhaphy operations." He pointed out that the levator ani muscle was an essential constituent in the support of the pelvic floor. The operation had not come into general use owing to its supposed difficulty, and also because it was thought to be attended by a certain amount of danger; both these objections he believed were erroneous. Certain writers had introduced unnecessary complications in their description of the operation, which was really a very simple one. Mention had been made by some authorities of two muscles—the deep transversus perinei and the levator ani. The deep transversus perinei had had much importance attached to it, and had been mistaken for the levator ani in certain cases. During the operation it was isolated and divided transversely, and the two portions of the levator ani thus exposed carefully sutured; the divided transverse perinei muscle was also sutured before the completion of the operation. Professor Krönig had said that the deep transversus perinei muscles were sufficient to reconstitute the pelvic floor. Dr. Jellett thought that some bundles of the lower and inner edge of the levator ani became separated from the rest of the muscle, and had received this special name, and he had no hesitation in saying, from the examination of patients and the appearances at operation, that the so-called transversus perinei muscle must be a part of the levator ani. He outlined the steps of the operation, and mentioned that care should be taken to avoid the accumulation of blood in dead spaces. He said that large vessels should be ligatured, and that the haemorrhage was largely controlled by rapid operation and accurate suturing. Further, to obliterate dead spaces between tissue layers the vagina should be carefully packed with iodoform gauze, a special retractor being necessary for this purpose. He believed that routine suture of the levator ani muscles was an essential feature of this type of operation; that it was always practicable, except when the muscle had become atrophied, and that it was neither difficult nor dangerous to perform.

The discussion was opened by Dr. F. J. MCCANN, who agreed with Dr. Jellett in the advocacy of routine suture of the levator ani muscles. He showed also that the displacement of the levator ani fascia would cause weakness, and that this must be sutured in addition. He gave a detailed description of an operation for a case of severe prolapse, and showed that it might be necessary to excise the vaginal vault, and even the cervix, to restore the vagina to its normal size. The levator ani should be exposed and sutured. The essential points of the operation were to keep the rectum back in its normal position, and to unite two solid columns of tissue in front of it and behind the vagina. Haemorrhage must be absolutely arrested, and suturing must be accurate. He did not think that it was always necessary to plug the vagina with gauze.

Certain Derangements of the Knee-joint.

Mr. ROBERT JONES (Liverpool) read a paper on this subject. He said the most common derangement was an injury to the internal semilunar cartilage, which, owing to its being more fixed and bearing greater pressure, was more frequently lacerated than the external cartilage. In certain cases an injury to the internal cartilage might give rise to symptoms on the outer side of the joint. The proportion of cases of injury of the internal cartilage to those of the external was about eight to one. The symptoms at the time of the accident were sudden pain and inability to extend the leg; this occurred immediately after the accident. "Locking" of the joint was usually noticed, but not always. The accident usually took place when the knee was flexed, but might occur in extension. The points of maximum tenderness were over the internal lateral ligament and the anterior bone of the semilunar cartilage. Treatment of this lesion at the time of the accident was immediate and absolute reduction of the displaced cartilage and the subsequent prevention of any latent strain on the joint until the ligaments and cartilage had had time to recover. Reduction was accomplished by fully flexing the joint, rotating the tibia inwards, and then extending the limb, the patient being encouraged to co-operate. The knee should be maintained in full extension, completely at rest, from four to five weeks. Further, the patient should be kept recumbent as long as there was any effusion or pain in the joint. Aspiration might be necessary, and massage was a useful adjunct to the treatment. The fear of adhesions forming in the joint from the enforced immobility had been exaggerated. If the patient presented himself at a later date the history of recurrent attacks of synovitis and "locking" were valuable points in the diagnosis, also there was usually some tenderness over the cartilage and pain on hyperextending the joint, also the site of pain was always a fixed point. With regard to other lesions which might give rise to similar symptoms, he mentioned synovial fringes, loose bodies, and the presence of osteomata near the joint, but the diagnosis was generally made clear by careful examination, attention to the history of the accident, and by radiography. Operative interference should not be undertaken for the initial injury, but in all recurrent cases in people who had to lead active lives, especially when their occupation led them into positions of danger. Age was not a contraindication. He also pointed out that tuberculosis and rheumatoid arthritis occurred in certain cases not operated upon. He then outlined the technique of the operation, and insisted on the importance of asepsis and gentleness of manipulation. Successful cases might be allowed to walk in fourteen or fifteen days after operation.

Another injury which might occur was rupture of one or both crucial ligaments and fracture of the tibial spine. These injuries could usually be treated by rest in full extension, though subsequent operation might be necessary.

Mr. A. H. Tubby, in opening the discussion, said the great factor in producing the displacement of the semilunar cartilage was undue lateral strain on the joint, and often occurred in patients suffering from genu valgus and contraction of the tendo Achillis. The treatment in early cases was the reduction of the displacement under an anaesthetic and immobilization in plaster-of-Paris for from three to six weeks, after which limited flexion and extension might be permitted on suitable apparatus. The amount of the early effusion after the accident was a guide to the nature of the injury. Walking should not be permitted as long as pain was present. Operation was necessary in those who could not afford the time or apparatus necessary and in those who were compelled to lead active lives. As to the operation itself, asepsis was extremely important, the patient's own skin being a special danger.

Mr. Robert Milne described the various types of injury of the cartilage, and pointed out that if there was a history at the time of accident of a rapid effusion into the joint and great pain, this could not be due to a torn cartilage alone, but was due to strain or rupture of the internal, lateral, and crucial ligaments, which were subjected to great tension when the cartilage became nipped between the articular surfaces and caused locking of the joint. He showed slides illustrative of certain derangements of the knee-joint, and pointed out that foreign bodies in the joint might become calcareous and grow, owing to the deposition of calcium salts from the synovial fluid.

Transplantation of Ovaries.

Professor Tuffier (Paris) read a paper on this subject. The grafting of ovaries from one patient into another was difficult, but might become successful with the improvement of technique, and possibly some chemical substance might be found to protect the implanted ovary from the action of the phagocytes. He described the procedure of grafting the patient's own ovaries into the subperitoneal fatty tissue, the uterus being left *in situ*. The graft could be made in the neighbourhood of the uterus or elsewhere. The method of doing this was as follows: The abdomen was opened, adhesions broken down; the ovary, tubes, and glands were isolated; the ovary was then dissected out and embedded in a pouch formed in the subperitoneal fat. The Fallopian tubes were then removed. Complete haemostasis was important and asepsis was absolutely necessary, otherwise the grafts became cystic or sclerosed. If necessary, the gland could be divided into two parts and each portion engrafted. The implanted ovaries remained inactive for about three or four months after operation and symptoms of climacteric commenced, then for four or five days the ovary became painful and menstruation recommenced. There was usually a period of six months between the operation and the establishment of menstruation. He spoke in high terms of the success of the operation, and mentioned that the fatty tissue of the abdominal wall was not a good site for the graft, owing to the pain, tenderness, and swelling at each menstrual period. He exhibited slides showing that the grafts were healthy and contained active ovarian tissue of good vitality three years after operation. As the result of his observations he advanced an interesting theory of menstruation; he thought that each month there was a gradual accumulation of a chemical substance in the blood, and that when this reached a certain concentration it acted on the ovary and started the menstrual flow and the excretion of the substance. If it was allowed to accumulate menopause set in. As a proof of this he had caused menstruation to occur in a patient by injecting the serum taken from another woman the day before menstruation began.

Operations for Cancer of the Larynx.

On Tuesday, July 28th, Professor E. Schmiegelow of Copenhagen read a paper on "The results of operations (laryngo-fissure) for cancer of the larynx." He gave statistics showing the excellent results which could be obtained by operative measures when cancer attacked the vocal cords. The reason those results were not more frequently obtained was entirely due to the fact that the cases were not diagnosed early enough—hoarseness, the all-important clue, being allowed to continue without an expert examination of the vocal cords being made until it was too late to operate. In the majority of the cases in the tables given by Professor Schmiegelow the disease was situated in the centre of one or other vocal cord. In the extrinsic, as distinct from the intrinsic, cases of cancer of the larynx, the growth was more soft and the glands were more readily infiltrated. He warmly recommended the operation of splitting the larynx, commonly known as laryngo-fissure. Professor Schmiegelow briefly outlined his procedure. He preferred a general anaesthetic of ether with morphine. A low tracheotomy was performed and the thyroid cartilage was then split. The part was formerly packed from below to keep the saliva away. He had given up the tamponading which he originally practised and closed the wound at the time of the operation. The patient could feed early, and perhaps on the same day, and leave his bed on the second day. He was in favour of removing the tracheotomy tube before the patient left the table. One patient he had operated upon fourteen years ago was not only alive and well, but since the operation had travelled as far as the North Pole.

The paper was discussed by Sir StClair Thomson, who made an appeal for expert examination of the vocal cord in any case of hoarseness which did not clear up within three weeks.

On July 29th, at King's College Hospital in the throat department, Sir StClair Thomson exhibited the following cases of laryngo-fissure for intrinsic carcinoma of the larynx:

Demonstration of Cases.

Case I. *Epithelioma of Larynx; Laryngo-fissure; Recurrence; Complete Laryngectomy. No Recurrence after Five Years.*—Male, aged 45. February 25th, 1909: Epithelioma of right vocal cord, which was mobile. No glands. Laryngo-fissure under chloroform anaesthesia. No Hahn's tube employed, and no tracheotomy tube left in. November, 1909: Recurrence; removal of entire larynx, with first two rings of trachea. No recurrence after a lapse of nearly five years. Patient breathes through the mouth and has a fair voice by means of a modification of von Bruns's artificial larynx. He can lift quite heavy weights, sleeps well, has a good appetite, smokes 2 oz. of tobacco a week, and thinks nothing of cycling 10 miles. (Case published *in extenso* in the British Medical Journal, February 17th, 1912.)

Case II. Male, aged 63. Intrinsic cancer of the larynx; laryngo-fissure. No recurrence four years after operation.

Case III. *Intrinsic Cancer of the Larynx: Laryngo-fissure. No Recurrence after One Year and Eight Months.*—Female, aged 55; had been hoarse for eight months. Right vocal cord replaced by reddish cauliflower growth. Large portion removed by indirect method for microscopic examination and found to be epithelioma. November 28th, 1912: Laryngo-fissure under intravenous infusion of ether and hedonal. No Hahn's tube. No tracheotomy tube left in. The removed tissue was found to be free of any sign of epithelioma. Evidently the growth had been entirely removed by the mouth.

Case IV. *Intrinsic Cancer of Larynx: Laryngo-fissure. No Recurrence after Nine Months.*—Male, aged 58. Had had increasing hoarseness for twelve months, with pain in the right ear, before October 17th, 1913. Posterior three-quarters of the right vocal cord was replaced by a cupped and granular infiltration. Cords moved well. No glands. Wassermann reaction negative. No tubercle bacilli in sputum. A portion of growth removed through the mouth displayed features of an undoubted squamous-celled carcinoma. November 10th, 1913: Laryngo-fissure under chloroform anaesthesia. No Hahn's tube, and tracheotomy tube not left in. The removed growth showed a typical squamous-celled epithelioma. Patient sitting out of bed next day and swallowing with ease. Went home ten days after operation. This patient's voice was remarkably loud and strong. As nine months had elapsed and the larynx was soundly healed, experience warranted the assertion that there was now no fear of recurrence.

Case V. *Intrinsic Cancer of Larynx: Laryngo-fissure. No Recurrence after Eight Months.*—Male, aged 44. Had been hoarse for nearly six months before he was seen in November last. Epithelioma of left vocal cord, confirmed by microscopic examination of portion removed through the mouth. December 1st, 1913: Laryngo-fissure under chloroform anaesthesia. No Hahn's tube employed, and no tracheotomy tube left in. Patient out of bed and eating solid food in twenty-four hours. He has a good strong voice.

Case VI. *Intrinsic Cancer of the Larynx: Laryngo-fissure. Shown Two Months after Operation.*—Male, aged 52. Had been hoarse for five months before being seen on May 12th, 1914. All the right vocal cord was occupied by a knobby, irregular growth with white spots on it like coagulated milk. The movement of the cord was almost abolished. May 20th, 1914: Laryngo-fissure under chloroform anaesthesia. No Hahn's tube. Growth found to extend back to and include the vocal process and also to the subglottic region. It had likewise invaded the ventricle of Morgagni. As the patient was very

congested and embarrassed with catarrh the tracheotomy tube was left in for three days.

CASE VII. *Intrinsic Epithelioma of Larynx; Laryngo-fissure. Shown Five Weeks after Operation.*—Male, aged 58. Voice never clear, so difficult to say how long he had been husky. Right vocal cord quite immobile and converted into a pink growth of a rough surface. June 22nd, 1914: Laryngo-fissure under chloroform anaesthesia. No Hahn's tube. Tracheotomy tube left for three days. Patient sitting out of bed and eating solid food within twenty-four hours, and went home within a week from operation. Growth extended into subglottic region. Proved to be epithelioma.

Intranasal Surgery of Lacrymal Apparatus.

Dr. J. M. WEST of Berlin followed with a paper entitled, "The intranasal surgery of the lacrymal apparatus after an experience of over 225 operations." He stated that dacryocystitis occasioned blindness more frequently than any other form of sinus disease. He then gave in detail the features of his operation, drawing attention to the points in which it differed from other operations for the relief of obstruction, inflammation and disease of the tear passages. In his operation he spared the inferior turbinate body inasmuch as it had an important physiological function. He dealt with the tear sac alone and did not further interfere with the nasal duct, the principle of the operation being that underlying the method of opening any abscess. He removed the lower half of the diseased sac, which amounted to opening the abscess at its lowest point.

Dr. D. R. PATERSON of Cardiff discussed the paper. He dealt with the question when the operation might be done and might be left alone, and drew attention to the fact that Nature sometimes assisted and brought about the same result that was obtained by art. He quite agreed that in suitable cases excellent results could be obtained.

Congenital Atresia of the Post-Nasal Orifice.

Dr. CHARLES W. RICHARDSON (Washington) read a paper on this subject, which was discussed by Dr. DUNDAS GRANT, of London.

EPSOM COLLEGE.

MORE than usual interest was taken in the celebration of Founder's Day at Epsom College on Saturday, July 25th, as it is the last time on which the present Head Master, the Rev. T. N. H. SMITH-PEARSE, will preside, after being in office for twenty-five years. In recognition of the services thus rendered, the President of the College, Lord Rosebery, kindly attended and gave away the chief prizes for the year. Among those present were the Treasurer (Sir Henry Morris), the Chairman of the Council (Sir William S. Church), and Sir John Broadbent, Mr. Stanley Boyd, Dr. F. de Havilland Hall, Dr. Guthrie Rankin, Dr. Septimus Sunderland, Dr. Frederick Taylor, Dr. W. Essex Wynter, and other members of Council.

In his valedictory address the HEAD MASTER reviewed the progress of the College since his appointment, referring to the increase in the number of boys, the scholarships to Oxford, Cambridge, and the London hospitals, which had been won, and the extension and improvement of the College buildings. He expressed his appreciation of the support which had always been given to him by the Council of the College; he referred in warm terms to the help freely rendered to him by the staff and by other officials at the College; and dwelt on the fact that a deep debt of gratitude was owing to his wife.

After a recital of the prizes, scholarships, and honours won direct from the school since last Founder's Day, the chief prizes were distributed by Lord ROSEBERY, who afterwards delivered an address on the "Formation of character." He observed that any boy who found after leaving school that he had taken from it no serious result of his studies would decide that he had made a mighty bad bargain of his time, and would find good cause to have remorse for his life. The years spent in school were far more important in the formation of character than all the years spent afterwards. The school moments decided whether the boys were going to be men in the highest sense of the word, or whether they were going to pass through life as atoms. There was only one way by which the character of a man at its best showed itself, and that was by his manners. Of course this was not an infallible way, as he had known many excellent people who from shyness had the most execrable manners, and he had also known scoundrels with the most charming and fascinating manners, given to them for much the same reason as the web was given to the spider. But those were not the manners he referred to; he meant those simple, manly manners which were the index of a straightforward character. They should make their manners worthy of their character, and their character worthy of their manners; the two processes went hand in hand. He did not know of any profession in which manners were of so much importance as in the noble profession of medicine. Those who had been attended by a doctor must have realized the difference between the one who came in with a gloomy and austere expression, with bills of mortality condensed in his countenance—enough to take the heart out of the most courageous patient—and the doctor who instinctively seemed to spread a sunny atmosphere through the room the moment he opened the door, giving the patient a feeling of hope and encouragement. If the first doctor was the best in the world and the second was only third-rate, he would a thousand times rather have the third-rate doctor with his genial manners, except, perhaps, for an occasional consultation.

At the close of his speech a cordial vote of thanks to Lord Rosebery was proposed by Sir HENRY MORRIS, who laid special emphasis upon the interest taken in the College by Lord Rosebery as a near neighbour. This was seconded by Sir WILLIAM CHURCH and carried by acclamation.

After the proceedings in the schoolroom refreshments were served to a very large number of visitors in the College grounds; the Officers' Training Corps paraded in the course of the afternoon, and a gymnastic display was given by the school.

ROYAL COMMISSION ON VENEREAL DISEASES.

THE following is the official report issued to the press by the Secretary of the Commission:

Venereal Disease in Working Men.

Sir John Collie at the forty-eighth meeting of the Commission gave the results of some observations he had recently made in connexion with 2,176 men referred to him for medical report. The 2,176 men were divided into three classes: (1) 1,119 whom accident or illness had overtaken; (2) 557 apparently healthy, but required to pass medical examination before entering employment; (3) 500 of the same class as the second division, but who also submitted themselves to the Wassermann test. Of all three divisions 106 were found to be suffering from venereal disease. In the first two divisions in connexion with which clinical evidence was relied upon, 60, or 3.8 per cent., were found to be infected; in the third class, where the Wassermann test was applied, 46, or 9.2 per cent., were shown to have had syphilis.

The 500 cases of those apparently in perfect health (as evidenced by a thorough physical examination) were taken consecutively as they presented themselves for examination, and no selection was made, except that working-class people over 21 years of age only were chosen; 103 of the 530 had served in the army or navy, and of these 24, or 18.9 per cent., gave a positive Wassermann reaction; the percentage of positive reactions in the remainder of the 500 was only 6.

Sir John Collie stated that the figures probably did not represent the full extent of the existence of the disease, for the men examined were of a somewhat superior artisan class.

An interesting feature of the investigation was the fact that the Wassermann test showed a positive reaction in as many as twelve, sixteen, and nineteen years, and in one case as late as twenty-nine years after infection, and long after all recollection of the infection had disappeared.

Syphilis and Gonorrhoea in the Female.

Mr. Frederick McCann, Surgeon to the Samaritan Free Hospital for Women, said that it was of the utmost importance that syphilis and gonorrhoea should be regarded as common female ailments, for which the same facilities for treatment should be available as for other female ailments without any special stigma being attached to

them. If proper facilities for in-patient and out-patient treatment were provided, the special aspects of these diseases would to a large extent disappear.

Systematic instruction in the early local signs of syphilis and the signs and symptoms of gonorrhoea was much required; this instruction should be given at the special hospitals for women and in the gynaecological departments of the general hospitals.

It was essential that gonorrhoea should be regarded as a serious disease in both sexes, especially in women, and that prompt and effectual treatment was required. The medical profession could do much in this respect by impressing upon patients the gravity of the disease and the necessity for curative treatment.

Venereal Disease in Glasgow.

Dr. Chalmers, Medical Officer of Health for Glasgow, gave supplementary evidence with reference to the experience of the Health Committee of the Corporation of Glasgow. He stated that ophthalmia neonatorum was made compulsorily notifiable in Glasgow in 1911, and that in the beginning an attempt was made to supervise the cases at the homes. It was, however, soon apparent that there was definite need for provision being made for hospital treatment. Arrangements had accordingly been made for this treatment, and it had been necessary in some cases to provide also for the reception into hospital of the mother.

Their experience had shown that a proportion of children affected with ophthalmia neonatorum also suffered from congenital syphilis, and that the resultant defects in vision were greatest when the diseases were concurrent. In the period ending December, 1913, of 463 children suffering from ophthalmia neonatorum, 13.6 per cent. were found also to be syphilitic.

With regard to syphilis generally, the Corporation of Glasgow had made arrangements for placing opportunities of obtaining a Wassermann test at the disposal of any practitioners who desired it; and in view of the information required with any specimen sent for examination, it had been arranged to pay a fee of 2s. 6d.

Between September, 1913, and June 25th last 953 equipments for the purpose of obtaining a Wassermann test had been issued to practitioners by the Corporation.

Dr. Chalmers was of opinion that no form of compulsory notification of venereal disease, whether for any group of persons or of cases, would effect its object. His view was that the public required not compulsion but education; and he thought that the issue of an authoritative statement showing the danger to life in after-years of syphilis contracted at an earlier period, and of the disastrous effect on children, would help to form an educated public opinion, which would at least induce those who might contract the disease to seek effective treatment, even if it failed in the ultimate purpose of inducing them to avoid exposure to it.

The main problem at the present time was the organization of means of diagnosis and treatment.

LITERARY NOTES.

The *Journal of Parasitology* is the title of a new American publication devoted to medical zoology which will be issued quarterly from the press of the American Medical Association. It is intended to be a medium for the prompt publication of research notes on animal parasites. The editorial board consists of Franklin D. Barker, University of Nebraska; Charles F. Craig, Medical Corps, U.S. Army; William B. Herms, University of California; Brayton H. Ransom, U.S. Bureau of Animal Industry; William A. Riley, Cornell University; Allen J. Smith, University of Pennsylvania; John W. Scott, University of Wyoming; Charles W. Stiles, U.S. Public Health Service; Richard P. Strong, Harvard University; John L. Todd, McGill University; Robert T. Young, University of North Dakota. The managing editor is Dr. Henry B. Ward, University of Illinois.

The *Hamburgische medizinische Ueberseehefte* is the title of a new periodical published under the editorship of Professor Brauer, Director of the Eppendorf Hospital at Hamburg, and Dr. C. Hegler of the same institution. Among the collaborators are Professor Albers-Schonberg of Hamburg, Excellenz Professor Behring of Marburg, Excellenz Professor Ehrlich of Frankfort, Dr. Simon Flexner of New York, Professor Alb. Plehn of Berlin, and Professor Unna of Hamburg. Its special purpose is to keep German doctors in foreign countries in close touch with the work that is being done at home. The first number contains a paper by Professor Behring on disposition and diathesis.

The *Pan-American Surgical and Medical Journal*, the first number of which appeared on June 27th, is the official organ of the Louisiana State Medical Society. The editors-in-chief are Drs. Waldemar T. Richards and Adolph O. Hoefeld. For the benefit of Central American readers a part of the new periodical will be printed in Spanish.

While Sir James McGrigor was deputy inspector of the Northern District there was an outbreak of typhus among the Royal Dragoons quartered at York. It struck him that convalescents were discharged too soon to barracks, and he therefore decided to see every man in the hospital before he was discharged. On one occasion when inspecting the men whom it was proposed to discharge he noted one of them who appeared to him to be very ill. No symptoms of fever, however, could be discovered, and it was found that the man had been in hospital recovering from a flogging. On examining the back it was seen to be perfectly healed. Nevertheless McGrigor directed that he should be kept under observation till the next inspection. Before the time for that had arrived McGrigor says he learnt that the Radicals in York had excited a great commotion there because a man who had been flogged had died, and that they had insisted on the exhumation of the body and vowed vengeance against the commanding officer and the surgeon. On arriving at York McGrigor found that a coroner's inquest was sitting in the hospital barracks on the very man whom he had regarded with suspicion. It proved that on the evening of the day when McGrigor had examined him the symptoms of typhus, which was doubtless incubating at the time, showed themselves, and the disease rapidly proved fatal. McGrigor found the jury taking evidence when he hastily made his appearance before them. The rest of the story may be told in his own words:

> After announcing myself, my office, and rank, I offered myself for their examination; their answer was, "You are one of the party concerned; you want to get the doctor and colonel off, but they shall go to the castle." On examining the face of the corpse, and the largely sloughing ulcerated state of the loins and sacrum, I in vain assured them that the appearances were those common in fatal cases of low fever; that punishment was never inflicted in that quarter, and that I myself could swear to the man's being perfectly cured of his punishment before he was seized with the prevailing fever. But all would not do. Several vociferated, "You are a party concerned; you are not a proper witness; we will not take your testimony." In this state of affairs I was quite at a loss what to do. I learned that the members of this inquest were determined to bring in a charge of murder against Colonel De Grey and Dr. Irwin, and to commit them to the castle of York. I rode to Colonel De Grey's lodgings in York, where I found him and his wife in the utmost agony at the proceedings, he wringing his hands and pacing the apartment in agitation. On leaving, quite at a loss what to do, I fortunately met Mr. Atkinson, the celebrated surgeon of York, in his carriage. I related the circumstances to him, and he hastily took me into his carriage, and drove to the barracks. I could have found no individual in York so fit and so able as my friend Atkinson to extricate us all from this terrible dilemma. He was a hearty, honest fellow, with much blandness of manner, of unbounded kindness and humanity, held in great estimation for his professional talents, very hospitable, and of very liberal principles—a feature in his character which made him regarded by the Radical party of York as one of their chief men. I shall never forget his entry into the room where the inquest was sitting. They all stood up on his appearance, and he forthwith began to rate one and all of them in set terms: "You rascals! do you know what you are doing? You a jury! pretending to investigate the cause of the poor man's death, and refuse the evidence of the only competent witness that you could have! You deserve, every one of you, to be sent to the castle." Then, addressing a humble looking person there, whom they had been examining, and who proved to be a little druggist in York, he continued: "And you, you rascal! What know you of wounds and punishments? Go back to your counter." Upon inquiry, we found that the druggist, upon looking at the sloughing ulcer on the sacrum, had deposed that to be the evident cause of death, and that the man had died of excessive punishment. Mr. Atkinson desired them instantly to go on with my examination, which they did in the most respectful manner, while he stood by, and my detail clearly exonerated the colonel and the doctor. On my calling some time after this upon Colonel De Grey, he told me with horror that two of the jurymen had called on him for something to drink his health upon his escape from being lodged in York Castle!

ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the committee twenty cases were considered, and grants amounting to £208 voted to the applicants. The following is a summary of the cases relieved:

Widow, aged 65, of M.D.Dubl., who practised in India, Ireland, and London, has endeavoured for twenty-four years to earn a living by keeping a boarding house, but has never really made a profit or been able to save. One daughter, who helps at home. Voted £10.

Daughter, aged 44 years, of M.D.Heidelb. and F.R.C.S.Eng., who practised in London, impossible to do any regular work in consequence of ill health. Earns a little occasionally by painting. Voted £12 in twelve instalments.

Widow, aged 62 years, of M.R.C.S.Eng., who practised at Burnley and Caister; since husband's death has acted as housekeeper to her brother, a clergyman, who has just died, and is now without home or means. Voted £10 in two instalments.

Daughters, aged 49 and 52, of M.R.C.S.Eng., who practised at Kingscliffe; only income about £25 each, and until recently this had been supplemented by occasional work as governesses, but for the last few months unable to obtain employment. Voted £5 each.

Daughter, aged 51 years, of M.R.C.S.Eng., who practised in London. Only a very small annuity and health very indifferent. Voted £5.

Daughter, aged 57, of M.R.C.S.Eng., who practised in Norfolk. Guardian spent all capital, and only income £13 per annum given by relative. Health bad. Relieved six times, £30. Voted £5.

Widow, aged 52, of L.R.C.P.Lond., who practised in London. Endeavours to earn living by letting rooms, but has not been very successful recently. Wants a little help for repairs to house. Relieved once, £12. Voted £10.

Daughter, aged 33, of M.D.Dubl., who practised at British Guiana and Middlesex, is suffering from her glands and her teeth require attention, consequently too ill to work. Relieved eight times, £80. Voted £10.

Daughter, aged 75, of M.R.C.S.Eng., who practised at Doncaster. Too old to work and only income old age pension. Relieved twice, £30. Voted £18 in twelve instalments.

Daughter, aged 67, of M.R.C.S.Eng., who practised at Rendcomb. Health very indifferent and quite unable to work. Relieved twelve times, £178. Voted £18 in twelve instalments.

Widow, aged 48, of M.R.C.S.Eng., who practised at Hexham and London. Endeavours along with her daughter to earn a living by taking in boarders, but not successfully. Stepson helps a little. Relieved five times, £60. Voted £12 in twelve instalments.

Widow, aged 65, of M.D.Glas., who practised at Dennistoun. Has a small pension from the Elder Fund, and son pays rent of house. Takes in boarders in the summer but does not get sufficient to make it pay. Relieved six times, £54. Voted £12 in twelve instalments.

Daughter, aged 58, of L.R.P.C.Edin., who practised in North London. Health very bad and unable to work. Recently received a pension of £40 from the Mercers Company. Relieved eight times, £83. Voted £5.

Daughters, aged 42 and 50, of L.S.A.Lond., who practised at Sydenham and Plumstead. The elder suffers from migraine and the younger is an epileptic, both unable to work. Recently lost mother who had a small pension. Joint income only £45 per annum. Relieved eight times, £83. Voted jointly £18 in twelve instalments.

Widow, aged 64, of M.D.Edin., who belonged to the R.A.M.C. Suffering from cancer and has been operated upon. Small army pension, but sufficient to provide necessary nourishment. Relieved once, £6. Voted, £10.

Widow, aged 69, of M.R.C.S.Eng., who practised at East London, and who died last year, leaving her quite unprovided for. Health very bad. Five children, but none able to assist. Has a pension from the Fishmongers' Company of £30, and total income about £45. Relieved once, £12. Voted £12 in twelve instalments.

Widow, aged 64, of M.D. St. And., and M.R.C.S.Eng., who was engaged by the Stepney Union. Tries to earn a living by taking in lodgers, but cannot make enough to live on. Four children, none able to help. Relieved eleven times, £132. Voted £12 in twelve instalments.

Widow, aged 48, of L.R.C.P. and S.Edin., who practised at Stamford Hill. Suffering from cancer, and has been operated upon and quite unable to work. Has one daughter aged 17 years who earns a few shillings weekly. Has no income. Has been helped by the Guild. Relieved twice, £38. Voted £18 in twelve instalments.

A special emergency grant of £1 was also made to an urgent case.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

The first international congress for the investigation of questions relating to sex will be held at Berlin on October 31st, November 1st, 2nd, 3rd and 4th. Almost all civilized countries will be represented and more than one hundred communications have been already promised. For information relative to the congress application should be made to Sanitätsrat Dr. Moll, Kurfürstendamm, 45, Berlin.

EIGHTY-SECOND ANNUAL MEETING
OF THE
British Medical Association.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

The nature and scope of the work of the different Sections will appear from the following short summary of the proceedings. A full report of the discussions and of the various papers read in the Sections will be published in due course.

Wednesday, July 29th, 1914.

Section of Anatomy and Physiology.

Before the proceedings commenced Dr. Calder, as local secretary, read a letter from the President, Professor Reid, regretting and explaining his absence, and welcoming the members to Aberdeen. On the motion of Professor J. Kay Jamieson, Professor MacWilliam was unanimously voted to the chair. Dr. Robertson (Glasgow) opened the scientific proceedings by reading a paper on the phylogenetic development of the bulbar and ventricular septa of the heart, in which she described and compared the conditions obtaining in elasmobranch, dipnoan, reptilian, and mammalian hearts. She pointed out that these septa appeared in association with the development of a pulmonary system of respiration and circulation and the consequent need for the separation of the oxygenated and non-oxygenated blood streams. She next described two cases of cardiac malformations in which the great efferent vessels both arose from the right ventricle, due to the interventricular septum being placed on the left of the vessels, a condition which the author believed was secondary to a dilatation of the right auricle and a consequent excessive torsion of the heart. Dr. Ivy McKenzie (Glasgow) read a paper on the reptilian heart and its significance in the interpretation of the co-ordinating muscular systems in the mammalian, in which he described the development of the sinu-auricular and auriculo-ventricular nodes and bundles from their corresponding rings in the lowest vertebrates in association with the processes whereby (1) the auricles became divided by a septum and (2) the sinus became gradually enveloped by the expanding auricle. He showed that in the phylogenetic development of the heart the original sinu-auricular ring became divided into the sinu-auricular node and the auriculo-ventricular node. Dr. McKenzie also contributed the results of further researches on the anatomy of the bird's heart, and stated that there was no structure in the bird's heart resembling the bundle of His. The sinu-auricular bundle could, however, be displayed with the utmost ease in the hearts of certain birds—for example, the guillemot—but it was to be looked for at the junction of the inferior vena cava with the right auricle. Dr. Thomas Lewis (London), in discussing these papers, thought a sharper distinction should be drawn between the auriculo-ventricular and sinu-auricular nodes than what Dr. McKenzie was willing to allow, and pointed out that whereas stimulation of either vagus affected the former equally, stimulation of the right vagus had a much more powerful effect on the latter than had stimulation of the left vagus. Professor MacWilliam (Aberdeen) read a paper on cardiac fibrillation and its relation to the action of chloroform. He regarded cardiac fibrillation as the most common cause of death in chloroform administration, and as being dependent on irregular or intermittent administration. His observations had been chiefly made on the cat, an animal peculiarly prone to such forms of cardiac failure. Dr. Goodman Levy (London) read a paper on ventricular fibrillation, the cause of death under chloroform, in which he confirmed Professor MacWilliam's conclusions, but laid greatest emphasis on the importance of giving sufficient of the anaesthetic. He considered that most deaths under chloroform were due to the anaesthesia being too light. Drs. Melvin and Murray (Aberdeen) gave the results of some observations on blood pressure, in which they

attached great importance to the estimation of the diastolic pressure. The diastolic index was given as the beginning of the fourth phase, and attention was directed to the frequently prolonged duration of that phase in normal young adults. Dr. Strickland Goodall, F.R.S.Edin. (London), gave an account, in a paper on some instrumental variations in the human electro-cardiogram, of certain very carefully recorded electro-cardiograms taken on normal adults to show how the tracings varied according to the position of the subject, the kind of electrode used, the speed of the motor, and the size of the slot. Mrs. Tribe, B.Sc. (London), described a number of experiments performed for the purpose of demonstrating the existence of vasomotor nerves in the lungs. The method of investigation employed was that of perfusing the lungs with defibrinated blood, and recording the outflow from the pulmonary veins before and after the injection of adrenalin.

Section of Dermatology and Syphilology.

The President, Dr. Alfred Eddowes, opened the proceedings in a short speech in which, after returning thanks for the honour conferred upon him, he expressed the sympathy of the Section with their Honorary Secretary, Dr. Christie, who was only now convalescent from a severe illness. He announced that the discussion on syphilis would be held jointly with the Section for Naval and Military Medicine and Surgery. Dr. Norman Walker, Dermatologist to the Royal Infirmary, Edinburgh, opened a discussion on the need for more method in the treatments of lupus and ringworm. He said that during twenty-two and a half years' service at the Royal Infirmary he had had 1,054 cases of lupus and he wished he could think that 100 had been cured. The usual custom of the patients was to attend a few times and then disappear for an indefinite period. Girls would seek treatment for cosmetic reasons for perhaps a few weeks previous to marriage. In private, on the other hand, the cases, not so numerous relatively to other cases as in hospital—1 in 80 as against 1 in 30—attended for treatment more persistently, and in consequence with far better results. The difference between the two classes of case depended on the fact that the poorer classes experienced no discomfort from the disease, while those better educated understood more fully its nature, and were more sensitive to the disfigurements caused. As regards the methods of treatment he employed, Dr. Walker expressed himself as in favour of scraping when combined with other methods, especially after treatment with uranium nitrate, which was both caustic and radio-active. *X* rays, he considered, gave good results, but were to be avoided, owing to the liability of the patients to contract epithelioma. He had almost abandoned the Finsen lamp for the Kromayer. Tuberculin as a 5 per cent. ointment deserved greater consideration than it had received. Its use lay largely in relieving contractions. Turning to ringworm and favus, Dr. Walker said he had experience of 3,426 and 482 cases respectively. The favus had increased very rapidly when notification and *x*-ray tre tment were first instituted, but had now greatly diminished. The ringworm cases had increased greatly in numbers since 1902, when they were only 100, and were now, when systematic *x*-ray treatment had just begun, at their height. Dr. Norman Walker expected that the numbers would now follow the course taken by the favus cases. Finally, he called attention to the recent regulation of the Local Government Board ordering the notification of lupus, and said that this placed a great and powerful additional weapon in the hands of the medical profession. He advocated the notification of all cases for their own sake in order that they might be followed up and efficiently treated, not because they were a public danger. In fact, he did not consider them to be such. The President spoke in favour of surgical measures in early cases, especially excision. He also advocated yellow oxide of mercury as of value in releasing contractions. Dr. Goodwin Tomkinson advocated the use of small doses of *x* rays in conjunction with salicylic acid plaster and mild cauterization. He deprecated scraping and extolled heliotherapy. Dr. Haldin Davis dwelt on the value of excising all early patches of lupus and the importance of early diagnosis. He also recommended special schools for children suffering from ringworm. Dr. Winkelried Williams said that patients suffering from lupus should avoid alcohol and be treated locally with permanganate of potash. Dr. Bolam thought that lupus was emphatically a disease of the poor. He advocated sanatorium treatment. Dr. Milne advocated scraping for lupus and croton oil for ringworm. Dr. MacCormac referred to the hot-air treatment employed by Ravaut of Paris. He also advocated the surgical treatment of dry forms of lupus, especially in early cases. Dr. Norman Walker replied. Dr. Green and Dr. Meachen also spoke.

Section of Diseases of Children including Orthopaedics.

After the opening of the meeting by the President, Dr. John Thomson (Edinburgh), Mr. T. H. Openshaw (London) introduced a discussion on congenital dislocation of the hip. He favoured the view that the condition was due to abnormal intrauterine pressure. Treatment, he said, should be commenced as soon as possible after the diagnosis had been made. Results varied directly with the age of the patient. The older the child, the more deformity and the less good the result. For patients under 5, the head of the femur should be put into position under an anaesthetic. For those over 5, a preliminary tenotomy of the restraining muscles was necessary. He did not think it ever possible to replace the head directly into the acetabular cavity, but by its retention at the acetabular site it subsequently attained its correct position, if kept in contact with the acetabulum for a sufficiently long time—about six months. He expressed himself as greatly satisfied with the results of Lorenz's method, and thought that the bad results and failures were chiefly due to the post-operative position being continued for too short a period. For a certain group of cases an open operation was required. Into this group fell those for which Lorenz's method had failed, those over 12 years of age, and those with a great degree of external rotation. He thought that, as the condition became better known, and cases were recommended for treatment earlier, the proportion of cases not treated by Lorenz's method would be very small. Dr. Laming Evans spoke of the value of radiograms in this connexion. He recounted the differences to be found in affected joints from those in the normal, emphasizing especially the shape and position of the acetabulum and its boundaries, and exhibited a series of skiagrams demonstrating the changes which occurred with re-formation of the acetabular cavity. He agreed with Mr. Openshaw as to the importance of operation as early as possible. Mr. John Fraser said that untreated cases did not usually survive longer than 40 to 45 years of age. It was commoner in some countries than others. In France it occurred unusually frequently, and that had been ascribed to the extension of the legs of the baby after birth and their retention in that position by bandage, a customary procedure by the midwives in that country. Mr. Alexander MacLennan (Glasgow) thought more than three months was necessary for moulding to take place. It was very uncommon to diagnose cases younger than 18 months, and the usual tests proved fallacious. Reliance had to be placed on *x* rays. He did not agree that intrauterine pressure was the cause. Mr. Andrew Fullerton (Belfast) related an instance of dislocation occurring in one hip some time after dislocation of the other hip in the same child. Dr. Simpson expressed the view that the deformity was primarily one of the head of the femur, and that the dislocation was secondary. He raised the question as to the connexion between anterior dislocations of the hip and the commoner ones. He also agreed that the case should be treated early and thought that the prognosis was favourable up to the age of 8. Mr. Paul B. Roth thought treatment should begin as soon as the child could walk. Dr. E. Henderson (Westmorland), among 11,833 school children, had found 15 cases of congenital dislocation of the hip. Mr. B. Bankart (London) spoke of his own method of treatment. He emphasized the importance of internal rotation for the second position of fixation, of avoidance of preliminary traumatism of muscles, and of putting up both hips in the Lorenz position when one side was affected. Mr. T. H. Openshaw having replied, Mr. Paul B. Roth read a paper on the treatment of torticollis, in which he advocated the subcutaneous method of

division. The evidences of the ill effects of this method were very slight. He did not regard it as a serious or dangerous operation, as he did the open method. He thought that retentive measures were quite unnecessary. He also contributed a paper on the practical treatment of lateral curvature of the spine, which was discussed by Mr. A. MacLennan (Glasgow), Mr. F. H. Allfrey (Southwick), and Mr. John Fraser (Edinburgh).

SECTION OF ELECTRO-THERAPEUTICS AND RADIOLOGY.

OF the two specialities covered by the title of the Section, the former, that of electro-therapeutics, occupied the entire field on the first day of meeting. The President (Dr. Samuel Sloan) opened the proceedings by introducing a distinguished visitor from abroad, Professor Stéphane Leduc, of Nantes, through whose experimental research, Dr. Sloan said, the ionic treatment of disease had now become an established practice. Professor Leduc devoted his address to a subject which he has made peculiarly his own, namely, the galvanization of the brain. He regarded it as surprising that diseases of the brain were those for which electricity was least employed. For a long time the brain was considered inaccessible, or nearly so, to electrical currents, whereas it was the fact that the brain was quite exposed to such action, as it was not protected by the superposition of conducting tissues, such as a muscular layer, which would divert the current. Professor Leduc laid down some rules for the utilization of the continuous current upon the cerebral region, and said that the current had proved useful in all the changes of cerebral nutrition for which he had applied it. After this introductory address the proceedings resolved themselves into a general discussion on the therapeutic value of high-frequency currents. Dr. Sloan urged that these currents, when used judiciously, had an influence upon the circulation, immediate and remote, penetrating also into the deeper tissues, and, moreover, influencing the brain, as was evidenced by the psychic effects involved. Dr. W. F. Somerville (Glasgow), speaking out of an experience of high-frequency extending over twelve years, said that his best results with these currents had been in cases of neuritis, for the most part affecting the branches of the cervical and brachial plexuses. Dr. E. P. Cumberbatch (London) discussed the surgical side of high-frequency treatment — namely, the diathermic effect of such currents, which was particularly valuable as a means of bringing about the destruction of diseased tissue and new growths. For his own part, he did not see why diathermy should not be applied to operable malignant growths, preparatory to surgical operation, so as to coagulate them and seal up their channels of spread. A number of speakers gave instances of high-frequency treatment within their own experience, and more than one expressed the view that for various conditions—such as enlarged glands, acne, and rodent ulcer—the use of *x* rays was more simple than diathermy, as well as more absolute and less dangerous. Dr. W. J. S. Bythell (Manchester) thought that as a section of medicine they ought to be very careful that they did not get a reputation for tinkering with a great number of different diseases by a great number of different methods. A further discussion on the subject of electricity in the treatment of neurasthenia was introduced by two papers, one by Dr. Agnes Savill and the other by Dr. W. F. Somerville. Dr. Savill's paper was to some extent a philosophical treatise on neurasthenia, which she discussed in turn from the standpoint of two opposite camps —those who regarded the neurasthenic condition either solely or primarily as a disease of the mind, and therefore responsive only to psycho-therapeutic treatment, and those who regarded the nervous symptoms of neurasthenia as secondary to disordered physical processes, a condition responding best to physical methods of treatment. On reviewing all the cases she had seen, Dr. Savill came to the conclusion that when the neurasthenia had a psychic cause, and the source of the trouble was still existent, physical means of treatment could not cure. In the same way, psychic methods would fail in cases of toxic neurasthenia, even when the mind of the patient was at rest. Electricity would do more than most drugs, or than diet alone, but it could not perform miracles. Dr. Somerville also, while stating that he had not the slightest doubt as to the value of electro-therapeutics in general, and of high-frequency currents in particular, said that as the predisposing and immediate causes of neurasthenia were complex, and as the symptoms were complex also, it was foolish to regard any particular treatment as specific.

SECTION OF GYNAECOLOGY AND OBSTETRICS.

THE Section opened under the presidency of Dr. Haultain, who after briefly welcoming the members and visitors, at once called on Professor Archibald Donald (Manchester) to open a discussion on the treatment of fibromyomata. Dr. Donald practically confined his remarks to operative treatment and its results, but expressed the hope that the discussion would not be limited to the particular points on which he touched. He considered that expectant treatment should be given up in all cases causing symptoms, and that palliative measures, such as curetting, were never of service. Vaginal hysterectomy was not advised for fibroids. In regard to abdominal work, myomectomy was the operation of choice if it proved possible. Enucleation was useful also as a preliminary to hysterectomy, particularly in intraligamentary tumours. He preferred subtotal hysterectomy, but was not dogmatic on the point; he considered the risk of malignant disease in the cervical stump as illusory. The mortality in his last 309 cases (during the last four and a half years) was 2.9 per cent. As to his technique, he favoured removal of the tumour within clamps as a first step, followed by interrupted suture of the broad ligaments. He invariably removed both ovaries, as they were often degenerated and cystic or liable to become so. The most serious post-operative complication was thrombosis, but he had found that this yielded to the most scrupulous asepsis and to efficient "team" work in the conduct of the operation. Dr. Donald concluded with a strong protest against the use of *x* rays, basing his disfavour on the difficulties of diagnosis, the presence of complications, the impracticability of judging thus early of the results, and on the possibility that operation undertaken at a later date might be rendered more difficult. Professor Gauss (Freiburg) unfortunately was unable to be present, but his paper was read by the Secretary. Long series of cases of "fibroids and metropathy" were recorded showing the improving results as the technique of filters and crossed-fire was developed. In the last series of cases there had been neither deaths nor recurrences. The discussion which followed was notable for a general agreement with Dr. Donald, and more particularly for a disparagement of *x* rays. Professor Kynoch (Dundee) was alone in suggesting a "wait and see" policy as regards this treatment. Professor Murdoch Cameron (Glasgow) surprised many by his advocacy of bare-handed technique in operating; all others favoured rubber gloves, sleeves, and masks. Dr. Purslow (Birmingham) suggested that hysterectomy should be total in cases where the cervix was badly eroded—not from the point of view of possible malignancy but to arrest discharge. Many favoured resection of ovaries to their removal, but there was nothing said in favour of transplantation. Among those taking part were Drs. Hastings Tweedy, Nigel Stark, Beckwith Whitehouse, Professor Watson (Toronto), Sir John Byers, and the President. Professor Donald, in his brief reply, stated that removal of both ovaries was judged best not from theory but from practice.

SECTION OF LARYNGOLOGY, RHINOLOGY AND OTOLOGY.

THE excellent attendance at the opening of the Ear, Nose, and Throat Section showed the interest which the ordinary members were taking in the splendid programme provided by the authorities. It was also very pleasant to notice many prominent specialists from all parts of the kingdom. The opening was most convivial, and a happy, almost holiday-like spirit seemed to possess the members, and thus held out excellent prospects of valuable and instructive proceedings. The President first referred, with great regret, to the unfortunate clash with the Clinical Congress now in progress in London. Proceeding with his address he spoke of the great advances which had been made in this special branch during the past year, referring especially to suspension laryngoscopy, diathermy,

and intratracheal administration of ether—all of which had opened out huge fields for the scientific specialist. The only room for regret, in regard to these new methods, was the fact that none had emanated from British scientists. Mr. Harmer (London) then read his paper on diathermy in the treatment of inoperable growths of the nose and throat; he held out splendid prospects for this treatment, as also did Dr. William Hill (London), who stated that diathermy and radium would probably be found of great associative value. Dr. Hill, finding his subject too long for the time allotted him, finished by showing several *x*-ray pictures of stricture of the oesophagus on the screen. Dr. John Macintyre (Glasgow) then advanced the claims of *x* rays, stating definitely that some of these cases, though pathologically malignant, were not so clinically. The discussion was then started by the President, and continued by Dr. Watson-Williams, Mr. Somerville Hastings, Dr. Pegler, Dr. Syme, Mr. Livingstone, Mr. Faulder, and Mr. O'Malley. The openers having responded, the proceedings closed.

Section of Medical Sociology.

THE responsibility of the State as regards venereal disease was the subject for discussion in the opening session of the Section of Medical Sociology on Wednesday, July 29th. The President, Dr. John Gordon of Aberdeen, in an opening address, spoke of the close relations which had grown up between the medical profession and the State since the introduction of the Poor Law in 1842, culminating in the passage of the National Insurance Act, 1911. On the practical experience of medical officers of health and practitioners social reform and new legislation dealing with health must be based. The recognition by the British Medical Association of medical sociology as a special department of medicine was evidence of a sincere altruistic spirit in the profession. Dr. A. K. Chalmers (Glasgow) opened the discussion on venereal disease. He described the efforts made in Glasgow—a little earlier than in other parts of the country—to grapple with the problem of treatment, and gave examples of the statistical results obtained to show how impossible it was at present to dogmatize as to the prevalence of venereal disease. Treatment should be free and national in character; on the Glasgow figures it would cost about 30s. for each adult. Professor E. Pontoppidan of Copenhagen described the public measures taken in Denmark and summarized the experience there as showing (1) that the State regulation of prostitution had been a failure, (2) the State regulation of venereal diseases by compulsory measures had been a failure. The fight must be left to the medical army, with the least possible assistance from the penal code and the police. Dr. Louise McIlroy favoured a system of confidential notification of hospital returns remitted to the Royal Commission, which should be kept in being for several years. Treatment should be given in general hospitals in such a way that no stigma would attach to patients. Dr. Lachlan Grant claimed that by a readjustment of social conditions the prevention of prostitution was possible. Mr. T. Jenner Verrall urged the importance of the medical profession being sure of its ground before recommending to the public a definite line of policy. A mistake might put the question back 100 years. Dr. Helen Wilson discussed the difficulties of the relations between practitioners and patients in regard to sexual diseases. Sir John Collie said the question of confidential notification was under the serious consideration of the Royal Commission. He was averse from it because sufferers might resort to quacks rather than subject themselves to notification. If this occurred notification might tend to spread disease, owing to treatment at the early infectious stage being neglected. Dr. Clippingdale (London) contributed a historical note as to measures taken in Aberdeen for the treatment of syphilis in 1493.

Section of Medicine.

AFTER a few words of introduction, the President, Dr. F. J. Smith (London), called on Dr. Harry Campbell to open the discussion on headache. He began by defining the area in which headaches might be felt, and enumerated various morbid cephalic sensations which should be distinguished from headache and called dysaesthesiae—such as tightness, lightness, heaviness of the head, bursting feelings, giddiness, confusion. A centre for headache might be presumed to exist in the inferior part of the post-central gyrus. Asking why headache was so common, Dr. Campbell gave a number of the pathological and mechanical causes that might underlie its distribution and occurrence. Finally, he drew attention to the connexion between the cerebral centre for cephalic sensibility and the special sense centres; they would account for headaches due to bright lights, loud sounds, and the like. Finally, after suggesting a classification of headaches, he mentioned those due to faulty digestion in some form or another, and put in a plea for the carnivorous diet. Dr. C. O. Hawthorne (London) commented upon the limitations of our exact knowledge of such things as biliousness, high blood pressure, and alimentary toxaemia. Free leeching of the temple was a cure for many headaches in full-blooded persons. The early morning headache of children, with or without vomiting, might be due to optic neuritis. Dr. L. H. Pegler (London) referred especially to nasal headaches, or headaches caused by nasal disease, and noted that there was no particular character enabling the nasal headache to be distinguished from all others. The relief of nasal obstruction might cure headache. He also spoke of the importance of proclivity in the occurrence of headache. Contact between intranasal surfaces might cause headache; so might veno-lymphatic stasis; so might malaëration of the blood; so might inflammatory conditions, all in the nose. Dr. F. C. Eve (Hull) spoke of the toxaemic headaches so commonly caused in the administration of tuberculin, and of the relation of the pressure of the cerebro-spinal fluid to pains in the head. The Chairman (Dr. F. J. Smith) spoke of the headaches seen often in medical men, cured by mercury and iodide. He spoke highly of the inunction treatment of specific ailments of little severity. Dr. H. Campbell, in reply, referred to the fact that Wassermann's reaction might be absent and the cerebro spinal fluid normal in cases of active syphilis. Dr. J. S. McKendrick (Glasgow) then read a paper on splenectomy in relation to the treatment of anaemia. He noted that the spleen was not, apparently, an organ essential to normal life, and that surgeons nowadays had the skill to remove pathological spleens without any great danger to life. Professor L. P. Phillips (Cairo) described the successful treatment with benzol of a case of splenomedullary leukaemia. It was a powerful poison, and so must be administered to patients with great care. Sir William Osler (Oxford) then gave a classification of the cases of splenic enlargement with changes in the composition of the blood, drawing particular attention to those in which splenectomy was indicated. In these patients, after years of apparently good health, the liver might suddenly enlarge, and then splenectomy might well be advisable. Dr. J. R. Charles (Bristol) related two cases of splenectomy and a case of spleno-medullary leukaemia treated with benzol. The result was excellent in all, but in the third case the improvement was but temporary. Dr. Lea (Manchester) referred to experimental splenectomy in animals and its influence upon the course of experimental tuberculosis. Dr. T. Wardrop Griffith (Manchester) then gave a lantern demonstration on two cases of patency of the ductus arteriosus. The Section was attended by some ninety members and visitors.

Section of Naval and Military Medicine and Surgery.

SURGEON-GENERAL P. H. BENSON, I.M.S., took the chair in the absence of the President, Surgeon-General W. Maxwell Craig, R.N., who was prevented by illness from attending. The proceedings opened with a vote of condolence, proposed by Surgeon-General Benson and seconded by Colonel C. N. Melville, R.A.M.C., which was unanimously adopted. Fleet Surgeon D. Walker Hewitt, in a paper on the treatment of wounded in naval warfare, pointed out the differences that exist between the conditions of war on sea and on land—differences which affect the nature of the wounds inflicted, the method of their treatment, and the surroundings in which it has to be carried out. Naval medical officers had to recognize that a man-of-war was a fighting machine and could not by any process of ingenuity be turned into a floating hospital. Arrangements

made on behalf of the wounded had, therefore, to be subservient to fighting efficiency. The first step should be the organization of an efficient first-aid party especially instructed in the hand transport of wounded men. First aid, usually so called, must be carried out in dressing stations under cover. The dangers of primary haemorrhage were rare and far less than that of sepsis from contamination of the wound by the soiled hands of the bearer party. It was impossible to expect men, in the confusion and hurry of fighting, to examine injuries carefully and apply dressings skilfully. Early removal by skilled bearers was the first requisite. Dressing stations were fitted up in the larger ships, but it was difficult even in these to get situations easy of access, protected by armour and not too hot; these difficulties were accentuated in smaller craft. Surgeons and wounded should not be too much kept together, but scattered as much as possible. In ships too small to carry a surgeon he suggested that three or four of the crew should be carefully trained in first aid by short spells of work in naval hospitals. After an action well-equipped hospital ships were a necessity, and removal of wounded from ship to ship should be frequently practised in peace, so that delay might not be caused in war. Sir James Porter emphasized the importance of practising the removal of wounded at inspections and other times, insisting particularly on the necessity of dealing with large numbers of men. Captain Max Page, R.A.M.C. (S.R.), read a paper on gangrene in war, derived from his experiences in the Balkan war. He divided gangrene into five varieties—namely: (1) Due to interference with blood flow; (2) traumatic; (3) infective; (4) vasomotor; (5) due to the effect of high explosives. The fourth type, attributed to disturbance of the vasomotor system, resembled frost-bite in its nature; half the cases suffered from cholera, and all gave a history of exposure to cold, wet, and famine. This form had been attributed by some observers to pressure from tight putties or the consumption of ergotized rye, but, Captain Page thought, on insufficient grounds. Lieutenant-Colonel E. M. Wilson, C.B., in a paper on employment of ex-soldiers and sailors in civil life, dealt specially with those trained in medical duties. These men belonged to the Reserve of either the sea or land forces. Their technical skill was apt to fade if not kept in practice. Medical men could do a great service, not only as to the men, but also to the nation, by finding employment for these men. The Army and Navy Male Nurses' Co-operation, 11A, Welbeck Street, supplied men of this class, and they could also be found through the R.A.M.C. Records Office, Aldershot. Sir James Porter confirmed what Colonel Wilson had said, and emphasized the importance of the work performed by these agencies.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

DR. F. W. MOTT referred to the great loss which the Section had sustained through the death of Dr. William Reid of Oxford, who had been elected one of the vice-presidents of the Section. Dr. Mott opened the discussion by reading a paper which was illustrated by a lantern demonstration. The following is a brief outline of the principal points with which he dealt: (1) The importance of the study of the pathology of general paralysis and tabes (in the light of recent researches) in respect to their diagnosis and treatment. (2) Syphilis a disease of the lymphatic system. The lymphatic systems of the brain and spinal cord in relation to the mode of entry of the spirochaetes or their toxins into the central nervous system. The cerebro-spinal fluid, a secretion of the choroid plexus, in relation to the pathology of parenchymatous syphilis. The importance of the condition of the fluid in relation to diagnosis and treatment. (3) The existence of spirochaetes in the central nervous system in relation to the pathology of parenchymatous syphilis. The infection of the central nervous system, the evidence of its occurrence, the time of its occurrence, latency. Personal observations on a series of 100 cases of general paralysis, in which spirochaetes were found in the brains in 65 per cent. (4) The correlation of cortical spirochaetosis with the morbid histological changes and phenomena of neuronic irritation and destruction, with their attendant clinical signs and symptoms. (5) Experiments on animals in relation to the therapeutic action of mercury and arsenobenzol compounds. (6) Theories regarding the causation of parenchymatous syphilis: (*a*) Modification of the spirochaete and evidence thereof; (*b*) the hypersensibility of the neurones; (*c*) a lowered resistance of the neurones. (7) Neuro-recidive, or Herxheimer's reaction in relation to treatment by salvarsan. (8) Recent developments in the treatment of parenchymatous syphilis by intrathecal injection of salvarsanized serum and of hypertonic solution of neo-salvarsan. The results in general paralysis. Dr. Plaut (Munich) pleaded for further experimental research by inoculation with syphilis of anthropoid apes, to discover whether there is evidence of varieties of spirochaetes from the biological standpoint or whether a biological peculiarity can be recognized in these animals acquiring late syphilis of the nervous system by reason of their reaction to the spirochaete in the earlier stages of syphilis. He indicated many of the problems which yet remain unsolved, and laid special stress on the fact that the cure of general paralysis can only be accomplished by fighting against the spirochaete, and that this fight must be begun in the first stages of syphilis. The discussion was continued by Dr. T. Mackintosh and Mr. McDonagh. Sir Clifford Allbutt, Dr. S. A. K. Wilson, Dr. Aldren Turner, Dr. Grainger Stewart, Dr. Campbell Thomson, Dr. Ford Robertson, Dr. T. J. Thomson, and Dr. D. W. Falconer took part in the subsequent discussion; and Dr. Mott replied.

SECTION OF OPHTHALMOLOGY.

DR. C. H. USHER, President of the Section, having briefly opened its proceedings, a discussion on the choice of a cataract operation was commenced by Mr. E. E. Maddox. The first consideration, he said, should be safety, and a preliminary iridectomy should take the premier place. Its chief disadvantage was the presence of a cicatrix when the incision for extraction was made. This could be almost entirely overcome by using a very short and narrow broad needle. The combined operation as regards risks was midway between the preliminary iridectomy and the simple method. He greatly preferred to do the bridge operation of Desmarres, for after the operation the eye was quite safe. Lavage was most useful, but the use of india-rubber tubes was not permissible. Simple extractions give the best visual results. One great disadvantage about intracapsular operations was the need of a specially skilled assistant. Dr. Casey A. Wood (Chicago) thought that mature cataracts in otherwise healthy eyes did well by any method. In incomplete cataract complicated by other diseased conditions of the eye preliminary iridectomy should be done. Major McKechnie, I.M.S., advocated Smith's method of intracapsular extraction, and greatly emphasized the fact that a very large incision, including at least half the cornea, was essential. The zonule of Zinn was not tough, and easily gave way. Mr. Bickerton (Liverpool) much preferred the combined operation. Mr. Devereux Marshall (London) favoured the simple operation followed by iridectomy if necessary. Dr. MacGillivray (Dundee) was a strong advocate of the subconjunctival method of extraction, and did not like sutures. Mr. Montagu Harston (Hong Kong) spoke in favour of Smith's method. Mr. J. Herbert Parsons (London) advocated the performance of a peripheral iridectomy. Dr. R. A. Reeve (Toronto) did a good many operations without iridectomy, but always used capsule forceps. Dr. Hill Griffith (Manchester) thought the combined operation the safest and best; so also did Dr. Harold Gifford, at all events so far as European and American patients were concerned.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

AFTER a few brief introductory remarks by the President (Dr. W. S. Lazarus-Barlow) a discussion on the action of radiations on cells and fluids was opened by him. He pointed out that the action of radiations upon cells and fluids must be considered from two points of view both having important bearings upon clinical medicine. On the one hand, the effect of relatively large quantities of radiations was important owing to the probability that rays (radium, *x* rays, and mesothorium) were destined to play an important part in the treatment of new growths; on the other hand, the effect of minute quantities was important because a claim had been made for their efficacy

in the treatment of certain diseases on balneological lines. His experiments dealt with the total action of radium doses eight times as great as those previously employed, and he regarded the columnar cells and subcutaneous tissue as one complex and the squamous cells and subcutaneous tissue as another complex. His experiments showed that the time and quantity factors of the radium dose played markedly contrasting parts, on which he laid great stress. He irradiated two rats—one for 108 minutes with 92 mg., another for 240 minutes with 38 mg., and then killed them nine days later. It appeared that in the case of the mucosa and submucosa, the smaller quantity of radium, acting for the greater length of time, produced the more profound changes. The exact converse held in the case of the cutaneous and subcutaneous tissues, in which the inflammatory reaction and destruction of squamous cells was greater in the case of the rat exposed to 92 mg. for 108 minutes. He concluded that undesirable damage would be better eliminated by keeping the quantity factor of the "radium dose" high in the case of the columnar cell complex, whilst in the case of the squamous cell complex it would be better eliminated by keeping the quantity factor of the "dose" low and the time factor high. Dr. Beckton then narrated some experiments to support his view that the action of rays was manifested only through the tissue glands and not directly on the tissues, for he could find no change in Altmann's granules after irradiation. Mr. Morson gave a lantern demonstration of histological preparation, showing the rapidity of degeneration in tumours after irradiation, and the fact that spheroidal and columnar celled growths responded best of all. He laid stress on the striking effect of treatment, and at the same time the effect of excessive dosage. Dr. Russ had carefully analysed the effect of the alpha, beta, and gamma rays on Jensen's rat tumour, and on *S. pyogenes aureus*, and found a most striking variation in the results, considerably longer exposures being necessary to sterilize the bacteria than to affect the tumour, and this was much more marked in the case of the *x* rays than the others. Dr. Price Jones had dealt with *in vitro* plasma cultures which were markedly affected, in as far as the mitoses were concerned, but he pointed out that the spread of tissue which might even occur in non-radiated tissues was the same as the increase of mitoses. The discussion which followed dealt with these points, and in his reply the President pointed out that the suggestion to introduce radio-active substances into the body fluids only emphasized the boldness of the empiricist in dealing with emanations whose danger could only be suspected. He also mentioned the difficulties in the way of research, owing to the scarcity of radium and its high price. The rest of the session was occupied with a discussion on the bio-chemistry of immunity reactions. This was opened by Dr. Carl Browning, who gave a general survey of the present position, and pointed out the large gaps in existing knowledge. Drs. Thiele and Embleton contended that complement was really a ferment, and did not act quantitatively by combining with antigens; also that there was no true specificity of bacteria, but that in the serum of animals dying from any kind of bacterial infection the same toxic substance could be demonstrated. Dr. Mackenzie Wallis dealt with the "protective ferments" of Abderhalden and their relation to immunity. Major A. G. McKendrick brought the discussion to a close with a paper on the compound lysins.

Section of Pharmacology, Therapeutics, and Dietetics.

The proceedings of the Section of Pharmacology, Therapeutics, and Dietetics were opened by an introductory address from the President, Professor J. Theodore Cash, F.R.S. He sketched briefly the history of the Section, pointing out that it had met five times in the last six annual meetings, and sixteen times previously, on an average of once in two years. This increase in the frequency of the meetings of this Section corresponded with the growing importance of the subject of pharmacology in the medical curriculum and with the increased development of pharmacological teaching and laboratory equipment in the various medical schools. Among other points he advocated the use of the metric system in dosage, on the grounds of bringing laboratory work and clinical work into closer relation, and also with a view to bringing this country into line with other nations. He foreshadowed the introduction of the metric system in the new *Pharmacopœia* as an alternative to that at present in use. The general business of the Section began with a discussion on recent advances in the relationship between chemical structure and pharmacological action, which was opened by Dr. J. M. Fortescue-Brickdale (Bristol). He emphasized the great difficulties of correlating structure and action, pointing out that those difficulties arose mainly from the biological side, and that the action of complex substances could only be determined experimentally in each case, though a new body having close structural analogy to one of known action would probably act in a similar manner. He then proceeded to discuss the methods by which alterations in chemical structure might affect the action of a substance. Dr. McWalter (Dublin) and Dr. Grünbaum (London) and the President also contributed to the discussion. Papers by Dr. F. J. Charteris (Glasgow) on the action of colloidal palladium in obesity; by Professor C. R. Marshall and Dr. G. B. Killoh (Dundee) on the bactericidal action of colloids of silver and mercury; and by Dr. J. A. Gunn (Oxford) on the pharmacology of the isolated human uterus and Fallopian tubes, concluded the work of the Section for the day.

Section of State Medicine and Medical Jurisprudence.

The first meeting of the Section of State Medicine and Medical Jurisprudence was opened by the President, Professor Matthew, M.O.H. Aberdeen, with a short introductory address, in which after referring to the apparent incongruity between the subjects which were combined in this Section, and the dissociation of the subject of medical sociology from that of State medicine, he suggested that in another year there should be a clearer definition of the relation between these subjects, and that a more appropriate designation for the combined Sections would be that of Preventive Medicine. He mentioned that the University of Aberdeen had recently appointed a full-time lecturer in public health, and that the combination of the chairs of Public Health and Medical Jurisprudence would cease when he relinquished his present appointment. He made special reference, from the point of view of medical jurisprudence, to the study of the criminal, remarking that since lunacy began to be recognized as a disease or a physiological defect the ordinary lunatic received more humane and just treatment, and there was a closer study of the psychology and genesis of the criminal. He concluded by saying that it was in this connexion that the union of State medicine and medical jurisprudence might, after all, find its justification. A discussion on the reform of vital statistics, with special reference to death certification, was opened by Sir Victor Horsley, F.R.S., who maintained that the *Nomenclature of Diseases*, which bore the imprimatur of the Royal College of Physicians, was largely responsible for the confusion existing on the subject of death certification. This work was essentially ridiculous in its terminology, for it was not really a nomenclature of diseases, but a list of symptoms. As instances of the absurdity of the volume, he mentioned the inclusion of hysteria, neuralgia, and neuritis as causes of death, and stated that in 1911, 57 persons were stated to have died from hysteria, neuralgia, and sciatica, and no fewer than 501 from "neuritis." These were, of course, really deaths from alcoholism. He therefore proposed that the Association should move in this matter, and produce a real nomenclature of diseases from which all the old loose terms and archaic names were expunged. The Association had drawn up a scheme, the principles of which were laid before the Registrar-General ten years ago, but nothing was done, and nothing probably would have been done had it not been for the fact of the appointment of the Venereal Diseases Royal Commission. Dr. Bruce (Dingwall) advocated the sending of certificates of death by general practitioners direct to the medical officer of health in the first instance. Dr. J. C. Dunlop (Register House, Edinburgh) stated that the *Nomenclature of Diseases* was not an official book in Scotland, and he thought Sir Victor Horsley laid too much stress on its influence in encouraging ill-defined terms. He did not think that the Registrar-General's office should be attached to a Ministry of Public Health, as legal knowledge was quite as important as medical in the office of the Registrar-

General. Dr. F. E. Wynne (M.O.H. Wigan) gave various instances of the absurdity of the present classification of the nomenclature of diseases, and pointed out that the confusion was due to an endeavour to classify causes of death on an anatomical instead of on a pathological basis. He suggested that there should be a special section for diseases of the ductless glands, and that the term "croup" should be altogether deleted. Dr. Chalmers (M.O.H. Glasgow) advocated the adoption of uniformity in national and local returns. After some remarks from Drs. Boyd (Pretoria), McCall, Murray (Stornoway), and Laffan, Sir Victor Horsley replied to the remarks of various speakers and moved a resolution advocating reforms in the national statistics of life and death and a confidential system of death certification. This was seconded by Dr. Bond and passed unanimously. The meeting concluded with a paper by Dr. McWalter (Dublin) on the necessity for reforming the coroner's inquest, and a paper on legal investigation of causes of death in Scotland by Dr. W. G. Aitchison Robertson (Edinburgh).

SECTION OF SURGERY.

WHEN Mr. Scott Riddell, M.V.O., President of the Section, took the chair at the first meeting of the Section there was a large and keenly interested audience, and after a few words of welcome to the City of Bon Accord the scientific business was begun. Mr. W. G. Spencer (London) led a discussion on the etiology and treatment of squamous-celled carcinoma of the tongue and floor of the mouth. Surgeons, he said, had recognized that there was a pre-cancerous stage, which was characterized by a recognizable lesion lasting generally longer than three months before it became actually cancerous. This lesion was a subepithelial small round-cell infiltration, which was mainly of inflammatory origin, but some of whose cells appeared to be derived from epithelium. When these cells were sufficiently numerous proliferation was noticeable. The term "pre-cancerous" was too indefinite; this period of small round-cell infiltration should properly be included within the cancerous period. Microscopic examination alone, performed preferably within the operating theatre or its immediate vicinity, at the time of operation was the only real method of recognizing early epithelioma. The operative treatment of these lesions depended upon the amount of involvement of the tongue. Early cases could be treated by local operations, excision of the ulcer; later cases could be dealt with only by extensive operations, such as Crile's block dissection; inoperable cases should be treated by continuous use of non-irritating antiseptics to disinfect the ulcerated surfaces and by the use of drugs to relieve pain. The paper was illustrated by many references to cases and by microscopic slides. Professor Kay Jamieson (Leeds) described the anatomic distribution of the lymphatic vessels of the tongue and glands of the submaxillary and cervical regions. He drew particular attention to the course of lymphatic vessels from the tip of the tongue, down the fraenum, close to the periosteum of the inner surface of the jaw to the submental glands, and sometimes passing them to glands of the lower deep cervical group. The lymph vessels in the tongue itself sometimes, in passing downwards, crossed over to glands on the other side. The jugulo-digastric and the jugulo-omohyoid glands were glands deserving special mention from their constancy. Mr. J. F. Dobson (Leeds) was associated with this investigation, and had as a result advocated that for the thorough treatment of any advanced case of tongue cancer with gland involvement nothing short of Crile's block dissection was adequate. Some cases showed that it was not necessary, nor sometimes even practicable, to remove all the large lymphatic trunks. Mr. C. P. Childe (Southsea) said he had been driven to perform extensive operations by clinical experience of recurrence. He operated by first removing the gland area and at the second stage removing the tongue. He strongly advocated education of the public in the early recognition of possible cancerous conditions, and presented members of the Section with copies of a leaflet drawn up for that purpose, published by the borough of Portsmouth. The discussion was carried on by Mr. McAdam Eccles (London), Mr. Hey Groves (Bristol), Dr. T. K. Dalziel (Glasgow), Professor Caird (Edinburgh), Mr. Lucas (Birmingham), and many points regarding extent of glandular involvement, etiology, and operative methods raised. Mr. Spencer having replied, Mr. Sidney A. Boyd read a paper on newer indications for removal of the spleen, and discussed various diseases demanding this operation. Sir William Milligan's paper on some practical considerations in the diagnosis and treatment of cerebellar abscess was most attentively followed, as new suggestions were made on methods of diagnosis and on the route of attack on these lesions. Mr. W. I. de Courcy Wheeler described the subsequent history of three cases of aneurysm of the abdominal aorta operated on by him by Colt's method.

SECTION OF TROPICAL MEDICINE.

PROFESSOR R. SIMPSON, C.M.G. (London), in his opening remarks, referred to the first meeting of the Section of Tropical Medicine in Edinburgh some sixteen years ago, and to the epoch-making paper of Manson and the brilliant work of Ross, which they first made public at that meeting. He also dwelt on the urgent need for the prosecution of sanitary reforms in the tropics, and then called on Fleet Surgeon Bassett-Smith, C.B., R.N., to read a paper on kala-azar and allied conditions, which presented a summary of present knowledge on the subject. Under the term "leishmaniasis" Fleet Surgeon Bassett-Smith included (1) all general diseases caused by the *Leishmania donovani;* (2) all the superficial infections caused by *Leishmania tropica*. The epidemiology of Indian kala-azar was considered to be coextensive with the Mediterranean infantile form, with which it was now generally held to be identical. He regarded the superficial leishmania, "Oriental sore" and "espundia" as being identical infections, since cases of naso-pharyngeal leishmaniasis had been found in Italy, where the former disease was also common. Professor Gabbi (Rome) recorded a number of observations which to his mind effectually disproved Basile's contention that the dog-flea, *Ceratophyllus fasciatus*, is the natural conveyer of the *Leishmania* infection between the dog and man. He was inclined to explain the discrepancy between Basile's experiments and his own and those of Wenyon by the failure of the second observer mentioned to exclude the spontaneous development of leishmaniasis in his experimental animals. In the discussion which followed, Dr. D. E. Anderson (London) referred to his observations on "uta," a dermal leishmaniasis of Peru, formerly considered to be syphilis. Dr. P. H. Bahr remarked on the absence of kala-azar from Ceylon, where the conditions were so similar to those of Southern India. Professor Ferguson (Cairo) referred to a form of tropical splenomegaly which was excessively common in Egypt, and in which he had failed to find the *Leishmania*, and in which excision of the spleen apparently rapidly effected a cure. Captain Marshall, R.A.M.C. (London) and Professor Gabbi concurred that such cases were in their experience common enough, but that in the terminal stages of true kala-azar, and *Leishmania* was apt to disappear from the liver and spleen. Dr. MacCallan (Cairo) read a paper on the ankylostomiasis campaign in Egypt, and concluded by saying that it was proposed to make an ankylostomiasis survey of each province and to clear up a number of disputed points, such as the absence of "ground itch" in the heavy infected districts. Dr. Sandwith (London), in the discussion, referred to the results obtained with the oil of chenopodium in ankylostomiasis in Sumatra and the Malay States. He considered it extraordinary that the drug had proved to be of so little avail in Egypt. He referred in complimentary terms to the interest taken by Lord Kitchener in this work. Professor L. Phillips (Cairo) said that in his experience eucalyptus oil, castor oil and chloroform water had given results nearly as good as those of thymol. Professor Ferguson (Cairo) read a preliminary communication on the effect of the accumulation of *Bilharzia* eggs in the spinal cord, when they are found in the posterior columns and in the ganglia cells of the cornua. Curious nervous phenomena, spastic paraplegia, incontinence of urine, and trophic ulcers are observed in these cases during life. The morning ended with a short paper by Professor L. Phillips (Cairo) on the inefficiency of small doses of emetine in effecting a cure in amoebiasis. He advised a three weeks course of emetine injections combined with saline aperients.

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THE PRESIDENT'S ADDRESS.

In his Presidential Address, which is published at p. 221, Sir Alexander Ogston gives a most interesting review of the growth and development of Aberdeen in its civic as well as its academic aspect. It is well known that he has given much attention to the archaeology of Scotland, and therefore he can speak with special authority on the early inhabitants of that region. He shows how from a small settlement in a remote and almost inaccessible part of the coast of the North Sea where the people earned a hard living by fishing, it grew into the flourishing city of which an account has already been given in the JOURNAL of January 3rd, 1914. To what an extent the fishing trade has now grown visitors will be able to see for themselves; it is, as the President says, one of the wonders of the world. Aberdeen has now many other flourishing industries, and its trade, as Parson Gordon said at the end of the fifteenth century, is still with "Norroway, Swethland, Denmark, Pole, Germany, Holland, Flanders, France, Spayne and England." It was made a royal borough by Gregory King of Scots as early as the ninth century. Its development was doubtless hindered by its exposure to attack from without, for it was never a strongly fortified place, and consequently it was frequently taken and retaken in the almost perpetual wars which raged up to the middle of the seventeenth century. It was always a place of importance, and even up to the end of the sixteenth century might, but for its remote situation, have been the capital of Scotland. Kings resided in it and Parliaments were held there. In 1511, when Queen Margaret, sister of Henry VIII and wife of James IV, visited Aberdeen, her favourite poet, Dunbar, celebrated the event in verse, calling the city—

> Blythe Aberdeen, thou beryl of all Townis,
> The lamp of beauty, bounty, and blytheness.

Allowing for the exuberance of the poet's fancy, the account of the Queen's reception shows that in the early years of the sixteenth century the town could make a brave display of welcome and hospitality.

It was shortly before this time that a notable development in the importance of Aberdeen took place. This was the foundation of the famous university, which has made its name known all over the world as a training ground of men who have helped to do the work of the empire and have enlarged the boundaries of knowledge in every sphere of intellectual activity. The divine thirst for learning had, indeed, existed in Aberdeen from a much earlier period, for already in 1262 there was a grammar school, which has existed more or less continuously ever since. In 1483 there came to Aberdeen as Bishop of the See a man who was to make the light of wisdom glow with a brighter flame, and place it in a high place where it could be seen of all men. This was William Elphinstone, a man skilled in all the learning of his time and full of enthusiasm for its diffusion. He was a graduate of Glasgow, and had been both student and teacher in the universities of Paris and of Orleans, then celebrated as a centre for the study of law. Before going to Aberdeen Elphinstone had already distinguished himself in diplomacy, and acquired a great influence over the mind of King James III, and later of his successor. He had held high office in the kingdom, and had been entrusted with important embassies. Elphinstone was keenly interested in education, and Sir Alexander Grant suggests that to his inspiration was due the Scottish Act of 1496, which required all barons and freeholders to have their eldest sons instructed in "Arts and Jure."[1] By that measure it was enacted that all barons and freeholders in Scotland should send their eldest sons to the grammar schools from the time they were 8 or 9 years old. At these schools they were to remain till they had "perfect" Latin. They were then to proceed to the schools of art and law, where a course of three years would qualify them to administer law and justice to the parts of the country to which they belonged; the object of this was that the poor "should have no need to seek our sovereign Lord's principal Auditors for each small injury." This was, in fact, as Sir Alexander Ogston points out, the curriculum of a university. Moreover, it seems, as he says, to prove that to Elphinstone belongs the credit of having anticipated by several hundred years the introduction by the State of the principle of compulsory education. Hastings Rashdall says that from this act it is clear that Elphinstone aimed at making his university a school of law. It is still more clear that his aim was the education of a grossly ignorant clergy. In the Bull of Foundation, which by his influence was obtained from Pope Alexander VI in 1495, the state of things in the region about Aberdeen is described as follows: "In the northerly parts of the Kingdom of Scotland there are certain parts divided from others and cut off by firths and lofty mountains, wherein lived rude and illiterate men almost savages, who on account of their great distance from spots where there are schools of learning, find it dangerous to travel to places where letters are studied. So ignorant are they that persons cannot even be found capable of reading the word of God, teaching or administering the sacraments." The Pope praises "the priceless pearl of knowledge," which, besides giving a clear understanding of the "secrets of the universe, raises those of humble origin to the highest rank." This, though only the formal style of such Bulls, recalls what Gaisford, Professor of Greek at Oxford, said in praise of classical knowledge, that it gave its possessors a sense of superiority to their fellows. The remedy for the intellectual darkness which prevailed in the remote places referred to by the Pope was said to be the foundation of a Studium Generale Literarum, and the Pope points out that if a university were established in the illustrious old town of Aberdeen (*inclita civitate veteri Aberdonensi*), which is near to the wild places described, "many men of that kingdom and especially of those parts, ecclesiastics as well as laymen, would gladly give themselves to the study of letters."

Sir Alexander Ogston gives a most appreciative sketch of the personal character of Elphinstone, who was certainly one of the greatest men of his time, not only in Scotland but in Europe. Besides founding the university he reformed the clergy, built the great steeple of his cathedral, and showed himself a *pontifex* in the literal sense of the word by projecting the building of the old Bridge of Dee, then the only way of communication with the town from the south, and leaving materials and money which he had collected to his successor, Bishop Dunbar. Elphinstone's work on his cathedral has long

[1] Hastings Rashdall, *Universities of Europe in the Middle Ages*, vol. ii, part 1, p. 309. Oxford, 1895.

disappeared, but the university of which he was the begetter remains and has developed beyond the dreams of the founder. An account of the University of Aberdeen was given in the JOURNAL of January 10th and 17th, 1914.

Readers, therefore, need only be reminded that Elphinstone founded what is now King's College, a remarkable feature in it being that he laid the foundation of a medical faculty, the first in Great Britain. The mediciner, James Cuming, was not a priest, but a married man and a regular graduate in medicine. Whether he actually taught from a university chair is not known, but it is clear that he practised medicine, for there is a record of the salary paid him by the town. Cuming died in 1521 and was succeeded by Robert Gray, who was also a doctor of medicine. Ferrerius of Paris speaks of Aberdeen in 1534 as the most celebrated seat of learning in Scotland, and among the early teachers makes a complimentary reference to Gray.

Sir Alexander Ogston points out, as a proof of Elphinstone's sagacity, that in the foundation of the university he sought for help, not from the great magnates whose influence might have overshadowed it to the detriment of its growth, but from the burgesses, the lesser nobility and gentry. We know from modern instances that the pious founder may be a serious hindrance to the work for which he supplies the material equipment. Of the development of the University of Aberdeen, of the foundation of Marischal College, and of the final fusion of the two colleges in 1860, enough has already been said in previous articles. Visitors will see for themselves into what a noble temple of medicine Marischal College has grown from very humble beginnings; its laboratories and provisions for teaching are surpassed by none in the kingdom. The school itself, since the colleges were made into one university, has thriven marvellously. Every year it sends out a number of well trained doctors to do their work in civil life and in the services. It has in recent times been the intellectual cradle of many original investigators; we need only name Patrick Manson, Arthur Keith, and William Bulloch of the London Hospital. Among the most eminent of living men connected with Aberdeen is Sir Alexander Ogston himself, who, as a teacher and a surgeon, has always manifested independence and originality of thought, and who, though retired from the battle of professional life, stands at the head of the surgical profession in Scotland. Throughout his career he has been a true leader in modern surgery, and many generations of students hold his name in veneration. Though he makes no mention of himself it is well known to all who know anything of the University of Aberdeen during the past thirty or forty years how large a part he has played in bringing it into the front rank among the medical schools of Great Britain.

CHEMISTRY AND MEDICINE.

DR. A. E. GARROD'S Address in Medicine (p. 228) gives an admirable summary of the present relations of medical science and chemistry. As he points out, the aims and operations of many of the different branches of science are nowadays inextricably intertwined. Physiology, pathology, bacteriology, therapeutics, and chemistry, to name only the most important contributors to medicine, have become to a large extent interdependent sciences, borrowing from and lending to one another with the utmost freedom. One result of this great enlargement of their boundaries has been that the medical investigator is nowadays bound to have some special bias, to look out upon the field of medicine from his own standpoint, whether as a chemist, a physiologist, or an expert in one or another of the branches of pathological science. Dr. Garrod, as is well known, has won distinction as an investigator of the problems of physiological and pathological chemistry, and is therefore peculiarly well fitted for the survey of medicine from the chemical point of view. And nobody but a trained chemist can hope to understand the incredibly complex divagations made by the science of organic chemistry during the last decade or two, notably under the leadership of Emil Fischer, to whom Dr. Garrod makes appreciative reference, and Paul Ehrlich. As has always been the case, the progress made in chemical study has answered certain questions that it set out to solve, but in answering them has raised countless further and more complicated questions; thus the contemplative student of experimental knowledge can see repeated and verified every day the fable of the immortal hydra and its nine heads—when one is down another comes up for solution to take its place. Pathological chemistry is now more than ever before beset with knotty problems presented to it for elucidation by the bacteriologist and experimental pathologist, many of them, so far as our present knowledge and means of research go, frankly insoluble to-day, whatever they may be to-morrow.

Much has been done to solve the question of the constitution of the proteins, the carbohydrates, and the more complex fatty substances met with in the animal economy, and we may fairly be said to have a sound, if still incomplete, working knowledge of the structural units out of which many of these bodies are built up, for all their infinite variety. But the path of the pathological chemist is no longer set in these comparatively easy places. The bacteriologist and experimental pathologist now cry out for information about substances far less well defined than the proteins of everyday life that are the main constituents of living or dead protoplasm. Nowadays research is busied with the composition and properties of such elusive substances as toxins, antitoxins, hormones, chalones, the secretions of the ductless glands, or ferments, and with the processes of life or disease occasioned by their manifold actions and interactions. In fact, the chemist is being called upon for precise information about substances justly characterized by Dr. Garrod as "intangible entities revealed as yet by single properties," identified by criteria that must appear wholly inadequate to the chemical mind, in spite of the fact that even such flimsy knowledge as we have about them is mainly inferential and based upon circumstantial rather than upon direct evidence.

The complexity of the questions that have to be answered may be illustrated by a consideration of the proteins of foodstuffs. Time was when the digestion and absorption of the proteins appeared to be a straightforward matter. It was thought that they were broken down by the digestive juices into simpler but still highly complex fractions, such as albumoses or peptones, absorbed as such, and as such built up again into similar proteins in the animal body once more. But nowadays we have changed all that. The infinite variety of animal proteins is now recognized. Animals of different genera contain different proteins, built up, no doubt, of more or less similar atomic complexes in ultimate analysis, but having these atomic complexes in different numbers and differently arranged within their protein molecules. The bricks of which the

protein edifice is constructed—to use a coarse analogy—may be similar, or even apparently identical, in different kinds of animals or different genera of plants, but the ways in which the bricks are utilized to build up the different protein molecules are not the same. Not only so, but even in the various organs and tissues of each animal these bricks are put together differently. And thus we learn that the very proteins which perform identical functions in different animals are not themselves identical, but differ from genus to genus, from species to species, and differ the more widely the further the several species are separated from each other in the evolutionary scheme.

As a further complication, it seems from Abderhalden's work on the protective ferments and cytolysins that each tissue protein bears not only this specific generic stamp, but also a second stamp derived from the particular organ from which it is derived. It appears probable that the two liver proteins, for example, respectively derived from the sheep and the dog, while exhibiting specific ovine or canine differences, agree in containing in their molecules some particular group of atoms that confers on both the peculiar hepatic impress. The elucidation of these and similar problems of the constitution of the proteins is of the greatest importance to the pathologist who wishes to understand the widespread phenomena of anaphylaxis, for example, or of immunization, and also to the pathologist in search of explanations for the narrower errors of metabolism such as those shown by cystinuric or alcaptonuric patients. Yet it is to the pathological chemist that we must look, in the last instance, for their solution.

Want of space makes it impossible to refer to the many other metabolic problems set out and in part answered by Dr. Garrod in his masterly survey of the wide field he has set himself to traverse. He makes abundantly evident the extreme delicacy of the chemical processes whereby the metabolic processes of the human body maintain the integrity of their balance, the complexity of the methods of defence employed by Nature in the presence of disorder or disease. He encourages the modern physician to cultivate a healthy scepticism, not unchecked by the positive results of scientific research, in estimating the effects of drugs and diets in the treatment of disease, quoting an excellent apophthegm of that iconoclastic mystic Paracelsus: "Nature is the physician, not thou. Thou must learn of her, not of thyself." It is true that Paracelsus was one of the last men in the world to follow such a plan himself in his own practice; but of the soundness of his advice there can be no question. When we administer a serum or a vaccine, or the extract of an endocrine gland, we are copying Nature's methods and using her weapons; the hope is that such empirical therapeutics will be placed on a more scientific footing as our knowledge of the chemistry of the living body increases.

THE ADDRESS IN SURGERY.

Sir John Bland-Sutton has taken as the subject of his address (p. 235) The Surgeon of the Future. To place his forecast in the strongest light, he begins with a backward glance at the surgeon of the past. The discovery of anaesthetics and the invention of the microscope, he says, completely changed surgical methods. Of the immense influence of anaesthesia in the development of surgical handycraft there can be no doubt. The horrors of surgery in the days before means were found of drowning the patient's sensations in unconsciousness are beyond description. A distinguished physician, who had to submit to an amputation, has left a record of his feelings which was published by Sir James Simpson;[1] it is worth quoting: "Of the agony occasioned I will say nothing; suffering so great as I underwent cannot be expressed in words, and thus fortunately cannot be recalled. The particular pangs are now forgotten; but the black whirlwind of emotion, the horror of great darkness, and the sense of desertion by God and man, bordering close upon despair, which swept through my mind and overwhelmed my heart, I can never forget, however gladly I would do so. . . . Before the days of anaesthesia a patient preparing for an operation was like a condemned criminal preparing for execution. He counted the days till the appointed day came. He counted the hours of that day till the appointed hour came. He listened for the echo on the street of the surgeon's carriage; he watched for his pull at the door-bell, for his foot on the stairs, for his step in the room, for the production of his dreaded instruments, for his few grave words and his last preparations before beginning; and then he surrendered his liberty, and, revolting at the necessity, submitted to be held or bound, and helplessly gave himself up to the cruel knife. The excitement, disquiet, and exhaustion thus occasioned could not but greatly aggravate the evil effects of the operation, which fell upon a physical frame predisposed to magnify, not to repel, its severity."

Nor was it only the patients who suffered. Men like Cheselden, John Hunter, and Abernethy used the knife with reluctance and dislike, and Charles Bell generally passed a sleepless night before a critical operation. In a letter under date March 23rd, 1805, he says: "I am just returned from witnessing an operation. . . . I cannot bring my mind to leave surgery in the state it is now practised. . . . Yet, being bound to certain rules, a *spectator* merely, it was torture to me." It is difficult for the present generation to conceive that there were surgeons who held that pain was a useful stimulus; but on this ground the use of chloroform was forbidden by the principal medical officer of our army in the Crimea.

It may be admitted that anaesthesia has certain disadvantages which may be called defects of its qualities, but we think Sir John Bland-Sutton has overstated the case when he says that, in consequence of its introduction, post-operative suppuration and pyaemia became endemic plagues in all populous cities, dogging the footsteps of the surgeon. The production of suppuration as a necessary part of the healing process in wounds, except in the rare cases in which union took place by first intention, had always been aimed at by the surgeon till antisepsis taught him a better way, and pyaemia with hospital gangrene had raged as a devastating scourge in hospitals long before the discovery of any sweet oblivious antidote to the pain of the surgeon's knife. John Bell, writing in 1801, quoted an ancient French author, who said: "A young surgeon who is bred in the Hôtel-Dieu may learn the various forms of incisions, operations too, and the manner of dressing wounds; but the way of curing wounds he cannot learn. Every patient he takes in hand (do what he will) must die of gangrene." That was the state of things long before the day of anaesthesia, and such it continued to be till the demon was finally exorcised by the genius of Lister.

With anaesthesia and antisepsis gradually broadening into the principle of asepsis, the surgeon of the old type—whose practice might be summed up in the

[1] *Collected Papers on Anaesthesia*, etc., Edinburgh, 1871, p. 86.

familiar formula, "Cut through everything that's soft, saw through everything that's hard, tie everything that bleeds"—faded out of existence, and his place was taken by a man of an altogether different mould and temperament. Men whose intellectual power made them well fitted to advance knowledge formerly avoided surgery because its inevitable accompaniments jarred on their sensibilities. When anaesthesia mitigated these horrors, such men were attracted by the nature of the scientific problems which surgery presents and the definiteness of the issues with which it has to deal. Having gazed through the microscope on the Pacific of a new pathology, they went forth to do things undreamed of by their rude forefathers. In considering the causes of the progress of surgery in the past half-century, the men behind the weapons must be taken into account as well as the means of research.

Surgeons, Sir John Bland-Sutton tells us, are of two types—they are either craftsmen or biologists. Craftsmen to a greater or lesser extent they must always be, but in this direction there is a limit set to possible advance. But in pathology and chemiotherapy the field of progress is illimitable. As Sir John Bland-Sutton truly says: "It requires little foresight to recognize that for men to attain high places in surgery the high road lies through the pathological institute." He has himself given the best evidence of the faith that is in him not only by his own career, for he approached surgery through pathology—there were no institutes then—but quite recently by presenting to the Middlesex Hospital, with which he has been so long connected, an institute of pathology, now nearly complete, comprising clinical, research, and teaching laboratories and a museum. A necessary condition of progress is that the wards, operating theatres, and laboratories should be brought into the closest intimacy. If the time has not yet come for saying *Cedant arma togae* there can be no doubt that it is approaching. The surgeon of the future will work with chemical compounds rather than with the knife. The brilliant results of salvarsan have shown the way not merely to the cure of syphilis but also, we may perhaps hope, to the destruction of the seeds of cancer and other diseases without damage to the organs and delicate tissues in which they grow. The ideal of the surgery of the future is that expressed by Huxley in an address to the International Medical Congress in 1881, when he expressed the hope that the advance of therapeutical knowledge would make it possible "to introduce into the economy a molecular mechanism which like a very cunningly contrived torpedo shall find its way to some particular group of living elements and cause an explosion among them, leaving the rest untouched." As Sir John Bland-Sutton says: "What surgeons urgently need is a molecular compound which will either kill the bacteria and cocci that colonize cancer or neutralize their harmful toxins in the same way that salvarsan renders spirochaetes inert without destroying the organs or tissues of their host."

A few years ago it seemed as if the line of progress in the art of healing lay in the gradual transformation of what was once called medicine into surgery; parts of the body which had, till times comparatively recent, been held inviolable by the knife were gradually invaded by the surgeon. Now there are signs that the tide of this revolution is on the turn, and if the surgeon cannot altogether cease to be a craftsman he must, if he is to gain complete mastery of many of the diseases that are even still subject only to the final arbitrament of the knife, put on the armour of the physician.

That the surgery of the future will be to a large extent chemio-therapy is a consummation devoutly to be wished for. It is a dream, but then it must be remembered that it is the dream of one who is himself a craftsman of the highest order. Moreover, it inspires hopes which should encourage workers to strive with redoubled vigour to wrest from Nature the secrets which she has so jealously kept throughout past ages.

ANNUAL MEETING NOTES.

Prolegomena.

The first impression left by Aberdeen is one of spaciousness, solidity, and orderliness, and this is not altered by further experience of the city. Nearly all the streets are wide, and there is such an air of cleanly newness about the whole place that it is difficult to realize that it has behind it a crowded history of many hundred years. There are slums to be found, but they are difficult to realize as slums, because the houses of the slum dwellers are so solidly built and the children playing around them look such healthy little mortals. It is, in fact, on its bare-headed, bare-legged, fresh-coloured children, on its shawl-clad women, and its occasional groups of robust-looking fishermen that Aberdeen depends for such local colour as it possesses. But perhaps the most striking thing of all is to find that one can step out of Aberdeen itself on to a magnificent expanse of sandy shore. The word "step" is used advisedly, for, literally, the very centre of Aberdeen's civic, educational, and commercial activity is divided from a very remarkable natural shore only by a few houses and a street that can be traversed on foot in half a dozen minutes. Between the actual beach and the town limits is a broad strip of green turf, part of which is used apparently as a free golf link, and, except for the presence of one large building, the passage of an occasional tramcar, and a distant view of the harbour lighthouse, there is nothing whatever to suggest the proximity of a great town. This nearness to the sea, coupled with the fact that the shore is not bespattered with artistic villas, is a great addition to the amenities of Aberdeen and a health asset of quite exceptional value. However, it is Aberdeen as a place for a great gathering such as that of the British Medical Association at its annual meetings that is really in question. On this it is sufficient to state that it is lending itself admirably to the needs of the situation. The beautiful edifice known as Marischal College provides ample accommodation not only for the work of the Sections, but of the Council and the Representatives, while the Advocates' Hall, which has been lent for use as a reception room, is distant not more than 150 yards, and is a spacious and luxuriously furnished building. Furthermore, those who represent the hosts of the Association on the present occasion, namely—Sir Alexander Ogston, his first lieutenants, Drs. Thomas Fraser and F. K. Smith, and the chairmen and secretaries of the various committees—have, as will appear in subsequent notes, made the fullest use of all the natural advantages offered by Aberdeen and its general characteristics.

General Arrangements.

The general arrangements are on all-fours with those of previous meetings, but the making of them has been accompanied by unusual difficulties. Scotland does not indulge in bank holidays, but it does, it seems, break off work occasionally not for a day, but for a whole week at a time. One of these occasions was last week, during which neither man, woman, nor child in Aberdeen was disposed to pursue the normal tenor of existence. Fortunately, however, the officials of the meeting, not forgetting the approach of this holiday, took time by the forelock, with the result that, despite all initial difficulties, everything so

far as the visitors are concerned has been working smoothly. The Representatives, on their assemblage on the 24th inst., found everything ready for them, and the balance of preparations were completed by the time ordinary members began to arrive on Monday and Tuesday. Moreover, the Reception Committee, headed by Professor Matthew Hay, with Drs. H. M. W. Gray and H. E. Smith as his honorary secretaries, appear to have drilled in advance all the members of their subordinate staff, for although these were new to work of the kind there has been a happy absence of confusion at the reception room. A further example of the general forethought exercised is the fact that those who arrived in Aberdeen by train found that the Hotels and Lodgings Committee, whose chairman and honorary secretaries are Dr. John Gordon, Dr. F. Philip, and Dr. James Robertson respectively, had opened an office at the station and were ready to help them in the task of finding quarters should they not have done so in advance. On first thought it might seem as if a city such as Aberdeen would find it easy on ordinary commercial lines to house a thousand or more visitors of the professional class, but owing to the presence of many ordinary visitors at this time of the year and other causes, this was not the case. In fact, had not the hospitality of Scotland been a good deal more than proverbial, the position would have been very difficult. As things are, a very large proportion of members attending the meeting are the private guests of Aberdeen's medical and other citizens. It need scarcely be added that there is a good deal of other private hospitality in progress quite apart from the round of entertainments and amusements that the Local Entertainments Committee (chairman, Dr. G. C. Ogilvie Will; vice-chairman, Dr. Albert Westland, and honorary secretaries, Drs. W. F. Croll and W. C. Souter) has been able to arrange. These cater for all tastes, and are on a most elaborate scale. The afternoon occupations include lawn tennis, squash rackets, golf, cricket, visits to hospitals and local industries, and a series of expeditions to various spots of antiquarian interest within easy reach of the town; while for those less energetically inclined there are a series of garden parties, the first of which was given on Wednesday by the Lord Provost, Magistrates, and Town Council of Aberdeen. On Wednesday evening the Court and Senate of the University were at home at Marischal College, and at the hour we go to press an entertainment given by the President and members of the Aberdeen Branch is in progress at what is locally known as the Music Hall, while a general reception and dance, provided by the same hosts, is to follow on Friday evening. Furthermore, the need of occasional repose has not been overlooked, three of Aberdeen's principal clubs having arranged to allow members of the Association to avail themselves of their accommodation. The annual dinner, which is taking place at too late an hour to be more than mentioned this week, has been arranged by the Dinner and Luncheons Committee, whose chairman and honorary secretary are Dr. John R. Levack and Dr. William Brown respectively. It may be stated in advance, however, that Scotland's reputation in the matter of skill in culinary connexions is well sustained by Aberdeen, cleanly teashops and luncheon rooms being plentiful. The food, in fact, is so good that members of the Association will certainly not return home hungry. Tired, however, they will certainly be if they take advantage of half that Aberdeen has offered them in the way of social entertainment and active amusements, not to speak of mental recreation and scientific discussions.

Church Services.

Church services always form a part of the proceedings of the Association at its annual meetings, but the day and time on which they take place tend to vary. This year Wednesday was the day chosen, and the hour was the unusually early one of 9 a.m. The more definitely official ceremony was that held in the West Parish Church of St. Nicholas, this being attended by the President and principal officers of the Association, who marched to the church from Marischal College, preceded by the Corporation of the city of Aberdeen. The sermon was preached by Professor Thomas Nicol, D.D., Professor of Biblical Criticism in the University of Aberdeen, and Moderator of the Church of Scotland for the year 1914, and the lessons for the day were read by Drs. John Gordon and Thomas Fraser respectively. Taking as his text Luke xxii, 27, "I am among you as He that serveth," Professor Nicol said that there was a tradition that the Chinese sage and philosopher, Confucius, on being asked to describe the whole duty of man, answered with a single word, "Serve." The fullest and loftiest exemplification of the truth thus conveyed had been given to the world by our Lord Jesus Christ. Service was the most characteristic note of His life, and it was also the sum total of the duty which He required of all who bore His name. The words which were spoken in the upper room and were recorded by the evangelist and beloved disciple St. Luke suggested for brief consideration the example, the mission, and the motive of the finest and noblest service that could be rendered to God and man. As for the example, this service Bacon, in his *Advancement of Learning*, had called seeking "the glory of the Creator and the relief of man's estate," and "the servant" was in the Old Testament one of the prophetic titles of Jesus. He laid aside the glory He had with the Father from all eternity to become a "bond-servant," and He gave obedience to His Heavenly Father's behests, carrying that obedience to the limit of death upon the cross. His earthly life was full of gracious ministry from its commencement to its close, and the gospels were full of the services which occupied His three years of public ministry. His whole life, in fact, was lived in the encompassing element of service and His discourses to His disciples enforced it. On the night when He took the Last Supper with the twelve, He rose from supper and having laid aside His garments and taken a towel and girded Himself, He poured water into a basin and washed the disciples' feet, and wiped them with the towel wherewith He was girded. "I have given you an example," He added, "that ye should do as I have done unto you." By this He recommended that self-denial which was not afraid to stoop to the most menial offices. He exhibited that reverence for what is lowly which is the distinguishing feature of the truest greatness. His death as an example for mankind was the glory and fulfilment of His word, "I am among you as He that serveth." This was His supreme service to His brethren and mankind, and it was this which had crowned Him eternally with glory and honour. As for the mission, the example of service offered by Christ came home with especial directness and power to those who in each generation called themselves His. They formed the great and holy fellowship called the Church, and the mission of this was to continue Christ's ministry, carry out His purpose, and furnish channels for the distribution of His compassion and redeeming grace to the miserable and the sinful. But while the Church occupied this high position in her corporate life, it was permitted to all to share her ministry of help and service, whether in a personal or a professional capacity. Furthermore, the mission to seek the glory of the Creator and the relief of man's estate could nowhere be found better exemplified or more worthily adorned than in that noble profession whose representatives were now assembled in force in the city of Aberdeen. It was a joy to recognize and extol the varied, efficient, and Christ-like service rendered by them in fighting sickness and disease, and in bringing relief and alleviation to the pains and woes of suffering humanity. All must freely admit that the many unselfish and unremunerated services of medical men, the courage which carried them often into the very valley of death, their

discoveries, which, like those of Sir J. Y. Simpson, had often blessed humanity on a large scale, and the fashion in which they applied skilled and highly trained intelligence to the investigation of disease and the search for its remedy, and thus brought about a reduction of the death-rate and the more general diffusion of health in many communities, were exemplifications of the spirit of Him who said "I am among you as He that serveth." As for the Motive, those who served did so because they loved, and "they loved because He first loved them." Man could not give up the incarnation, the historic life, death, resurrection, and ascension of the Son of God and yet retain those desires for social progress, those impulses towards self-sacrificing benevolence and altruistic service which flow chiefly from the example of Christ and were sustained by His living spirit. Humanity in its active aspects of pity for suffering and patient service for fellow men had the surest pledge of its continuance as a moral force in the Divine Fatherhood and the revelation of God in Christ stooping to the lowliest of services. In the medical profession not less than in the more directly sacred profession of the ministry, men would draw their most potent inspiration from Him who came not to be ministered unto, but to minister, and Who said to the disciples Whom He trained and commissioned to continue His ministry "I am among you as He that serveth."

At the same hour—9 a.m.—Mass was celebrated at St. Mary's Cathedral by His Lordship, Dr. Æneas Chisholm, Roman Catholic Bishop of Aberdeen, an address being subsequently delivered by the Right Rev. Monsignor Meany. This proved to be of so succinct a character that we are able to reproduce it practically in full. Taking as his text Ecclesiasticus xxxviii, 6, Monsignor Meany said: The thought which naturally rises in my mind when I see you gathered round this altar is to welcome you in the name of the Church, which established at Aberdeen the first Chair of Medicine in this country. Aberdeen is proud to acknowledge that she owes to the illustrious Bishop Elphinstone the foundation of that chair. It is fitting that you should to-day, under the guidance of Elphinstone's successor, thank God for an act of wisdom and beneficence which brought science and mercy to our forefathers. What the plight of those forefathers must have been in their time of sickness is painfully revealed in a quaint contemporary Statute of English Law. It was found in England that "common artificers, smiths, weavers, and women practised physic and surgery, to the high displeasure of God, the great infamy of the faculty, and the destruction of many of the King's lieges" (3 Henry VIII, ch. 11, 1511). If that description is a true account of the state of the medical profession in England at the opening of the sixteenth century, I fear that our ancestors in the North must have suffered even more than their English neighbours, and no doubt they learnt to be grateful to the fostering care of the Church which, for the relief of human misery, introduced systematic study of the healing art. In those days doctors were examined and licensed by Bishops. But if your Bishops to-day cannot claim to exercise such a versatility of knowledge, they do claim, and the Church of God with them, to encourage and promote your studies, to bless and to extol your work. So in the Holy Sacrifice we implore for the deliberations of your Congress the protection and the enlightenment of God. We pray that God may grant you deeper insight and extended resource, for we understand on the authority of the Word of God Himself that "the Most High hath given knowledge to men that He may be honoured in His wonders" (Ecclesiasticus xxxviii, 6). To you such knowledge does not mean the mere acquisition of learning. It signifies much more. It means for you the possession of a gift which manifests to you the wisdom, the power, the love of God. It involves for you the ability and the will to honour God by applying to the infirmities of men the wonders of God, of raising up for His glory those who are sick and wounded along the way of your life. This suggests to me that for years I have longed for an opportunity of saying publicly how much I value the help given to me in the course of my ministry by doctors who are not of our faith. It has never been my good fortune to work with a Catholic doctor. But I have everywhere, both in country and city, met with the most devoted assistance, advice, and sympathy from the medical men whom I have been privileged to know. I have found them ungrudgingly charitable to the poor. I have found them tender and delicate in their thought for the poor. I have found them interested, far beyond the strict sphere of medical work, in the welfare of the poor. I have found that they looked with eyes of reverence on the ministration of the Church, that they appreciated the place of a priest at the bedside of a patient, that they warned me when religious rites were necessary or expedient. And I desire to say here with all the solemnity worthy of this sacred place, and in a sense of profound gratitude, that the world does not know, and could not estimate if it did know, the immense debt which our people owe to the medical profession. Besides, we priests ourselves, when illness comes upon us, have ever at our command the services of those medical men to attend us, to soothe us, to cheer us. I know there is some etiquette, some unwritten law which places us on the free list of doctors, but my experience has been that we were tended with a minute and searching care, with assiduity, and a refinement of intelligent kindness that no words can express, and no payment reward. It is a pride and a pleasure for me—a duty which I am thankful to discharge—to offer some belated tribute to your noble colleagues. I should like to make you the messengers of our gratitude and our respect. For yourselves, I have only two thoughts to put before you. "The Most High has given you knowledge that He may be honoured in His wonders." "To whom much is given, of them much shall be required." What is required of you is that in the midst of your work, in your studies you should keep a supernatural outlook—see with the eye of faith "the invisible things" of God, from your understanding "of the things that are made." Cultivate divine patience when you are confronted with the mystery of suffering. Strive to grow day by day in forbearance when you are in touch with the querulousness, and helplessness, and unreasonableness of the sick, for "patience hath a perfect work."

A service was also held in the Cathedral Church of St. Andrew, where an address was delivered by the Lord Bishop of Aberdeen and Orkney. In the Book of Revelations, he said, there was described as standing in the midst of the new Jerusalem a tree whose never-failing supply of fruit was for meat and its leaves for the healing of the nations. This detail served to recall the fact that the work of the medical profession was not merely noble, it was also sacred. He who devoted himself worthily to it served not only his fellow creatures, but also in a special sense his God. The history of the healing art reached back to the dim primaeval days, when man sought blindly for the first-rule remedies for his hurts and his diseases; and as knowledge of the ancient world grew wonder increased at the accumulating evidence of medical and surgical skill in bygone days. Still, it had been reserved for those living in the present age to behold the most wonderful developments in this direction. It had been justly claimed that in little more than a century a united profession working in many lands had done more for the race than had ever before been accomplished by any other body of men. So great had been these gifts that appreciation of them had almost been lost. Vaccination, sanitation, anaesthesia, antiseptic surgery, the new science of bacteriology, and the new art in therapeutics had effected a revolution in civilization to which the extraordinary progress in mechanical arts was alone

comparable. A medical man of the present day had more than a long and splendid ancestry behind him. His work was one which called forth many of the finest qualities of the human character, such as patience, self-control and equanimity, hope, strength, and cheerfulness; last, discernment and sympathy mingled with firmness and humanity based on knowledge. The good physician or surgeon gave to his patients more than medicine or skill. He imparted from the resources of his own character impalpably and yet really the healing influences of his own higher self. On the other hand, what lessons—sometimes saddening, sometimes uplifting—must he carry away from the silent confessional of the sick bed; what revelations of character, what unmasking met him there as human nature faced bravely or otherwise the pains of sickness or the approach of death! Rightly, then, was the physician honoured; that was due to him, and rightly has time been found at this busy congress to meet in the House of God. Let the thought go forth with them that their profession is a sacred one. Let their ideal be as high as Heaven itself. Let them not be satisfied to do their work in a mere rut, which could only deepen as the years went on. Let their work find its supreme inspiration in the vision of God upon His throne, and the Tree of Life, whose leaves are for the healing of the nations.

The Representatives.

The Representative Meeting did not actually commence in the train, but the "Flying Scotsman" on Thursday was highly medicated. At King's Cross, London; York, Newcastle and Edinburgh, so many Representatives joined the train that a "quorum" was formed long before reaching Aberdeen. A good many were crossing the border for the first time, and from remarks made it was clear that some among them had not specialized in geography. Lunch and dinner were served in the train, the demand for food being greater than the supply in the case of those who waited for the second sitting down. It was an ideal day and the long run "beside the seaside" was greatly enjoyed. On Friday, at 10 a.m. precisely, the Representatives assembled in the Mitchell Hall, which graces the magnificent College, credibly described by the guide book as the "largest granite building in the world." There were many familiar faces and when the talking began not a few familiar voices. Work began promptly, but a certain number of members did not seem happy as to the positions they had taken up and eventually established themselves in the galleries on either side; the fronts of these are of beautifully carved wood, the upper portion of the walls and the roof being built of dull polished Correnie granite. The roof is a particularly fine piece of Gothic architecture, studded with electric lamps. At the east end, behind the chair and platform, is a magnificent historical window, representing in stained glass the history of Aberdeen University since its foundation, pictures or arms of principal, rectors, and other eminent men connected with the College, being incorporated in the scheme. Such was the "setting" of the meeting. The surroundings created an atmosphere of harmony and grace altogether inconsistent with tumult and vexatious discussion. Good humour prevailed. To sum up general results, old Representatives declare that the Aberdeen meeting has done much to strengthen the Association and encourage unity in the profession. An excellent group was taken by a local photographer on Friday in the College Quadrangle. Some amusing incidents reminiscent of never-to-be-forgotten student days created diversion on this occasion. The Representatives' Dinner, which owes its introduction to a happy inspiration dating back some years, duly followed in the evening, when Mr. Verrall presided over a gathering of about 150, the Aberdeen guests being Dr. Thomas Fraser, Dr. F. K. Smith, and Dr. Pirie. The drinking of the usual loyal toasts was the only formal after-dinner proceeding, but the names of those ready to contribute to a general entertainment were sent up to the chairman, and much talent for song, recitation, and tale telling was disclosed. By way of getting through Sunday the local executive had made arrangements for an expedition to Cruden Bay. The morning was dull, cold, and threatening, and in the circumstances it was somewhat surprising to find such a large number of ladies and Representatives at the station. A special train (Great Northern of Scotland) left punctually at 10.30, arriving at Cruden Bay at 11.15. Many members were soon on the links, and the round was so enjoyable as to induce many to take a second round after lunch. The sands at Cruden are a special feature. That important element, the weather, did not bear out the early morning foreboding, and, greatly to the delight of all, the afternoon was bright and the sunset beautiful. Lunch and afternoon tea were served at the Railway Hotel. Many strolled for miles along the beach, some in the direction of the Scaurs and others to Bullers o'Buchan, past Slains Castle, from which Dr. Johnson wished to see a shipwreck. Altogether the outing was a pleasant and enjoyable relief from the strenuous preceding days at the Representative Meeting. Dr. Scott (Aberdeen) acted as cicerone to the party. Work was recommenced on Monday, and by 6 p.m. on Tuesday evening the Representative Meeting of 1914 was at an end.

Lady Visitors.

The arrangements for the comfort and entertainment of ladies accompanying members to the meeting are in charge of a general committee, formed solely of ladies, and five subcommittees, and are of a most extensive character. Apart from accommodation at the General Reception Room, a kind of club for their benefit has been constituted in the rooms of the Aberdeen Medico-Chirurgical Society, and a flat in the very centre of the town has been lent for the purpose of allowing those staying outside the town to change their attire before attending evening entertainments. A further distinctive feature of this year's meeting is the formation of a corps of lady guides. Lady visitors have also been made honorary members of the Aberdeen Ladies' Golf Club, and two matches have been arranged for them. Furthermore, four tennis clubs have placed their courts at their disposition from 10 a.m. onwards. The formal amusements provided for ladies in particular commenced as early as Tuesday morning, when a certain number were invited to visit the Aberdeen Art Gallery under the ciceronage of Mr. Alec Fraser, and others to visit the Day Nursery and the Maternity Hospital. On Wednesday morning there was an attractive exhibition of Highland dancing and bagpipe playing in the ball-room of the music-hall, as well as an expedition in private motor cars to Drum Castle, and visits to institutions of special interest to women within the limits of the city itself. Among the institutions to be visited by them in the course of the week is one which, so far as we are aware, has no counterpart in England; it is a home for widowers' children. The arrangements in view for Thursday and Friday are of a corresponding character to those on Wednesday, one especially interesting item on the first of these days being an examination of St. Machar's Cathedral, under the guidance of the Rev. Dr. Bruce M'Ewen, and a visit to King's College Chapel and Library, conducted by the Rev. Professor Cowan and Miss Robertson. The convener of the Ladies' General Committee, which numbers nearly ninety ladies, was Mrs. Harrower, and its honorary secretary Mrs. Carter, while Mrs. Thain was convener of the Games and Entertainments Subcommittee, Miss Pirie and Miss Westland being its honorary secretaries. The arrangements for visiting institutions have been made by Mrs. G. B. Esslemont and Mrs. Glegg, those for morning drives by Mrs. Hay and Miss Grainger Stewart; and Mrs. G. Williamson and Mrs. H. M. W. Gray have taken charge of the tea and reading room

arrangements. At the time of going to press the full fruits of their work still remain to be seen, but, judging by the success of the arrangements on the first three days of the week, lady visitors seemed certain to leave Aberdeen with the happiest of memories alike of their hostesses and of the city itself.

FOREIGN GUESTS.

JUST before the President delivered his address on Tuesday evening there were presented to him a number of foreign guests and delegates and other representatives of Branches of the Association beyond the seas, and as in former years this ceremony proved a popular feature. The list of foreign medical men selected for the honour included Professor Karl Gauss of Freiburg, who has come over for the purpose of describing the results he has obtained by the *x*-ray treatment of fibroids; Professor Stéphane Leduc of Nantes, a leader in the field of electricity in its relation to cerebral physiology; Dr. E. Pontoppidan, Professor of Medical Jurisprudence at Copenhagen; Dr. Clemens von Pirquet, Professor of Pediatrics at Vienna; Dr. Umberto Gabbi, Professor of Tropical Medicine at the University of Rome; Dr. Karl Jung, Professor of Psychiatry at the University of Zürich; Dr. Alban Bergonié, Professor of Biological Physics and Medical Electricity at the University of Bordeaux; Dr. H. Morestin, Professor of Surgery in the medical faculty of the University of Paris, and Surgeon to the Tenon Hospital; Dr. Rist, one of the Physicians of the Laënnec Hospital, and Professor of Clinical Medicine in the same University; Dr. Fritz Frank, Professor of Midwifery at Cologne; Professor D. S. Demetriades of Athens; Professor Adolf Onodi, the laryngologist of Budapest, who has been the guest of the Association on more than one previous occasion; and Dr. J. R. Macleod, Professor of Physiology at Cleveland, U.S.A. Most of these bear names which are already well known to members of the Association through references to their writings in the pages of the BRITISH MEDICAL JOURNAL itself, or in its Epitome of foreign literature relating to medicine and surgery and their various departments.

REPRESENTATIVES OF OVERSEA BRANCHES.

BY no means all oversea Branches of the Association were represented at the meeting, but a sufficient number of them figured on the list of presentations to bring vividly to mind the fact that members of the Association are now to be found in organized groups in practically every part of the world. Particularly well represented were Indian and Australasian Branches, the names of members of Middle Eastern Branches outnumbering those of Australasia by just one. Most of those on the South Indian and Madras list were members of the Indian Medical Service; they included Lieutenant-Colonel R. H. Elliot, Major F. F. Elwes, Captain J. Forrest, Major E. M. Illington, Captain A. C. Ingram, Lieutenant-Colonel R. K. Mitter, Captain D. S. A. O'Keeffe, Major T. H. Symons, and Major C. G. Webster. The Bombay Branch sent Major E. F. Gordon Tucker; the Punjab Branch, Captain S. H. Lee Abbott and Lieutenant-Colonel H. Smith; the Burma Branch, Lieutenant-Colonel J. Penny; and the Malaya Branch, Drs. G. A. Finlayson and P. Fowlie. As for the Australasian list, it was made up as follows: there were six members of the New South Wales Branch—namely, Drs. George Allan, W. H. Crago, L. Herschell Harris, E. T. Thring, J. Grenville Waine, and A. Murray Will; and two from the South Australian Branch, Drs. A. A. Lendon and H. Swift; two from the Victorian Branch, Drs. H. Cordiner and Hamilton Russell; one representative of the West Australian Branch, Dr. H. O. Teague; and one each from the Tasmanian and New Zealand Branches respectively, namely, Drs. Hugh Armstrong and A. A. Martin. Apart from these six, Branches of the Association situated in different parts of Africa—north, east, and south—were represented by delegates; while there were also present at the meeting, we believe, several medical men from the West Coast. Confining ourselves, however, to the official list, this included the names of Drs. M. N. McFarlane and D. M. Tomory, of the Orange Free State and Basutoland Branch; of Drs. J. J. Boyd and A. W. Sanders of the Pretoria Branch; of Dr. Julius Petersen, of the Cape of Good Hope Branch; of Drs. P. P. J. Ganteaume and R. J. Love of the Border Branch and Natal Branch; of Dr. C. A. Wiggins of the East Africa and Uganda Branch; and of Dr. Llewellyn Phillips of the Lower Egypt Branch. The extreme east and the extreme west—namely, China and Canada respectively—also found place on the list, the latter being represented by Dr. R. A. Reeve, Professor of Ophthalmology at the University of Toronto; and the former by Drs. C. T. Griffin and G. M. Tharston; while the Mediterranean sent Dr. A. W. Dowding of Gibraltar.

HONORARY DEGREES.

AMONG those upon whom the University proposes to confer honorary degrees at a meeting of the Senate on Friday are understood to be Mr. W. T. Hayward, Consulting Surgeon to the Children's Hospital, Adelaide, South Australia; Mr. T. J. Verrall, Sir Victor Horsley, Dr. Archibald Garrod, and Sir John Bland-Sutton. The degree to be bestowed is the Doctorate in the Faculty of Law.

THE WAR AND THE MEETING.

THE outbreak of a war in the Balkan area, which is creating such confusion in the Chancelleries of Europe and such disturbance on the markets of the world, is not leaving untouched even the Annual Meeting of the Association. In anticipation of what has actually occurred, more than one Continental authority who was expected to take part in the work of the Sections thought it wise to abandon the project, and one at least—namely, Professor Onodi of Budapest—had to leave Aberdeen almost as soon as he had arrived on news reaching him that mobilization of the Austro-Hungarian army had been ordered.

PRESENTATION TO PROFESSOR STEPHENSON.

THE successful portrait of William Stephenson, Emeritus Professor of Midwifery, was on view on Monday, and was presented to him on Tuesday afternoon at a large gathering of his old pupils and other members of the medical profession wishing to do him honour. The presentation was made on behalf of the numerous subscribers by Professor Matthew Hay, and, in acknowledging it, Professor Stephenson mentioned that of his old boys, as he called them, as many as eight were, or had been, Professors of the University of Aberdeen.

PATHOLOGICAL MUSEUM.

MEMBERS found that the Pathological Museum Committee, under the able chairmanship of Dr. G. M. Duncan, had prepared an effective array of specimens illustrative of the work in various sections together with other specimens relating to recent work in the fields of tropical medicine and the physiology and diseases of the circulatory system. We propose to deal in detail with individual Sections and specimens in a later issue, but it may here be stated that on a preliminary survey we were especially struck by a Section illustrative of recent research, which is a newcomer to these annual exhibitions.

HISTORY OF MEDICINE.

PERHAPS, however, the most noteworthy exhibits of all were those which had been collected and arranged by Dr. W. J. Dilling. They set forth the history of medicine from early Egyptian times. Especially striking was a large collection of portraits of eminent medical men of the past arranged in alphabetical order from Abercrombie to

von Ziemssen. For this unique collection of engravings the Pathological Committee was indebted to Mr. J. F. Kellas Johnstone of Aberdeen.

Annual Exhibition.

The annual exhibition this year is very happily situated, the two rooms devoted to it being next to that occupied by the Section of Electrotherapeutics and Radiology and in Marischal College, which is housing all the Sections. There have been larger exhibitions at some previous annual meetings, but none at which the skill and resource of manufacturers in seizing on every fresh suggestion in the way of treatment, and making it practically available to every one, has been better illustrated. All classes of medical and surgical appliances, drugs, foods, furniture and laboratory apparatus are well represented; the characteristic of the exhibition as a whole being, perhaps, its strength in stalls devoted to modern medical literature. The exhibition, in short, serves once more, as a kind of illustrated edition of the advertisement pages of the medical journals and as a mine of new ideas to those who are too much absorbed in the daily cares of practice to have time regularly to study their Journal from end to end. As a special sign of the times it may be observed that one stall this year is devoted to books and pamphlets dealing with prostitution and the prophylaxis of venereal diseases, the holder of this stall being the British Branch of the International Abolitionist Federation. There is, however, practically no stall on which is not to be seen some novel example of the services rendered to science by manufacturing art. It is to be hoped, therefore, that all members will contrive to visit the exhibition, since occasions are rare on which so much that is new can be seen and thoroughly examined with so little trouble. The exhibition was kept open during the reception given by the university authorities on Wednesday evening, and will not close until 6 p.m. on Friday night. At a later date we hope to give detailed account of some of the more interesting things which were on view.

The Sections.

The sixteen Sections among which the scientific proceedings of the meeting are divided began work promptly on Wednesday, and are being well attended. It is generally agreed that at no previous meeting has the accommodation provided for them met the needs of the situation more satisfactorily. Some account of the discussions held in each Section on the first day will be found elsewhere in this issue. The atmospheric conditions prevailing during the week have added considerably to the anxieties of those in charge of the meeting, and increased the labours of all concerned by necessitating the provision of protection from the weather at garden parties and the like. Fortunately, however, there has been no interference, up to the hour of going to press, with the enjoyment by visitors of the multiplicity of arrangements made for their benefit. No rain has fallen during the day, and the profusion of flowers, excellently fresh strawberries, and other fruit grown in the open air, are serving as evidence that the relatively low temperature and overcast skies are quite abnormal samples of Aberdeen weather in the summer time.

The Irish Graduates' Luncheon Party.

The luncheon at which it is the hospitable habit of the Irish Medical Schools' and Graduates' Association to entertain many guests during the annual meeting of the British Medical Association took place this year at the Grand Hotel, Aberdeen, on Wednesday, July 29th, under the chairmanship of Dr. W. Douglas, president of the association. Among the guests, in addition to the Chairman of Council, the Chairman of Representative Meetings, and the Treasurer of the British Medical Association, were Dr. Chisholm, Roman Catholic Bishop of Aberdeen, and several other distinguished clerics. After the toast to the King, given by the Chairman, had been honoured with special warmth, the toast of the British Medical Association was proposed by Dr. F. E. Wynne and acknowledged by Dr. J. A. Macdonald: the toast to the Irish Medical Schools' and Graduates' Association was proposed by Sir James Barr and acknowledged by Dr. Crampton, who said that he believed it was the only association in which Irishmen of all political opinions and religious views met on common ground without any risk of misunderstanding. He mentioned that of the 120 foundation members of the association as many as 25 still survived.

A Temperance Crusade.

For over forty years past a breakfast organized by advocates of total abstinence has formed a standing feature of all annual meetings of the British Medical Association, and members received an invitation to one as soon as they arrived in Aberdeen. It took place on Thursday under the chairmanship of Mr. Alexander P. Forrester-Paton, President of the Scottish Temperance League, which on the present occasion shared the position of host with the National League, and later we hope to give an account of some of the speeches that were delivered when the breakfast was over. This event, however, was not the only evidence of the activity of the temperance party, for on the Sunday preceding the meeting, or rather, on the Sunday intervening between the commencement of the Representative Meeting and the assemblage of ordinary members, a large number of addresses were delivered by members of the medical profession. Some of them took the place of sermons at ordinary services at places of worship, and others were delivered at special meetings. The following list of the titles of some of the addresses will perhaps sufficiently indicate the line taken by the speakers as a whole: Does alcohol increase efficiency? (Dr. G. A. Pirie); Recent changes in the use of alcohol in the treatment of disease (Mr. C. W. Cathcart); National efficiency and drink (Dr. J. Mackie Whyte); The influence of moderate quantities of alcohol on the functions of the brain (Dr. James Ritchie); Alcohol and nerves (Dr. A. B. Olsen); Some lessons from a medical man's experience; (Dr. A. W. Russell); Medical reasons for temperance (Mr. J. Furneaux Jordan); Drink in hot climates (Dr. P. E. Giuseppi); Alcohol and its power (Dr. Robert Milne); Alcohol as seen by a Christian medical man (Sir Alexander Simpson); Concerning arguments in favour of alcohol (Dr. W. L. Reid). The special meetings included one for women, at which Lady Horsley presided, and Dr. Mary Sturge delivered an address, entitled, "What shall I drink?"; while at another special meeting for women Dr. Beatrice Webb spoke on alcohol in relation to the health of girls. Sir Victor Horsley addressed the Young Men's Christian Association on alcohol as the enemy of brotherhood, being introduced to the meeting by Professor Matthew Hay, who described what could be done with the amount spent annually in Aberdeen on alcoholic beverages if it were devoted to local improvement schemes.

On Thursday, Sir Alexander Ogston was entertained at luncheon by his old house-surgeons and dressers.

The number of members registered up to 3 p.m. on Thursday was about 1,000; there were also some 500 ladies present.

Professor J. C. Bose, of Calcutta, will deliver a lecture before the Royal Society of Medicine, on October 30th, on the modification of response in plants under the action of drugs. Professor Bose hopes to illustrate his lecture by the demonstration of experiments upon sensitive plants which he will bring with him.

THE TITLE OF "PROFESSOR."

WHEN Matthew Arnold held the chair of poetry at Oxford his delicate sensibility was offended by the title of "Professor," which he thought derogatory, as it was associated in this country with conjurors and exhibitors of "ghosts." It has fallen much lower than this, for we have ourselves seen on a hairdresser's shop at a watering place on the South Coast the description "Professor of Trichology." In Germany, however, the title of "Professor," if not quite so sacrosanct as that indicating the rank of an army officer, carries with it considerable prestige. Certain revelations made recently by a member of the Reichstag as to the existence of a regular traffic in honours caused a great sensation in Germany, where apparently the sale of titles as a means of replenishing the war chest of a political party is not so familiar to the public mind as it is in some more democratic countries. An eminent surgeon long since gathered to his fathers used to be known as the "Solicitor-General" from his insatiate appetite for orders, but the most eager seeker for such honours here would not dream of asking for the title of "Professor of Medicine." He might indeed try to get the office, but that is another matter. It would seem that of all titles made in Germany "Professor of Medicine" is the most costly. The best and most expensive brand is the Prussian. It must be remembered that "Professor" in Germany is a title which may be conferred by the Emperor as a distinction independent of any connexion with a chair in a university. From documents published in the *Vorwärts* it would appear that a good many Prussian doctors have actually bought the title. The procedure is said to be quite simple for any one who is prepared to pay the price asked. The candidate first hands over £280 to some one who, like Bunty, can pull the strings; then he must publish a small treatise on some medical subject. He need not trouble about the value of this contribution to professional literature: that is considered of no importance. The thing is only intended to save the face of the authorities who dispose of titles, by showing that the candidate has given some attention to medical matters. We may without rashness hazard a guess that the aspirant to the title of "Professor" could get some one else to write the book—for a consideration—as used to be done in the case of theses for the degree of Doctor. From Jews and foreigners a bigger price is asked. The moral appears to be that a German professor unattached need not be accepted as an oracle of medicine on the mere strength of his title.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Midwives (Scotland) Bill.

THIS bill has now passed through the Standing Committee on Scottish Bills, and is to a great extent in line with the corresponding Act applying to England.

Under the first clause, after January 1st, 1916, no woman, except as certified under the Act, shall take or use the name or title of midwife or any other equivalent title, and penalties are imposed for so doing. After January 1st, 1921, no woman "shall habitually and for gain attend women in childbirth otherwise than under the direction of a registered medical practitioner, unless she be certified under this Act." No woman can be certified under the Act unless she has complied with the rules and regulations laid down under it, and no woman certified under the Act can employ an uncertified substitute, and no certification under the Act provides any right or title to be registered under the Medical Acts and to assume any title implying the same.

Clause 2 enumerates the institutions which can provide certificates in midwifery and gives powers to the Central Midwives Board of Scotland to recognize such other institutions as they may approve.

Clause 3 sets up the Central Midwives Board: Three persons to be appointed by the Lord President of the Council, two of whom shall be certified midwives practising in Scotland; four persons are to be appointed, one by the Association of County Councils for Scotland, one by the Convention of the Royal Burghs of Scotland, one by the Queen Victoria Jubilee Institute for Nurses (Scottish Branch), and one by the Society of Medical Officers of Health; five registered medical practitioners are also to be appointed, one by the University Courts of the Universities of Edinburgh and St. Andrews conjointly, one by the University Courts of the Universities of Glasgow and Aberdeen conjointly, one by the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh and the Royal Faculty of Physicians and Surgeons of Glasgow conjointly, and two by the Scottish Committee of the British Medical Association. It is further provided that every five years after 1920, the Board shall retire from office together, and shall be eligible for reappointment.

Under Clause 4 the Board may represent to the Privy Council that it is expedient to modify the constitution of the Board in various ways, but before giving consent to the modifications recommended the Privy Council shall cause the representations to be laid before both Houses of Parliament.

Clause 5 details the duties of the Midwives Board relating to the regulating of the issue of certificates and the conditions of admission to the roll of midwives; the course of training and conduct of examinations; admission to the roll of women already in practice as midwives at the passing of this Act; the supervision of their practice; the conditions under which they may be suspended; the appointment of examiners; the provision of a roll of midwives and the removal of midwives from the roll, and other matters.

Clause 6 relates to the power of the Board to frame rules suspending midwives; and under Clause 7 the Board may, if it think fit, pay certain expenses incurred by midwives who appear before it.

Clauses 8, 9, and 10 relate to offences.

Clause 11 relates to the reciprocal recognition of midwives; and under Clause 12 a midwife who is aggrieved by any decision of the Board is entitled to appeal therefrom to either division of the Court of Session within three months after the notification of such decision.

Clause 13 relates to the provision of the expenses of midwives presenting themselves for examination.

Clause 14 provides what the roll shall contain.

Under Clause 15 the Board is authorized to appoint certain officers; and under Clause 16 it is provided that the local authority of every district in which the Act is operative shall, on the commencement of this Act, be the local supervising authority for that district, and the duties of the local supervising authority are set out in this clause. They relate to the general supervision over the midwives practising in their area; to the investigation of charges against them and the reporting of such charges to the Board; to the suspension of midwives and the notification to the Board of removals and changes of addresses. The local supervising authority may delegate its duties to subcommittees.

Under Clause 17 an officer appointed by the authority may enter at reasonable times lying-in homes which he has reason to believe are conducted for profit within the district.

Clause 18 requires the midwife to give certain notification of her intention to practise, and Clauses 19 and 20 provide penalties for misstatements.

The local supervising authority under Clause 21 may contribute towards the training of midwives.

Clause 22 is an important clause from the point of view of medical men, as it relates to the conditions under which fees can be paid to medical men who are called in by midwives, and it may be of interest to give the clause in full:

22. *Medical Assistance in Case of Emergency.*—(1) In case of an emergency as defined in the rules framed under Section five (1) (*e*) of this Act, a midwife shall call in to her assistance a registered medical practitioner, and the local supervising authority shall pay to such medical practitioner a sufficient fee, with due allowance for mileage, according to a scale to be fixed by the Local Government Board for Scotland, and such fee shall cover one subsequent visit.

(2) It shall be a condition of the payment of such fee that the medical practitioner so called in shall state in his claim to the local supervising authority the nature of the emergency.

(3) The midwife shall report forthwith to the local supervising authority each case of emergency in which she has called in a registered medical practitioner to her assistance, stating the nature of the emergency and the name of the medical practitioner.

(4) The local supervising authority shall have power to recover the fee from the husband or guardian of the patient as an alimentary debt, unless it be shown to their satisfaction that such husband or guardian is unable by reason of poverty or ill-health to pay such fee.

The remainder of the clauses up to the last—Clause No. 30—relate to definitions and sundry minor matters; and under Clause 25 it is provided that any expenses under this Act payable by the local supervising authority shall be defrayed out of the public health general assessment.

The Housing Bill.

The Government's Housing Bill was read a second time without a division on Friday, July 24th. In introducing the bill, Mr. Runciman explained that there were two parts of it—the one dealing with the provision of cottages in agricultural districts and the other relating to the provision of cottages for workmen in the direct employment of the State, particularly at Crombie and Rosyth. It was evidently anticipated by Mr. Runciman that, in view of the state of public business, it might only be possible to secure the portion of the bill dealing with Rosyth, and with the housing of Government employees in other places. In the subsequent debate it was indicated that this might possibly be the fate of the bill. The Admiralty desires to provide 3,000 cottages at Rosyth, which will involve the spending of something like £1,000,000, including the cost of sewers, roads, and other necessary improvements. Mr. Runciman dealt with the small progress which is being made in the provision of cottages in agricultural districts, and he pointed to the financial and other difficulties which frequently stand in the way of private landowners in providing the necessary cottage accommodation, and he gave some interesting illustrations as to the inactivity of local authorities in respect of administering the powers which they possess under the law at present. In many parts the question of housing has never been raised at council meetings, and has received brusque treatment when it has been raised. The fear of increasing the rates, the fear that if the provision of houses were started in one district it would lead to the demand in another, the difficulty of obtaining land and the fear of interference with private enterprise—are all contributory reasons. Under the bill, the financial provision will be at the disposal of local authorities and of public utility societies of approved kind which do not operate for private profit. In the case of the local authorities, the whole of their capital expenditure may be provided by the State on approved schemes. In the case of the public utility societies nine-tenths of their capital expenditure may be provided by loans covering a minimum period of forty years and a maximum period of sixty. There is to be no sinking fund charge in the rent on the cost of the land. The cottages generally are to be provided with gardens. It is anticipated that, as has already been the case in some areas, County Committees will be set up, with which the Board will deal in the main. For the present it is proposed that £3,000,000 should be set aside for the purposes of the provision of cottages in agricultural districts, and it is intended that they should be let at economic rents. Mr. Forster, Mr. Prothero, Mr. George Roberts, Sir Arthur Griffith-Boscawen, Mr. Aneurin Williams, Mr. Long, and other members joined in the discussion, which, while critical in detail, was on the whole friendly to the bill. The bill was finally committed to a Committee of the whole House on a division of 214 votes to 84, and the necessary money resolution passed through its Committee stage.

Fatal Accidents in Factories.—Mr. Morrell asked the Home Secretary whether, in view of the large and continual growth in the number of fatal accidents occurring in factories and workshops in recent years, he would grant a return of all such accidents for the past year showing the name, age, and occupation of each person killed, with date of accident, cause of accident, and description and name of owner of factory or workshop in which the accident occurred, similar to the list of fatal accidents contained in the reports of inspectors of mines and quarries; and would he require the insertion of such particulars in future reports of the Chief Inspector.—Mr. McKenna in reply said the subject of a return by the Departmental Committee on Factory Accidents took the view—with which he agreed—that what was important was the preparation of careful analyses of the accidents in particular trades or districts. Tables giving detailed information for specific trades had been published in the annual reports of recent years—as, for example, for cotton spinning in 1909, shipbuilding in 1910, locomotives and motors in 1911, and iron and steel foundries in 1912—and other trades would be dealt with in the same way. Statistics in this form should, in his opinion, be much more valuable for purposes of prevention of accidents than unclassified particulars of individual accidents spread over the whole body of miscellaneous industries. In reply to Lord H. Cavendish-Bentinck, Mr. McKenna said they were constantly taking legislative steps to diminish the number of fatal accidents.

Mortality of Seamen (Committees).—In reply to Mr. Peto, Mr. Robertson said the Committee was purposely made small in number, and limited to officers of the three Government Departments primarily concerned—the Board of Trade, the Local Government Board, and the General Register Office. He did not think it would serve the purpose in view to enlarge the Committee so as to include representatives of the large number of bodies which might be interested in, or have personal experience of, the matter before the Committee.

Suffragist Prisoners (Forcible Feeding).—Mr. Jowett asked the Home Secretary whether he consented to receive a deputation from the Forcible Feeding Protest Committee of Medical Men on July 15th, at 4 p.m.; and whether that deputation withdrew, and for what reason.—Mr. McKenna: I had consented to receive a deputation as described in the question. The deputation brought with them a reporter, and stated that they desired to publish the proceedings. I had understood that they wished to represent certain views to me personally, and I should have been glad to listen to them; but, inasmuch as the subject involved the discussion of the cases of individual prisoners then undergoing sentence in Holloway, I could not agree to be a party to a public discussion with them of such cases. The deputation then withdrew.

Removal of Prisoner to Bucks County Asylum.—Mr. Wedgwood asked the Home Secretary whether Harry Humphries was sent to the Bucks County Lunatic Asylum because he hunger-struck in prison; and who were the doctors who certified him insane, and how long he intended to keep him in this asylum.—Mr. McKenna: This man was transferred from prison to an asylum in pursuance of a certificate of insanity submitted by two magistrates and two registered medical practitioners under the Criminal Lunatics Act, 1884. He will remain under the provisions of that Act till the expiration of his sentence in February next, unless he should be remitted to prison or discharged from then. The reports before me do not justify the adoption of either of these courses at present, but the case will be further considered in due course.

Medical Officers and Sanitary Inspectors.—Mr. C. Bathurst asked the President of the Local Government Board whether he proposed to issue before the end of the session a general order which would secure for district medical officers of health and sanitary inspectors greater security in the tenure of their office; and, if so, when such order would be issued.—Mr. Herbert Samuel said the matter was still under consideration. He hoped to be able to come to a conclusion on it at an early date.

Indoor and Outdoor Relief (Ireland).—In reply to Mr. Ffrench, Mr. Birrell said the numbers of paupers in workhouses and on outdoor relief on January 2nd, 1909, were 44,035 and 56,501, respectively. The numbers in workhouses and on outdoor relief on July 4th, the latest date for which the information was available, were 32,554 and 37,792 respectively. The reduction in the numbers was doubtless largely due to the Old Age Pensions Acts.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LIVERPOOL.

Opening of the "Sir Alfred Jones" Tropical Ward in Royal Infirmary.

This ward, with its annexe for students, was opened with great *éclat* on July 23rd, by the Countess of Derby, who was presented with a gold card case as a souvenir of the occasion. Its establishment has been rendered possible by the will of the late Sir Alfred Jones, founder of the Liverpool School of Tropical Medicine. A sufficient sum was left, not only to build the new ward, but also to erect the adjacent new laboratories. The latter are now in course of construction. Sir Thomas Barlow assisted at the ceremony, and there were also present the Earl and Countess of Derby, Mr. F. C. Danson (Chairman of the School), the Lord Mayor and Lady Mayoress, Sirs Ronald Ross, W. H. Lever, the Vice-Chancellor of the Liverpool University, and many others interested in the work of the school. The new ward is a one-storied building, so arranged as not to interfere with the access of light and air to the other wards of the hospital which are above it. The entrance is from the corridor leading to the main staircase, in proximity to the casualty department on the other side of this corridor. The ward is 15 ft. high, 25 ft. wide, and 42 ft. long, affording cubic contents of 1,575 ft. to each of the 10 beds contemplated. The laboratory for students—an apartment 40 ft. by 20 ft.—is placed on the north side, thus giving a suitable light for microscopical work—and there is a small serving room between it and the ward.

All the internal walls are faced with glazed bricks of quiet colour, with coved angles at floor and ceiling, and the ward is floored in oak blocks. The other paving, being in terrazzo, is in keeping with the rest of the hospital. The outer walls are built of rustic brick with terra-cotta dressings, also in harmony with the main building. The heating is by low pressure steam, with fresh air inlets, and hopper-topped windows for ventilation. Electric lighting has been installed throughout.

The building was designed by the late Mr. Francis Doyle, architect to the hospital, and the work has been completed by his brother, Mr. Sidney Doyle, and staff, with Messrs. Travis and Wevill as contractors.

After the formal opening ceremony, on the invitation of Mr. Danson, about fifty guests lunched at the Adelphi Hotel. Following the loyal toast, the company in silence drank "The Memory of our Founder, Sir Alfred Jones." Afterwards Sir Thomas Barlow, in reply to the toast of his health, discoursed interestingly on the importance, from the imperial point of view, of the work in which the school is engaged.

MANCHESTER AND DISTRICT.

Manchester and District Radium Fund.

The great success that has attended the appeal of the *Daily Dispatch* on behalf of the radium fund is shown by the fact that though £25,000 was the sum originally aimed at, the fund now stands on July 27th at over £29,000, and donations are still coming in, while a number of the collecting boxes have still to be returned. The total for Manchester alone is well over £25,000, apart from subscriptions from neighbouring towns. The contribution of Bury, for example, is over £2,600, and other towns have sent in various amounts. Last week the Manchester Y.M.C.A. promoted a radium fête and carnival, and though on account of the stormy weather some of the attractions had to be abandoned, a cricket match was played and the proceeds are expected to be considerable.

At a meeting of the Radium Committee on July 20th, a hearty vote of thanks was passed to the proprietors of the *Daily Dispatch* for their invaluable services in bringing the fund so prominently before the public, and for the vast amount of trouble they have taken in order to secure the sum of money necessary to carry out the scheme. The question of the appointment of an expert radiologist was considered, and the appointment left in the hands of Sir William Cobbett, Professor Rutherford, Professor Wild, and Sir William Milligan, who will report to to the general committee. A letter was read from the Oldham Hospital asking that it should be allowed to participate in the benefits of the scheme, and it was decided to suggest that Oldham might make a contribution to the fund of about £2,500, and in that case might be a sharer in the scheme. It was also resolved to spend a further sum of £10,000 in the purchase of radium to be delivered as early as possible, and when the full amount now on order is obtained Manchester will be in possession of about 1,600 milligrams of radium bromide.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Caledonian Medical Society.

The Caledonian Medical Society held its annual meeting in Glasgow on July 24th. Dr. J. T. Maclachlan was elected president for the current year; Dr. S. Rutherford Macphail of Derby, president-elect; and Drs. W. A. Macnaughton and D. Rorie, editors of the *Journal*. The President in his address dealt with diseases of parasitic origin. He appealed to the large cities to appoint at least one expert to devote his entire time to the elucidation of the cause of any single infectious disease, and predicted the final annihilation of all infectious diseases that afflict humanity.

The annual dinner of the society was held in the evening. Sir David McVail, in submitting the toast of the Society, said that their records gave a great deal of evidence of high culture in the medicine of the Highlands. He thought they were right in having a society which upheld Celtic medicine and the credit of the Celtic past of the population of this country. On the subject of Celtic medicine the society had a large number of papers which by themselves would make a most interesting volume. The Chairman, in reply, said that the society was formed in 1878 by a small but enthusiastic band of medical students in Edinburgh. At the present moment the membership was nearly 300, scattered over Scotland and England and the Dominions across the sea. The society was chiefly concerned with ancient Celtic literature regarding medicine and cognate subjects.

Anderson's College Medical School, Glasgow.

The calendar for the Anderson College of Medicine for 1914–15 has now been issued. Its preface states that the college dates back to the year 1800, and it has provided a medical education at a cost suited to the circumstances of many who could not otherwise have been able to prosecute the study of medicine, and who had been an honour to the profession. It is also recorded as a notable fact that the college had given fourteen professors to the University of Glasgow, of whom one at present held office. The curriculum provides for a complete medical and dental education.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Dublin: The Civic Exhibition.

Abderhalden's Exhibit.

There is at present on view in the Food Section of the Civic Exhibition now held in Dublin the celebrated exhibit prepared by Professor Abderhalden of Halle, and shown at the Dresden International Health Exhibition in 1911. It represents the actual cleavage products (*Bausteine*) in exact quantities which he obtained from several proteins, such as caseinogen, gliadin, globulin, etc. It has never been out of Germany before, and is of such value that it is hardly likely ever to visit this country again. Professor Abderhalden lent it to Professor W. H. Thompson, who is in charge of the Food Section of the Exhibition, and it will be on view till the end of August.

Teeth and Medical Inspection.

On Monday, July 20th, the free dental inspection at the Civic Exhibition began during the visit of forty-seven

girls from St. Mary's, Donnybrook, Girls' School. Mr. Bermingham, secretary of the committee of dentists in charge, examined several of the children's teeth, and gave a short talk on the proper care of the teeth. A committee of fourteen dentists has volunteered their services, and some of them will be in attendance every afternoon from 4 to 6 and on Friday evening from 8 to 9 to give free dental inspection to any child desiring it. It is specially wished that the children should be under 10 years of age. This dental inspection is an exhibit typical of part of the work of the dental clinics of Ireland receiving grants from the educational authorities. There are 49 of these clinics in Ireland, of which 13 are in county Dublin. Dental inspection is the only part of medical inspection carried on in Ireland. Of the 201 children examined in Ireland, 192 needed treatment, and there was an average of 5 teeth decayed per child. The need for dental inspection is shown by the fact that while only 4 per cent. of the children at the age of 7 have decayed teeth, 75 per cent. of the children at the age of 13, who have not previously been inspected, have decayed teeth.

On the previous Saturday thirty-two babies and children were brought by their parents to take advantage of the free medical inspection afforded in the Child Welfare Section. The examination of the older children is the same as carried on in English schools by a doctor to discover physical defects which may be interfering with the normal growth. The examination of babies done at the exhibition is an illustration of the work of baby clubs carried on in Ireland by the Women's National Health Association. It consists not only of medical inspection of a baby, but of a conversation with the mother on the subject of the feeding of the child.

Correspondence.

THE FUTURE OF THE LISTER INSTITUTE.

Sir,—With reference to the annotation in the last number of the Journal on the future of the Lister Institute, I desire to point out that the governing body of the institute have decided by a majority to recommend to the members, that the Lister Institute should be presented to the nation on certain conditions, and placed under the control of the National Medical Research Committee. It lies with the members of the institute to accept or reject such a proposal, and doubtless a meeting of the members to consider this matter will be held in the near future. In the meantime I wish to state I regard such a proposal, involving as it does, the cessation of the activities of an independent organization, and the centralizing of pathological research under parliamentary control, as so prejudicial to the interests of scientific research in this country, that I have felt compelled to resign the chairmanship and membership of the governing body.—I am, etc.,

London, W., July 27th. John Rose Bradford,
Late Chairman, Governing Body, Lister Institute.

Sir,—I have heard with astonishment the proposal to destroy the Lister Institute and hand over its building and its endowment to a Government Committee. The article on this subject in the Journal of July 25th states that "the chief object of Lord Iveagh and his advisers in offering the Lister Institute to the Medical Research Committee" of the Government is to enable that Committee to utilize the funds available under the Insurance Act for some other scheme. I do not, of course, know how far the writer is entitled to represent Lord Iveagh. But I must protest altogether against the notion that it is possible for Lord Iveagh to offer the Lister Institute to anybody. The Lister Institute was constituted (as I know from having taken an active part in its earlier incubation) by the contribution of funds from Sir James Whitehead's Mansion House Committee in aid of the Pasteur Institute, from the Berridge Trustees, from subscribers to the Jenner Memorial and other sources, and by the free gift by the late Duke of Westminster of the land on which it stands. All this took place before Lord Iveagh made his generous gift to the institution.

But I am sure that Lord Iveagh himself does not suppose that he can give at one time and take away or "offer" to give away at another time (as your contributor assumes) the endowment which is the chief source of income to a greatly valued scientific institution.

There are many individuals who have had to do with the building up of the Lister Institute who will resent most deeply the attempt to convert this independent home of research into a convenience for a Government board. The National Medical Research Committee has something like £50,000 a year to expend. If it requires buildings similar to those of the Lister Institute surely it can pay for their construction. They will not be in excess of requirements. I feel confident that nearly all, if not all, men of science and most members of the medical profession will agree with me in desiring that the Lister Institute shall remain what it is—an independent centre of research free from Government control.

It is unhappily the fact that Government "aid and control" of scientific institutions invariably means—in this country—the waste of money which should go to the scientific purposes of an institution—by its diversion to a a body of clerks, superintendents, directors and secretaries—and the mismanagement of the scientific enterprises which are undertaken. Unconditional gifts or grants in aid, on the part of the Government are on a different footing and were, until recently, the welcome form which such aid took.

I do not mean to say that the present organization and management of the Lister Institute are satisfactory. It certainly requires remodelling, as the present suicidal attempt shows. Such a remodelling can be effected. But I hope and believe that the members of the corporation to which the Lister Institute and its property (amounting altogether to some £400,000 in value) belong, will not accept the proposal to "give away" their trust to a Government Committee. A majority of them will, I hope, remain firm, and keep the Lister Institute as an independent institution. The transfer has to be submitted to the members of the corporation before it can be effected, and to be voted by a three-fourths majority of them. The present list of members of the corporation contains about ninety names. It is to them that all who are opposed to the strange proposal of Dr. C. J. Martin for destroying the institution of which he was made director a few years ago should address their arguments.

The small governing body of the Lister Institute in which this proposal has arisen consists of only twelve persons, who are not members of the working staff of the Institute, some of them not even men of expert knowledge. Even so, I am informed that the chairman of the governing body, Sir John Rose Bradford, secretary of the Royal Society, was so much opposed to the proposal to destroy the Lister Institute and hand over its property to the Government that, when the proposal to do so was voted by that body against his pleading, he very properly resigned the chairmanship and his membership of it. Thus the medical profession and the body of ninety ordinary members of the Lister Institute will observe that the proposal to abolish the Institute is already actively opposed, and that they must now be vigilant and keep an eye on the proceedings of officials if they desire to preserve the Lister Institute for the purposes for which its various founders (as well as Lord Iveagh) intended it. The small governing body has shot its bolt and is condemned by its own chairman. It is for the general body of members now to take up the matter and support the late chairman of the governing body. I would suggest that an informal meeting of the members should be called before the day when they will be asked to vote.—I am, etc.,

London, S.W., July 27th. E. Ray Lankester.

STATE REGISTRATION OF NURSES.

Sir,—In the discussion which took place recently at a meeting of the British Medical Association on the State Registration of Nurses, I see that Mr. Garstang, of Altrincham, said that "unanimity already existed on this question except for the party led by Lord Knutsford."

This strikes me as a very original way of arriving at unanimity by simply disposing of the opposition. Unanimity may be said to exist on Home Rule, except for the party led by Mr. Bonar Law! And upon most questions, except for the opposition, there is unanimity! The whole point is whether the opposition is sufficiently numerous or important to be considered.

I have just sent out a Protest against the Registration Bill, worded as follows:

We, the undersigned, wish to make our most carefully considered protest against the bill, No. 88, introduced into Parliament by Dr. Chapple and others, to regulate the qualifications of trained nurses and to provide for their registration. We believe that this bill would be a source of danger to the public by inspiring a false sense of security, and detrimental to the true interests of the best nurses, by introducing an undesirable standard of uniformity.

Up to date I have received signatures to it from over

300 matrons of hospitals, including the matrons of the London, St. Bartholomew's, St. Thomas's, Middlesex, St. George's, St. Mary's, King's, Westminster, Seamen's, etc.,
100 matrons of institutions and nursing homes,
15 matrons of Poor Law infirmaries,
3,000 nurses.

It is also signed by over 200 medical men, many of them the leaders of the profession, whose opinion on any question of nursing is of the utmost value.

In the face of such opposition from people deeply interested in and experienced in the training of nurses it is very unlikely that the bill will ever become law, and I hope that Mr. Asquith's advice to the Registrationist Deputation may be considered—that is to say, that some attempt should be made to arrive at a reasonable solution of the question more or less acceptable to both sides. I should be only too glad.—I am, etc.,

KNUTSFORD.

Knebworth Hall, Royston, Herts,
July 23th.

THE BRITISH MEDICAL ASSOCIATION AND THE MEDICAL PROFESSION.

SIR,—In the issue of July 25th, p. 206, two letters expressing a desire to divide the activities of the Association into departments, and to reduce the subscription, appear. One adds that the *Lancet* is run at a profit for £1 1s. per annum, implying that the JOURNAL is run at a loss. Now in 1913 the BRITISH MEDICAL JOURNAL cost in all £39,966, the receipts for it being £23,932; no doubt the writer thinks there is a loss of £11,034. But that is not a fair comparison, for no account is taken of the 24,376 members to whom if the price of the JOURNAL were charged at £1 1s. per annum in the accounts, £25,594 would be added, making total receipts £54,526, or a profit of £14,560. The *Lancet* also did not gain £1,650,000 for the profession working the National Health Insurance Act.

Personally I am not on the panel, but in the United Kingdom 9,459 members are, while 6,106 are not, showing that the panel men pay by far the larger amount towards "building up the panel system."

Again, no member of the Association was ever in danger of being "compelled to become a trade unionist." Your correspondent is confusing the recommendation of the Council that the "Special Fund" should become a trade union (this body being necessarily entirely separate from the British Medical Association), which recommendation has been reversed by the now sitting Representative Meeting, which decided the "Special Fund" should be administered as a trust or other organization not being a trade union.

Should the Association be divided into (1) scientific and (2) political sections the cost of working would necessarily increase and the scientific members would soon be entirely out of touch and sympathy with the political, especially if *no* political matter was included in the JOURNAL but reserved entirely for the SUPPLEMENT, which the second correspondent desires supplied *only* to the political members.

The profession will only be united if the "Association takes immediate and prompt action" is the opinion expressed in the second letter.

Now "The Association" is *every member*. If the writer means to say that only if each member takes "immediate and prompt" personal interest and participation in all that *is being done* can the profession be united, then I vehemently endorse every word, for I have expressed that opinion times out of number; but I fear he means that imaginary "Association" which is supposed to exist somewhere "up in London."

As a matter of fact the British Medical Association is like a toothed wheel, which should be driven by a motive power acting upon the teeth, and so revolving the whole upon an axle at the hub; whereas, if we imagine the motive power to be the intellectual interest of the members produced by an adverse environment, the teeth to be the members, and the hub the central authorities at 429, Strand, what is expected is that the hub shall drive the wheel, the teeth of which are (many being composed of lead or some material easily bent) deflected in many directions, and some keep breaking off (that is, resigning) upon the least extra strain produced by the efforts of the hub to turn the wheel. I ask what kind of action can result, and how can it be prompt or immediate? To leave simile, let the members pay for whole-time medical organizers, who can keep them in touch with what is actually going on—what efforts are being made in London, what policy is being attempted, so that, having a clear idea of all these, *they* may take immediate and prompt action to back up those who are working hard for them under adverse circumstances.—I am, etc.,

HARDING H. TOMKINS,
Representative, South-West Essex Division;
Member of Special Fund Committee.

Leyton, N.E., July 25th.

SIR,—Dr. Charles Gibson informs us the fight for the partial recognition of the rights of the profession cost the Association a large amount, to which many subscribed, and, with the increased subscription, caused a loss of about 2,000 members. A terse statement, but, in my opinion, very unfair. "Partial recognition of the rights of the profession." The answer to this is obviously, "The pledge and what became of it." "To which many subscribed" would more accurately be rendered "promised subscriptions," as, within my knowledge, some men who promised to subscribe were contented to let matters rest at the promise when, through our Amphioxus attitude, we were routed.

The Association possessed the key of the citadel and we stole it from the Association. I am an out-and-out opponent of the trade union idea; but I can answer the question why a member of the Association is compelled to become a trade unionist. Simply on account of the apathy of his colleagues. This Division (Beds) has been canvassed upon this question, and the percentage of replies is an eye-opener to anyone really interested in the future of the profession. The idea of splitting the Association into sections does not commend itself to my mind. Dr. Arthur Todd-White adduces reasons for not splitting up into sections which appear to me to be adequate. If the profession failed to be united on the question of the National Insurance Act—and optimistic indeed is he who still hopes to see a united profession—it is difficult to see how a man can be wholly scientific or wholly political. Like medicine and surgery they cannot be divorced. A scientific question may arise which depends largely upon political action for its settlement.

With regard to the Representative Meeting—so-called—it *must* be unrepresentative as regards the great body of practitioners, a large percentage of whom take no practical interest in the welfare of their profession; but it is representative of the active members of the Association, who often, at great personal inconvenience, attend the Divisional meetings, not merely to record a personal view of the subjects under discussion, but to discuss them with their colleagues, and, by the interchange of opinions, arrive at a reasoned conclusion. It is only by meeting men of all shades of opinion and having a free and open discussion that we can hope to arrive at a decision which, communicated to our Representative, expresses the view of the majority of the members of the Division which he represents.

At the present time, notwithstanding our recent experience and the fact that danger ahead stares us in the face, a few enthusiasts turn up at our meetings, the majority of their colleagues remain at home, and are so little interested in the subjects under discussion that they fail to send even an excuse for their absence.

Even if every medical practitioner joined the Association I doubt very much, from past experience, whether we should be in a position to say that the decisions arrived at even approximately represented the opinions of the profession as a whole.

Apathy is our stumbling-block.—I am, etc.,

S. J. ROSS.

Belford, July 27th.

Medico-Legal.

STEVENS v. BRITISH MEDICAL ASSOCIATION.

THE hearing of this case was continued on July 23rd. The action was brought by Mr. Charles Stevens, managing director of Stevens and Co., Limited, for damages for a libel alleged to have been published by the defendants in *Secret Remedies*. The defence was that in so far as the statements complained of were statements of fact they were true, and that otherwise they were fair comments on matters of public interest.

A report of the first six days' proceedings was published in the JOURNAL for July 25th.

The plaintiff appeared in person; the defendants were represented by Mr. Colam, K.C., and Mr. Dickens (instructed by Messrs. Hempsons). Mr. Kimber (instructed by Messrs. Dod, Longstaffe, Son, and Fenwick) watched the case on behalf of Sacco, Limited.

On July 23rd, Dr. Dyke Acland recalled, was further cross-examined by the plaintiff. He said the question whether he would accept the results of a layman's experiments depended on who the layman was. He would have accepted Pasteur's experiments when he was a tanner as he believed he was endeavouring to ascertain the truth. Dr. Bulloch was one of the greatest authorities on tuberculosis, and any experiment performed by Dr. Bulloch was such that it might be depended upon. The witness then gave certain figures showing the result of treatment at Midhurst. When he spoke of the disease being arrested he meant that the general health was completely restored. Sanatoriums did not only take early cases; a man with a large cavity might be much better than one with tubercle dissemination all over the lung. Statistics taken over the whole life could not be safely compared with those taken over a particular period. They often admitted patients to Midhurst who, they thought, would not improve, but they admitted them to see whether they would improve. He (witness) was not an expert on silicosis. That was a form of miners' phthisis, but coal-miners' phthisis was not silicosis. All miners' phthisis did not end in fibrosis.

In re-examination he said that the tables which Mr. Stevens had put to him were tables of far advanced cases. Referring to Mr. Stevens's experiments with the rabbits he said that the very fact of there being pus present ought to give rise to suspicion of contamination.

At the conclusion of the re-examination, plaintiff drew attention to certain letters whereby it had been agreed between him and the solicitors for *Truth* that an action for libel which was pending against that journal should stand over until the decision in this case.

In reply to Mr. Colam, the learned judge said his ruling was that this was a matter of public interest.

Mr. Colam having addressed the jury and the plaintiff having replied, Mr. Justice Shearman summed up as follows:

Summing Up.

Mr. Justice Shearman: Gentlemen of the Jury,—This, as you know, is an action for libel brought by Mr. Stevens against the British Medical Association, and it is an action brought upon one of a series of articles which appeared in a newspaper called the BRITISH MEDICAL JOURNAL, which articles were substantially reprinted in a book. The plaintiff comes here and asks for damages because he says his reputation has been wrongly assailed.

Gentlemen, there are two questions I have to leave to you, and one will take a very short time to explain. It has been well settled law in this country for a great many years that it is not for the judge, but for the jury, to say whether the words complained of are libellous or not. A libel means something which conveys an imputation upon the character of the person who brings the action. I cannot say, but it is for you to say, whether there is something in this book which is libellous; and that question will not take you very long to decide. The plaintiff comes and says, "They call me an impostor"; and Mr. Colam says, "We are justified in our comment by saying 'He cannot prove what he states.'" So that you may very well come to the conclusion that apart from the defence of fair comment there are matters derogatory to the plaintiff's reputation in these words, but it is a matter I have to leave to you. If you came to the conclusion that they were not attacking the plaintiff's character, but only his medicine, there would not be such an action. If you came to the conclusion that the words attack his character as well as his goods (he has not brought an action for an attack upon his goods, but upon his character) then you will answer: Yes, these words are libellous; in other words, that they convey an imputation upon the plaintiff.

Then, gentlemen, the real matter begins, because the defendants say, "If we have made an imputation we are justified in doing it by what is called the law of fair comment." Now, gentlemen, that leaves this serious question for you to decide. Before I deal with the evidence I want to instruct you in what I conceive to be the law. It is a very important principle in this country that a man's character shall not be improperly attacked. A man's good character is his property, and no one has any right to attack his character. That is one excellent principle; but, gentlemen, there is another very excellent principle too, and it is that this is a country where, when matters of public interest arise, everybody shall be at liberty freely to express his own mind in honest criticism. That, gentlemen, has been called in other terms the right of free speech. It is not confined to newspapers, but it is open to you, or to me, or to any of us. It does not apply when we are dealing with purely private matters, but when we are dealing with matters of public interest that right of free speech or comment applies. That is another important principle. It is important that a man's character should not be wrongly attacked. It is important that a man should have a free right to criticize matters of public interest, and it is when those two principles come into conflict that the difficulty arises.

The law, I understand, is this: It is for the judge to say whether this is a matter of public interest. I decide that it is a matter of public interest. I do not think any one can question it, because any question involving the treatment and cure of tuberculosis and the medical interest of large bodies of persons is a matter which can be freely discussed. Therefore that point does not arise.

That being so, it is not for me, but it is for you, to decide whether it is fair comment, and, if I may respectfully say so, that is a sensible principle of law. It is not for one person who sits as a judge to decide, but it is for twelve people selected from amongst the citizens of the city where the case is tried, and they have to say where the line is to be drawn between the two principles of attacking the character and the right of having free speech on matters of public interest. For a great number of years it has been left to the gentlemen of the jury to say, having regard to all the facts of the particular case, Have the defendants gone beyond the line of fair criticism, or are they within the line? That is the question which you have to decide. Bearing in mind that one jury, as we know (we know very little about the previous case), have disagreed about it, I hope you will carefully apply your minds and, if possible, come to an agreement upon this matter.

Gentlemen, there is one other thing I ought to have called your attention to with regard to deciding what is fair comment. Some people think it is not fair comment, and cannot be fair comment, to attack a person's character. That question has been decided in the courts too, and it has been decided in a court to which we all have to pay respect. What are the principles which a jury ought to apply? I am going to read what one of the judges of the Court of Appeal on this matter said. He said: "The defence of fair comment assumes that the matter to which it relates would be defamatory if it were not protected by the defence of fair comment." Then he says: "A fair and bona fide comment on a matter of public interest suffices to protect that which would otherwise be defamatory. Comment which tends to prejudice may still be fair; it may convey imputations of bad motive so far as the facts truly stated justify such an imputation." In other words, if the facts which people prove in court justify the imputation that they have made, it may be fair comment. "It is for the jury to say whether the facts justify the imputation or not. The fault here is that that question has never properly been left to them. The question for the jury is whether the comment, in their opinion, is beyond that which a fair man, however extreme might be his views in the matter, might make honestly and without malice, and which was not without foundation." Gentlemen, to put it in a shorter sentence, it means this: You first have to decide when you look at these words what imputation is made. It is for you, and not for me, to decide what is the exact imputation. Then you have to decide how much the defendants have proved, and, bearing in mind what they prove, do you think, on the facts which you believe to be proved, that the defendants have done anything more than fairly comment upon a matter of public interest? You will say if you think they have done more and gone out of their way to make an attack which was not justified by the facts. You may find it is not fair comment on the facts proved before you, and which have been proved in the course of the case—not merely the facts which were before the man who wrote the article, but upon all the facts which have been proved before you by the witnesses while you have been sitting in the jury box; if you come to the conclusion that certain facts are proved which would warrant the imputation made in that article, then you can find for the defendants. It is for you to say Aye or No; looking at the facts, do you think this is fair comment, realizing that comment cannot be fair if the imputation or comments rest upon untrue facts? But if they rest upon true facts and they do not go beyond fair comment you can find for the defendants. I think that will explain to you what the law is upon the matter.

It is not for me to tell you exactly what imputation is conveyed in the words I am going to read. A case very much like this was tried not very long ago, when the judge instructed the jury as to what is the meaning of the word "quack," which I believe is one of the words used here. The higher Court said that it is for the jury to decide what it means, or rather what it means when it is used in a particular sentence. I cannot therefore tell you what this means. You have to make up your minds, and having done that, you have to look at all the facts and say whether the defendants have or have not gone beyond the limits of fair criticism—that is to say, honestly commenting upon the true facts. There is one other matter about the law and then I will pass away from it. I do not want you to form any opinion, that because I have had to pull up the plaintiff frequently for doing things which he ought not to have done, that shows I have prejudice against him. It is my business to see that the only evidence put before you is what is actually evidence. One cannot have in these

courts people coming forward and saying, "Oh! somebody told me so-and-so, and so I repeated it." There would be no limit or end to such evidence. Someone might come forward and say, "I saw Smith in the morning and he told me he had seen three ghosts. I saw Jones in the afternoon and he told me he had seen six ghosts." You might consider that that was evidence that there were nine ghosts walking about the place. The answer is that the first man may be a liar, or the other man may have told him lies. We cannot have what other people say because we only listen to witnesses who go into the box, who can be seen, so as to judge after cross-examination whether you believe their evidence to be true or not. That is why from time to time I had to have little arguments with the plaintiff about the matter, but I was simply doing my duty in getting the evidence confined within the proper legal limits.

Now let us apply ourselves to the problem we have to solve. I have said to you all I am going to say about the law on the point, but there is one other point. It is impossible for a judge in summing up the evidence, unless he reads it from his notes, which would not make you very much wiser, to do so without making comments of his own upon the facts. As I understand the law, a judge is entitled and indeed it is his duty, to make comments upon the facts sometimes if he thinks that he ought to make them. If you disagree with what I say you are at liberty without any offence to disregard it, because the facts are for you and not for me; but I am entitled, where certain matters come up, to call attention to certain things in the facts. If you get from that what my views are upon the matter you may avail yourselves of them and adopt them, or disregard them as you think fit.

Now let us look at this alleged libel. Will you turn to it, because I am bound to read the passages complained of? Gentlemen, in one way you have to recollect this: that it has been said somewhere here that this gentleman, the plaintiff, is carrying on a campaign. It may equally fairly be said that the defendants are carrying on a campaign. They are exercising their undoubted right and duty in saying, "We are tackling the subject of proprietary medicines and calling attention to a large number of them, and doing our duty to the public in calling attention to the men who sell these proprietary medicines and the methods which they display." What you have to consider in this case is whether in the words which these people write about a matter obviously of interest to the community, they have used here anything more than legitimate criticism upon the man who sells this cure, and the methods which he has of selling it, because both of them are attacked or appear to be attacked. But it is for you and not the judge to say what the imputation is.

The beginning of the chapter is: "Nostrums and quack medicines vary greatly in the extent to which they constitute deliberate fraud." They do not say deliberate fraud as to this, but say there are all sorts of gradations, and the early part of the article goes on to say that some contain something of value, but not very much. Then come these words: "But with other proprietary medicines it is quite clear that the makers cannot in the slightest degree believe in the claims they make." You will have to consider whether that is not the keynote of this case, and whether the whole matter is, Does the plaintiff believe in the claim he makes for his medicine? It goes on: "The 'remedy' in these cases is some substance or mixture devoid of medicinal activity, or possessing some slight therapeutic property having no relation to the disease for which the nostrum is put forward as a cure. It is often, indeed, for inert preparations"—That is, preparations which have no medical effect at all—"that the most extravagant and emphatic claims are made; the makers, and the advertisement writers whom they employ, are untrammelled by any necessity of squaring their statements with the real properties of the thing to be recommended, and having set out consciously and deliberately to deceive, they are able to give their whole attention to telling the most effective stories in the most plausible manner, and reaping the maximum of payment for the minimum of expenditure. People who are ill or suffering are to be frightened with impressive pictures of the aggravated suffering and premature death that await them unless they take the 'only cure' in question, therefore let them be frightened thoroughly. Careful suggestion will induce people who are not ill to believe that they or some of those dear to them are in the early stages of some disease; therefore let everything possible in the way of striking advertisements, personal letters, and repeated assertions be utilized to produce the result. It is the victim's money that is wanted; therefore let the price be fixed high, and the advertisements be written up to it. If it should be discovered by correspondence that so much cannot be cajoled or frightened out of an individual sufferer, the price can be reduced gradually as 'special concessions,' in return for which testimonials may be extracted. Of quack medicines the sale of which is conducted more or less on these lines, two examples are described in this chapter, and other examples will be enumerated later." In other words, gentlemen, it does not undertake to apply everything to them, but generally on these lines. They begin by saying, "Where the makers cannot in the slightest degree believe in the claims they make." That is the class of medicine they are dealing with.

Then I need not read to you what they say about Tuberculozyne. Dealing with Stevens's Consumption Cure they go on to say: "The sale of another preparation advertised as a cure for consumption, Stevens' Consumption Cure, is conducted in a very similar way, but this time the herbs are said to be African, and the odd names they bear certainly have a Kaffir flavour. The vendor considerately warns the public against American quacks"—I do not think I need read the whole of that, it is about American quacks, because I am going to refer in a moment to what Stevens does. "But Stevens has somewhat bettered his instruction, and his letters and circulars have a character of their own due to the effrontery of his attitude toward the medical profession." Then it proceeds to make this attack upon him: "The circular continues: 'The great drawback to my cure, so far as the medical profession is concerned, has always been the fact that I would not reveal its formula. This is now done away with; its formula is 80 grains of umckaloabo root and 13½ grains of chijitse to every ounce, prepared according to *British Pharmacopœia* methods.' The farce of revealing a formula by the employment of such fancy names as these is one of the oldest dodges of the quack medicine man, and no such names as 'umckaloabo' and 'chijitse' appear in any available work of reference on pharmacy. Inquiries made in various parts of South Africa have been negative, experts in native matters being unable to ascertain that the names were known. Further, the Native Affairs Department of Cape Colony has caused inquiries to be made in the Transkeian territories into the question whether the native tribes there resident had any knowledge of 'umckaloabo' and 'chijitse,' or of their reputed medicinal properties. The result of the inquiry was entirely negative. Nothing was known of any such plants, nor was it even possible to identify their names. Smith's *South African Materia Medica*"—That is a medical work, of course—"contains no record of any such names as 'umckaloabo' and 'chijitse.'" There is an end of that.

Then I think I may turn on to page 28: "Stevens' Consumption Cure. This is advertised as manufactured only by C. H. Stevens. The price is 5s. per bottle, containing 2½ fluid. oz. This preparation does not appear now to go under any other name than that of 'Stevens' Consumption Cure.' As regards its past history, the following extract from *Truth Cautionary List* for 1908 is of interest." This article was published in 1908, and the *Truth Cautionary List* is a book cautioning the public against people who are to be avoided. This is the extract: "Stevens, C. H. The proprietor of a remedy for consumption which has been put on the market in South Africa and England under the name of Sacco, and later in South Africa as Lungsava, the recipe for which is stated to have been long in use amongst the Kaffirs and Zulus. In connexion with the advertising of Sacco in England, an article which appeared in *Truth* was circulated in a mutilated form, omitting a condemnation of its sale as an absolute remedy for consumption. Stevens has acquired a number of testimonials from medical men who must now regret their precipitate action. He is now in England on a new campaign." Gentlemen, people who publish a thing and repeat it are bound themselves to justify it either by justification or by fair comment; and the fact that the defendants have printed from *Truth* shows that they have to undertake to satisfy you that their extract is also fair comment.

Next follow a number of circulars which I will not read but I commend them to your notice. Probably you have read them. I do not read them *in extenso* now, because you will find that I have to read some extracts from them in the number of things which have been put in. The gist of that I may pass over for the moment and come to page 32, which is the formula. Upon this you have heard a good deal of evidence, and I want you to specially pay attention to the words. The second paragraph which you have heard so often is this: "The medicine was a clear red liquid, and analysis showed it to contain, in 100 fluid parts, 21.3 fluid parts of alcohol, 1.8 parts of glycerine, and 4 parts of solid substance; this solid substance contained about 1 part of a tannin and 0.2 part of ash, the remainder being extractive." "Extractive" was given in evidence by the medical men as being the stuff that resulted from the chemical analysis, the residuum which was left after the chemical process had been gone through. Then it goes on to say this: "No alkaloid was present, and no other active substance could be detected." In other words, they say: Here are certain ingredients of which there are four parts, of which one part, or roughly one part, is tannin, and the other three parts, or 75 per cent., is something which is inert. That is the meaning of it: "No alkaloid was present, and no other active substance could be detected." The medical and chemical witnesses say that in this class of vegetable, what are called the active, as apart from inert, parts are nearly always alkaloids, and that three of the four parts left were proved to have no alkaloid in them; and the analyst practically says, "I do not know what they are."

Then he goes on to say this about krameria, and it is for you to say what is meant by these words: "The solid substance agreed in all respects with the solids of decoction of krameria, or a mixture of this decoction with a little tincture of kino." Krameria, we know, is a thing which is a slight astringent, and produces some kind of red colouring, although possibly a different red colouring to this; and kino is another kind of drug, which is of the juice of a tree, but they are both vegetable products used in medicine. Then it goes on to say: "The solid substance agreed in all respects with the solids of decoction of krameria, or a mixture of this decoction with a little tincture of kino. The formula thus appears to be approximately: Rectified spirit of wine 23.7 parts by measure; glycerine 1.8 parts; decoction of krameria (1 in 3) to 100 parts by measure, or it may be made with tincture of krameria. Estimated cost of ingredients for 2½ fluid ounces, 1½d."—that is to say, if it is krameria.

Now, the plaintiff says that the statement here that this is made of krameria is libellous; in other words, the comment founded upon it is not true. In reply to that, the defendants say, "It is not a statement that it is made of krameria; it is a statement in which a man honestly making a criticism upon skilled analysis put before him might say, 'The nearest I can get to it is krameria.'" And, gentlemen, you will notice it says, "The formula thus appears to be"—he does not say it is so and so, but is approximately so and so. There are the words; it is for you to judge. The plaintiff says: It wrongly accuses me of having krameria. It seems to me, and it is for you to judge—I am going to say what I have to say about the chemical evidence very shortly, because I have looked at it very carefully, and I can sum it up to you in a very few sentences—it seems to me that if these three parts of umckaloabo are just as otiose as the three parts of krameria, it does not much matter whether it is krameria or whether it is umckaloaba or whatever it is. If you have a medicine, and say that 10 per cent. of it is rose-water, when as a matter of fact 10 per cent. of it was orange-water, and rose-water and orange-water had exactly the same effect, it might occur to you that it would be difficult to say what complaint can be made about it. But if, on the other hand, umckaloabo has some extremely active substance in it which krameria has not, the matter would be very different.

This is substantially what the chemists say about it. Three chemists were called on behalf of the defendants. They all say that this medicine has 1 per cent. of tannin, that it has glycerine, that it has alcohol, and that it has a trace of ash, but they say they cannot find out what the rest is. And two of the chemists say the same thing on behalf of the plaintiff: that since this dispute started we have taken the different medicines provided by the defendants for us to analyse, and we find the same thing; we find a certain amount of tannin, we find a certain amount of glycerine, and we find these solid parts too. But, testing the solid parts of the umckaloabo as well as the solid parts of the krameria, the chemists on behalf of the defendants say: "We find equally that they are inert." Or, rather, they put it in this way: We cannot find any trace of anything active in them at all; there are no alkaloids. There is something else which I do not quite appreciate called glucosides, but they do not find them. They say: "We do not find here any active part whatever." If you come to the conclusion that the solid residuum parts of umckaloabo—the 75 per cent. which is in dispute—are equally harmless and inert in one and the other, you may think it makes very little difference. On the other hand, if you come to the conclusion that the solid parts have something in them which is active, although it cannot be found, you might think differently.

Now let me turn for a moment to the evidence of the two chemists, quite well-known, able, and competent people, who were called on behalf of the plaintiff—Mr. Parry and Mr. Cassal. This is what Mr. Parry says about the matter. He gives his particulars, and after giving his analysis the two chemists say: "We applied other tests and we found that there was no krameria." They say: "We applied tartrate of antimony, and that, by producing a particular colour, showed that there was no krameria there." Mr. Cassal says the same, that they applied two tests to show that it was not krameria. But after the evidence was concluded I asked a question of Mr. Parry. I wanted to get out what the difference was, and this is the note I have of what he said: "The residuum"—that is the part which is different—"shows no definite signs of being either active or inactive; I cannot identify it; but there are many drugs which do not contain any definite sign of activity which nevertheless have medicinal activity." That throws us back rather into the region of mystery. Both he and Mr. Cassal say: We show there is no krameria here, but neither of them can point to any definite stuff in this which contains any medicinal activity at all as distinct from the mixture with krameria in it; that is to say as discovered chemically. They say they cannot find it. There may be drugs, and they say there are drugs, which contain medicinal activity although they cannot trace them. On the other hand, there are plenty of things which contain residuum which is actually inert. But it is pointed out on behalf of the plaintiff: "We show it is not krameria." It is pointed out on behalf of the defendants: "Oh, yes, but you do not show that there is in fact anything there except perfectly otiose matter which is different from krameria." Mr. Parry and Mr. Cassal were not asked the question, but still it may be there although they cannot find it. Therefore, so far as the plaintiff's drug is concerned, his own experts say: "We cannot identify anything there which shows it has any active property; chemically we cannot produce any evidence that it has anything but otiose matter other than that which is in the analysis in the book. That is the position with regard to the analysis. You may very probably come to the conclusion, having regard to the tests made by these two chemists who were set to work to prove that there was no krameria, that the chemical analyses which they provided show that it had no krameria in it. Mr. Cassal says: I I saw it prepared from the brown stuff, and nobody has been called to say that the brown stuff is krameria, and you may say you do not believe that the brown stuff is krameria; and Mr. Cassal has been called, who said that he saw it made up of that brown stuff, whatever it may be. With that I will pass away from the chemical evidence.

Now let me come back to the main question, apart from the chemical question, whether this is fair comment on the plaintiff and his methods of selling Stevens's consumption cure. With regard to that, the first thing you want to know is, what has he been doing? What are his circulars? I have a bundle of them here. I do not intend to read them all, but there are one or two to which attention has been called on both sides. They all run to a very large extent on the same lines. This one has turned up with a good many patients, and it is as follows: "There are so many termed 'consumption cures' made up in various forms and advertised to cure pulmonary tuberculosis, asthma, and other chest diseases, in such flowing language, which have all been proved failures, that everything seen advertised will naturally be considered just another swindle with suffering humanity its victim; if there were any other means of proving my cure, and letting the world know it, I should never resort to newspaper advertising; still, any one reading my advertisements will readily see how they differ from others puffing remedies for the same ailments that I guarantee to cure." In looking at the bundle of these circulars you will have to consider how far what is said in this article is justified, because in the article they say that Stevens begins by attacking other cures, which he calls sham cures, and says they are all shams: "I guarantee to cure." Then he says: "It is preposterous to claim the ordinary drugs that are known to every chemist even, to cure this disease, just because they are given a fancy name, and advertised by a Polish or a German Jew; it is not only preposterous, but a wicked swindle." In other words, he says that other people who are advertising these cures are making preposterous claims, and that their claims are a wicked swindle. Then he talks about an American quack. Then he adds this: "I do not say in my advertisements 'Consumption can be cured,' 'Consumption is curable,' or any such evasive remarks, but I say, 'I will guarantee to cure you if you are consumptive, or return your money in full,' and that my terms are 'No cure, no pay.'" Then he goes on: "The African herbs which my cure is prepared from have never been used by any white doctor or chemist before I introduced same to civilization a few years ago. These herbs are original and have defied our cleverest analysts to discover the active principles they contain"—in other words, This is a bag of mystery, no clever analyst in England can tell what is in it, but there it is, and with this stuff I am going to cure consumption. Then he says: "The proof is here for anyone to see. Is there another remedy in the whole world that is claimed to cure consumption backed up by hundreds of English, Irish and Scotch doctors like mine is?" When one hears of the hundreds of English, Irish, and Scottish doctors, one wonders why they have not appeared in court; but it is for you, you have to consider whether this man is making these claims here honestly such as he really believes in. Then it goes on: "'No, there is not,' and I only want a Royal Commission formed to test it publicly on admitted cases of consumption, to enable me to claim the big rewards offered to the first man discovering a cure for this insidious disease." Then a little lower down he says: "To bring my cure to its present state of perfection it has cost me many years of ceaseless toil, untold hardships in a wild and unexplored country where life is held very cheaply, and thousands of pounds in hard cash. I am here to prove my cure for consumption regardless of all cost, and no unfortunate sufferer shall be denied it because they are too poor to pay for it." In dealing with these things you will consider whether they are candid or whether they are catchpenny advertisements, and whether the criticism made by the defendants is or is not justified by the sort of way in which this man is recommending and putting his cure before the public. Then it says: "Should it make you sick, that shows it is going to do you good—sickness is a sure sign that the tubercle bacillus (germ of consumption) has a thorough hold of your system, and that a war is being waged between the disease and my treatment." Then in another place he says: "I only returned to England a few weeks ago to prove my cure to the satisfaction of the British Government." You will judge what that means. The statement is that he has come back to prove his cure to the satisfaction of the British Government.

The next one I have, and again I will go through it very shortly, is this: Stevens circulated a paragraph from *Truth*, and when one comes to look at it there is no substantial dispute about it. *Truth* published an article against him, and then he came up with certain doctors and *Truth* altered their tone. I will not read them to you now, they were read to you on the first day. The article in *Truth* then went on to say: "Although we have altered our tone and it looks as if there was something in it yet it is absurd to say, and he has no business to say, it is a cure for consumption." Upon that, this man without any permission from *Truth*, cut out all the laudatory parts, leaving out the part which said that he had no business to use it as a cure for consumption. This is the circular advertisement: "*Truth* and my discovery. Many people believe everything in the newspaper, *Truth*, to be in keeping with its name, so extracts will be interesting to them. Mr. Labouchere's articles are too long to reproduce at length, but to give you an idea what he has said about my treatment, I will give a few extracts," and he gives you an idea of everything that was said on one side and nothing that was said on the other side. That is another thing that was circulated broadcast, and which you may think is a justification for the reprint in *Truth* which appears in the article, or rather a true fact upon which their comment might have been founded.

Then the next thing is this circular with the hand upon it, and which says it is a tuberculous hand which he has cured, and he says, "This cannot lie." It is called "From a photograph of the tuberculous hand of Mr. Alfred Williams," and then underneath it is another photograph taken three weeks

later. You have seen the original photograph, and you find that this photograph of the tuberculous hand is not a photograph of the tuberculous hand at all, but a photograph of what an artist has depicted as a copy of somebody else's tuberculous hand, but it is circulated to the public as if it is the real hand, and that is how he cured it. As a matter of fact this is not a real photograph of the hand at all. We have seen the photograph, and it does show a strongly marked tuberculous hand, but one wants to know why the photograph could not have been printed and not the picture. Then another thing which was distributed was the analysis by Mr. Lord. Sometimes things are done irregularly. The only evidence about him is that for certain duties which the plaintiff mentioned, for making examination of sputums for him, he was being paid thirty shillings a week. Never mind whether he was paid anything else. He was a man in Stevens's employment. He was not, as far as I know, a man with a degree; he was not a medical man. This analysis of his was circulated in very large numbers. At the top it says: "Mr. J. P. Lord, Analyst and Bacteriologist, Consulting Bacteriologist to the Councils of Carshalton, Cheam, Dorking, Epsom, Ewell, Leatherhead, Maldens and Coombe, Sutton, etc." That looks to me very much like some rural district council which is multiplied about seven times over—I do not know. If you know the neighbourhood you will know that they are all about the same locality, and whether each of these ten councils are likely to have a consulting bacteriologist is for you to judge. It says: "Some fifteen months ago I had submitted to me, by a physician, a bottle of a lung specific, made by Mr. Charles E. Stevens, of Wimbledon, with a request to determine whether the medicine contained any harmful ingredient. After a careful analysis I was able to assure him that it was perfectly innocuous. Since then several medical men to my knowledge have used this specific and have found that their tuberculous patients have derived great benefit from it. In one case a tuberculous ankle, which was doomed to amputation, has been saved." This analyst and bacteriologist has probably put in here something which somebody told him, possibly what the plaintiff told him, one does not know, because Lord has not given us the benefit of going into the witness-box, and the plaintiff has not put him there. That is all we know about him. Then: "Inspired by these successes, the users of this remedy have again submitted ordinary samples from the commercial stock to me for further report, and by the courtesy of the discoverer I have been provided with samples of the raw material." He appears to have been in the discoverer's employment, but this analysis was written as if he was a bacteriologist who by the courtesy of the discoverer had been given some particulars. That you must bear in mind. None of this is decisive, but you have to bear it in mind as to how far these facts which are not in dispute justify the criticism which is directed to them by people who are writing a series of articles against the owners and advertisers of patent medicines.

There are a lot of other forms. One that I have is lithographed.

Then comes a newspaper advertisement in November, 1911—an advertisement which deals with sanatorium treatment. This is the only thing one need say about sanatorium treatment, that, whether sanatoriums are good or bad, I can quite understand that doctors of the highest eminence in the country are looking to sanatoria as a real alleviation of consumption at the present day. I am talking of it as we know it from the amount of public money which is being spent on them. One can quite understand medical men taking a certain line with regard to sanatoria, but we are not trying the benefits of sanatoria in this case, neither are we trying the efficacy of Stevens's medicine, we are trying the question whether the plaintiff has been libelled, or substantially whether these remarks which have been made by the defendants are or are not within the limits of fair comment. That to my mind is all we have to do with sanatoria in this case. The plaintiff says: "Sanatorium treatment. We all know that a great number of the supposed sanatorium cures only remain well for a few weeks or months after leaving these institutions, and as a matter of fact, the general health only is somewhat improved, the disease still being in the system just the same. The BRITISH MEDICAL JOURNAL in its issue of November 12th, 1910, showed clearly from well kept statistics that after five years' sanatorium treatment and supervision less than 3 per cent. were able to follow their occupation, and if only three out of every 100 consumptive patients are able to follow their work after five years' treatment and supervision (and it is well known that sanatoria only accept patients in the early stages) what grounds have we for calling sanatorium treatment a 'Cure' for consumption? 'A landslide to the grave' would be a better and more correct term." Now, what is said on behalf of the defendants is this: You are trying to foist your medicine upon these people; these are poor people who would be ordered to sanatoriums. You are telling them that sanatorium treatment is no good; have five shillings worth of my medicine instead. Dr. Acland, whose evidence I will deal with presently, says: These figures are preposterously absurd; I have figures showing that we arrest the disease in over 50 per cent. of the cases, and how Stevens can come and say that only 3 per cent. ever go back to their work one does not know. The only figures put in to justify these figures by Mr. Stevens himself are forty-eight tables, which he put in this morning, and it turned out that one of them—No. 27—only dealt with nine very bad cases, and saying that they contradicted Dr. Acland, who gave us the whole figures for ten years from one particular sanatorium. People who live in glass houses must not throw stones, and people who make attacks upon sanatoriums and say they are landslides to the grave, when they come here, it is for you to say whether they are not rather squeamish in having attacks made upon their own medicine, which is being sold at five shillings a bottle as an alternative remedy for consumption to sanatoriums. So much for that.

There are a great many of these advertisements, but they all run on practically the same lines. Here is another: "When your doctor and the specialist have told you they can do no more for you, sanatorium treatment, open air, and change of climate failed to give you relief, and the disease is slowly but surely devouring all except your soul and bones, send a postcard to Charles H. Stevens, 204, Worple Road, Wimbledon." You will consider again whether the defendants cannot found upon that the statement that they are practising upon the fears of patients in getting them to take his medicine.

Then here is another: "Consumption. The new cure. If you are a Consumptive yourself, never mind if your doctor and the specialist have told you they can do no more for you—sanatorium treatment, open air, and change of climate failed to give you relief—send a postcard to Mr. Charles H. Stevens, 204, Worple Road, Wimbledon, for full particulars of this new cure, and records of the wonderful recoveries it has brought about; or, if you will give him details of your case, he will send you a supply of it (the cure) on the 'No cure, no pay' principle."

Then we know that the plaintiff enters into bonds, and he has told us that when he enters into a bond not to get paid at all unless he cures, he wants £25. The advertisement, however, does not say that. The advertisements always say, "No cure, no pay." "We guarantee to cure everything." "Whilst it positively destroys the germs of consumption so quickly, is perfectly harmless even to the most delicate constitution, and any one suffering from this dreaded disease can have a supply of it sent post free to any address on the 'No cure, no pay' principle; that is to say, it need only be paid for if perfectly satisfied with the benefit received from it, and the patient considers the progress made warrants its continuance."

Then there is another in February, 1908, from the *News of the World*, which is, I believe, a penny weekly paper. "Consumption. No Cure, No Pay. These are the extraordinary terms Mr. C. H. Stevens gives with his new South African Cure for Consumption. He has cured thousands of hopeless cases in Africa and elsewhere during the last four years, and will guarantee to cure you if you are affected with any complaint of the chest, or will return your money in full if you do not improve in health to the satisfaction of your own doctor. He (the discoverer) only returned to England a few days ago after many years absence to prove his cure to the satisfaction of the British Government."

Then here is another: "Consumption. A guaranteed cure. I will make a present of ten pounds to every patient suffering from his lung I undertake to cure if I fail to do so, and will treat any patient free of charge who cannot afford to pay."

Then there is another in 1910. "Consumption. A guaranteed cure. This may sound too good to be true, but it is a fact, and I will make a present of £10 to every patient I undertake to cure if I fail to do so, and will treat any poor sufferer free of charge who cannot afford to pay. There is no catch or trickery about this offer. An absolute cure for the Great White Plague has been found, and I—the discoverer—am offering it to all who are unfortunately afflicted. A large and ever increasing number of medical practitioners in the British Isles are using the cure, and it alone, in the treatment of their tuberculous patients. I am also treating doctors' wives, sons, and their intimate friends, so if you have any symptoms of this terrible disease write to me at once; never mind if you cannot afford to pay me a single penny, for I am going to prove that my discovery is a positive cure for consumption, no matter what it costs; and if you are too poor to pay, all you have to do is to get your local doctor to watch the speedy recovery you will most probably make."

You, gentlemen, will consider whether the meaning of those advertisements is not that he has what is called and used to be known as an infallible cure. What is said by the defendants is that this man undertakes to do things which he knows he cannot do. That is the gist of the libel, but it is not for one side or the other side, or for me, but for you, to look at the words used and say what the imputation is, and whether what has been said of him has been justified.

Then there is one other in which he says this is a general tonic and will cure any broken-down system: "Stevens' Consumption Cure is a vegetable germicide, fatal to all disease germ growths, but acts as a strong tonic; is a blood purifier, stomach cleanser, and a nerve stimulator; one will readily understand that it must be all these to cure consumption and build up a broken-down system entirely by itself."

Those, gentlemen, are substantially the articles. In another case he says that in a few months, and in another case he says in six months, he will undertake to cure every external case and every pulmonary case. First of all he says in six months, and then he says in a few months. In other words, the gist of the advertisement—so the defendants say—is that no case is incurable; and in the witness-box Stevens said: Unless a man has one leg in the grave I will undertake to cure him. He is here before the public saying: Those are the professions I make, and what is said by the defendants is: Those professions he cannot possibly believe in.

Now before I part from the written circulars there is one other matter that counsel has commented upon, and it is this.

Before these articles were written by Mr. Harrison, who is one of the chemists called on behalf of the defendants, he wrote to Stevens for a bottle of this medicine, and the result of his writing for a bottle was that he had a series of letters sent to him following up the inquiry. Mr. Harrison wrote for a bottle for the purpose of his analysis, but, I suppose, that was not known to the people in charge of the office, and the result is that having sent the bottle he does not say. The bond will be for £25, otherwise I shall want payment in advance, but he says: "When the amount to be paid for the cure is mutually agreed upon you can pay it over to a bank manager or some responsible person, only to be paid to me in case a complete cure is effected to the satisfaction of your own doctor in the time I state; if this is not done your money is returned to you, for my terms are 'No cure, no pay.' If you decide to give my treatment a trial you may please yourself whether you send for one week's treatment at a time or for the three months' course at the reduced price." Then the bottle is sent. That is followed by another letter from Stevens in which he says, "Your local doctor will admit to you that he has nothing at his command to destroy the tubercle bacillus, neither does he know anything that will do so without killing the patient at the same time, and it is this missing link which I claim to have discovered." I do not think there is any question that he is not saying, "I can cure consumption because this is such a very fine tonic that it will build up your body and enable you to throw it off," but "I can kill the tubercle bacillus." If that is the issue, does he really believe that his medicine will kill the tubercle bacillus and that it will really cure every kind of complaint because it can kill every possible germ? If that is the imputation — you must not take it from me that that is the imputation, because you will have to judge the words for yourselves,—but if that is the imputation you will have to bear in mind some of the large body of evidence which is more or less material to that issue. We are not trying any particular issue about consumption in this case. We are only trying the question whether this is fair comment or not on the plaintiff. But to throw some light on the matter we have heard a great deal of evidence which to me has been very interesting and, I dare say, to you too.

Now I will pass away for the moment from the different prospectuses and letters which were written, merely saying that if you desire to see them when you come to consider this matter I will put them all into one bundle and you shall have them.

There is this remark that I can make. Juries are absolute masters as to whether they believe evidence or not. It is open to you on a medical matter, if you think fit, to disbelieve Dr. Acland and to believe the plaintiff when he contradicts him. It is entirely open to you, but I feel constrained to make this remark, that although it is fair criticism of doctors—and doctors are subject to criticism the same as every other person who is or is supposed to be an authority—although it is fair criticism to say that doctors are conservative and are prejudiced and will only deal with professional people, if you pursue that argument to its logical conclusion and say that because a doctor will only listen to professional men, you are to disregard what they say in favour of Tom, Dick, or Harry, who have never had the smallest medical experience from the beginning of their lives, we are getting perilously near a gross absurdity. Any of you gentlemen, or any member of the Bar, or anybody, may say that a particular judge perpetrates an injustice; it may be accurate, or it may not, but to say that because a judge may perpetrate, or sometimes perpetrates, an injustice you could get a better judge by going out into the street and picking up a crossing sweeper and say he is untrammelled by prejudice—that is something like the argument that appears to have been put forward here. We have had before us Sir Richard Douglas Powell, Dr. Acland, and one or two other doctors, and you have listened, I am sure, very attentively to their evidence, but I do want to summarize what they have said about the matter. A great deal of what they have said I do not think is questioned. Doing my best to summarize it, it is this: Consumption is in fact due to a particular bacillus, the tubercle, and it arises as a specific form of disease. When a part of the body—I am dealing with the lung for the moment—gets inflamed, the tubercle finds a home and it produces a specific disease; and the medical men who have studied this matter for years have arrived at the conclusion that they know of no drug taken through the blood that will kill it. They say it cannot be compared with other bacilli. There has been a large advance in medical science lately by the aid of the microscope, and the discovery of these different kinds of bacilli—they are not visible to the naked eye; one hears of putting a million of them on a threepenny bit—they are things that can only be discovered by the most powerful instrument, and can only be treated by the most delicate and most careful manipulation—and it is found out now that this disease, which was an ordinary lung disease, is really due to this parasite, the tubercle, and they say that this is an extremely tough and wiry customer —I am using very unscientific language now—other bacilli, they say, can be got rid of more easily, but not so the tubercle; not only is it more lively in itself, but the trouble is that if you get it into the lung, or wherever you get it, it proceeds to destroy the tissue round about, and prevents the blood getting at the tissue, and the result is that doctors say: We do not use the word "cure," but we say we arrest it, and it may be arrested so that the man will live the course of his natural life; in one or two cases the man can cough up the actual stuff and get rid of it once and for all, and the other case is to build up an antibody, do something to the germ by which something can be pushed against the bacillus which reduces it to inertness and kill it in that way. But they say: As regards killing it with drugs, we know of nothing that can do it, because it is so extremely lively that if you put anything into the blood which would kill it you would at the same time kill the patient; and they say that at the present time nothing is known to science, and to the medical men in England who have been studying this matter, that will do it. The plaintiff, on the contrary, says: I have found it; my chemist cannot tell you what the substance is, and they cannot say whether the residuum, which they cannot describe, is inert or active, but still there it is. Dr. Acland said frankly that there are one or two things you can cure. He said that quinine is employed in malaria, but there the bacillus is in the blood, and when the quinine gets into the blood you get at the bacillus direct. And the same with that horrible disease, syphilis. There is apparently some cure now called salvarsan. The germ being in the blood, it is able to be got at and can be partially killed by using a strong arsenical combination and administering it directly into the blood. But, says Dr. Acland, that cannot be done with tubercle bacilli because tubercle bacillus is not floating about in the blood, but attaches itself to the surface of the hand or knee or other part of the body, chiefly the surface tissue of the lung, and when it does attach itself in that way it is difficult to get the blood to it at all, because it corrupts the part around it and prevents the blood from getting to it. That is what they say, and they say that, as far as human medical knowledge goes at present, there is no known drug which can do anything like kill the bacillus by being administered through the stomach. That is what they say with their present knowledge. They do not say these things are impossible; no scientific man says anything is impossible, but in the present state of medical knowledge (say the eminent doctors called on behalf of the defendants) there cannot be such a thing—at any rate, there is no such knowledge at the present day. In other words, if you are going to do it you have to do what to our knowledge is a miracle—that is to say, something incomprehensible. On the other hand the plaintiff says (and I am going to call your attention to his evidence presently): "Oh, yes, I can do it because this is a germicide and will kill it."

That brings me now to the point of Dr. Bulloch's evidence. It seems to me to be extremely important evidence, but the weight of it is entirely for you. The plaintiff says: I can cure this case because I can get at the bacillus, and there is something in my drug, whether the chemist can identify it or not, which will cure it. And he says: the stream of people whom I have brought before you, and whom I have cured, shows that I can get at it, and can get at it by killing the germ. In that way Dr. Bulloch's evidence comes in. Dr. Bulloch, we know, is Professor of Pathology to London University, and has spent many years of his life, as he told us, in experiments of this kind, and Dr. Acland says he is one of the greatest living authorities on tubercle. Dr. Bulloch got some tubercle bacilli, both that taken from the cow or bull and that taken from the man, and he conducted a number of experiments. There were certainly five, if not more. I have notes of five experiments. He says: I put this bacillus into the medicine as it is taken by the patient, 1 in 100; but in order to be sure, I took it undiluted, and with my delicate instrument I actually got this tubercle bacillus of the cow and the tubercle bacillus of the man and plunged it into your germ killer, and there it was for fifteen minutes, for six hours, and for six days, and after that time there was the little beggar alive and kicking. If you believe that you may consider that puts an end to the claim made for this medicine that it is a germicide. The physician tells us there is nothing known to science which can do it. The bacteriologist says: Here is your stuff which you say is a germ killer; you say once it gets through the blood the tubercle is killed; here is the tubercle; I hold it in the stuff one hundred times strong for six days, and I produce a basket full of the stuff I have got and it remains alive. That is a matter which may occur to you to be of extreme importance as showing that it cannot cure in the way of killing the germ. When you take a dose of this stuff into the stomach or lung, or knee, or whatever it is, you cannot get it undiluted, and, says Dr. Bulloch, six days is the longest I looked at it; but here was some of the stuff, partly bovine and partly human, 100 per cent. strong; I left it for six days, and it was still alive. Now how is that met? To meet that Mr. Stevens gives some evidence of his own. He has been into the witness-box. We have not heard from him that he has had any medical training or knowledge. At any rate, until he took up the sale of this medicine all one knows of him, according to his own account, is that being a consumptive, as he says, he went out to South Africa and he was immediately cured in the picturesque way he described. We know that he invented a revolving target; we know that he had a cycle agency; and we know that he has been dealing in these medicines, and for some years now has been selling this particular thing. But he says he got different tubercles and operated upon them himself, examined them himself, and he gave you the results of his experiments—taking two plates and rubbing them together; but he flatly contradicts Dr. Bulloch. He says: I have bred some rabbits, and, although I have not a licence to vivisect at all, I actually performed vivisection upon them. He seems to have been the sole anaesthetist, the sole vivisector, as well as the sole bacteriologist and sole microscopist, and I felt constrained to ask him why was not somebody else there, and he said: It is against the law to conduct vivisectional experiments without a licence, and one is horrified to hear that this man has been doing it, if he has done it. But

as regards the microscopical part of it, he has had at his disposal Mr. Cassal and Mr. Parry, or people of the same kind, who are chemists, but there are other bacteriologists to whom he might have said: Here is the tubercle bacilli, try it in this medicine, and give me the result of your experiment. If he was anxious to meet Dr. Bulloch on his own ground, and, one hesitates to say, fairly to put this to the test, why should he not have got some such report? I mentioned Dr. Bulloch. He put this into guinea-pigs. Dr. Acland says: One experiment on guinea-pigs I do not attach any importance to, and I am not suggesting that you should attach so much importance to the experiment on guinea-pigs as to the variety of experiments that Dr. Bulloch made on seeing the tubercle bacillus plunged into this stuff and leaving it there; but as to the other part of Dr. Bulloch's experiment, when the plaintiff had to deal with it, and if he genuinely desired to put this stuff to the test—here is the bacillus, I plunge it into my medicine and it immediately shrivels up—one would have thought that some scientific men whose position and knowledge would carry respect could have been called to say so. The only test we know of is the test applied by the plaintiff himself, alone by himself, in the way he has described. So much for the scientific aspect of the case.

That, gentlemen, substantially represents the defendants' view as to the efficacy of this medicine. What does the plaintiff say on the other side? Here comes in a strong part of his case. He brought in succession before you patients, twenty-nine in all, and it may appear to you that every one of those patients were not what I may call people who have their teeth out and pretend to like it, but it may occur to you that they were all people who had the most genuine belief that they had been cured by this medicine; and you may say: Here are all these twenty-nine people, they were people who suffered from tubercle in the lung, people who suffered from tuberculous abscess, people who had tubercle in the knee, and people who had it in the glands. A great many of them had had it for years, and they have come here to tell you that they had had it for years. I do not want to undervalue their evidence by not reading it to you, because you will recollect how many days were spent by a procession of people who came up and told us their histories; and I think it is fair on behalf of the plaintiff to say that I do not think the actual history of the symptoms was questioned very much by the defendants; they do not dispute the facts. We had twenty-nine of these people called. I dare say he could have produced 129. One wants to be quite fair to the plaintiff. I do not say for a moment that he should go on calling hundreds and let this case last for a month; but there is this comment to be made, that if he produces twenty-nine or thirty he would produce his best specimens—a man would be a fool who did not; I am not saying it against him at all—a man naturally produces his best specimens. He says: Here is a large body of people; their history shows that they have received genuine benefit from this medicine, and that is a matter you have to consider. On the other hand, the view of the defendants is this: Here is a man, his receipts for some years were £2,000 a year; he is probably doing a very large business in the sale of these bottles of medicine, which cost 5s. each, or £2 12s. 6d. for a three months' course of treatment. There are thousands of people treated, and one knows that some must die; one would naturally expect it. We have had it in evidence that one person who gave evidence at the last trial as being cured has had a relapse and has since died. That evidence is met by the doctors on behalf of the defendants in this way. They say it always is Nature that cures. As regards the abscess, they take the view that the man took the medicine at the same time as the abscess burst, and when the abscess was got rid of there was nothing to prevent the patient getting well. That accounts for a certain number of the cases. As regards pulmonary cases, what they say is this: When these are cured or when development is arrested, it is done by the interference of the force of Nature. If the tubercle is arrested, it is by a sudden bettering of the condition of the patient which forms an antibody, which neutralizes the poison in the disease which is in the lung; and it is said these are coincidences, these are cases where you have had sanatorium treatment, and granted that the patients get very much better after they had the medicine, they say, to use the old Latin motto, "Because it is after this, it is not necessarily in consequence of this." Those cases are met in that way. That is the answer to all those cases. I do not want to belittle the evidence which has been put before you by not reading it to you, but I have read it very carefully, and you will recollect that it relates to a large variety of cases, one in the knee and others in different places. The plaintiff's case is that the proof of the pudding is in the eating, the proof of the efficacy of his medicine is in the results. As against that, the defendants say: Although that is your case, the whole knowledge of science at the present day shows that your claims are untenable, and the number of cases you have dealt with and the number of doctors who have sent certificates in which they have said the patients got better and they afterwards got worse would enable the jury to come to the conclusion that you (Stevens) know perfectly well that when you say it will always cure, that it is a specific and infallible remedy for every kind of consumption, you know you cannot carry out what you promise. That is the case on the defendants' side.

There is another body of evidence that I want to deal with, and that is the evidence with regard to what this stuff is, and incidentally it may throw a good deal of light on the matter as to how far you trust the plaintiff's evidence. Do not think that I am giving you any suggestions. You are obviously the best people to judge of this matter, but one cannot pass over the letters which were suddenly produced by Mr. Colam yesterday, when the plaintiff at the conclusion of his case went into the witness-box. The story he gave was this. He says: I was in the last stages of consumption, and, acting on the advice of my doctor, I went to South Africa. You will recollect the story. He says: I went out there and I went to the market place and met an old Dutchman, and he said: "I know somebody who will cure you," and he took him up country and left him in a sort of improvised tent on poles, and a native came with the stuff and boiled some of the stuff and gave it to him, which made him violently sick three days in succession, but he was permanently cured in three weeks. Then he says: I came back to England at once and went to Dr. Pilley. With regard to the story in Africa it rests entirely on his own evidence; and how far it is accurate is entirely for you to say—whether you believe it or how much of it you believe. He says: I came back and I tried to get people interested in it, and I went to Dr. Pilley. Unfortunately Dr. Pilley cannot be found in any medical directory. All that one knows of the plaintiff, then, is that, according to his own account, he is back again in a little while practising, giving this consumption cure to people as a sort of charity, at the same time carrying on a cycle agency, and according to his own view, it was not until the cycle agency came to grief through an unfortunate fire that he began to start this as a business. Up to that time he said it was rather a hobby, that he got some of it and gave it to people who wanted it, and he was doing it charitably. All that rests on his own evidence entirely. Then he says: I started it as a business and I made £5,000 or £5,000 a year. You heard his evidence as to that, and how out of that £6,000 he gave £5,000 away in charity. That is the evidence he gave, and that again rests entirely on his own word. Why should he give it away in charity? He said he went to the Jewish quarter; "they were starving, and I was compelled from my humane views to give this away"—greatly to his credit, but it all rests on his own evidence. According to him, he was making a large income in the first year, and that is how he disposed of it.

Then he is cross-examined, and it is suggested that all this story about the Dutchman and the pot of umckaloabo and his knowledge of the cure is pure fiction, because it is put to him as a matter of fact: Do not you know a man called Weimann? is not this Weimann's cure? did you not buy it off him? were you not partners? No, he said, nothing to do with it. The course the cross-examination took was something of this sort: Have you ever sold any other medicine? No. Have you ever been interested in any other medicine? No; I have not been interested in any other medicine. And then it appeared that he had been interested in a bubonic plague cure and a rheumatic cure, according to his view. With regard to that, I want to read to you these letters in the year 1903. In November, 1903, Stevens writes to Weimann: "Dear Mr. Weimann, Many thanks for herbs but am very sorry that you didn't send me a few lines also to let me know how you were all keeping. Nevertheless I trust you are keeping well and all enjoying good health and that Joey's arm is by this time quite better. The medicine I have titled 'The South African Microbe Killer,' dispensed by V. Weimann, Herbalist, Maclean Town."—It is said that is obviously the microbe killer, and the name first attached to it is Weimann's name.—"A friend of mine in Cape Town Mr. Baliotra, of Cadenza and Co. Strand Street, is a brother-in-law to the London Consumptive specialist. Three weeks ago he, Mr. Baliotra, sent him a packet of the herbs, from me with the request that he should try it. If this report is good and I have every confidence that it will be, all the consumptive hospitals in England and Europe also are in time sure to try it. Mr. Dunlop will call on you about Xmas or New Year, whether I can get or not, I am a wee bit afraid that I won't be able to, for it will mean at least a week travelling there and back and as have just taken over new premises, am up to my eyes in work. Would dearly love to spend another evening in your rural but delightful homestead. . . ." I do not think there is anything more in that letter. Then there is another letter on July 15th, 1903, from Stevens: "Dear Mr. Weimann,—Please send some more consumptive medicine as soon as possible, as much as you have time to get. I have twenty-three samples to send away to England and Scotland, besides very urgent cases in town here; one sample to a niece of Lord Cromer. Love to all, and please don't disappoint me." It is said that this shows that this is really Weimann's medicine, and that the origin of the whole thing is Weimann. Then here is another letter, on September 28th, 1904: "I have just received your epistle and the 65 lb. of herbs. Am very pleased that you are getting more of them, as we expect a big run on them in a short time. I sent the remaining two halves of notes last evening, so you should get them on Friday, and I shall send the halves of three £5 notes with this and the remainder by the next post. I shall then be in debt to you for"—so much, and he sets out the list, £29 5s. Then he says: "I made a mistake before; you will be in my debt for 3 lb. instead of me in your debt for 1 lb.; or I will consider that I owe you for 3 lb. less than your next parcel contains. Yes; I noticed two days before I left East London what a cold rain you were getting."

Then, gentlemen, this is the letter of September 28th, 1904: "I would like very much if you would send me a few pounds of the leaves by themselves as there are such a number of people here with colds on the chest, and I believe you said that they were much better by themselves for it. I don't believe that

any of the roots or the leaves grow down in this part at all as there doesn't seem to be the proper kind of soil for them. As soon as I can convince the medical profession that this is a cure there is somewhere about a million pounds offered as prize money for the first person that brings a consumptive cure to light which you may depend that I shall claim. I only want half of this Mr. Weimann and I shall see that you get the other half. As soon as this is done both our fortunes are made. Don't speak about it in the meantime; keep it quiet in your district. It may take a few months and it may take a year, but it is sure to come. Hoping you are all quite well, with kindest regards."

Then, gentlemen, this is one of the earlier letters, of April 28th: "This is the first opportunity I have had to write you at my leisure since receiving yours of February 22nd. You say you will not mention the names of the herbs and that you are going to give it up. Well, I am sorry that you mistrust me. I don't know that I have done anything to warrant it. It may give you a good deal of trouble and put you to some expense, but I don't consider that you have gone to more than half the trouble or a quarter the expense that I have. Such things I do not begrudge one bit, but if you are willing to forfeit your outlay I am not. The money I have spent on your medicine I shall get back ten thousand times over if it takes me years to do it." That is one of the passages. Another passage is: "I really think that some outsider has persuaded you not to give me the names and quantities of those herbs." The real date is April. That is the letter I have. Gentlemen, I need not trouble you with these other letters. You recollect the cross-examination. You may or may not come to the conclusion that the origin of this medicine is that this man took up Weimann's medicine. Another letter was read, in which he said that times were very hard, and he could not send the money. If that is so, it seems very odd that there were the £5,000 being distributed in charity then or very shortly after that time. That is the correspondence, and you will bear in mind that correspondence.

The Plaintiff: Would your lordship point out that that was three months later, where the shortness of money was said to be, and after litigation had commenced?

Mr. Justice Shearman: Yes, I said so; it was soon afterwards. Gentlemen, you may recollect with regard to this that one of the issues which may come before you, according to the interpretation which you put upon the letters, is the bona fides of the plaintiff. Possibly as to the criticism it does not matter very much whether he got it from Weimann or from a Kaffir. This is all one has about it, but it is worth noticing at the last trial (we can only deal with what occurred at the last trial which is given in evidence at this trial) nothing was said about Weimann, and an extract from the shorthand notes of the last trial has been read, in which he said a native concocted the drugs for him. He was not asked anything about Weimann and nothing was said about him, but what is now said is this, that if this story about the native who was in a picturesque garment and boiled the stuff which made the plaintiff sick for three days was true, it would have been brought forward as an advertisement, because it would have been the best catchy thing to catch the public by saying, "Here was I dying of consumption and I took it myself." But until it comes into court the thing was not mentioned, and then there is the history given with regard to Weimann showing the plaintiff is inquiring what are the names of the drugs, and saying, "I am going on with it even if you want to stop and there is a million in it." That means they are doing it, and very legitimately, for the purpose of obtaining money, not as philanthropists, and they do not say it is for philanthropy. It may throw some light upon the matter if you come to the conclusion that the account given by the plaintiff is not strictly accurate, because that may help you in arriving at a conclusion as to whether he really believes some of the claims he is making with regard to this. If Weimann merely, as he says, grew this stuff and he knew all about it before, and he had it many years before from the native who boiled it in a pot and gave it to him, it may help you a good deal if that story is true, and it may throw some light on whether he really believed those extraordinary things about the efficacy of this medicine. But if you do not accept that story, and you think the origin of this comes from Weimann, it may throw a considerable light upon this medicine which Weimann and he got together and were trying to work as a patent medicine. You might have the idea that he had less belief in its efficacy if it was somebody else's drug which he took up as a commercial business.

Gentlemen, so much, then, with regard to umckaloabo. I have dealt with the medical evidence, and perhaps I should have dealt with the patients and dealt with one or two of the doctors he called. Several eminent doctors were called on the one side, but the plaintiff himself called some doctors. He called Dr. Grün, and Dr. Grün was obviously a believer for some time in this, and seemed to be a believer in it now, and he said he had used it with efficacy. He said, "I thought it was the best thing I had," but recently he was trying something else. That one has to bear in mind with regard to Dr. Grün. Then one has to bear in mind that if this man says he has hundreds of testimonials from doctors, it is very curious that they have not come up.

The Plaintiff: The defendants have prevented them coming up in many cases.

Mr. Justice Shearman: Gentlemen, that is a remark I am sure you will not pay attention to—to have the notion that a doctor, a professional man, will not come up if he believes this is good for humanity. It is a remark made before and commented upon. I do not mind it being made, because the plaintiff is here in person. You will attach what weight you think fit to the remark—that hundreds of the medical profession are terrified and will not come up. Dr. Sames came up. His view was this, if I recollect it rightly. He says, "I have still belief and hope in it, and I think something can be done with it." Then there was a Dr. Jameson who came up who had ordered it for somebody else, and taken it himself, and it had cured him as a wizard cured. He was his own patient. The only other doctor was Dr. Bennett, about whom I want to say something. Dr. Bennett was a man who came up and said, "I produce this herb," and I was anxious to find out who he was, or what his business was. He said he had practised in Liberia. He produced his commission, and the commission was made out to Mr. W. B. McPhee, and he said McPhee was his clan name. Why he should call himself Bennett when his real name was McPhee I do not know. I do not think he throws very much light upon the matter. It may be true that this drug never came from Liberia at all; he may have deceived the plaintiff as much as he deceived anybody else. It does not seem to me to throw any light on the matter. He was a curious witness. He produced this thing. He said he picked it among some pineapples in June in Liberia, and we are in July, and he brought it over in a Saratoga trunk. He said it had leaves, and I called attention to this fact myself; he said he had pounded up the leaves and used it for colds. I said, "Why did you bring it without leaves?" He said he had the leaves, and he could bring them, but he has disappeared into the *Exigkeit*, and we do not know where he is. He is a man who says he knows umckaloabo, but at present the fact that there is a stuff called umckaloabo rests upon the plaintiff, Captain Bailey, and this witness.

The Plaintiff: My lord, they admit that it does exist. Mr. Colam has admitted umckaloabo does exist in Africa.

Mr. Justice Shearman: I am telling you what the evidence is. All the evidence I know of, whatever Mr. Colam says, is the evidence of the plaintiff, the evidence of this man Bennett McPhee, and the evidence of Captain Bailey. Captain Bailey says he knows the name, but he says he did not notice the thing particularly. He says, "I think the word means cure for a clot of blood." He says it was used as a styptic and antiseptic. An antiseptic means a germ killer. He said, "I know they take it for chest troubles," and he says "I think the words mean cure for clot of blood." He said it was very hard to know the formation of the Kaffir words altogether. I suggested that perhaps it meant it would cure the bleeding, but he said no, he thought it was a clot of blood out of the chest. Then he said, "The sort I am acquainted with is a kind of tuber or bulb." Mr. Colam has made a good deal of comment about the Spanish onion, but I think that has been a bit overdone. Captain Bailey said it was a kind of tuber or onion. He said, "I looked at these things, and they looked very much the sort of thing which the natives used," and he said it was of a reddish colour. Then he says that he is now a journalist and writer, and that he has seen it in the early Eighties in Griqualand West, and that a man grazed his leg, and two other men chewed the stuff up and gave it to him, and it had a remarkable effect; and he said that they gave it when they have coughing. He said that part of it they used as a poultice, and then he said that the Bennett root seemed to him to feel like a young one. He was a little doubtful about it, but he gave his blessing to the root which was produced by Dr. Bennett. That is the evidence that there is a drug known to the natives which the natives use which is called umckaloabo. With regard to Mr. Bennett, if you accept his evidence, he says in one passage of his evidence that he gave it in a thousand cases, and never used it himself. Whether I took him down correctly I am not quite certain, but he eventually said it was the leaf, and then you recollect what happened. I do not know what importance you would attach to Dr. Bennett, but at any rate it is clear now from Mr. Cassal's evidence that the medicine that is supplied is made of this stuff which has been produced here, and evidence has been called that this stuff which is here is stuff which has been shipped in considerable quantities for a good many years to the plaintiff, and I think you will probably assume that that is what he makes the medicine from. It comes from an African herb, and there is evidence that you can identify it with umckaloabo. Whether it is the same umckaloabo, or the same stuff as the native gave to the plaintiff when he was under the tent, or whether it is the stuff that Dr. Bennett indentifies does not matter. There is strong evidence that it is an African herb.

With regard to the medicine I have only this to add in summing up, and then I shall have gone roughly through the evidence in the case. It was first sold in Capetown as "Sacco." Apparently there was trouble in Capetown. It was made into a company. For a long time I was trying to get at how "Sacco" was sold over here, but at last we got what one would suspect, namely, that "Sacco" is on the market as well. Then the plaintiff and those associated with him went to Johannesburg, and according to his account he was the victim of a persecution by the doctors there, but as he opened an Institute of Preventive Medicine, one can understand he got into trouble for practising as a doctor, or, as it is termed, "doing acts which are reserved for doctors." At any rate, he got into trouble. Then it was opened as "Lungsava," and there an alteration was made, and then, gentlemen, there appears on the scene this stuff chijitse, and that appears to have been mixed with it. But what effect is to be attributed to it, or why it is mixed with it, or whether it is mixed with it to distinguish it from "Sacco" I do not know. It is called an improvement, but what effect is

attached to that drug one does not know, because they claim for umckaloabo all the benefits, and it is the umckaloabo which is supposed to be the germ killer, and why it is added, or on whose advice it is added, one does not know. Then it is called "Lungsava." Let me summarize it to the best of my ability. There was a gentleman named Wightman (this is from the admissions of the plaintiff), and he sent "Sacco" to a number of people, and letters were sent, which came to this effect: "Will you try my medicine, and send me a confidential report as to how it goes on?" The result was that a number of people who tried it said that the patients got better, and they sent letters on the condition that they were treated as confidential. They were addressed to Mr. Stevens, although Mr. Wightman got them, because it was in Mr. Stevens's name that it was sent. Then "Lungsava" was brought out, and I think one is entitled to remind you of this. "Lungsava" is brought out, and they are trying to bring it out as a company. It is said that the prospectus was not issued to the public, but privately to friends. Whether there should be a lower code of morality in getting money out of your friends or the public does not matter; but at any rate it is a prospectus under which they are trying to get money. The prospectus contains a number of certificates given by doctors when they were asked to try "Sacco" and report confidentially, and extracts are given and they appear on this prospectus. It is pointed out by Mr. Stevens that if you looked in the prospectus that is explained. The British Medical Association eventually wrote to all these doctors saying "Have you authorized this advertisement of your name for 'Lungsava'?" It is pointed out by Mr. Stevens on this prospectus that these advertisements were given for "Sacco," and so it is, gentlemen, in a sense, like this: Here is the prospectus of "Lungsava" "For private circulation only," the capital is £10,000, divided into 10,000 shares of £1 each. Down at the side it says, "With regard to the virtues which 'Lungsava' possesses, any subscriber may go to the South African Institute of Medicine." These people called themselves the South African Institute of Medicine. Then it says that the list attached are only a few of the British medical epistles received about Mr. Stevens's original discovery, "Sacco." Of course, if you read it you will find these are given to a different medicine, although only different, I daresay, by the addition of the green stuff to the red stuff—but there it is. The British Medical Association wrote to these people, and they all said they were scandalized at the improper use of their names. A good many wrote back. I do not want at this late hour to read you the letters, but here is a bundle if you wish to consider them [exhibiting same]. There are about thirty writing and saying they did not authorize it. But you may take it roughly, so as to put it to the advantage of both sides: roughly it appears that the most of them were extracts from real accounts and reports which have been given, but they had been given under the circumstances which I have told you of. Roughly it proves, on behalf of the plaintiff, that they did write the things which are here, but not the whole of them. Mr. Colam has pointed out that in some of them, although they publish early letters which were favourable, they did not publish later letters which said the patient had died. Mr. Colam said, "Here are a couple of cases which said the patient had just died. Why did you go on advertising those when you knew the patient had died?" The plaintiff said, "I never had those letters." He apparently had the good fortune to have the favourable letters brought home by Wightman, and not the unfavourable letters. That is the history of it. This medicine has been going on, and has been sold for a long time since.

I am not going to trouble you with the letters, because I am sure you have heard them. Just as I passed over in detail the twenty-nine cases that come up one way there were also cases given on behalf of the defendants. They were questions of correspondence. There was the case of the man with silicosis of the lungs where he died after being assured that he had every chance of getting well. That is substantially it—there was a chance of getting well. There was another case where medicine was supplied, and the man died, and the widow sued and got the money back. There was a third case whom this man diagnosed and told him he had got consumption, and a doctor said he had not got anything of the sort. Against those you will set the large number of people who have come up and said "I took this medicine because I had consumption, and I was improved through it." Gentlemen, I think substantially treating it in compartments to the best of my knowledge I have gone through the mass of evidence which has been dealt with.

Let me in leaving this case and these documents to you finally sum this up. Although one has been discussing the history of consumption and the present knowledge of it, and although one has been discussing the effect of this particular drug, yet you have to confine yourselves very closely to what the real issue in this case is, and I come back to where I started. Having regard to all the evidence that has been given, all that is proved with regard to the value of this medicine, the effect it has had on patients, what doctors have said for and against it, to the entire conduct of the plaintiff since he took this medicine up to make a livelihood out of it, and having regard to what has been proved to your satisfaction in that matter, will you now turn to these articles here in this book, and say whether, having regard to what has been proved in this case, you think those articles are or are not a fair comment? That is the one and simple issue which you have to try which is of importance. Now which is it? If you come to the conclusion that the things that have been proved are not true facts so as to be a proper foundation for the comment and attack upon the plaintiff that has been made, then you will find for the plaintiff. If, on the other hand, you find that the facts that have been proved in your judgement afford ground for the comments—that is to say, it is fair criticism and justified by the proved facts, then you will find a verdict for the defendants.

But if you find a verdict for the plaintiff, and if you answer the question by saying that this is libellous and not fair comment, then, and then alone, arises the third question as to damages. The question of damages is purely a matter for the jury, and not a question of comment on the part of the judge. One has always to give some moderate and reasonable sum in such a case. The plaintiff, indeed, here says, "I am not out for damages, but to clear my character." That does not mean that he is not to have any damages, but they are to be kept moderately within limits. In dealing with damages you have to recollect that if you make a violent and unprovoked attack, founded on untrue facts, juries may properly give heavy damages. If, on the other hand, you think the defendants have just exceeded the line and the conduct of the plaintiff has not pleased you, although the defendants have exceeded the line, then the damages may be small. This is a matter which is within your province. That is all I want to say with regard to the degree of damages. This point only arises if you find the matter goes beyond the limit of fair comment. I am sure you will consider this very carefully. This is a responsibility which always rests upon juries who have to try questions of fair comment, because you represent the public; you are taken from the public. You are not laying down a law, but you are laying down a standard which you think right and proper for comment in the circumstances of the particular case. It is for you as members of the jury to fix that standard, and you have to say whether, having regard to the facts, this is within the standard of permissible fair comment by people writing in the public interest, or whether it is outside it. If it is inside it, it means a verdict for the defendants; but if it is outside it, it means a verdict for the plaintiff, with such damages as you may consider proper.

The Plaintiff: Will your lordship explain one more thing to the jury, and that is about the onus being upon the defendants and not myself?

Mr. Justice Shearman: No, I do not propose to add anything more.

The Foreman of the Jury: Would your lordship write down the questions which we have to answer?

Mr. Justice Shearman: Yes, there they are.

(The judge here handed the written questions to the jury, who retired at 4.42 p.m.)

Mr. E. G. Kimber: My lord, in the absence of the jury, would your lordship allow me to explain that I am instructed on behalf of the "Sacco" Company?

Mr. Justice Shearman: I see you were instructed, but I am afraid I cannot hear you. I think your duties are confined to saying you represent the "Sacco" Company.

Mr. E. G. Kimber: I see it appeared in your lordship's summing up what my connexion as between this company and the plaintiff was.

Mr. Justice Shearman: I note your appearance.

Mr. Stevens, having regard to your last remark about the onus, I should like to tell you why I did not pay attention to it. It is because it is wrong. If you look at that passage at the bottom of the page I think the onus is the other way, but I am uncertain about it. (Handing book to the plaintiff.)

(The jury, after an absence of eighteen minutes, returned to the court.)

The Associate: Have you the questions and answers?

The Foreman of the Jury: Yes. (Handing same.)

The Associate: Gentleman, are you all agreed?

The Foreman of the Jury: Yes.

The Associate: Are these the answers to the questions submitted to you?

The Foreman of the Jury: Yes.

Mr. Justice Shearman: To the first question, "Are the words complained of libellous?" the answer is, "No." Then, "Are they fair comment upon matters of public interest?" "Yes."

Mr. Dickens: I ask for judgement with costs and a certificate for a special jury and the costs of the previous hearing.

Mr. Justice Shearman: Yes.

Thank you gentlemen. I am very much obliged to you for your services.

The Plaintiff: May I ask for a stay of execution of costs in view of an appeal, my lord?

Mr. Dickens: Your lordship will put Mr. Stevens under some sort of terms?

Mr. Justice Shearman: It is only costs.

Mr. Dickens: The costs are a very large sum, some £2,000. They ought to be paid.

Mr. Justice Shearman: I give you judgement, Mr. Dickens, and I do not think, as it is only costs, I can grant a stay.

Mr. Dickens: If your lordship pleases.

The Plaintiff: Thank you very much, my lord.

Mr. Dickens: Your lordship grants a certificate for the special jury in each case?

Mr. Justice Shearman: Yes. The costs of the first trial automatically follow the result of the second.

Mr. Dickens: Yes, I suppose they do. I mention it so that Mr. Stevens should understand.

WORKMEN'S COMPENSATION CASES.

Obesity.

THE claim of a man for compensation on the ground that having to lie up after an accident he had grown too fat to follow his employment as a miner (BRITISH MEDICAL JOURNAL, March 14th, 1914, p. 630), came before the House of Lords on July 17th. The Sheriff Substitute had found that the incapacity for work had ceased, but the Court of Session by a majority had remitted the case to the Sheriff Substitute to fix compensation. The House of Lords was unanimous in allowing the appeal from the decision of the Court of Session. Lord Loreburn, who delivered judgement, said that if the House had to act upon the merits of the case, he would draw the conclusion from the evidence which had been drawn by the Court of Session. But the only point raised before the arbiter was whether the incapacity of the man resulted from his injury. The arbiter found that it had not, and the House must confine itself to the question, was the conclusion of the arbiter one to which a reasonable man could come? He thought it was. He found that the incapacity of October, 1913, did not result from the accident of October, 1910, and the arbiter's award must be restored.

INSANITY AND CRIMINAL OFFENCES.

In charging the Grand Jury at the opening of the July Sessions of the Central Criminal Court, the Recorder, in dealing with the case of Sydney Smith, charged with the murder of a newsvendor, pointed out that the accused man, when arrested, threw away some papers. One of these papers stated that he had been improperly detained in a lunatic asylum, and it appeared to him that the best thing he could do to call attention to the matter was to shoot an old man of 70, who would not be very likely to live very long. The case, the Recorder said, afforded a little insight into the ways in which lunatics were dealt with in this country. The accused man had twice been certified as insane. The man had been in an asylum and was discharged as cured, had a further outbreak, and was again sent to an asylum, and again released. He thought that the greatest possible care should be exercised with regard to such persons. At every session of that court he saw the extreme danger of prematurely releasing persons who were under confinement in asylums.

At the trial on July 22nd, before Mr. Justice Darling, Smith was found guilty but insane at the time he committed the act, and was ordered to be detained during the King's pleasure. The jury, in giving their verdict, called attention to the evidence that the prisoner, at the time he committed the crime, was on leave for a month from a private asylum, by permission of the Board of Control. He had some years ago been under treatment in the same institution, but was not dangerous, and was discharged as cured. He then obtained employment, and for twelve years worked so well that he earned a pension. The judge said he could not make any observation about the suggestion of the jury. The case would, no doubt, be reported in the newspapers, and those who had power to alter the law in that respect would see what the view of the jury was.

The Services.

ANNUAL TRAINING OF GLASGOW UNITS.

THREE field ambulances of the Lowland Division, together with the Lowland Mounted Brigade Field Ambulance and the Divisional Clearing Hospital, are encamped at Shewalton, Ayrshire, for their annual training. The total strength of the camp is 768 officers and men and 112 horses, and of this number over 90 per cent. remained for the full fifteen days' period. The usual training in field ambulance work was carried out during the first week, and the units were inspected at work by Colonel D. J. Mackintosh, M.V.O., the Assistant Director of Medical Services; by Colonel Hickson, the Inspector of Medical Services; and by the General Officer Commanding-in-Chief, General Sir J. S. Ewart. On July 22nd the competitions were held in tent-pitching, stretcher drill, riding and driving, first aid, etc., for the Brodie Cup, Glasgow Units' Cup, and other prizes. In the afternoon of the same day sports were held, and these were attended by a large gathering of military and civilian friends. The camp will not finish until August 3rd.

Obituary.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Fasbender, professor of gynaecology at Berlin, aged 71; Dr. J. W. Gleitsmann, for many years professor of laryngology and rhinology at the New York Polyclinic Hospital and Medical School, aged 73; Dr. Luigi Griffini, professor of pathology in the University of Genoa; Dr. Simon Marx, formerly lecturer on obstetrics at the New York Post-graduate Medical School, aged 50; Dr. A. L. Mason, associate professor of medicine at Harvard and senior physician to the Boston City Hospital, aged 72; Dr. Eberhard Nebelthan, extraordinary professor of internal medicine in the University of Halle, and formerly director of the medical policlinic in that town, aged 50; Dr. O. G. Ramsey, professor of obstetrics and gynaecology in the Medical Department of Yale University, aged 44; Dr. G. F. Reinhardt, professor of hygiene in the University of California, and formerly president of the State Board of Medical Examiners of California, aged 45; Dr. Jeremiah Clark Stewart, professor of the principles of surgery in the University of Minnesota, Minneapolis, aged 60; and Dr. George Strawbridge, sometime professor of otology in the University of Pennsylvania, aged 68.

Universities and Colleges.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—*Helen G. Rea, J. J. Brennan, T. C. K. Coleman, T. Cooney, J. Danaher, T. L. Dolan, P. J. Filose, S. A. Gailey, M. J. Griffin, J. A. Hamilton, G. A. Henderson, B. F. Honan, L. M. Leventon, F. L. Macdowell, Norah McCormick, R. G. J. McCullagh, P. J. G. McDonnell, P. J. McGing, M. R. Morris, M. C. Myerson, R. H. Von Nauman, R. H. Newman, M. O'Brien, V. R. O'Connor, J. C. Rowan, J. C. Rutherford, I. N. Ryan, S. T. Wills.

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FINAL.—R. A. Austin, R. M. Alcorn, R. J. Brookes, F. Byrne, W. P. Cooney, T. L. Enright, A. B. Foott, S. H. Good, C. W. Joynt, J. Lanigan, A. Merrin, W. J. J. Mulcahy, C. Murray, J. J. O'Connell, H. V. O'Donoghue, L. S. O'Grady, G. M. C. Powell, M. Shipsey, N. A. K. Sparrow, F. M. D. Taylor, J. J. Walsh.

D.P.H.—*D. M. Barry, R. Cramb, H. R. M. Ferguson, P. E. Harrison, A. F. Kennedy, A. C. Lorena, R. J. May, C. G. Sherlock.

*Passed with honours.

Public Health AND POOR LAW MEDICAL SERVICES.

MEDICAL OFFICERS OF HEALTH AND PRIVATE PATIENTS.

MEDICAL OFFICER.—It is no part of the duty of a medical officer of health to examine a patient suspected to be suffering from an infectious disease. If a medical officer of health who is in private practice sees a patient for this purpose he is entitled to his usual fee.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Blackburn.—The Medical Officer of Health, Dr. J. Coote Hibbert, estimates the population of the county borough of Blackburn at the middle of 1913 at 133,931. The birth-rate was 21.7 per 1,000, and the death-rate standardized for sex and age was 17.1 per 1,000. The infant mortality-rate was 148 per 1,000 births. This last rate was nearly 20 per 1,000 above that of 1912. In one of the wards of the borough the rate was, however, as low as 59 per 1,000, though in one other it was as high as 229, and in two others it was 223. Investigations were made with respect to nearly all the deaths of children under 1 year of age, and it was found that 37 per cent. of the mothers were employed in the cotton industry. In nearly 20 per cent. of the cases investigated the children were nursed out. A pavilion containing 26 beds at the Blackburn Fever Hospital is now used for the treatment of tuberculosis, and during the year 119 patients were admitted. Of this number, 105 were insured persons. The average stay in the hospital of the 91 patients who were discharged during the year was sixty days. In the case of 25 patients discharged no improvement was said to have taken place, and as regards 6 patients the disease was advancing. Eight patients died during the year. The number of cases of phthisis notified during the year was 230, and there were 88 deaths from the disease. The phthisis death-rate was thus only 0.65 per 1,000. Of other forms of tuberculosis 104 cases were notified, and there were 49 deaths. Of the 2,923 children born during 1913, more than one-half were not vaccinated, and of the children born during the last five years exemption certificates were obtained with respect to as many as 6,348. Referring to this large number of exemptions, Dr. Hibbert points out that should small-pox be introduced into the borough there will be a great risk of an extensive outbreak unless the early cases are immediately brought to the notice of the Health Department and their prompt isolation effected.

Medical News.

THE annual meeting, motor-car tour, and luncheon of the Brussels Medical Graduates' Association will be held at the Earl's Court Hotel, Tunbridge Wells, under the presidency of Dr. Fielden Briggs, on Saturday, August 8th, at 1.30 p.m. Members are invited to bring ladies. Tickets, price 5s. (not including wine), may be obtained from the Honorary Secretary, Dr. Arthur Haydon, 29, Broadhurst Gardens, Hampstead, N.W.

A POST-GRADUATE course of clinical medicine will be held in the autumn at the Hôtel-Dieu, Paris. The course, which is under the direction of Professor Gilbert, will be essentially practical; it will extend from Monday, September 28th, to Saturday, October 10th, and will comprise thirty lectures and demonstrations. These will be given by MM. Maurice Villaret, Dumont, Herscher, Bénard, Chabrol, Lippmann, Paul Descomps, Deval, Pierret, Grivot, Guilleminot, Dausset, Jomier, and Durey. Those who attend will have the opportunity of personally examining the patients, handling apparatus, and making preparations in the laboratory, and a certificate will be given at the end of the course. The fee is 100 francs (£4). Application should be made to M. Deval, chef de Laboratoire, Hôtel-Dieu, Paris.

As has already been stated in the JOURNAL, the fourteenth French Congress of Medicine will be held at Brussels on September 30th, October 1st, 2nd, and 3rd. The congress is under the patronage of the King and Queen of the Belgians, and the honorary presidents are MM. Berryer, Minister of the Interior, and Poullet, Minister of Science and Arts, and M. Klobukowski, French Minister at Brussels. The actual president of the congress is Dr. Henrijean, professor in the Medical Faculty at Liége; the vice-president is Dr. Bordet, professor in the Medical Faculty of Brussels. The questions proposed for discussion are cardio-vascular syphilis; vaccinotherapy in general, and in particular vaccinotherapy of cancer and typhoid fever; the therapeutic value of artificial pneumothorax; lipoids in pathology. The general secretary is Professor René Verhoogen, 22, rue Joseph II, Brussels.

IN the annual report for 1913 of the medical officer of health for the Port of London, Dr. Herbert Williams, reference is made to the efforts that have been made by the Port Sanitary Authority, though without avail, to obtain greater powers than already exist for the protection of the country from the introduction of small-pox. In view of the large and increasing number of unvaccinated persons now to be found in this country the Port Sanitary Committee suggested to the Local Government Board that power should be given to Port Sanitary Authorities to visit and inspect all persons on board ships arriving from ports at which small-pox was known or suspected to exist if situated within fourteen days steaming of ports in this country, and that there should be the same powers and penalties as at present exist under Orders of the Local Government Board relating to plague, yellow fever, and cholera. In support of the suggestions of the Port Sanitary Committee, Dr. Williams was able to give various instances in which cases of small-pox had managed to creep into the country owing to a person having become infected at a foreign port and arriving in England within the limit of the incubation period of the disease.

LAST December a gunner belonging to an artillery regiment stationed at Bourges was admitted into the military hospital in that city with symptoms of acute inflammation of the appendix of three days' duration. Dr. Gary operated at once, and M. Bonel, who has reported the case (*Bulletins et mém. de la Soc. Anat. de Paris*, March, 1914, p. 112), states that the peritoneal cavity contained much fluid, "turbid rather than purulent," and with a distinct faecal odour. The vermiform appendix was greatly enlarged and sloughy, and there was a perforation close to its attachment to the caecum. There was no faecal collection or foreign body in its canal. The coils of intestine were washed with ether after Morestin's method—now much employed in France—the abdominal cavity dried by means of compresses, and a drainage tube inserted. The patient did very badly until the fifth day, when a big *Ascaris lumbricoides* in a state of maceration came away through the tube. Convalescence followed, and was only interrupted by pulmonary symptoms on the fifteenth day. According to Guiart, the parasite in this type of appendicitis is the direct cause of the disease—the inoculating agent, in fact. Authorities on intestinal worms seem not quite sure that the perforation is directly caused by the lumbricus. Raillet considers that it irritates a point in the mucosa, and that a perforating ulcer develops.

Letters, Notes, and Answers.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

SEA-WATER asks for advice as to the cause and treatment of the following condition: A man on one occasion paddled with his children in the sea; half an hour later his legs began to swell rapidly, the swelling extending as high as his legs had been immersed and ending abruptly. The swelling diminished slowly, and it was a week before he was able to walk properly. On another occasion he ran on damp sand in his shoes and stockings; presently he noticed the swelling beginning—the swelling on this occasion was not so severe as on the previous occasion. One child has developed the same peculiarity. There is no tendency to oedema under ordinary circumstances.

ANSWERS.

SEA BATHING AND SKIN IRRITATION.

W. M. writes: I would suggest to "F. I. W." to advise his patient to take a fresh-water bath one or more times to which sufficient carbonate of soda has been added to make the water slightly alkaline. I suffer from intolerable itching and desquamation, particularly of the legs, after sea bathing, but have always found the soda bath sufficient to arrest the condition complained of.

LETTERS, NOTES, ETC.

THE MEDICAL DIRECTORY.

MESSRS. J. AND A. CHURCHILL (7, Great Marlborough Street, W.) write: The annual circular of the *Medical Directory* has been posted to every member of the medical profession. Another copy will be forwarded on request, should the first notice have accidentally gone astray. We should be glad if practitioners will kindly co-operate in returning the forms to us promptly, so that the entries may be as accurate as possible. To meet the convenience of purchasers, the *Directory* will be on sale this year early in the month of December.

A CLINICAL TEST FOR THE ESTIMATION OF GLUCOSE.

DR. J. BARKER SMITH, L.R.C.P., writes: I am sorry that Dr. G. C. Parnell (BRITISH MEDICAL JOURNAL, July 4th, p. 12) has taken so much trouble to investigate glucose in urine by coloured glasses after caramelization by liquor potassae. Because a full complement of gradations of yellowish-brown colour, fifty gradations between water and sherry colour, was published in *The Hospital Gazette* so long ago as December 10th, 1892, in serial articles in which the estimation of the caramelization was made by colour, also by oxidization. If Dr. G. C. Parnell will run a weak solution of acid permanganate into a weak solution of potassium iodide, he will find that he can strike the yellowish-brown tint of caramelized glucose, maltose, lactose, etc., almost with the same facility as a chord in music. For some years past I have found it convenient to use a few discs of coloured glass, but here, again, I get my gradations quite easily, and these are also *en rapport* with the chemical gradations. As regards the term, "thoroughly boiled," using a weaker solution of potash and boiling exactly one minute, I found the time of boiling made a considerable difference. It may be that he has solved the bullet-like discharge of the tube contents when equal volumes of liquor potassae and urine are used, by a careful selection of size of test tube; it was this difficulty which made me use a weaker potash solution. I am quite sure that Dr. Parnell would not have made this departure had he known the extent of the work already done and published during the last twenty years in various medical and technical papers.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

The Popular Lecture

DELIVERED AT THE

EIGHTY-SECOND ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION

BY

J. ARTHUR THOMSON, M.A., LL.D.,

REGIUS PROFESSOR OF NATURAL HISTORY, UNIVERSITY OF ABERDEEN.

VIS MEDICATRIX NATURAE.

Allow me first to thank the Council of the British Medical Association for inviting me—a zoologist—to give what is at any rate called the Popular Lecture. This is not so irrelevant as it seems, for the links between zoology and medicine are many and ancient. There was a time, indeed, when the physician bore without reproach the name of a small animal which he carried about with him in a tube in his pocket—to wit, the leech—the only animal that has given its name to a profession; but the links are even closer to-day. Thus, such creatures as the trypanosomes of sleeping sickness and the plasmodia of malaria are certainly zoological property, and every medical man knows the importance of the fly on the wheel of the chariot of civilization. I propose to lecture for about half an hour, and then in the dimmer light to show some interesting slides.

It is said of one of the most brilliant men of science of to-day that the only use of the title that he gives to a lecture is to indicate what subject he is certain not to speak about; and to some extent this reproach applies to my title—the Healing Power of Nature, *Vis Medicatrix Naturae*. The subject is so large that I must leave many sides of it untouched, and other sides of it hardly touched at all.

Thus, the title might well enough apply to the healing virtues that there are in many natural substances, in the interesting old simples that simple peoples (and people) still use.

But I must not be drawn aside by this attractive theme, save to remark that we should not scoff *too* loudly at the old prescriptions. Have we not lately rediscovered that more than one snake carries in its gall bladder a sure antidote to its own venom? Is not the old advice that the coward should eat of the lion's heart, so that he might be brave, echoed in the modern treatment of a cretin with the thyroid extract of a sheep? Is it not like a leaf out of an old book to read that a clever use of pituitary extract enabled a successful examinee the other day to add in a short time to his height the few inches that were required in order to secure a post for which he had proved himself otherwise eligible? It looks as if by taking sufficient thought we could add a cubit to our stature.

The title, the healing power of Nature, might also refer to the extraordinary capacity that many living creatures have of healing their wounds and regrowing lost parts. One of the Big Trees or Sequoias, which was a seedling in 271 B.C., suffered a burn 3 ft. wide when it was 516 years old, and spent 105 years in folding its living tissues over the wound. When it was killed, at the age of 2,171 years, it was engaged in healing a third great wound 18 ft. wide and about 30 ft. high. A sponge can be cut up and planted out like a potato; it may be minced and pressed through a sieve without losing its power of regrowth. An earthworm thinks nothing of regrowing a new head or a new tail; and a snail has been known to regenerate its horn and the eye at the tip of it even unto forty times. The curtailed lizard grows a new tail, and a stork can replace the greater part of its bill. For various reasons there is not much regenerative capacity in man; we can regrow our hair—often a million cells in a day—but we cannot regrow a tooth or a single nerve cell. Yet I must not be drawn aside by this attractive theme, further than to remark that one of the most interesting facts in regard to the regenerative capacity—Nature's power of healing—is its adaptive distribution. It tends to occur in those animals and in those parts of animals which, in the natural conditions of their life, are particularly liable to non-fatal injury. Long-legged and lanky animals like crabs and star-fishes usually show much of it; a self-contained globular animal like a sea-urchin shows little. The chameleon is one of the few lizards which cannot regrow its tail, for it keeps it safely coiled around the branch. Another very interesting fact is that what is regrown is not always quite true to pattern—the crab does not always get an eye for an eye, but it may be an antenna for an eye. The lizard does not always regrow its own tail, but its grandfather's, so to speak. There is a great secret here, but this is not the time to probe it.

Another very interesting aspect of the healing power of Nature is the way in which organisms defend themselves from injurious intruders, or parasites, or poisons. Every one knows of the garrison of amœboid cells which defend us so effectively; of the antitoxins by which the living cells checkmate toxins; of the way in which the liver is always trapping poisons. It would be very interesting to discuss for a little the immunity which some animals, like the hedgehog and the garden dormouse, enjoy in respect of snake poison, for here the healing power of Nature is seen in very fine prophylactic expression. But I must not be drawn away from my theme.

The title, *Vis Medicatrix Naturae*, might also well enough apply to the part Nature plays in hygiene—a most alluring subject: how the sunlight is the most universal, economical, and effective destroyer of many disease germs; how various bacteria and infusorians make a clean thing out of an unclean; how the earthworms keep the soil sweet; how there is over the world—on land and sea—a body of scavengers of all sorts and sizes who clean up while we sleep, and how many external parasites which we call repulsive are doing their best to keep things tidy and in their places. But I must not be drawn aside by this attractive theme, beyond remarking that there is much truth in the old saying, *Medicina curat, Natura sanat*—Medicine cures, Nature keeps well.

The title, the healing power of Nature, might also refer to the fundamental healthfulness of wild Nature. There is no Medical Association among animals. Pathological variations are pruned off before they have time to catch on. Disease is inconsistent with natural selection; it is almost unknown in wild life. Parasites are common, but most of them do little harm until some change of distribution brings them into new hosts. Then there may be a brief and fierce epidemic. Of course, domesticated animals and cultivated plants have many diseases, but we are speaking of wild Nature. Disease is relatively rare and always transient, and while there may be senescence, there is no senility. Man and his dependants have a monopoly of that. This is an idea of profound importance, but I must not be drawn away from my theme.

What, then, do I mean to-night by the healing power of Nature? I mean to refer to the way in which Nature ministers to our minds, all more or less diseased by the rush and racket of civilization, and helps to steady and enrich our lives.

1. My first point is that there are deeply-rooted, old-established, far-reaching relations between Man and Nature, which we cannot ignore without loss. Man was cradled and brought up in touch with Nature, and he must ever return to her, like the wandering birds whose life is never full till, moved by an organic home-sickness, they come back to nest in the old home where they were born. Like Antaeus of old, who lost his strength when lifted up, man becomes weak when he is kept off the earth—whether by poverty or by riches—but gains fresh force when he gets his feet on the solid ground of Nature once more. "On the solid ground of Nature trusts the mind which builds for aye." In a period of evolution which has been mainly urban we miss our contact with Nature; most of all, perhaps, in youth, for it remains true of the child who goes forth every day, that what he sees becomes part of him for a day or for a year, or for stretching cycles of years. It is, I submit, a condition of sanity to know the country and the seasons, the hills and the sunrise, the birds and the flowers; to know—not merely to read about—the sting of the wind-driven snow and the changeful music of the sea. . . . There would be less "psychopathology of everyday life" if we kept up our acquaintance with the bonnie briar bush and the cry of the whaup on the moorland.

> To make this earth, our hermitage,
> A cheerful and a pleasant page
> God's bright and intricate device
> Of days and seasons doth suffice.

2. We need to keep in touch with Nature in order to

get the fundamental impressions of power, of largeness, of pervading order, of universal flux, of intricacy. We need it to keep alive in us that light of life which we call the sense of wonder. We have put ourselves beyond a very potent *vis medicatrix* if we cease to be able to wonder at the grandeur of the star-strewn sky, the mystery of the mountains, the sea eternally new, the way of the eagle in the air, the meanest flower that blows, the look in a dog's eyes. Of course, there are wonders and wonders, changing with the age of the individual and with the age of the race. As Keats lamented, the rainbow has never been quite the same since Newton looked at it with his discerning eye, and the sunbeam that steals through the gap in the shutters and dances on the floor and walls and roof of our room is not such a wonder to us now as it was some fifty years ago. But new wonders have taken the place of the sunbeams of our childhood, and so let it ever be. Science is always pushing the curtain back a bit, but if the half-wonders go, the wonder remains—the fundamental mysteriousness of Nature. You remember what Coleridge said: "All knowledge begins and ends with wonder; but the first wonder is the child of ignorance, while the second wonder is the parent of adoration." Some one said to me the other day that he could not understand a man really seeing the life of an anthill and remaining irreligious. "The undevout astronomer is mad." It is a high ambition to seek to be able to say:

> It is enough if through Thy grace
> I've found naught common on Thy earth:
> Take not that vision from my ken.

3. The healing power of Nature is manifested thirdly in the beauty that is everywhere. There is no place where this voice is not heard, unless man has obtruded noisily. Excepting prize pigs—though I am assured by enthusiasts that even they have their aesthetic points—and other living creatures which bear the marks of man's fingers—all finished organisms are artistic harmonies, pleasing to the unprejudiced eye, especially when seen in their natural setting. A hippopotamus at the Zoo may not be what you would call pretty, but see him in the Nile as Job saw him—Great Behemoth!—with his ruddy hide, in the shade of the lotuses, in the covert of the reeds and fens. "His strength is in his loins and his force in the sinews of his belly, the muscles of his thighs are knit together, his bones are pipes of brass, his limbs are like bars of iron. He is the chief of the ways of God."

There is no doubt as to the healing virtue of beauty. Even the bower bird feels it in its display of bright shells and flowers. Why beauty has this power is a difficult question with a complex answer. The renowned physiologist, Sir John Burdon-Sanderson, expressed his belief that most of the beautiful things in the animate world please us in part because of their fitness or adaptiveness. Some beautiful objects please us because of their associations, often established in early years; others awaken prehistoric memories, as in the repulsion that many good people have for snakes. Others, like the swallow flying south, to warmer lands and coasts that keep the sun, set our imagination working pleasantly. These are some of the reasons for our enjoyment of the beautiful. But there is another, and a very interesting reason, which I may illustrate with reference to colour.

The sensation of colour is physiologically associated with chemical changes in our eyes. Natural combinations of colour induce changes that are pleasant, being eurhythmic, partly because we are not unprepared for them, but more deeply because the colours of living creatures are themselves expressions of normal vital processes, of consistent and congruent processes, which result in the deposition of pigment. The colour may be enhanced by or may be altogether due to structural features—fine lines and bars and rings—which may be accurately described as the ripple marks of rhythmic growth, which please us just like the regular recurrence of certain phrases in music. Muddy colour—such as man often makes—is a discord; it is almost physically painful; it demands what we may call "the impossible" from our eyes. But there is no muddy colour in wild Nature.

In any case Nature spreads before us a rich and ever-changing beauty feast, and, as Dr. Chalmers Mitchell has well said: "Pleasure in her ways, rather than a cold comprehension of them, is Nature's surest gift to us."

4. Another healing virtue in Nature is to be found in its perennial interest. It claims our attention; it arouses the curious spirit. It leads us on and on like the tales of the thousand and one nights. It stretches our brains, so full is it of unsolved problems; but not insoluble, for Nature always gives some reward. We have spoken of the harvest of a quiet eye, but the discoverer has a keener joy, whether in finding an unrecorded flower or bird in a parish, or seeing a new star in the heavens, in reading the riddle of gossamer or discovering radio-activity, in disclosing the new world of the deep sea, as the *Challenger* explorers did, or an even newer and larger world, as Charles Darwin did on the famous Columbus voyage of the *Beagle*.

5. There is healing, too, for our unrest in the progressive disclosure of the orderliness of Nature. Ours is no phantasmagoria of a world, but a Systema Naturae. Wherever you tap organic Nature, Romanes said, it seems to flow with purpose. More and more we can formulate events; often we can predict them; sometimes we can control them. We are parts of a reasonable world, which voices reason and listens to reason. On the tomb of Fraunhofer, one of the founders of spectroscopy, by which we discover the composition of the heavenly bodies, there are inscribed the words "Approximavit Sidera." He brought the stars near. And that is what science is ever doing. When we think of the way in which man, minister and interpreter of Nature, has annihilated distance, has made the ether carry his messages, has coined wealth out of the thin air, has harnessed electricity to his chariot, has almost solved the problem of flight, and is advancing to the control of life itself, we are sure of his rationality, and of Nature's as well. We come back invigorated to the old Aristotelian doctrine that there is nothing in the end which was not also in kind in the beginning. In the beginning, therefore, was the Logos, implicit in the nebula, as now in the dewdrop. It slept through the evolution of plants and coral-like animals, but with dream-smiles which are a joy for ever. It found more expression in the structure and behaviour of the freely moving animals, and became explicit at last in the reasoned discourse of man. But it was present as part of reality throughout the whole process of becoming.

6. But Nature speaks to our moral as well as to our intellectual ear. It was an incomplete survey of the facts which led Huxley to see in organic Nature only a vast gladiatorial show, a dismal cockpit, a war from which there is no discharge, and to maintain that Nature has no word for man save "Struggle on, each for himself, extinction take the hindmost"—a thesis obviously congruent with a competitive industrial age. That Nature thus speaks no one can doubt, for we can observe the singling and sifting that goes on continually, but we are apt to turn away before Nature has finished speaking. She has certainly another counsel to offer besides that of whetting teeth and sharpening claws.

Professor MacGillivray of this university once counted the feathers in the nest of the long-tailed tit, and found 2,379. This is a diagram illustrative of the fact that the limitations and difficulties which enforce struggle and competition may sometimes be transcended and overcome by increasing parental care and mutual aid. In many races of animals success has been the reward of subordinating individual interests to those of the species. When we look into the facts we find that an extraordinarily large part of the energy of life is spent not on self, but for others.

It seems that Nature is continually taking advantage of her children's capacity for self-forgetfulness. Thus, along the mysterious line of instinctive evolution, many insect-mothers spend themselves in producing the next generation and providing them with a substantial nutritive legacy; it is their meat and drink to do this, and often they have not even the reward of getting a glimpse of their offspring. This is one of Nature's ethical diagrams. Nature stamps not only the beautiful but the good with her approval; and when we carefully consider the process of natural selection, Nature's sifting in the struggle for existence, do we not get from it a deep and ancient ethical message—that the individual must be content to subordinate himself to the species, even to lose himself in its progressive life?

7. I admit that Nature's music does not cease on a merry chord, but I think it has a healing power.

It is not a small thing, forsooth, that we are part and parcel of an order of Nature which has evolved for millions of years like a long drawn out drama to finer and finer issues; that the process of evolution has the unity of an onward advancing melody; that all through the ages life has been slowly creeping—and occasionally quickly leaping—upwards; that while there have been many mysterious losses of even branches from the great arbor vitae, the flowers have become finer. There was a time when there were no backboned animals; then fishes appeared, then amphibians, then reptiles, then birds and mammals, and then man—every age going one better than its predecessor.

Is it not full of meaning that in the course of the ages there has been a progressive evolution of the nervous system, an increasing elaboration of behaviour, and a gradual emancipation of the psyche? The bird is more of an agent than the worm—more of a free agent; and the world has greater value to the bird than to the worm. Some simple creatures have only one reaction to all stimuli—one answer to every question; but how complex is the life of the ant on the instinctive line of evolution and of the dog on the intelligent line! Since the beginning of life there has been a growing appreciation and mastery of the world. Is it going to stop?

With increasing familiarity we are apt not to wonder enough at the great process of world-becoming. Finer actors have appeared on the crowded stage, and the situations have become more and more intricate. Just as corpuscles probably became what we formulate as atoms, and atoms molecules, and molecules colloids, and colloids protoplasm, and protoplasm organisms—keeping for the moment to one side of the shield—so organisms have gone on increasing in complexity, and they are at it yet. A great web has been ever passing from the loom of time—hunger and love are its warp and woof—but the pattern has become more and more intricate, and it sometimes seems as though it were picturing to us a story.

Again, we are familiar with the idea of the past living on in the present, like the unsounded letters in words, like unopening button-holes and unusable buttons on our clothes, like offices whose holders have no responsibility save that of drawing their salaries. So the baleen whale's past lingers in the two sets of useless teeth which it has before it is born. The dog's history is echoing when it turns round and round at night on the imaginary herbage of the hearthrug, and the bird's reptilian ancestry is betrayed when the puffin moults its bill or the grouse its claws. We, too, are walking museums of relics—antiquarians in spite of ourselves. Some of the antiques, like the appendix vermiformis, are troublesome anachronisms; others, like the notochord, serve a purpose in development, and then pass practically away; while others, like the ear-ossicles, are transformed almost beyond recognition into new and important structures.

But must we not go much further and recognize what no one perhaps has fully appreciated, that there is a principle of conservation in Evolution. In a very literal sense, the higher animals are heirs of the ages.

Organisms have evolved by a trial and error method; they experiment organically, instinctively, and intelligently; above all, perhaps, in the mysterious ante-natal life of the germ cells they experiment in self-expression—just as water vapour does in snowflakes, but far more subtly. What are called variations and mutations in biological language are the organism's experiments in self-expression, and these are the raw materials of progress.

The organism proves all things, but the other side is that it holds fast that which is good. Great gains once made are not held lightly. Species become extinct and races perish, but important organic inventions are carried on by some collateral lineage. It was probably some ribbon worm that first manufactured haemoglobin—the all-important red pigment of the blood. Many backboneless animals of higher degree on different lines of evolution have not got it, but the invention was too good to lose; and everyone knows that it was retained on collateral lines, and that all backboned animals from fishes onwards have red blood. Or again, the most primitive and in a way most puzzling kind of locomotion is that of the amoeba gliding in the pond. Is it not a most suggestive fact that our health from day to day and the development of our nervous system are absolutely dependent on this self-same amoeboid movement?

For millions and millions of years there was throughout Nature no voice of life at all—nothing to break the silence but the thunder and the cataract, the waves on the shore and the wind among the trees. The morning stars sang together and the little hills clapped their hands, but there was no voice of life at all. The long-lasting silence was first broken by insects, but they never got beyond instrumental music. It is to the amphibians in the Carboniferous Age that we must look back with special gratefulness, for they were the first to get vocal cords, and, interestingly enough, a moveable tongue. With them animate Nature found a voice.

Now, in a much deeper sense, we may perhaps say that for millions and millions of years Nature was speechless—never more than groaning and whispering as it were. It was in Man first that Logos began to be articulate. In science and art and their applications, such as medicine, we hear it clearly. Shall we not say, then, with Whitman, "Prais'd be the fathomless Universe, for life and joy, and for objects and knowledge curious."

I conclude my brief study of some aspects of the *vis medicatrix Naturae* by quoting a few aphorisms from Goethe's well-known rhapsody on Nature.

We live in her midst and know her not. She is incessantly speaking to us, but betrays not her secret.

She rejoices in illusion. Whoso destroys it in himself and others, him she punishes with the sternest tyranny. Whoso follows her in faith, him she takes as a child to her bosom.

She wraps man in darkness, and makes him forever long for light. She creates him dependent upon the earth, dull and heavy; and yet is always shaking him until he attempts to soar above it.

I praise her and all her works.

She has brought me here and will also lead me away. I trust her. She may scold me but she will not hate her work. It was not I spoke of her. No! what is false and what is true, she has spoken it all. The fault, the merit, is all hers.

Everyone sees her in his own fashion. She hides under a thousand names and phrases, and is always the same.

I praise her and all her works. She is silent and wise; I trust her.

In a paper published recently in the *Chemist and Druggist* Mr. C. A. Hill, B.Sc., F.I.C., has given in tabular form the results of the examination for purity of some thousands of samples of pharmaceutical chemicals: the tests were carried out in the laboratories of the British Drug Houses, Limited. The samples were examined during the four years 1910 to 1913; the most important of the impurities tested for were lead and arsenic, but a table is given of miscellaneous impurities, such as mineral matter in citric and tartaric acids, chloride in potassium bromide and iodide, acidity in sublimed sulphur, etc. The limits which have been adopted for the permissible amounts of lead and arsenic are in most cases those recommended by the Committee of Reference in Pharmacy for adoption in the *British Pharmacopoeia*, but the author favours less stringency in regard to the amount of lead permissible in citric and tartaric acids and cream of tartar. The standard recommended by the Local Government Board is a maximum of 20 parts of lead per million in all three substances; the Committee advised a maximum of 5 parts for citric acid and cream of tartar, and 20 parts for tartaric acid; Mr. Hill states that the results he presents show that it has been possible to obtain sufficient supplies of materials conforming to these more stringent requirements, but in view of the considered statements of prominent manufacturers that the removal of traces of lead so as to conform to a more severe standard than 20 parts per million is a matter of sufficient difficulty to affect the cost of production, and to an extent disproportionate to the benefit involved, he appears to incline to the official adoption of the Local Government Board standard. Presumably, the samples described in Mr. Hill's tables represent all those offered by makers to a pharmaceutical wholesale house, and it is satisfactory to notice that in a very large number of cases the percentage of the samples conforming to the requirements was 100, and that only in few cases did it fall very materially below this.

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICAL SOCIOLOGY.

JOHN GORDON, M.D., C.M., President.

PRESIDENT'S INTRODUCTORY REMARKS.

I THINK that I might claim with justice that the medical profession has been and always must be an important force in the development of the State. To the profession falls the duty of safeguarding the health and energies of individual citizens, and to the citizens fall the many duties which the State demands.

The main objects of our profession have been to prevent disease or to cure it, and although in the darker ages much of the medical work was empirical and feeble, still the efforts that were made were honestly conceived and boldly carried out.

Side by side with the great ideals and glory of the profession there has grown that deep love of humanity, that personal feeling for human woes and happinesses that has rendered the name of "family doctor" one with the name of "family friend." The child patients that have become healthy men and women, and good citizens, have been a pride to the physician, and to him the parents turned for the word of participation in praise or blame, or for guidance. It has ever been the struggle of the physician to weed out of the daily lives of the people whatever makes for disease, and to guide them into what strengthens, what helps resistance, what makes for moral and physical well-being, and the full measure of capacity.

The physician of to-day and the physician of a century ago differ little in individual outlook—that is, in the attitude of the professional man to the individual patient. The great difference lies in the collectivist outlook of the present-day physician, who, while no less a humanitarian than his predecessors, realizes more keenly the economic value of health to the State, and surveys his practice and keeps note of the chain of cause and effect with a view to the larger issues in the hands of the State and county and municipal authorities. The earliest official connexion between the State and the medical profession came with the introduction of the Poor Law in 1842. It was evident from the investigations of specially appointed Commissioners that disease was most prevalent among the poor. The Commissioners reported that all epidemics and all infectious diseases were attended by charges immediate and ultimate on the rates, and they said that it was a "good economy to incur charges for preventing the evils where they are traceable to physical causes." On the introduction of the Poor Law system, it soon became apparent that many of the epidemic diseases originated where men, women, and children lived in poverty, degradation, and vice of all kinds. These areas were hot-beds, where the manure was unwholesome food, dirt, dejecta, and the neglect of the simplest sanitary laws.

It was not possible for these poor people, who were devoid of knowledge, of money, even of energy, to help themselves out of this estate of misery and disease. Nor was it sufficient that the work of redemption should be undertaken by private voluntary workers. Slowly it became clear that the work had to be done by organized State efforts. In increasing degree State control has come to be exerted in almost every department which has any connexion with public health, and simultaneously the medical profession has been called to assist more and more in the prevention, amelioration, and cure of disease.

The attention of the profession has been directed towards the study of illness as a social sore, able to be combated at its origin or even removed, and this same attitude of close observation is widely diffused among the general public. Remedial measures now embrace not only the appeal to "medicines," but also the appeal to local authorities to improve the housing of the people and train young people in habits of cleanliness and purity of life. The trend of social work no less than the work of the medical profession has been towards careful scientific study and treatment, and the formulating of preventive measures.

We cannot overestimate the beneficial results which have streamed from the works of Pasteur, who in 1858 solved the problem of infection. His works early began to penetrate the minds of all those who were devoting themselves to the health of the community.

The fact that numerous diseases sprang from living vegetable organisms was shown by Lister and Koch, while speedily other observers descried that living animal organisms produced other groups of diseases. It followed that if both these vegetable and animal organisms could be eliminated, or their dire effects neutralized, the corresponding diseases would be removed, or at least diminished in their severity.

In the administrating of public health the important advances were made by the creation of a new central authority—the Local Government Board—and the appointment of medical officers of health throughout the country, to render skilled assistance in the detection of areas of disease and the removal of causes, and generally help in the initiation and development of agencies to secure the health of the people. The State also turned its attention to the protection of childhood and youth, and has never ceased its efforts to devise suitable and effective legislation with this end in view.

I need only recall one or two of the various Acts that have come into operation for the betterment and preservation of the health of the people, such as the Nuisances Removal and Diseases Prevention Act, the Mines Act, the Factory Acts, the Food and Drugs Act, the Regulation of Child Labour, Water Supply, the Public Health Acts, the Sanitary Act, the School Board Act, the Medical Inspection of School Children, the Mental Deficiency and Lunacy Act. To each of these there has been linked the scientific knowledge of the medical profession. The pivot on which the successful working of these Acts turns is the conscientious care and the applied skill of physicians and surgeons.

Possibly the crowning effort which Parliament has yet made is the passing of the National Insurance Act in 1911. It has for its fundamental principles the bringing of financial assistance to employed manual workers when they from sickness are unable to continue their work, and the giving of medical aid and drugs and appliances when they are ill.

Sixteen millions of employed people have by this Act been placed under medical care, and possibly in a short time an even greater number of wives and children will be added. The relation between the medical profession and the State has thus been knit more intimately than ever before.

The Act also includes valuable provisions for research work by skilled medical investigators, and this must in due time have a powerful influence in the prevention of many diseases, as well as in the methods of treatment.

Last year the Government appointed a Royal Commission to carry out an investigation into the extent and prevalence of venereal diseases in the country, and one result of this commission is to be the establishment of a special council to deal with the subject along preventive and remedial lines.

Following the introduction of Wassermann's test for syphilis there has been opened a new light on many forms of disease which formerly were obscure in their origin. Especially is this true in neurology. And so widespread is syphilis and so subtle in its effects of wastage of strength and life that it calls for urgent and firm control. It cripples and decimates our population to an extent that was not formerly appreciated. It may be expected that whatever schemes are evolved as a result of this investigation, the medical profession will respond to the call made by the State for active and careful co-operation in the treatment of this scourge on its physical side, while the moral aspects will fall to be dealt with by social workers and educationists.

One of the most promising features of recent legislation in our own and many other countries is the fact that the medical expert has been incorporated into the educational system. By the skilled vigilance and wise guidance of

the medical inspectors of school children, many ailments ought to be detected in initial stages, and lives and capacities of great value preserved to the nation.

The general practitioner is in a position to contribute much of value to the constructive work of reform in social conditions and the treatment of disease. His daily routine brings constantly under his observation the influence of individual tendencies and particular environments as factors in the history of human ailments. Within the last twenty years a vast amount of detailed knowledge has been accumulating among medical men with regard to temperamental and sociological considerations, while scientific research is forging onward and conveying one truth and another as deciphered in the laboratory into the domain of recognized fact. At the same time there is scattered through the length and breadth of the land our trained body of general practitioners, familiar with the living daily truths of existence in the homes where ailments develop and are tended, and this same body is well fitted to link together the learning of the university and laboratory with the administrative departments of the State, the burgh or county councils, insurance committees, sanitary offices, dispensaries, and sanatoriums. The alert, awakened minds of the doctors can do much for the nation, and there is not one among us who would not say "I will."

It is on the practical experience and everyday knowledge of medical officers of health and practitioners that social reform and new legislation dealing with health must, in the main, be based. The day was when each general practitioner valued his experience mainly as a personal asset in his diagnosis and treatment of patients. Now the practitioner values it quite as much from the point of view of any help it may be to the profession at large, and to the nation, and rejoices to know that the observations and statistics in one locality and another will be compared, and general results obtained that will serve to guide all who are working in various ways for the raising of the standards of public health, morality, and national efficiency.

The recognition of medical sociology as a special department of the great subject of medicine is in itself evidence of a sincere altruistic spirit in the profession. When the British Medical Association some years ago instituted this department it to all intents and purposes publicly allied itself with the country's social administration and the demand for better conditions of housing and living among the people, for a healthier and purer tone of life in all social ranks.

This Section of Medical Sociology is designed to afford opportunity for the discussion of any special knowledge acquired in medical practice or by research which would be calculated to assist in the solution of problems of public importance. This year our programme includes the consideration of medical service under the Insurance Act, the responsibility of the State as regards venereal disease, and the duty of the State towards the early environment of the child, all of which will be dealt with from the two-fold aspect of medical experience and administrative considerations.

DISCUSSION ON THE RESPONSIBILITY OF THE STATE IN CONNEXION WITH VENEREAL DISEASE.

OPENING PAPERS.

I.—A. K. Chalmers, M.D.,

M.O.H. City of Glasgow and Glasgow Port Local Authority.

In introducing the subject Dr. Chalmers explained that he was unacquainted with the view which Dr. Robertson, who was originally to have done so, would have taken. He thought, however, no better form of introduction could be found than in that part of the President's remarks in which he had made reference to the responsibility of the State for the welfare of the individual. For, after all, the function of preventive medicine and medical science generally was to relieve the individual from such inefficiency as resulted from disease and environment.

Public attention had been directed to venereal disease as a cause of physical deterioration, and one of the first questions was to ascertain its prevalence. He doubted whether any one was in a position to say definitely what amount of venereal disease existed in this country at the present time. Death returns did not help us, in a direct way at least, and applying the ratio of positive reactions obtained from selected populations to the whole population was, in his opinion, quite misleading. In an indirect manner, however, death returns did afford some kind of indication. For example, in 400 deaths of infants occurring in ten years frankly attributed to syphilis he found that no fewer than 67 per cent. occurred in the first three months of post-natal life, 21 per cent. in the second three months, and only 12 per cent. between the sixth and twelfth month. This preponderance of the cases in the first quarter was, of course, in keeping with what had long been recognized regarding the association of miscarriages with syphilis. Some information, again, was thrown on the question of prevalence by inquiry into the frequency of stillbirths and miscarriages, and again one found a gradation between both and the infantile death-rate of a district, which again was related to its sanitary condition, and was highest in the poorer districts. The significant thing was that syphilis as a frankly stated cause of death seemed also to have a similar grading; but although this might be taken as indicating a higher proportion of congenital syphilis in such districts, he thought some part of the difference lay in the more efficient treatment which was sought in the districts better able to pay for it.

It seemed to him desirable that all the efforts that were being taken to ascertain the prevalence of the disease should endeavour to distinguish between acquired and congenital syphilis. During the past winter Dr. Elliot, one of the resident physicians at Ruchill Hospital, Glasgow, had endeavoured to ascertain the proportion of children responding to the Wassermann test among those who were admitted for scarlet fever and measles. The object of this inquiry originally was to ascertain whether the anaemias which are so common in children from poorer districts were related to syphilis. The result in that direction was negative, but the proportion reacting to the Wassermann test was about 8 per cent., and might be compared with 3 per cent. which represented the proportion of infants displaying clinical evidence of the disease in over 4,000 brought to the infant consultations. Again, there was a contrast between both of these figures and the rates presented in over 700 samples of blood examined by the Wassermann test from patients whose symptoms were obscure; this percentage amounted to 38. Of all three he thought the 8 per cent. the more likely as an index of congenital syphilis.

Another figure which might help to a conception of the prevalence of the disease was to be obtained from the number of children suffering from ophthalmia neonatorum where syphilis was present as a complication. It might be said that ophthalmia was present in from 9 to 11 per 1,000 births, and of these 13.7 per cent. were complicated with syphilis. He found, for example, that of 524 cases of ophthalmia 72, or 13.7 per cent., were also syphilitic, but this varied from 8.5 per cent. in the non-gonococcal cases to 19.8 per cent. in gonococcal cases, and when one contrasted the result on the eyes in both the injury was very obvious, and he submitted a table to show this:

Ophthalmia Neonatorum: Results of Treatment.

Result.	Non-gonococcal.		Gonococcal.		Also Syphilitic.	
	Cases.	Per Cent. of Total.	Cases.	Per Cent. of Total.	Cases.	Per Cent. of Total.
Cured	227	98.4	151	87.2	42	66.8
Defective vision	3	1.2	21	12.2	15	23.7
Totally blind ...	1	0.4	1	0.6	6	9.5
	231		173		63	

This being the state of matters which fell to be dealt with the question for the consideration of the meeting was how means of recognizing the disease were to be extended to the population generally, and how the disease was to be treated. In both cases he thought this must be free. He

believed the local authorities should organize the facilities for both, but many obvious reasons might be adduced in support of the suggestion that a considerable proportion of the cost should be supplied by the State. An estimate of the probable cost of this might be made by assuming the 8 per cent. which he had shown as the ratio of congenital syphilis, and applying it to the population generally. In children the proportion of salvarsan required represented roughly three-sevenths of what was required in adults, and if one took 20s. as approximately the average cost of this, and applied it to the population generally it would seem to mean that in every million of population £80,000 might represent the cost of the salvarsan required, and the total cost to the country in one year readily run into $3\frac{3}{4}$ millions. If drastic treatment of this sort could be relied upon as likely to protect the population from the worst physical effects of this scourge he believed the national advantage would well outweigh the cost.

II.—ERIK PONTOPPIDAN, M.D.,

Honorary Member Royal Society of Medicine, Lond.; Chief Physician to Rudolph Berghs Hospital, Copenhagen.

PUBLIC MEASURES AGAINST VENEREAL DISEASE IN DENMARK.

IN Denmark the principle of public and free treatment of venereal patients has been the rule for more than a century, but the methods followed were somewhat inadequate. In 1874 the laws and regulations were codified and provided for the right of any person infected to be treated at public expense and at the same time imposed the duty upon him of undergoing treatment. To a certain extent the hospital facilities were adequate, but the provisions for public ambulatory treatment were scanty. This aspect of sanitary measures was the more neglected because it was thought that the most reliable defence against venereal diseases was the regulations providing for the police supervision and preventive sanitary control over prostitutes. In Denmark, as in most other countries outside England, the State considered its responsibility as regards venereal disease to be covered by a strict enforcement of the regulations, and the medical authorities were mostly of the same opinion.

The evidently unsatisfactory results, however, aided by the discussions at the international conferences in Brussels in 1899 and 1902, and the criticism by competent medical authorities caused the system to crumble down by its own weakness and want of convinced supporters. By a law passed on March 30th, 1906, all control over prostitution was entirely abolished and replaced by strict rules, enforced on all venereal patients. The change was complete; the professionals escaped supervision, while the amateurs were controlled and punished.

The new system was not at all well received by the medical profession. The Minister of Justice, who introduced the law, evaded all consultation of the medical authorities; according to his somewhat cynical expression he did not expect to receive the answer he wanted, and so he preferred not to ask at all. This explained why the law, if literally applied, would be on many points impracticable, a vexation for doctors and patients. Only the firmness and common sense of the medical profession, by practically eliminating the bad points, saved the good points and made the system work reasonably.

The first three paragraphs of the new law contain mainly rules permitting the police to secure public order and decency. Loose women without work can be punished as vagrants, and any person inciting to debauchery or causing public scandal is liable to imprisonment. The keeping of brothels is strongly punished. The advertising of objects to prevent conception is prohibited.

According to paragraph 4, any person knowing or supposing himself to be suffering from venereal contagious disease, who has sexual intercourse with another, shall be liable to imprisonment—in aggravating circumstances, with hard labour—and this penalty is extended also to married intercourse. This clause, which formerly had been applied only in very few particularly grave and clear cases, was after 1906 taken up by the police authorities to a much greater extent, and particularly applied to prostitutes arrested for different offences. The difficulties in defining the contagious state (both generally and in each case), and in proving the accused guilty of "knowing or supposing" his state, soon showed the application of the clause on a large scale to be impracticable, and resort to it was soon restricted.

Paragraph 5 is the old corner-stone of the Danish law regarding venereal disease, and it was continued from the Act and Regulations of 1874. It gives every person suffering from the said disease the right, whether rich or poor, to claim medical attendance at the public expense, and imposes the obligation to submit to such treatment, unless he can prove to be otherwise under proper attendance. The difference, as compared with pre-1906 times, is mainly that the opportunities for treatment have been improved and increased, while the compulsory measures have been very much extended.

Paragraph 6 orders the doctor, when danger of contamination makes it necessary during or after treatment, to give the patient notice to appear before him at fixed times, unless another qualified doctor testifies to have taken over the case. This notice is to be given on a particular form; if the patient does not act according to it, the doctor has to send an intimation to the public health officer, who orders the patient to appear in the public consulting office, if necessary through the police. This arrangement—which, carried out to the letter, would make of the physician an informing police inspector—has from the beginning met with strong disapproval from the medical profession. We want to retain our position as our patient's trustee and know that retaining his confidence is necessary to our work, lest we frighten the patients away and make the law counteract its own ends. That is why in my private practice I have never given an official notice, and accordingly have never had to notify any case of disobedience. Most of us act more or less in the same way, and this is well known by the authorities, who, however, apparently do not think it opportune to enforce the rules. In public practice—in hospitals and public consulting rooms—the quality of the patients and their relations to the medical attendant are different, and the operation of the rules is more stringent and may be considered in suitable cases sensible and beneficial.

Paragraph 7 orders the doctor to make the patient acquainted with the nature and the contagiousness of the disease, and the possible risks, judicial and otherwise, concerning marriage. This obligation is generally discharged by the physicians, except that the official forms are mostly avoided as they are somewhat brutal; they are replaced by better-worded communications.

Paragraph 9 deals with the nursing question. No child suffering from syphilis may be placed with a wet nurse if this is not its own mother, and no wet nurse suffering, or suspecting herself to be suffering, from the disease may suckle the child of another woman. A child is to be considered as suspected of suffering from syphilis when any of its parents have contracted syphilis less than seven years previously and three months having not yet elapsed since the child was born. It is easy to see that this law was made before the Wassermann test was known; it also illustrates the difficulty of fixing a definite term in regard to disease. Doctors know that cases are not always safe after seven years.

Paragraph 10 deals with compulsory examination. The police are entitled to apply this to any person accused of professional prostitution as a trade, of *racolage* and the like, of contamination by sexual intercourse or nursing. If consent is refused—which is very seldom the case—the court of justice is appealed to.

Paragraphs 11 and 12 define the different provisions for public examination and attendance, which in most towns and in the country are performed by the local health officers, while in Copenhagen the municipality has to supply a sufficient number of visiting doctors, who are to give daily consultations free of cost to anybody suffering from venereal disease. Copenhagen since 1906 has had twelve public consulting physicians located in different areas, each giving daily free consultations at fixed hours, in the forenoon or in the evening. The number of patients treated has been about 4,000 men and 1,000 women a year, the number of consultations 30,000 to 40,000 a year. In the commencement the doctors were paid per consultation (3 kroner for the first and 1 krone for each following visit), and the expenses went up to about 60,000 kroner a year; later the physicians received a fixed salary of 2,000 kroner a year, and now the cost—medicine, etc., included—

amounts to about 40,000 kroner a year. About 1,200 to 1,500 patients are treated free of cost in polyclinics, mainly connected with the hospitals, so it might safely be said that two-thirds of the venereal patients receive free advice and treatment in Copenhagen.

The facilities for hospital treatment have been augmented since 1906; besides the venereal wards in the communal hospital (about 120 beds), the Rudolph Berghs Hospital, formerly used solely as a lock hospital for prostitutes (200 beds), has been reopened as a dermato-venereal hospital, also with 120 beds for venereal patients. These two hospitals receive the bulk of the cases from Copenhagen, but even this number of beds, about 1 bed to every 2,000 inhabitants, is hardly sufficient for the demand. During recent years about 2,000 patients a year have been treated here with about 70,000 sick days, and as each day costs about 3½ kroner, the annual cost amounts to about a quarter of a million kroner. The venereal patients are treated, housed, and fed just like the other sick people, except that some of them require a little stricter discipline.

According to paragraph 14 persons under treatment at the public expense are not allowed to leave the hospital unless dismissed by the physician. Offenders are punished with imprisonment for periods from twenty days.

I have tried to define the main lines of the public measures against venereal disease in Denmark, and to show how they are worked. I have limited myself chiefly to Copenhagen, because this town is the only area where the diseases are frequent; the smaller towns, and particularly the country, with their 2 million of population, contribute only 20 per cent. of the total.

The vital question is, What are the sanitary results? If you consult statistics, you at once meet the old difficulty that they are open to different explanations and conclusions. Of all statistics, those concerning venereal diseases are perhaps the most questionable and the least reliable. There is no doubt that the yearly number of cases collected through the weekly notifications from the physicians to the Board of Health showed a very marked increase from 1906 to 1911. This may not necessarily mean a real augmentation of actual cases, but might be due to the extended and liberal facilities for free medical treatment.

By specially considering the cases of epididymitis, a complication which necessarily has been treated mainly in hospital, it is found that the cases have decidedly augmented in recent years, which leads to the conclusion that simple gonorrhoea has actually been more frequent. The cases of gonorrhoea in women have decreased very much since 1906, the explanation being that formerly the prostitutes were forcibly sent to hospital, now they avoid it, and the women generally do not care to go for hospital treatment, and only to a small extent to other treatment for gonorrhoea. Most entries, therefore, come through the police. As regards syphilis, the case is different; this disease is treated in hospital to almost the same extent as formerly, and this does not look as if syphilis were actually decreasing. Syphilis congenita, which is usually treated in hospital, has hardly shown any tendency to decrease.

I regret to be obliged to state that these statistics, such as they are, and perhaps of limited value, at all events do not support the hopes of the promoters of the new sanitary system. The number of cases of syphilis and venereal disease in Denmark has not been reduced. The State regulation of prostitution has been a sanitary failure. The State regulation of venereal diseases by compulsory measures has been the same. I believe in extensive treatment, and still more in hygienic and preventive measures, which last may be the road of the future. The State has used till now the weapon of prohibition, but I believe the fight against these diseases must be left to the trained medical army, with the least possible assistance from the penal code and the police.

III.—Louise McIlroy, M.D., D.Sc.,

Senior Assistant to the Muirhead Professor of Gynaecology, University of Glasgow.

Dr. Louise McIlroy remarked that there was no use in talking in definite language about the prevalence of venereal disease: the available information was too vague. Panic must be guarded against; with the Royal Commission sitting, and lay journals and books dealing with the matter, the impression was fostered that there was a vast amount of disease of this kind. Death certificates were useless as indications of the incidence of the disease, and they would continue to be so until a confidential death certificate was introduced. Medical practitioners had no right to say that such-and-such an individual was not suffering from venereal disease unless they had applied laboratory tests. Clinical diagnosis was of very little use except in very obvious cases. There must be a system of confidential notification of the disease, but not to the local health authority. Her suggestion was that the present Royal Commission should be continued for five or six years, and hospital returns should be supplied to it, the form adopted being of a confidential character. This would avoid the necessity of returning particulars of cases in private practice. As to the effects of venereal disease upon the community, Dr. McIlroy gave particulars of investigations in the Glasgow Royal Infirmary into the number of stillbirths, premature births, and cases of sterility; she remarked that this question had a very important bearing upon the decline of the birth-rate. In the out-patient department a blood test was taken in every case in which the patient was willing, and in the first 100 cases the Wassermann test gave a positive reaction in the enormous percentage of 43 instances. No one would believe the results, although they were most carefully taken. Two hundred more blood tests were made, and at the end of the third hundred the percentage was somewhat reduced, being between 30 and 40 per hundred. In the case of gynaecological patients the offspring were examined and it was noted that negative mothers often had positive offspring. Dr. McIlroy urged that the notification of any form of miscarriage or abortion was imperative. As to the necessary education of the community, the method to be adopted was a vexed question. Should sex education be given in the schools or at home? She thought any discussion of such questions in the school was out of the question; this instruction should be given by the parents and by no one else. It might be retorted that parents knew nothing about it, but, until a comparatively few years ago, medical knowledge on this subject was very slight. Now that wider knowledge had reached the medical profession, it would percolate to the rest of the community. As to treatment, the only way to eradicate venereal disease was to make treatment free and attractive, and to take away from it every stigma. If the lock hospital system were abolished and hospitals under the direction of the local authority were substituted, very little would be gained, because a stigma would soon attach itself to the new institutions. Cases should be treated in the general hospitals—not necessarily side by side with other cases—but the wards in which they were treated should not be specially labelled. As to the cost, if the State was willing to spend £80,000 on tuberculosis, it ought to be willing to spend as much on stamping out venereal disease, which did so much to produce degenerates and criminals, and to fill the insane and blind asylums. At the end of perhaps ten years the State would probably find that its expenditure had resulted in a saving of money. Names and official forms should be kept out as far as possible in dealing with cases, but the question how much control should be exercised over a sufferer from venereal disease was an important one, having regard to the danger of infection being conveyed to the rest of the community. Cases had come to her knowledge of a woman covered with syphilitic sores deciding, in spite of all arguments, to return to her work, which it was found consisted of wrapping tissue paper round oat cakes in a factory. A man in a highly infective state, examined in an out-patient department, was subsequently seen in a public tea-room drinking tea out of an ordinary cup. These cases should be under some control, and there should be a penalty against unqualified persons who treated the disease, as well as against those who knowingly communicated the disease..

IV.—Lachlan Grant, M.D., D.P.H.Edin.,

Bacteriologist, Northern Districts Committees, Argyll County Council.

ESSENTIAL PREVENTIVES OF PROSTITUTION.

Prostitution is not primarily a medical problem any more than it is a religious or a police one. Its implications and ramifications are too great to be embraced under any one sectional heading, and it is bound up with

many other questions—social, economic, national and international. Nevertheless it is the bounden duty of all medical men to take cognizance of all aspects of the problem and to throw the weight of their authority and influence on the side of the real basic reformers. It is for us as men and as physicians to probe it to the very bottom, and never to be satisfied until the root causes are discovered and adequately dealt with.

The extirpation of venereal diseases is inseparably bound up with the prevention of prostitution; and so with some other aspects of social and moral disease, none the less hideous for being invisible to the physical sight. The hydra-headed monster touches society at all points, and in spite of the efforts of the best elements in our civilization, reinforced by repressive laws, it has continued to increase in every civilized country until we see threatened, not only civilization, but the existence of the race itself. Much may still be done to mitigate its horrors by a more stringent application of the law and by further legislation and an educational campaign. A more summary procedure against procurers and so-called white-slavers is called for; also raising the age of consent and the prohibition of employment of girls in street vending and other dangerous avocations. And what is of vast importance under any circumstances—a well thought out system of graduated instruction for boys and girls in sex and hygienic matters with warnings as to some dangers in the outside world.

Any form of State guarantee or provision of supposed safeguards must naturally act as an encourager rather than a deterrent, and amount to a justification and perpetuation of the institution. In our own country, at all events, any form of State recognition or revival of the Contagious Diseases Act may be ruled out as impossible and contrary to the spirit of the times.

All countries have tried to combat the evil with numerous laws and regulations backed up by philanthropic agencies, and they have *all* failed to stem the tide of immorality and disease. Most reformers and investigators now see that a new point of view is necessary, and this applies specially to the medical profession. We come more into contact with the phenomena than any other class, and have the data to make an exhaustive diagnosis of the social as well as the individual organism. Those who are inclined to take a more or less pessimistic view of society and regard prostitution as a necessary evil, inherent in the nature of things, are bound to admit it is a universal scourge that threatens the existence of the more stable elements of civilization; and the onus lies on them to reconcile their position as ordinary citizens with their position as members of a scientific body. For my part I am bold enough to say that what is morally wrong and socially unjust can never be justified on grounds of expediency.

In our day the burning questions are not so much religious and political as social and economic, and just as the churches and other organized bodies are forced by the pressure of events to extend their boundaries and widen their horizon, so must we, as the organized army of public health, admit the economic aspect of moral, mental, and physical disease as a prime factor in the problem, and act accordingly. All investigators who reach the basic facts discover the same thing—that prostitution is fundamentally of economic origin—and eventually find themselves up against the same economic impasse. What is wanted is a practical recognition of the doctrine that we are all members of the social organism, and individually and collectively responsible. No further Royal Commissions or investigating committees are required to discover the main facts we medical men are already cognizant of; and the responsibility of the State to deal with them, all, or most of us, are prepared to admit.

With a few exceptions sexual prostitution may be set down to poverty and ignorance. From the poor and the working classes are drawn the vast majority of the recruits for white slavery. None of us will say that any one class of the community is naturally more vicious than another, and that the labouring classes are more immorally inclined than the middle or upper classes. In fact, taking individual for individual, and considering the differing environments and opportunities, I think the workers show up best. Nine-tenths of the problem is one of environment, and what Bernard Shaw once said is universally true, that "what is wrong with the poor is their poverty." Poverty is accountable for much of the ignorance that hinders moral and intellectual progress, and ignorance reacts in aggravating the conditions that make for poverty. Both must be grappled with, and in attacking one we attack the other. The recognition of women's economic independence, and, at all events, the same equality of opportunity as is claimed for men, will place them in a position of safety for commanding their own destiny in life, thus freeing them from the pressure of want, and the temptation to sell themselves for the means of subsistence. To bring this about will require a new outlook as to the meaning of life, and far-reaching legislative measures to give it effect. It will involve a searching criticism of our entire commercial and industrial system, and of the relations of the individual to the community and of the mother and the child to the State. There must be an adequate income for all workers, male and female, and a minimum standard of comfort for every citizen. Among the legislative and economic measures required are a national housing scheme insuring ample space and sanitary details in conformity with the highest standard of health and morals; a generous endowment of motherhood and the encouragement of reasonably early marriages; free medical advice and nursing; more stringent control of conditions under which females are employed, and prohibition of their employment in dangerous or degrading occupations such as in chemical works and coal mines; abolition of the half-time system and employment of young girls as vendors in the streets or public places; laws to control the conditions of domestic and farm service—from which a large proportion of the victims of prostitution are drawn. And there is clamant need of reforms that will encourage the people to remain on the land and prevent the wholesale flocking of the young people to the towns and cities.

Apologists for prostitution sometimes say it is a safety valve for male passion, without which no virtuous woman would be safe anywhere. As conditions exist, there is some truth in the contention, but the most hopeless pessimists among us cannot salve our consciences sufficiently to accept as a permanent institution that tens of thousands of girls shall be yearly sacrificed as a bribe to lawless passion to keep its hands off decent women. This cannot be so, and while preventing the supply of victims of the traffic, we must also try to prevent the demand for them arising. The economic and legislative measures I have referred to would have a deterring and educational influence on men, and the inculcation of a higher ideal of womanhood, motherhood, and home life, accompanied by juster social conditions, would, in time, eliminate the worst elements in sexual immorality and create in the minds of young men a feeling of disgust for the brothel and the woman of the street. Celibacy, if voluntary, may be right for the few, but for the vast majority it is an evil, and doubly so when made compulsory owing to artificial social and economic conditions. Make these conditions more human; enable young men to marry honourably and get rooted to family life before they become *blasé* and cynical; make the education of our young more of moral discipline and less of devil-take-the-hindmost competitive intellectualism; let us openly denounce the vulgar and brutish ideas about woman that blunt the finer susceptibilities of so many men. If society will do these things, the demand for illicit and unnatural sexual indulgence will shrink into a negligible quantity and prostitution and all its horrors will be a thing of the past.

Legislation can do much, and economic justice still more, to effectually combat prostitution and its resulting disease and crime, but it is also essential to educate public opinion and so dispel the prevailing ignorance on sex matters. Parents, as well as children, require to be enlightened, and school teachers and clergymen should be active, intelligent allies of the official guardians of public health. A special department in a well-organized Ministry of Health concentrating on the prevention of prostitution and venereal disease could do much. Supplemented by the co-operation of the educational authorities they could strike at the very roots of the evil. There is just as much need for special machinery to deal with prostitution and venereal diseases as for tuberculosis, cancer, insanity, and small-pox—even more so, as prostitution is also a form of moral rottenness more dangerous to society than any purely physical disease.

The time has certainly come for special concentration on this problem, and the responsibility lies on the State to provide the machinery and the sinews of war.

On the educational side systematic teaching must prevent girls and boys growing up dangerously ignorant of their bodily functions and the main facts of reproduction. We must have a network of schools of motherhood throughout the country and ensure that no young couples will blindly rush into matrimony and acquire knowledge and wisdom through a painful course of blundering, dear-bought experience, and that no parents would fail in their duty to their children and evade the natural questions of daughters and sons. A universal campaign to educate public opinion in these respects is one in which the medical profession must naturally take a leading part, and to all the related movements from the economic and legislative side it must lend the weight of its influence, prestige, and experience. If the facts are faced and courageously dealt with the problem of prostitution and its ramifying evils, making for race degeneracy, will be well on the way to an adequate solution in accordance with the highest ideals, the newer civilization, the social conscience, and modern medicine.

DISCUSSION.

Dr. Helen Wilson (Sheffield) urged that methods of dealing with the problem must not only have regard to the foci of infection but to the conditions which tended to propagate disease. There was great difficulty in teaching sex hygiene to boys and girls: they should hear nothing of venereal disease at that early age. It was a question whether the parents were ready to give teaching; a beginning must be made, not in the schools, but in educating adults. This would be one of the objects of the National Council, just formed under the presidency of Sir Thomas Barlow. The community attended to the physical sanitation of streets and factories and places of amusement; it should also attend to their moral sanitation. The responsibility for dealing with the disease must be left to the medical profession, in whose hands also was very largely the problem of individual education. Had the medical profession so far rightly conceived its duty to individual patients? Besides diagnosis and treatment, the doctor owed to the patient the warning necessary for guarding against future consequences to himself, and also for protecting others from infection. These warnings must cover several years. In the case of a woman, she should be told that in all future pregnancies, at whatever interval, she should put herself under medical observation and treatment. In the case of a married woman it was very difficult to give warnings. She believed it was usual for the medical profession not to tell a married woman what was the matter with her in these cases, but was it possible for her to carry out warnings unless she was told definitely? She knew what was said on the other side. Silence was observed out of compassion; it was urged that one did not want to break up the home. The probability was that sooner or later the woman would find out, and the true course (following the rule of doing as one would be done by) was to leave the decision to the wife. In a great many cases, though indignant the wife would forgive, but a modern woman wanted to do her own forgiving and not have it done for her by the doctor. In dealing with employees in large works who might infect others, there was a difficulty that firm dealing in regard to segregation might drive people to resort to quackery. Thus any breach of old principle of professional confidence would defeat its object.

Mr. T. Jenner Verrall remarked that it was only lately, through the notification and supervision of tuberculosis, that the public had been launched on a course of tolerance of public examination of these questions in any degree. The reluctance on the part of the public to countenance public measures with regard to tuberculosis would be enormously increased on the question of syphilis. First, the public would declare the absolute necessity of the medical profession being quite sure of its own position before it tried to teach others. As had been remarked, the profession was only just arriving, by modern and precise means of diagnosis, at a certainty of position for itself. Until the profession was quite clear on certain questions of latent syphilis, it would only run the risk—if it attempted to speak confidently—of deluding the public into the idea that it could offer safety when, in fact, it could not. At what stage ought teaching on the duties in sex hygiene to be inculcated? It ought to be earlier than was previously the case, and at present it ought to be done through the parents, and not the schools. Parents, patients, and the community generally needed teaching, a great deal more than they at all realized, of their duties to others as well as to themselves. He was quite certain that doctors had not gone to the lengths they ought to have done in this regard; they had not said what they ought to have done as to what a patient should or should not do after he left their hands. More outspoken treatment was not only justifiable, but their duty. As to what would be the ultimate results of the efforts the profession might make in combating venereal disease, much would depend on establishing a perfectly good case. For instance, the question of statistics was vastly important, inasmuch as the subject was a delicate one. The public would submit with reluctance to these matters being dealt with openly, and if the profession made the least false step, and, for example, dealt wrongly with the statistics, it would probably throw the whole matter back a hundred years. He was prepared to go to the fullest lengths in the open treatment of these diseases, provided always that the advance was cautious and that they did not run the risk of having it said, "You acted on panic and you did not prepare your way properly." He hoped that the ground would be thoroughly prepared before a campaign was initiated in the public interest.

Dr. L. A. Parry (Brighton) commented on Dr. McIlroy's statement that she found 30 to 40 per cent. of unselected patients in her clinic suffering from syphilis as diagnosed by laboratory tests. This was one more very potent argument against allowing the teaching of the laboratory to outweigh clinical knowledge. Did any one believe it was possible that nearly 40 per cent. of 300 unselected gynaecological patients were suffering from syphilis? These figures immensely exaggerated the prevalence of the disease, and he deprecated the bringing forward of laboratory statistics which could only mislead. He agreed with Professor Pontoppidan that no diminution of venereal disease would be brought about by Act of Parliament. It must be by education and raising the general moral tone of the people.

Dr. Laura S. Sandeman (Aberdeen) urged the desirability of removing the stigma from treatment of venereal disease. Patients should not be regarded as outcasts. In regard to insured persons, it would tend to diminish the disease if venereal patients were sure that sickness benefit would be paid. The fact that doctors had to refuse it—in other words, to certify that a patient was suffering from venereal disease—immediately raised a question in the house as to the nature of the illness for which sick benefit was refused. This tended to make patients chary of asking for advice at the stage when it would be most useful. It must be remembered that a great number of patients suffering from syphilis and gonorrhoea had acquired it innocently, and therefore should not be deprived of benefit nor have the nature of their illness disclosed to their societies. The number of acute venereal cases requiring sick benefit was small as compared to the number of paralytic and chronic rheumatic cases, of which it was practically certain that venereal disease had been the primary cause, and yet for which the societies paid heavily. If treated in the acute stage, the saving both financially to the societies as well as with regard to the ultimate health of the individual and his posterity and the spreading of infection among his fellow citizens would be incalculable. The State must make itself responsible, and should give every facility for diagnosis and treatment to patients suffering from these illnesses, the burden of which should not be thrown on charitable institutions. She was in favour of confidential notification by such a plan as giving a number and initials to the medical officer of health, the patient to be told that no further inquiry would be made provided he reported himself as often as his medical attendant considered necessary, but that should he fail to do so his name and address would have to be given. Some would ask of what use would this

notification be. She believed it would give the medical profession greater authority in dealing with the disease, because sufferers would learn that the law regarded the disease as infectious. In notifying a case the practitioner might be required to fill up a schedule with a few particulars as to the nature of the illness; this would be useful to another practitioner taking charge of the case if the patient removed to another neighbourhood. Special methods must be adopted in the case of an insured person changing his doctor. Surely a Government that had allotted such enormous sums of the country's money to the improvement of the health and physique of the nation, would not hesitate at the extra expense in fighting a vastly greater cause of impairment of the nation's vitality than even tuberculous disease.

Sir JOHN COLLIE, as a member of the Venereal Commission, said the question raised by the last speaker was having the very serious consideration of the Commission. Personally he was very much opposed to notification for this very simple reason: that at the early stage, which was the infectious stage, most sufferers from venereal disease would be tempted not to consult general practitioners but quacks. Having their diseases untreated that stage would be a fruitful source of spreading the disease. Witness after witness before the Commission had agreed with this view, and he thought it would be a very serious step to take at this stage without very serious consideration of the question in all its phases, and as to whether notification would not tend really to spread the disease, thus counterbalancing the advantages of getting statistical information as to prevalency. He did not think the amount of latent syphilis present in the community was quite realized. Quite recently he took 500 strong, able-bodied, healthy working men over 21 years of age, and thoroughly examined them as for life assurance. He then asked each to allow him to take 5 or 10 c.cm. of his blood, and Dr. Mott kindly submitted the specimens to the Wassermann reaction. Sir John Collie said he was rather surprised to find that of the whole 9.2 per cent. gave a positive reaction. Many had been in the army and navy, so he took a separate list of those. The percentage from army and navy men worked out at 18, and of civilians 6. It was interesting to note that a large proportion of these men, though urged to submit to salvarsan treatment (for which he had arranged facilities) declined to undergo it, and unfortunately, of those who did, the vast majority after a subsequent test still gave a positive reaction. Some of them had had the disease 12, 16, 19, and, in one case, 29 years. It was a very open question whether the mere fact that the reaction was positive was an indication of serious mischief, but that was a question which was *sub judice*.

Dr. CLIPPINGDALE (London) recalled the interesting fact that the Town Council of Aberdeen was the first public authority in these islands to attempt by legislative edict to arrest the spread of syphilis. There could be little doubt that syphilis reached Scotland direct from the Continent without passing through England, and in Scotland it was known by the name by which it was known in France—that is, "grandgore," or the "great disease." It apparently came to Scotland by sea, but whether it reached Leith or Aberdeen first would probably never be known. The Scots, with their usual prudence, took prompt means to suppress the disease. It only became rampant in Europe in 1493, after the return of Columbus from conquering the West Indies, yet as early as 1497 the Aberdeen Town Council by ordinance required all "licht weman" to "decist fra thar vices" on pain of being branded on one cheek and "banyshed of the toune"; and a few years later a return was ordered to be made of all infected persons and an injunction issued to those persons to abstain from visiting meat markets, bakeries, breweries, and laundries. The example set by Aberdeen in 1497 was followed six months later by the Corporation of Edinburgh, which issued a similar edict. In England the first attempt to deal with this disease seems to have been made in 1506, when the "stews" (harlots' houses) in Southwark were suppressed. For more than 400 years, however, no further attempt had been made by public authority in these islands to deal with a malady so loathsome and so lethal.

DICUSSION ON
A STATE MEDICAL SERVICE *v.* A PANEL SYSTEM.

OPENING PAPERS.

I.—Sir JOHN COLLIE, M.D., J.P.,

Member of Advisory Committee, National Insurance Act; Medical Examiner, London County Council.

AT the present juncture, for every person of the industrial classes insured under the National Insurance Act, there is one uninsured, for whom, with the exception of the Poor Law service, there is no free medical provision of any description. That is to say, 12,000,000 persons—men, women, and children of the working class—get no benefit from the National Health Act. We have to recognize the fact that no Government, Liberal or Conservative, is likely to extend the panel system to women and children at the present rate of remuneration for medical men. Thousands of medical practitioners, chiefly in the country districts of England and Scotland, are giving faithful service under the Act, and administering medical benefit to the best of their ability with the means at their disposal. But in many parts of London, and in the poorer quarters of some of our large towns, panels are too large; the doctors are overworked, consequently the quality of the work of necessity has suffered. Unfortunately, many doctors on the panel are now called upon to treat a large number of trivial ailments. One doctor in a poor class London district states that in one week last winter he saw 320 people with colds in their heads; this seems inconceivable, but when I tell you that he and his five partners have close on 7,000 on their panel, it is more credible. Some doctors attend as many as from 90 to 92 per cent. of the persons on their panel lists in the course of the year. Dr. Cox stated that last year from 65 to 70 per cent. of those on the panel lists all over England were seen by the medical men on the panel. This is more than twice the number which was calculated for when the Act was framed. Dr. Salter stated at a public meeting in London that he saw on an average 168 patients a day. He said this worked out, allowing a nine hour day, at the rate of three and a quarter minutes for each patient, of which one and a quarter minutes were taken up in clerical work. The patients had to wait on an average for two and a half hours.

Think what all this means to the doctors. One doctor in Bermondsey who had 2,800 patients on his list had not been out of the borough for nearly a year, and worked every day, including Saturday and Sunday, from 9 a.m. to 11.30 p.m. This is not medical practice, it is commercialism of the worst type and justifies the sneer that "the ancients tried to make the practice of physic a science and failed, and that we in modern times tried to make it a trade and had succeeded." The competition between doctors for patients has led sometimes to undue readiness to give certificates, and other distinctly undesirable practices. The London Insurance Committee appointed medical referees; they examined 2,000 cases sent by the approved societies; of these 460 did not attend when asked to, 769 were found fit for work, and 771 unfit—that is, 62 per cent. were found to have been, to put it mildly, lingering on the threshold of work. Every one of these received a weekly certificate.

It has been said by one who is a strong advocate of the panel system that it is good because "medical men compete with one another for increasing remuneration by pleasing the patients." It is just this necessity of pleasing patients which makes the administration of the Act so difficult.

The profession is handicapped by: (1) Division in its ranks. Fortunately I am not called upon to discuss this. (2) Lack of organization to deal with disease. A game of musical chairs in which the most scientific do not necessarily succeed in getting places. (3) Lack of appliances and institutions. It is well known that the hospital accommodation is painfully insufficient for the needs of the community. In London, at any rate, there are long waiting lists; many have to wait months before being admitted, and even for operations sometimes as long as ten or thirteen weeks. A friend who is attached to the special department of one of the metropolitan hospitals tells me that he has patients who have been waiting

twelve, fifteen, and even twenty months for operation. (4) Lack of opportunities for post-graduate study.

The State referees and consultants and the nursing service foreshadowed in Mr. Lloyd George's last Budget will, in time, do much to ameliorate these conditions, but surely it is an injustice that the State should subsidize a nursing system for the poor which does not touch 12,000,000—mostly women and children—of exactly the same class of the community. It seems almost inconceivable that the present maternity benefit does not touch uninsured mothers, who have now in consequence of the Act actually to pay increased fees! It is open to question whether, in the poorer districts of large cities at any rate, the Gordian knot should be cut by the appointment of whole-time medical officers with graduated salaries to cope with these difficulties. The Majority Report of the Poor Law Commissioners indicates that the medical treatment amongst the poor is inadequate, and the Minority Report advocates a State Medical Service.

I am adverse to the nationalization of medicine, and I see no necessity, at present at any rate, for a wholesale State Medical Service, but I think that such a medical service is urgently called for in poor industrial areas of large towns, where medical men are scarce, and, on the other hand, in sparsely populated districts—for example, in the Highlands—where it cannot be worth a practitioner's while to go long distances to see a single patient. In many rural districts a State medical officer must of necessity be only a part-timer.

In Bermondsey, with a population of 130,000, there are only 32 doctors—that is, one doctor to every 4,000 people, whereas Hampstead with a population of 80,000 has 168 doctors, or one doctor to every 478. Obviously some system is needed whereby both insured and uninsured will reap the full advantage of medical benefit. Such a step must inevitably come, and when it does will lead to the co-ordination and development of the various public health services. I deprecate violent changes of any sort, and when the changes which I believe are inevitable do come, I hold strongly that vested interests must be recognized. Those who elect to join a national medical State service and who by doing so necessarily relinquish private patients, and who fail to sell their interest, must be compensated by the State. Any other arrangements obviously would be inequitable.

I do not press for a complete whole-time State service; a part-time service would in certain districts work contemporaneously with the present panel. The danger, of course, is the creation of a "rich man's" and a "poor man's" doctor, and a cleavage of the profession which would be undesirable in the last degree. I am strongly of opinion that the term "panel doctor" should not be used and the words "general practitioner" substituted on all occasions. But I believe that a recognized civil service with the advantages and status I shall presently define would prevent any such disaster.

There is, however, one *sine qua non* in such a service, and that is that the medical officer must be well paid, have a good position, and the number of patients allotted to him must not be excessive. I have yet to learn that salaried whole-time medical officers of health are not enthusiastic, progressive, and capable, and that the fact of their not being paid by fee has militated against their attaining their deservedly high position. The salaries for whole-time service would be graduated, and there would be, as in the army and navy, positions of increasing responsibility and remuneration.

Facilities would be provided for modern methods of diagnosis, such as the Wassermann and Widal reactions, *x* rays, microscopic examination of tumours, and bacteriological methods generally. The advantages of a complete service would include advice of consultants, and some arrangement would necessarily be made for augmenting the present inadequate hospital accommodation which now so seriously embarrasses general practitioners. Doctors paid fixed salaries by the State would be a great deal more independent of the general public. To medical men the advantage would be obvious; the State service would entail regular hours and regular holidays, more time for the home, for post-graduate study, a permanent freedom from the anxiety caused by fluctuations of income; in fact, entire freedom from the commercialism of the present system, and finally a pension at the end of the service.

One of the objections urged against even a modified State service is that the doctor would become an official. I freely admit that a reversion to the official type in the administration of sick benefit would be disastrous, but surely, as Dr. Brend pointed out in the June number of the *Nineteenth Century*, the training of the doctor, both as a student and when in practice, his association with suffering, the intimate relationship that necessarily obtains between him and his patient, preclude the possibility of his ever becoming hidebound with red tape. He would still be a clinician, not an administrator.

The authority to whom I have just referred points out that the strongest argument in favour of free choice of doctor lies in the alleged necessity of psycho-therapeutic influence being brought to bear upon the patient by the doctor of his choice. These cases are mostly functional, and therefore less important, and it goes without saying that sound surgical acumen, even when associated with the absence of the *suaviter in modo* so dear to the lover of a bedside manner, is really more valuable than many of those qualifications which make for success, but which most of us despise. Then again, can the personal relationship necessary for psycho-therapeutic treatment ever be established in a large poor-class practice, where there are thousands on the panel list? After all, I do not believe that the personal element is so strong in this class of medical practice. Does not the Scholastic Clerical and Medical Association, which exists very largely by means of its introduction of one practitioner to succeed another in general practice, flourish and pay a good dividend?

There is no free choice of doctor in the army or navy and we hear no complaints. (Dissent.) The medical institutes, which the working classes so favour, and the worker's club, allow no free choice. People who are sent to hospital do not in general decide which ward they shall go into, and, consequently, who shall attend them.

II.—H. H. Mills, M.D.,

Kensington.

All who have studied political thought during the last twenty years have realized the increase of that consciousness of collective responsibility which calls for action by the State.

For example, one need only recall the great number of Acts of Parliament referring directly or indirectly to the public health. By far the most important measure recently introduced was the National Health Insurance Act. In framing this measure two courses were open to Parliament—one was to build up from the beginning an absolutely new *ad hoc* organization, the other—and I venture to think the better one—was to use, modify, and extend existing organizations already concerned with the problem which the Act was intended to solve.

As regards medical service under the Act, it was, in my opinion rightly, decided to extend and amplify existing methods of practice already adopted by the medical profession. The scheme in the beginning was necessarily incomplete, and Sir John Collie, as well as the other members of the Advisory Committee, was perfectly aware that subsidiary and complementary service were in contemplation from the first. Provision of a nursing service, clinics, medical referees, and facilities for pathological research are now being established.

The State by assuming responsibility for certain payment for what is really a part-time State system has established a certain control. This control, exercised through the Insurance Commissioners and Insurance Committees, is at present at its minimum, and surely it is wise to watch carefully how one scheme works before launching an entirely different one. In any case it may confidently be said that if one great pillar of the Act—the scheme of medical benefit—is destroyed, then inevitably the other great divisions of the Act will fall also, and the administration of sickness benefit, and the approved societies will all be merged into one national State controlled service. This possibility is already occupying the serious and anxious attention (and resistance) of representatives of approved societies.

The system of establishing in every insurance area a list or panel of doctors who are willing to treat insured persons under certain conditions was accepted by the British Medical Association—the only body with authority

to speak for the profession in the matter. It was undoubtedly the hope that by this means practically all the general practitioners in the country would give their help to this national scheme. In many parts of the country this hope has been fulfilled. In a comparatively small number certain difficulties still exist.

The British Medical Association, after the Representative Meeting at Swansea in July, 1903, appointed a Committee to investigate conditions of contract practice. The Committee presented an interim report at Oxford in 1904, and a full report at Leicester in 1905. The conclusions ratified in 1906 were that under contract practice of any kind there ought to be free choice of doctor from the list of those willing to serve. This is, of course, the panel system; and this panel system, with its free choice of doctor for the insured and its right of refusal of an insured person by the individual doctor, furnishes that elasticity of working which approaches most closely to the best traditions of medical practice in the past. A busy skilful doctor who has attracted to himself a large practice among the well-to-do classes naturally could not be expected to attend many of the working class; but, in order to show his sympathy with his medical brethren whose work lies almost entirely amongst the industrial workers, he could, without any loss of dignity, consent to treat, for example, the insured domestic servants of his richer patients. This elasticity is in great contrast to an absolutely rigid system which a whole-time salaried service presents. When it is considered that in a few years the dependants—wives and children—of insured persons will come into the scheme of insurance, it seems imperatively necessary for all doctors to join in the establishment of a truly national health service, which, so long as it retains its independence, shall be the finest in the world. But Sir John Collie would like to see the whole population mapped out with mathematical and military precision into brigades and battalions, each with its medical officer. Such a suggestion is entirely contrary to all our national characteristics, and free choice of doctor would be impossible.

Launched in his career as a State medical officer, the doctor would see before him a number of years of work at a fixed salary, with the certainty that at the end of a given time a retiring pension would be given to him, and I can imagine no more dreary round than such a system would develop. I admit that the pension idea is an attractive one, but a pension scheme could be, and will be, easily arranged on an insurance basis for all doctors on the panel. Those of us who have friends in the navy or army—or, indeed, any institutional service—must have been struck with the constant assertion that work was in a groove, that their mental and professional activities were atrophied on account of the limited range of their outlook. The panel doctor, on the other hand, has acquired a new independence, a new feeling that he is a factor in the social development of the people among whom he works.

The art of medicine is somewhat akin to the practice of religion. Human trust and confidence are things which cannot be measured by any scale, but they are real factors in the treatment of disease. Establish your rigid system and immediately reasons for discontent with that system will be conceived. I am convinced that the panel doctor, now that he is independent, will prove to be keenly progressive in his social ideals. I do not care to what political party he belongs, he is destined to mould the social legislation of the near future, whereas if he becomes a salaried civil servant he will be allowed to have no voice in any political question.

Less than two years ago the medical profession was in the throes of a revolution, but slowly the consciousness has come that the course ultimately taken was the right one. At the time when the noise of battle had scarcely subsided, and the combatants had come to realize that their differences were but transitory, Sir John Collie came before such an important body as the Faculty of Insurance—largely composed of approved society representatives—meeting in London last February, and gave us his opinion on a salaried State Medical Service. The ideas were not new, and at the time that he spoke various suggestions were actually under consideration for extending the scheme of medical benefit which he criticized so severely. Sir John Collie had every right to hold what opinions he chose—and to vary those opinions as often as he liked—but when as an active politician (he is Liberal candidate for Devonport) he actually suggests to the Government that in two short years they should scrap the whole organization of the present medical service, we, as a profession, have a right to inquire what authority he has for such a suggestion. His remarkable series of changes of opinion during the year 1912 are not calculated to give us confidence in his judgement.

Another revolutionary change is not asked for either by the profession, or the public. The Insurance Committees are getting into their stride and working more efficiently every month. On very high authority I am able to state that the number of complaints throughout the country—never very high—is rapidly diminishing. The defects in the scheme are being remedied by the establishment of a consultant, referee, and other services. The shortage of institution beds in the country is a serious matter in which Parliament will be compelled to intervene, and the scheme of medical benefit will not be complete until ample provision is made. Private charity is not and never has been adequate for providing sufficient institution beds for the needs of the sick population, and the question of hospital reform and in-patient accommodation is one of the greatest importance—but that problem is, I venture to think, entirely separate from the question at issue.

Sir John Collie asserts that it would be an economy for the State to establish a complete salaried service, and in doing so he exemplifies to the full the contrast between the attitude of a politician and that of a doctor whose chief concern is not State economy, but the interest of the individual patient. It is certainly not economical to keep alive many people who, as Mr. Bernard Shaw would say are "better dead," but the duty of the doctor is to save the individual life, even though it costs the State more than it is economically worth. It can safely be asserted that doctors in industrial areas are being paid at a far better rate than hitherto. Good pay will undoubtedly attract good workers, and there is ample evidence that in London at least there is a migration of doctors into densely populated areas hitherto insufficiently supplied with medical men. In one area of London comprising four boroughs with a population of 700,000 where nearly all the doctors are on the panel, seventeen new practices have been started since the Insurance Act came into force.

One of the great advantages of the panel system is that the unsuccessful doctor will not be encouraged, as people will not remain on his list. Whereas were he once appointed as a whole-time State servant it would be very difficult to move him. Sir John Collie alleges that "the doctor with the greatest readiness to give certificates is the most successful." This charge is absolutely unwarranted. The most successful doctor is the one who cures his patients. It is unjust to make such a sweeping assertion. In a few instances—often out of charity—a doctor has given his certificate too readily, and there are undoubtedly a small number of unscrupulous doctors who, either to serve their private ends, or through hostility to the Act, have behaved in a way which should subject them to some form of discipline. The question of certification is often exceedingly difficult. To begin with, there is no rigid definition of what incapacity for work may mean, and again, it is not easy for a doctor to tell his patient that he is a liar. There are also many borderland cases which, if treated injudiciously, would become valetudinarian, and it is only by tactful treatment with sufficient rest that such cases can be persuaded that their best chance of recovery is a return to some form of occupation.

The rate of sickness amongst women is proved to be in excess of the actuarial estimates. Until this was ascertained, this also gave colour to the suggestion that the doctors gave certificates to the women too freely. This excessive sickness, this amazing amount of suffering now for the first time revealed, is rightly being met by an increased grant, and I can imagine no better way of spending money than to secure adequate rest and treatment for the prospective and actual mothers of our race.

Another oft-quoted objection to the panel system is the unequal distribution of insured persons among the doctors on the panel. This difficulty is, I understand, hardly existent in many parts of the country. But in London, owing to circumstances connected with the action of what

I may call without offence the "die hard" section of the profession, many doctors coming on the medical list rather late have found it difficult to obtain their share of the insured persons in their district.

But the significant fact that less than 12,000 of the insured population of a million and a half in London did express a desire to change their doctor last year suggests that, on the whole, the insured persons are fairly well satisfied with their treatment. It will be the duty of the London Insurance Committee at the proper time to advertise the fact that insured persons at the end of each year can change their doctor if they wish.

Lapses on the part of a small percentage of the doctors were in no way caused by the panel system; they would equally occur under any system. They are brought to light—and a good thing, too—because for the first time these poor people have a tribunal of easy access to listen to their complaints. If complaints were invited against any of the professions—the legal or clerical, for example—one wonders whether the percentage would be so low.

It is necessary to refer to the condition of the drug fund. In many parts of the country the cost has exceeded expectations. This very grave matter needs the most earnest attention of the whole medical service. We must honestly admit that three-fifths of the drug taking is both unnecessary and harmful. It is unfortunately true that in the past people were encouraged to come to the doctor, and the only tangible return for their fee was a bottle of physic. All that has to be unlearned by the people, but we can look hopefully forward to a few years hence, when drug prescribing will have diminished as much as the prescription of alcohol—formerly so commonly prescribed in large quantities at our hospitals.

III.—R. C. Buist, M.D.,

Dundee.

The influences that move our preference to one or another form of medical employment are so varied that they cannot all be weighed in the same balance. An aesthetic "derogatory" may not be fully countered by a financial *quid pro quo*. We may, however, agree that the ultimate value of any form is somehow to be tested in the manner in which work is rendered under it, and for clearness sake confine our attention to the psychological conditions of medical practice. Let us accept as fundamental the fact that our normal attitude to our various acts is conditioned by habit, and that this is the product of the character we inherit and the civilization we accept from our predecessors. Were there no other conditions the dispassionate observer would find the social picture unvaried from year to year and from aeon to aeon. We, by inspecting the ports of entry for agents of disturbance, may forecast the directions of divergence under their action.

In medicine the tradition of the elders is thoroughly safeguarded. The student, reduced to hypnotic anaesthesia by the formal lecture, is for three or more years submitted to continuous inoculation, and no honeyed heterodoxy will pacify the examining Cerberus that guards the portals of the profession. But let us look at the psychology of the relation between doctor and patient in the individual act of medical attendance to discern, if we can, the influences that determine its ultimate character. On the part of the doctor we have three instincts we may call compassion, curiosity, and cupidity, which give respectively a humane, a scientific, and a mercenary character to the medical act. Each has a reflex in the patient's desires for sympathy, for relief, and for economy. Mingle the three in due proportion and the conditions of practice are ideal, and what we are in search of is the system which most readily affords such an ideal apportionment.

Exchange of service for service, conveniently symbolized by the cash nexus, is not peculiar to but is fundamental in the relation of doctor to patient. The work which the doctor renders must be fairly balanced by an adequate share of the satisfactions of life. If this foundation be unevenly laid any superstructure will be unstable. Yet it will be granted that the more constantly this foundation is present to consciousness the less satisfactory is the structure. Profession and public have been so long accustomed to the formula, "One attendance, one fee," that many have sustained a rude shock in the transition to the panel system with the formula, "One patient, one payment," the patient being potential and the payment actual. Yet though it has not always been easy to trace the individual payment from patient to doctor, we have seen the quarterly insurance cheque, even belated, received with satisfaction. Any general comment on the results notes that, especially in populous areas, so great are the inequalities in the remuneration received and the responsibilities undertaken by individuals that there is sometimes doubt whether the remuneration can be earned or the responsibilities discharged. In view of this many contend that we should make the still further change to a salaried service where the responsibilities could be reasonably distributed. In this the commercial relation to the individual patient would be still less direct and the cash nexus would tend to become entirely subconscious.

Of the correlation of sympathy and the desire for it we learn much from cases where these are magnified to abnormality. Exaggerated desire for sympathy is pathognomonic of the cases described as neurotic, where the nervous mechanism is working badly, though no structural change can be detected. Exaggerated compassion may make the doctor anxious to prevent his patient feeling the wind that blows while he overlooks some gross clinically discoverable condition, such as albuminuria, of which she is unconscious. The condition in the patient is a disease, what is it in the doctor? A too vivid perception of the cash nexus has sometimes been suggested, and it must be admitted that were the dependence on the individual subconscious we should expect exaggerated compassion only in those cases where it expressed a congenital bias. Whatever be the truth on this point compassion for the sufferer is not peculiar to the medical relation, and if the hysterical patient makes a special appeal for professional recognition it is probably that she may by our authority enforce the slavery she demands from her surroundings and in which the doctor is himself sometimes involved. Is there fear that in any conceived system of medical employment compassion would die out in the medical profession? Is not a desire to heal one of the strongest impulses to the selection of medicine as a profession, and is not the sympathy it expresses inborn in the doctor? Undue development of it is an infirmity of systems of individual employment.

What medicine can give on its scientific side is of it and it alone. It is here that any system of medical organization must be known by its results. Here there is no room for parade. We must bring knowledge to relieve our patient and guide him back to the full efficiency of life from which he has fallen. Curiosity is warranted if it can probe and solve the problems presented by body and mind and by the conditions of life under which they have arisen, and that system is best under which this practical curiosity can have fullest and freest play.

What conditions must such a system embody? Can we agree upon a few? (1) Freedom from financial anxiety. Is it possible to provide this and leave adequate stimulus to exertion? (2) Reasonable limitation of the amount of practice. Is not leisure essential not merely for thinking but for maintaining the bridge from the research laboratory to the bedside? If the doctor's knowledge is not progressive, is his practice likely to be so? (3) There should be no inducement to subject the doctor's standard of knowledge to that of the patient. The patient's choice of doctor depends on many factors, but his main interest is to have an assurance that the doctor's knowledge is adequate to the discovery of his ailment, to its relief and to the prevention of its recurrence, and already to an extent greater than the profession had hitherto realized he has shown his readiness to accept an official guarantee.

The interpretation of history is so often biassed that it might be dangerous to inquire what conditions have most contributed to what we to-day recognize as scientific medicine, but does the product of hospital and laboratory compared with the much more widespread individual practice cause misgiving as to the prospect of future fruit, even though we may have to travel still further from the older form of medical practice?

If, then, our science is safe and compassion inevitable, need the profession concern itself about subsidiary issues that make one or other system socially convenient? Whatever system we are to have, we must see to the

security of its financial basis, and we may safely leave the character of our work to the humanity of our common character and the peculiar scientific interest of medicine.

IV.—MICHAEL DEWAR, M.D.,

Edinburgh.

AFTER carefully considering most of the arguments which have been brought forward by its advocates for the institution of a State Medical Service, I frankly admit that something can be said in its favour, as can usually be said of any proposition put forward by any party, yet to my mind all the arguments seem to be inconclusive and unconvincing. In my study of the question it appears to me that the advocates of a State service base their claims on three main points:

1. That the panel system is a failure, and, inferentially, that a State service is the logical sequence.
2. The advantages of linking up the various medical services of the community—public health, hospitals, Poor Law, and the general practitioners—in one national service of whole-time officers under a Minister of Public Health.
3. The advantages of a system of preventive treatment under such a service, as opposed to what is termed—perhaps a little sneeringly—curative treatment.

In passing I may be allowed in a few words to dispose of one or two other arguments which are used in its support: (*a*) Circumscribed working hours—eight hours a day—and time for research work; (*b*) a definite salary increasing by promotion: (*c*) pensions. These are simply an alluring bait dangled before the eyes of the profession. The first is impracticable under any system worked by general practitioners, owing to the uncertain nature of their work; while the second and third are just what I say, and could only be enjoyed by a moiety of the profession. In discussing the three main arguments which I have already mentioned I will not traverse and repeat (so far as I can avoid them) the criticisms of the BRITISH MEDICAL JOURNAL of January 17th last, with almost every word of which I agree, or the observations of others. I will not even use German-made arguments, but will content myself with the British-made article.

I. That the panel system is a failure. Is it a failure?

I am of opinion that after eighteen months' working of the Act, which involved one-third of the population of the country, nine millions of whom, being people who were never accustomed to a system of medical and sick insurance, and the co-operation of members of the medical profession, who had to learn and accommodate themselves to the provisions and new conditions of the medical service, the panel system has been a wonderful success considering the limited time it has been in existence, and that certainly it is not the failure which it is attempted by some to make out, and it will be for the advocates of a State service to prove up to the hilt that it is a failure. The conditions of the present service—I speak as I find them—are not unduly irksome or burdensome, and the remuneration is fairly good, if one takes into account three factors: (1) The usual rate of charges per visit among the working class in private practice; (2) the absence of book-keeping; and (3) the absence of bad debts. It would even be considered fairly satisfactory by practitioners in country districts if there was a little more generous mileage rate. The existing mileage rate is one of the blots on the present system, and this feature will have to be reconsidered in the future, under whatever service doctors come to be placed.

Surely the men who have been working the Act are best fitted to judge as to the benefits which have accrued to a big majority of insured persons, who in pre-insurance days never received anything but sporadic dispensary treatment, and very often not even that, as is well known to every one, and, as to the further development of the system, I would ask the State service advocates not to be led away by the reports of some parts of London, and the East End especially, as these areas are only a portion of the system. In our own Edinburgh area, and, as far as I can learn, in the whole of Scotland, the Act is working well; there have been very few complaints by insured persons against doctors, and the majority of these have been proved to be of a frivolous nature. I say it is a pity, and, I may almost add, a shame, that before the system in force has had a sufficient time to prove its worth and justify its usefulness, a number of medical men can be found who hurriedly condemn it, use all their influence to sweep it away, and make an endeavour to replace it by a system which is not favoured by a large majority of thinking men. They do not realize what they are doing, as a whole-time State medical service would be bad for the insured persons; it would deplete, and in many cases destroy, the practises of a large number of practitioners in cities and large towns, and it would be fatal to the existence of the smaller friendly societies, because either State societies would be established or the administration of sick benefits placed on economical grounds in the hands of the large collecting societies.

A State service would necessarily abolish the great principle of "free choice," which was fought for strenuously and granted by an overwhelming majority in Parliament. Is it considered now that we were wrong in fighting for that principle? I know well enough that the State service men are of opinion that free choice would not be abolished, and that they use all kinds of sophistry to support their opinions. But in the same breath they simply give themselves away by declaring that they stand for utility and not for sentiment, and as free choice is a matter of sentiment, it must give way before the superior utility of a whole-time service. It is ridiculous to say that there would be a perfect "free choice" in a State service, and then to say it must be swept away.

As regards the argument that a State service would be a better system for the working man and his dependants—for it is assumed that the dependants must be included in such a service—we have only to take stock of the Poor Law system, the old post office service, the police service when under the medical officer of health, and other services. What will the insured person say when he realizes what a State service means? I leave that to its advocates to answer. Again, under a whole-time service only a small portion of the medical profession will be able to participate in its fruits. Take Edinburgh as an example. There will be something like 250,000 people who will come under the service. As the city will likely be divided into small compact areas, each under a whole-time officer, it will not be far from the mark to say that 100 doctors will be quite able to overtake their medical attendance; 2,500 persons under the present remuneration means £375 a year, but as each officer will be offered £600 to £700 a year or less, one of two things will happen—either the surplus will be given in extra benefits, or the 2s. 6d. will be withdrawn. Then they talk about time being available for research work. May I ask if much research work has been done in the past by 85 per cent. of the men engaged in whole-time appointments? It is only the few who are fitted by inclination, or possess the necessary ability to carry on research work, and even then this can only be done satisfactorily in laboratories by men who are doing little else.

II. There is a good deal to be said in favour of the second argument—the linking up of the various services. But I would ask again if this linking-up process cannot be brought about under the present system? Will it be beyond the wit of man to arrange for consultants being employed, nurses being made use of, laboratories being established, and treatment centres being instituted just as well under the panel system as under a State service, and even a Minister of Public Health being appointed, who would co-ordinate the work of the various Commissions? I do not argue the latter point, as I consider it would be bad for the whole country to put the supreme control of such a gigantic undertaking under one man, especially when Commissioners have already been appointed for each country, who understand the needs and requirements of those they have in charge. At least, I know that the Commissioners for Scotland have succeeded in organizing and administering the affairs in Scotland a great deal better than any bureaucracy in London could do. They have made themselves acquainted with the most minute details, and put themselves to no end of trouble to find out things, which would never have been done by any official in London. It was a wise thing the Government did when they adopted the plan of devolution as regards the Commissions in each country. Is this all to be changed and overturned at the bidding of a few men, clever though they may be?

Give the present system time to work out its own salvation, and I believe it can be done successfully if every insurance practitioner would only realize his obligations and come to a proper sense of his duty in carrying out the provisions of the Act in a proper and faithful manner. I maintain that if the panel system ever becomes a failure it will not be due to five-sixths of those who have undertaken the work, but to the one-sixth through whose carelessness and irregularities the majority will suffer.

III. Preventive treatment. A good deal is being made of this aspect of the question. State service advocates blandly assume that by making use of preventive medicine all the ills of the human frame will be done away with, and there will be little or nothing left to cure. This statement is based on the words of several speakers and writers. In connexion with this there are two points to which I may allude:

(*a*) The idea that the work of the doctor, whether in private or insured practice, is not in a great measure preventive is very much to be deprecated. Personally I may say that my custom during the course of my private practice has been mostly of a preventive nature, and under the Insurance Act conditions it is very much more so, as I have greater opportunities of seeing cases of illness among the working class at an earlier stage than in pre-insurance days.

(*b*) I may be wrong in assuming that it is the intention of the State service advocates that the whole-time men would under such a system be mainly occupied in visiting their people's homes, examining each individual for latent diseases, and investigating the home conditions. At least, that is what I am led to understand. This would practically be inquisition and in part performing the duties of the public health officials. The idea is impracticable and utopian. The man who undertakes the care of 2,000 or 3,000 persons would find his time fully occupied, especially in an eight-hour day, in the curative treatment, as long as human nature is as it is, without spending his time in parochial visitations. They are assuming that doctors will be archangels, and certainly our experience of whole-time appointments in the various public services does not encourage the entertainment of such laudable actions. Under these circumstances you must have preventive men as well as curative men, and then there would be chaos.

I appeal to the advocates of a State service to wait a while, to cease this senseless agitation for a time, until the present system, which can and will likely be amended in many ways, has had a sufficient time to get into full working order and justify its usefulness. If, then, it is found to be useless and not able to carry on the work for which it was established, it will be open, and justifiably so, to the advocates of a State service to press for its establishment with all their might. At present they are not justified in so doing.

DISCUSSION.

Dr. A. C. Farquharson (Durham) remarked that Sir John Collie had said that the issue lay between a panel system and a State Medical Service. Was it possible to have an issue between something which existed and something which did not exist? Did the presumed defects in one system create extraordinary perfections in some system not defined? Sir John Collie said he did not press for a whole-time service; a part-time service would do. What was the panel system but a part-time service giving the individual practitioner freedom? For this reason the panel system was to be preferred to the fetters of a wonderful system providing regular hours and pensions, but taking away the individuality which had come down to the medical profession through the centuries. If a State Medical Service were established, would it be in competition with the general medical profession? If the State set up a system for the whole nation it would derogate the right of individuals to enter into contracts with one another, and thus it would interfere with personal liberty. He was not convinced that the co-ordination and administrative efficiency that the exponents of a State Medical Service claimed would be brought about would in fact occur. He was a firm believer in the panel system; the Act was working with huge success in Durham, and the dispensing was done at a cost of under 1s. 6d. per insured person.

Dr. Milson Russen Rhodes (part of whose contribution was read in his absence by Dr. David Rorie, one of the honorary secretaries of the Section) urged that the principles of a State preventive medical service were that the medical profession should become the servant of the community, and not as now of individual patients, and, on the other hand, that every member of the community should give a fair share, or equivalent, according to his income, for the services he, as a member of the community, had thus received towards his health. Whatever step the Insurance Act had taken in this direction, it could only be regarded as a crude step in the evolution of an efficient and responsible system of a State preventive medical service. The nation would soon realize that the general practitioner should be the household teacher of preventive treatment and medicine, and not stand, as in the old private practice system, merely for the principles of curative and palliative treatment. When the nation came to demand this he trusted that the profession would lead, rather than be driven by, the inevitable evolutionary process of collective State action. The new order would involve sacrifice on the part of the profession, but he did not believe it would hesitate on this account. Dr. Rhodes restated the principles on which, in his opinion, a State Medical Service should be formulated; these he set out in the British Medical Journal of April 20th, 1912.

Mr. E. B. Turner (London) said he held the view that of two evils one should choose the least. What would be the effect of a State Medical Service on the community, the sick person, and the profession? As to the community, he held that the service would not be a good one; competition was necessary to get the best out of a man. A civil service department, hidebound in officialdom, was not the best method of Government control of an individualistic profession such as that of medicine. The State had never done anything as well as it had been done by private effort—witness the telephones. As to the position of the sick person under a State Medical Service, the patients must be allocated to the doctor of the district, whether they liked it or not. He was against those who said the personality of the doctor had nothing to do with it. The personal magnetism of the doctor was an enormous factor, whether the ailment were functional or organic. The public medical service officer would tend to look to the health of the State rather than to that of the individual. If he were the individual he would rather the doctor looked to his health. It had been said that the rank and file in the army and navy services did not complain at being treated by the doctor allotted to them. When the change from the system of regimental surgeon to the Royal Army Medical Corps took place there were bitter complaints. Supposing a State Medical Service were started, how would promotion be arranged? If it were by nomination by the powers above, would not this open the door to gross nepotism and political favouritism? If promotion were by the ordinary routine of a Government office, the man who gave least trouble to his superiors and proved himself a docile machine would come to the top. All individuality would be crushed out. If the factors which make a first-class practitioner—brains, personality, sympathy, tact—were stretched on the Procrustes bed of officialdom a maimed and truncated spectre would arise. Independent of the public, the State doctor would sink to the position of the school-board man and the tax collector, instead of being the friend and adviser of his patients. The man who would rise would be the man in the groove, provided he had had the wit to choose the groove which led to the top. This was not the ideal of a learned profession. Panel work was partly a State service. The practitioners were under regulation and controlled by those who for the most part were their inferiors in intelligence, education, and station, but the panel system was far more elastic than a State service. The ideal system, however, was a free untrammelled practice, in which a practitioner could give of his best under the stress of strenuous competition, in intimate relations with his patients, whom he was free to decline, and who, in turn, could dismiss him—a condition in which a practitioner was compelled to advance with the times and keep himself in the forefront of modern

science. There were still thousands of doctors who were striving for these ideals, and many of them thought with himself as to the two systems under discussion—"A plague on both your houses."

Dr. CHARLES FORBES (Aberdeen) gave some reasons for thinking that a State Medical Service was rapidly becoming a question of practical politics. The present Government had practically committed Parliament to guaranteeing "adequate medical treatment" for insured persons and their dependants. If the panel system for 13½ million insured persons cost, say, 12½ million, what would the profession consider fair remuneration for providing really adequate treatment for, say, 35 million persons? Wives and children required more treatment than men, and if 12s. a head wer taken as the minimum demand the cost would be 37½ million; add to this the cost of what the State must ultimately provide for expert assistance in diagnosis and treatment—institutional treatment where imperative—and a sum was reached that would appal the taxpayer. The claim for a State Medical Service was that it would provide adequate treatment more economically and efficiently than any possible extension of the system of capitation payment. When approved societies saw they could not regain control of medical benefit, they would bring their great political influence to bear in favour of a State Medical Service. When adequate treatment came to be enacted by Parliament for insured persons and dependants a State Medical Service offered the most efficient and economic system, with greater economy for the sickness funds of approved societies, and generally more efficient organization for both prevention and treatment. What was to be the attitude of the Representative Body of the British Medical Association towards this question? As an insignificant general practitioner he assured the leaders of the profession that if a majority of panel practitioners were offered salaried service by the State they would ask: (1) What compensation does the State offer me for disturbance of vested interests? (2) What conditions of service do you offer? (3) What terms do you offer? If favourable answers were given to these three questions, three-fourths of the panel practitioners would become State servants to-morrow. If the Association entered the political arena on this question with its hands tied, it would be a disaster for the profession and the country. The Association secured everything the profession gained in the panel fight, but if the British Medical Association and the new Federation were to be turned into propagandists to fight for the continuance of the panel system as against a State Medical Service, then the profession would have a greater defeat than it suffered in the last campaign.

Dr. J. C. MCVAIL, Vice-Chairman of the Scottish Insurance Commission, expressed his indebtedness for the invitation to attend the proceedings of the Section, especially as he was sure it would be profitable to hear the views expressed on this subject. He was glad that it seemed to be realized that the Commissioners were doing their best to act fairly in the administration of a difficult Act. Under the Act the doctor came in as a private practitioner with the primary object of doing his very best for the patient; the medical practitioner was always at his best when dealing with a patient as an individual. Taking it for granted that a majority, as indicated by the discussion, were in favour of a continuation of the panel system, it was important that they should do their utmost to make it a success. Linked up with the success of the panel system there was undoubtedly a necessity for very careful certification. The doctor had to think not merely of the financial interest of the patient, but of the society. Doctors had to see that societies had their attention sufficiently directed to cases where benefit should be obtained by means of the Workmen's Compensation Act. Societies might not always be aware, otherwise than through the medical attendant, that a case of ophthalmia was probably traumatic ophthalmia, due to injury during employment. It was not a doctor's duty to be a judge of morals, and to say whether a disease was due to misconduct or not, but it was his duty to set down unflinchingly the nature of the disease, and leave others to decide whether it was a disease of misconduct or not. If he had a case of gonorrhoea he was not to call it urethritis or salpingitis, and syphilis must not be called a disease of the liver or any other organ. Further, a doctor had to be careful to certify that a man was fit for work on the actual day that he decided the man was so fit. He must not postpone the date, because the man urged that he did not want to begin work in a broken week. A single day's extra sickness of every insured person in Scotland meant to the societies the loss of £40,000 to £60,000.

Dr. L. J. PICTON (Stockport) thought that if the view indicated by Mr. Turner were taken, of "a plague on both your houses," the medical profession must give some indication of the form in which it desired medical benefit to be modified. Little as he sympathized with the exponents of a State Medical Service, they had a point in their favour in that they did attempt to deal with the question of taking in the dependants. Supporters of the panel system must say how they would deal with dependants under the panel system. The Act raised definitely, and by its general tendency, the hope in the minds of the public that the dependants would be taken in. The question of treating them was entirely one of expense, and he could not see how they were to be included under the present system except at a cost which the community could not bear. A means of eliminating a source of heavy claims upon the sick fund would be to require the individual to bear the cost of small illnesses, the State only to come in for long illnesses, somewhat on the lines of motor car insurance where one obtained a considerably reduced rate by agreeing to pay the first £5 damage oneself.

Mr. WISHART (Chairman of the Aberdeen Insurance Committee) expressed the view that if the medical profession wished to retain control of the administration of medical benefit it must come forward with remedies for existing defects, and particularly it must deal with any practitioners who accepted more persons than they could properly attend. If the profession did not deal with these matters, the approved societies would press for a State Medical Service. Instead of requiring 40 or 50 patients to wait in ill-ventilated surgeries, a direct incitement to disease, why did not practitioners group themselves and have a well-equipped waiting-room with a nurse and dresser? He believed a State Medical Service was coming in some form, and he would like to see the doctors in control of it.

In reply to a question by Dr. T. CUMING ASKIN, Mr. WISHART said there were a few doctors in Aberdeen who had large numbers on their lists.

Sir JOHN COLLIE, replying on the discussion, remarked that he never said the panel system was a failure; he had pointed out that in the poor districts of large cities whole-time medical officers might best be able to cope with the difficulties which undoubtedly existed. He did not think the profession properly appreciated the difficulties that would arise when the extra half-crown voted by Parliament came up for revision, and the dependants were proposed to be included.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

SECTION OF ANATOMY AND PHYSIOLOGY.

Thursday, July 30th.

PROFESSOR WILLIAM WRIGHT (London) on this day gave the results of a histological examination of the alimentary canal in the elephant, and showed a series of photomicrographs illustrating the anatomy of the various parts. He drew attention particularly to the structure in the regions of the cardiac and pyloric orifices of the stomach, and in the region of the ileo-caecal valve. He also showed a specimen of the temporal gland in the elephant, and a number of photomicrographs illustrating its structure. He pointed out its resemblance to the sweat gland, the mammary gland, and the lacrymal gland; its tubules and ductules were, however, more constantly lined

by two layers of epithelium than was the case in these above-mentioned glands in man. The papers were discussed by Professor Jamieson and Drs. Goodall, Earle, and Gladstone. Dr. Goodall asked if the writer had considered the distribution of elastic tissue, and mentioned that in most animals there was a distinct deposit of elastic tissue before each of the sphincters. He believed that the nodule of lymphoid tissue shown in the section of the stomach was more constant in carnivora than in herbivora. Mr. Norman J. Calder was the next speaker; he described a number of rare anatomical anomalies, including: (1) An abnormal band in the right auricle of the heart in the line of the sulcus terminalis, and probably a separated portion of the crista terminalis; (2) an accessory retrosternal thyroid gland; (3) varieties of the falx cerebelli, with corresponding markings on the occipital bone; (4) a thoracic duct opening into the venous system on the right side; and (5) an extra-apical lobe of the right lung, with no special relationship to the vena azygos major. Mr. George Riddoch (Aberdeen) subsequently demonstrated a dissection of the sympathetic system of a full-time fetus, pointing out more particularly the differences it presented, from the usual descriptions of the system in the adult. Mr. Sidney Boyd (London) then described a congenital anomaly of the duodenum, in which the duodenum passed from the pylorus outwards behind the hepatic flexure, and emerged as a coil of jejunum lateral to the ascending colon, thence passing down into the pelvis. Professor J. Kay Jamieson (Leeds) showed a number of specimens in which the lymphatics had been injected with Prussian blue. He further demonstrated the mode of injection. Dr. R. J. Gladstone (London) then showed a case of congenital absence of the left kidney and ureter. The testis, epididymis, deferent duct, and seminal vesicle of the same side were present, but imperfectly developed. Both suprarenal glands were present. The right kidney was enlarged to double the size of the normal. This, he demonstrated, was a pure hypertrophy, the enlargement being due to an increase in size of the constituent elements—namely, the pyramids, tubules, and glomeruli—and not to an increase in their number. Dr. Gladstone also showed a case of congenital absence of the appendix of the caecum. After drawing attention to the extreme rarity of the condition, he described five different grades of the deformity, starting from complete absence of both caecum and appendix and ending with that in which the caecum is normal and the appendix only is wanting. He believed these different types to be due to arrest of development at corresponding stages in the growth of these organs. Mr. F. K. Dalziel (Glasgow), in the discussion, described a case which he had recently met in which the left kidney lay immediately in front of the right kidney.

Friday, July 31st.

On the third morning Dr. Hugh Maclean gave a demonstration of a method for the estimation of sugar in a small amount of blood: 2 c.cm. of blood are taken, to this 7 c.cm. water, 14 c.cm. dialyzed iron, and 1 c.cm. saturated aqueous solution of sodium sulphate are added. The mixture is filtered by pressing through filter paper by means of a cloth, and the sugar estimated by a modification of Bertrand's method. Dr. Cathcart thought this was a very valuable communication, particularly on account of its rapidity. He regretted that the permanganate titration had to be adopted, as it was difficult to get workers to adopt a uniform end point. Mr. E. S. Edie gave the result of certain experiments on the action of enzymes. He found that if an excess of pepsin were added to a small quantity of trypsin the digestive action of the latter was markedly inhibited. This inhibition was not due simply to the presence of protein attached to the pepsin. Other considerations suggested that it was due to the pepsin being able to combine with protein in alkaline solution, but not to digest it. The action of a small quantity of trypsin was thus inhibited, owing to there being a very small proportion of the substrate free to combine with this enzyme. In a similar manner an excess of trypsin inhibited the action of a small amount of pepsin on protein in an acid solution. Professor Macleod reported some recent researches on sugar metabolism, concerning the possibility that in cases of experimental hyperglycaemia a certain proportion of the glycogen in the liver is broken down, not only into dextrose, but also into other substances. Histological examination of the liver stained by Best's method showed that the glycogen had become discharged as a colloidal substance, probably dextrin, into the blood vessels. In another series of observations it was found that large amounts of lactic acid were discharged into the blood of the hepatic veins after local anaesthesia of the liver, produced by clamping the vessels. Dr. Hugh Maclean said, in reference to the possibility of the presence of intermediate substances in the blood, that he had attempted to find evidence of these by the estimation of sugar in the blood before and after hydrolysis. In no case was there any change. Mr. A. D. Gardner reported the results of certain experiments on the sugar of blood and urine. He found that whereas glycolysis always occurred in normal human blood, in the blood of seven patients suffering from diabetes it was largely or entirely absent, although in mild cases of the disease glycolysis might equal or exceed the normal value. Dr. E. P. Cathcart read a communication on the influence of carbohydrate on metabolism. He pointed out that the so-called isodynamic law was of limited application, and that for normal metabolism carbohydrates were absolutely essential. He cited a new series of experiments which he had carried out, in which he described the effect of the replacement of given amounts of olive oil, in cases where the oil was the sole foodstuff given, by approximately isodynamic amounts of pure glucose. Professor Macleod pointed out that Dr. Cathcart's results were fully confirmed by those of Professor Ringer of Philadelphia. He was of opinion that further investigations on these lines would probably enable them to treat cases of acidosis more satisfactorily than they did at present. Mr. J. B. Orr and Mr. David Burns described the influence on metabolism of excessive water ingestion. They concluded that excessive ingestion of water did not produce the appearance of creatin in the urine, that the apparent decrease in the excretion of creatinin recorded under these conditions was fictitious, being due to an error of analysis caused by the great dilution of the urine, and that excretion of creatin was not a necessary consequence of the catabolism of tissue protein.

Sections of Dermatology and of Naval and Military Medicine and Surgery.

Thursday, July 30th.

Mr. McDonagh opened a joint discussion on the treatment of syphilis, and pointed out that till the cause of a disease was known its treatment must be empirical. He held that the *Spirochaeta pallida* was not the actual cause of syphilis, a sexual cycle and the production of spores being also necessary. The tendency of all protozoal diseases was to spontaneous cure, and, though treatment might do much to cut short the life-cycle, the host himself did more. Salvarsan could kill the spores in the early stage; later it killed only the gametes, the causes of the symptoms. Early diagnosis was therefore more than ever important. Coming to the use of salvarsan, Mr. McDonagh agreed that the best method of administration was the intravenous one, injections being made at intervals of not more than seven days; he preferred shorter intervals of four days. Spasmodic administration much lessened its efficacy. It was not efficacious in congenital syphilis. In primary syphilis he gave five injections of neo-salvarsan, and then mercury; in secondary syphilis nine injections and mercury for two years. Intrathecal injections must be used with caution in general paralysis and without much hope of success. Colonel Gibbard followed with a paper on the same subject, relating his experiences in the Military Hospital, Rochester Row. He said that three years ago, when he addressed the Association on the same subject, the question was whether salvarsan was a specific remedy for syphilis or not. To-day the question was not whether it should be administered, but how and when. He mentioned the great success in preventing relapses experienced in the army. In the pre-salvarsan days 371 cases showed 315 clinical relapses in the first year of treatment; now 285 cases treated with salvarsan and mercury showed only 9 relapses. After nearly 4,000 injections no fatality had occurred. The question of the minimum amount of treatment was

difficult, and very important from the economic aspect, since every addition made to the number of injections in a course of treatment made a difference of hundreds of pounds. The general practice was to give two salvarsan injections and nine mercurial injections, the former at either end of a nine weeks period, the latter weekly during it. Drs. Tomkinson, Nixon, McCormac and McWalter took part in the discussion that followed. Captain C. Webb Johnson, R.A.M.C.(T.F.), in a paper on common ailments in camp, said that the insignificant points were more often of most importance from the point of view of efficiency. He thought that the medical examination of recruits should be much stricter than it often was; there was a great temptation to pass men as fit to fill up the ranks which must be strongly resisted. The throat and mouth should be carefully examined, particular attention being paid to the teeth. The general physical conformation was also important, and the moral character also paid attention to, especially as regards drink. All recruits should be examined before going to camp. Close attention should be paid to the feet, boots and socks, and periodical inspections of the feet made. The alimentary system also demanded attention. Colonel Melville, Lieutenant-Colonel Kelly, and Dr. Baxter took part in the discussion.

SECTION OF DERMATOLOGY.

Friday, July 31st.

FIVE papers were read on the concluding day, the first of them being by Dr. Goodwin Tomkinson (Glasgow), who dealt with four cases of Lahore sore. The patients were a father and three children who had come from Sialkote in the Punjab. The lesions, which were all on the left side of the face, had lasted a year, and had been treated locally with carbon dioxide snow and *x* rays. Dr. Tomkinson had sections made and films stained. In the films the *Leishmania tropica* was found, thus establishing the diagnosis. The author called attention to the fact that all the patients were in the habit of sleeping in the open air in the right lateral decubitus position, without the protection of mosquito nets. This suggested that the infective agent was probably conveyed by a biting insect of nocturnal habits. The President advised local treatment with salvarsan. Dr. Cranston Low said he had had one case of the disease, but had not been able to find the parasite. Mr. J. E. R. McDonagh (London) read a paper on the *rationale* of the Wassermann reaction. The principal conclusions at which he arrived were as follows: (1) That the Wassermann reaction was an adsorptive phenomenon. (2) That traces of amino-acids interfered largely one way or the other with the reaction. (3) That there was no necessity to employ all the words recently coined in connexion with immunity work. Accurate chemical and physical terms were needed. (4) That the complement and the antibody were nearly if not quite identical. (5) That the antibody was a cellular product which was set free to circulate in the body fluids. Dr. Nixon (Bristol) said it was important to replace the provisional theoretical terms "antigen" and "antibody" by terms representing definite physical and chemical properties. Dr. Winkelried Williams (Brighton), in a paper on keratodermia blenorrhagica, pointed out that the disease was rare in this country, but that he was reporting the fourth case—the second under his own observation. This case was peculiar in that it did not appear until ten years after the patient had been infected with gonorrhoea. Like most other instances of the disease, this case was associated with severe gonorrhoeal rheumatism. This rheumatism had been diagnosed as rheumatoid arthritis until the correct diagnosis of the skin condition led to the necessary alteration in the diagnosis of the joint affection. Subsequently treatment with gonorrhoeal vaccine led to the complete cure of the patient both of the eruption and the arthritis. This showed the valuable light that might sometimes be thrown on obscure cases of arthritis by dermatology. Mr. Haldin Davis (London) read a paper on infantile eczema in which he expressed himself strongly against the view that it owes its origin to a diathesis, and favoured the theory of external irritation. He considered that children with severe eczema were likely to die of other diseases more readily than children with normal skins. As regards treatment, he had recently been much impressed by the beneficial effects of small doses of *x* rays, given at intervals of a fortnight. In view of the difficulty of keeping young babies quiet and preventing them from wriggling, he gave them just enough anaesthetic to put them to sleep. Of eight cases, five were practically cured. He only used the method in very severe cases. Hence he had not as yet collected many. He believed he was the first to apply *x* rays to these cases. The President said he believed in keeping the child's face wrapped for several days at a time in a single dressing of ointment. Dr. Norman Walker agreed with much that Dr. Haldin Davis had said. He had a strong affection for the old-fashioned tar in the form of lotion. Although he believed that external causes were of first importance, he found the old-fashioned mercurial purge of great value. Dr. Nixon said that eczematous children were liable to die of status lymphaticus or pulmonary diseases. Circumcision was often advisable in eczematous male infants. Dr. McWalter (Dublin) and Dr. J. Crabbe (Holloway) also spoke. Dr. Cranston Low, who objected to the term "eczema," regarded these cases as really seborrhoeic dermatitis and obtained good results from sulphur and ichthyol treatment. Dr. McWalter (Dublin) read a paper on the use of antimony in syphilis, a drug he had been using for fifteen years. He also used it in other diseases. The President, in closing the proceedings, desired especially to thank Dr. McLatchie for his work as Secretary, work which had been exceptionally heavy owing to the illness of Dr. Christie, and work which had been exceptionally well executed. Dr. Norman Walker proposed, and Dr. McWalter seconded, a vote of thanks to the President. This was carried with acclamation, and the proceedings then terminated.

SECTION OF DISEASES OF CHILDREN, INCLUDING ORTHOPAEDICS.

Thursday, July 30th.

DR. A. E. GARROD, opening a discussion on the thymus gland in its clinical aspects, said that the thymus was essentially a gland of childhood. He narrated the experimental results which had followed thymectomy in animals, the most striking results of which were changes in the osseous system similar to those of rickets. Thymus feeding had not been able to prevent these changes. A form of "cretinoid" idiocy had been ascribed to absence of the thymus. He then spoke of the conditions which accompany hyperplasia, dealing with the clinical varieties—"thymic death," "thymic asthma," and "status lymphaticus." He had not seen an undoubted case of thymic asthma, and thought that such cases must be very rare. Deaths in status lymphaticus could not be ascribed to the effect of pressure. Paltauf had placed the subject on a broader basis, relegating the enlargement of the thymus to the position of one factor only of a general constitutional state. He dealt with the symptoms and pathology of status lymphaticus, pointing out that many of the signs were inaccessible to the clinician. Status lymphaticus played a part in Addison's disease and Graves's disease. The treatment at present had been chiefly concerned with the large thymus and the removal of the gland or its reduction by irradiation with *x* rays. Possibly, if it were proved that the defect was one of internal secretion, administration of one or other of these might bring beneficial results. Mr. Alexander MacLennan (Glasgow) recounted his experiences in the removal of the thymus gland for various morbid conditions. He advocated thymectomy as a preliminary to partial removal of the thyroid gland for Graves's disease. He had removed the thymus in eight cases. Mr. D. P. D. Wilkie (Edinburgh), in a paper on acute appendicitis and status lymphaticus, laid stress on the importance of the latter state in relation to operations in acute abdominal conditions, and narrated cases of appendicitis which had been rapidly fatal and in which status lymphaticus was found after death. The subject of status lymphaticus appeared to have an abnormally low resistance to acute abdominal infections, and there was a particular reason for the avoidance of chloroform as the anaesthetic in such cases. Dr. Charles McNeil (Edinburgh) said that the special feature of status lymphaticus was that a small "noxa" produced an uncommonly great reaction of tissue cells. He thought that death in this condition was due to infection of a fulminant form, the virulence of which

infection was referable to the constitutional state of status lymphaticus. In the second part of his paper he dealt with "scrofula" as defined by Escherich, Morro, and others. He held that in status lymphaticus there was an accentuated reaction to tuberculosis also. Professor Noel Paton spoke of the thymus from the side of physiology, recounting experiments by thymectomy on guinea-pigs. Very little result followed. The thymus enlarged after castration, a fact which was well known in the meat trade. Professor Paton had produced these effects in guinea-pigs. If the thymus were removed the testis grew more rapidly. There was a close connexion between the thymus, sex glands, and body growth. The thymus could not be considered as an organ essential to life. The discussion was continued by Dr. J. H. Thursfield, Dr. D. B. Lees, Dr. Frederick Langmead, Dr. Leonard Findlay, and Dr. D. Watson Geddie. Dr. A. E. Garrod having replied, Dr. Leonard Findlay and Dr. Madge Roberts contributed a paper on some manifestations of congenital syphilis and its treatment. They referred to the condition of eczema which one of them had described in syphilis; 37 cases in all had been seen, and each gave a positive Wassermann reaction. In a series of 11 cases of congenital heart disease a positive Wassermann reaction occurred in 7 of the patients, and in the mothers of 2 others. Of 15 cases of cerebral diplegia in which a history of injury was obtained the Wassermann reaction was positive in 5, and in 10 where there was no history of injury; 4 gave a positive reaction. They spoke of mental deficiency, and had found a positive Wassermann reaction in 59 per cent. of such cases. These figures were evidence of the inefficiency of the present methods of treatment. They advocated the use of the scalp veins for intravenous injection of neo-salvarsan. The mortality of the cases they had treated with salvarsan and mercury was considerably less than that of those treated by mercury alone.

Section of Electro-therapeutics and Radiology.

Thursday, July 30th.

The principal discussion on the second morning related to the comparative value of *x* rays and radium in the treatment of malignant growths. It was opened by Dr. F. Hernaman-Johnson (Darlington), who dealt largely with the physics of the question. He pointed out that a few years ago physical science would not commit itself to the proposition that it was possible, even in theory, to design an *x*-ray apparatus which should give out rays identical with the gamma rays of radium. That attitude had now changed. It was known definitely that by using a suitable anticathode, and discharging against it negative particles moving at about 120,000 miles a second, the necessary conditions would be fulfilled. It was at any rate certain that in cancer the therapeutic effects of hard filtered *x* rays closely approached those of radium, but so long as the *x* rays they used still differed considerably in penetrating power from the hard gamma rays of radium, they must admit that cases occurred which, even apart from questions of correctness of application, were better dealt with by the latter agent. Radium therapy, however, was simply *x*-ray therapy writ large, and when it was divorced from electro-therapeutics no small loss resulted. A second paper, dealing more strictly with the clinical side of the subject, was read by Dr. John Macintyre of Glasgow, who pointed out that in a great many cases the site of the disease and its depth in the tissues determined the choice of the agent; the state of the patient and the history of the case also had to be taken into account, and the widely differing form of the two agents also had something to do with the advantages and disadvantages of each. It was furthermore of importance to remember the expense involved in the purchase and use of radium, although one great advantage which radium possessed was in the collection of emanation. Dr. James R. Riddell (Glasgow) reported certain cases to support the view that hard *x* rays have an action on certain malignant tumours very similar to the action of heavily filtered radium, and that the action was selective in the sense that its final result was the destruction of the malignant cells, while the surrounding fibrous tissue was irritated and stimulated to increased growth. Dr. W. S. Lazarus-Barlow (London) detailed some experimental researches in order to show that when one had determined the quantity of radium and the time of exposure which would give good results in dry cutaneous carcinoma, the quantity of radium must be increased, and the length of exposure diminished, in order to get the optimum results in the case of columnar-cell carcinoma. Among other speakers, Dr. Frank Fowler (Bournemouth) called attention to the poor equipment of many *x*-ray departments, which made it out of the question to compare the results in any way with those obtained by means of radium; and Mr. Hall-Edwards (Birmingham) said that recent developments in *x*-ray treatment had at least rendered it possible to get rid of the large sloughing and offensive surfaces which had been the necessary accompaniments of malignant growth. The papers read during the morning included one by Dr. W. C. Oram (Liverpool) on the subject of the radiographic detection of gall stones. He drew the conclusion that some gall stones were likely to be too transparent for *x*-ray demonstration even under the most favourable conditions. Dr. J. R. Riddell showed diagrams of an *x*-ray tube so designed that either a converging or a parallel beam could be made use of; and Dr. E. P. Cumberbatch (London) gave a demonstration of a condenser discharge apparatus for muscle testing. A cinematograph exhibition concluded the morning's work, Dr. John Macintyre showing the first *x*-ray cinematograph film ever made, together with some recent examples of work in this direction. These latter illustrated the movements of the stomach after a bismuth meal, the successive pictures being made with exposures of one-three-hundredth of a second.

Friday, July 31st.

At the conclusion of the combined discussion with the Sections of Medicine and Diseases of Children, another discussion took place in the Section of Electro-therapeutics and Radiology on the subject of *x*-ray diagnosis in gastro-intestinal conditions. Dr. A. F. Hertz, in an opening address, confined himself almost exclusively to appendicitis, and urged that no case of appendicitis ought to be operated on without a preliminary *x*-ray examination. The evidence to be obtained by means of *x* rays was both direct and indirect. Directly, the appendix itself could be seen in at least 50 per cent of cases, and probably in a much larger proportion. The actual method of examination depended upon palpation with the screen; by manipulating the caecum and pushing it in various directions so as to separate the ileum from the caecum one could frequently see the appendix. Dr. Hertz discussed the *x*-ray appearances, and also the signs on palpation indicative of diseased appendix. The indirect evidence obtainable by *x* rays had regard to the various reflex effects which the appendix had upon the alimentary canal, and particularly upon the stomach. Dr. G. A. Pirie (Dundee) pointed out certain indirect radiographic signs of appendicitis, and Dr. O. Grünbaum (London) suggested the use of collodion for coating a bismuth pill, the advantage being that the pill did not disintegrate until the contents of the stomach became acid. Dr. E. Duncan (Glasgow) considered that the appendix was much maligned, and did not produce as much mischief as was alleged. Dr. Hertz, in replying, criticized an expression which had been used in the course of the discussion, namely, "atonic constipation." There might be deficient peristalsis with normal tone, and normal peristalsis with deficient tone.

Section of Gynaecology and Obstetrics.

Thursday, July 30th.

The subject for this day's discussion—the management of pregnancy and labour in contracted pelves—was opened by Dr. Henry Jellett (Dublin) and Professor Frank (Cologne). The former confined himself to the second degree (2¾ in. to 3¼ in.) of symmetrical contraction, and discussed its treatment under the headings of (1) induction, (2) Caesarean section, (3) pubiotomy, and (4) craniotomy. He was not greatly in favour of inducing premature labour; although the recognized methods were easy, they were all more or less uncertain, and the possibilities of infection were large. It was an operation for special conditions alone. Caesarean section was good, except that it prevented any demonstration of the voluntary powers of the patient, and "once done always done." It was specially serviceable in elderly primiparae. He considered pubiotomy the operation

of choice and to be particularly indicated in young primiparae. When this operation was performed every opportunity was given the woman of escaping any further operation, and there was a permanent increase in the measurements which was very obvious in later labours. The main arguments against it were, first, the prolonged labour and secondly the possibility of lacerations. A record of 19 cases was given showing complications in 9; in 2 there was necrosis and extrusion of the fragment of pubes between the section and the symphysis, but this led to no difficulty in locomotion; craniotomy should be limited to dead children. Professor Frank, who apologized for speaking in German, discussed his simple and safe operation of subcutaneous symphysiotomy. The only instrument necessary was a narrow knife; and compression afterwards prevented haematomata. He recommended it more especially for multiparae with middle degrees of pelvic narrowing. It was advisable to delay its performance till the os was dilated and to allow Nature to complete the delivery. It was a useful operation for the delivery of the aftercoming head. Contraindications were discussed and tables analysed. In 155 cases the previous history of the patients showed 23 per cent. of live births, whereas with symphysiotomy 94 per cent. was obtained. For primiparae with the same degrees of contraction he advocated extraperitoneal suprasymphyseal Caesarean section. Dr. Shannon (Glasgow) interposed his analysis of cases in Professor Kerr's wards in the Glasgow Maternity Hospital during the years 1909–1913; 27.5 per cent. of contracted pelves were found in a total of 1,291 cases. Full details were given of the methods of diagnosis and treatment, but these did not lend themselves readily to summary. It was obvious, however, that craniotomy was given a somewhat larger sphere of usefulness than is usual. Kerr's modification of Pinard's method of estimating the proportion between the head and the pelvis was described. Dr. Hastings Tweedy (Dublin) emphasized the difficulties of pelvimetry. He considered extraperitoneal section an admirable operation and viewed with much disfavour craniotomy of a living child merely because there had been several vaginal examinations. Professor Murdoch Cameron (Glasgow) expressed a great contempt for statistics, and agreed with Dr. Jellett and Dr. Tweedy in regard to craniotomy. He preferred Caesarean section to pubiotomy. Professor Kynoch (Dundee) considered it inadvisable to time labour by the clock. In cases where natural delivery appeared improbable he had found Walcher's position useful. He was sorry to find induction so severely criticized, believing, as he did, that the failures were due less to the method than to its performance. He had recently been much impressed by the simplicity of symphysiotomy in the hands of Professor Frank. Sir John Byers and Dr. Oliphant Nicholson also spoke. Dr. Jellett, in reply, pointed out that he had discussed the question from the standpoint of modern midwifery and not from the point of view of what a general practitioner might be compelled to do. He therefore preferred pelviotomy to induction. The best test of the proportion between head and pelvis was given by the former, which postponed operation to the last moment. He was inclined to forecast a prophylactic pubiotomy during pregnancy.

Friday, July 31st.

The first paper of the last day was read by Dr. Leith Murray (Liverpool). It dealt with acidosis and the nitrogen partition in pregnancy, and expressed regret that even in maternity hospitals urinary examinations were not as full as might be. Three simple quantitative tests were described which could be applied by a relatively inexperienced worker in a clinical laboratory: (1) Mathison's for ammonia, (2) Groat's for total nitrogen, and (3) Hart's for acetone-complex bodies. A discussion of the possible value of the data obtained followed. An increased ammonia coefficient was not necessarily indicative of an acidosis, but might, and often did, represent a change in the liver either degenerative or necrotic. A few elementary points in relation to acidosis in general were given and the question raised whether even an estimation of the acetone bodies was a true measure of the condition. The speaker was inclined to agree with Sellards that the only true test was one of tolerance to alkali. If the body were in no need of fixed bases, any alkali introduced would be eliminated and the urine become alkaline; but if there were a need for fixed bases, it would remain in the body and the reaction of the urine would remain unchanged. This test was, in addition, a therapeutic measure, and also gave a clear indication of the cause of a high ammonia coefficient, whether from a disorder of the protein metabolism or as a purely compensatory process. The results in 80 cases of normal and toxic pregnancy were given. In symptomless pregnancy the coefficient rose steadily towards the end, ranging between 2.2 per cent. and 12 per cent. Exceptionally still higher ratios were observed during labour. Hyperemesis, eclampsia, pre-eclampsia, and nephritis in pregnancy were reviewed in turn, and a comparison made between the ammonia ratio, the acetone bodies, and, in some of the cases, the tolerance test. The difficulties of interpretation were admitted and a plea put forward for a further study of the subject. Dr. Beckwith Whitehouse (Birmingham), Dr. Russell (Glasgow), and the President joined in discussing the paper. Dr. Tennyson Smith (Kent) followed with an interesting narration of a case of rupture of the uterus through the scar of a previous Caesarean section. The woman had been in labour for fourteen days before the rupture occurred. The fetus was in the abdominal cavity, with much blood clot, and hysterectomy was done eight and a half hours after the rupture. The patient made a good recovery. Some discussion followed as to the site of the rupture and the best suture material for uterine wounds. The President contributed some further observations on the treatment of eclampsia by veratrone. Cases, both in eclampsia and in the pre-eclamptic state, were recorded showing the very favourable results that had been obtained with this drug. The blood pressure and pulse immediately fell in every case, and the quantity of urine rapidly rose; diaphoresis was marked, and there was in almost every instance an immediate cessation of fits. The depressing action of the drug in doses of $\frac{1}{2}$ to 1 c.cm. was very temporary in eclampsia, although in other conditions it appeared more potent. This in itself was suggestive that the drug was in some measure a real antidote. Experimental work on cats showed that veratrone stimulated the afferent fibres of the vagi. The work of the Section closed with a vote of thanks to the President, proposed by Emeritus Professor William Stephenson.

SECTION OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

Thursday, July 30th.

THERE was again an excellent attendance at the Nose, Throat, and Ear Section, and the subject chiefly under discussion was one of much interest. There is probably no more contentious subject in otology than oto-sclerosis. Mr. Gray, who had charge of the etiological and pathological aspect of this disease, showed some really excellent diagrams and screen pictures. He further freely acknowledged the difficulty of stating the exact nature and cause of this disease, especially as to whether it be a bone change, pure and simple, or whether it be neurotrophic. It was an exceedingly instructive paper. The clinical aspect was then dealt with by Mr. Fraser, who especially mentioned a probable catarrhal origin in some cases. Again the Section showed its appreciation of the thoroughness of the speaker's work. The various methods of treatment were then discussed by Mr. Jenkins. He stated definitely that, in his opinion, no known treatment was of any curative value in true oto-sclerosis. An excellent review of the claims made on behalf of the system of treatment known as auditory re-education was then supplied by Mr. F. F. Muecke. It included a detailed account of much work done by him on the subject at the London Hospital, and showed that the results were not satisfactory. The discussion was then taken up by Dr. Watson-Williams, Dr. William Hill, Mr. Syme, Dr. McKenzie, Mr. Jenkins, and Dr. Booth, and the openers suitably replied. All the speakers were unanimous in their opinion of the value of the opening papers. The morning's work concluded by a paper by Dr. Dimitrios Dimitriadis, which was read on his behalf by the Secretary, and gave an account of the wounded during the last two Greek wars, with special reference to the ear, nose, and larynx.

Friday, July 31st.

The Section was again indebted to Mr. J. S. Fraser (Edinburgh), who showed some splendid epidiascopic

pictures demonstrative of the pathology of labyrinthitis. The spread of infection from the middle ear and antrum could be followed with great ease, so excellent and instructive were the slides. The pathology of the various diseases of the middle ear and labyrinth must surely have made a great advance during this congress. Dr. Watson-Williams (Bristol) then gave a demonstration on the intranasal operations for frontal sinus disease. First touching briefly on the historical aspect, showing pictures of the methods and instruments of the various Continental and American specialists, he went on to explain—largely by means of excellent *x*-ray pictures—his own method, describing the possible dangers of the operation, and pointing out the best way to avoid them; he laid great stress on keeping to the outer side of the vertical plate of the middle turbinate. After him Dr. William Hill showed Good's raspatory, for which he claimed good results. Sir William Milligan then raised the point of the greater safety of the external operation in the hands of specialists other than those specially skilled in the internal method. Dr. Watson-Williams suitably replied, stating that this method increased the field of frontal sinus operation, but in no way replaced wholly the external operation. But he differed from Sir William in regard to the relative danger of the external and the intranasal method which he advocated and practised, and which was comparatively easy to perform and nearly devoid of danger with reasonable care. The next paper was by Dr. Brown Kelly (Glasgow), who dealt with the difficulties and dangers of exploratory puncture of the antrum of Highmore. Cardiac failure, shock, abscess of cheek, cocaine poisoning, toxaemia, various reflex disturbances (probably via the tenth nerve), and an embolism, were among the dangers mentioned as having occurred during or immediately after puncture of the maxillary antrum. The President having congratulated Dr. Kelly on his paper, the discussion was started by Dr. Pegler, and continued by Mr. Faulder, Dr. Watson-Williams, Mr. Somerville Hastings, Dr. Gogarty, Dr. Hill, Dr. Booth, and Mr. Gray and the President. The next demonstration was on a new form of an extending broncho-oesophagoscope. Sir William Milligan explained his very useful invention, and was congratulated by the President, Dr. Hill, and Dr. Brown Kelly on the advance that it represented. Owing to the late hour Dr. Hill omitted reading his paper, but demonstrated the special instrument which he and Dr. Elphick had devised to minimize the haemorrhage in tonsillectomy. He apologized for bringing out yet another instrument for the tonsils, but claimed that the excellent results obtained more than justified his action. Mr. O'Malley spoke of the experience he had had with his own instrument, stating that he had had practically no bleeding in his cases. Further speakers described their methods in attacking this surely the most unfortunate organ of the human body. The concluding paper was on the latent empyemata of nasal accessory sinuses. Dr. O. St. J. Gogarty made out an undoubted case for a thorough examination of these sinuses in cases of obscure headache and other equally obscure head symptoms. The discussion was undertaken by Dr. Williams, Dr. Killen, Mr. Gray, and Dr. Peterkin. Dr. Booth then moved a very hearty vote of thanks to the President, who had done so much for this Section both scientifically and socially. He also referred with great pleasure to the fact that so many able men had come from London and the big provincial towns despite the great counter-attraction in London.

Section of Medicine.

Thursday, July 30th.

On the second day a discussion on the treatment of phthisis by artificial pneumothorax was opened by Dr. Rist (Paris), who remarked on the general uniformity of the methods now employed, and noted that spontaneous pneumothorax was habitually fatal when it occurred in bilateral phthisis. It was necessary, therefore, to confine the production of artificial pneumothorax to patients with one sound or nearly sound lung; and in determining the soundness of a lung it was essential to employ the *x* rays as well as the usual clinical methods of examination. He dwelt on the difficulties met with in interpreting the pictures yielded by the *x* rays; experience was of the highest importance here, and waiting in order to be able to examine the case again after a few weeks. Among the patients most suitable for artificial pneumothorax were those with cavities in one lung; Dr. Rist laid stress on the frequency with which cavities appear early in phthisis. Any progressive unilateral pulmonary tuberculosis was suitable for the treatment; caseous tuberculous pneumonia was often vastly improved by it, if not cured. Artificial pneumothorax was sometimes the only successful treatment for haemoptysis. It must be remembered, however, that the presence of adhesions could not always be made out beforehand; Dr. Rist was of the opinion that artificial pneumothorax should always be attempted in cases where it was indicated. The common complication of the treatment was a pleural effusion, seen in perhaps half the patients; often, however, the effusions were small, and not often did they need to be tapped. These effusions always contained tubercle bacilli; when small, they often showed eosinophilia. Use of the *x* rays showed a number of curious movements in the diaphragms of patients with artificial pneumothorax, and also curious movements of the heart. Dr. H. de C. Woodcock (Leeds) then read the paper by himself and Dr. J. A. M. Clark on artificial pneumothorax. He gave details of the methods of administration they employed, and the precautions that should be taken if shock was to be avoided. Severe haemoptysis cried out for the treatment; a series of cases in which artificial pneumothorax was employed was detailed. Dr. G. Lucas (Banchory) suggested that the term "nitrogen compression" should be substituted for "artificial pneumothorax," in the interest of the patients and their mental repose. He asked Dr. Rist a number of questions on practical points. Dr. F. Eve (Hull) referred to the simplicity of the apparatus that might be used, and gave a few practical details of his own procedure. Dr. C. Riviere (London) deplored the backwardness of Great Britain in the employment of this method of treatment. He gave his own experience of its use, detailing one case in which pulmonary oedema and death followed it. He expressed doubt whether early tuberculosis could be treated by collapse with advantage. Dr. W. M. Crofton (Dublin) referred to cases of early pulmonary tuberculosis, in which the *x* rays failed to display the site of the infection; he also disagreed with Dr. Rist's statement that caseous pneumonia was almost necessarily fatal. Sir William Osler (Oxford) summarized the present position of pneumothorax treatment, and added remarks on the occurrence of pleural effusion as a complication; he asked if the effusion was not really due to puncture of the lung. The President thanked Dr. Rist for his excellent paper, and drew attention to the importance of symptoms rather than physical signs in tuberculous patients. Dr. Rist, in reply, answered a number of points and questions raised by previous speakers; he regarded the pleural effusions occurring in the course of the treatment as due to extension of the tuberculous process to the surface of the collapsed lung. Dr. D. D. Brown (Harrogate) then read a paper on rheumatoid arthritis, comparing the medical and surgical standpoints. The disease was increasing, he said, and he gave a classification of its etiology. He always sought for a primary focus of infection in the patients and devoted much attention to its treatment. Creosote and guaiacol seemed to him the best drugs to employ, with thyroid extract. He did not regard the disease as incurable by any means. Dr. G. H. H. Almond (Bath) gave a general account of the disease and the lines on which it should be treated by physicians, surgeons, and orthopaedists. Dr. W. M. Crofton asked for further details as to Dr. Brown's lines of treatment. Dr. C. O. Hawthorne (London) called for more definite and more scientific evidence in proof of the statements made by previous speakers. Dr. Brown spoke encouragingly of the use of bacterial cultures and vaccines in suitable cases. Dr. W. Aldren Turner (London) next read his paper on the outlook in epilepsy. Cure he regarded as the arrest of the fits while the patient was able to earn his living, or at any rate enjoyed normal mental activities. The curability of a case should be determined largely by consideration of the mental condition. Any sign of dementia rendered the outlook very unfavourable at any age. Dr. W. Haig (Crieff) gave an account of the rapid relief of acute lumbago obtainable by manipulation and active movement. Deep thumbing of the lumbar muscles

followed by free movement of the lumbar joints, were said to enable the patient to return to work at once. Dr. F. Eve (Hull) read a paper on acute atrophy of the thyroid, occurring shortly before death in a woman treated for exophthalmic goitre during six years. He discussed the influence of horse serum in checking morbid cytolytic processes. About sixty persons attended the meeting of the Section.

SECTIONS OF MEDICINE, OF DISEASES OF CHILDREN, AND OF ELECTRO-THERAPEUTICS AND RADIOLOGY.

Friday, July 31st.

AT a joint meeting of these Sections, Dr. F. J. Smith in the chair, Dr. D. B. Lees opened a discussion on tuberculosis in children by emphasizing the frequency of its occurrence, the utility of *x*-ray examinations in the diagnosis, and the importance of careful and methodical physical examination by the ordinary physical methods. Particular stress was laid on the results obtained by careful percussion of the front and back of the chest; six dull areas characteristic of tuberculosis and not any other infection—influenzal, pneumococcal, and so forth—could always be found early in tuberculous patients. In patients with spasmodic asthma dull areas behind, corresponding to enlarged bronchial glands, could be defined. It was advised that careful percussory records of these six typical dull areas should be made every month. In infancy and childhood tuberculosis tended to spread by the lymphatics much more than it did in adults; an odd fact hitherto unexplained was that in the young the right lung was attacked much more frequently than the left. Asthma and croup might be caused by the pressure of enlarged lymphatic glands at the root of the right lung especially. Stress was laid upon the necessity for skiagrams taken by the shortest possible exposures; the importance of the peribronchial fibrosis and the calcified glands so common in pulmonary skiagrams was minimized; attention was to be concentrated on the finer apical mottlings. The difficulties introduced by mixed infections, so common in children, were discussed, and Dr. Lees concluded by commending once more to the general practitioner the method of careful percussion in the early diagnosis of phthisis in the young. Dr. C. Riviere (London) stated that the common form of tuberculosis in infants and children was the lymphatic or glandular. Interscapular dullness, particularly when confirmed by the skiagram, was a valuable diagnostic proof of tuberculosis at the root of the lungs; Dr. Riviere stated as a new fact that this dullness occurred on the right side only, and explained this dullness as due to pressure on the right pulmonary artery. The physical signs in true phthisis were, he asserted, quite different; and he laid greatest stress on the evidence afforded by the lightest possible percussion. His own areas of dullness were different from those described by Dr. Lees, however. Dr. Ironside Bruce (London) gave an account of the *x*-ray examination of the chest; skiagrams were essential, and the exposure should be as short as possible. The patient should hold his breath while the exposure was made; any movement of the diaphragm during the exposure led inevitably to loss of fine detail. Dr. F. C. Eve (Hull) gave an account of the physical signs of phthisis as met with in a large town. Dr. D. McNeill (Kirkwall) expressed his difficulty in believing in the value of the areas of dullness described by Dr. Lees, as evidence of pulmonary tuberculosis; he thought, too, that enlarged lymphatic glands in the neck afforded no good proof of phthisis. Dr. D. Lawson (Banchory) spoke of the necessity for combining all methods of examination in the diagnosis of phthisis, and asked a number of questions relative to the *x*-ray examination of patients suspected of phthisis. Dr. F. Langmead (London) spoke of the necessity for discovering means to determine whether pathological lesions found by the various methods of physical examination were evidence of active disease or no. Dr. E. E. Prest (New Cumnock) emphasized the importance of general evidences of illness, symptoms rather than signs, in the daily routine of determining whether a child suspected of phthisis was in need of treatment. Dr. D. Barty King (London) dwelt on the difficulty of finding definite evidence of phthisis in many of the children that had been actually certified as having tuberculosis, and recounted a case diagnosed as phthisical by the skiagrapher that proved *post mortem* to be non-tuberculous. The President laid stress upon the importance of studying the patient rather than the physical signs, holding that the clinical aspects of the matter were often neglected. Dr. Lees, in reply, upheld the utility of his areas dull on percussion, as evidence of old as well as of active tuberculosis. Dr. Riviere, in reply, distinguished between tuberculous infection and tuberculous disease, and answered a number of the points raised by other speakers. Dr. Bruce also replied, deprecating excessive interpretation, in a clinical sense, of the appearances shown in skiagrams. After the conjoined meeting, attended by over 120 members, had come to an end, Dr. F. C. Eve (Hull) and Dr. A. H. Lister (Aberdeen) read their papers to a much diminished meeting in another place.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

Thursday, July 30th.

AT the second meeting of the Section, Dr. Jung, Professor of Psychiatry at the University of Zurich, opened a discussion on the importance of the unconscious in psychotherapy. The unconscious he defined as "the sum of all psychological events which are not apperceived." It contained, he said, all the psychic events which were unable to pass through the threshold of consciousness because of their lack of the necessary intensity. As an example of this he cited the case of a worthy merchant who, according to his conscious view, was happily married, successful, self-respecting, hard-working, enlightened, artistic, public-spirited; but though unaware of it himself he was careless, also forgetful of his wife's requests, minimized his income to income tax authorities, had misgivings about transacting business on Fridays because superstitious. These were compensating unconscious vices, and there might exist in such an individual unconscious compensating virtues also, but the effect of either was liable to be influenced by essential hereditary dispositions, as also by the existence of motives for virtuous or vicious actions. In general, in normal individuals, the result of the functioning of the unconscious was to produce a balance, all extreme conscious tendencies being toned down through effective opposite impulses in the unconscious. In abnormal persons it was otherwise; in them the functioning of unconscious processes broke through into the conscious mind in an abnormal manner and disturbed the adaptation of the individual to his environment. A normal person could unconsciously utilize his unconscious psychic tendencies to correct any one-sided conscious attitude, but the abnormal individual could not do this; he might even increase his one-sidedness by defending himself against his own compensating influences, and the result was a great lack of harmony between his conscious and unconscious attitudes. The unconscious began to obtrude violently on his conscious mental processes, and did so in forms which were altogether unacceptable to him so far as his conscious mind was concerned. This unacceptability of form was due to the distortion inevitably undergone by the compensating influence before it could make headway against the resistance of his unconscious mind, and to the necessity of the compensating influence presenting itself in the language of the unconscious—that is to say, in psychic material of the most heterogeneous and fantastic nature. A second paper on the same subject by Dr. Jones was read on his behalf by Dr. Eder. The latter, as also Dr. Constance Long, read papers, and these and the preceding were discussed by Dr. Leslie Mackenzie, Dr. Crichton Miller, Dr. Stein, Dr. H. J. Mackenzie, and Dr. Mott.

[In regard to the proceedings of the Section on the first day there was an unfortunate clerical error. The President referred to the death of Dr. James Neil of Oxford, and not as printed last week, page 250.]

SECTION OF OPHTHALMOLOGY.

Thursday, July 30th.

MR. J. HERBERT PARSONS (London) opened the discussion on the hygiene of reading and near vision. He traced the development of reading and letters, and pointed out that it was only within the last thirty years that the subject had been studied from a scientific standpoint. The effect of

illumination was very important, but glare had but little real effect, in spite of the fact that it was very distressing to be exposed to it while working. Dr. MacGillivray (Dundee) said he had never seen organic mischief result from defective light. Dr. F. W. Edridge-Green (London) said that lack of peripheral illumination caused headache and distress in reading, and for this reason he deprecated the use of reading lamps. Dr. Parry (Hove) spoke of bad illumination in schools, and Dr. R. A. Reeve (Toronto) mentioned the bad effect of highly glazed papers. Mr. Devereux Marshall (London) did not believe that electric light was bad for the eyes, but since its advent people used their eyes so much more and overtired them, and then blamed the light. Dr. A. J. Ballantyne (Glasgow) thought that rash statements as to the evil effect of bad light on the eyes should be carefully avoided. Dr. Marion Gilchrist (Glasgow) spoke of the evil effects of badly fitting spectacles in children. Dr. Montagu Harston (Hong Kong) stated that in the tropics people often worked most of the day in artificial light because of the heat, when blinds had to be drawn. Mr. Parsons having replied, the discussion on the teaching of ophthalmology to medical students was opened by Dr. A. Maitland Ramsay (Glasgow). He pleaded for a more thorough recognition of the necessity for every student having to pass an examination as well as to attend a course on ophthalmology for their ordinary medical and surgical degrees. Mr. M. L. Hepburn (London) thought that teaching should be very practical, and he deprecated set lectures. All students should be taught to recognize errors of refraction, though not necessarily to correct them. Miss E. M. Maxwell (Dublin), Dr. Montagu Harston (Hong Kong), Dr. Hill Griffith (Manchester), Mr. A. F. MacCallan (Egypt), Dr. MacGillivray (Dundee), Dr. R. A. Reeve (Toronto), and Dr. Casey A. Wood (Chicago) spoke of the practice of teaching adopted in the universities with which they were connected, and on the recommendation of Mr. T. H. Bickerton (Liverpool), seconded by Dr. MacGillivray (Dundee), a resolution was passed urging the necessity of an examination for all medical students in ophthalmology.

Friday, July 31st.

Dr. A. Hill Griffith, in a paper on cases of later infection after Elliot's operation, described one in which a suppurative irido-cyclitis caused destruction of the eye two years after the operation. He mentioned that 28 cases had been recorded, and that a colleague of his had had one case, but he thought that there must be many more cases which had never been recorded. He discussed the operation, and thought that a conjunctival flap should be cut as thick as possible. Mr. Devereux Marshall said that he looked upon all cases of cystoid scars as containing a potential cause of mischief. He described a case of infection occurring one year after an iridectomy for glaucoma which developed a cystoid scar. Professor H. Gifford (Omaha) agreed that any eye with a fistula in it was liable to infection from the conjunctiva, and as a precaution against this he advised the routine use of an antiseptic lotion to the eye. Mr. J. Herbert Parsons (London) was surprised that late infection did not occur more frequently. He thought that a large flap was essential, which should not cut down as far as the cornea at each end. The trephine should be as far as possible in the cornea, as Elliot recommended. Dr. Montagu Harston (Hong Kong) thought that suppuration in cavities, such as the accessory sinuses, was a great source of danger. Dr. A. J. Ballantyne (Glasgow) strongly advocated a large and thick conjunctival flap. Dr. Casey A. Wood (Chicago) had seen suppuration commence at the margin of the flap, one three weeks after operation, and one six months after. Dr. A. Maitland Ramsay (Glasgow) said the flap should not be cut to the periphery. Dr. James A. Wilson (Glasgow) thought thin flaps dangerous, and thick flaps were far safer. Neither Mr. Bickerton nor the President had ever seen cases of late infection. Dr. F. W. Edridge-Green (London) read a statistical paper on the results of the new Board of Trade sight tests. It clearly demonstrated the bad results as regards colour-vision tests, many normal-sighted persons being rejected. Mr. J. Herbert Parsons (London) defended the Board of Trade tests, and Mr. Devereux Marshall adversely criticized them. Major McKechnie (I.M.S.) thought the Edridge-Green lantern was a scientific instrument, and he failed to see the use of retaining the wool test. He thought that a standard should be fixed. The work of the meeting concluded with a paper by Dr. James A. Wilson (Glasgow) on the factor of heredity in short sight.

Sections of Pathology and Bacteriology and of Pharmacology, Therapeutics, and Dietetics.

Thursday, July 30th.

At a large joint meeting under the presidency of Professor Cash, F.R.S., a most valuable and interesting discussion on the pathology of heart function was opened by Dr. Thomas Lewis, who in view of the impossibility of dealing with the entire area of so rich a field of work decided to confine his observations to those curious disorders of the heart's action which are disturbances of the regular sequence of chamber contractions. He submitted the thesis that there exists no direct knowledge of disordered rhythmicity or disordered conductivity in the human heart, using these terms in their special senses, and that Wenckebach's classification of irregularities of the heart, based as it is upon Engelmann's hypothesis, rests upon an insufficiently secure foundation. He put forward for discussion the point that auriculo-ventricular heart-block is conditioned by interference, be it through direct, nervous, or chemical channels, with the auriculo-ventricular conducting system, and specially with the auriculo-ventricular node and bundle. He adduced arguments to support his proposition that certain of the preparatory processes which precede the normal contraction on the one hand, and the extrasystolic contraction on the other, were essentially different, and that those which preceded the latter were of a kind foreign to the physiological heart. He held that there was no proof that abnormal nerve impulses playing upon a normal heart might be responsible for extrasystoles of the higher types of disorder, but that there was evidence that nervous impulses playing upon a supersensitive or irritable organ did provoke these curious contractions. By galvanometric records he showed that in a normally stimulated contraction of the cardiac muscle the type of curve given from two separate leads, placed adjoining, was similar, but in the case of the fibrillating heart the curves were in character in no wise comparable; from this he deduced that in the normal contractions there is no independent activity of the cardiac muscle fibres, whilst in fibrillation the fibres are working independently of each other. Sir James Barr then set forth some formulas by which he maintained that the work and output of the heart could be calculated, and described a therapeutic treatment which he used, and in the efficacy of which he exhibited an attractive degree of faith. He based this treatment on views of cardiac physiology, which did not seem to the meeting to be in keeping with modern knowledge, and concluded his remarks by an attack on the work of the modern school and on all those who had come to be regarded as specialists in this particular field. The discussion was continued by Dr. Ivy McKenzie, who agreed with Dr. Lewis that the general circulation played a part which must not be overlooked in the production of heart failure. Other speakers were Dr. A. J. MacWilliam, Dr. F. W. Price, Dr. W. J. Ritchie, and Dr. A. Goodman Levy, the latter describing a toxaemic condition which produced heart-block, and which had come under his notice while testing the effect of large doses of chloroform.

Section of Pathology and Bacteriology.

Friday, July 31st.

Dr. Penfold opened a discussion on the variability of bacteria. He held that recent studies showed that not only fermentative power but also all culture and serum reactions are subject to variation. This variation and selection had been shown to occur within the body in the course of infection; while in the laboratory the precise factors in the environment effecting the selection had been individually examined. He showed that the facts so far established affected (*a*) bacterial classification, (*b*) the recognition of bacteria, the standards adopted by the hygienist, epidemiologist, and the clinical bacteriologist; (*c*) the vaccinist, whether he be engaged in immunizing patients or in producing serums for passive immunization. Dr. M. C. W. Young continued the discussion, and demonstrated a remarkable series of cultures and illustrations to

support her contention that the tubercle bacillus was a most pleomorphic organism. Dr. Lazarus-Barlow made use of his acquaintance with radium, which he had found in appreciable quantities in bouillon, to put forward a hypothesis to account for some of the variations found in bacteria. Dr. E. C. Hort urged the abandonment of artificial media for the preparation of vaccines for purposes of treatment. He and Dr. Ingram had been employing whole normal human blood with encouraging results. Dr. Crofton instanced variations in acne bacillus and leprosy bacillus, and emphasized the importance of autogenous vaccines because of the greatest variant of all, namely, toxicity. Dr. Wilson (Belfast) mentioned some cases of bacterial variation which had come under his own observation, particularly with reference to *B. coli* of urinary origin, *Streptococcus faecalis*, and the diplococcus of meningitis. Dr. John Teacher described a diphtheroid organism which had undergone variations. Dr. Benham spoke on the importance of using correct media. Dr. Hort then read a paper on the recognition of haemic infections of the urine from a clinical and experimental standpoint. He had adopted this method of investigation because of the familiar experience that attempts at blood culture frequently failed, even when patients are most certainly suffering from blood infections. By using proper media—and on this he laid great stress—he had been able to diagnose lobar pneumonia in a few hours and typhus fever in a few minutes. Drs. Findlay and Martin then communicated a paper on the effects of daylight and drying on the human and bovine types of tubercle bacilli. Their experiments indicate: (1) That diffused daylight rapidly robbed both bovine and human types of tubercle bacilli of much of their pathogenicity for the rabbit when the bacilli were dry, but if the bacilli were allowed to remain moist the action of daylight was less marked; and (2) that drying *per se* had little influence in one week. Drs. Cruickshank and Moyse then read a paper on the presence and significance of nitrites in urine, and held that the most common cause of such nitrituria was an associated urinary infection, generally of the *B. coli* group. A paper by Drs. J. M. Morgan and J. H. Teacher on aneurysm of aorta due to bacterial infection was accompanied by a demonstration of specimens, with notes of the clinical aspects of the case. All the cases were characteristically illustrative of endocarditis. The session was brought to a close by some apt remarks by the President.

SECTION OF PHARMACOLOGY, THERAPEUTICS, AND DIETETICS.

Friday, July 31st.

THE chief business on the concluding day was a discussion on the pharmacology and therapeutics of animal extracts. The discussion was opened by Professor Noel Paton (Glasgow), who dealt with the general physiological aspects of internal secretions, and by Dr. O. F. F. Grünbaum (London), who gave a detailed account of his own experience of the therapeutic value of certain animal extracts. Both speakers advocated caution in drawing conclusions from the effects of treatment of certain diseases with animal extracts. Both Dr. Grünbaum and the speaker who followed him had failed to obtain any good effects from the use of a parathyroid extract in paralysis agitans. The discussion was continued by Dr. A. F. Hertz (London), who dealt chiefly with the treatment of asthma by adrenalin, pointing out its advantages and advocating the use of small doses. He was followed by Dr. J. A. Gunn (Oxford), who mentioned some points in the action of adrenalin and pituitrin, which he had observed in experiments. The President (Professor J. Theodore Cash) in summing up stated—what was generally felt—that the interchange of opinion on this subject between the clinician and the laboratory worker had been stimulating to both. Papers were read by Dr. Albert Wilson on the treatment of cancer with goat's serum; by Dr. J. Chowry Muthu on the effect of diet in the treatment of pulmonary tuberculosis; and by Dr. Charles Gibson on the influence of food upon national character. The proceedings of the Section concluded by a demonstration given by Dr. J. A. Gunn to the joint Sections of Pharmacology and Surgery, in which he showed the effects of certain drugs on an isolated human appendix removed four hours previously.

SECTION OF STATE MEDICINE AND MEDICAL JURISPRUDENCE.

Thursday, July 30th.

THE business of this Section on the second day was entirely devoted to the subject of tuberculosis in its various aspects. The first paper was by Dr. J. T. Wilson (County M.O., Lanarkshire), who dealt chiefly with the provision of institutional treatment and outlined the schemes which were being adopted in his county. He mentioned the difficulty of dealing with working men in such institutions, as those who had a wife and family and were earning good wages were often very reluctant to accept institutional treatment. Working men were also not very amenable to discipline, and it was difficult to persuade them to go to working colonies. In his opinion, better housing for the working classes was one of the most important factors both in prevention and in domiciliary treatment of tuberculosis. There ought to be some arrangement for treatment of patients who were "strongly suspected" by practitioners of being affected with tuberculosis; they were entitled to this under the provisions of the Astor report. Dr. McGregor (Tuberculosis Medical Officer, Glasgow) gave details as to the administration of a tuberculosis scheme in the City of Glasgow, with special reference to tuberculosis dispensaries, of which there were six, serving seven separate areas. In his opinion, the ratio of beds in sanatoriums to the number of the population proposed by the Astor report—namely, one for every 5,000, was far too small. In Glasgow they were supplying 500 beds for hospital cases and 250 in sanatoriums, which gave a proportion of one bed to 1,500 persons for pulmonary tuberculosis alone. They were also giving special attention to the needs of tuberculous children. Dr. Buchan (M.O.H. Bradford) considered that Scotland was distinctly ahead of England in the administration connected with tuberculosis. He thought that the statement in the Astor report alluded to by Dr. McGregor as to the proportion of one bed to 5,000 of the population was most unfortunate. In Bradford, with a population of 300,000, they provided for 100 cases in a sanatorium, 100 in hospitals, and 50 beds for surgical cases; this provision was far too small for their requirements. He considered that cases of surgical tuberculosis should be dealt with on sanatorium lines. Dr. Guy (Tuberculosis Medical Officer, Edinburgh) discussed the various alleged causes of the decline in the tuberculosis death-rate, mentioning the ebb-and-flow theory, the theory of gradually acquired immunity, and the decline owing to the segregation of advanced cases in workhouses. In his opinion none of these accounted altogether for the decline, which he attributed to three factors: (1) Progress in sanitation; (2) social uplift; and (3) educational advancement. He advocated a concentration of forces—namely, the harmonious co-operation of medical officers of health and tuberculosis medical officers, and suggested the universal appointment of efficient veterinary inspectors to deal with the milk supply. Dr. Jessel (Wigan) read a paper on the organization and management of a tuberculosis dispensary. Dr. Esslemont professed a profound distrust of domiciliary treatment, and considered that the best way to attack the problem was to congregate tuberculous persons in large communities of the nature of garden cities, where all sorts and conditions of employment could be carried out by the sufferers, each person doing the work for which he or she was best fitted, and receiving payment for work done. Papers were read by Dr. Chowry Muthu (Wells) on tuberculosis in India; by Dr. E. E. Prest, on sanatorium benefit and the position of sanatoriums in their relation to the treatment of chronic cases of pulmonary tuberculosis; and by Dr. W. M. Crofton (Dublin) on preventive inoculation of tuberculosis and the possibility of this on a large scale. Dr. Crofton, being an ardent advocate of tuberculin treatment, was naturally enthusiastic as to its efficacy. Mr. Macrae, County Tuberculosis Officer, Aberdeen, detailed his experience of tuberculin treatment in the case of 6 children, 5 of whom were immensely improved at the outset as compared with 6 control cases treated on ordinary lines, but at the end of nine months the 5 children improved by tuberculin were dead, while the control cases were all alive. Dr. McWalter (Dublin) expressed himself as profoundly disappointed with sanatorium treatment, of which he had much experience, and suggested that phthisis was less frequent among tobacco smokers, eaters of garlic and

onions, and those who consumed lime-salts in the form of brown bread or lime-containing water. Dr. Laffan (Cashel) dwelt on the difficulty of getting milk in country districts, and considered that poor people ought to be entitled to obtain it from farmers at a reasonable price. Other speakers were Drs. Watts, Milne, Thomson, Murray, Hennessy, and Gold; and Dr. Wilson and Dr. McGregor briefly replied. A special point brought out by several speakers was the great educational value of sanatorium treatment, and there was general agreement that prolonged sanatorium treatment should only be adopted in early or curable cases, but that the educational value of sanatoriums was very great in chronic cases, in which, however, a stay limited to six weeks was recommended.

Friday, July 31st.

There was a pretty full programme for the last day's session of this Section. Several papers of high scientific value were read, but they were preceded by an interesting discussion on malingering. This was opened by Sir John Collie who, in the course of his paper, drew special attention to the influence of the mind on the body as an important factor in the detection of fraud in accident claims, and gave details of several cases illustrating this point. In each of the cases mentioned the functional disease originally induced by shock and suggestion was caused by powerful counter-suggestion, by forcing, as it were, into the patient's consciousness the idea that he was quite capable of doing his work if he only knew it. He believed that in that class of case occupation of some sort was the cure required. The whole secret in treatment lay in getting the patients to adjust their mental processes to their environment. Unfortunately, as a rule, it was exceedingly difficult in the case of a working man who had met with an accident to re-educate him to control the field of his consciousness, but it was impossible to cure him until he learnt that his external sensations must not dominate him. Frequently the happening of an accident so perverted the mental outlook of the victim that he persistently dwelt upon and exaggerated all his unusual sensations, which in course of time came to fill so large a portion of his field of consciousness that to a certain extent he genuinely believed he was not fit for work. In cases which were contested, the "law's delay" accounted for a great deal of prolonged disability and the development meanwhile of functional disease. While waiting for a settlement, and especially while waiting for the trial of his case, the workman had little or nothing but his health to think of; he was unable to concentrate his thoughts on anything but his body, and hence became a prey to all sorts of pains and discomforts and sensory stimuli which he would in other circumstances ignore. When confronted with those difficult cases, the first and all-important step to take was to make as certain as possible that there was no organic disease present. That was by no means easy, as certain organic diseases in their incipient stages closely resembled hysteria, neurasthenia, or still more the hybrid hystero-neurasthenia. The most likely diseases to cause mistakes were disseminated sclerosis, general paralysis of the insane, and tabes. The point many were apt to forget was that a serious disability was none the less existent because it was psychic in origin. Speaking generally, the more an accident resulted in actual physical injuries, such as broken bones and so forth, the less likelihood there was of serious nervous sequelae, especially if the case was wisely treated from the first. It had been his practice for some time to induce insurance companies for whom he acted to send their milder cases to a trained masseur, who supplied not only massage but psycho-therapeutic treatment in the form of candid advice and encouragement to use the affected joint. The seven cases he sent to Maida Vale Hospital for Nervous Diseases, where they received admirable psycho-therapeutic treatment. That institution alone had within the last few years cured between one and two hundred cases of the class referred to. If all medical men would conscientiously and fearlessly perform their duty in accident cases an enormous reduction would be made in the burden that was thrown upon employers, and the large increase in the compensation charge would be greatly reduced if not entirely wiped out. Dr. L. A. Parry (Brighton) dealt with the difficulties of diagnosis, but was convinced that with sufficient experience and careful examination a proper opinion could be formed in the great majority of instances, and quoted some cases in support of this opinion. He complained of the careless way in which medical certificates were often given, and thought that if a consultation of all the medical men engaged in a case could be held before court proceedings, the lamentable spectacle of medical men differing from each other on every point in the witness-box would be avoided. Dr. Hennessy (Clogheen) took exception to Sir John Collie's reference to "haphazard" doctors, as he considered that the so-called "haphazard" doctor was in most instances in a better position to judge whether a patient was malingering or not than the society doctor. He referred to the class of medical men in Ireland known as "medical advisers," whose functions were chiefly directed to keeping down the amount of money paid in sickness benefit apart from the merits of the case. He instanced cases of a "medical adviser" certifying a case of Bright's disease as fit for work without even examining the urine, and another certifying a man suffering from appendicitis as fit for work who, in the course of a few days, had to be operated on. Dr. Drury (Halifax) thought there was a danger of exaggerating the evil of malingering. It was no new thing, but had been brought into special prominence by the Insurance Act. In his opinion workmen were no more inclined to malingering than other members of the community, and there were many cases of malingering in their consulting rooms. He objected very strongly to the regulations of the Insurance Act which required medical men to state in the certificate on the first day of illness the name of the complaint from which the insured person was suffering, as it was obvious that in many, if not in most, cases a definite diagnosis was impossible at such an early period. He pleaded for a better understanding between the medical profession and the insurance societies. Sir John Collie, in replying, said that he was strongly in favour of consultation between the doctors on both sides in accident compensation cases, but the difficulty was that there was nearly always some fighting spirit on one side or other which absolutely refused to concede any point whatever. Dr. Buchan (M.O.H. Bradford) read a paper on the period and duration of infectious disease, which was discussed by Drs. Paterson, Morris, Milne, F. E. Wynne, and Clements. Dr. Robert Milne read a paper on the prevention of infectious disease, which was discussed by Dr. Rusk (Belfast). Papers were also read on anaphylaxis in the antitoxin treatment of diphtheria by Dr. Macrae; on intracellular parasites in acute measles and scarlet fever, by Dr. E. H. Ross; and on the advisability of suitable steps being adopted by the State and municipal authorities to secure the earlier treatment of persons suffering from cancer, by Dr. C. P. Childe.

Section of Surgery.

Thursday, July 30th.

An interesting preliminary to the ordinary work of the Section was the proposal of the Chairman, Mr. Scott Riddell, to send a message of greeting to the great clinical surgical congress now meeting in London. When Mr. Robert Jones rose to introduce the discussion on the surgical treatment of arthritic deformities a large audience had assembled. Mr. Jones pointed out that every case of arthritis was a potential but preventable deformity, and in this branch of medical work, as in others, prevention was of much more importance than correction. The essential symptom of arthritis was limitation of movement. His experience in tuberculous diseases even in the active stage was that correction of the deformity did not tend to result in general dissemination. He divided ankylosis into two varieties, unsound and sound; in the former the angle of flexion would be increased by use, in the latter it would not. In osseous ankylosis osteotomy was specially applicable in the femur. He thought that osteoplastic operations on the adult spine were to be encouraged. In regard to arthroplasty great credit was due to Murphy for his enterprise in this branch of operative work; it was of little importance what material was used as the interposing flap, but it was of great importance that the technique should be perfect and that sense of proportion should be preserved. Stability of the limb

after arthroplasty was of more moment than mere movement. Arthroplasty in tuberculous ankylosis was not so successful as in ankylosis after other infective processes; so that in these cases operations below the joint—such as pseudo-arthrosis of the hip—were most suitable. Arthroplasty of the knee was not encouraging. In severe osteo-arthritis of hip-joint, where the chief symptom is pain due to friction, the removal of excrescences and the performance of arthrodesis was successful. In the discussion which followed Mr. Max Page spoke of the difficulties in treatment of tuberculosis of the shoulder in children. Mr. Hey Groves described a method of employing a bone graft from the upper end of tibia to strengthen the junction of the two bone surfaces in excision of knee. Mr. H. M. W. Gray, in describing his method of applying the tibial bone graft to spinous processes in spinal caries, held the opinion that the graft grew with the patient. Professor J. T. J. Morrison urged the use of spinal anaesthesia as a means of preventing the undoubtedly severe shock of these operations. Papers were read by Mr. Hey Groves, who demonstrated some new methods employed by him in the operative treatment of fractures, and by Mr. A. Don, who showed that a portion of rib formed a convenient, easily obtained, and readily applied splint for cervical vertebral disease. The mechanics of the human foot, from an engineer's point of view, were discussed and demonstrated in interesting fashion by Professor Rowell of Leeds. Mr. Rowell is a professor of engineering, and brought a fresh mind to the problems of flatfoot and high heels.

Friday, July 31st.

The popularity of Mr. H. M. W. Gray and the interest in the subject of the development of the shockless operation attracted the largest audience of all the meetings of the Surgical Section. Mr. Gray's introductory paper on anoci-association—a phrase whose unattractiveness and obscurity were referred to by more than one speaker—contained the results of his personal experience of over twenty years. He had come to regard local anaesthesia as the chief, the most important factor in the prevention of pain and shock; general anaesthetics, narcotics, and other precautionary measures were merely adjuvants. Novocain in one-quarter to one-half per cent. solutions was non-poisonous. Ether and to greater extent chloroform exerted undesirable toxic effects on brain cells and therefore disposed to shock. Crile's method, as generally practised, was inadequate. The author's own method was briefly sketched. Short preparation of the patient was important; long preparation meant loss of vasomotor tone and owing to the strain—cerebral anaemia. To exclude external impressions a hypodermic dose of omnopon and scopolamine was administered and the patient's eyes covered by lint and the ears stopped with cotton-wool. Local anaesthesia was accomplished by nerve blocking and local infiltration. For an abdominal operation requiring a long paracentral incision, five or six skin blebs were made with a fine needle, through the blebs with a thicker, longer needle—first the line of incision and then the lateral abdominal parietes down to the peritoneum were infiltrated—the quantity of local anaesthetic being from 100 c.cm. to 200 c.cm. Pain in the deeper layers was dealt with by another local injection, and further injections might have to be made into the peritoneal attachments of the organs to be operated on, even, as in appendicectomy, into the peritoneal cavity itself in that immediate neighbourhood. While the operation was proceeding insignificant quantities of ether might require to be given. He emphasized the extreme safety of this whole procedure, and also the extraordinary sense of well-being of patients and the absence of pain after the operation. For a year he had used Hoffmann and Kochmann's preparation novocain ¼ per cent.; potassium sulphate 4 per cent., and twelve drops of synthetic adrenalin to each 100 c.cm., and he was quite satisfied that it was the best combination. In over 2,000 abdominal operations during the past three years only two suffered from shock. Several speakers, including Dr. Ogilvie Will and Mr. Fergusson in the discussion were able to corroborate Mr. Gray's statements as to the efficiency of the method. Mr. Cuthbert, Mr. Wheeler, and Mr. Hey Groves hoped to give Mr. Gray's methods extended trials. Mr. Miles pointed out that there was danger in their being carried away by a phrase. He thought that crispness and quickness in operating were important factors in preventing shock, and he had by no means lost faith in general anaesthetics, even chloroform. Professor J. T. J. Morrison strongly advocated a more extended use of spinal anaesthesia. The rest of the session was taken up with reading of papers. Mr. A. Fullerton (Belfast) dealt with the successful treatment of two cases of intravesical growth by the high-frequency current. Mr. Hey Groves demonstrated a simple inexpensive apparatus for maintaining the Fowler position. This consisted of a frame to be laid on the ordinary bed frame below the mattress and so adjusted that the upper half and the portion opposite the knees could be elevated or depressed at will. Dr. G. H. Edington described a method of opening the abdomen for appendicectomy. Mr. Max Page and Mr. D. P. D. Wilkie read papers on acute appendicitis, appendicular abscess and appendicular obstruction. In connexion with this Section Dr. J. A. Gunn gave a demonstration in the Pharmacology Department on the action of certain drugs on the isolated human vermiform appendix, a specimen having been obtained from the infirmary earlier in the day. A telegram containing fraternal greetings from the Clinical Surgical Congress being held in London was read to the Section and received with applause. Mr. Scott Riddell's able and kindly conduct of the Section was acknowledged by a cordial vote of thanks.

SECTION OF TROPICAL MEDICINE.

Thursday, July 30th.

THE second day's work began with a paper on the education and official position of the sanitarian in the tropics which, in the absence of its author, Colonel King, I.M.S.(ret.), C.I.E., was read on his behalf by Mr. Cantlie. The author pointed out that in sanitation extreme specialization was necessary; though this fact was generally recognized in temperate regions the needs for such specialization were more urgent in the tropics. The British Empire extended over 11,000,000 square miles, out of which more than half and containing a population of 350,000,000 was situated within the tropics. In the tropics the sanitarian had not at his disposal all the expert advice in different branches of science which he could command in England; more usually he was expected to be an expert surgeon, gynaecologist, pharmacologist, and sanitarian, rolled into one. The plan at present being adopted by the Committee of the London School of Tropical Medicine of a post-graduate course in tropical sanitation was excellent, and there would be a large and increasing demand in the future for men trained in this manner. As regards organization, it was essential that the head sanitary officer in a tropical colony should not be subordinate to the principal civil medical officer, who should confine his attention to curative medicine, but he should be responsible directly to the Government itself—in fact, the officer responsible for public health matters should be a member of the governing body. A diagram was then exhibited demonstrating the author's idea of the organization of a sanitary department and its complete separation from the department of curative medicine. Professor Simpson, C.M.G. (London), agreed to many points in Colonel King's paper, but he was quite unable to associate himself with the proposal of extreme specialization in the training of sanitary officers. He considered a preliminary general medical education to be essential; not only did the student in this manner learn the natural history of disease, but it brought him into contact with all classes of people, and he was thereby enabled to develop that sympathy so characteristic of medical men in general. Dr. Campbell Graham (Deli, Sumatra) spoke appreciatively of sanitation as applied in that colony solely as a result of private enterprise. The work initiated by Drs. Schüffner and Kuenen in that colony had reduced the death-rate from 80 to less than 12 per mille during the last fifteen years. He considered these figures very striking. Dr. D. E. Anderson (London) expressed himself as fully in agreement with Professor Simpson's views. Colonel Penny, I.M.S. (Burmah), said that the necessity of complete separation of the sanitary from the general medical department was now being generally recognized in India. Mr. J. Cantlie (London) was very much averse

to excessive specialization as proposed by Colonel King. He put forward the following resolution, which was seconded by Colonel Woolbert, I.M.S. (ret.), and passed:

> Whilst agreeing with Colonel King in his admirable scheme for the creation of separate curative and preventive medical departments in the tropics, this meeting considers that there should be no interference with the general education of medical students, but that the specialization in hygiene should be entirely a matter of post-graduate training and work.

No less than five papers dealing with sandfly fever followed: The bionomics of Maltese *Phlebotomi*, by Captain Marett, R.A.M.C.; Sandfly fever, by Colonel Birt, A.M.S.; Sandfly fever, by Captain Graham, I.M.S.; Sandfly fever in Italy, by Professor Gabbi, Rome; and Sandfly fever in Peshawar, by Captain Houston, I.M.S. The essentials of these papers did not differ in any way. The symptomatology of the fever is the same, whether it occurs in Italy, Malta, or Chitral. Captain Marett gave a detailed account of the life-history and habits of the *Phlebotomi* in Malta. The larvae, he said, flourished in rubbish, and fed on the excreta of wood-lice, lizards, and bats. The adult lived but seven days, and died after oviposition. In Malta they appeared in numbers in May, but decreased in July and August, increasing again towards the autumn. Apparently three species—*papatasii*, *minutus*, and *perniciosus*—were capable of conveying the fever virus. Professor Gabbi's communication dealt with the appearance of this fever in Messina after the earthquake of 1908; he said it was now popularly known as the "fever of the rubbish."

Friday, July 31st.

Mr. J. Cantlie (London), in opening the discussion on colitis and post-dysenteric conditions, said that there was a tendency of anatomists to minimize the importance of the sigmoid flexure which he regarded as an organ as separate and distinct as the pancreas, it merited a position as the most important portion of the intestinal canal, it was one of the narrowest parts of the tube but widened out where it joined the rectum; at this point there was a definite valve, as distinct as the os uteri, which he had designated the sigmo-rectal pylorus: this when stimulated by the passage of faeces caused a desire to empty the bowel. He elaborated an eloquent plea for the more extensive use of the sigmoidoscope in the diagnosis of post-dysenteric ulcerations especially affecting this part of the intestinal tube. These ulcerations could be plainly seen and rapidly healed when touched up with pure carbolic acid; other preparations had proved quite unsatisfactory. He deprecated appendicostomy and lavage of the intestinal canal. The dilatation of the sigmo-rectal pylorus itself by passage of the sigmoidoscope in many instances sufficed to ameliorate the condition. In some cases he recommended opening the upper part of the sigmoid colon above the stricture and direct lavage. He considered the prompt treatment of these cases as of great moment, as he was assured that in a proportion of cases the seat of ulceration became malignant. As the only reliable drug of use in this condition he recommended Crook's colloid silver, which could be given by the mouth or introduced through the rectum; as it was non-toxic, the quantity given as a dose was immaterial. Dr. D. E. Anderson (London), in a paper on the comparative diseases of the British West Indian Colonies, analysed the Colonial Office health reports for the last four years. Amongst other interesting facts, he pointed out the number of blackwater fever cases in British Guiana in 1913, that the amount of dysentery was proportionate to the amount of typhoid fever in any one colony, and the great reduction in the number of yaws cases in Jamaica since the introduction of salvarsan. Vomiting sickness, he said, was extremely common in Jamaica, and 96 cases were reported there in 1913. Montserrat and the Bahamas were by far the healthiest islands in the group. Dr. P. H. Bahr (London) described as misleading the statistics published in the colonial reports, and on this Dr. Sandwith and Mr. Cantlie agreed. Dr. Williamson (Aberdeen), concurring, pointed to the official list of diseases which had to be filled in as being the cause of the evil. A paper on beri-beri, the rice theory, and recent criticisms was read by the Secretary in the absence of the authors, Drs. Fraser and Stanton (Kuala Lumpur, F.M.S.), who pointed out that experiments on human beings with regard to the etiology of beri-beri were the only ones which could be considered at all reliable. The evidence in favour of beri-beri being an insect-borne or a place disease had quite broken down, similarly the theory of an infective micro-organism had received no confirmation; on the other hand, the application of the general principles, as a result of Fraser and Stanton's inquiries, had resulted in the eradication of beri-beri in the Orient. Dr. Campbell Graham (Sumatra) said he had seen cases of beri-beri in Sumatra, in spite of and subsequent to new alterations of diet, the patients being persons in whom no food deficiency could be suspected. Dr. Sandwith (London) and the President agreed that beri-beri was the result of a one-sided diet, like scurvy, but registered their opinion that the damage to rice as the result of weevils, moulds, and other insects might have a definite bearing on the etiology of the disease. Dr. P. H. Bahr (London) read a paper on sprue, in which he put forward the infectiousness of the disease and certain new views on its etiology. He regarded it as an intestinal toxaemia, of which the thrush fungus (*Monilia albicans*) was the main organism concerned. Mr. Cantlie and Dr. Simpson were inclined to agree with the general conclusions of this paper. Owing to lack of time, the important paper by Dr. Scott (Jamaica), on vomiting sickness, had to be curtailed. The disease was of exceptional interest, as it appeared to be confined to the island. The author concluded that it was a septicaemia by some organism which could not be cultivated on the ordinary culture media. Dr. Sandwith proposed and Mr. Cantlie seconded a congratulatory message from the meeting to Sir Patrick Manson, G.C.M.G., and this was passed by unanimous consent. The meeting closed with a vote of thanks to Professor R. T. Simpson, C.M.G., the President, and to the energetic local secretary, Dr. C. A. Williamson.

CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.

Perforation in Typhoid.

On July 29th Dr. GEORGE E. ARMSTRONG (Montreal) read a paper in which he stated that 50 to 75 per cent. of deaths from typhoid fever were due to surgical causes. The incidence of perforation varied in different years and in different epidemics, and was less common in Germany than in America. One-third of all the deaths from typhoid fever were caused by perforation. It was of rarer occurrence in children than in adults. The most common site was at the base of a well-defined ulcer, and its size varied from a pin-point to that of a stout lead pencil. The usual situation was somewhere in the terminal two feet of the ileum, and unless the perforation occurred between the layers of the mesentery it was always fatal unless operated on. Early operation was very important, and the difficulties of diagnosis made this hard to carry out in every case. Early diagnosis was therefore a matter of moment, and the usual statements in the textbooks gave erroneous impressions. The first indication of a perforation was usually pain, which occurred in 75 per cent. of cases. It was of the nature of a sudden cramp, and was persistent. It was most often generalized, or, rather, less frequently localized to one of the abdominal regions; often it was so slight as to be overlooked, unless the patient's attendants had been specially warned. In a few cases it might not be present at all. The second symptom was a small change in the expression and appearance of the patient; this occurred in 65 per cent. of cases. There was a sudden marked change for the worse in the patient's general condition. Tenderness was present in 88 per cent. of cases and was often generalized; it might be most marked on the anterior wall of the rectum; 85 per cent. of the patients were rigid. No value could be attached to the absence of liver dullness unless the liver had been carefully marked out from the beginning of the illness and the dullness had suddenly disappeared. A fall of temperature was rare, but pulse changes were always clear and became more rapid in 95 per cent. of cases. Diagnosis should not always be waited for; a few cases which had not perforated would therefore be operated on occasionally. Persistent pain and sudden change for the worse always called for operative interference. Operation was best carried out

under local anaesthesia. The perforation, which was usually easily found, should be closed, and other perforations looked for, and doubtful ulcers should be infolded. Resection of the gut was rarely necessary. The pelvis should be drained and the abdominal wall, which often showed a tendency to delayed healing, should be sutured with some non-absorbable material and the sutures left in for twenty-one days. With the earlier diagnosis and operation recoveries were increasing in number; he had 50 per cent. recoveries in a recent series.

Sir ANTHONY BOWLBY, in discussing the paper, said the death-rate from typhoid fever had diminished steadily with the increase of sanitation, and was now very small. In war time, however, the incidence was higher. In cases of perforation there was no hope of recovery unless the ulcer was operated upon. Diagnosis could generally be made sufficiently early, but sometimes the abdomen might be opened and no perforation found. Operation should always be performed as a routine measure if perforation were suspected. Difficulty of diagnosis was often caused by the severe condition of the patient. It should be more generally recognized that 25 per cent. of deaths from typhoid were due to perforation, and that 3 per cent. of all typhoid patients perforated. It should therefore be remembered that every case of typhoid fever might require prompt surgical treatment at any moment. The pain in this condition was in proportion to the mental activity of the patient. It was often acute in onset, then subsided, and then returned spasmodically. It was excited by handling the abdomen or by the movements of the patient. It never actually yielded to sedatives, but the onset of toxaemic sleep might give rise to errors. Any sudden persistent pain, or a local or general tenderness or rigidity were significant signs. The abdomen might be flaccid. The pulse nearly always increased and lost volume rapidly in bad cases. A blood count was useful, as a rise in the leucocyte count would occur an hour or so after perforation, but the count must be made regularly so that the rise might be noticed. A rigor might occur and should be carefully investigated. Operation was borne well by typhoid patients as long as quickness and gentleness of manipulation were insisted upon.

Dr. J. B. MURPHY called attention to the two important points mentioned in these papers. The first, that the death-rate due to perforation had been reduced to 50 per cent.; and, secondly, the great diminution of the total number of cases, due to increased and better sanitary measures. In this connexion he paid a personal tribute to the late Mr. Hart, editor of the BRITISH MEDICAL JOURNAL.

Exophthalmic Goitre.

Dr. C. H. MAYO (Rochester) read a paper on this subject. He said that a few years ago operation was undertaken only in advanced cases, which had been under medical treatment for a long time; consequently the results were bad, and the operation became discredited. There was a definite connexion between the function of the thyroid gland and certain other organs in the body, notably the sex organs, and derangements of the thyroid might have marked influence on the function of these other glands. The menopause often showed many symptoms akin to myxoedema on the one hand, and hyperthyroidism on the other; further, there were the temporary enlargements of the thyroid body at puberty, at the menstrual periods, and on other occasions. The thyroid body had more to do with deferring old age than any other gland. There was probably a good margin of safety in the amount of the gland present in the human; one-sixth of the gland was probably enough to maintain an adult in health, and one-third a child. The importance of the organ was indicated anatomically by its very large blood supply. The secretion of the gland was first deposited into the lymph spaces, and then passed into the veins, and so into the general circulation. The contamination of the water supply by intestinal bacteria from another case of goitre had been thought to be the cause of goitre; and a peculiar diplococcus had been isolated in cases of exophthalmic goitre. Iodo-thyroglobulin contained a fair proportion of iodine, which was influenced by giving the patient iodine in any form. The action of the colloid was probably to absorb the secretion and deliver it up slowly into the circulation. Thus in exophthalmic cases there was very little colloid, in normal persons rather more, and in simple goitres a great deal, indicating the retention of secretion. The less percentage of iodine in the gland in exophthalmic cases was owing to its having escaped into the circulation, the amount in the blood being increased. Kendall had divided the secretion into three separate toxins, one of which poisoned the muscular system, another the nervous system, and the last the circulatory system, and the amount of each individual toxin determined the type of the disease, the muscularly weak, the extremely nervous, and the cardiac type. The thyroid gland could never be transplanted so as to functionate, because the sympathetic nervous system could not be joined up. Seven thousand cases of goitre had been operated on in the Rochester Clinic; nearly one-half of these were of the exophthalmic type, and in over 90 per cent. of them the clinical diagnosis was borne out by the pathological findings. Exophthalmic goitre was always associated with hyperplasia of the thyroid body, and a distinction must be drawn between these cases and those in which a goitre of the adenomatous variety suddenly began to give rise to exophthalmic symptoms. This was due to a toxic degeneration of the gland and consequent hyperthyroidism. If the symptoms of Graves's disease set in in a case of simple goitre it meant that hyperplasia of the gland was occurring. Cystic adenomata never gave rise to symptoms; only the solid forms of adenoma did this. The treatment was medical—by *x* ray, the injection of boiling water, the ligature of the superior thyroid artery, usually on the left side and under novocain, and, lastly, by partial thyroidectomy in suitable cases. In extreme cases of exophthalmos excision of the superior cervical ganglion of the sympathetic should be carried out. Simple ligation of the vessels caused the patients to put on weight and made the bad cases much better, and so prepared them for further operation.

Mr. JAMES BERRY testified to the value of Dr. Mayo's work on this subject. To obtain good results in these operations it was necessary to avoid operation when there were any acute symptoms of hyperthyroidism, and also to avoid operation on all advanced cases. Advanced cases might be improved by ligation of the vessels which was a very valuable proceeding. Partial thyroidectomy could be carried out in cases of early Graves's disease, and in cases of ordinary goitre with some symptoms of Graves's disease in addition. The latter variety could almost always be cured by operation, but were not true cases of exophthalmic goitre. He had had a small mortality in the cases of partial thyroidectomy for true Graves's disease. There was no mortality amongst the cases treated by ligature. As to the after-treatment it was very important to give the patient abundance of fluid.

Cancer of the Breast.

On Friday evening Dr. W. L. RODMAN (Philadelphia) read a paper on this subject in which he said that twenty years ago surgeons believed that innocent mammary tumours were exceedingly rare, and gave slightly too much prominence to the sarcomata. Only about 1 to 2 per cent. of breast growths were sarcomata. Abnormal involution of the gland with hyperplasia and cyst formation was probably the most important subject at the present time. The diagnosis between this condition and cancer was often very difficult, but it should be remembered that abnormal involution was usually bilateral whilst cancer was unilateral, that abnormal involution was usually painful from the beginning, but that cancer was not so, except in its later stages, and lastly that just before menstruation the symptoms of abnormal involution were generally exaggerated whilst cancer remained unaffected; if these points were borne in mind the difficulties of diagnosis became lessened. The idea that cancer of the breast usually occurred after 40 years of age must be given up, as quite a large percentage of cases occurred before that age. Dimpling of the skin through involvement of the deep trabeculae was a very important sign, and he described various ways in which this sign could be elicited. Retraction of the nipple depended upon the location of the tumour, and its importance had been exaggerated. Acute carcinomatous mastitis, which was often mistaken and treated as an inflammatory condition, was an exceedingly deadly disease; it was rather more common in

non-pregnant than in pregnant women, and he thought that it should not be operated on, as life was not thereby prolonged. The discharge from the nipple gave valuable evidence as to the nature of the growth; a dark, sanguineous or granular discharge pointed to carcinoma; pure blood was almost diagnostic of papillary cyst-adenoma, but it must be remembered that the latter tumours had a marked tendency to become malignant. Cutting into a growth was the direct cause of immediate dissemination, so that a piece of the tumour should never be removed for microscopical examination unless it was possible to cut accurate frozen sections at the time, when the tumour could be removed immediately if carcinoma were found. He described in detail his operation for the removal of the breast. The important points of this were the incision, the wide dissection of fascia and muscle both in the direction of the axilla and epigastric angle, the necessity of always working towards the growth from healthy towards unhealthy tissues, and finally, the need for gentle handling of the breast to prevent expression of carcinoma cells, which could easily occur; 72 per cent. of his cases had remained well after operation, and he regarded late recurrences of growth many years after operation not as recurrences but as fresh infections of cancer in persons who had already been proved liable to this disease.

Mr. W. Sampson Handley said a tumour supposed to be a fibro-adenoma occurring in a patient over 40 was more often than not a carcinoma, which was sometimes very mobile. Surgery could only advance along the lines mapped out by pathological research. Cancer of the breast spread to a certain extent by the lymphatics to the axillary glands, but the chief spread was by "permeation" in the deep fascia; the growth passed out in a centrifugal manner along the small lymphatic tubules of the deep fascia. When this had spread for a short way a reparative inflammatory process set in, the lymphatic became fibrosed, and the cancer cells destroyed, except for about 5 mm. at the head of the advancing column; the process thus spread out in an ever widening circle, scattered nodules making their appearance where the reparative process had failed. He had been able to demonstrate the advancing edge microscopically. The area to be excised at operation should therefore be approximately circular with the growth at the centre. He showed slides illustrating many of the above points.

(To be continued.)

MOTOR NOTES FOR MEDICAL MEN.

By H. Massac Buist.

OVERHAULING THE CAR.

At the present moment, when many medical men will be reflecting that they may be called upon, in the discharge of duties connected, directly or indirectly, with mobilization, to undertake journeys much longer than those they usually have to make, it may be opportune to consider a few points in connexion with the preparation of the machine for such work. The fact that the machine is doing quite well in its daily runs in connexion with the doctor's work does not mean that it will not require some special attention before undertaking a series of extended runs from one point to another away from the district in which the owner resides.

Cars are curious things, in that, as far as matters of habit go, they seem to be alive. Thus a car may work quite reliably day after day for weeks at a spell, doing a given series of rounds, calling a halt every mile or two, as does the average doctor in the course of exercising his profession. But if the same car be asked to go fifty or seventy miles without a halt it is ten to one that some minor part of the mechanism fails in the most annoying manner, leading to a breakdown involving a loss of hours. This is so even in the hands of manufacturers, as instance the manner in which experience over a period of years is necessary to enable a maker to produce a competition car that will do brilliantly well in hill climbing efforts, speed trials on the sands, or short distance races at Brooklands, and which will also stand the racket of a race of from 300 to 500 miles. If motor manufacturing be considered along those lines, it will be found that there are in the world to-day only about a dozen firms which know how to combine efficiency with endurance in a manner that can be at all relied on in that way. Since it is so for the manufacturer, how much more is the marked difference likely to occur in the case of the private owner who has no factory behind him. By drawing the attention of doctors to some of the phases of production and of the manufacturing industry, as occasion arises, useful work may be done in the way of putting producer and user in touch with each other's problems.

Difference between Brief and Lengthy Runs.

While, therefore, on the one hand, it should be neither necessary nor desirable to send the car for its annual overhaul before starting, on the other the machine will want looking over in a more special fashion than is done ordinarily in connexion with its daily work in the doctor's service. Under those conditions it does not go long enough at a spell to run any serious risk of damage even should there be insufficient oil in the back axle or gear-box, or lack of grease in the universal joints. In most such cases ample warning would be given by way of gradually-increasing squeaking. Before starting out, however, all those points should be specially checked. It is besides as well to unscrew the valve caps and have a look at the condition of the engine's interior in regard to carbon deposit. If there is at all much of this, the motor ought to be cleaned out by the Cyclean process. It must be remembered, however, that this is of no use if the under portion of the valves themselves require grinding in, for the motor will only soot up again within 500 miles. When having this process applied by the local licensee, moreover, it is as well either for the owner to stand by his car or for his man to do so. It has been my experience that, had I not been by, on one such occasion all the paint work on the dashboard would have been blistered when it came to doing the last cylinder. The average garage mechanic seldom thinks of what other part of the vehicle is going to be affected by work he is doing on the particular portion of it that occupies his attention.

Remember the Temperature.

Assuming, therefore, that the motor is clean and that it will be given a reasonable chance of keeping clean by drawing off the oil from the base chamber—if the design is such that it is contained there, as is the general manner—that it has been replenished with new and clean supplies, and is not suffering from loss of compression, and that all water connexions and other points where leaks might occur have been looked over, a start may be made with a fair certainty of having no motor trouble. When motoring in summer weather, especially when running anything from thirty miles upwards at a spell, it should be had in mind that the engine is working under quite different conditions from either winter weather or the ordinary doctor's service. In both those conditions the engine rarely gets heated up sufficiently for the oil to get really thin; whereas when doing a long run the motor is warmed in a manner which of course makes it far more efficient, so that the driver is thoroughly delighted with the power it is giving; but this often has an accompanying penalty, in that the lubricating oil gets very thin and is far more apt to foul the cylinders in that condition. This particularly applies to the manner in which a great number of manufacturers design their oil ways; they are quite satisfactory when the lubricant is thick, but are not so when it becomes thin. It is therefore essential to start in summer time with a clean engine.

Give Heed to Propeller Shaft Joints.

In regard to chassis in general, apart from such all the year round attention as the filling of grease caps at regular intervals, it is as well to pay particular heed to the universal joints in connexion with the propeller shaft. Unfortunately, the design of these details in the average car is such that, with the body-work on, the word accessibility is a mere euphemism. Many a time, too, when getting these joints filled up with grease, by putting the car over a pit one has found that in replacing the leather or other forms of covering, the joint made is so indifferent that the grease merely gets spewed out on

to the running boards and under part of the body-work, so that after going a very few miles no more lubricant is left than if no pains had been taken to replenish it. Therefore it is particularly essential to look to it that the grease put into the joints at either end of the propeller shaft is adequately secured in the covering to those connexions. If these parts are run dry, sooner or later a broken propeller shaft joint will be sustained, than which there is scarcely any form of motor accident more dangerous. If the fore end goes it drops like a pole, which the back axle has to jump. I have seen an ugly accident of that sort in connexion with racing, though fortunately the occurrence is very rare with touring cars, because, as a rule, there is considerable squeaking by way of warning. This risk of breakdown can to a certain extent be guarded against by having a strap so set underneath the propeller shaft as to catch it in the event of its dropping. These remarks, in any case, apply only to such cars as have open instead of closed propeller shafts. There are, of course, a large proportion of cars designed on these principles.

TYRE POLICY.

Brakes should be gone over, particularly with a view to ensuring that they are acting in an absolutely compensating fashion, the pull being equal on either back wheel. It is as well to take up any slackness of the steering, and particularly to supply all steering joints with ample lubricant. Next, as the car stands in the garage, the wheels should be checked for alignment. If a wheel be ever so little out of truth tyres wear in extraordinarily quick time.

Runs longer than those usual in the execution of the doctor's daily work demand also attention to the pneumatics. A tyre that is fairly well worn will nevertheless probably run quite satisfactorily for weeks, doing short journeys of anything from a few hundred yards to three or four miles at a spell, because in such circumstances the tyres rarely get hot, and in addition they are not highly stressed. But if run for scores of miles at a spell they are bound to get hot, and on long runs the pace is likely to be greater than when driving about in the ordinary course of professional work. Therefore, the medical man will be in pocket, in place of out of it, by taking off all tyres showing any appreciable wear, and replacing them with new covers before starting out on a run the length of which cannot be foreseen. The old covers can be brought into use again afterwards, and worn to the ordinary limits.

The really economical motorist is the man who uses his tyres, for whatever particular work he may be engaged on, just short of the limits of trouble occurring. It may seem wasteful to discard covers a little early, but in these days, when they can be retreaded practically under guarantee as to mileage to follow, the motorist will be well advised to have such work carried out rather on the early than on the late side. Let a thing go a little beyond the margin, and no amount of repair will ever make a satisfactory job of it. The extent to which tyres should be blown up depends entirely on the speed and on the car. Nobody can give advice that shall be of general application. Happily, however, if he will but inquire, the firm making any tyre used by the individual motorist will give him the best advice their experience dictates.

ANTIDYSENTERIC VACCINATION.

By W. BROUGHTON-ALCOCK, B.A., M.B.Cantab., M.R.C.S.,
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AT this critical period of international conditions haste compels me to omit all matter not of immediate practical interest, and I trust those authors who have devoted some time to this study and have made known their interesting observations will comprehend the omission of reference to their work. I hope at some future date to write a more complete article.

After recognizing from practical experience on man the impracticability of the employment of heated Shiga bacilli in subcutaneous injections in single or multiple doses, I tried several other methods, and at length arrived at a most simple and practical one, which I trust may render service should the occasion for its use arise during the present war. Any race of *B. dysentericus* may, when treated, be so employed. The strains of Shiga alone, of all varieties of dysentery bacilli at the Institute, show in man an extreme reaction, this being due to their endotoxicity, which is present in both recent and old laboratory strains, living and dead.

This is the method: Take then a twenty-two to twenty-four hours' culture of *B. dysentericus* on a test tube of peptone agar, wash in saline 0.9 per cent. and centrifugalize, dilute the deposit in 2 c.cm. fresh saline; heat to 56° C. for one hour, count or otherwise numerate the bacilli per c.cm., and place the 2 c.cm. in 20 c.cm. normal, heated, pooled (two or more) human serums or 10 c.cm. normal heated horse serum. Let them remain together overnight. If I use the former, I place the mixture in the ice house, so that any possible spirochaete may be destroyed. After *well* centrifuging twice (the second time after adding saline to wash the bacilli), the deposit is mixed with 0.9 per cent. saline, so that 1 c.cm. contains 350 million bacilli to the c.cm. Preventive injections are to be made four at a time, and when possible in the afternoons; first dose, 1 c.cm., that is four injections of ¼ c.cm. each made in the left side of the back over muscular tissue, and where the braces or kit to be carried do not press (not in the arms). The skin is well raised, and injection made *into the loose subcutaneous tissue*. The second dose of 2 c.cm. follows about eight or nine days later in similar fashion, ½ c.cm. quantities, on the right side. A third similar dose may be made.

I have been similarly preparing very endotoxic strains of Paratyphoid B, also A, typhoid, cholera, and *B. proteus*, etc., some for treatment, and have seen during the last year some most satisfactory results from therapeutic inoculations of typhoid and *proteus* bacilli.

The reactions most carefully followed have never in over 200 subjects been marked or inconveniencing. This reduction in both local and general reactions to the untreated micro-organism is really striking. In the last series of 75 preventive injections in a dysentery-infected service of a lunatic asylum there was but one subject who showed high fever the night of the injection; he, however, slept well, and the temperature was just over normal in the morning. My object in giving only 1 c.cm. for the first injection is to avoid too great a general reaction in the rare hypersensitive patient.

Results.—All subjects I have vaccinated live in endemic areas; so far there have been no cases among them.

Serological Examinations.—By contrast, with the patients of earlier series who to the same dose of untreated Shiga bacilli showed determinable specific amboceptor and agglutinin properties in their serums, the serums of the subjects who had even three doses of bacilli treated by normal serums showed no fixation of complement nor increased agglutination. I have previously (*Académie des Sciences*, May 7th, 1912) made known such observations when applying specifically sensitized typhoid vaccines to man (Besredka principle).

These comparative findings in the serums of subjects after vaccination by bacilli treated with prepared specific horse serums, and in those after bacilli treated with normal human or horse serums are interesting.

Dopter (*Annales de l'Institut Pasteur*, 1910), after reviewing the literature of vaccine work with dysentery bacilli, has shown that the Shiga bacilli treated with specific antiserum give early and prolonged immunity in mice and avoid the negative phase that follows injections of untreated bacilli.

In the method I have above described will be noted the marked simplicity and rapidity with which a vaccine may be made—and used prophylactically and therapeutically—from the first pure culture of the particular micro-organism that is causing an epidemic, despite the numerous varieties in any group. On the valued suggestion of Dr. Roux, the eminent director of the Pasteur Institute, I have been trying the utility of a vaccine made by the addition of heated human serum and later adding saline without centrifuging after the micro-organisms have been acted on by serum. This procedure simplifies technique, but my work is too recent to draw conclusions.

PROFESSOR ABDERHALDEN has accepted an invitation to become director of a research institute which is to be erected in Berlin.

British Medical Journal.

SATURDAY, AUGUST 8TH, 1914.

THE WAR: SOME IMMEDIATE DUTIES.

It is a clear duty of all members of the medical profession who remain at their ordinary civilian work to see that those medical men who have pledged themselves in advance to serve the country in any such emergency as has now arisen shall not suffer in their civilian practices, and that their patients shall be looked after. The country has to meet a situation such as it has never before been called upon to face, for events moved less swiftly in the Napoleonic wars, and we must all stand by the men who are taking their places in the first fighting line.

The Royal Navy is fully mobilized, and the medical officers—Staff Surgeons and Surgeons—of the Royal Naval Volunteer Reserve have been called up. This Reserve consists of civilian practitioners who have been trained to the special work of a naval surgeon in time of peace. They are now on duty, many of them at sea.

As the Territorial Force has been mobilized, a large number of medical practitioners who hold commissions in that force have left their civil practices and joined the units of which they are members. There are fourteen mounted brigade field ambulances and forty-two field ambulances forming part of the fourteen divisions into which the Territorial Force is distributed. These officers are no longer civilians: they are under military orders, and must go wherever the division to which they belong is sent.

In Southampton, in Exeter, and in London steps have already been taken which we venture to suggest might well be imitated all over the country. In Southampton, where it appears that about one-half of the doctors in active practice are liable to be called up, a meeting of the medical profession was held on August 4th, when it was resolved: "That this meeting of the medical profession loyally undertakes to safeguard the interests of those of their colleagues who are called to leave their practices in the service of their country, and also undertakes any medical duties for the sole benefit of the absentees." A committee was appointed to carry out this resolution, and immediately issued a notification asking each doctor liable to be called away for duty to make any arrangements he could with practitioners in his neighbourhood, and offering, should he be unable to do so, itself to make such arrangements. Insured patients attending the surgery of a deputy doctor will be shown a printed list of doctors remaining in the town, and will be referred to one of them for treatment. Poor Law doctors also are asked to do the necessary parish work of their absent colleagues. In Exeter the Chairman of the Division of the British Medical Association, Dr. Arthur C. Roper, in the absence of the Divisional Secretary, Dr. Eager, who is an officer of the First Wessex Field Ambulances, and was in camp, summoned a special meeting of the Exeter Division for August 6th, in response to a requisition signed in anticipation of the declaration of war, to decide what steps should be taken to provide the public with adequate medical attendance in the absence of many medical men on military duty, to save those medical men so absent from financial loss, and to discuss any other business arising out of the situation. Dr. Roper, in calling the meeting, pointed out that the matter is one which affects practitioners in rural districts as well as those in towns, and that it is within the knowledge of some of those who signed the requisition that mobilization of the Territorial Force will practically denude some country districts of doctors. In London a special meeting of the Panel Committee has been summoned for August 7th, when it will be proposed that steps shall be taken to secure the medical treatment by practitioners on the panel of insured persons on the lists of those of their colleagues who are absent on military duty, and have been unable to make suitable arrangements. It will also be proposed that practitioners on the panel for the County of London shall express their willingness to undertake, free of charge, the medical treatment of necessitous dependants of reservists on their lists who have been called to the colours, and of insured persons who have become unemployed as a result of the war.

The Insurance Commissioners in England have issued a circular letter[1] to all Insurance Committees, pointing out the necessity of making arrangements of the nature of those indicated above, but it will obviously be well that the profession in each locality should take the initiative, as the provision for insured persons will be only a part of what should be done.

In addition to the medical officers in the Territorial Force, constituting the Territorial field ambulances, there are those who constitute the Sanitary Service, and they have all now become available for military duty with the divisions. The Territorial Force has also twenty-three general hospitals in the chief centres throughout the country, and a medical staff for the organization of fourteen clearing hospitals. The staffs of the general hospitals will not at present be expected to do more than test and stand by their organization, so that they may be in a position at once to admit sick and wounded should they be called upon to do so.

Offers of service from senior students for employment as dressers are coming in, and suitable applicants will be engaged; the Navy already has some actually afloat. The regulations for the entry of these Surgeon Probationers into the Royal Naval Volunteer Reserve will be found at page 318. These young men ought not to be allowed to suffer in their careers. The time spent in this way

[1] Supplement, p. 143.

should be reckoned as part of their clinical training, and it would be well that the General Medical Council should take the initiative by intimating to the licensing authorities that such a course would in the circumstances be proper. The Council might possibly make some general regulation which we have no doubt would be accepted by all the licensing authorities.

Both the navy and the army have a reserve of nurses. Nearly every one of the large hospitals undertook some years ago to supply each a certain number of nurses when called upon in an emergency, The response to-day has been, it is hardly necessary to say, ready and prompt. The selection is made by the matron of the hospital, subject to the approval of the navy or army authorities.

Offers of service are pouring in to the medical departments of the navy and army. Individual offers by untrained persons are rather embarrassing; the spirit is admirable, but efficient help can be given only by trained persons working in organized bodies. The Voluntary Aid Detachments which have been constituted in most parts of the country during the last few years are responding well to the call upon them, and individuals—men or women—who have not already some place in the organization of the Admiralty or War Office can best serve at the present time by joining the Detachment in their neighbourhood or, if necessary, helping to organize one. There is room in such detachments not only for trained nurses, but for cooks, attendants, and orderlies, and arrangements should at once be made locally to prepare, for the reception of convalescents, country houses whose owners may be willing to offer them for this purpose.

The Admiralty has received numerous offers of vessels to serve as hospital ships. We understand that all such offers will be noted, but we question very much whether they ought to be accepted. The multiplication of small hospital units is doubtful policy, and a yacht capable of accommodating only, say, eight or ten patients would not make any appreciable addition to the official provision, and might cause anxiety. Such boats might eventually be of some assistance in supplementing the Admiralty carrier ships which will bring sick and wounded from the hospital ships of the fleet at sea to the base hospitals ashore. In present circumstances offers of convalescent accommodation will be more highly appreciated. The sick and wounded will be landed as rapidly as possible at naval base hospitals, and it will be important to have facilities for drafting convalescents from these hospitals to suitable places in the country as rapidly as possible.

The Admiralty has issued notices, published at page 317, stating that it is prepared to receive applications for temporary service as surgeons in the Royal Navy. Applicants must not be more than 40 years of age, and should apply to the Director-General, Medical Department of the Navy, Admiralty, S.W. The pay offered is 22s. a day with allowances, and equipment allowance for uniform. We understand that the response has already been very considerable, but that applications will still be received. Applicants by letter will be notified when to attend at the Medical Department of the Admiralty, where they will be examined as to their physical fitness for the service.

The War Office has also issued a notice that it is prepared to enlist civilian surgeons, and the particulars are given in the official document printed at page 319. The age of the civilian surgeons enlisted must as a rule not exceed 35 years, though in special circumstances individuals may be accepted up to the age of 40. Those accepted will have the rank of lieutenant in the army, and must engage for twelve months or until their services are no longer required. They will receive 24s. a day inclusive of all money allowances except travelling allowances and expenses when travelling on duty. They will receive a gratuity of £60 on the termination of their engagement if they have rendered satisfactory service. We understand that a large number of applications have already been received, but that the list is still open for immediate service, and that the names of later applicants will be recorded to be called upon in the future as required.

The British Medical Association has, through the Chairman of Council, notified the Prime Minister that it is ready to make use of its machinery to assist the Government in any appeal it may desire to make to the medical profession. The response to the first announcements that civilian surgeons were needed for the navy and army has been immediate, and will probably within the next few days prove ample for present needs, but the offer of the Association will stand good for the future, and no man can say what that future has in store, nor how great the sacrifices we may be called upon to make in the life and death struggle which has been forced on the country.

ANNUAL MEETING NOTES.

When we went to press last week the annual meeting at Aberdeen was still in full progress. We were able, however, to supply an account of a good many of its general features, including a report of the work done at the Representative Meeting and a summary of that which the sixteen Sections did at their opening session. In the present issue will be found summaries of the work of these Sections on the two concluding days, together with a detailed account of the proceedings of the Section of Medical Sociology on all the three days that it met. The Supplement, amongst other matters, contains an account of the annual dinner and of the graduation ceremony. A general reference was made last week to the Annual Exhibition of foods, drugs, instruments, books, and sanitary appliances, and a detailed account of some of its more interesting contents will appear in a later issue.

The Curtain.

The meeting at Aberdeen is now but a memory, yet one so pleasurable and bright that it must always serve as a striking background to corresponding recollection of the dramatic events which have since occurred and are still occurring. Never has a curtain at a theatre fallen and risen between scenes presenting a greater contrast than those at Aberdeen on Saturday and Sunday respectively. On Saturday the weather was bright and sunshiny, and

the pleasure portion of the meeting was only just ending; on Sunday there were torrents of rain, the streets were thronged with people bidding farewell to hundreds of fisher folk summoned to rejoin the navy, and many of the local officers and their visitors were deep in study of mobilization orders and making other preparations for active service. But though the curtain has fallen on the Aberdeen meeting, and all minds are turned forward rather than backward, it is still right to summon before it some of the leaders among the Association's late hosts and assure them of the success of their efforts and of the valuable and pleasurable results to which these led. Far away as is Aberdeen, and despite the counter-attraction offered by the meeting of American surgeons in London, the attendance at Aberdeen was fully up to the average of annual meetings, and never have members felt themselves more welcome. They had reason, in short, to realize that Aberdeen's ancient war cry, "Bon accord," is not merely a motto, but a rule of conduct which all Aberdeen's present citizens are ready to observe. The President of the Aberdeen Branch, Sir Alexander Ogston, now President of the Association itself, was well served by all his officers, and more especially by his two secretaries, Dr. Thomas Fraser and Dr. F. K. Smith, on whose energy and ability in the performance of their work the success of the meeting largely hinged. As we noted last week, the arrangements made for the work of the Sections were admirable, and for the ease and comfort with which they did their work those who attended the Section meetings have special reason to be grateful to the executive members of the Reception Committee—namely, Professor Matthew Hay, its chairman, and Drs. H. M. W. Gray and H. E. Smith, its honorary secretaries. How well done was the work of the Dinner and Luncheon Committee, whose chairman and secretary respectively were Dr. John R. Levack and Dr. William Brown, those who attended the annual dinner can amply testify. As for entertainments, all possible desires were most fully anticipated by the committee which had this work in hand, headed by Dr. J. C. Ogilvie Will as chairman, and Dr. Albert Westland as vice-chairman, while Dr. W. F. Croll, who also arranged the cricket match, was its very active secretary. In this connexion should be mentioned also Professor Cash, who took in hand the transformation of Marischal College on the evening of the University reception, and on other occasions was ever ready to render courteous service to all whom he could aid. In the matter of excursions and expeditions Aberdeen outvied—if that be possible—officials of all previous meetings, and the plans made in respect of them were not only well devised but ably carried out by Dr. George Scott and Mr. G. H. Colt. Another of Sir Alexander Ogston's officers was Mrs. Carter, who, in addition to playing the part which might be expected of his daughter, contributed largely to the success of the arrangements made for the benefit of ladies attending the meeting. As we mentioned last week, these were of an exceptionally thoughtful kind, and for the comfort enjoyed by their women-folk members are especially indebted to Mrs. Williamson and Mrs. Gray, who took charge of the arrangements for afternoon tea at the Ladies' Club established in the rooms of the Aberdeen Medico-Chirurgical Society; Miss Baughan, who was in charge of the very useful information bureau and a corps of lady guides; and Mrs. Hay and Miss Grainger Stewart, who arranged the morning motor drives which were so thoroughly enjoyed.

Garden Parties.

The Association received an official welcome on behalf of the Lord Provost, the magistrates, and the Corporation of the city of Aberdeen at the general meeting on Tuesday evening, and on the following day it received a second but less formal welcome from the same body at a garden party given in Duthie Park. It was this affair that led off the round of entertainments, and, like those which succeeded, it proved a brilliant success. Apart from other advantages, this party gave members of the Association an opportunity of meeting Aberdeen citizens, for many of these joined in the proceedings, and the whole gathering numbered upwards of 3,000 persons. The weather was a little cold, but the threatening rain was seemingly kept off by the presence of several huge marquees, so nothing occurred to mar the pleasure of the afternoon, which was spent promenading in this beautiful park, inspecting its hothouses, and listening to music. Two bands were playing in different parts of the grounds, and not the least interesting feature of the afternoon, to those who came from the south, was the presence of over a dozen pipers, who at intervals during the afternoon played spirited marches and rousing strathspeys and reels. On the following day there were three further garden parties, and these, though not on so large a scale, were even more enjoyable in view of the excellence of the weather. Two of them took place at a little distance from Aberdeen, so the guests were taken out and brought home by special trains. One of these was given by Mr. and Mrs. Duncan Davidson at their beautiful home at Inchmarlo, near Banchory, a chamber concert forming part of the proceedings; the second was given by Dr. and Mrs. Lawson at the well-known sanatorium named Nordrach-on-Dee, and the other by the directors of the Murtle Hydropathic. Two further garden parties took place on Friday, the weather again being admirable. One of these was given at Banchory House by Sir David Stewart, the guests being taken out by motor charabancs. The other took place at Parkhill House, Dyce, the host being Mr. J. E. Crombie, the guests going out and returning by a special train. Many garden parties have been given at previous annual meetings, but none in more beautiful surroundings or by hosts who took greater care in providing for the comfort and entertainment of their guests.

Evening Entertainments.

The University of Aberdeen did not content itself with placing its beautiful buildings at the disposition of the Association and conferring honorary degrees on five of its members; it expressed its goodwill in a third and equally practical fashion by entertaining the Association at a reception on Wednesday evening. The guests arrived very promptly, and for nearly an hour from 8.30 onwards the staircases which lead to the Mitchell Hall were thronged. It was in the ante-chamber to this hall that they were received by their hosts, and having made their bow they passed on into the hall itself, where an organ recital was in progress. At 9 p.m. a string band began to play, and before very long an informal dance was in progress. This entertainment proved to be so popular that, large as is the Mitchell Hall, there would have been no room for dancing had not the adjoining museum been open, and had not supper parties commenced in the rooms devoted to the University Union at quite an early period of the evening. On the third of the four days that the meeting nominally lasts there took place the annual dinner of the Association, of which an account will be found in the Supplement, but, mindful of the fact that not all members care to attend dinners, and that very few of the ladies present at annual meetings are actually members of the Association, the Branch made arrangements for an entertainment at the theatre, and this proved to be of a most enjoyable kind. Its general features were those of variety shows all over the world, but two items were probably entirely new to almost all of those present. These were a diving performance given by Miss Lily Smith, the well-known swimmer, and her two sisters, and the remarkable feats performed with the stock whip by an Australian known as Captain Jack Kelly. The last evening entertainment of the week took place on Friday, Sir Alexander Ogston and the members of the Aberdeen

Branch being again the hosts. This was a reception given in two buildings and a large marquee, all three being decorated with great taste and connected together for the nonce by canvas corridors. It was one of the cheeriest evenings and best arranged entertainments that we remember in a long experience of annual meetings. One hall was given up to general music, and one to conversation and exchange of experiences in regard to the events of the meeting; another hall and a marquee to supper parties, and a fourth hall to dancing, and a number of small rooms to smoking and the like. The dancing began soon after nine o'clock, and was so enjoyed both by those who danced and those who merely looked on that ladies were pressed into service to play the piano when the ordinary programme was complete. Some pipers were also present, and played for the many who took part in the eightsome reels, two of which were danced in the course of the evening. The net result was that guests were so loth to leave that it was long past midnight before this party was really at an end.

EXPEDITIONS.

THE north-east corner of Scotland is rich in localities specially attractive on account either of their archaeological interest or picturesque beauty, and those able to snatch a few hours during the week were offered very wide choice in the matter of expeditions to such places. Apart from visits which are commonly arranged for tourists in Aberdeenshire by the various railway companies, the Excursions Committee, with the co-operation of a large number of medical men in different hamlets, planned not only for Saturday but for other days of the week a whole series of special expeditions. The scheme, indeed, was so comprehensive as to be almost bewildering in the number of alternatives that it offered, the special leanings of the archaeologically inclined, of the lovers of the picturesque, and of students of history being all equally consulted. Many of the places were visited by individuals armed with the permits that had been secured from the factors of the owners of the various estates by the Excursions Committee, and others were visited by groups. On the Thursday, for instance, there was an expedition to a prehistoric British fort on the Bennachie mountain, the party, which travelled out in a motor coach, being met at Inverurie by Dr. W. Henry of Kemnay, Drs. Forbes and Nicol of Inverurie, and Dr. A. E. L. Gray of Meikle Wartle, who guided them up to the fort by a prehistoric road known as the Maiden Way. Before starting they were entertained at luncheon by Mr. and Mrs. George Smith, of Pittodrie, and were refreshed with tea on their return by the same hosts. On the same day another party, on the invitation of Sir Alexander Baird and the medical men of Stonehaven, visited a Roman camp and some Druidical circles near the latter town, as also the famous Dunottar Castle, and a wonderful nesting-place for sea-fowl some two miles to its south. Dr. W. A. Macnaughton, of Stonehaven, kindly acted as their cicerone throughout the day. On Friday, again, there was a very successful expedition of the same order, this leading the party to Kildrummy, an ancient royal residence, and to Craigievar Castle, which is reputed to be the oldest inhabited edifice of the kind in Europe. The party was very kindly provided with luncheon by Dr. J. A. Simpson, of Alford, and with tea at Kildrummy Castle by its owner, Colonel Ogston. The largest expedition of all was to Balmoral Castle and Braemar, which were visited on Saturday by a party of nearly two hundred. Dr. John Innes represented the Excursions Committee on this occasion; Dr. Scott, its chairman, being detained in Aberdeen on Army Medical work, and the party was greeted at Ballater by Dr. Alexander Hendry, who is surgeon to his Majesty's household at Balmoral; while at Balmoral itself, where luncheon was served, it was received by Mr. Michie, the King's Factor. On the same day Mr. G. H. Colt took out a party to visit a vitrified prehistoric fort, some Druidical circles, a ruined castle, and other objects of interest near Huntly, those who had the opportunity of taking part in this expedition being guided throughout the day and entertained to luncheon and tea by Drs. Wilson, Garson, and Watson (all of Huntly), and their wives, and also by Colonel Mellis, who lives in the same district. Other places visited during the week by the courtesy of their owners were Muchalls, Crathes, and Drum Castles; while Dr. J. E. Skinner and Dr. James Lawson of Duncolt made arrangements for those who desired to visit the Barmekin of Echt, a prehistoric hill fort in their locality. Other Aberdeenshire medical men who kindly placed their services at the disposition of members wishing to visit antiquities or places of other interest hard by were Dr. W. I. Fortescue of Kingcausie, Dr. G. C. Burgess of Forfar, and Drs. W. L. Millar of Forres and Rannie of Culter. On Saturday also a number of members crossed country to Inverness on an expedition, of which an account in some detail will be found in the SUPPLEMENT to this issue.

INDUSTRIES.

AMONG the many industrial enterprises thrown open to the examination of members were some of an entirely novel order to the great majority of visitors. A large number, for instance, were greatly interested by what they saw at the Rubislaw quarries, one of those which have helped to obtain for Aberdeen the title of "The Granite City." Many of the same party subsequently visited the granite sculpture works of Mr. Arthur Taylor in Jute Street, where they had an opportunity of examining a statue of King Edward VII recently completed by Arthur Drury, R.A. It is to occupy a site near the railway bridge, and there was some diversity of opinion as to the artistic effect and durability of the oxidized silver ornamentation designed for the royal vestments. Two large parties also visited the fish market in the early morning, and besides being present at the fish auctions had the main features of Aberdeen's leading industry explained to them by Dr. Bowman, of the Marine Research Department.

SPORT.

IT need scarcely be said that there were plenty of opportunities for golf at Aberdeen, and many members took advantage of the courtesies offered them by the Royal Aberdeen Golf Club at Balgownie, by the Deeside Golf Club, and by the owners of the links at Murcar and Balnagask. It was at Balgownie that the competition for the Ulster Cup took place. There were 72 players, and the winner proved to be Dr. D. Barty King of London, who, with a handicap of 6, ended 1 up on bogey (80). Second came Dr. K. Gillies (Inverness), who, with a handicap of 5, ended "all square." The next five all tied at 2 down. They were Drs. A. M. Mitchell (4), C. B. Gerrard (4), E. H. Spittal (5), S. G. Luker (9), and Mr. Albert Lucas (5). There were also putting and approaching competitions for ladies, the winner of the former being Mrs. Eddowes of London, and of the latter Mrs. Haig of Aberdeen. The general golfing arrangements were well carried out by Dr. Alexander of Kingseat Mental Hospital, while Miss Pirie and Miss Westland looked after the interests of lady visitors. There was likewise a cricket match between Aberdeen and an eleven representative of the Association. It ended in a draw, but thanks only to the fact that Aberdeen declared its innings at a close after making over 200 for two wickets down.

THE POPULAR LECTURE.

THE Popular Lecture was delivered by Dr. J. Arthur Thomson, M.A., LL.D., Regius Professor of Natural History in the University of Aberdeen, in the Mitchell Hall, Aberdeen, on the last evening of the meeting, Friday, July 31st. Neither the audience nor the lecture were perhaps strictly of the character connoted by the word

"popular," but at any rate lecturer and audience were thoroughly in sympathy and the applause was frequent. The lecture is published at page 277 of the Journal. The exhibition of a number of zoological slides at the conclusion of the lecture was much enjoyed. Dr. Thomson had a neat phrase or quotation from the poets for all the wonders of Nature's handiwork displayed on the screen, and at the conclusion an expression of thanks to him was carried by acclamation.

The Temperance Leagues.

The National Temperance League, which this year was associated with its sister organization, the Scottish Temperance League, held its forty-fifth annual breakfast conference in connexion with the British Medical Association on July 30th. The chair was taken by Mr. A. P. Forrester-Paton, who expressed the admiration felt by the leagues for the work being done by the medical profession in relation to temperance reform. Among other speakers, Mr. John Turner Rae presented a message from the Science Education Committee of the National Temperance League, emphasizing the importance of further researches into the nature and cure of inebriety in amplification of the evidence presented ten years ago to the Inter-Departmental Committee on Physical Deterioration. Some of the lines that such a research might take were indicated by Mr. McAdam Eccles, among them being an endeavour to determine the lowest percentage of alcohol in the blood which will produce distinct physiological and pathological effects in normal subjects. The proceedings concluded after a vote of thanks to the hosts had been put to the meeting by Mr. T. H. Bickerton, of Liverpool.

Among those who entertained visitors during the week were Dr. Reid, medical superintendent of the Royal Asylum, who, with Mrs. Reid and his assistant medical officers, received nearly 200 guests on Thursday afternoon and showed them over the whole premises, refreshing them afterwards with tea and the music of two bands. On the same day there was also a kind of "at home" on a large scale at the Royal Infirmary, where the guests were received by the chairman of its managing board and by Professor Mackintosh, Professor Marnoch, and other members of the medical staff.

The membership ticket this year took the form of a folded card bearing a pen-and-ink sketch which conveyed an excellent idea of Aberdeen Harbour at sundown, with the trawlers moored to the quay. Inside was a capital map of the main streets of Aberdeen and a ground plan of Marischal College, showing the distribution of the rooms devoted to sectional meetings.

AN IMPORTANT PUBLIC HEALTH APPOINTMENT.

The West Hartlepool Town Council recently decided that the public health work of the county borough, the school work and the work under the Tuberculosis Order, should be carried out in future by a whole-time medical officer of health, with the assistance of a whole-time assistant medical officer. We are surprised, however, to learn that instead of proposing to pay to the senior officer a salary such as would attract practitioners of experience and standing in the profession, it is offering a commencing salary of only £400 for the combined duties in question. The Local Government Board as representing the public, and the British Medical Association as representing the medical profession, have repeatedly expressed the opinion that in the public interest the work of medical officers of health, where circumstances permit, should be carried out by practitioners who are not engaged in private practice. While of this opinion the Association and, we believe, the Local Government Board, fully recognize the value of the work which has been and is being done by many medical officers of health who have been working at the same time as private practitioners. Experience has, however, shown that there are disadvantages attending this system, for circumstances may arise in which the private interests of a general practitioner conflict with the public duties to be performed by a medical officer of health. Moreover, an officer whose whole time is given to public appointments is more likely than a general practitioner to possess the special knowledge of public health law and administration which the duties increasingly thrown on medical officers of health render essential. The Legislature has recognized the necessity of special qualifications in public health by making it incumbent upon county councils and on the councils of districts with a population of over 50,000 to appoint as medical officer of health a medical practitioner who, in addition to the ordinary qualifications, possesses a diploma in public health. Recognizing these facts, the councils of nearly all the county boroughs and of many other large districts have, with great benefit to the public, appointed as medical officers of health practitioners with special qualifications and experience in public health matters, and have made it a condition that they shall not engage in private practice. The West Hartlepool Town Council must therefore be congratulated upon the step it has taken, but it appears, unfortunately, to have overlooked the fact that the Local Government Board has, in the interests of the public health, strongly recommended that the salary of whole-time principal medical officers of health should in no case be less than £500 a year. In the present case not only is the officer to be appointed to be entrusted with the care of the health of a population of over 60,000, but with the responsible work of school medical officer and tuberculosis medical officer to the county borough, both of them appointments demanding special expert qualifications. For the combined appointment in the case of an important county borough such as West Hartlepool it is obvious that the interests of the public health cannot be efficiently safeguarded by the appointment of an inadequately paid official, and in the interests of the public, quite as much as in those of the medical profession, we must protest against the inadequacy of the suggested salary. We note that the Hartlepools Division of the Association has unanimously passed a resolution to the effect that the salary for the combined appointment should be at least £500—a resolution which will be thoroughly endorsed by the Association and the profession throughout Great Britain. The post calls for the appointment of an expert administrator, and it is certain that the town council cannot secure suitable candidates for it at the salary proposed, which is substantially less than that paid by the large majority of county boroughs throughout the country. Indeed, to go no further than the neighbouring borough of Hartlepool, with a population of only 20,000, and where, since it is not a county borough, the duties of the medical officer of health do not include those of tuberculosis medical officer, a salary of £400 is paid for work less onerous and responsible. The risk of appointing inadequately paid officials is inefficient service, and in matters of public health such a step is a fatal mistake in public policy. We trust that in the interests of the large community which it represents the West Hartlepool Town Council will reconsider its decision, especially as the question of finance involved is comparatively insignificant.

INTERNATIONAL DENTAL FEDERATION.

The International Dental Federation, or permanent organizing bureau of International Dental Congresses, met in the University of London on Monday, August 3rd. Mr. W. B. Paterson, F.R.C.S., L.D.S.(London), President, was in the chair, and delegates from various National Dental Associations comprised in the Federation attended and spoke of the progress of dentistry in their several countries during the past year. A marked diminution in

the number of delegates was observable by reason of the outbreak of war. No representatives of Austria, Germany, France, Holland, Belgium, or Denmark were present. The Vice-Chancellor of the University of London, Sir Wilmot Herringham, attended the meeting, and welcomed the Federation on behalf of the University. The President reviewed the work of the Federation in matters of dental hygiene, connected with school clinics, the army and navy, and public health generally, since the last International Congress, held in Berlin in 1909. He also dealt with the work of organization of the sixth International Dental Congress, which was opened at the university on the following day. At the conclusion of the President's address the following delegates spoke: Dr. W. T. Brophy (Chicago), on behalf of the United States, referred to the rapid progress now being made in the various municipalities throughout the States in the establishment of school dental clinics. Dentistry for the army and navy had been put upon a sound footing, and dentists ranked in equality with medical men. Dr. E. T. White (Brisbane) spoke of the forthcoming Australian Dental Congress, and extended a welcome. Dr. Eudore Dubeau (Montreal) dealt with the subject of unqualified practice and the steps successfully taken in Canada for its suppression. Dr. Vincenzo Guerini (Naples) could not report any forward dental movement in Italy during the year. Dr. Sten Hager (Stockholm) mentioned several improvements in school dental clinics undertaken by the Swedish Government, which were pioneer efforts in their way. Dr. Florestan Aguilar (Madrid) instanced various Government Acts passed for the betterment of public dental hygiene; in particular, the appointment of dentists as health inspectors in their own specialty, with the same magisterial powers which medical men who are medical health inspectors possess in Spain. Dr. John S. S. Burnett (Monte Video) recounted the steady growth of dental education in his city, and stated that the dental school there now had some seventy pupils. Professor S. P. Pickerill, Otago University, New Zealand, dealt also with dental education, more especially as it related to the teaching of medical students in dental pathology, to enable them to appreciate dentistry in relation to oral sepsis. Dr. E. C. Kirk (Philadelphia) related the results of a census of opinions on the question of didactic lectures for dental students, the general trend of which suggested that the dental schools of the United States did not value didactic lectures of the old-fashioned type, and that the time had arrived for their suppression as part of a dental curriculum generally. The Vice-Chancellor, in a speech which brought the proceedings to a close, drew upon his experiences of congress organization in connexion with the International Medical Congress of 1913, and compared them with those of the Federation. He referred to the similarity between the duties of the permanent bureau of International Medical Congresses established at the Hague and the duties of the International Dental Federation. In speaking of those other duties performed by the Federation not connected with congress organization, he emphasized the importance, in connexion with dental education, of gaining the ear of Governments and authorities by repeated presentation of their views. It was only by a system of constant hammering in of their ideas that they could hope to attain to what was wanted. Later in the day the Federation revised its rules, fixed the next, or seventh, International Dental Congress to be held in Spain in 1919, and decided to meet in San Francisco in 1915.

THE International Ophthalmological Congress, which was to have been opened at St. Petersburg on Monday, August 10th, has been postponed. The information has been received by Mr. Walter Jessop from Dr. Germann (St. Petersburg), secretary of the congress.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Sick Policemen.

DR. ADDISON asked the Home Secretary whether his attention had been called to the inadequacy of the arrangements existing at present in the Metropolitan Police for the treatment of members of the force; whether a number of the men who went on the sick list during a year, but who were not ill enough to be sent to an ordinary hospital, were accommodated in section houses or their own lodgings, where there were no proper facilities for their nursing or attention; and what steps he proposed to take to improve the present arrangements.—Mr. McKenna said that the arrangements now in force in the Metropolitan Police district for the medical care of sick police had been carefully devised with a view to giving them the most efficient care. All cases of illness in which nursing was required were sent at the cost of the police fund to the hospital nearest to the home and friends of the sick officer, unless treatment in a special hospital was recommended. Officers suffering from minor ailments were treated by the divisional surgeons, of whom there were 182, in their own home or lodgings, like ordinary private patients, or, if they resided in the section houses, in the sick-rooms provided there. Officers requiring rest and care during convalescence were sent at the cost of the relief fund to a convalescent home at the seaside.

Dr. Addison also asked the Home Secretary whether, in consequence of the inadequacy of the facilities provided for the treatment of sick members of the Metropolitan Police, he would consider the advisability of the establishment of an isolation ward and proper facilities for open-air and other suitable treatment of suspected or early cases of tuberculosis and the proper provision of police hospitals in suitable districts; and whether he was aware that for the City Police force of 1,100 men there was an institution with four wards and thirty-two beds, whilst in the Metropolitan Police force of 21,000 men there was no provision of this kind whatsoever.—Mr. McKenna replied that prompt measures were taken in cases of suspected or early tuberculosis in the Metropolitan Police; arrangements had for some years been in existence by which such cases were at once transferred to suitable hospitals or sanatoriums for observation or for treatment. The hospital established for the City Police force no doubt served satisfactorily for a comparatively small force concentrated in an area of one square mile, but to establish special hospitals to serve the whole metropolitan area of some 700 square miles would be a most costly expedient and would not yield such good results as the present system, under which sick police had the benefit of treatment in the great hospitals of London, which placed at the disposal of the sick the services of the most distinguished surgeons and physicians of the metropolis. For every man in hospital a subscription of 1 guinea a week was paid out of the Police Fund.

Female Factory Inspectors.—Mr. Morrell asked whether the number of women and girls employed in factories and workshops in the year 1907, the last year for which such figures were available, was more than 1,850,000, or approximately, 37 per cent. of the total number of persons so employed; whether this percentage had since been maintained; and whether, in view of the fact that there were at present only twenty women inspectors out of a total of 217, he would consider the desirability of making further additions to the staff of women inspectors.—Mr. McKenna said that the figures were correct, except that the present number of lady inspectors was twenty one out of a total of all grades of 222; but it was not to be supposed that the inspection of factories where women were employed was confined to the women inspectors. On the contrary, it was shared by all members of the staff, from the chief inspector downwards. The Home Office had, however, been steadily increasing the number of the lady inspectors—three had been added in the last eighteen months—and that policy would be continued.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

July Post-Graduate Teaching in Edinburgh.

The second fortnight in July has now been definitely included in the autumn vacation post-graduate courses in medicine in Edinburgh in connexion with the University and the Royal Colleges. During the two weeks ending August 1st, special courses in obstetrics and gynaecology and in diseases and defects of children have been held. In both the numbers attending were restricted (to 10 in the former and to 25 in the latter) on account of the clinical side of the teaching, and both were open to women (as indeed are all the post-graduate classes). The attendance was satisfactory; and to the graduates a well-filled day was offered in both courses, in fact, teaching began at 10 a.m. and continued, with a short interval, till 5 p.m., whilst in the obstetrical section there were opportunities given for seeing the operative work in the Royal Maternity Hospital at night. The August course of internal medicine is now in progress.

A Maternity Convalescent Home.

This home for the treatment of recently-confined women and their infants at Shandon, on the shores of the Gareloch, founded and endowed by Mr. A. F. Yarrow, accommodates six mothers, each having a room to herself. Preference is given to patients from the Glasgow Maternity Hospital, and to the wives of workmen from Messrs. Yarrow's works. Each patient remains for a fortnight. The institution will be open all the year round, having a very sheltered situation for winter residence, and will prove a valuable adjunct to the Maternity Hospital of Glasgow. It was formally opened on May 30th last. The consulting physicians are Dr. Robert Jardine, of the Royal Maternity Hospital, Glasgow, and Dr. Leonard Findlay, of the Royal Hospital for Sick Children, Glasgow; the visiting physician is Dr. Arthur Downes, of Helensburgh.

Royal Edinburgh Hospital for Incurables.

At the annual meeting of the members of the Incorporation of the Royal Edinburgh Hospital for Incurables, held within the Longmore Hospital on July 28th, the chairman (Mr. D. M. Westland) intimated that in order to meet the need for extension the managers had purchased a property adjoining their Cottage Hospital at Liberton. It had been resolved to take all the phthisis cases to that hospital, so as to leave room in the Longmore Hospital itself for the increasing number of cancer patients. The chairman appealed to the public for financial assistance. This proposed transference of the phthisis cases to Liberton has already been referred to in the Journal (vide British Medical Journal for July 11th, p. 93).

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Dublin University Post-Graduate Classes.

The post-graduate classes organized in connexion with the School of Physic, Trinity College, Dublin, will be held this autumn between September 14th and October 3rd. Instruction will be given in medicine, surgery, gynaecology, diseases of the eye, ear, throat, nose, and skin, pathology, anatomy, physiology, *x*-ray work, and urology. Professor John Joly, Sc.D., F.R.S., has kindly undertaken to give a lecture on radium to medical practitioners on one afternoon during the course.

Honour for Irish Doctor.

More than forty years after the close of the Franco-German war, the French Government has issued its handsome "Médaille Commémorative de la Campagne de 1870–71." Many of those who would have received this decoration have passed away. Of those who served in the Anglo-American Ambulance during those terrible days at Sedan, Paris, and Orleans Dr. Charles E. Ryan, Glenlara, Tipperary, is one of the few survivors. He has received the Brevet and Decoration from the French Minister of War, bearing the Seal of the Chancery of the Legion of Honour, May 7th, 1914. For his services to the wounded in the same campaign Dr. Ryan had conferred on him at the close of the war the Military Cross of Louis II of Bavaria, and also the Bronze Cross of the French Ambulance Society. In his work, *With an Ambulance in the Franco-German War* (John Murray), Dr. Ryan has given an account of his experiences with both armies during that tremendous struggle.

Gunshot Wounds in the Dublin Hospitals.

Owing to the unfortunate collision between the military and the mob in Dublin on Sunday afternoon, July 26th, a large number of cases were admitted to the Dublin hospitals suffering from gunshot wounds, most of them inflicted by rifle bullets. The majority of the patients were taken to Jervis Street Hospital, which is situated close to where the firing took place: two patients, an old man and a woman, were dead when brought to the hospital, and a third died about an hour after admission. Over twenty cases of bullet wounds were treated at this hospital, besides cases of bayonet wounds and other injuries, many of which were so serious as to necessitate detention in hospital. A few other cases were admitted or treated in some of the other hospitals. Some fourteen cases in all were detained in the hospitals suffering from bullet wounds; so far they are all progressing favourably, and it is not expected that there will be any further mortality.

The late Sir Christopher Nixon.

At the annual meeting of governors of the Royal Veterinary College of Ireland on Thursday, July 30th, there was an unusually large attendance of governors, and a resolution of condolence was adopted with the family of the late Right Hon. Sir Christopher J. Nixon, Bart., M.D., who had been President of the college since its foundation, and to whose untiring energy its establishment and success was in a great measure due.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MANCHESTER AND DISTRICT.

The Manchester Royal Infirmary.

An interesting ceremony took place at the Manchester Infirmary last week, when the chairman of the board of management, Sir William Cobbett, presented certificates and medallions awarded by the Queen Mother of Greece to nurses from the infirmary for their services to the wounded in the Greek-Turkish and Greek-Bulgarian wars of 1912 and 1913. The medallions showed a small silver cross, and the certificates, which were in Greek, described the donor as the "High Protector of the Red Cross." Of the ten nurses who went out to the wars one, it was stated, was still in Greece, but most of the others received the awards personally, and were congratulated by the chairman on having undertaken an onerous and dangerous duty which had been heartily and fully appreciated.

At a meeting of the board of management, a resolution was cordially adopted congratulating Sir William Milligan on the honour of knighthood recently conferred on him. The chairman announced that the donations for the Central Branch now amounted to £22,466 towards the £25,000 required. He said that the radium fund had for some time been almost monopolizing the attention of the public, and, in order not to interfere with that, no special efforts had been recently made to push the claims of the Central Branch. The radium fund was now an accomplished success, and he hoped that within the short time that must elapse before the opening of the Central Branch the donations would be sufficient to put it on a sound financial basis.

Ophthalmia at Swinton Schools.

The extent of the epidemic of ophthalmia at the Manchester guardians' schools at Swinton appears to have been somewhat exaggerated, although its seriousness cannot be denied. At present there are about seventy children suffering from ophthalmia and other affections of the eye. Many of the cases are quite mild and all are

being treated in a temporary building quite separate from the general buildings, so that none of the cases comè into contact with any of the healthy children. Several years ago the guardians appointed an ophthalmic surgeon, who periodically examines the eyes of the children and removes to separate accommodation every child whose eyes are in any way affected, and no child is allowed to return from the ophthalmic building until the surgeon is satisfied that there is no possibility of recurrence. About three years ago the number under treatment for diseases of the eye was over 160, but since then there has been a gradual diminution, which is undoubtedly owing to the careful treatment and isolation. The guardians have applied to the Local Government Board for sanction to purchase an estate where better accommodation may be made for these cases, the cost being estimated at about £7,250.

Canada.

[FROM OUR SPECIAL CORRESPONDENTS.]

CANADIAN MEDICAL ASSOCIATION.

THE annual meeting of the Canadian Medical Association opened at St. John, New Brunswick, on July 7th, under the presidency of Dr. Murray MacLaren. About 280 members were in attendance. After the addresses of welcome, which were delivered by the Hon. Josiah Wood, the Lieutenant-Governor, and the Hon. J. D. Hazen, Dr. MacLaren delivered the presidential address. In it he reviewed the history of the early visits of medical men to the province of New Brunswick and to the city of St. John, from the visit of De Monts and Champlain in 1604, when so many of their party fell ill with scurvy, to the visit of La Tour and the landing of 3,000 Loyalists on May 1st, 1783, who founded the city of St. John; among them were a number of medical men. The Canadian Medical Association met at St. John for the first time in 1873 and again in 1894. It was interesting to note that at the latter meeting the topics discussed included a Dominion Medical Act, interprovincial registration, and a uniform standard of medical education for the various provinces of the Dominion. All these questions had since been solved. In speaking of the organization of the association, the President urged that the constitution should be altered to meet needs as they arose. He referred also to the wish expressed by many members that a weekly journal should be published by the association. In concluding his address, Dr. MacLaren paid a tribute to the splendid work being done in Canada by the Army Medical Corps. At the present time there was an organized service of 700 medical officers and 1,800 non-commissioned officers and men ready for the field. The presidential address was followed by the address in medicine, delivered by Dr. Thomas McCrae, Professor of Medicine at the Jefferson Medical College, Philadelphia. He impressed upon his hearers the necessity for patient observation and the importance of careful routine examination and inspection. He reminded those present that it was only by drawing correct inferences from the knowledge obtained by such observation and inspection that a true diagnosis could be arrived at. "The eye sees only what it is trained to see," therefore a physician must train every sense; he must accustom himself to careful observation and reflection, and he must not rely too greatly upon the perfection of instruments. The address in surgery was delivered by Dr. J. Rutherford Morison, Professor of Surgery at the University of Durham, who chose for his subject "The teaching of surgery." Dr. H. Jellett, of the Rotunda Hospital, Dublin, delivered the address in obstetrics, the title of which was, "The present relation of theory and practice in the treatment of genital prolapse." On Thursday evening, July 9th, an able address on "Health problems in Canada" was given by Dr. Charles A. Hodgetts, Medical Adviser to the Commission of Conservation. This address was open to the public. Dr. Hodgetts deplored the lack of uniformity in the laws relating to public health in the Dominion of Canada. In 1871 public health was allowed to lapse to the various provincial Governments, and now each of the nine provinces controlled public health under a different statute law, and without any reference each to the other, or to the Dominion as a whole. He advocated strongly the formation of a federal department of public health and the publication of vital statistics for the whole Dominion.

In accordance with the suggestion offered by the President in his address, it was resolved that the constitution be amended to allow a provincial society to hold its annual meeting even should the annual meeting of the Canadian Medical Association take place in that province. In the past Ontario has been the chief sufferer in this respect, as the meetings of the Canadian Medical Association have been held at places in that province more frequently than in other parts of the country. It was resolved also that the British Government be requested to provide for a careful examination of all intending emigrants to Canada before embarkation. Thus the emigrant would be saved much distress and annoyance and the expense of deportations would be avoided to a great extent. A further resolution was adopted to petition the Government to establish a Federal Department of Public Health.

A large number of papers were read in the various sections, the reading of which was followed with keen interest. Clinics were conducted by Dr. George E. Armstrong of Montreal, Dr. Thomas McCrae of Philadelphia, and Dr. Max Einhorn of New York. The next convention will take place at Vancouver. The president-elect is Dr. R. E. McKechnie of Vancouver.

The annual meeting of the Canadian Medical Protective Association was held on July 9th, in connexion with the meetings of the Canadian Medical Association. Dr. R. W. Powell, of Ottawa, was re-elected president.

On Wednesday, July 8th, a luncheon was given to the members of the Canadian Medical Association by the local Branch of the British Medical Association, and on Thursday a luncheon was given by the St. John Branch of the Canadian Medical Association.

ONTARIO COLLEGE OF PHYSICIANS AND SURGEONS.

The annual meeting of the Medical Council of the Ontario College of Physicians and Surgeons was held in Toronto on July 7th and 8th. The most important matters that came up for consideration were the Workmen's Compensation Act and the regulation of the "practice of medicine." It is important that a clear understanding should be arrived at as to the exact legal definition of the phrase "practice of medicine," and that legislation should be secured to limit the activities of those who practise the various "pathies," many of whom have had no proper training in any of the branches of medicine. A resolution was adopted that a list be drawn up of all those who might be considered as claiming to be medical practitioners, and the whole matter was referred to a joint committee, consisting of members of the executive committee, the legislative committee, and a representative of the teaching bodies. The Workmen's Compensation Act for the province was discussed at some length, and the hope was expressed that as the Act became operable some provision for the payment of a medical man would be made. Mr. F. W. Hinsdale, who has been engaged in work connected with workmen's compensation in the State of Washington, was of opinion that there were good reasons why no provision for first aid had been made, particularly as the Ontario Act was somewhat of an experiment. He reminded his hearers that under the provisions of the new Act it was unnecessary to determine the fault, which, of course, in many of the cases did not exist, the accident being attributable to no fault, but rather to chance; and he was of opinion that the fact that the workman received, instead of merely 20 per cent., the full sum paid by the employer, would be a guarantee in itself that the physician's bill would be paid.

The provisions of the Examination Act were altered to allow a teacher to conduct an examination in any subject; previously he could not examine in the subjects taught by him. It was resolved also that the Canadian Medical Council be requested to make Toronto an examination centre alternately with Montreal, irrespective of the examination centre in the Western Provinces. A vote of condolence was passed to Hon. Dr. R. A. Pyne on the death of his brother, Dr. A. R. Pyne, and to Dr. E. E. King on the death of his daughter.

The officers elected for the year 1914-15 are: President, Dr. James McArthur, London; Vice-President, Dr. H. S.

Griffin, Hamilton; Registrar, Dr. J. L. Bray, Toronto; Solicitor and Counsel, H. S. Osler, K.C., Toronto; Public Prosecutor, John Fyle, Toronto; Official Stenographer, George Angus, Toronto; Treasurer, Dr. Wilberforce Aikens, Toronto. The next annual meeting will be held in Toronto on July 6th, 1915.

Correspondence.

THE FUTURE OF THE LISTER INSTITUTE.

SIR,—I am instructed to inform you that all members of the Lister Institute will shortly receive a statement from the governing body, giving details of their proposal for the amalgamation of the resources of the Lister Institute with those at the disposal of the Medical Research Committee. The recommendations of the majority of the governing body will be submitted to the members of the Institute at a meeting which will take place early in October.

In the meantime members will no doubt suspend their judgement on a proposal the details of which have not yet been placed before them.—I am, etc.,

London, S.W., August 4th. CHARLES J. MARTIN, Director.

SIR,—We beg to bring to your notice the proposed amalgamation of the Lister Institute of Preventive Medicine with the Government Medical Research Institute created in connexion with the Insurance Act. In other words, it is proposed to hand over the Lister Institute—the representative in England of the Pasteur Institute of France—to a Government Committee. The Lister is the only institution in England devoted to pure research in medicine, where men can spend their whole time in working at the natural history of disease with a view to its prevention. It is elastic in its constitution and free from the inevitable restrictions of a Service-run department, so that any one who has an idea or theory in regard to the prevention of disease can be given advice and working facilities, and so put his idea or theory to the test of experiment. The Lister is also a place where any member of the staff can have pupils—and as a matter of fact, students come to it from all parts of the world—or give lectures on his special subject and so spread knowledge.

2. However right and proper it may be for the State to maintain an institute for medical research, it is surely desirable that there should be in the country at least one establishment in which researches can be pursued independently of the State and its officials. The Lister Institute is the only place adequately equipped to fulfil this function in the United Kingdom.

3. If the work turned out by the Institute were so poor in quality and meagre in quantity that its continued existence were a discredit to science, the last argument would lose its force so far as the Lister Institute is concerned, but as a matter of fact—the present governing body themselves being the witnesses—the quality of the work done is excellent, and there is an increasing tendency for research workers to resort to the Institute for instruction and laboratory facilities. Such hospitality will be absolutely out of the question if the Institute is compelled to house two complete staffs, the nominees of the Government Committee and the present staff of the Institute.

4. It may be said that the amalgamation will lead to the better utilization of the Institute's resources, and that it is not economical to have two separate research institutes in London. History has again and again taught that Government-controlled institutes of this kind tend to become stereotyped and inelastic. The fire of enthusiasm burns low under the damping effect of bureaucracy, "which is sure to think that its duty is to augment official power, official business, or official numbers, rather than to leave free the energies of mankind." Success in research depends upon freedom of initiative. It is a matter of common knowledge that in Germany a research worker who has the choice between a university post and a post in a Government research institute, invariably prefers the university post. If in the future it is found that there is no room in England for the two institutions, then a fusion might take place. Let us wait and see how the new Government scheme works.

5. Does any man imagine for a moment that it will be possible to carry out the objects of the Institute under the new régime? Let us rehearse these objects:

(*a*) To undertake or aid scientific research into and study of the causes, prevention, and treatment of disease in man and animals, the study of biology in any form, or any other science in its relation to the health of man or animals, the study of any agency or discovery affecting or likely to affect human health, the study of the composition, properties, and powers of any article of food or drink, or medicine, the study of air, water, animals, vegetables, minerals, and chemical substances in their possible relation to human health, and to provide a place or places where research and study may be carried on for the purposes aforesaid.

(*b*) To provide instruction and education in preventive medicine to medical officers of health, medical practitioners, veterinary surgeons, advanced students and others.

(*c*) To prepare and to supply to those requiring them such special protective and curative materials as have been already found or shall in future be found of value in the prevention and treatment of disease.

(*d*) To treat persons suffering from disease or threatened therewith, in buildings of the Institute or elsewhere, as out-patients, especially in cases where similar treatment cannot conveniently be obtained at any London hospital, but nothing herein contained shall authorise the establishment of a residential or in-patient's hospital.

The governing body at that time included the late Lord Lister, P.R.S., Lord Iveagh, F.R.S., Lord Rayleigh, O.M., F.R.S., and the late Professor Sir John Burdon-Sanderson, F.R.S., Regius Professor of Medicine of the University of Oxford.

6. In conclusion, is this Institute, with its high ideals and illustrious founders, to perish in this premature fashion as the result of a policy of timid pusillanimity, under whatever fine phrases the surrender may be concealed? If so, then the one institution in England wholly devoted to independent research in preventive medicine will disappear. After amalgamation there will no longer be room for the encouragement of private research, or for pupils, or for the diffusion of knowledge by lectures or demonstrations. Instead of being out of earshot of the hurly-burly of politics, it will be competent for any member of Parliament to question the work and policy of the Institute at any time and the way in which public money is expended. In our opinion it is a suicidal policy and will not be to the real benefit of preventive work in disease in England.

F. W. ANDREWES, M.D., F.R.C.P.,
Lecturer on Pathology, St. Bartholomew's Hospital; Professor of Pathology in the University of London; Member of the Council of the Lister Institute.

DAVID BRUCE, Surg.-Gen., A.M.S., Kt., C.B., F.R.S., F.R.C.P.,
Member of the Governing Body of the Lister Institute.

A. R. CUSHNY, F.R.S., M.A., M.D., LL.D.,
Professor of Pharmacology and Materia Medica in the University of London; Member of the Lister Institute.

W. S. GREENFIELD, M.D., F.R.C.P.,
Late Professor of Pathology and Clinical Medicine, Edinburgh University; Member of the Council of the Lister Institute.

A. S. GRÜNBAUM, M.D., Sc.D., F.R.C.P.,
Professor of Pathology and Dean of the Faculty of Medicine, University of Leeds.

E. RAY LANKESTER, K.C.B., D.Sc., F.R.S.,
Member of the Council of the Lister Institute.

JAMES RITCHIE, M.A.Oxon., M.D.Edin.,
Irvine Professor of Bacteriology, University of Edinburgh; Superintendent, R.C.P. Research Laboratory, Edinburgh.

W. J. SIMPSON, C.M.G., M.D., F.R.C.P.,
Professor of Hygiene in King's College, London; Member of the Council of the Lister Institute.

STATE REGISTRATION OF NURSES.

SIR,—Lord Knutsford's criticism of the statement by Mr. Garstang, the Chairman of the Medico-Political Committee, shows once more that his lordship cannot understand the difference between a constitutional opposition

and a factious opposition, such as that which he has got up against the State registration of nurses.

The action taken by our Association, after many years of hard work and close consideration, has been confirmed over and over again in committees and Representative Meetings, including the one just closed. It is supported by all the nurses' associations in England, Scotland, and Ireland, and the bill which he seeks to hinder has been agreed upon by all these bodies and is being put forward by a joint committee representing all these bodies.

Finally, it has been warmly supported at all open meetings of nurses during the past twelve months, and the only meeting, where Lord Knutsford appeared in opposition, carried it against him by a large majority. Against these constitutional procedures he dares to put the opinions of private individuals, collected by himself, on a circular containing several incorrect assertions and no argument.

This is precisely the sort of thing I protested against Mr. Asquith doing when the last deputation went to him on the subject. I pointed out to Mr. Asquith on that occasion that these *ex cathedra* opinions, collected by Mr. Holland (as he was then), were merely bureaucratic, and could not for a moment be quoted against the constitutional resolutions of the British Medical Association and other representative bodies.

The very matrons Lord Knutsford names as objecting to the bill I myself visited a few months ago, and found them profoundly unacquainted with registration by the State. They knew none of its purposes nor of the great advantages it offers to every trained calling. All they feared was a loss of controlling influence. Even this I showed them was a delusion, and that their personal influence and control of their nurses would be unaffected.—I am, etc.,

London, W., Aug. 4th. VICTOR HORSLEY.

*** We have received from Mrs. Bedford Fenwick, President of the Society for the State Registration of Trained Nurses, a long letter putting forward very similar arguments, for which we are unable to find space.

THE UNIVERSITY OF LONDON.

SIR,—Your editorial comment on my letter to you of last week breaks new ground at its close in a personal attack upon myself. You say that on May 30th, 1912, the Senate adopted a resolution "welcoming the efforts of Lord Haldane and other friends of university education in London to raise funds towards the present and future needs of the University," and you accuse me of rejoicing in the failure of these efforts. This, I think, you will admit is a somewhat serious charge to make in a journal which is widely read by the medical graduates of the University who have done me the honour of electing me three consecutive times to represent them on the Senate. I am at a loss to understand on what evidence you found the charge, and I hope, at any rate, that the following explanation will convince your readers that it is baseless. The efforts of "Lord Haldane and other friends," etc., date from a letter addressed by Lord Haldane to Sir Francis Trippel, published in the press in March, 1912, in which Lord Haldane approved a proposition by Sir Francis Trippel to raise a fund to purchase the Bedford site for the University; and he named, among others, three trustees of this fund—Lord Rosebery, Sir Francis Trippel, and himself. In response to the public appeal certain donations, which have remained anonymous, were announced, and Lord Haldane, in a letter published in the *Times* of May 9th, 1912, declared that some of these donations carried "conditions which were inconsistent with the gifts being used by the University as at present constituted." Sir Francis Trippel has contradicted this later statement, and Lord Rosebery wrote to the Vice-Chancellor on March 20th, 1912, that when he accepted the trusteeship he was not aware that any site had been fixed upon, and that he supposed that the most that had been done was to accept offers of money for a site to be offered to the University; and that he had not as Chancellor committed either the University or himself to anything except to being trustee for certain sums collected for the benefit of the University.

The Senate were further assured by one of their most influential and respected members who was supposed to be deep in the counsels of Lord Haldane that the fund which was being raised by "Lord Haldane and other friends," etc., was not, in fact, hedged in by the stipulation that the University should choose the Bedford site, and on this understanding a carefully worded resolution was passed without a division on May 30th, 1912, emphasis being laid on the fact that the Senate regarded themselves as free to make their own choice. You have omitted the last clause, which is of crucial importance in this connexion; the whole resolution runs as follows:

> That the Senate welcome the efforts of Lord Haldane and of other friends of University Education in London to raise funds towards the present and future needs of the University, and have referred to a special committee the consideration of the most suitable site for the University.

The Bedford site was subsequently considered in detail and rejected decisively by this committee and by the Senate, and another site was recommended, but on October 21st, 1912, in an interview with the Vice-Chancellor, Lord Haldane made it clear that the anonymous money for which he was spokesman would not be available for this site, whereas the Drapers' Company at the same time announced that their proffered donation of £60,000 would be so available.

In July of last year Lord Haldane, in a correspondence with the Vice-Chancellor, again made it clear that the efforts of "himself and other friends," etc., were absolutely conditional on the selection of the Bedford site by the University, notwithstanding that he was aware that this site had been rejected by the Senate and by their Sites Committee. It is, therefore, evident that the Senate were misinformed at their meeting on May 30th, 1912, and that their resolution wrongly described the efforts of "Lord Haldane and other friends," etc., as being directed to "raising funds towards the present and future needs of the University"; these efforts are more accurately described as being directed to removing the University from its present advantageous financial position as regards its tenure of its premises from the Treasury, to a site condemned by its governing body after exhaustive investigation.

Removal of the University to the Bedford site, upon which Lord Haldane thus lays a strange personal insistence, would be very much in the interest of a particular school of which Lord Haldane is a life governor, but would be detrimental to the University as a whole. Moreover, as Sir Philip Magnus, member of Parliament for the University, pointed out on the morrow of Lord Haldane's letter of May 9th, to which I have referred, Lord Haldane's action in accepting offers of money "under conditions which are inconsistent with the gifts being used by the University as at present constituted," tends to restrict the freedom of Parliament and to prejudice the situation in favour of a policy for the reconstitution of the University in accordance with the recommendations of the Royal Commission of which Lord Haldane was chairman, a policy which still has to get the sanction of Parliament, and whose prospects of getting that sanction become increasingly remote. For these reasons I am free to admit that I, in common with the large majority of my fellow graduates, am not sorry that these efforts, which are in no sense disinterested efforts for the general benefit of the University, have failed. You have seriously misrepresented my position in this matter, and I trust that you will give me this opportunity of correcting the effect of your statement, which conveys an entirely false impression calculated to injure me with my University constituents.—I am, etc.,

London, W., July 28th. E. GRAHAM LITTLE.

THE WAR: A PRACTICAL OFFER.

SIR,—There are many of the medical profession who will be unable to go to the front and engage in active work for their country.

I am ready to attend all soldiers, sailors, their wives and families, of whatever rank, without making any charge, and have already commenced to do so.

There are others all over the country who are doubtless ready to do likewise. Can we not have the names sent in and organize accordingly? I am willing to act in any secretarial capacity.

Moreover, there are those on whom the war will heavily fall and who will not be in a position to pay medical fees—to these we might well extend like services.

Care must be taken not to interfere with the patients of other men, but this could surely be readily arranged.—I am, etc.,

London, S.W., August 5th. LINDLEY SCOTT.

*** We venture to suggest that any such plan as our correspondent proposes would best be instituted by the medical profession in each locality. The British Medical Association in its Divisions affords a basis for such local action and at the same time a means of co-ordination.

The Services.

CALL FOR TEMPORARY SURGEONS AND SURGEON PROBATIONERS (STUDENT-DRESSERS).

ROYAL NAVAL MEDICAL SERVICE.

SURGEONS for temporary service in the Royal Navy are required. They will be paid 22s. a day, *plus* allowances and equipment allowance for uniform. Their age must not exceed 40 years.

Surgeon Probationers in the Royal Volunteer Reserve—that is to say, senior students to act as dressers—are also required.

Application should be made to the Director-General, Medical Department of the Navy, Admiralty, S.W.

A considerable number of applicants have been accepted, but the lists are not closed.

The regulations for Temporary Surgeons and Surgeon Probationers are as follows:

REGULATIONS FOR THE ENTRY OF SURGEONS FOR TEMPORARY SERVICE IN THE MEDICAL DEPARTMENT OF THE ROYAL NAVY.

SURGEONS who may be temporarily employed in the Royal Navy in time of War or Emergency to meet the requirements of the Service will be appointed under the following regulations:—

QUALIFICATIONS.

To be registered under the Medical Act as qualified to practise Medicine and Surgery in Great Britain and Ireland.

To produce certificates of good character.

To be reported physically fit after medical examination.

Age not to exceed 40 years.

PAY AND ALLOWANCES.

Full Pay.		*Half Pay.*	
A day.	A year.	A day.	A year.
22s. 0d.	£401 10s. 0d.	10s. 0d.	£182 10s. 0d.

NOTE.—Half pay is for sickness and extra leave only.

To be granted thirty days' advance of pay on joining a ship after appointment.

To receive the same allowances as are payable to permanent Officers of their rank.

Lodging money at the rate of £50 a year is usually allowed when employed on shore without Quarters in the United Kingdom, and £24 a year in lieu of rations. In cases, however, of temporary employment on shore, the lodging and provision allowances will be at the rate of 3s. 6d. and 1s. 6d. per day respectively.

If Quarters are provided in a Medical Establishment, an allowance is granted in lieu of provisions, for self and servant, and for fuel and lights at the rate of £39 a year in the United Kingdom, and £103 a year abroad.

UNIFORM.

Each Surgeon to provide himself as follows:

1. Frock coat, waistcoat, and trousers.
2. Undress coat.
3. Uniform cap.
4. Mess jacket and waistcoat.
5. Sword and undress belt.

All as specified in the Uniform Regulations.

To cover the above each officer accepted for service will receive an Equipment Allowance of £20, payable on the officer's being called up for active service.

The following instruments must be provided by the Surgeon:

A Pocket Case of Instruments.

A Stethoscope.

Three Clinical Thermometers.

MESSING.

Surgeons will be allowed, when attached to ships in commission, the ordinary Ship's rations; but will have to pay about 2s. a day towards the maintenance of their Mess as Ward-room Officers.

PENSIONS FOR WOUNDS AND TO WIDOWS, ETC.*

In the event of Surgeons engaged for temporary service being wounded in His Majesty's Service, Gratuities or Pensions, varying in amount according to the injuries sustained, will be granted, on the basis of the awards in similar cases of Naval Officers.

Should Temporary Service Surgeons be killed in action, die within two years of wounds received in action, or meet their death by acts of the enemy, the following Pensions and Allowances will be granted to their widows, children, etc.:

	Widows.		Children up to the Age of 18 for Boys and 21 for Girls.		Widowed Mothers dependent on their Sons, if the Latter left no Widows or Children.	Orphan Sisters dependent on their Brothers, if the Latter left no Mothers, Widows, or Children.
	Killed in Action.	Drowned, etc., by Acts of the Enemy.	Killed in Action.	Drowned, etc., by Acts of the Enemy	Killed or Drowned, or Suffered Violent Death by Acts of the Enemy.	Killed or Drowned, or Suffered Violent Death by Acts of the Enemy.
	£	£	£	£	£	£
Surgeon..	80	65	12 to 16	10 to 14	50	50

In addition to the foregoing Pensions, the widows and children of officers killed in action will be granted the following Gratuities:—

Widows—One year's Pay of their husband's corresponding rank in the Royal Navy.

Each unmarried child, under the age of 21, one-third of the Gratuity paid to the widow.

These Pensions and Gratuities can be given only in cases of injury or death caused by acts of the enemy and not on account of injury, disability or death which may result from carrying on the ordinary duties of the Service.

CONDITIONS OF SERVICE.

To engage for six months certain, but the liability to serve will be limited to five years.

To serve when and where required from the date of signing the Declaration.*

To be liable to immediate discharge for misconduct or incompetency.

To rank with, but after, Surgeons in the permanent Service.

To be under the general rules of the Service as regards discipline, etc.

To receive two calendar months' notice of services being no longer required.

To be granted a gratuity of two calendar months' pay on discharge if not discharged for misconduct or incompetency.

Voluntary resignation of appointment will be allowed subject to the convenience of the Service, but the gratuity of two calendar months' pay on discharge will be thereby forfeited.

The following form of Declaration and of Schedule of Qualifications will be required from Candidates:

DECLARATION.*

I .....

Christian and Surname at full length. .....

a Candidate for temporary service as a Surgeon in the Royal Navy, do hereby engage for general service, and attest my readiness to proceed on duty abroad whenever required to do so, upon the terms specified in these regulations.

I Declare—1st. That I am ..... years of age, and that I was born on ..... 18—, at .....

2nd. That I am †.....

.....

3rd. That I labour under no mental or constitutional disease or weakness, nor any other imperfection or disability which can interfere with the most efficient discharge of the duties of a Medical Officer in any climate.

4th. That I am registered under the Medical Act in force as duly qualified professionally, and that I hold the following Diplomas, etc., in Medicine and Surgery:

.....

.....

Signature.....

Date.....

N.B.—A mis-statement by a Candidate will invalidate any

* Unmarried candidates will be preferred.

* It should be distinctly understood that Candidates entering their names are not liable in any way to serve until they have signed the Declaration, which they will only be called on to do when their services are required.

The entering of names is simply for the convenience of communicating with Candidates quickly.

† Here insert "of pure European descent and the son either—

"(*a*) of natural-born British subjects; or

"(*b*) of parents naturalized in the United Kingdom."

NOTE.—If any doubt should arise upon this question the burden of clear proof that he is qualified must rest upon the candidate himself.

subsequent appointment, and cause forfeiture of all privileges for services rendered.

Medical School .....

* *Present Address* .....

† *Permanent Address of Parents or near Relative* .....

NOTE.—The Certificates of Birth *(not of Baptism)* or Declaration thereof made before a Magistrate, of Medical Registration, and of Character *(up to date)* must accompany this declaration.

By Command of their Lordships,

W. GRAHAM GREENE.

Admiralty,
October, 1911.

REGULATIONS FOR THE ENTRY OF SURGEON PROBATIONERS, ROYAL NAVAL VOLUNTEER RESERVE.

QUALIFICATIONS.

Medical students attached to a leading Medical School who have passed their Intermediate Examination in Anatomy and Physiology, but are not fully qualified medical practitioners are eligible for these appointments.

2. Candidates for appointment must be of pure European descent, and the sons either of natural-born or naturalized British subjects. They must be not less than 18 nor more than 25 years of age, and must be certified to be physically fit for the Naval Service.

3. Applications for entry must be made upon Form R.N.V. 26 (see Appendix) and submitted through the Admiralty Volunteer Committee for the consideration of the Admiralty.

RANK AND UNIFORM.

4. Surgeon Probationers rank with Sub-Lieutenants, R.N.V.R. and their uniform is the same as for Officers of that rank, without the "circle" on the cuff denoting Officers of the Military Branch, and with one row of red cloth on the sleeve. An allowance of £20 in aid of outfit will be granted to Surgeon Probationers on completing their first course of training afloat, or their first Hospital Course. In the event of an officer resigning before he is fully qualified, he will be liable to refund this allowance. No further allowance for outfit will be granted in the event of subsequent promotion to the rank of Surgeon, R.N.V.R.

PAY AND ALLOWANCES.

5. While under training afloat Surgeon Probationers receive pay of 5s. a day and, if required to join a Ward Room Mess, Messing Allowance of 1s. a day. While undergoing a Hospital course they receive pay at the same rate, and also Hospital allowance at the usual Naval rate, that is, £39 a year.

6. When called out for active service Surgeon Probationers will be paid 5s. a day, and in addition 2s. a day special allowance, together with the usual allowances payable when under training.

TRAINING.

7. Surgeon Probationers are required to undergo courses of training, and to obtain certificates from the Medical Director-General of the Navy that they have been instructed in their duties and have taken full advantage of their instruction. The courses of instruction comprise one period of from 14 to 28 days (at the Officer's option) at a Naval Hospital, and a similar period afloat. The Hospital Course must be taken first.

EMPLOYMENT.

8. When called up for actual service the duties of Surgeon Probationers will include the following:

First aid on board fighting ships.
Transport duties on shore.
Clinical dressing.
Clerical duties at the Naval Hospitals and on board Hospital Ships.

They will be liable to serve either ashore or afloat, as may be directed by the Admiralty, and wherever the Admiralty may have need of their services, on the understanding that so far as practicable these services shall be confined to Home Waters and the Mediterranean and to Base Hospitals, Hospital Ships, and Hospital Carriers.

COMPENSATION FOR INJURIES.

9. Officers who may receive hurts or wounds whilst on active service in the Royal Navy, or whilst undergoing training, will receive the same pensions and allowances as those to which Officers in the Royal Navy of corresponding rank would be entitled in similar circumstances.

RELINQUISHING APPOINTMENT.

10. Upon obtaining full qualification as medical practitioners, Surgeon Probationers will be required to give up their appointments, but may at their option and subject to the approval of the Admiralty—

(*a*) Enter as candidates for appointment as Surgeons Royal Navy. Such candidates will be credited at the entrance examination with additional marks on a similar scale to that now laid down for candidates who have served in the Officers' Training Corps, viz., one per cent. of the maximum number of marks allotted will be credited to candidates in possession of the Hospital Course Certificate, and two per cent. to those in possession of the certificate for the Man of War Course.

(*b*) Enter as Surgeons R.N.V.R., either attached or unattached.

* Any change of address to be notified to the Director-General, Medical Department of the Navy, Admiralty, London.

† This address is required for communications during an Officer's absence from England, when on Service.

R.N.V. 26.

ROYAL NAVAL VOLUNTEER RESERVE.
(Medical Officers Branch.)

Application and Declaration.

I.....

Christian name and surname at full length. .....

a candidate for commission as a Surgeon Probationer in the Royal Naval Volunteer Reserve do hereby engage for service subject to the provisions of the Naval Forces Act, 1903, and of the Admiralty Regulations made in pursuance thereof and to the customs and usages of His Majesty's Naval Service. The conditions of Article 98 of the Regulations for the Royal Naval Volunteer Reserve, 1909, have been brought specially to my notice.

I Declare..... 1st. That I am.....years of age and that I was born on.....18....., at.....

§ *Here insert "of pure European descent and the son either (a) of natural-born British subjects; or (b) of parents naturalized in the United Kingdom."**

2nd. That I am § .....

3rd. That I labour under no mental or constitutional disease or weakness, nor any other imperfection or disability which can interfere with the most efficient discharge of the duties of a Medical Officer in any climate.

4th. That I am attached to ..... (Medical School), and that I have passed the intermediate examination in Anatomy and Physiology.

.....

.....

.....

Signature .....

Date .....

N.B.—A misstatement by a Candidate will invalidate any subsequent appointment, and cause forfeiture of all privileges for services rendered.

Medical School .....

†*Present Address* .....

‡*Permanent Address of Parents or near Relative* .....

NOTE.—The Certificate of Birth *(not Baptism)* or Declaration in lieu thereof made before a Magistrate, and of Medical Registration must accompany this Declaration.

* If any doubt should arise upon this question, the burden of clear proof that he is qualified must rest upon the candidate himself.

† Any change of address to be notified to the Admiralty Volunteer Committee, London.

‡ This address is required for communications during an officer's absence from England when on service.

[These forms may be obtained on application to the Secretary, Admiralty Volunteer Committee, 47, Victoria Street, Westminster, S.W.]

ROYAL ARMY MEDICAL CORPS.

CALL FOR CIVILIAN MEDICAL PRACTITIONERS.

THE War Office notifies as follows:

Civilian medical practitioners desiring to serve at home or abroad as surgeons with the army should communicate with the Secretary, War Office, London, S.W.

Gentlemen accepted for such service will be granted the temporary rank of lieutenant in the army and must fulfil the following conditions:

1. They must be registered practitioners.
2. They must engage for a period of twelve calendar months or until their services are no longer required, whichever shall first happen.
3. Their pay to be 24s. a day, inclusive of all money allowances, except travelling allowances and expenses when travelling on duty.
4. They will be granted free passages to and from any country abroad to which they may be sent.
5. They must devote their whole time to military service.
6. They will receive a gratuity of £60 at the termination of their engagement if they have rendered satisfactory service.
7. They should not exceed 35 years of age, but in exceptional circumstances gentlemen between 35 and 40 may be accepted.
8. They must furnish
   (*a*) A medical certificate showing that they are in good health, of sound constitution, and fit for hard physical work.
   (*b*) A statement of any previous service with the army.

(*c*) A recommendation as to character from a person of position and responsibility.
(*d*) A certificate as to age.

We understand that a number of applications have already been accepted, and that the names of all those not at once engaged will be placed on a list. They will be called upon if and when required.

Public Health AND POOR LAW MEDICAL SERVICES.

SCIENTIFIC RESEARCH FOR THE LOCAL GOVERNMENT BOARD.

The President of the Local Government Board has authorized the following researches to be paid for out of the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease. These are in addition to the investigations already announced.

1. An investigation of the details of the technique in carrying out Wassermann's reaction for the diagnosis of syphilis. The Army Council have consented to permit Major Harrison, R.A.M.C., to carry out this investigation. He will act in collaboration with a subcommittee of the Pathological Section of the Royal Society of Medicine.
2. An investigation by Mr. H. J. Gauvain, in collaboration with the Board's pathological staff, into the cutaneous tuberculin reactions of cases of tuberculosis of bones and joints of bovine and human sources.
3. A continuance of the investigations of Drs. Twort and Mellanby on infantile diarrhoea, with special reference to the conditions governing the absorption of toxic substances from the alimentary canal.
4. A further investigation into the causes of stillbirths by Drs. C. J. Lewis and Dale.

Universities and Colleges.

UNIVERSITY OF LONDON.

The following candidates have been approved at the examinations indicated:

Second M.B., Part II.—Girdhar C. Agarwala, F. M. Allchin, Ruth Balfour, C. H. D. Banks, J. A. Birrell, Alethea J. Bolton, G. W. J. Bousfield, L. J. F. Bull, P. C. L. Carrier, Hester M. Church, P. S. Clarke, P. N. Cook, C. J. C. Cooke, Gunaratnam F. Cooke, Dorothy T. Daintree, R. C. Davenport, P. G. S. Davis, †L. S. Debenham, J. D. Dyson, T. S. Evans, Marjorie E. Franklin, W. B. Gabriel, Iris Harding, †A. G. Harsant, F. K. Hayman, N. N. Haysom, G. W. Heckels, †W. A. Hewitson, F. G. E. Hill, E. A. Holmes, J. W. Hyatt, †J. Joffe, T. John-Thomas, M. H. K. Kane, V. J. F. Lack, N. M. Lewis, R. T. Lewis, E. E. Lightwood, Marguerite F. J. Lowenfeld, P. S. Marshall, M. W. H. Miles, Marie M. A. Moralt, †A. Morford, J. J. Murphy, Sinnethamby Muttiah, N. Olivier, Margaret S. Palmer, V. J. E. C. del S. Perez y Marzan, B. H. Pidcock, T. D. Pratt, J. A. Pridham, W. M. Abdul Rahman, P. R. Riggall, G. F. Rodrigues, W. R. Rowlands, T. C. Russell, S. N. Scott, W. R. J. Scroggie, Nirendra M. Sen-Gupta, M. Shimberg, R. G. Simpson, W. Steadman, Ellen Sylk, K. R. Traill, M. B. M. Tweed, Rustam N. Vakil, S. Vidot, Phillis E. Webb, Lotty Weihermann, O. Williams, G. S. Wilson, C. Young.

M.D. (*Branch I, Medicine*).—†J. L. Davies, E. P. Evans, C. J. Marshall, E. S. Miller, Margaret G. Thackrah. (*Branch III, Mental Diseases and Psychology*).—C. S. Read. (*Branch IV, Midwifery and Diseases of Women*).—Maud F. Forrester-Brown, Edith M. Guest, Susie E. Hill, F. J. Humphrys, R. Montgomery, A. W. Owen, Mary C. Scott. (*Branch V, State Medicine*).—H. L. Hopkins. (*Branch VI, Tropical Medicine*).—M. F. Reaney.

M.S. (*Branch I, Surgery*).—H. Gardiner, V. Glendining, N. C. Lake, P. H. Mitchiner, A. H. Todd, J. B. F. Wilson.

* Passed with distinction in one or more subjects.
† Awarded a University Medal.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

An ordinary meeting of the Comitia was held on Thursday, July 30th, at 5 p.m., the President, Sir Thomas Barlow, Bt., K.C.V.O., being in the chair.

Members.

The following gentlemen, having passed the required examination, were admitted Members of the College:

Adolphe Abrahams, M.B.Camb., L.R.C.P.; Cuthbert Delaval Shafto Agassiz, M.D.Aberd.; Harold Wordsworth Barber, M.B.Camb.; Frederick Charles Davies, M.B.Camb., L.R.C.P.; Arthur Geoffrey Evans, M.B.Camb., L.R.C.P.; Herbert Thomas Evans, M.B.Oxon.; Thomas Lionel Hardy, M.R. Camb., L.R.C.P.; Sohrab Shapoorji Vazifdar, L.R.C.P.; Henry Owen West, M.D.Lond.

Licences and Diplomas.

Licences to practise physic were granted to ninety-seven gentlemen who had passed the required examination.

Diplomas in Public Health were granted jointly with the Royal College of Surgeons to thirty-nine gentlemen who were recommended by the Examiners.

Murchison Scholarship.

The Murchison Memorial Scholarship was awarded to Charles Jennings Marshall, M.B.Lond., of Charing Cross Hospital.

Bissett-Hawkins Medal.

The President reported that the Bissett-Hawkins Memorial Medal had been awarded to Sir Ronald Ross for his distinguished work in connexion with malaria.

Congress on Neurology at Berne.

Dr. F. W. Mott was appointed delegate from the College to an International Congress on Neurology, Psychiatry, and Psychology, to be held at Berne, September 7th to 12th next.

Examination in Practical Pharmacy.

A letter was read from Dr. A. R. Cushny, F.R.S., Examiner in Practical Pharmacy (retiring), laying before the College his views on that examination. It was decided to appoint a committee to consider the questions raised in this letter.

District Nursing.

A letter was read from Sir Arthur Downes, chairman of a committee concerning district nursing in London, asking that a representative be nominated to serve on a central council consisting of representatives of those engaged in district nursing and of others interested in the question. Sir Dyce Duckworth was appointed.

Gift.

The gift of a china tea service was received from Dr. Frank Shufflebotham, Milroy Lecturer for this year. The cordial thanks of the College were directed to be sent to Dr. Shufflebotham.

Censors.

The following were elected Censors: Drs. Percy Kidd, Howard Henry Tooth, C.M.G., Theodore Dyke Acland, Sir Wilmot Parker Herringham.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary Council was held on July 30th, when Sir W. Watson Cheyne, Bart., President, was in the chair.

Issue of Diplomas.

Diplomas of Membership were granted to ninety-five candidates found qualified at the recent examinations.

Diplomas in Public Health were granted (jointly with the Royal College of Physicians) to thirty-nine candidates found qualified at the recent examinations.

Regulations for the Fellowship Examination.

The Universities of Bristol and Wales and the Imperial University of Japan were added to the list of universities whose graduates in medicine and surgery may present themselves for examination for the Fellowship without first becoming Members of the College.

Recognition of Institutions.

The following institutions, which had been visited by members of the committee, were added to the list of institutions recognized by the Examining Board in England for instruction in chemistry and physics—namely, Cranleigh School; Lower School of Laurence Sheriff, Rugby. Queen Elizabeth School, Cranbrook, was removed from the list of institutions recognized by the board for instruction in chemistry and physics. The South African College, Capetown, was recognized as a school of anatomy and physiology for the courses required for admission to the Second Examination of the Conjoint Board, and the Imperial University of Japan was added to the list of universities whose graduates in medicine are admissible to the Final Examination of the Conjoint Board under the conditions of Paragraph IV, Section III, of the Regulations.

Egyptian School of Medicine.

Dr. J. A. Ormerod was appointed Visitor to the examinations of the Egyptian School of Medicine for the last period of examination.

Sir Gilbert Blane Medal.

This was awarded to Surgeon Gilbert Francis Syms, R.N.

Conference on District Nursing.

The President reported that he had nominated Sir Alfred Pearce Gould, K.C.V.O., to serve on a central council for London, which was now being established.

PRELIMINARY EXAMINATIONS IN SCOTTISH UNIVERSITIES.

A draft ordinance has been prepared by a joint committee of the four Scottish universities proposing to constitute an Entrance Board consisting of sixteen members, four from each university. It will replace the existing joint board which meets in rotation for one year at each of the university seats under a new chairman, a new secretary, and with new members. The proposed board would be a stable composition with a permanent seat and permanent officials. The board would arrange for the conduct of simultaneous preliminary examinations in St. Andrews, Glasgow, Aberdeen, and Edinburgh, and in other places if thought desirable. It would also have the power to define the method, scope, and standards of examinations subject to any general regulations.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE following candidates have been approved at the examinations held at the end of the forty-fifth session:

*†A. C. Munro, †C. Bonne, †J. M. Stenhouse, †J. S. Webster, G. W. Maconachie, W. M. Shepherd, W. M. Strong, J. C. Watt, B. H. Wedd, H. G. Waters, Miss O. N. Walker, J. Baeza, A. C. Anderson, N. S. Deane, L. S. Holmes, A. G. McPhedran, J. V. Shirgaokar, C. Sivasithamparam, R. K. Mitter, C. H. Barlow, R. B. Jackson, I. A. Rahman, W. J. Dixon, C. K. Attlee, S. Elias, K. B. Dastur, A. G. Fletcher.

*Awarded the Duncan and Lalcaca medals.
†Passed with distinction.

Medical News.

OWING to the dislocation of business due to the war it has been necessary to curtail this issue of the JOURNAL, and the same course will probably have to be followed until conditions become normal, especially among manufacturers of paper.

WE are asked to state that the library and offices of the Royal Society of Medicine will be closed for cleaning until September 1st.

THE Board of Control announces that the Secretary of State has approved of William Rees Thomas, M.D., for appointment as Medical Superintendent of the State Institution for Mental Defectives at Moss Side, Liverpool.

THE Worshipful Company of Drapers of the City of London has made a grant of £500 a year for three years in aid of the work of the Department of Applied Statistics at University College, London, including the Galton Laboratory of Eugenics and the Drapers' Biometric Laboratory.

A SERIES of clinical demonstrations will be given during August and September at the London Hospital. The course will commence on August 10th, when Dr. Wall will deal with pulmonary tuberculosis; on the following day Dr. Grünbaum will demonstrate diseases of the blood; on Wednesday abdominal diseases will be taken by Dr. Miller; on Thursday Dr. Thompson will deal with diseases of the nervous system; on Friday Dr. Lewis Smith will demonstrate common cardiac conditions; and on Saturday Dr. Hutchison will give demonstrations on selected cases. Members of the profession will be admitted on presentation of their private cards. The demonstrations will be at 2.15 p.m. daily, except Saturday, when they take place at 10.15 a.m.

THE committee of the Cancer Hospital has decided to establish a post-graduate course in radio-technology and a combined laboratory and lecture room is, therefore, being included in the new extension now approaching completion. It is hoped that the laboratory will be opened by the autumn. It is proposed that the course shall extend over a period of two months, the fees being moderate. The lectures, illustrated as far as possible by models and experiments, will include two by Dr. Robert Knox, director of the electro-therapeutic department of the hospital, upon the clinical applications of radiations, and six by Mr. C. E. S. Phillips, F.R.S.E., dealing with the physics of the subject. The electro-therapeutic department will be open on three afternoons in each week, and experience may be gained there in the treatment of cases under the supervision of Dr. Knox. The laboratory course and experimental work will be under the direction of Mr. Phillips.

WE are glad to be able to announce that the dispute regarding the Victoria Hospital, Blackpool, has at length ended in a sense entirely favourable to the contentions of the medical profession in that city. The settlement came about as the result of two long meetings between the Board of Management, the Mediation Committee, and the representatives of the medical men. It then appeared that the sole medical stipulation with which the board did not feel itself in a position to comply was that relating to the retirement of Dr. Molloy, and, finally, it was resolved that the difficulty should be met by the Board of Management resigning *en masse*. It was agreed that such resignations should take effect at a meeting of subscribers to be held shortly, and it is understood that on the new board then to be elected Dr. Molloy will not seek appointment. The Blackpool Division of the British Medical Association and the medical profession as a whole in that locality have exhibited a striking degree of solidarity and restraint throughout the whole contest, upholding their views with admirable moderation and firmness, and all parties alike are greatly to be congratulated on a return to a normal condition of affairs.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

MEDICAL OFFICERS FOR WAR SERVICE.

DR. R. DOUGLAS DOBIE (London, W.) writes: So great will be the need for surgeons in the present crisis, that I make no excuse for putting forward the following suggestions:

1. That all candidates for medical degrees who have failed during the last examinations, should be re-examined immediately on their weakest subjects, and if they pass be given their qualifying degrees or diplomas.

2. That the last examination results should be revised, and all those candidates who failed by narrow margins and are anxious to be of service, shall be at once given their degrees or diplomas.

This would considerably increase the number of surgeons available in the present critical emergency, both for active service and hospital relief. Needless to say, all the candidates have received an up-to-date training, and have only come forward for their qualifying examination after their professors and teachers had been satisfied with their work.

TREATMENT OF SYPHILIS.

DR. J. C. MCWALTER, LL.D. (Dublin) writes: Replying to "J. L.," who asks for a treatment for syphilis other than salvarsan, I follow the advice of Neisser, who states it is important to combine several antisyphilitics in small doses for a long time, and I give 1 gr. each of sulphide of antimony, calomel, and quinine with a ½ gr. of capsicum every night. This should be continued for six months with occasional intervals of a week; afterwards, small doses of potassium iodide for three months longer will complete the cure. Should any sequelae appear, minute doses of arsenic (Donovan's solution) will remove them.

THE SPECTROSCOPE IN TROPICAL MEDICINE.

FLEET SURGEON W. E. HOME, R.N. (Victoria, B.C., Canada) writes: Dr. Sorensen, a Dutch doctor at Flores, an island near Borneo, has published in the *Archiv für Schiffs und Tropen. Hygiene* a very interesting story showing the value of the spectroscope in medicine. He has to deal with a great many cases of malarial fever. He noticed in the BRITISH MEDICAL JOURNAL in 1908 that urobilin always appeared in the urine in cases of malarial fever. He got a spectroscope to show its absorption bands in urine that he might be able more quickly to diagnose his cases. He devised a method for estimating by dilution the quantity of urobilin in the urine, and on his scale the quantity was usually between 2 and 10. One day he found a case which showed urobilin 120. He examined the patient (who was being treated as an out-patient) more carefully, and found he was feeling pretty well but was slightly jaundiced. He thought a great haemolysis must be going on, suspected the onset of blackwater fever, and put him to bed. As the patient had had 15 gr. of quinine on each of the preceding days he was given no more. That night the patient began to suffer from haemoglobinuria, which lasted two days. It was only a slight attack, and the patient made a rapid convalescence, leaving the hospital in ten days to get married. Since that case Dr. Sorensen has seen 15 cases of blackwater fever, all slight—all detected by spectroscope before haemoglobinuria had occurred. None of them were serious as none got any more quinine; none caused any anxiety either to the patient or to his physician. There is added this dramatic history. Three days before Dr. Sorensen obtained his spectroscope a case of blackwater fever came up for treatment. That case died, as such cases so frequently do. The spectroscope has not done anything so striking in medicine before. Here it is not merely assisting in the clinical examination of cases but absolutely saving life, clearing up a much disputed point in pathology, the cause of blackwater fever, and preventing disease. If only other doctors in regions tormented by blackwater fever will repeat these observations, as they should, we may find we have secured by the spectroscope a great advance in tropical medicine.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

EIGHTY-SECOND ANNUAL MEETING
OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICAL SOCIOLOGY.

JOHN GORDON, M.D., C.M., President.

DISCUSSION ON THE DUTY OF THE STATE TOWARDS THE EARLY ENVIRONMENT OF THE CHILD.

I.—W. LESLIE MACKENZIE, M.D., LL.D., F.R.C.P.E.,
Medical Member of the Scottish Local Government Board.

1. *Ante-natal Care.*—A few days ago, in answer to a question, the Prime Minister announced that the new grants for baby clinics and infant clinics would be in the control of the Local Government Board of each country. The grants for schools for mothers would be in the control of the Board of Education. The administration of the grants for maternity and pre-maternity has not yet been formally announced. It is now certain, however, that a considerable amount of imperial funds will be devoted to the ante-natal and post-natal care of infants and young children. At present no public assistance of any kind is available to the expectant mother unless she is destitute and sick. Maternity benefit under the Insurance Act is a birth allowance, not a pregnancy allowance. No doubt the sicknesses incidental to pregnancy entitle an insured woman to sickness benefit, but this is not the same as the care of pregnancy as such.

The case for ante-natal care is to be found in the reports of the various congresses on infant mortality: but it has been put with overwhelming force by Dr. J. W. Ballantyne in his paper on ante-natal causes of infantile mortality, including parental alcoholism, read at the first National Conference on Infantile Mortality (1906).[1] Recently the syphilitic factor has been emphasized. In Scotland two public authorities—the City of Glasgow and the Middle Ward of Lanark—have made arrangements for free application of the Wassermann test. Possibly other authorities have done the same. There are many other causes of infantile mortality that are capable of ante-natal prevention or mitigation; for instance, ophthalmia neonatorum. How far ante-natal prevention may extend can only be decided by experience; but some scientific ground for new proposals is now available in the infant mortality returns issued annually as part of the Reports by the Local Government Board. Detailed causes of death are now more elaborately classified.

It is, therefore, no straining of the facts to say that a great amount can be done to prevent sickness in the prematernal state, and that there is abundant need for consultation centres for expectant mothers. It may be hoped that the official application of the new grants, along with the service of the voluntary bodies, will result in an effective organization for ante-natal care.

2. *Birth.*—Up to date, the only statutory restriction on the mother is contained in Section 61 of the Factory and Workshops Act, 1901: "An occupier of a factory or workshop shall not knowingly allow a woman or girl to be employed therein within four weeks after she has given birth to a child." This affects only the workers in factories and workshops. The question has been raised whether the period of four weeks after a confinement of the mother is sufficient to safeguard the health of the mother and child. It is a further question whether a period of rest should precede confinement. This is a matter for expert discussion. Meanwhile, birth and the sequelae of birth are more or less safeguarded by the Notification of Births Act, including the notification of dead births. This Act has not been universally adopted either in England or in Scotland; but it has been adopted by local authorities representing a considerable majority of the population in both countries. The Local Government Boards have power to extend the Act by order to any locality, and there is a general agreement that the Act should be universalized.

Out of this Act has arisen the system of health visitors. In Scotland, probably the largest expansion of the health visiting idea has occurred in Edinburgh, where, under the general guidance of the medical officer of health, the work of the official health visitor is supplemented by the voluntary work of some three hundred women. Meanwhile, in England the registration of midwives has enabled the local supervising authorities to exercise some control over the management of birth. In Scotland no registration of midwives is yet enforced, but the bill for the training of midwives has already passed the House of Lords, and is about to receive its third reading in the House of Commons. These two Acts, combined with the general powers of the Public Health Acts, afford a basis for effective administrative control of the infant's environment at birth. The new grants-in-aid ought thus to make possible an effective system of dealing with the newborn.

3. *Health Visiting.*—In the organization of a health visiting scheme it is desirable that the statutory health authority should be the organizing nucleus of the voluntary organization: otherwise, the system is apt to be good or bad according to the enthusiasm or apathy of two or three individuals. No one would now think of leaving typhoid fever or small-pox, or even tuberculosis, entirely to the accidental presence or absence of voluntary service. But the care of birth and infancy is equally a national obligation. How best to fulfil the obligation will be a matter for discussion, but I have indicated the machinery now available.

4. *Infant Clinics and Milk Dépôts.*—Dr. McLeary's work with infant milk dépôts in Battersea and his book describing the system established a case for the infant milk dépôt. The Goutte de Lait and infant consultations of Paris, no less than the Coullet restaurants for nursing mothers, leave no doubt as to the preventive effects of careful preparation of milk and proper feeding of the nursing mothers. In one or two places milk dépôts have been dropped because sterilized milk tends to produce scurvy in the infant. This, however, is still a disputed point. Whatever be the final conclusion as to the destruction of milk ferments by heat, the question of the proper preparation of milk for infants is unaffected. It is certain that many mothers require better feeding and all infants require milk. It is equally certain that the uncontrolled milk market does not provide, on a sufficient scale, for the provision of clean and prepared milk. In Berlin an admirably organized voluntary service, working with the public bodies, does make a serious effort to meet the needs of the infant population. How far the effort succeeds I cannot tell, but in this country there is certainly room for development.

The problem of the crèche is incidental to the conditions of labour. It is a question worth discussing whether the crèche for children still at the nursing stage is not a direct cause in keeping down the wages of working women. Apart from this, however, which is a fundamental question, the crèche, wherever it exists, is an immense relief to the working women. It is a natural adjunct of the baby and infant clinics. It is simply the nursery of the working woman's home.

5. *Pre-School Age Clinics.*—The environmental dangers to children at the ages of 1 to 5 are very great. The relative immunity of the under 1 year infant passes away and the chances of infection are enormously multiplied. School clinics have shown that, in many cases, the defect or ailment discovered at entry to school is already old. It is at the pre-school age that prevention must begin. This has been demonstrated by Dr. David Forsyth at the Westminster Pre-School Clinic. At present we do practically nothing for children emerging from measles, whooping-cough, chicken-pox, mumps, or any other acute infection. Equally, we are doing practically nothing, except through a voluntary hospital or clinic here and there, for the chronic ailments of children from 1 to 5. Rickets is not always or merely a post-natal disease, and when present, it tends to disappear as age advances. But we are doing practically nothing towards the prevention of the condition. This is partly due to want of adequate

knowledge, but partly to inappreciation of the social gravity of the disease.

Now that the local authorities receive 50 per cent. of their outlay for the treatment of tuberculosis, it is expected that tuberculosis in children in a short time will be well provided for. But the conditions predisposing to tuberculosis are of even greater importance to children. The public health authorities have power to provide convalescent homes for those recovering from infectious disease and reception houses for those exposed to infection. One may reasonably look for an increased use of those great powers. If the health authorities developed their present resources to the full, we might be able to prevent much of the aftermath of the so-called "minor" infections, such as whooping-cough and measles. In those diseases notification has been largely dropped, because the results were not considered adequate. This was probably because the machinery of the Notification Act is not easily adapted to such diseases. A system of notification could be devised that would, at less expense, enable the health authority to do all that a health authority can fairly be expected to do. With the full application of such powers as exist, it is legitimate to look forward to an extension of open-air holiday homes, open-air convalescent homes, and similar institutions for children below physiological par. This brings the child forward to the compulsory school age, when he passes under the control of the school medical inspection system.

6. *General Measures.*—The whole environment of the young infant benefits by the general activities of the public health authority. Primarily, the need is for a pure milk supply. At present the municipalities have no power themselves to provide such a supply. It is worth discussing whether they ought not to have such power. For the present they must work through the rough approximation methods of regulation and inspection of private persons and limited companies. The conditions of milk preparation and production are certainly improving; but the pace of improvement is not conspicuously rapid. Milk will continue to be the chief element in the food environment of the child. The milk bills now before Parliament will help the local authorities materially in protecting this food environment; but, for my own part, after an intimate experience of dairy counties, I am not persuaded that the present systems of milk production in this country are compatible with the best application of known scientific methods. But where the problems are so great we are glad to see the steady advance that legislation is making.

The infantile environment is also seriously affected by bad housing, overcrowding, and bad sanitation generally. It goes without saying that any good results from baby clinics, maternity consultations, or inspection at the pre-school ages, are conditioned by the steady maintenance of good sanitation, the clearance of slum areas, and such provision of good houses as will make an uncongested life in towns physically possible. It is difficult to lay down standards, and it is easy to dogmatize. But it is not much to ask that a house should be big enough for any three persons in it to pass each other in any direction without touching. There are thousands of houses in this country that will not fulfil that test. No doctor doubts the deadly effects of overcrowding on the young child. Why, then, should the child have to die in order to show that he needs more room?

REFERENCE.
[1] Report of Proceedings, P. S. King and Son, Westminster.

II. THOMAS DEWAR, M.D.Aberd., D.Sc.Edin.,
Inspector to the Scottish Local Government Board.

THE significance of a death-rate depends upon the average age of the population. The death-rate at any given age can only be known if the persons of that age in the community can be counted or their number estimated. This necessary number becomes increasingly difficult to obtain with each year of age, and is only readily found in the first year of life because of the compulsory registration of births. Thus it is accident, as it were, that has brought to knowledge and then into notoriety the deplorably high death-rate among infants in general and among those born in squalid and congested places especially. In many areas in Great Britain (particularly in the poorer parts of the large towns) this mortality is as high as 20 to 25 per cent. No other domesticated animal has such a high mortality among its young or proves so difficult to rear.

At the age of 5 in this country ordered public life commences. Not until that age are children gathered together otherwise than voluntarily, incidentally, and at long intervals. The beginning of school life, then, presents the first opportunity for systematic investigation by the State of the mechanical condition and well-being of the bodies of her future citizens. Within a year or two of the commencement of medical inspection of children at school the facts and figures that were revealed, especially as regards parasites, decay of the teeth, defective sight and poor nutrition, were so startling as to affect powerfully the public mind. The first-fruits of that stimulus are already becoming ripe. Soon it was found that the evils thus brought to light were by no means so very hard to alleviate. It was found that communal cleanliness and the diffusion of elementary knowledge of the body mechanism and requirements could reduce the death-rate among infants by 20 or 30 per cent. within a few years; that, as a result of a combination of appeal to pride and threat of exposure or punishment, parasitic conditions of schoolgirls' hair were no longer almost universal in the elementary schools, or regarded as inevitable by the mothers of the sufferers, and that the preservation of teeth and the correction of refractive defects of vision were merely matters of expenditure and some co-ordination of effort.

Thus during periods, on the one hand, limited by the duration of the earth's orbital revolution, and, on the other, determined by consideration of the age at which gregarious instruction can be begun with any hope of profit commensurate with its cost, the physical condition of the child was taken under the aegis of various beneficent departments of State. But it soon became evident that the facts that our planet's orbit was so relatively short and the progress of the young of our species to mental maturity so relatively slow were no reasons why the State should withhold her care of the child from his first to his fifth birthday. And it was clear that, alike from the point of view of health and education, this period of the four years after the first was second in importance only to that which preceded it. For it is the truth that, despite the slow progress of mankind to maturity, the bulk of our education is completed before we reach the age of 5. If we doubt this, we have but to bethink us that the greater part of our time is spent in doing what we had learnt—and learnt not without labour and application—before we ever thought of school, and that we went to assemblies of scholars to receive only the finishing touches—the graces, the three R's, and the S's and T's—that is to say, the sciences and technical proficiencies that follow. True, those later acquirements bulk most in our own and in our neighbours' eyes. But though it is the capital that defines the column, it is the shaft that bears the weight and gives proportion to the edifice.

The period preceding the years of school time is no less relatively important from the point of view of health. The danger of acquiring those grave diseases that lead to premature death and permanent disablement or impairment of function diminishes with each year of the first decade of life, so markedly so, indeed, that the child who attains his fifth birthday with a well-nourished body, with no manifestation of rickets, no chronic catarrh of mucous membrane, no active or evident tuberculosis, and no sequelae of measles or whooping-cough or scarlet fever may be held to have successfully run the gauntlet of the larger part of the ills that threaten youth. So the duty of the State towards the child between the age of infancy and that of school is to secure that education and physical welfare go hand in hand, neither being allowed to gain at the expense of the other. Were these two things in any way mutually antagonistic or incompatible, health must have first place, for ground once lost in the physical race can rarely be regained, while if education be retarded, leeway can often be marvellously made up. But they are not incompatible; on the contrary, unless the environment be the best for the body of the child, it will be the worst for his education.

In Scotland, it may be mentioned parenthetically, the school attendance of children under 5 years of age has never been so common as in England and Ireland. In England, ten years ago, half a million scholars under 5 years of age were in regular attendance at school as enrolled pupils—that is to say, two-fifths of all the children between the ages of 3 and 5 years. Though the number has fallen since 1906 as a result of new regula-

tions, it is still very considerable. Whether the age of school attendance should be reduced to 2 or 3 years or raised to 7 depends on what we mean by school. If we use the word in the common or conventional sense, then 7 years, as in Canada, is quite soon enough. During the last forty years there has been a steady and in the aggregate a vast improvement in school conditions. The rooms are brighter and more spacious, are kept more clean, and are better equipped than of yore. But there is still occasional need in winter of more warmth, frequently a deficiency of light, and in almost every case not nearly enough of aëration. (To use the word "ventilation" in the etymological sense were mere sarcasm; whenever the wind is felt to enter, the window—again despite its etymology—is partially or wholly closed!) If you doubt the truth of this, go into any elementary school at noon on any day when the school is open in this city of Aberdeen; and if you find an atmosphere that is notably close, and within a few minutes actually oppressive in the schools of this admirably administered city, how much worse may you expect to find it in areas where things are less well done!

But if by school you mean a place where free movement of the pupils is not only permitted, but encouraged, where means of complete rest are provided when Nature calls for it, where there is no "ventilation" in the modern and artificial sense of the word any more than there is on the common or by the shore, there the child should be, there the parent should be encouraged to send him for part of every day, from the age of 2 or 3. There he will have the company of others of his own age, which, above all other factors, will draw out his faculties; there he will learn countless joyful things about size and shape and colour and number, about sound and surface and smell, without knowing that he is learning, and without learning (what he must inevitably learn in later years) that high culture and full knowledge can only be attained by toil. By his absence for a few hours a day, his mother will be freed to do her housework and so make a healthier home to which he will return, knowing, as she will, that he is safe from harm—indeed, much safer than were he under her very eye.

Five years ago, when engaged in devising and elaborating a scheme of medical inspection of school children for one of the larger counties in Scotland, I was constantly told, "You are proposing to do what the father should do; you are undermining parental responsibility." So, I doubt not, I shall be told again. I do not care. If, under the present régime, the best is done for the physique of the growing body, the drawing out of the expanding mind, so be it; if it is possible to do better, let no time-honoured tradition stand in the way. There will be ample time left for home influence, although the child goes to a play place for several hours a day. But are these little children really at home? In bad weather they may be cooped up in close and cosy quarters. But on fine days they are in the streets. I am aware that in the New Jerusalem the children are to be found playing in the streets; however that may be in Eastern cities, it is not suited to our conditions—neither wholesome for the children nor convenient for the traffic. We can surely provide better playgrounds than those paved with granite causeway or laid with tar macadam.

I am thinking chiefly of children above the age of infancy. Crèches, provided for children under 2 or 3 years of age, are primarily meant to supply better food and adequate nursing to those babies whose mothers, from ignorance or industrial necessity, cannot themselves supply these things. I am thinking rather of communal or aggregated education, in the form of play—play organized and directed amidst the best attainable surroundings. The essential idea is precisely that of the boy scout movement. The restless, inquisitive, alert minded, but sadly desultory and fickle boy is taken, is given a purpose, a direction, an incentive. Then the curious, restless, purposeless activity that led him into all sorts of odd places now leads him straight; and, instead of wandering in a zigzag or at best in a circle, he goes towards some fixed point, and either gets there or goes far on the way. So with children 2 or 3 to 5 or 6 years of age. There is so much for them to learn. It is vitally important that they should so learn it that the acquisition is readily available for ever after. Can we afford to allow children at that susceptible and impressionable age to pick up what they can at random?

A by-product of this voluntary association of children for a few hours a day on the kindergarten principle—or something like it—would be the possibility of medical inspection from a much earlier age than at present. All workers upon this subject recognize the need for this. The child must have a dry and airy and clean and wholesome home, and this is being secured for him. Within the last five years there has been a great awakening of public activity and public interest on this subject of housing.

The child must be ensured clean and uninfected milk. The passage of a Milk and Dairies Bill, and, when it becomes an Act, the sound and general enforcement of its provisions, will go far to secure a pure, clean, and wholesome milk supply for every family. There are other requisites: The provision of open play places in our crowded towns; the removal of persons infected with chronic infectious maladies from the homes in which children live (a safeguard already tolerably well secured in the case of the acute infections); the provision of hospitals like that of the Sir William Treloar at Alton, where children affected with grave disease of bones and joints may be taken away from their fellows and treated with a minimum of surgery and a maximum of air and care, with consequent hope of ultimate restoration to a useful and uncrippled life—these things are in the way of attainment. It is, therefore, to the infant school (English will suffice to describe it) that we must next turn our minds; towards its provision in all populous places that the State must next turn its hand.

III.—Mrs. Ogilvie Gordon, D.Sc.Lond., D.Ph.Munich, F.L.S.

ENVIRONMENT OF THE CHILD.

I propose to direct attention to certain features in the relation of the State to children during the years of their attendance at the public elementary schools and in the subsequent years of adolescence. I would especially advocate greater insistence by the State on the practical training of girls in routine duties of home life and in the intelligent handling of babies and young children.

The causes that militate against efficient training of girls are varied and complex, but we cannot blind ourselves to a few obvious facts: (1) That for a large proportion of our girls there is no pretence of a complete or consecutive course of practical training, either in the schools or in the home; (2) that the State at present sanctions a correlation of industry and education for children between 10 and 14 years of age which is a serious blot upon the nation: (3) that even when girls remain at school until 14 years of age, and are given some specific training in the domestic arts, experience shows that it is too often inadequate for the actual needs and conditions, or that it is forgotten by the time the girls marry.

The school and health authorities, and voluntary bodies working in co-operation with them, are agreed in recognizing the need of more extended and detailed training, and none know better than the medical profession the enormous asset to the home that the capacity of the mother may be.

The pity is, that so little can be done through the schools under present conditions of child labour. In England and Wales 40,000 children from 11 or 12 to 14 years of age are attending school and employed in part-time labour: in Scotland 200; in Ireland 3,600. In England and Wales 240,000 children give full day attendance at schools and are also employed out of school hours, in Scotland 34,000, in Ireland 30,000. Approximately 1 in 10 elementary school children in England and Wales are daily wage earners, and in Scotland 1 in 11.5. This does not include those children under 14 years of age who hold exemption certificates from school, and are in full day employment. Can we say to ourselves that we are giving those children a fair chance in life or that we are doing our best for the future parentage of the nation in allowing the continuance of child labour?

The premature wage earning of the child is excused on the plea of extreme poverty in the home, and it is true that we touch here on the deepest roots of the whole

problem, namely, the insufficient recompense for the labour of the parent, or the incapacity of the parent to render marketable service in the open field of industry. This factor has to be reckoned with in any legislative efforts and some way devised that shall save the energies of the children without inflicting undue hardship on individual families. It is becoming clearer, year by year, that the State, as the "ultimate parent of the child," exercises its influence naturally and inevitably through the schools, and that it is *this* influence which will have to be enforced as the chief plank in the improvement of the home and the early environment of the children of the nation.

It is matter of surprise and regret that Mr. Denman's bill before Parliament for the better regulation of child labour and the extension of the period of school influences should have received such a poor reception in the House. I would beg the members of the British Medical Association to throw their weight and influence into the work of arousing public sentiment, both upon the general question of abolishing child labour and upon the real need of affording to every girl an ample, carefully-considered training in household knowledge and the rearing of infants.

The only satisfactory remedy at hand for bridging the gap between the school-leaving and marrying ages is by enforcing compulsory attendance at day continuation classes for several hours weekly, say to the age of 16 years. The interest and discipline of such attendance could be rendered a help to the girl in many ways. What is of the utmost importance is that the methods and courses of instruction should be kept thoroughly pertinent to the intimate affairs of the home—how to clean, cook, and nurse, to take care of infants, and safeguard the health of the home. The Italians have a delightful name for such training—they call it "puericulture." We are beginning to call it "home-craft" and "mother-craft." In the new schools of puericulture that are rapidly being established in Italy, the doctors are the lecturers and practical teachers in the care of the infant and the first principles of help. What we aim at is the joy of the mother, the joy of the child, something still more precious than the capacity of the mother and the weight and proper feeding of the child. When the workman knows his craft he rejoices in it. There is little unhappiness in homes where the mother knows her craft, and the children are likely to be turned out neat and clean, well fed, and joyous.

Probably the rush into popularity of the cinematograph entertainments has served to open the eyes of large sections of the public to the present unsatisfied demand of youth for recreative interests and enjoyments. It has certainly shown to the country the grave moral dangers to youth that may be associated with unrestricted amusements, and has stimulated a few of the local authorities into making by-laws to disallow the presence of children after 7 or 8 o'clock unless accompanied by guardians. The difficulty is that there is no national enactment to standardize our protection of youth in this respect. Our legislators devolve this important responsibility, like many others, upon the local authorities without taking measures to make sure that these authorities deal with them.

The only Board of Film Censors that exists in this country is entirely voluntary, but surely the State should hold itself responsible for the moral tone of public places of amusement open to children. There is no point on which women feel more strongly than this. A mother may keep a pure home, the schools may teach what they like, it will be so much wasted energy and money unless some control is kept over public catering for children and young persons and means taken to prevent the vile and prurient, either in places of entertainment or in cheap literature and in picture postcards.

In Sweden sex hygiene is taught to girls in all the secondary schools for girls and in all the elementary schools, with the exception of a few in rural districts. Instruction is given usually by women doctors, occasionally by the teacher of biology or hygiene. It is treated as a special part in the course of instruction on temperance and health. In the public schools for boys the subject does not, as a rule, form part of the curriculum, but separate lectures are delivered to the boys by medical men, and in connexion with these lectures facts about venereal diseases are stated. From conversation I have had with some of the leading women teachers in Stockholm it is clear that they confidently expect the same success in raising the moral standards of the people as they have in recent years achieved in such remarkable degree for the cause of temperance.

The comparative freedom of public life and manners customary to girls in the northern countries of Europe is in a sense their pride, but all the more it appears to me desirable that we should give our girls, ere they leave school, clearly to understand the disadvantage and consequences to motherhood of personal strain, negligence, or excesses in early life. The teaching, if conducted on rational scientific lines, would be in a sense supplementary to the more personal tone of what is taught by parents. I take it to be the duty of the State to present in the schoolroom the standard of morality that is required of good citizens and to implant in the minds of youth an equal moral standard for boy and girl, man and woman.

The recent action of the State in establishing the Commission on Venereal Diseases is an acknowledgement on its part that social purity has an economic as well as an ethical value to the nation, and that social impurity is a source of decay and degeneration of the race and an economic loss to the nation. If this position is consistently and courageously followed up by statutory measures and purposeful administration through all the organs of public work, it is bound to be in course of time productive of highly beneficial results in the early environment of the child.

Progress might be more easily attained in matters relating to children and adolescents if the administrative machinery of the State were simpler. At present, all the great administrative departments of the State—the Boards of Education, the Home Office, the Board of Trade, and the Local Government Board—have some concern with the child, and there is no centralizing body to co-ordinate the work with a view to the best interests of the child and no unnecessary expenditure to the State. In the United States the Federal Government in 1912 established a Federal Children's Bureau as a permanent statutory authority to carry on a nation-wide study and control of the whole problem of child welfare. A woman has been placed at the head of this bureau, Miss Julia Lathrop.

There is no doubt that we suffer considerably from the lack of some central *ad hoc* authority to act as a clearing house to the efforts of State and local authorities on behalf of children. Take the want of continuity in the matter of medical inspection. In the pre-school period the children are not medically examined by any public authority: during the school period they are examined by the school medical officer, under the local authority and the Education Department, but the half-timers and the exempted children employed in factories or mines also come under the certifying factory surgeons of the Home Office system. After school age, the examination by the certifying factory surgeon is the only statutory examination for young persons, and covers but a small proportion. At 16 years of age the panel system of the National Insurance Act again picks up the great stream of the employed youth of the nation. It will be noted that at present serious gaps exist just in the susceptible years of early childhood, and again, in the most critical years of adolescence, between 14 and 16 years, and that there is overlapping in the case of a certain proportion of the school-going children.

The chief advantage of a central State authority would be to unify and standardize the methods of treatment of all aspects of child welfare throughout the whole country. We have seen the unsatisfactory results of permissive legislation, applied and enforced by a few local authorities and left a dead letter by others. There is in the womanhood of the nation a great force that has only begun to be tapped by voluntary work. The women who do not happen to be mothers are penetrated none the less with deep instinctive love for childhood. To those women as workers outside the homes, no less than to the mothers within the homes, the State may turn, secure of a hearty response and willing service among children in carrying out wise enactments for the betterment of the race and the upbuilding of character. But women are supreme in their care of detail, and we shall not be satisfied except with properly-planned, complete systems of legislation, that leave the least possible opportunities for leakage.

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THE EYES AND EYESIGHT OF CHILDREN.

Consideration of the care of the eyes of children may conveniently be divided into two parts—the first dealing with the pre-school period from birth to the age of 6 years, the second with the school period up to the time of selection of an occupation or profession. While certain diseases or other abnormal conditions affect both periods, such as conjunctivitis and errors of refraction, it is the case that their incidence, nature, and treatment differ with the periods in question, and they should be considered separately.

I. *Pre-School Period.*

(*a*) *Ophthalmia Neonatorum.*—With regard to this disease, which in its typical form occurs about the third day of life, it is gratifying to be able to state that the prophylactic measures which have been in fairly general use for a number of years have resulted in a great diminution in the number of cases (in my eye institution practice about 50 per cent.) and that the recent adoption of compulsory notification by many public health authorities, including Aberdeen, will probably result, if not in the total abolition of the disease, at all events in the prevention of loss of sight therefrom. When it is remembered that ophthalmia neonatorum is held responsible for over one-tenth of all cases of blindness in Europe, the result of such action by the medical profession, seconded by the State, must be considered most satisfactory.

With regard to the treatment of the disease, on the early initiation of which so much depends, notification has resulted in cases being recognized and brought for treatment earlier than formerly. Every case in which treatment is begun not later than the commencement of the purulent stage may be cured with retention of undamaged vision. The treatment, apart from frequent cleansing of the eyes, should consist in the careful painting of the everted and dried mucous surfaces of the lids with 2 to 4 per cent. nitrate of silver, and in the instillation of ½ per cent. drops of the same solution thrice daily. I do not think that any of the more recent silver preparations are nearly so efficacious as the old nitrate salt.

(*b*) *Other inflammatory conditions* which affect the pre-school age, such as conjunctivitis and blepharitis, seldom assume the severe forms of the later period. While under treatment such children should be kept as far as possible from contact with other children, more especially if any discharge exists, and they should not use the same towels, basins or handkerchiefs.

(*c*) *Glioma Retinae.*—During this early period a yellowish appearance in the pupil is occasionally noticed by the mother, and careful attention should be given to such a complaint, for in most cases the eye will require to be enucleated on account of the presence of a gliomatous tumour.

(*d*) *Squint.*—The pre-school age is the period for the development of the visual centres and of the fusion faculty, and at this stage any defect in the relative direction of the visual axes is likely first to declare itself. In this affection also the increase in medical knowledge and skill has resulted in a great diminution in the number of disfiguring squints which used to be in evidence in later life. Still, the advice is frequently given that squint in a young child should be left severely alone, although punishment for squinting has disappeared. It should be made more widely known among parents and guardians that the cause of squint in children is, in nearly every case, an error of refraction, and that the proper treatment consists in spectacle treatment as early as possible, or, before the spectacle age, in the compulsory use of the squinting eye by various means, and in practice of the fusion faculty by stereoscopic pictures.

II. *School Period.*

(*a*) *Refraction.*—The ideal condition would be that every child should enter school with normal refraction, or eyes corrected to normal by glasses. Failing this, symptoms of blinking, frowning, headache, holding work too close to eyes, should call for a complete examination of the refraction under a cycloplegic, a suitable correction being ordered. It is unnecessary for this examination that the child should be able to read, for no child should be allowed to read under 6 years of age. Illiterate types or pictures on Snellen's principle may be used, and any case with visual acuity of less than ⅚ should be carefully examined. A skilled retinoscopist may rely on objective correction alone, and may dispense with the use of any type or other subjective test.

There is no doubt that modern demands of education are harmful to the eyesight of the nation, and that the school developmental stage of the eyes is the period of onset and increase of myopia. Attention is, however, being given in many schools to measures tending to counteract the undue strain, such as desks and seats to ensure an upright position and proper distance of work from the eyes, also sufficient illumination of the school-room coming from the proper direction.

The smallest amount of myopia occurring during school life should be a warning that the eye is feeling the strain and should not only be corrected by spectacles, but a certain limitation of the amount of near work should ensue. Should the myopia amount to 6 D. or over, then near work should be continued only under special conditions such as obtain in the myope classes of the London County Council schools. Up to −10 D. or −12 D. such errors should, as a rule, be fully corrected, for I have frequently seen increasing myopia arrested and all symptoms of strain disappear by such treatment. Over that amount it is often impossible to order a full correction for constant use, although occasionally a case may be greatly benefited by the constant use of a full correction of −15 D. to −20 D. I have found it a good plan in cases of high myopia that cannot be fully corrected to order for constant use a correction which gives a visual acuity of $\frac{6}{36}$. The treatment of a refraction case should not, however, end with the ordering of spectacles. These require revision at least once a year, for breakages occur, and the interpupillary distance increases and necessitates a wider frame. Records of corrections should be kept, and teachers should be encouraged to hold a periodical examination of spectacles to ascertain that all are in order, and even to test the axes of cylinders by means of a Geneva lens measure, for it often happens that after a breakage, cylinders are wrongly inserted, causing great discomfort during their compulsory usage.

Attempts have been recently made to place the spectacle treatment of school children in the hands of opticians. It is perhaps unnecessary in a meeting such as this to indicate the very many serious objections to such a proposal, and I am glad to say that the various educational authorities have, so far, fully recognized the futility of such a proceeding.

The recently instituted schemes of the various educational authorities in Scotland for the medical treatment of school children have already done much good. Children with high refractive errors—two in my own experience with myopia of 10 D.—who otherwise would have received no treatment, have greatly benefited from the use of proper glasses.

(*b*) *Inflammatory Affections.*—It is during school life that the various external inflammations, and more especially those accompanied by discharge, assume epidemic form. It should be strongly emphasized that any case with eye discharge should be kept from contact with other children. Neglect of this rudimentary precaution before school medical inspection was instituted resulted in the outbreak of an epidemic of contagious ophthalmia, due to Koch-Weeks bacillus, in Aberdeen schools, during which 7,787 cases were treated at the eye institution. Such cases, of course, should be excluded from school; but as a precautionary measure during an epidemic no hand washing or use of towels should be allowed in any school, and disinfectants should be used for the interior of the schools and the stair rails. Of all external inflammatory conditions phlyctenular or strumous ophthalmia is the commonest. Even slight attacks of this disease are very distressing to the patients, while severe forms of perforating ulcer may cause serious damage to vision, attended with little discomfort or pain. Therefore, during such attacks, school attendance should be stopped and careful treatment initiated.

(*c*) *School Hygiene.*—In the general interests of cleanliness and freedom from infection, slates should not be allowed in school, pencil and paper being preferable. Under 9 years of age fairly large type—double pica—

should be used. Over 9 years pica type is sufficient. While the general school hours are, perhaps, not too long, there is a fairly general feeling that too many home lessons are given. The total time spent on home lessons should never exceed one quarter of the school attendance hours.

(d) Pigmentation of Eyes.—We are often asked to state whether brown or blue, dark or light eyes are the stronger. Although it is impossible to give a definite answer to this query, it is undoubtedly the fact that eyes with a deficiency of pigment are weak and defective. In Aberdeenshire we have a large proportion of the fair or red haired, and light or blue eyed children. For such the amount of illumination of schoolroom and lessons, suitable for normally pigmented scholars, is often too great. Where possible some attention should be given to eye pigmentation in school children,[1] for the action of light entering a pupil seems to cause a stimulation of the pigment cells of the retinal epithelium of the iris, and a transference of such cells forward through the iris stroma to break up into granular pigment on the anterior aspect of the iris. Where the amount of pigment is small, discomfort arises, symptoms of dazzling and headache supervene, sometimes nystagmic movements occur, and it is likely that permanent changes may result in deteriorated vision.

(e) Colour Perception.—As approximately 4 per cent. of all boys are congenitally colour blind, no boy should be allowed to leave school and select an occupation until his colour perception has been tested. It often happens at present that several years of a defective boy's life are wasted from neglect of this precaution—an occupation in which normal colour perception is essential, such as the navy, mercantile marine, or railway service, having been chosen. For school children this modification of Dr. Edridge-Green's bead test which I show may be used, but preferably colour perception should be tested by the exhibition of coloured lights such as are used in the services mentioned. I have constructed a lamp* on the recent Board of Trade principle of pinhole lights, which represents the masthead and side lights of a ship one mile distant. One, two, or three lights can be shown in fourteen different positions and combinations, and are such that no normal person could possibly mistake them, while the colour-deficient individuals display their defect much more surely and unmistakably than by Holmgren or other wool tests. In addition, no person with an uncorrected myopia of 1 D. or over, or an uncompensated hypermetropia of a similar amount, could pass the test.

REFERENCE.

[1] Vide Notes on the Pigmentation of the Human Iris, *Biometrika*, vol. iii, Nos. 3 and 4, January, 1912.

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THE DENTAL POINT OF VIEW.

GENERALLY speaking, a healthy individual is an asset to the community, and an unhealthy individual a burden. It is recognized in civilized countries that the abandonment of unhealthy individuals to disease or death cannot be permitted by the State, and consequently the burden of supporting and curing the diseased falls upon the healthy worker. The burden thrown on the community through dental disease has hardly been recognized until recently, for dental treatment has been provided only to a slight extent for those unable to secure dental treatment for themselves. The indirect results of dental diseases, for the treatment of which the State has provided, have not been recognized until recent years (except in dental circles) to have had a dental origin.

The financial loss to the community resulting from dental diseases is now recognized to amount to fabulous sums. The amount paid by the wealthy for dental treatment, even though it may amount to two or three million pounds annually, is small compared with the loss entailed on those who are unable to pay for dental services. Lack of dental treatment gives rise to vastly more suffering than the actual treatment entails. It is beginning to be recognized that the mouth is not only the chief entrance portal of disease, but also that, in order to restore health, attention must primarily be directed to the eradication of the diseased conditions which are so generally present in the mouth. Thus we read that "the National Insurance Act was brought into being for the purpose of providing the industrial classes with, amongst other things, a medical service, at any rate for the ordinary ailments of life. No provision was made in the Act for dental service, but if it came to the question as to which was more needful—a medical or a dental service—we would unhesitatingly affirm the latter to be more urgent."[1] This, be it noted, is a quotation from a recent leading article in a medical journal, not from a dental journal.

The financial loss to the community is not represented fully by the amount spent or the amount which might be spent on the restoration of the teeth and mouth to a fairly healthy state. It is now known that one of the most fruitful sources of disease is what is misleadingly called "oral sepsis." Moreover, there are quite a large number of common diseases which are concomitant with dental disease in their origin. And further, several diseases are seriously aggravated in their course on account of diseased states of the mouth.

It is recognized that the State must do something. As regards dental diseases it may pursue one of two courses. It may provide dental clinics all over the country for the treatment of the diseases of the teeth of children, but if it did so there is no reason why it should not likewise provide for the dental treatment of adults; and for from fifty to a hundred million pounds per annum this method of procedure could no doubt be carried out without serious loss to the community as a whole, for the benefit resulting from such treatment might, *if it were continuous*, more than out-balance the money expended. Nevertheless such a course may not be at all justifiable. It may be that another method exists which is capable of bringing about far more excellent results and that practically without the expenditure of any money at all. Prevention is infinitely better than treatment, and the failure to prevent the diseases of the teeth simply means getting money from the public or from individuals and placing it in the pockets of doctors, dentists and thousands of others whom the State does not consider fit to be called dentists although they may be practising the art. Now the State already recognizes its duty to *prevent* disease. Thus we read *inter alia* that the duties of the medical officer of health are as follows: "He shall inform himself, as far as practicable, respecting all influences affecting or threatening to affect injuriously the public health within the district. (2) He shall inquire into and ascertain by such means as are at his disposal the causes, origin and distribution of diseases within the district, and ascertain to what extent the same have depended on conditions capable of removal or mitigation."[2]

The State dictates, therefore, that it is the duty of medical officers of health to ascertain the causes of the diseases of the teeth, and to indicate how they may be mitigated or done away with. When it was believed and authoritatively taught that dental diseases were of a hereditary nature, obviously little action could be expected: when, moreover, the diseases of the teeth were generally regarded as of trivial consequence, time and energy spent upon ascertaining their causes could not reasonably have been insisted upon. Now, however, it is authoritatively agreed that dental diseases are preventable, and moreover that they are serious in themselves, and still more serious in that they lead so frequently to other diseases. Consequently the attitude which was taken up towards those diseases in the past is now no longer permissible, and it is the duty of the State to exercise such pressure as may be required on those whose duty it is to ascertain the causes, and in how far the conditions which have brought the diseases of the teeth into existence are remediable.

For at least the last ten years we have known in a general way how the diseases of the teeth are caused, and how they may be prevented. Authoritative statements as to this may be found in the recent textbooks on dental surgery,[3] and in the last three annual reports of the Chief Medical Officer of the Board of Education they are tersely summarized. Sir George Newman says: "It cannot be too clearly emphasized that by far the most important factor in the production of dental caries in children is unsuitability in the character of the diet provided from infancy onwards. The immediate cause of the disease is the accumulation about the teeth, particularly in the interstices of the teeth and in the interdental spaces, of fermentable carbohydrate material."

* Shown at the Eye Institution.

In other words, dental caries results from errors in diet. There has been in the past no recognition of the fundamental principle of dietetics which claims that food should be of such a nature or the diet so arranged that the mouth will be left physiologically clean after the meal is eaten. How such physiological cleanliness may be attained in a simple and efficient way has been worked out some years ago, and—as I have repeatedly indicated and tried to bring forward prominently in my recent book on *Dental Diseases in Relation to Public Health*—when the physiology of oral hygiene is properly taught, dental caries and consequent and concomitant diseases will soon practically cease to exist in all families which are brought up with reasonable care and intelligence. Similarly, in Dr. James Wheatley's annual report for 1912 as County Medical Officer of Health for Shropshire, we find the following sentence italicized:

Intelligent parents with the requisite knowledge can with a fair amount of certainty bring up their children so that they will have good teeth free from decay.

In the same report Dr. Wheatley says: "The need for a campaign to prevent the conditions above described is most urgent. Each year of delay means another 1,200 children in the county who will have at the age of 5 ten or more decayed teeth and about 1,800 children who will have five to ten decayed teeth. It is quite impossible by treatment afterwards to remedy this most disastrous start in life." Think what this means. There is no good reason to believe that the teeth of the children in Shropshire are worse than the teeth of children in the other counties of Great Britain; consequently, we calculate that annually something like half a million children commence school life crippled for life by disease in that part of the body which is *par excellence* the entrance portal of disease, and it is quite impossible by treatment to remedy this completely in after-life, even by the expenditure of millions and millions of pounds. I have referred to the important work which Dr. Wheatley has done. But what have other medical officers of health been doing? With a few exceptions we may say with regard to this subject that they have done absolutely nothing. Surely, since the prevention of dental diseases depends upon the diffusion of knowledge with regard to the physiology of oral hygiene, every medical officer of health ought to urge upon physiologists the necessity for them to study this subject and to teach it to medical students, for as it has been through lack of teaching of this subject that dental diseases have assumed the prodigious proportions to which they have attained, so it should be through the diffusion of knowledge from medical men that dental and concomitant diseases will be more or less completely eradicated.

Considering the fact that dental diseases are more prevalent in all districts than any other disease, it is obvious that every report of every medical officer of health ought, if their duty as already prescribed by the State is appreciated, to contain a statement with regard to the diseases of the teeth, summarizing as fully as may be expedient the etiology of these diseases in so far as it has been worked out and authoritatively recognized; or, if the etiology of dental diseases as currently taught by those in authoritative positions be not considered correct or sufficient, that a reasoned statement should be made for the setting forth of opinions which are not authoritatively recognized. Another way in which the State might, could, and should bring pressure to bear in such a way as to decrease the amount of dental disease is by insisting on the introduction into the examination for a diploma of public health of questions dealing with the physiology of oral hygiene. It is now so fully appreciated that oral malhygiene is a far more common source of disease than insanitary slaughter-houses or faulty drains, that evading the subject of oral hygiene seems to be an absolutely unpardonable neglect of duty. And thus it is obvious that oral hygiene ought to be regarded as a vital part of the curriculum for a public health diploma, or for a diploma in State medicine. I do not intend to refer to any action which the State might take through the medium of the school medical officer; however, if we may judge from the reports of the Chief Medical Officer of the Board of Education, and from the reports of school medical officers, it is obvious that the prevention of dental disease is within their sphere, if not for the child before entering school, at least for children who are in attendance there. For several reasons it is highly desirable that through the influence of the school medical officer the early environment of the child should be ameliorated. Again, as dental diseases are preventable, and since they are recognized as being important factors in the causation of many other and more serious diseases, it would seem desirable that the State should require that all medical students should receive some instruction in the elements of oral hygiene, for lack of knowledge of this subject has in the past caused more disease and suffering than lack of knowledge of the physiology of any other organ in the body could possibly have caused.

I do not know whether school dental clinics should be regarded as part of the early environment of children which it might be supposed was part of the duty of the State to establish. One thing is certain, however, and the ratepayers will in time insist upon it—that whatever measures may be taken by the State, the most efficient and the least expensive measures shall be primarily undertaken. Those who have gone into the subject at all thoroughly recognize this. Thus Sir George Newman says:

> If permanent results are to be expected as the result of the appointment of school dentists, it should be clearly understood that the work must be undertaken on the lines of a well-organized plan, the first condition of which is that the scheme shall be laid on a *preventive* basis. In short, school dentistry must be conservative and constructive rather than palliative. It may not unnaturally seem to some authorities that the obvious course to take is to deal first with the children presenting the grossest amount of defect. On account, however, of the great volume of work to be done, such a policy will be found to be quite impracticable, and its cost would be prohibitive. Again, on such a plan no effective action would be taken to reduce the work of future years. The place of the children treated for advanced disease will be taken by others in whom the disease, though at first slight, has in turn become extensive. Further, if the time of the dentist be chiefly occupied with these cases of extensive disease, treatment can be given only to comparatively few children, very little being gained by applying partial treatment only. It is clear, therefore, that whilst palliative treatment of this kind appears to make, at first sight, a humanitarian claim upon us, it lacks constructive value and, indeed, may easily prove ineffective and wasteful.[4]

It may be urged that the school dental clinic is relatively inexpensive, considering the amount of good which it might do, but recognizing that even expensive treatment among the wealthy has done absolutely nothing in the past to decrease the amount of dental and consequent diseases from generation to generation, it may be questioned whether expenditure for school clinics is justified, more especially since through other channels the State could without expense decrease enormously the unparalleled prevalence of dental maladies, and so aid in the greatest triumph over disease that the history of preventive medicine will probably ever record.

References.

[1] *The Medical Magazine*, April, 1914. [2] Principal Laws affecting the Medical Profession, *The Medical Directory*, 1913. [3] Colyer's *Dental Surgery and Pathology*. *The Science and Practice of Dental Surgery*, edited by N. G. Bennett. [4] Annual Report for 1912 of the Chief Medical Officer of the Board of Education, Section IX.

DISCUSSION.

Miss Barron, who is a teacher in the Aberdeen Deaf School, discussed the position of deaf children. In their case the hereditary method of teaching language—the mother's method, so good that now science could not better it—of teaching language to a child from its mother's lips, was of no use, and she was face to face with a problem as bewildering as it was to her inexplicable. How was the mother to be helped to guide the groping mind of the child to self-expression? It was the first few years of a child's life which made or marred its character. Little deaf children had an instinct for speech, and this natural instinct ought to be seized and made use of for good. It would be of great value if, when a child was found to be deaf, compulsory notification of the fact could be given to the educational authorities. If for certain purposes those authorities could combine with the medical, access could be had to better means of confirming and even making the diagnosis, and some kind of language training could be commenced as soon as the fact of deafness was discovered. Nursery schools, with voluntary attendance and short hours, with necessary intervals for rest, might be universally

established. Periodical visits to homes by visitors trained to the requirements of the deaf child, and helpful suggestions to parents as to treatment would be beneficial. The advantages which would come by linking up the child's environment from birth with its school environment were incalculable. The years of the deaf child's life from birth to school age in most cases were wasted; if he could be procured certain definite conditions whereby those years could be intelligently utilized and turned to account, the problem of his after-education and his consequent economic value would be simplified considerably.

Dr. HARRY CAMPBELL (London) described the condition of the teeth of the people of these islands as appalling. He estimated that there were in great Britain 200 millions of carious teeth, as many pyorrhoeic abscesses, and 30 millions or more of root abscesses—all preventable. He rarely saw any one in his out-patient department with healthy teeth, and when he saw, on rare occasions, a young woman with healthy teeth he read her a little sermon and told her she ought to regard the loss of one of them as a serious thing, that she ought to read the Burial Service over every tooth she lost. He was afraid the north of Britain was as much to blame in this respect as the south. The cause was, of course, diet. The only sugar the primitive man had was wild honey, and the only starch was from the vegetable kingdom, and in a raw state necessitated thorough chewing. Not only did modern man cook starch, but he greatly increased the proportion of it in his dietary. Masses of starch were poured into the stomach absolutely unmasticated, and that was the cause of the ill-developed jaws which were so common. He had very little sympathy with Scottish porridge: it was very nutritious, but it did not necessitate mastication. The same criticism applied to the delightful but pernicious Scottish cakes.

Dr. HAMILTON (Hawick) agreed with Mrs. Ogilvie Gordon as to the duplication of authorities dealing with children and the need for a central authority. He thought Dr. Campbell had been unfortunate in his experience of Scottish porridge; also it should be eaten with salt, not sugar; with sugar it formed a compound most deleterious to the teeth.

Dr. W. E. HENDERSON (School Medical Officer for Westmorland) spoke of the overwork of school children outside school hours. The fathers of the children were clamouring for an eight-hours day, but there was no word of an eight-hours day for the children. It was a poor and mean thing to filch from children their childhood. Dr. Henderson described a scheme for practical instruction of girls in domestic duties and care of children for which the approval of the Board of Education had been obtained in Kendal after some difficulty. Although one heard so much about teaching girls in preparation for motherhood, nothing was said as to teaching boys the duty of fatherhood. The only man who was doing that was a soldier—Sir R. Baden-Powell. He regarded the scout movement as a great educational factor. It was not only educational—it had recaptured for the boy his sense of wonder, and was developing the fine faculties which were being crushed out of boys by life in the slums.

Dr. DINGWALL FORDYCE (Edinburgh) criticized the Scottish Local Government Board as not being administered as efficiently and economically as was desirable. He thought Mrs. Ogilvie Gordon had touched the centre of the problem with her suggestion of a central authority for children's welfare, and he was surprised that the opening papers had contained no suggestion of this kind.

Dr. THOMAS RUSSELL (Glasgow) expressed the view that there was a want of confidence in the administration of the body responsible for Poor Law work in Scotland.

The discussion ended in the passage of the following resolution:

> Looking to the present confused conditions of State, municipal and voluntary methods of dealing with children, this Section unanimously requests the Council of the British Medical Association to press for the development of a central bureau to have control over all matters relating to child welfare.

DISCUSSION ON MEDICAL CERTIFICATION OTHER THAN UNDER LUNACY ACTS.

I.—Mr. CONDIE SANDEMAN, K.C.

UNLIKE doctors, lawyers have to give reasons for their beliefs, and I propose to tell you why it is I say that doctors who sign their certificates under the Insurance Act run no practical risk: some lunatic might raise an action, but it would not go far or cost much. When a patient consults a doctor it is not exactly a contract. A relationship is established between them. Out of that there springs first the duty of confidence. This duty of confidence is not respected by the law courts because, though lawyers are privileged by other lawyers, according to the laws of the country they are not privileged. Accordingly judges sometimes order doctors to reveal a confidence.

There is no breach of confidence in telling a man himself what you think of him. More particularly, when a man asks you "What do you think of me?" there is obviously no breach of confidence in giving a reply, and the certificate under the Insurance Act, which has been carefully thought out, is addressed to the person himself.

The next relationship which arises is the duty of treating the patient carefully. The medical practitioner must have that duty because he warrants his skill. Every professional man does that; it is all the goods he has to offer, and he has to warrant it. But the warranty only carries him to the point of due care, and if a doctor exercises due care to the best of his ability then he could not be held liable. One does occasionally see actions against doctors for malpraxis, but they are very few.

Another duty imposed by the Insurance Act is that of signing certificates. If a doctor were to sign reckless, wrong certificates, that, I think, would really be a fraud, and he would be liable for damages (leaving slander out for the moment); he would be liable for damages for having given a fraudulent certificate, either intending to hurt the patient or because he had made a careless examination. In the latter event he would be liable for malpraxis but not for slander.

Coming to the law of slander, the law of Scotland differs from that of England. In England you may address letters to a man, and he has no action, because he has no feelings, but in Scotland it is different. Scottish people have sensitive, delicate feelings, and if you hurt their feelings you have to pay a solatium; it is generally about a farthing, but it means the trouble of litigation.

Any publication of a certificate is made by the man himself, and he cannot recover damages for any loss caused by his publication: he need not use it unless he pleases. He is reduced to the minimum (in Scotland) of having a chance to sue for injury to personal feelings; but to get that he would have to aver that the doctor knowingly and from malice aforethought had constructed this certificate (which the plaintiff must say was false) against his sober judgement and to injure the plaintiff. Who is going to believe that? I have seen judges highly credulous, but not to the extent of swallowing a doctrine like that. That action would cost very little; the speculative lawyer will not take up cases like that. It would cost him something, and he would have no chance of success.

Therefore I think I have made good my proposition that no legal risks attach to the signing of the certificate. I can vouch my hypotheses from books, and you may sign these certificates with perfect ease of mind as far as questions of slander are concerned.

II.—A. C. FARQUHARSON, M.D., D.P.H.Camb., Durham.

PROBABLY no other administrative detail arising under the operation of the National Insurance Act has been regarded as of greater importance than that of medical certification because of its importance in regard to the financial solvency of approved societies. A relationship is too easily set up in the minds of some between the giving of certificates by medical practitioners and the depletion, no matter from what other causes this depletion may arise, of the funds of approved societies. In other words, it is suggested that many of the difficulties which approved societies are discovering in the administration of the Act are due mainly to causes which are partly, if not entirely, under the control of medical practitioners. A medical

certificate in this way is almost to be regarded as a cheque drawn upon the bank of an approved society or the State in the expectation that the cheque will be duly honoured. The doctor, therefore, is at once placed in a position of great delicacy and not a little difficulty, in virtue of what I may call his dual relationship to the patient and the State. He is on the one hand the confidential and possibly sympathetic agent of the patient, and on the other, at least in some degree, the trustee of the State, and the difficulties which beset the path of the doctor arise chiefly from this relationship. Those of us who have had for many years professional experience of the Workmen's Compensation Acts know quite well the existence and influences of this relationship, and how it in essence makes the doctor the arbiter on many occasions in a money claim in which he figures both as the paid servant of the appellant and also of the respondent. The person claiming compensation is his patient, and the company from whom compensation is claimed may have the same doctor retained at an annual salary for the sole purpose of certifying as to the honesty and legality of the claim. You will see how easily in a situation of this character, where one man is the agent of two interests, which for the time being are in conflict, difficulties arise, and I suggest that a similar situation has been created under the Insurance Act. It is in our interest to retain our patients, and it is equally in our interest not to destroy nor aid in destruction of the agency through which we are paid. In numerous cases the situation presents itself to the doctor in this way: A patient comes to him without any very definite physical signs of illness but complaining of symptoms which are not capable of proof beyond the patient's word. The doctor is at once faced with the problem of either refusing a certificate and inferentially telling the man he is a liar, or giving a certificate without thought or regard of the honesty or legality of the claim made upon the approved society.

My experience of many years' work in the coalfields of the county of Durham is that this particular problem has been almost universally regarded by the parties over whom the certificate was legally operative as one to be settled by the doctor invariably in favour of the patient or claimant. Colliery owners in the matter of compensation for accidents and miners' associations in the matter of sickness pay appeared at times to almost vie with each other in acts of altruism towards claimants, and the medical certificate came to be regarded very often as a document of such ethical value that it was beyond question, and further, that when any cognate point was in dispute the production of a doctor's certificate one way or the other was regarded as the final and acceptedly binding word on the matter. This is not a fanciful picture, and I know that one very large society in Durham was severely lectured by the English Commission upon the point indicated in the foregoing statement.

However much one may approve of the altruism displayed on these matters, one must realize that it encouraged a certain degree of freedom and flexibility in which the doctor could feel that any necessity for rigidity or strict interpretation of the rights of parties did not rest with him. With the coming of the Insurance Act and the inclusion of large numbers of workers under a scheme constructed upon a narrow and strictly financial basis, the flexibility which I suggest existed in the matter of giving and accepting certificates must of necessity disappear. It was a simple and unquestioned act on the part of the executive of a prosperous trade union to make good from its general fund a deficit of £20,000 or £30,000 at the end of a year upon the working of the sick fund of the union, but when a similar act is required of the State on behalf of approved societies it is evident that it cannot be performed with such ease, and causes have to be sought for with a view to remedies. The altruism of the administrators of the old sick funds and the looseness of procedure observed in the administration of these are in my opinion greatly responsible for the attitude displayed by many members of our profession towards certificate giving since the operation of the Insurance Act. However that may be, it is, I am sure, becoming recognized by the vast majority of the profession that it is not to the good of the profession nor to the State that this looseness or flexibility of procedure should continue.

A universal rigidity of procedure is essential to the safeguarding of the rights of all the parties which arise under the administration of the sickness benefits of the Insurance Act. I am convinced that defects disclosed in the procedure which has up to now been adopted under the Insurance Act are responsible for much of the financial difficulties which we hear of as existing at the present time, and I may be permitted here to indicate one or two points which are in my view paramount. It may be stated as a broad and general fact that the zones of opportunity for insured sick to obtain what we may call the illegal sustaining of claims are to be found, first, in the first week, and, secondly, in the later or prolonged weeks of convalescence. My suggestion is that by the procedure which has existed up to now many an insured person has obtained one or two weeks' sickness pay when, by a different system of procedure, it could have been quite justly shown that the incapacity for work was only of one or two days' duration. Regarding the group of first week claims, no opportunity has been given the approved societies by the procedure hitherto adopted to investigate these claims until, in fact, the claim has matured and the first week has passed. The first essential in a reformed procedure, therefore, is that the earliest notification of the existence of illness should be secured to the societies. Means should be devised whereby the societies are given the opportunity of reviewing or checking the claims of sick persons within the first period in which the claim becomes established—an initial certificate or note from the doctor merely stating the fact of illness, with some symptomatic indication where a full diagnosis cannot be given, signed and dated for the first day upon which the doctor saw the patient. This initial certificate need not be regarded as an element or legal factor in the final establishment of a claim, but simply as a notification of illness which sets in motion any supervisory machinery which the society may have at command. Where the illness is a bona fide one and genuine incapacity results, a second certificate should be given within the week, and only the giving of this second certificate should be regarded in so far as the doctor is a party to the proceedings as establishing the legality and honesty of the claim.

Difficulties are at present constantly arising from post-dating and ante-dating certificates both at the commencement and termination of sickness, and many doctors seek discretionary powers in this matter. I am strongly opposed to any such, and feel that in the proper administration of the Act the existence of any discretionary power vested in the units of the system is dangerous in the extreme. The discretion of the honest practitioner so easily becomes the indiscretion of the less scrupulous practitioner—an indiscretion so often used against the honest man—that we as a whole are entirely better without it. The doctor in my view, no matter how much he may feel personally justified in putting such date as he thinks proper on the certificate, must remember that he is part of a procedure which does not recognize his right to give evidence for any other day excepting that upon which he sees and certifies the patient. It is for the patient to satisfy the society, by such other means as are valid, that he was incapacitated on some day or days before the date of the certificate. The doctor should not, under any circumstances, be expected, or in my view even allowed, to certify to anything of which he has not personal knowledge.

In regard to the second group of cases, which may be subdivided into chronic and convalescent cases, I do not think that quite the same degree of responsibility should be attached to our profession as in the first group. For the first group I think we should unhesitatingly accept the fullest responsibility, but in the second group the societies may be expected to share with us the supervision of these cases. In many of these, the nature of the illness, questions of misconduct, treatment in hospitals or other institutions, and other points complicate the situation and tend in a way to diminish or modify the control of the case which the general practitioner has in the early stages. In this group the effort of the general practitioner must be supplemented by at least two officials, and the combined view of these persons and the doctor becomes the determining factor in the case. These officials are: (1) The professional referee; and (2) the sick visitor. The functions of the professional referee we ought to regard with approval.

THE SERUM DIAGNOSIS OF PREGNANCY AND OF CANCER:

A CRITICAL STUDY OF ABDERHALDEN'S METHOD.

BY

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PATHOLOGIST TO THE CANCER HOSPITAL, LONDON.

II. THE PROTECTIVE FERMENTS IN CANCER: CRITICISM OF THE THEORY.

In the practical experiments on cancer, though I have had an unusual amount of operative material at my disposal, yet comparatively little seemed to me suitable, for reasons that will be explained later, and in the tests here recorded I have restricted myself to those in which good cellular tumours were available as "substrates." I have not used *post-mortem* material. The details of 100 cases examined to test the method in the serum diagnosis of cancer are as follows:

In the first set of experiments three different *substrates* were employed: (1) A large protuberant, non-ulcerated squamous-cell carcinoma of the scalp, extremely cellular, with fine supporting fibrous tissue trabeculae, the tumour being easily washed free of blood and being almost dead white; (2) a very cellular spheroidal-cell carcinoma of the breast with a minimal amount of stroma; (3) placenta.

TABLE A.—*Epithelioma, Carcinoma, and Placenta.*

	Disease.	Serum alone.		Epithelioma + Serum.		Carcinoma + Serum.		Placenta + Serum.	
		1 c.c.	1.5 c.c.	1 c.c.	1.5 c.c.	1 c.c.	1.5 c.c.	1 c.c.	1.5 c.c.
1	Epithelioma of oesophagus	0	+	+	+ +	—	—	+	+
2	Epithelioma of penis	0	+	+	+ + +	...	—	...	...
3	Epithelioma of tongue	0	0	+	+ + +	—	—	+	
4	Epithelioma of lip	0	+	+	+	—	+	+	+
5	Epithelioma of tonsil	0	0	+	+	—	0	—	—
6	Carcinoma of breast	0	0	+	+	—	+	+	+
7	Carcinoma of breast	0	0	+	+	—	—	0	0
8	Carcinoma of breast	0	0	+	+	0	—	+	+
9	Carcinoma of rectum	0	0	+	+	—	0	—	+
10	Lipoma of shoulder	0	0	+	+	—	—	0	0
11	Cholecystitis ...	0	0	0	0	0	0	0	0
12	Chronic appendicitis	0	0	0	0	—	—	+ +	+ + +
13	Hysteria ...	0	0	0	0	0	0	0	0
14	Uterine polypus	0	0	0	0	0	0	0	0
15	Former epithelioma of lip	0	0	0	0	—	—	0	0
16	Parametritis ...	0	0	0	0	—	0	—	0
17	Endometritis...	0	0	0	0	—	—	—	—
18	Two months pregnancy	0	0	0	0	—	+	+ +	+ +
19	Two months pregnancy	0	0	0	0	—	—	—	—
20	Seven months pregnancy	0	0	0	0	—	—	—	—
21	Nine months pregnancy	0	0	0	0	—	—	—	—

In Nos. 2 and 13 the blood was withdrawn less than four hours after the last meal. In all the rest, with the exception of the last three in which I have no notes on the point, the blood was withdrawn at the time of the operation when the patient was in a fasting condition. In no cases was the serum haemoglobin-stained.

This set of experiments is the most favourable I have found to the claims of Abderhalden. The 9 cancer serums all gave positive results with the epithelliomatous tissue—if anything, more markedly in the case of squamous-cell than in the other carcinomata—whereas the 12 non-cancerous cases were negative with the exception of the case of lipoma, and one might quite easily, if dominated by the claims made on behalf of the method, have made excuses for this solitary lapse by blaming the technique. Unfortunately for this, the experiment was repeated in duplicate again with the same results. The mammary cancer was not such a good *substrate*. It did not give as good results with the mammary cancer cases as did the epithelioma. With it 5 cancer serums were tested; 3 gave positive reactions, 2 were absolutely negative: of 5 non-cancer cases, 4 were negative, 1 was positive. With placenta, 8 cancer serums were tested, 7 gave positive reactions, 1 was negative; of the 7 non-pregnant, non-malignant cases 1 was positive. In all cases the serums were used fresh.

In four cases an epitheliomatous tumour of the tongue was used as a *substrate*.

TABLE B.—*Epithelioma of Tongue.*

	Disease.	Serum alone, 1 c.cm.	Serum alone, 1.5 c.cm.	Epithelioma + 1 c.cm. Serum.	Epithelioma + 1.5 c.cm. Serum.
22	Epithelioma of tonsil ...	0	+	+	+ +
23	Syphilitic glossitis	0	0	0	0
24	Normal male	0	0	0	0
25	? Lupus of face	0	0	+	+

None of the serums was haemoglobin-tinted. All were used fresh. In Nos. 23 and 24 the blood was withdrawn shortly after a meal (fifteen minutes after in the case of No. 24); in the first case it was withdrawn at time of operation; in the last case over four hours after the last meal.

The *substrate* behaved in the first three cases just as we hoped. The last case was the crux of the whole examination. There was what was supposed to be lupus of the face, and there was an ulcerated patch that was not healing under *x* rays; and the practical question arose whether or not epithelioma was developing. The reaction pointed to this being the case. As a matter of fact, it was not so. The patient gave a positive Wassermann reaction, and the ulceration healed under salvarsan.

In the following twenty-six cases a large, quickly-growing cellular carcinoma of the breast, with axillary

TABLE C.—*Cellular Carcinoma.*

	Disease.	Serum alone. 1 c.cm.	Serum alone, 1.5 c.cm.	Carcinoma, + 1 c.cm. Serum.	Carcinoma. +1.5 c.cm. Serum.
26	Carcinoma of breast ...	0	0	0	0
27	,, ,, ...	0	0	+	+
28	Epithelioma of larynx ...	0	0	0	0
29	Carcinoma of colon ...	0	0	+	+ +
30	Epithelioma of tongue ...	0	0	+	+
31	,, ...	0	0	0	+
32	Epithelioma of penis ...	0	0	0	0
33	Carcinoma of rectum ...	0	0	0	0
34	Carcinoma of rectum (post-operation)	0	0	0	0
35	Intracystic adenoma of breast	0	+	+	+ +
36	Fibromyoma of uterus ...	0	0	+ +	+ —
37	,, ,, ...	0	0	0	0
38	Tuberculosis of intestine...	0	0	+	+
39	Tuberculosis of lip ...	0	0	0	0
40	Intestinal adhesions ...	0	0	+	+
41	Gumma of tongue	0	0	0	0
42	Pyloric stenosis	0	0	0	0
43	Cholecystitis	0	0	0	+ +
44	Cholecystitis (impacted stone)	0	0	0	0
45	Hydrocele	0	0	+	+
46	Pyosalpinx	0	0	0	0
47	Tertiary syphilis	0	0	0	0
48	,, ,, ...	0	0	0	0
49	Normal male	0	0	0	0
50	,, ,, ...	0	0	+	+
51	Normal female	0	0	0	0

Only in Nos. 32 and 44 was the serum haemoglobin-stained. In Cases 34, 47, 48, 49, 50, 51, the blood was withdrawn less than four hours after a meal; in No. 34 it was withdrawn during a meal, and the serum was the most turbid I have ever seen, but it gave quite negative reactions. In all the other cases the blood was withdrawn at the time of operation.

masses was used as *substrate*. It was very thoroughly washed to free it of blood. It required twelve boilings before the water was free to ninhydrin.

Case 38 was clinically considered to be carcinoma of the intestine, and a portion of gut was removed under that belief; the reaction was positive; histological examination showed it to be tuberculosis. On the other hand, No. 39—a small ulcer on the lip—was thought to be epithelioma; the reaction was negative and the histological examination showed it to be tuberculous. No. 40—an abdominal mass—was diagnosed as cancer; the reaction was positive; operation showed it to be a case of old peritonitic adhesions. No. 35 was an interesting case; it was clinically considered to be malignant; the reaction was positive; histological examination showed it to be quite benign in nature.

A large epithelioma of the tongue with large glandular masses in the neck was used as *substrate* in the following 14 cases:

TABLE D.—*Epithelioma of Tongue.*

	Disease.	Serum alone, 1 c.cm.	Serum alone, 1.5 c.cm.	Epithelioma, + 1 c.cm. Serum.	Epithelioma, + 1.5 c.cm. Serum.
52	Epithelioma of tongue ...	0	0	0	0
53	,, ,, ...	0	0	0	0
54	Epithelioma of lip ...	0	0	+	+
55	Epithelioma of palate ...	0	0	0	0
56	Epithelioma of oesophagus	0	0	0	0
57	Advanced carcinoma of rectum	0	0	+	+
58	Advanced carcinoma of rectum	0	0	0	0
59	Syphilitic glossitis ...	0	0	0	0
60	Normal male	0	0	0	0
61	Tertiary syphilis	0	0	0	0
62	,, ,, ...	0	0	0	0
63	Intestinal adhesions ...	0	0	0	0
64	Chronic constipation ...	0	0	0	0
65	Tuberculosis	0	0	+	+

In none was the serum haemoglobin-stained. In Cases 57, 58, 60, 61, 62, 64 the blood was withdrawn less than four hours after a meal; in the other cases it was removed at time of operation.

The reaction was positive in only 2 of the 7 cancer cases and negative in 7 non-malignant cases, but it was positive in a case of tuberculosis (histologically verified) which was thought clinically to have been lymphadenoma.

A carcinoma of the breast which contained much blood, no attempt being made to wash it free, was used as *substrate* in 8 cases:

TABLE E.—*Carcinoma Unwashed.*

	Disease.	Serum alone, 1 c.cm.	Serum alone, 1.5 c.cm.	Carcinoma, + 1 c.cm. Serum.	Carcinoma, + 1.5 c.cm. Serum.
66	Cancer of breast	0	+	0	+
67	,, ,, ...	0	+	+	+
68	Cancer of uterus	0	0	0	0
69	,, ,, ...	0	+	0	+
70	,, ,, ...	0	+	0	+
71	,, ,, ...	0	0	0	+
72	,, ,, ...	+	+	+	+
73	Epithelioma of palate ...	0	+	+	+

In none of these was the serum haemoglobin-stained.

All the cases were advanced far beyond operability. Two of the very grievous hypothetical fallacies were purposely committed—the *substrate* was not washed free of blood and the blood in all cases was withdrawn soon after a meal. Two controls of non-cancerous serum were employed, but as they gave reverse results—that is, reactions with the serum tubes and none with the tubes of serum *plus* cancer—they were rejected. Nos. 65, 67, 68, 69, 71 (that is, 5 out of the 8) would be considered negative according to any method of reading the results, whilst the remaining 3 could only be considered positive by rejecting the readings of the tubes with the larger quantities of serum. As far as these tests go, there is no support lent to the idea that the two purposely-made mistakes of technique had anything to do with the false reactions; instead of these reactions being negative, they ought to have been doubly positive.

A rodent ulcer was used as *substrate* in 4 cases:

TABLE F.—*Rodent Ulcer.*

	Disease.	Serum alone, 1 c.cm.	Serum alone, 1.5 c.cm.	Rodent Ulcer, + 1 c.cm. Serum.	Rodent Ulcer, + 1.5 c.cm. Serum.
74	Rodent ulcer	+	+	+	+
75	Carcinoma of rectum ...	0	0	0	+
76	Furunculosis	0	0	+	+
77	Syphilitic glossitis	0	+	0	+

In none of these was the serum haemoglobin-stained.

In the first two cases the blood was removed at time of operation; in the last two cases probably less than four hours elapsed between a meal and the time of venipuncture. The reaction gave three false indications out of four. The blood serum of the rodent ulcer did not show evidence of any ferment activity against the protein of its own tumour.

A cellular carcinoma of the breast was used as *substrate* in the following 8 cases:

TABLE G.—*Cellular Carcinoma.*

	Disease.	Serum alone, 1 c.cm.	Serum alone, 1.5 c.cm.	Carcinoma, + 1 c.cm. Serum.	Carcinoma, + 1.5 c.cm. Serum.
78	Epithelioma of tongue ...	0	0	0	0
79	Carcinoma of rectum ...	0	0	0	0
80	Epithelioma of bladder ...	0	+	0	+ +
81	Locomotor ataxy	0	0	0	0
82	Sacro-iliac disease	0	0	0	+
83	Renal calculus	0	0	0	+
84	Papilloma of rectum ...	0	0	0	+
85	Cholecystitis	0	0	+	+ +

In none was the serum haemoglobin-stained. In No. 81 the blood was removed less than four hours after a meal; in the others, all operation cases, it was withdrawn at the time of operation.

In the 3 cancer cases the reaction was positive only in 1, but it was positive in 4 out of the 5 non-malignant cases.

In another series (Table H) the serums were tested simultaneously against four different cancers: (1) a carcinoma of the breast; (2) an epithelioma of the cervix which it was impossible to free from blood; (3) a protuberant epithelioma of the vulva; (4) an epithelioma of the tongue.

With the mammary carcinoma *substrate* only 4 cancer serums out of 12 gave positive results, and all 3 non-malignant cases were positive; with the uterine cancer *substrate* 9 cancer serums out of 12 gave positive results, and 1 of the 3 non-malignant cases was positive; with the vulvar cancer *substrate* 4 cancer serums out of 12 were positive, and of the non-malignant serums 1 was positive; with the lingual cancer *substrate* 2 of the 12 cancer serums gave positive results, and of the non-malignant cases 1 was positive. The mammary cancer *substrate* only succeeded in picking out 1 of the 6 cases of mammary carcinoma, the uterine cancer *substrate* picked out 2 of 3 cases of uterine cancer, and the vulvar cancer *substrate* picked out the case of vulvar cancer.

Of these 100 cases tested to prove the worth of the method in the serum diagnosis of cancer, 51 are cancer and 49 are non-malignant. In the 51 cancer cases positive results were obtained in 28, that is, 55 per cent.; and in the 49 non-cancerous controls positive results were

TABLE H.—*Four Different Cancers.*

	Disease.	Serum Alone.		Mammary Cancer + Serum.		Uterine Cancer + Serum.		Vulvar Epithelioma + Serum.		Lingual Cancer + Serum.	
		1 c.cm.	1.5 c.cm.	1 c.cm.	1.5 c.cm.	1 c.cm.	1.5 c.cm.	1 c.cm.	1.5 c.cm.	1 c.cm.	1.5 c.cm.
86	Carcinoma of breast	0	0	0	0	—	++	—	0	—	0
87	,, ,,	0	0	0	0	—	+	—	0	—	0
88	,, ,,	0	0	0	0	—	+	—	0	0	—
89	,, ,,	0	0	0	+	—	+++	—	0	—	0
90	,, ,,	0	0	0	0	—	+	—	0	—	0
91	,, ,,	0	0	0	0	—	0	—	0	—	0
92	Carcinoma of uterus	0	0	—	0	+	+	—	0	—	0
93	,, ,,	0	0	—	+	0	++	—	0	—	+
94	,, ,,	0	0	—	0	0	0	—	+	—	0
95	Carcinoma of rectum	0	0	+	+	—	++	—	+	—	+
96	,, ,,	0	+	0	+	—	+	—	++	—	0
97	Carcinoma of vulva	0	0	+	—	—	0	0	+	—	0
98	Dental cyst	0	0	0	+	—	0	—	0	—	0
99	Fistula in ano	0	0	0	+	—	0	—	+	—	0
100	Fibroid of uterus	0	0	+	+	—	+++	—	0	—	+

None of the serums was blood-stained.

obtained in 18, that is, 37 per cent. The method, therefore, is without diagnostic value.

COMMENT.

It is necessary, in view of the adverse results here obtained, that contrast so strikingly with those of the brilliant and deservedly honoured originator of the theory and with those of his numerous disciples in all parts of Europe and America, to search out the factors that led to the amazingly mistaken claims, as I consider them to be, and to show as well as I can, that my own results are not due to errors of technique or to biassed misunderstanding. It seems to me that the theory originated from the readings of some preliminary experiments. It may be that those readings unconsciously exaggerated the facts; the fundamental observations were not made sufficiently indubitable for a great structure to be reared upon them; and the observer, having satisfied himself that a certain result was to be expected, and knowing exactly what he had to deal with when identical experiments were repeated, could not avoid obtaining readings similar to the original. If the repetition of the experiments was entrusted to a disciple, as it probably was in a busy laboratory, there would be the greater chance of the original views being substantiated. Whether or not that be an ungenerous supposition, the fact remains that the fundamental experiments do not cover a sufficiently wide field, and it is obvious that a great jump was made from serum reactions to substances quite foreign to the animal body, to serum reactions to substances natural to the body. The experiments with the serum of pregnant women, viewed through the eyes of the impelling theory, would at first seem to justify this jump. The same phenomena were found, and these were rendered all the more plausible since the serum of many non-pregnant individuals failed to give them. False results would crop up, however, as the number of the latter cases increased. Surprised at these, an enthusiast would seek causes for rejecting them. If all biological laws were as dependable as the movements of the stars, then there would be little scope for the making of errors, and research would be unromantically monotonous. The unexpected false results would be associated with some accompanying phenomena, and a causal relationship between them would be assumed, so that on the recurrence of false results and their accidental association with such conditions one would feel in a position to reject them. In the course of time other phenomena would be found in association with untoward results and again means would be found to reject them. This seems to have been the history of the Abderhalden reaction. Now it bristles with hypothetical fallacies that have well-nigh obscured the reaction itself. Let us therefore consider the real as well as the fictitious fallacies.

The Substrate.

From the point of view of the theory of the reaction the proper preparation of the organ or tissue that is to serve as substrate for the "specific proteolytic ferment" is of the utmost importance. In the case of placenta, and similarly with other tissues, the fresh organ is washed free of blood until a "snow-white tissue is obtained." Let it be said at once that such a result is impossible. The method I have adopted has been to remove the adherent blood clot, connect the umbilical vein with the water tap, and let the water flow through it for about two hours. At the end of that time the placenta should be practically colourless. The membranes are now removed, the placental tissue is cut up into walnut sized portions, and these are kneaded in frequent changes of salt solution for another hour. Thereafter, the pieces having been cut up into smaller fragments are put in running water for a few hours. As these pieces lie in the bath they appear to be quite white, but if they are taken in bulk and the water expressed from them it will be found that they still preserve, no matter how long or how thorough the washing, a faint colour, which, in the case of the placenta, is a low-toned white or pale ivory. Every tissue that I have tried preserves a faint tint proper to the particular organ, and a "snow-white" condition cannot be produced. It is specially difficult to get cancers free from blood. I have used only fresh operation material and though there has been a large stock at my disposal it is seldom that we can get tumour material exactly suitable. It is very doubtful if the presence of small traces of blood—or even very large amounts, for that matter—has anything to do with the false reactions. Even supposing we admitted the possibility of some obscure ferment in the serum capable of acting on the very minute traces of blood still left in the washed tissue, so as to give sufficient amounts of diffusible substances detectable with ninhydrin (a rather large supposition)—that is to say, giving a positive reaction where a negative reaction is to be expected—the hypothesis would not account for negative reactions where positives are to be expected according to the theory. I have obtained such negative reactions even in pregnancy. The tissue that is to serve as substrate is boiled in distilled water, to which a few drops of acetic acid are added, then for several times in distilled water alone, being well rinsed between each boiling, until the boiled water, which ought to be about five times the volume of the tissue, ceases to give a reaction when 10 c.cm. of it are boiled with 1 c.cm. of 10 per cent. ninhydrin solution. Any one may easily satisfy himself that even then the boiled water may show a violet colour when stronger concentrations of ninhydrin are used, and I have always gone on with the boiling until the water was colourless to as much as 5 c.cm. of the ninhydrin solution. Placental and other tissues vary very much in the number of boilings they require before they are suitable. I have

often noticed the curious fact that the boiled water may give a colour with weak concentrations and none at all with stronger concentrations of ninhydrin. The explanation of that fact is a question for chemists, but it is a point to bear in mind that ninhydrin may fail to detect the presence of protein products simply because it is too strong, just as it may also fail to detect them because it is too weak. I have further observed that the water of the tenth boiling of a tissue, for example, may be colour-free to ninhydrin, whilst that of the twelfth may give the reaction. Once having got the water colour-free, if the tissue be allowed to stand, colour reactions may be obtained after varying periods of time, sometimes within a few hours. Some tissues seem to be very unstable in this respect. The ninhydrin reacting substances found in the boilings of tissues are diffusible through the dialysers, and even though we test the tissue immediately before use, as we always do, we may be sure that there is always a certain amount of diffusible substances from our substrate—apart from any other factor—capable of contributing to the result.

One of the hypothetical fallacies that Abderhalden has recently detected is that the connective tissue in the organ acting as substrate may itself be attacked and broken down by some intruding ferment: there may be some lesion of the connective tissues in the individual who furnishes the serum. This reduces the reaction to a farce, for there is no organ devoid of connective tissues and no organic disease incapable of implicating them. Besides, the latest method he adopts in the preparation of his substrates—the pounding of the tissues in a mortar—is calculated to get rid of as much parenchyma and to leave as much connective tissue as possible. The great difficulty in the preparation of cancerous material is to get rid of the blood and yet to leave the cancer cells in their connective tissue stroma. The more cellular the cancer the more easily are these cells removed by washing, and the fact that the connective tissue stroma renders the blood vessels of a malignant tumour so exceedingly tortuous militates against the freeing of the tissue from blood. In this case there are only two ways of getting suitable substrates—either to cut very thin slices of the tumour, running the risk of losing the epithelial cells, or to reject tumour after tumour until we light upon something suitable at last.

It has been imagined that in the case of a blood effusion a ferment will be elaborated against the corpuscles of that effusion, and consequently, if any tissue employed as substrate should contain some blood, then the serum of that case would in these circumstances be capable of giving a false reaction. I have already pointed out that I could find no evidence of this in experiments on rabbits. I have, however, used as substrate pure blood clot, boiled free of ninhydrin-reacting substances, and tested this with fifteen serums, one of these being from a case of cerebral apoplexy, and most of the others from cancer cases in which local haemorrhages were evident, with the result that in no single case was there the slightest suspicion of a positive reaction. Again, a piece of cancerous tissue—a mammary carcinoma—containing much blood was forthwith boiled without any preliminary washing, and tested with various serums; it neither picked out all the cancer serums nor gave reactions with all the non-cancerous; it merely behaved, or misbehaved, as other substrates scrupulously prepared according to the regulations.

But whatever theoretical objections be brought against the reliability of the substrates that I have used, whether it be that they were not absolutely snow-white, that they still held in spite of our care minute traces of blood, that they were too unstable, or that they contained connective tissue, the criticism quite loses its points if we can get false reactions with "substrates" that are beyond suspicion. I tried, therefore, as "substrates" pieces of sterilized sponge, kaolin, and glass wool. In this way 39 serums were tested; I obtained 7 well marked positive results. Recently Plaut[1] has also obtained positive results where he used as "substrates" kaolin, barium sulphate, talc, and *Kieselguhr*. Like him I have also noted reverse effects (that is, reactions of the controls without substrate, and no reactions with the serum and substrate) in some cases, but the same thing has occurred several times in the ordinary procedures. It will hardly be argued by the most ardent believer in the *Abwehrfermente* theory that protective ferments are elaborated within the animal body capable of splitting up into peptones or amino-acids such substances as sponge, glass wool, and kaolin. Without for the moment denying the occurrence of specific protective ferments in the serum, I am convinced that the important point in the reaction is that the substrate, owing to its physical nature, splits up the serum, and not so much the serum that splits up the substrate.

The Serum.

In all cases I have withdrawn at least 20 c.cm. of blood from the median basilic or cephalic vein direct into sterile centrifuge tubes. The blood is allowed to clot spontaneously, and the serum removed after a few hours or immediately by centrifugalization; it does not matter which. Some serums, even from normal cases, are haemoglobin-tinted on each occasion on which we examine the blood; it seems to be a healthy abnormality. We do not know the reason of this. Abderhalden has insisted from the beginning that haemoglobin-stained serum should not be used, as the presence of haemoglobin indicates that the corpuscles have broken up and shed into the surrounding fluid their endocellular ferments, some of which are bound to be proteolytic. Either this is a purely hypothetical objection, capable of substantiation or otherwise, or it has been invoked to discount false positive reactions, and, as haemoglobin-tinted serum is not uncommon, a relationship between the two has been drawn. The mere presence of haemoglobin does not give rise to reactions in the dialysate. I have carefully noted the behaviour of haemoglobin-tinted serum in over 20 cases, but false positive reactions did not seem to be as frequent in these experiments as in the case of normally coloured serums.

Another point on which Abderhalden lays stress is that if the blood be withdrawn from a patient within four hours after a meal, the serum may produce false positive reactions. This, again, is a hypothetical objection, and by means of it one is enabled to explain away most of the adverse results. It may be said that the blood after a meal contains fugitive proteolytic ferments, or that there is a temporary accretion of free amino-acids. It is probable that the latter is true. Indeed, Costantino[2] has shown that the blood of fed animals contain more amino-acid (formol-titratable nitrogen) than the blood of starved animals, but he found that the excess was anchored to the corpuscles, and was not free in the plasma. Even supposing the presence of amino-acids in the serum had something to do with the production of colour reactions in the dialysate, yet a positive reaction is not reckoned by a mere presence of colour in a single dialysate, but by the comparison between the colours given by a test and by its controls; and the factor would be equal in both. I have always noted the relationship to time of last meal, and a consideration of the tables will show that the hypothesis does not hold good in practice. Still, whatever objection there be to the usage of serum taken from a patient who is not in a fasting condition, it must be admitted that it is well-nigh impossible to amass any large number of observations under such ideal circumstances. Our habits are such—and this applies to Germany at least quite as much as to this country—that seldom more than four hours elapse between meals of some sort, except when we are asleep, and any investigator would have little else to do who attempted to obviate the hypothetical fallacy. I have been fortunate in complying with the requirements in the great majority of my cases, for the blood was removed at the time of operation, when a minimum of six hours had intervened since the last meal. I have, on the other hand, examined blood taken actually during, or shortly after meals. It does not seem to make the slightest difference.

If a number of serums be tested, using dialysers of apparently equal permeability to peptone, it will be found not infrequently that the dialysates react to 0.2 c.cm. of ninhydrin solution—that is to say, they allow some constituent of serum to pass through in sufficient amount to be detected in the ordinary way. Other serums, again, do not give sufficient quantities to be detected with 0.2 c.cm., but if one tests the dialysates in these cases with slightly larger amounts of ninhydrin, it will be found that in practically every case some reacting substance has diffused through. This shows that serums, though varying in their content of diffusible ninhydrin-reacting substances, always furnish a certain

amount to the dialysate. If we dialyse against running water for several hours the serums which previously gave large amounts of reacting substances to the distilled water, and finally dialyse this again against distilled water, we shall find that this dialysis against running water has not succeeded in wholly removing, sometimes not in appreciably diminishing, the diffusible substances. This shows that the serum is not a stable material, but is splitting up progressively; it is partly an inherent characteristic of serum, and is partly due to the action of the distilled water.

The Dialysation Tubes.

Specially prepared dialysation tubes for the reaction are supplied by Schleicher and Schüll, No. 579A. These are supposed to be impermeable to protein, but permeable to peptones and other degradation products of proteins, and, though they are sold as having passed the tests, it is wise to satisfy oneself on the point. In the first consignments it was found that a fairly large percentage were permeable to protein, but in the more recent comparatively few failed to pass the tests that Abderhalden demands. They must be subjected frequently to these tests during the course of the experiments, and if the dialysers be numbered and at any time one is found faulty the cases in which it has been used since it last passed the examination will have to be rejected. In testing for the impermeability to protein, 2.5 c.cm. of a 5 per cent. suspension of fresh egg albumen are added to each tube, and this is dialysed against 20 c.cm. of distilled water for sixteen or more hours, and the dialysates are tested for the biuret reaction. If the reaction is positive the corresponding tube is rejected. It is very difficult, if not impossible, to be certain of detecting weak biuret reactions, and in every case I have repeated the test of the dialysate with ninhydrin. It is true that the two methods do not give strictly comparable results. It is considered by Leonor Michaelis and v. Lagermarck that the biuret reaction is not to be depended on, at least when performed in the way that Abderhalden recommends. They assert that they can in the same way obtain biuret reactions with distilled water, and they recommend the test of the dialysate with sulpho-salicylic acid.[3]

The second requisite is that they be permeable to peptones and all equally permeable. If we test a stock of dialysers with silk peptone, which is supposed to be a pure peptone, boiling the dialysates with 0.2 c.cm. of ninhydrin solution, we shall find that differences in depth of colour may be made out, showing that they are not uniformly permeable, and we must reject the extremes. The differences in permeability can be shown much better by using Witte's peptone, which is an impure peptone. The individual differences are very marked, and it is practically impossible to get a large series of absolutely comparable dialysers. At first sight it might be thought that by taking a large stock of dialysers, and by estimating the depth of colour in the corresponding dialysates by means of a colorimeter, we might arrange our dialysers in order of permeability. Unfortunately this is not satisfactory for the reason that the actual colours, as well as the tints, differ, and no strict comparison can be made. What is more important is that the permeability of any single dialyser is not constant; it decreases or increases by use; and what are to-day strictly uniform tubes exhibit in the course of time various differences. We may gain an idea of their variation by numbering them and observing the results they give with serum from time to time. The differences between them can be brought out, too, by testing a small batch with one serum and noting the depths of the colour reactions of their dialysates with increased quantities of ninhydrin. We have, therefore, to take into account two factors affecting the reaction, namely, that with uniform dialysers different serums vary in the amount of diffusible substances and that with a single serum dialysers vary in the amounts of ninhydrin-reacting substances they allow to pass. The only way, therefore, to be sure of obtaining reliable readings in practice is to manifold the tests and controls as far as the quantity of serum permits, and to strike a just average. I have never depended on single tests; they are worthless. It will sometimes be found that the dialyser containing substrate plus serum gives to the dialysate a less amount of ninhydrin-reacting substances than the dialyser containing serum alone. Such results and dialysers must in kindness be rejected before giving an opinion on the diagnostic value of the reaction, but must be borne in mind when considering the worth of a theory that relies for its substantiation on such fickle means.

The following is a typical experiment out of several that will show how positive reactions may come about:

The serum used was from a non-pregnant female. The placental tissue was boiled repeatedly until the water was colourless to 2.5 c.cm. of ninhydrin solution. The dialysation tubes were chosen as being as nearly uniform in their permeability to silk peptone as it was possible to judge from the depth of colour which their dialysates gave with ninhydrin. All the tubes were incubated for sixteen hours in the usual way, and thereafter each dialysate was boiled with 0.2 c.cm. of ninhydrin, the resulting colour was noted, then a further 0.2 c.cm. of ninhydrin was added, the test tubes again being boiled, and once again this procedure was repeated.

Tubes 1, 2, 3, 4, 5 contained equal amounts of placenta with 1.5 c.cm. of normal saline solution only. The dialysates remained quite colourless to as much as 3 c.cm. of ninhydrin solution, so that here apparently we may rule out of account any contributory factor from the placenta alone.

Tubes 6 and 7 contained 1.5 c.cm. of the unheated serum only. With 0.2 c.cm. of ninhydrin the dialysates were quite colourless; with 0.4 c.cm. both gave an equal faint golden colour; with 0.6 c.cm. both gave a light violet colour, more marked in No. 7 than in No. 6. Taking the weaker as an arbitrary standard for the colorimeter, and giving it the value of 1, the depth of colour of No. 7 would be represented as 1½.

Tube 8 contained 1.5 c.cm. of unheated serum along with placenta. With 0.2 c.cm. of ninhydrin the dialysate gave just the faintest grey tint; with 0.4 c.cm. a deep violet colour was produced; with 0.6 c.cm. the colour was very deep. The colorimetric value was represented as 9.

Tubes 9 and 10 contained 1.5 c.cm. of heated serum only. With 0.2 c.cm. of ninhydrin the dialysates were colourless; with 0.4 c.cm. a light violet colour was produced in No. 9, and a golden colour in No. 10; with 0.6 c.cm. No. 9 gave a marked violet colour—represented by the value 6—and No. 10 gave a light violet—represented by the value 1½ on our empirical scale.

Tube 11 contained 1.5 c.cm. of heated serum along with placenta. With 0.2 c.cm. of ninhydrin the dialysate was colourless; with 0.4 c.cm. it was a faint lilac; with 0.6 c.cm. the colour was violet and the colorimetric value was represented by 2½.

This experiment serves to illustrate the facts that apparently uniform dialysers vary very much in permeability when actually tested with serum, that all allow some ninhydrin-reacting constituent of serum to pass through; that the heating of the serum does not abolish, though it may diminish, the liability to spontaneous cleavage, and that the reaction is not a quantitative one. That dialysers are liable to allow a certain amount of diffusible substances from serum to pass is practically, though not actually, admitted by Abderhalden himself, seeing that he lays such stress on the equal boiling of the dialysates. We may gain an illuminating insight into the fallacies of the method by performing the following experiment suggested by certain observations of Frank, Rosenthal, and Biberstein.[4] Into one dialyser let us put the substrate alone, and into another the specific serum alone, and dialyse them in the usual way, and we shall probably find that the dialysates in both cases do not give reactions with ninhydrin in the usual concentration. But let us, at the same time, put *two* dialysers, one containing substrate only and the other the serum only, into the *same* container, and we may find that in this case the dialysate gives a good violet colour with the usual amount of ninhydrin. This excludes the possibility of the operation of a ferment, and shows that the result is due, in this case, to the summation of two effects which by themselves were not capable of detection.

The conclusions to which I have come after a careful investigation of Abderhalden's dialysation method are that the real fallacies of the technique are beyond control, and that the hypothetical fallacies which Abderhalden invokes to account for false reactions have no bases. Positive results are quite well accounted for by the facts that the "substrates" alone, and the serums alone, give diffusible substances reacting with ninhydrin; that the dialysers vary enormously in the quantities of such substances which they allow to pass in a given time; that serums, influenced by the distilled water and by the presence of a tissue acting in virtue of its physical state, are pro-

gressively cleaved; and that it is not the substrate which is split by the serum so much as the serum which is split by the substrate. These very real fallacies quite destroy the value of the method, and they cast grave doubts on the whole theory.

But it may pertinently be asked why we obtained such a large number of positive results in the serum of pregnancy in comparison to diseased conditions. As I said before, I may have been unconsciously generous to an attractive theory in my reading of the reactions, but I do not attach much weight to that explanation. It may be that pregnant serum more commonly possesses the property of being split up when some suitable physical accessory is added, such as placental tissue. But what seems more probable, and in saying this I do not detract from the general criticism nor give support to the theory of Abderhalden, is that there exists in serum, more frequently, though not exclusively, in pregnancy a *general* proteolytic and peptolytic power which we can demonstrate by adding a *suitable*, though not necessarily a *specific*, protein or peptone. The serum of the normal guinea-pig is generally credited with a fairly strong proteolytic power. I tested the action of several guinea-pig serums on egg albumen, coagulated cancer tissue, human blood clot, and human placenta, and it happened that only with the latter were strong reactions evident. That seems to show that placental protein is a suitable substrate for the demonstration of a general proteolytic power. Pincussohn and Petow, in the experiments previously cited, found that the normal serum of each species of animal had a peptolytic power against the muscle peptone of that species only, whereas the serum of the guinea-pig had a peptolytic power against the muscle peptones of all other species tested. We may thus even admit that more in pregnancy than in other states the human serum may have a proteolytic and peptolytic power against the proteins of human tissue more than against other proteins; even that certain proteins, owing to their physical configuration, are more suitable than others for a demonstration of these enhanced powers; and yet we may condemn Abderhalden's whole theory of specific guardian ferments.

REFERENCES.
[1] *Munch. med. Woch.*, 1914, p. 238. [2] *Biochem. Zeitschr.*, September 28th, 1913. [3] *Deut. med. Woch.*, February 12th, 1914, p. 316. [4] Frank, Rosenthal, and Biberstein, *Munch. med. Woch.*, July 22nd, 1913.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

OXFORD AND READING BRANCH.

THE annual meeting of the Branch was held at Reading on July 23rd under the chairmanship of Sir WILLIAM OSLER, Bart., President.

Cases.

The following cases were shown in the out-patient department:—Dr. W. T. FREEMAN: Parasyphilis with nervous symptoms; fibroid phthisis, with skiagraph; a heart case with abdominal tumours. Dr. G. F. MURRELL: Two cases (brothers) of congenital absence of fingers and toes with marked family history. Drs. G. O. LAMBERT and G. S. ABRAM: Aneurysm of the aortic arch. Dr. E. P. CARMODY: A case suggesting pituitary disease. Dr. E. W. SQUIRE: Webbing of the second, third and fourth fingers of each hand. Dr. E. P. CARMODY: Enlargement of forearms and hands.

Specimens in the Pathological Laboratory.

Dr. R. DONALDSON showed chorion-epithelioma of testis, primary carcinoma of liver (child aged 3 years), epitheliomata of tongue and hand, sarcoma of calf's kidney, and various other interesting specimens. Dr. J. L. JOYCE showed a gall stone which caused intestinal obstruction in the small intestine. There were also a number of photographs of skin cases and skiagraphs of surgical cases.

Discussion on the Cases and Specimens Shown.

The cases aroused great interest. The case of abdominal tumour with a peculiar cardiac thrill and bruit was thought by some to be a primary abdominal tumour with deposits in the myocardium. The heart condition had developed quite recently. Dr. Collier had examined the blood there and then, and had excluded spleno-medullary leukaemia. The cases of absence of fingers and toes showed a marked family history. All the four children of the father were similarly affected; the father was affected and earned his living by mowing golf greens, and his mother was also affected. The case—a male, aged 40—showing bilateral enlargement of the hands and forearms, with wasting, especially of the deltoids, spinati and pectorales muscles, was thought to be probably of pituitary origin. It was agreed by several members that the cases were of unusual interest and well worth coming from Oxford to see. Dr. R. Donaldson, the pathologist, was heartily thanked for the series of specimens.

Organization of the Clinical Laboratory.

Sir WILLIAM OSLER addressed the meeting on the organization of the clinical laboratory. He pointed out the impossibility in many cases of arriving at a diagnosis without a laboratory. The great defect in the present state of medical practice was the lack of facilities for carrying out the clinical methods learnt before qualifying. He regretted that the curricula in the medical schools were so crowded, and thought that in the third, fourth, and fifth years each student of medicine should have his own desk in a laboratory, and be completely equipped with apparatus which he could use to investigate his own cases. This method was being followed in the United States. Again, although great advances had been made in the furnishing of large hospitals in populous centres during the last fifty years, the growth of facilities for laboratory work had not been commensurate. There were still many hospitals in Great Britain of two or three hundred beds in which a surgeon was unable to get a section of a tumour cut for examination. A large building was not necessary for this purpose, but a budget was quite essential. The staff should consist of a whole-time man specially trained in microscopy and bacteriology, and a whole-time chemist would be a great advantage. Then again a special man was required for the very important work of electro-cardiac investigation. Hospital committees must be taught that these things were costly, but worth paying for. Sir William Osler said that he realized how difficult it was to conduct a general practice and still keep in touch with advances in medicine. The general practitioner might do his work very well, but he had not the time nor the special training necessary for research work; a research worker was urgently required in every centre of moderate size. He thought no general practitioner should send a specimen of urine away for another to examine. The Government was seriously considering the establishment in each centre of a laboratory for use by the general practitioners. He thought it would be best placed in connexion with a hospital, and that its use and the right to obtain a second opinion should be free of charge. He thought the salaries of the research men should rise with experience, and that "blind alley" posts should be carefully avoided.

A discussion followed, in which Drs. J. B. HURRY, W. COLLIER, G. C. TAYLOR, G. F. MURRELL, H. A. WHITELOCKE, and W. L. WAINWRIGHT took part; Sir WILLIAM OSLER replied.

Carcinoma and Radium.

Dr. HOLDEN read some notes on a case of carcinoma of the oesophagus treated by radium under Mr. Pinch. The growth had diminished in size, so that more food of thicker consistency was being taken and the general condition of the patient had improved, whereas the patient would, apart from gastrostomy, have otherwise died. The cost was roughly £30.

Annual Dinner.

The meeting then closed, and members repaired to the Caversham Bridge Hotel for the annual dinner.

THE Dean of the Royal Dental Hospital of London of the School of Dental Surgery, Leicester Square, W.C., announces that the next award of the Storer-Bennett Scholarship will be made early in 1915, and theses should be in the hands of the Dean by December 31st, 1914.

British Medical Journal.

SATURDAY, AUGUST 15TH, 1914.

THE WAR.

THE response of the country to the great emergency has been worthy of our traditions. Men of all ranks and classes and occupations have come forward quietly and promptly to fill their places in the Royal Naval Volunteer Reserve and in the Territorial Force. We are proud to know that the members of the medical profession have been not less ready than the rest, and that the special responsibilities thrown upon the profession in every town and district have been met by prompt concerted action. Within the last week many hundred medical officers have left their civil practices to do military duty with the divisions of the Territorial Force, and many others are busily engaged in organizing, in all the great centres, the general hospitals of this force as provided by the scheme worked out when it was established. Our information from many of these centres indicates that the work is everywhere being done smoothly and quickly.

Meetings of the profession—in most instances summoned by the officers of the Divisions of the British Medical Association—have been held in a large number of districts to arrange for the work of practitioners called to the colours. Similar meetings have been summoned in other districts, and we are confident that within a few days the necessary arrangements will have been made everywhere. Those who remain at ordinary civilian work are readily pledging themselves to act as substitutes for their brethren on military duty. The customary rule as to substitutes is in force, and in this way the financial interests and future prospects of the absent will suffer no more than is inevitable, and the public will receive the attendance it requires. At many of these meetings it has been resolved to undertake to give medical attendance free of charge to the necessitous wives and families of reservists and others called up for military duty. A reference to the question of the supply of drugs will be found on p. 341. The committees for the relief of distress now being established in all districts in accordance with the scheme of the special Advisory Committee sitting at the Local Government Board will find the medical profession organized to give any assistance in its power in all suitable cases.

In some few districts, chiefly the remoter rural, it is believed that there is some risk of the number of doctors being reduced below the proportion necessary to provide efficient medical service to the civilian population, but retired medical men have come forward with offers of assistance for districts from which a large number of doctors have been called up. In some instances, as at Exeter, these offers have been made direct to the Division or local committee appointed to organize the substitute medical service. Some offers from retired practitioners or others who are temporarily out of practice have been received by the central office of the British Medical Association (429, Strand), and the Medical Secretary will place the names on a list, and will give information as to the nature of the offers to the Honorary Secretary of any Division of the Association applying to him. We are informed by medical agents that there is, as might be expected, a certain shortage of ordinary locumtenents, and that in some instances very high rates have been asked. Adequate remuneration may of course fairly be expected, but terms which seem exorbitant ought not to be asked, and should not be paid. A Territorial medical officer who has joined or is joining his unit will be well advised to place his interests in the hands of the committee of the local Division of the British Medical Association, or, if no steps have yet been taken by the Division, to communicate with the Medical Secretary of the Association.

The response last week to the demand of the Navy and Army for volunteers for their medical services, to act as medical officers or dressers, was so prompt and ample that the Navy, as was indeed its right as the premier service, has had the pick of the young men of the schools to serve as temporary surgeons or probationer surgeons (dressers). Its immediate needs have been met, and the names of those now making application are being placed on a waiting list. They will be called upon if and when required. The needs of the army are larger, and when the recruits who have responded to Lord Kitchener's appeal have reached the training grounds of the six divisions in which the new force is organized additional medical officers will be required.

MEDICAL ATTENDANCE ON PATIENTS OF PRACTITIONERS ON MILITARY DUTY.

SOUTH-WESTERN BRANCH.

COLONEL H. MACKAY, Assistant Director of Medical Services, Wessex Division, with head quarters at Exeter, has invited the British Medical Association to communicate with the secretaries of all its Divisions in Devon, Cornwall, Somerset, Wiltshire, Hampshire, and Dorsetshire, asking them to furnish to him a complete list of medical men who would be available for service with the Wessex Division, Territorial Force, after the civil requirements of the locality in which they reside have been provided for. Colonel Mackay further asks that it should be stated what medical men have already agreed to serve in Voluntary Aid Detachments, and whether their services would be available for duties in other districts if not called upon for duty by their County Director of Voluntary Aid. It is asked that the return should include medical men who are not members of the British Medical Association.

Mr. Russell Coombe, Honorary Secretary of the Branch, has issued a circular to every medical practitioner in Devon and Cornwall whose address is known, enclosing a form asking for the particulars required by Colonel Mackay.

Country Districts.

The Honorary Secretary of the South-Western Branch reports that the Branch has arranged to place some retired practitioners, who have offered their services in certain areas denuded of medical men, and is using the

official lists of members and non-members supplied from the central office to get into communication with these gentlemen. Retired practitioners are indicated on these lists. He reports that the scarcity of petrol in that area is giving rise to a good deal of difficulty.

Exeter.

The special meeting of the Exeter Division, to which reference was made last week, was held on August 6th, when Dr. A. C. Roper, Chairman of the Division, was in the chair, and fifty-eight medical men, many of them from long distances, were present.

Dr. Roper, in opening the proceedings, said that the medical men who had not taken up military service could show patriotism not less well by undertaking to do the work which was left to be done at home. On the motion of Dr. W. Gordon, seconded by Dr. Davy, it was unanimously resolved:

> That this meeting is of opinion that work done for men on military duty should entail no expense to them except that of out-of-pocket expenses.

Dr. Gordon said that arrangements had already been made for carrying on the work of the Royal Devon and Exeter Hospital in Exeter. Dr. Davy had undertaken to go if and when required to the 4th Southern General Hospital of the Territorial Force at Plymouth, while he (Dr. Gordon) would remain in Exeter. Dr. Pethybridge was prepared to do all the pathological work at Plymouth; and Dr. Solly, who might have been summoned, would remain in Exeter. Dr. Frank Roper was already mobilized, but Mr. Harris would remain to do the *x*-ray work. A committee was appointed to organize and distribute the work of those in Exeter who might be absent on military duty, and the medical men on the insurance panel in Exeter were invited to nominate an additional member.

A communication was addressed to the British Medical Association with reference to the requisitioning of horses and cars and the supply of petrol. The Medical Secretary has addressed the War Office and the Board of Trade on these subjects with the result indicated at page 341.

The proceedings of the meeting throughout were perfectly unanimous. One gratifying result was that no fewer than seven retired medical men volunteered to give their services in districts where there might be a shortage of medical men, some of them offering to take distant work as locumtenents.

South Wales and Monmouthshire Branch.

Dr. Trevor Evans, Honorary Secretary of the Swansea Division, reports that the Swansea Division has made local arrangements for the emergency, and issued the following notice in the local papers:

> A considerable number of the medical men of Swansea have been mobilized, and it has been arranged by the Swansea Division of the British Medical Association that their patients will be attended by the doctors remaining in the town.
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> In order to enable these doctors to overtake the increased work, the public are requested to co-operate in the following ways:
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> 1. Ascertain which doctor or doctors are acting for their own medical man.
> 2. All patients who are able to do so, to consult the doctor at his house or surgery.
> 3. All messages, except in cases of emergency, to be sent before 10 a.m.
> 4. With each message, state clearly the name of their own doctor.

North Wales Branch.

Dr. J. R. Prytherch, who is Acting Honorary Secretary of the North Carnarvon and Anglesey Division for Dr. Corbett Owen, who has been called up on military service, informs us that a meeting, to which all the medical men resident within the area were invited, was held at the Carnarvonshire and Anglesey Infirmary, Bangor, on August 12th. It was resolved to take steps to safeguard the interests of medical men in the district who are called to leave their practices in the service of their country, and to provide medical treatment for the dependants of those insured persons who are on active service.

Surrey Branch.

Mr. E. H. Willock, Honorary Secretary of the Croydon Division, reports that the medical men in the Croydon borough have been asked by postcard whether they would be willing to assist in a scheme for providing free medical treatment of the immediate dependants of those men in the neighbourhood who may be serving during the war. The response has been unanimous, and the detailed arrangements will be settled immediately. Similar arrangements are being made as regards the outlying part of the Division.

Kent Branch.

Dr. E. A. Starling, Honorary Secretary of the Kent Branch, reports that the Tunbridge Wells Division has already taken steps to deal with the emergency, and that in conjunction with the secretaries of the other Kent Divisions he is arranging that within the next few days the whole of the county of Kent shall be dealt with.

Dr. T. F. Hugh Smith, Chairman of the Dartford Division, reports that the Division has undertaken to look after patients in the interests of their colleagues called away on public duty, and also to undertake gratuitously the treatment of all dependants of sailors or soldiers on active service.

Metropolitan Counties Branch.

The Secretary of the North Middlesex Division (Dr. M. Stewart Smith) reports that the wards of that Division will see to the work of those who are called away. On behalf of the Southgate Ward the local press has been notified that the medical men will attend free of charge the wives and families of needy Territorials and reservists.

The Secretary of the City Division (Dr. A. G. Southcombe) reports that that Division has circularized all the general practitioners in the area asking for co-operation on the lines of Exeter and Southampton. The executive will meet on Sunday to consider the replies.

Dr. B. W. Lacey, Honorary Secretary of the Woolwich Division, reports that the practitioners there have arranged for the work of any of their colleagues who have been called away on military duty.

The Executive Committee of the Greenwich Division met on August 10th to consider what arrangements were necessary in view of the war. It decided that it was unnecessary to call a general meeting of the Division, being convinced that all members of the profession in the Division would act loyally by those of their colleagues who were called away on military duties; and it was decided to issue a circular letter to all practitioners in the Division expressing this conviction. It was also decided to communicate with the Mayors of Greenwich and Deptford, and to assure them of the cordial support and assistance of the committee in any action they might be promoting for the treatment of sick and wounded.

The Executive Committee of the Tower Hamlets Division on August 10th decided that arrangements should be made to safeguard the interests of practitioners called away on military duties, and it expressed the hope that every member of the profession within the area of this Division would co-operate in refusing to accept any appointment held by such a practitioner, and in attending any of his private patients only on his behalf. The medical practitioners of the metropolitan boroughs of Poplar and Stepney were recommended to express their willingness to undertake, free of all charge, the treatment of the necessitous wives and children of all men engaged in the naval and military defence of the empire, and their readiness, when an organization for looking after the dependants of those thrown out of employment through the war shall have been formed, to assist such organization by treating gratuitously cases recommended to them.

Cambridge and Huntingdon Branch.

Dr. Harold Clapham, in the absence of the Secretary of the Isle of Ely Division, informs us that the members have unanimously pledged themselves to do their utmost to preserve intact the practices of members of this Division of the British Medical Association who volunteer for war service. A letter has been forwarded to the Administrative Medical Officer of the Eastern Command offering to place at his disposal temporary hospitals for men sufficiently recovered to leave the general hospitals.

East Anglian Branch.

The Honorary Secretary of the South Essex Division, Dr. J. F. Walker, reports that the Division has made arrangements for the local practitioners to conduct the practices of the three practitioners who have been called

away on service, and also to give gratuitous medical service to the wives and families of all non-commissioned officers and men on active service.

BIRMINGHAM BRANCH.

Dr. Smallwood Savage informs us that at a general meeting of medical practitioners in Birmingham on August 6th a strong committee was appointed, including the President of the Birmingham Branch, the Chairman of the Central Division, and the Representatives of the Branch on the Central Council of the Association. The committee was given powers to deal with the present emergency.

Dr. L. A. Taylor, Secretary of the Dudley Division, reports that the Division will take steps to organize any arrangements that may be necessary.

Dr. T. E. C. Cole, Honorary Secretary of the Warwick and Leamington Division, reports that at a meeting of the local practitioners held on August 11th the following resolution was carried:

> This meeting of the practitioners of Warwick and Leamington pledges itself: (1) To attend, if called upon, the patients of their colleagues who are called to the war, without remuneration to themselves, and not to retain them as patients after their return. (2) To give their services gratuitously to such of the wives and families of those engaged in the war as are recommended by any organized relief committee.

Dr. F. G. Layton, Honorary Secretary of the Walsall Division, reports that arrangements have been made in that area to deal with the emergency.

MIDLAND BRANCH.

Leicester.

The Committee of the Union of Medical Practitioners (Leicester Subdivision), feeling confident that every member would be willing and anxious to render all possible aid in attending the patients of their colleagues who may be engaged on military service, has sent forms to the residences of all doctors who have been, or may be, called out, for use when patients apply for treatment. A form will be filled in and handed to the patient, enabling him to go to any doctor of his choice during his own doctor's absence. There are separate forms for insured and private patients. The committee suggests that in the case of confinements the old-standing custom of halving the fee should be observed. All records are to be retained and handed to the doctor concerned on his return.

SOUTH MIDLAND BRANCH.

Dr. P. S. Hichens, Honorary Secretary of the Northampton Division, reports that arrangements have been made, as regards the County of Northampton, by the Panel Committee to carry on the work of those practitioners called away on active duty.

LANCASHIRE AND CHESHIRE BRANCH.

Mr. P. F. Braithwaite, one of the secretaries of the Bury Division, reports that arrangements have already been made in that area. Patients, either private or panel, of doctors serving with the colours will be attended by any doctor in the town during the emergency. It has also been agreed that no medical man shall accept as his patients the patients of any of those who are serving with the colours after their return. The following notice has been published in the local papers:

> *Bury Local Medical Committee.*—Notice is hereby given to all patients of Bury medical men serving with the colours that they may receive medical attendance from any medical man in Bury, and still retain their connexion with their own practitioners. This applies to both private and panel patients, and any one requiring attendance should state to the doctor chosen the name of his regular medical attendant. (Here follow the names of the doctors who have been called up.)

Dr. Malcolm Hutton, Secretary of the Oldham Division, states that arrangements have already been made by the Local Medical Committee, of which all the officers of the local Division are members.

Dr. J. Shearer, Honorary Secretary of the Blackburn Division, reports that the doctors at Darwen have made arrangements for the work of those doctors who are called from their practices to serve the Government. No transfer of panel patients from the absent doctors' lists will be permitted, and insured persons will be attended by any medical men in the town. Wives and families of reservists and others called upon to serve will be medically attended free of charge.

The Secretary of the Warrington Division, Dr. T. A. Murray, reports that the Division on August 11th passed resolutions undertaking to safeguard the interests of those of their colleagues called to leave their practices in the service of their country; the arrangements adopted are based on the Southampton resolutions.

Similar arrangements have been made by the Liverpool Division, which has also addressed a letter to the town clerks of Liverpool and Bootle and to the honorary secretaries of the Liverpool medical charities, stating that if the medical staffs of the various charities in the city or in Bootle should be seriously depleted owing to their members being called away on active service, the Executive Committee of the Division will be glad to help in any way it can to arrange for temporary help to be given by other members of the profession.

A special meeting of the Rochdale and District Medical Society was held on August 10th, 1914. Dr. Chadwick presided; eighteen members were present, and the following resolutions were passed:

1. That this meeting approves, and requests all medical men practising in Rochdale and district to sign this pledge: We, the undersigned members of the medical profession practising in Rochdale and the surrounding district, hereby pledge ourselves to safeguard the interests of those of our colleagues who are called to leave their practices in the service of their country, and to undertake any medical duties on their behalf.
2. That a committee be formed, with power to add to its numbers, to undertake the necessary work which may arise in connexion with the above resolution.
3. That the committee be instructed to co-operate with Government and local authorities, and with the Red Cross Society and other bodies undertaking the medical care and nursing of those wounded or invalided through the present war.

The Secretary was instructed to send the following notice to the lay press:

> At a meeting of the Rochdale and District Medical Society a committee was appointed and arrangements were made for the treatment and attendance of the patients of those local medical men who have been or may be called away on active service. The committee were also empowered to make arrangements for co-operating with the Government and Red Cross Society in arrangements for the treatment and nursing of those wounded or invalided during the present war.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.

Dr. A. E. Thompson, Secretary of the Furness Division, reports that meetings of medical men in that area have already been held and arrangements made to carry on the work of those medical practitioners who are called up for active service.

THE HOSPITALS AND MILITARY REQUIREMENTS.

ACCOMMODATION OFFERED BY MANY HUNDREDS OF INSTITUTIONS.

FROM London and all parts of the country the War Office has received several hundred offers of hospital accommodation for military purposes.

London.

The number of beds proposed to be placed at the disposal of the military authorities varies from 250 in the case of the London Hospital to 25 in the case of small country institutions. These smaller offers, however, are none the less welcome, for in many instances the buildings are in positions where accommodation is not only scanty, but likely to be very much in demand—for example, in the less densely populated areas near the coast line. It is not possible to accept all offers definitely at this stage; they are being tabulated, and the various hospital authorities will be communicated with as the needs of the situation become more clearly defined. Practically all the London hospitals have offered to provide beds, the numbers varying from about 50 to 150, with the exception of the London Hospital just mentioned. The offers include the provision of surgical and nursing attendance. In addition, many large country houses have been placed at the disposal of the War Office.

We are asked by the head quarters of the Army Medical Service to state that offers of comparatively small

numbers of beds in convalescent homes and similar institutions should be addressed to the British Red Cross Society, Devonshire House, Piccadilly, W., which is acting as a clearing-house in this matter. Proposals to place a considerable portion of a big hospital, in full working order, at the disposal of the military authorities may be sent direct to the Director-General, Army Medical Service, The War Office, S.W.

In addition to the established military hospitals, the War Office has taken over temporarily several orphanages and institutions of that kind and is adapting them for hospital purposes. One of these is the Patriotic Asylum for children of soldiers and sailors, situate near Clapham Junction. The expeditionary force will, of course, establish a base hospital at some suitable point. Those admitted there who do not recover sufficiently quickly to return to their units will be invalided home.

Under the Territorial Forces Act each of the two divisions into which London is divided is to have two general hospitals, each providing accommodation for 500 beds—that is to say, four general hospitals in all. A wing of King's College Hospital, Denmark Hill, Camberwell, forms the nucleus of one of these hospitals; 500 beds have not yet been provided there, but additional accommodation will be available in the hospital if required.

In another part of London a scheme wholly independent of existing hospitals is in progress. Preliminary arrangements were made many months ago to requisition a teachers' training college, which stands some distance from the road in its own grounds. A large London County Council secondary school adjoins one side of the site; the boundary wall will be broken through, and the school, which is a modern, airy, and well lighted building, will form the main hospital. On the other side of the college site is a large elementary school; this is separated by a lofty iron enclosure, and will be used to segregate infectious and venereal cases. The principal's house of the college will provide accommodation for the medical staff, and some of the college lecture rooms will also be used for hospital purposes, for which they are well suited, being floored with polished wood blocks, well lighted, and situate on one level on either side of a central corridor. Another part of the college is considerably older than the rest; a great deal of alteration to the windows will be needed there, and this portion will only be used if the pressure upon accommodation becomes acute. Lifts will be put in at various points of the buildings, and bathroom and lavatory accommodation will be added. The grounds provide ample space for convalescents or for the erection of temporary buildings, and a fives court in a corner of the grounds will serve as a *post-mortem* room and mortuary. The whole site adjoins a railway line, and a temporary platform will be erected to facilitate the reception and ready removal of patients.

In the rest of the country the details of the schemes for the General Hospitals outlined in the constitution of the Territorial Force are being rapidly filled in. The following notes do not pretend to be complete, but will give a general idea of what is being done to establish these General Hospitals at all the centres in which it was arranged they should be provided.

Portsmouth.

The 5th Southern General Hospital, Territorial Force, is being rapidly organized. Municipal school buildings in Portsmouth are being prepared for patients, and will be ready for hospital purposes in a few days. One large operating theatre provided with three tables is being fitted up. These hospitals will be staffed by practitioners who joined the Territorial Force in 1909, and will be under the command of Lieutenant-Colonel J. Kyffin, R.A.M.C. (T.F.). Military officers will be treated at the Military Families' Hospital, Portsmouth, which will be reserved for their use. Another school building is being prepared for a hospital under the British Red Cross Society. It has not yet been decided what arrangements will be made at the Royal Portsmouth Hospital for the reception of war patients. Portsmouth is well organized in making provision for the wives and families of those who may suffer because their breadwinners have either gone to the war or are called up to assist in coast defence. Over £1,200 has been subscribed to the relief fund, and 400 cases have already been dealt with. At a meeting of the Local Medical Committees, held on August 11th, it was resolved to recommend that insurance patients on the lists of doctors who are serving in the present emergency should be attended gratuitously by the remaining insurance doctors, and that these should refuse to accept "transfers" from the lists of those serving, except in very special cases, up to the end of the war.

Bristol.

Bristol provides two units for the Territorial Force, the 3rd South Midland Field Ambulance and the 2nd Southern General Hospital, besides the medical officers for the combatant units. The former is one of the three field ambulances of the South Midland Division (the other two coming from Birmingham) and the latter is counted in the army troops.

The Field Ambulance was in the fortunate position of being up to full strength when war was declared—in fact, it has been so for the last three years. In addition to having its ranks full it has supplied thirty-four men to the Special Reserve, Royal Army Medical Corps, and these have now joined at their war station for foreign service. It also was able to fit up the various units with their complement of "water duty men" and supply clerks for the head quarters staff, Royal Army Medical Corps Territorials, and the dépôt at Birmingham. Since the mobilization order came the field ambulance officers have been busy fitting the men out, paying the bounty and packing the large amount of stores that field ambulances carry. At the time of writing this unit is ready to start with everything fully equipped for service. The officers are Lieutenant-Colonel J. Young, commanding officer, Major B. M. H. Rogers, Captain J. S. Mather, Captain T. A. Green, Captain P. Moxey, Lieutenants C. E. K. Herapath, J. Scott Williamson, J. Harty, G. Smyth and Quartermaster H. Lambert. The unit moved on Tuesday night to its war station.

The Second Southern Hospital is commanded by Lieutenant-Colonel J. Paul Bush, C.M.G., and has for its Quartermaster Lieutenant Nicholls. The accommodation for this unit is the Royal Infirmary, which was promised for the hospital when the unit was raised, and Colonel Bush has taken over the command. This unit is also up to its full strength both for hospital orderlies and nurses.

Lincoln.

The Fourth Northern General Hospital, which was mobilized on August 5th, took over the Lincoln Grammar School, with its field of about 10 acres, and construction was started on August 6th. The hospital is under Lieutenant-Colonel W. H. B. Brook, administrator, with Major Lambert as registrar. The medical officers of the hospital consists of 2 lieutenant-colonels, 6 majors, and 10 captains. The nursing staff number 91.

In the building are the administrative quarters, operation room, dispensary, *x* rays and pathological rooms—all well forward towards completion, and 72 beds for patients are already fitted up and ready for occupation. Two hundred men are at work in construction; 22 huts are being erected in the field, each to contain 20 beds; of these 10 are practically finished. Electric light and water are being laid on as erection proceeds, as well as necessary drains. Huts for the units are being built, and are nearly complete. The new nurses' home at the Lincoln Hospital, which was just ready for furnishing, has been taken over for the nurses.

Leicester.

The old County Asylum—where the British Medical Association had a garden party during the 1905 meeting—is now vacant and has been taken over. In it the Fifth Northern General Hospital for the Territorial Force will be established, with 500 beds. The alterations are being pushed forward with extreme rapidity under the Commanding Officer, Major L. K. Harrison, and Mr. Pick, the architect. The nursing arrangements for this hospital and for the Fifth Northern (Lincoln) were made in peace, some 120 fully trained nurses being enrolled, of whom up to 90 will be called up. Interpreters are arranged for, and everything possible for the welfare of the patients has been considered. The mobilization of these hospitals has proceeded with remarkable smoothness, far exceeding any expectation.

Newcastle-upon-Tyne.

More than a week ago the medical staff cleared several of the wards of the Royal Victoria Infirmary, and at once placed 200 beds at the disposal of the military authorities. Members of the honorary medical and surgical staff have had military rank assigned to them according to their infirmary position. The Armstrong College, which closely adjoins the infirmary, has been taken over and several of the large class and exhibit rooms have been transformed into hospital wards, and excellent wards they make. One contains 40 beds. In the building there are already nearly 300 beds. There is a full staff of nurses, so that all is ready.

It is proposed to treat the surgical cases in the Royal Victoria Infirmary and the medical cases in Armstrong College, where also minor surgical cases will be dealt with. The two buildings at present form the Base Hospital, and from an administrative point of view are under the charge of Major Gowans. The out-patient department at the infirmary is, practically speaking, closed. To relieve the strain upon the infirmary, Lord and Lady Ridley have most generously placed their home, Blagdon, eight miles north of Newcastle, at the disposal of the committee. Already nine patients are there. Lady Ridley has the assistance of trained nurses. Five beds of the Convalescent Home, Whitley Bay, are in the occupation of the military. So far it has not been thought necessary to occupy the schools of the city.

Edinburgh.

Hospitals, nursing homes, and private houses, public schools, etc., are readily being lent and fitted up for all emergencies. The Royal Maternity Hospital has begun to take the wives of Reservists and Territorials for a little while before as well as at confinement. The Parish Council has granted the Craigleith Poorhouse and the Children's Home for the use of the 2nd Scottish General Hospital.

Mr. Alfred Moseley, C.M.G., who served with the Princess Christian Hospital in South Africa, has undertaken to organize a hospital at South Queensferry for the reception of sick and wounded naval officers.

SCOTLAND.

Scottish Committee of the British Medical Association.

At the invitation of the Scottish Committee representatives of the medical faculties of the Universities and Royal Colleges met it in conference in Edinburgh, on August 12th, to consider what steps should be taken to meet the emergency arising owing to so many medical practitioners having been called up for active service. A Committee, consisting of the Deans of Medical Faculties, the Presidents of the Royal Colleges, and eight other members, was appointed to concert the necessary steps.

Northern Counties of Scotland Branch.

Dr. Munro Moir, Honorary Secretary of the Northern Counties of Scotland Branch, reports that the following resolution was passed unanimously at a meeting of medical men held in Inverness, and a copy sent to the Insurance Committees of the town and county of Inverness:

> That this meeting loyally undertakes to safeguard the interests of those medical men who are called upon to perform military duties in connexion with the present crisis, and also to undertake any work either of a public or private nature falling to be done by those who may be called upon to do duty away from their practice, and that each doctor so called away should endeavour to arrange with his colleagues in the neighbourhood to do his work.
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> Panel patients who are on the lists of those doctors who are away to be allowed free choice of any doctor in town, the doctor attending those patients to endeavour to keep the usual records.

Dundee.

Dr. R. C. Buist informs us that the following draft scheme of an emergency medical service was decided at a large and unanimous meeting of the practitioners to establish in Dundee for the duration of the war. The central office is to be at the Royal Infirmary, and it has its own clerical staff and its own telephone. Mandates have been signed by the doctors who are away to enable the scheme to be financed on the basis of advance insurance credits, 50 per cent. being paid to the committee. This leaves the other 50 per cent. meantime for the expenses of the doctors' households, and any further adjustments may be made on their return. The scheme has the advantage of making it possible to undertake at a day's notice the work of any practitioner who from illness or other cause may have to leave his practice. The population already involved by the absence of practitioners is about 50,000.

Draft Scheme.

1. Establishment of a central office.
2. Establishment of a central dispensary. For this purpose the out-patient department of the infirmary has been kindly placed at the disposal of the committee by the directors.
3. Any individual patient may, by arrangement between the representative of the absent doctor and another practitioner, be referred directly to that other practitioner. Such arrangement to be considered outside the scheme.
4. All messages from the patients of absent doctors to be sent to the central office.
5. It is proposed to distribute visits by locality and by rota amongst the doctors willing to participate in the scheme.
6. Consultations for patients who are able to attend at the dispensary to be conducted there. Consultation work at the infirmary it is proposed to perform by rota amongst those doctors who are to participate, each giving two hours, which may be from 5 to 7 or 7 to 9 on stated nights.
7. The doctors who have been called up have agreed to contribute for the expenses of the committee.
8. The Local Medical Committee will engage the clerical assistance for keeping the necessary records, and the rest of the fund will be distributed amongst the doctors sharing in the work.
9. With regard to midwifery work, it is proposed to ask the maternity service of the infirmary to undertake this with the supervision of a medical staff. It is proposed to charge £1 1s. for each case, and to use this further remuneration for discharging the financial responsibility involved.
10. The Local Medical Committee has appointed the following as a Committee of Management:—Dr. Charles S. Young, Dr. R. C. Buist, Dr. J. K. Tulloch, Dr. Emily Thomson, Dr. J. H. W. Laing.

IRELAND.

Temporary Surgeons.

Early last week notices were published in the public press by Trinity College, the College of Surgeons, and the Apothecaries' Hall of Ireland requesting recently qualified medical practitioners who were not in permanent employment or who were desirous of temporary employment as surgeons in the army and navy, to apply to the registrars of the several institutions; there was a large and immediate response; sixty names were sent in on the first day. In the case of several of the hospitals in Dublin large numbers of the resident staff, both students and nurses, have left or are leaving. In the case of one of the large city hospitals, one of the visiting surgeons, three of the assistant staff, the resident medical officer, and a resident pupil have already left. The result is that those who are left behind have much extra work thrown upon them, and in most hospitals the visiting staffs are under an agreement with the Government to undertake local military medical duties if required.

St. John Ambulance Brigade.

The Dublin members of the St. John Ambulance Brigade have responded enthusiastically to a call for the mobilization of the Royal Naval Auxiliary Sick Berth Reserves. Service in this corps is voluntary for members of the St. John Brigade. No fewer than fifty-six men from the St. James's Gate, the City of Dublin, and the Fairview Divisions volunteered, and many of them consented to go abroad if they were so required. They were mobilized under the direction of Assistant Commissioner Dr. Lumsden, assisted by two superintendents, and left in two contingents for the Chatham Naval Barracks. A certain number of members of the St. John Ambulance Brigade have been invited to enlist for a period in the Royal Army Medical Corps.

REQUISITIONING OF CARS AND HORSES AND THE SUPPLY OF PETROL.

At the suggestion of the South-Western Branch, the Association made representations to the War Office urging that the horses and motor cars of country practitioners, save in the last resort, should not be taken by the military authorities, and also urging on the War Office or other authority the necessity for making arrangements for securing that country practitioners should be able to get petrol in the necessary quantities at a price not unduly inflated.

The Medical Secretary has been informed that the Army Council has given instructions that where possible the horses, and in all cases the motor cars, of country medical practitioners should be spared from being impressed.

As regards the question of petrol, replies have been received both from the War Office and from the Board of Trade to the effect that the great importing agencies have assured them that there is no reason for any undue inflation of prices, and sympathetic consideration has been promised to the question of securing a supply of petrol for doctors in remote country districts.

DOCTORS' CARS: THE PRICE OF PETROL.

By H. MASSAC BUIST.

WHY THERE IS NO NEED TO REQUISITION DOCTORS' CARS.

THE steps taken by the British Medical Association to draw the attention of the War Office to the inadvisability of commandeering the cars of medical men in a war which it has already been recognized will be largely a motor campaign, are timely. A great deal of inconvenience will be saved by the avoidance of a step which is quite unnecessary. Such vehicles as doctors use are possessed in this country in vaster numbers than can actually be used until the moment these shores are invaded. It is questionable if even then we should have enough fuel to use them. There are well over 100,000 pleasure cars in the country. Cars, of course, will be needed only for the transport of troops in rapid fashion, in that the average touring vehicle and town carriage is of little or no use for goods haulage. For messenger work the motor cycle is fully as rapid, and vastly cheaper to run, particularly in regard to fuel, which it is so essential to save until the issue on the high seas shall have been determined so that the sources of supplying fuel shall be thrown open to us again. Consequently, till every private owner's car, other than those of medical and military men, shall have been requisitioned by the authorities, there can be no adequate reason for requisitioning doctors' cars. Further, before it comes to using the medical man's vehicle, we should make use of all the second-hand cars that are crowding up dépôts, and for which there is no demand in the marts where such things are dealt in: as well as all pleasure cars that have been manufactured this year and which have not yet been sold. The last-named course has been taken already.

THE FUEL PROBLEM EXPLAINED.

In regard to the price of fuel, which was put up by retailers to as much as 2s. 6d. a gallon before war was declared, and which in many parts of the country is 5s. a gallon and even more to-day, despite the fact that the importing companies are not charging their retailers any more for it, the causes for this are various. First and foremost is the rapacity of the private dealer, striving to snatch a quick profit at a time when he does not know how much longer his business will continue, but when he foresees quite clearly that there must be an enormous curtailment of his ordinary trade. A second cause is that greedy folk suddenly ordered large quantities of petrol to store, with the result that one of the big difficulties of the fuel trade in this country has been emphasized—a high proportion of tins have gone out of "circulation." Therefore the wholesale firms have been unable to distribute the normal proportions of fuel merely through shortage of cans. All empty cans should be returned as promptly as possible.

The authorities, further, should take prompt measures to prevent individuals about the country storing petrol in appreciable quantities. Indeed, as promptly as possible they should take charge of the whole of the fuel. It must be had in mind that our supplies are derived from two chief sources, one from the United States of America and the other from British and other traders operating in other parts of the world. From the moment war was declared the United States ceased shipping liquid fuel of any sort to Europe. Therefore, though at the outbreak of hostilities we had certainly enough fuel in this country for four months, nevertheless we have to remember that those stores will run low rapidly, in that from now onwards at most we are only receiving half our normal supplies.

OFFICIAL CONTROL AND THE PREVENTION OF WASTE.

In regard to our other sources of supply of petrol, as long as the enemy's ships are rushing about the waters of the world, like de Wets of the sea, so long are our fuel transports in danger; therefore, that other half of our supplies is likely to be held up. Accordingly, it behoves everybody to go as cautiously as possible. In the course of mingling with their fellow citizens at this juncture medical men would be well advised to speak to all whom they discover to be using petrol unnecessarily. By "unnecessarily" I mean for idle pleasure, as we see so many youths doing on motor cycles in this holiday season—a perfectly natural procedure, in that they do not understand the situation yet. The moment they do so we may be sure they will appreciate the doctrine that should be preached far and wide: every unnecessary mile traversed by a motor vehicle is contributing to cause possible future embarrassments in this country.

It must be had in mind that the seas of the world cannot be open to trade under free and normal conditions for many weeks yet. As long as any one of the enemy's warships rush about so long are all craft bringing goods to these shores in grave peril. Ultimately, of course, they will come here in the ordinary way.

In the meantime, medical men should insist on the local garages with which they deal regularly supplying them with fuel on the ordinary terms. They should report cases of extortion to the police, as coming under the Government scheme for preventing excessive rise in prices. The local vendor so reported would then have to prove to the authorities that he has actually been charged more by the wholesale firms for the fuel. That, of course, cannot be proved at the moment. But the local vendor charging more will say he does not know when he is going to get his supplies replenished. That is probably quite true in many cases. Even so, however, the fact does not justify him in making extra individual profit at the expense of the community, though in cases where fuel is being used merely for the purpose of running cars and motor bicycles on purely pleasure errands the local vendor is justified in charging any sum he can extort. The case of the medical man, however, is one which it is absolutely necessary should be brought to the notice of the authorities in the way that has been done officially by the British Medical Association. The matter should receive widespread attention that effective measures may be taken promptly.

DRUG STOCKS.

THE Government, in the course of its inquiry into the supply of food and other necessaries of the country, has made certain preliminary investigations with regard to the supply of drugs. It is found that there is at present a shortage of certain drugs owing to the stoppage of some foreign supplies and the general dislocation of commerce. To one of the most serious of these the President of the Pharmaceutical Society calls attention in a letter published at the end of this note, in which he points out that the main source of potassium salts is Germany, and advises that, as far as possible, sodium salts should be substituted in prescriptions.

We understand that among the drugs of which the British market is at present short, in addition to potassium salts, are salicylates, bromide salts, preparations of mercury, and permanganates. We understand that there is not at present any serious shortage of quinine and cinchona preparations, or of iodine, though the prices of both have been put up. Dr. B. A. Richmond, Secretary of the London Panel Committee, states that he has made special inquiry, and that among drugs which should be added to the above list are syrups, phenacetin, phenazone (antipyrin), and

acetanilide (antifebrin). The British Medical Association has received an invitation to a conference, to be held at an early date, to assist the Government in considering how the medical profession can best co-operate in dealing with the situation. It is hoped that this shortage will be only temporary, and that soon alternative sources will be opened up. Meanwhile practitioners are invited as far as possible to replace the preparations indicated above by others having similar therapeutic effects. It is probable that in an early issue we shall be able to add to this preliminary notice.

The following is the letter referred to:

SIR,—In connexion with the threatened shortage of supplies of medicinal substances, I should like to draw the attention of physicians and pharmacists to the desirability of employing sodium salts wherever possible instead of potassium salts. In England we have an unlimited supply of sodium carbonate, but we depend for potassium carbonate almost entirely upon the mineral deposits of Germany, which are now closed to us. Such salts, for example, as the acetate, benzoate, bicarbonate, bromide, carbonate, chlorate, citrate, formate, hydroxide, iodide, nitrate, nitrite, phosphate and tartrate can be used in most cases either as the potassium or sodium salts. At the present rate of consumption the available supplies of potassium compounds will soon be exhausted, but if the sodium salts are used in every possible case, the supply of potassium salts, where such have any medicinal properties not possessed by the corresponding sodium salts, will last very much longer.

I shall be much obliged if you will give these facts the fullest publicity.—I am, etc.,

EDMUND WHITE,
President of the Pharmaceutical Society of Great Britain.

London, Aug. 12th.

THE WIVES AND CHILDREN OF COMBATANTS.

As will be seen from our reports, there seems to be a universal movement in the profession to undertake to attend the necessitous wives and children of men engaged in the naval and military defence of the country.

The profession desires to assist the local distress committees in every way, and as soon as these bodies get to work medical practitioners will be disposed to accept all cases referred by such committees. The question, however, arises how the cost of drugs and accessories for the treatment of such cases can be met; in certain areas arrangements have already been suggested by which this should be done through the machinery of the distress committees.

MEDICAL ASSISTANCE FOR RURAL DISTRICTS.

THE embodiment of the Royal Navy and Volunteer Reserve and of the Territorial Forces has called a large number of civil medical practitioners from their practice, and although, as will be seen, prompt measures are being taken, through the Divisions of the British Medical Association and by meetings of the profession in many localities, to do the work of these officers for them, and to minimize the inconvenience to the public, it is feared that some few districts may be almost denuded of doctors. At the meeting of the Exeter Division seven retired practitioners offered their services to the special committee appointed by the meeting, expressing their readiness to act as locumtenents. Dr. Cox, the Medical Secretary of the British Medical Association, invites the Secretaries of the Divisions or Branches in the United Kingdom to inform him of any districts in which assistance may be needed by the civil profession, and has opened a list of names of retired practitioners willing to give their services at the request of the Division or special committee of the medical profession in any district in which there is, or may shortly be, a serious shortage of civil practitioners to do ordinary medical work.

Some names have already been received by him, including Dr. W. A. Chapple, M.P., Dr. F. Harrison Tetley, Dr. James M. Heron, J.P., Major C. L. Williams, I.M.S. (ret.).

INSURED MEN IN THE ARMY AND NAVY RESERVES AND TERRITORIALS.

THE Insurance Commission for Scotland has issued a circular to approved societies pointing out that the calling up of members of approved societies who are in the Army or Navy Reserves or Territorials will materially affect their position as regards insurance. From the moment they are called up they will be treated, not as employed contributors, but in the same way as serving soldiers and sailors; that is, the only benefit to which they will be entitled is maternity benefit. Societies will continue to deal with any claims for maternity benefit exactly as if the members had remained ordinary employed contributors. The weekly contributions will be at the reduced rate of 3d.

Men of the Army Reserves will be required to hand in their current "A" Cards at their dépôts, but Territorials will be in a position to send cards to societies themselves. Contributions will be paid to the societies in the same way as those of regular soldiers and sailors—that is, "B" cards in the case of soldiers, and directly by the Admiralty in the case of sailors. Arrears cannot in any circumstances affect the payment of any benefit during the period of service. It will not, therefore, be necessary for societies to send the usual arrears notices in such cases, and any member's wife who has received an arrears notice may be informed, if she inquires, that her husband will have a special opportunity of paying any arrears after he comes back from service before any reduction of benefit. Societies will be informed in due course of the members of their society who have been called up.

FAMILIES OF TERRITORIALS AND RESERVISTS.

THE Under-Secretary of State for War, in the debate on the adjournment, said that a large number of employers had already announced their intention to pay one-half of the wages of the men who are going to the front, and he believed that most good employers, after demobilization, would do everything in their power to reinstate men returned from the war.

It may be useful to reproduce as a guide the regulations which have been approved with respect to civil servants who have been called up for service in any rank as Royal Naval Reservists, Royal Fleet Reservists, Royal Naval Volunteer Reservists, or as Army Reservists, Special Reservists (other than the Royal Engineer Special Reservists of the Postal and Signal Sections, and Special Telegraph Reserve), or as members of the Territorial Force:

1. Their civil posts will be kept open until their return from naval or military service, and such service will count for civil pension and for increment of civil salary.
2. All ranks will receive their civil pay, from which navy or army pay and allowances, including army separation allowance, will be deducted. No distinction will be made between married and unmarried men.
3. Departments may pay civil salary so reduced to any person designated in writing by the civil servant to receive his civil pay on his behalf, obtaining the usual receipt from the payee.

The above regulations will also apply to any civil servant who joins His Majesty's forces after August 4th, 1914, with the permission of the head of his department. Such permission will not be given if the head of the department in the exercise of his discretion considers that serious detriment to the public service is thereby involved. The above Regulations will also apply to persons holding whole-time unestablished and temporary situations, provided that their service is not intermittent, but quasi-permanent and regular.

The Prime Minister stated, further, that during this war separation allowances will be made, and widows' and children's pensions will be granted to non-commissioned officers and men married off the strength in the army as if they were married on the strength. Such provision is already made for all married men joining from the National Reserve, but this is the first time such allowance has been made to men married off the strength.

Later, on the motion for adjournment, the Under-Secretary of State for War stated that the regulations with regard to separation allowances were as follows:

1. Separation allowances are granted from army funds to the families who are not in public quarters at the following daily rates according to the rank of the soldiers—namely, warrant

officers 2s. 3d.. quartermaster sergeants and equivalent ranks 2s. 1d., colour-sergeants and equivalent ranks 1s. 4d.; sergeants, corporals, and privates and all equivalent ranks 1s. 1d. The above rates are increased by sixpence per day for families who were residing in the London postal area on the date of mobilization, and continue to reside there. Children of any of the above—that is. boys under 14 and girls under 16—2d.

2. When the family is in occupation of public quarters and is provided with fuel and light, the wife will receive separation allowance while her husband is separated from her by the exigencies of the service at the reduced rate of fourpence a day. The allowance is twopence a day for each child subject to the above.

3. When the soldier's child or children are motherless the rate of separation allowance is fourpence a day for each child.

4. Payment of separation allowance is made monthly in advance by means of army money orders payable at the post offices. Families of reservists are paid by the army paymaster from whom the men receive their reserve pay prior to their being called up for service. And the families of soldiers of the Territorial Force are paid by the secretary of the county association by which the Territorial Force unit is administered.

5. The first payment to families is made as soon as possible after the men rejoin for service, and covers the period between the date of rejoining and the end of the month; later payments are made on the first of each month in advance.

6. These issues are irrespective of any allotment of pay which the soldier may make.

THE SANITARY SERVICE OF THE TERRITORIAL FORCE.

The Local Government Board in England has issued a circular to county councils and sanitary authorities pointing out that in many areas the medical officers of health and other officers engaged in public health work will be giving their services to the navy or army, so that it will be necessary for the local authority to make other arrangements for carrying on their work. It is suggested that in many areas adequate temporary arrangements may be made by co-operation between the county and district authorities or between neighbouring district authorities. The Board adds that it is essential that there should be no relaxation of the activities of local authorities in the prevention and control of epidemic diseases, the protection of water supplies from contamination, and the promotion of child welfare, and in securing the wholesomeness of food supplies and the general sanitary condition of each area. On this account it is important that all vacancies in the minor sanitary staff should be filled up.

At the time of writing, those medical officers of health who are sanitary officers of the medical service of the Territorial Force have not had their services requisitioned. This service was formed about six years ago, and includes the principal medical officers of health in Great Britain. In 1909 six of them were given commissions of Lieutenant-Colonel, 40 of Major, and 80 of Captain. It was understood that their services would be available on mobilization, and that they would be asked to assist with their advice in time of war should troops be massed in the vicinity of their own spheres of work. Many of them have taken pains to make themselves familiar with the details of military hygiene, at their own cost have provided themselves with uniform, and in other ways have ensured that their services should be instantly available. In London there are two special Sanitary Companies, the 1st London (City) and the 2nd London.

VOLUNTEERS FOR MEDICAL SERVICE WITH THE ARMY.

Several inquiries have been received at the offices of the British Medical Association from practitioners who are anxious to make themselves useful, but do not know where to apply; or who, having applied to the War Office, have not yet received an answer. Inquiries have been made at the War Office, and we are told that the immediate need of the army is the younger men who will be prepared to enter the service and go anywhere they are sent. These applications have been coming in so freely as to tax to the uttermost the clerical staff of the War Office, so that those received from older men or from men who are only able to offer their services in certain conditions of time and place have either not yet received a reply or merely a formal one. We are asked to assure all such applicants that their offers have by no means been overlooked, and are, on the contrary, being carefully filed for future use. We are further asked to request all applicants who offer their services not to make merely general statements of their willingness to make themselves useful, but to give their age, qualifications and experience, and state what they are prepared to do; that is, whether they can only accept service locally or in this country, or are prepared, if ordered, to go abroad. Intending applicants must further understand that though their special qualifications may be of a surgical nature they must be prepared, until such special experience is required, to do ordinary general medical work. The War Office is anxious to have this made clear, because a small number of those applying, whose work has recently been purely surgical, have stipulated that they should only be used in this way. Such a stipulation tends to make their offer less useful than it is doubtless intended to be. There is no fear that if and when the time comes their surgical abilities will not be utilized to the full.

ANTITYPHOID INOCULATION.

The following memorandum on the importance of early resort to antityphoid inoculation has been issued by the War Office:

1. There is no need to remind officers of the Royal Army Medical Corps of the disastrous effects of typhoid in recent campaigns.

2. It can hardly be hoped that improved sanitary precautions will succeed completely in safeguarding the force from infection, since it will certainly be exposed to three sources of infection, difficult or impossible to control—namely:

(*a*) Men in the incubation stage of typhoid who have accompanied or joined the force.
(*b*) Unsuspected typhoid carriers.
(*c*) Contact with the inhabitants of the country in which typhoid may be present.

3. The preventive value of antityphoid inoculation is now universally recognized, and is well known to all who have served in India.

4. As it was not found possible to inoculate the force on mobilization, only a small percentage of the men will have been protected, but it should be practicable, by seizing every opportunity, to raise the number of inoculated men very considerably. If a unit is likely to be stationary for a short time, advantage might be taken of this, with the consent of the general staff, to inoculate a certain number of men—for example, a company or half a company, and in this way a whole regiment or other unit might be protected, without any serious interference with its duties.

In the same way individual men temporarily disabled by minor ailments, or otherwise available, might be inoculated.

It is strongly urged that medical officers lose no opportunity of introducing and carrying through some such system.

5. Antityphoid vaccine has been sent to the base dépôt of medical stores, and will be issued, as required, on requisition.

6. *Dosage.*—Where time permits, the usual system of two doses, at an interval of 10 days, should be adhered to (that is, ½ and 1 c.cm. respectively) but if this is *not* possible a single dose of 1 c.cm. (17 minims) will suffice. It has been found by experiment that, after the single dose—

About 60 per cent. of the men were fit for duty after 36 hours.
About 90 per cent. of the men were fit for duty after 48 hours.
And that 2 to 5 per cent. might still be unfit for hard work on the third day.

7. Simple surgical asepsis should be observed as to the syringe and needles, and the arm prepared by a dab of iodine solution.

8. Should typhoid make its appearance in a unit especial efforts should be made to inoculate all exposed to infection. Inoculation, in the opinion of Colonel Sir William Leishman, does not cause any increased susceptibility to infection, and anyone inoculated in the incubation stage will probably have but a mild attack.

A CHEAP DISINFECTANT.

DR. F. W. ALEXANDER, Medical Officer of Health for Poplar, where the system has been in use for eight years, writes to suggest that in camps and emergency hospitals near the sea where electricity is available, electrolysed sea water would be found an efficient and inexpensive disinfectant. A plant can now, he says, quickly be set up, as a cell has recently been invented allowing the current in some instances to be taken directly from the mains without a converter.

The fluid is a powerful deodorant and germicide and can be freshly made by simply switching on the current and permitting sea water to run through the electrolysers. If necessary the fluid can be so made as to remain stable almost indefinitely.

The War Office (at Netley), and the Admiralty (at Osborne) have the system in use for dealing with sewage, and the Portsmouth Corporation has installed a plant for making the fluid from sea water for municipal purposes, and the sewage of Worthing, Ipswich, and Lytham has been treated in this way. The system is also in use at Havre and Rouen for dealing with sewage.

In time of war commercial disinfectants may become costly, but where sea water is at hand and electricity available, electrolysed sea water for crude disinfecting purposes can be manufactured more readily and more cheaply than in Poplar, where artifical sea water has to be made; the cost there is over a ½d. a gallon, including electricity.

To appreciate the simplicity of its manufacture and its utility a visit to a place such as Poplar, where 313,000 gallons have been made (from artificial sea water) and used for every purpose in eight years (67,000 gallons during 1913), will explain more than any written description.

Dr. Alexander states that by the use of electrolysed sea water latrines, pails, and urinals could be quickly purified, and that, as was proved by the experience at Riker's Island, Sea River, New York, large masses of garbage could be rendered inoffensive by spraying. Dr. Alexander suggests also that the fluid could be used for disinfecting foul bandages and even for douching contaminated wounds.

RELIEF AND RED CROSS ORGANIZATION.

CENTRAL ADVISORY COMMITTEE FOR THE PREVENTION AND RELIEF OF DISTRESS.

THIS Committee has been constituted, with Mr. J. A. Pease as Chairman, to advise on the measures necessary to deal with distress that may arise in consequence of the war. It is sitting at the offices of the Local Government Board, Whitehall. Representative Local Committees are being formed in each county and in each borough and urban district. The function of these District Relief Committees will be to consider the needs of the localities, to co-ordinate the distribution of such relief as may be required, and to co-operate with the Poor Law authorities. It is hoped that these committees will first enlist the help of all agencies and voluntary workers in their area with a view to the provision of economic and remunerative employment before attempting to meet the emergency by the distribution of money or food. The committees will contain representatives of the Soldiers' Families Association. All those who wish to assist in the work of prevention and relief of distress should communicate with the mayors and chairmen of local committees, where help is most needed.

The Medical Secretary, acting on instructions from the Chairman of Council, wrote to the Right Hon. J. A. Pease, who is Chairman of the Central Committee for the Prevention and Relief of Distress, placing his services and the machinery of the Association at the disposal of the Government if required. Mr. Pease has cordially acknowledged the offer, adding that he is very glad to be able to add the name of the British Medical Association and that of the Medical Secretary to the list of persons whose services are available for the use of the Central Committee.

THE PRINCE OF WALES'S FUND.

THE Prince of Wales's Fund for the relief of distress caused by the war met with a response so prompt and overwhelming that the clerical assistance provided was found to be quite unequal to the task of doing the work with the desired celerity. An offer from the British Medical Association to lend the services of some members of its staff to cope with the urgency was gratefully accepted, and four shorthand typists with their machines have been at work and have proved of the utmost value to the officers of the Fund at York House, St. James's Palace, S.W.

THE BRITISH RED CROSS SOCIETY.

THE British Red Cross Society is very busily engaged, and has made many preliminary arrangements. A very large number of offers of assistance have been received from hospitals, and the accommodation has been inspected for the committee by Surgeon-General Lloyd, V.C., Surgeon-General Kenny, and Colonel Bateson. The selection committee has been busily employed in examining the offers, and those selected have been notified to the War Office. Many people have offered their houses to be used as hospitals and convalescent homes, and all these offers are being examined. Among the large country houses offered are Chatsworth (Duke of Devonshire), Eaton Hall (Duke of Westminster), Arundel Castle (Duke of Norfolk), Cliveden (Mr. W. Astor, M.P.), and, if need be, Welbeck (Duke of Portland).

The committee on August 12th appointed Surgeon-General Sir Alfred Keogh, K.C.B., as its representative at the seat of war.

The following Committees have been appointed. The member whose name stands first has made himself or herself responsible for that particular work:

Personnel.—Sir Frederick Treves, Bart., G.C.V.O., C.B.

Convalescent Homes (Joint Committee with the Soldiers' and Sailors' Help Society).—Her Royal Highness the Princess Christian; Sir Rowland Bailey, C.B., M.V.O.; The Lady Northcote, C.I.; Major-General Lord Cheylesmore, K.C.V.O.; Major Tudor Craig; Field-Marshal the Right Hon. Lord Grenfell, K.C.V.O.; Georgina Countess of Dudley, R.R.C.

Medical Comforts and General Gifts of Stores.—The Hon. A. Stanley, M.V.O., M.P.; The Lady Ampthill, C.I.; The Lady Wolverton.

Hospitals and Red Cross Assistance Abroad (Stores, Equipment, Staff).—Sir A. Bowlby, C.M.G.; Lady Perrott.

Arrangements Necessary for the Transport of Red Cross Assistance Overseas to the British Army.—Sir William Garstin; Captain W. G. Lyons.

Arrangements Necessary for the Transport of Red Cross Assistance to Our Allies.—Major the Hon. R. White, 16, Stratton Street (7775 Gerrard).

Auxiliary Home Hospitals.—George Henry Makins, Esq., C.B.; Dr. Edward Stewart.

Hospital and Ambulance Ships.—Sir Frederick Treves, G.C.V.O., C.B.; Dr. Edward Stewart.

Motor and Ambulance Transport.—Sir Frederick Treves, G.C.V.O., C.B.

Finance.—The Hon. N. Charles Rothschild; Mr. E. A. Ridsdale.

The Distribution of Medical and General Comforts to Home Hospitals.—Mr. Horace Folker; Mr. H. W. Laurie, 27, Harrington Gardens, S.W.

Office.—Sir Walter Lawrence.

The society has recently received about £15,000, but this is wholly insufficient for the work ahead of it, and it is to be hoped that further subscriptions may be received shortly. Overwhelming applications for patterns for under garments have been received. These, together with a book of instructions, can be obtained from the society, price 1s. 8d. The British Medical Association has been able to give clerical assistance to this society also in dealing with the great mass of correspondence received daily.

The Duke of Devonshire has placed the whole of the ground floor of Devonshire House, Piccadilly, at the disposal of the society, and he takes great daily interest in seeing that the comfort of the large staff engaged is attended to.

THE SUPPLY OF LOCUMTENENTS.

SIR,—As usual at this time of year the demand for locumtenents is in excess of the supply, and consequently in some cases demands are being made for fees which many, whose practices are small, cannot possibly pay.

Now that we are at war many retired army and navy men who have taken up general practice, and others who have duties in connexion with territorial work, have to leave their practices at short notice in order to serve their king and country, and their practices must suffer unless they can get reliable help at reasonable prices.

May I therefore appeal, with your permission, to the

patriotism and loyalty of all medical men willing to accept temporary work during war time to be satisfied with as low a fee as possible consistent with the duties required of them? Constant employment can be guaranteed at the rate of 4 to 6 guineas a week.—I am, etc.,

4, Adam Street, Adelphi, London, W.C., Aug. 11th. PERCIVAL TURNER.

*** We have received a letter on the same subject from Messrs. Blundell and Rigby (418, Strand), who express the opinion that excessive demands by locumtenents "mean cornering the income of the wives and families of professional colleagues, many of whom will be in the firing line."

SALARIES OF ASSISTANT MEDICAL AND TUBERCULOSIS OFFICERS.

THE attention of members of the Association, and especially those who may be thinking of applying for posts as assistant school medical officers or assistant tuberculosis officers, is drawn to the fact that at the recent Representative Meeting alterations were made in the minimum salaries which the Association is prepared to approve for these appointments. The minimum recognized salary for whole-time assistant tuberculosis officers is now £350 per annum, or £250 if resident, while the minimum for whole-time assistant school medical officers has been raised from £250 per annum to £300. The salaries in each case are net salaries, exclusive of travelling expenses, clerical assistance, postage, etc. In settling these increases the Representative Meeting was guided not only by the responsible nature of the work expected of the officers in question, but by the fact that many local authorities have recently found it necessary to offer such increased salaries on account of the difficulty of securing suitable officers at the salaries formally recognized as a suitable minimum. It should be specially noted in connexion with these appointments that the Representative Body has declared that the salaries paid to medical women shall not be less than those paid to medical men in respect of the same work. In future the JOURNAL will not be able to accept advertisements of appointments offered at salaries lower than those above mentioned, and it is hoped that medical officers of health and tuberculosis officers who are called upon to advise local authorities in regard to these appointments will note the new conditions.

THE General Medical Council announces that the publication of the new *British Pharmacopœia* has been indefinitely postponed owing to the outbreak of war, and that the review copies, which it had intended to supply last Monday, will not now be issued.

Medical Notes in Parliament.

The Milk and Dairies Bills passed through the Report and Third Reading stages with small amendment.

The Housing Bill in Committee was cut down to the clauses dealing only with the housing required at Rosyth, and was passed in that form.

Territorial Forces' Kit Allowance.—The Under-Secretary of State for War stated that officers formerly members of the Territorial Force whose period of service had expired and who had now volunteered would draw the camp kit allowance of £5 15s. on being gazetted and a special outfit allowance of £20. Kits were supplied by the Government to men. The embodiment gratuity of £5 was not issuable to men who enlisted now, but was confined to Territorials called out.

MESSRS. THACKER AND CO. have postponed the publication of the *History of the Indian Medical Service*, by Lieutenant-Colonel D. G. Crawford, I.M.S., retired.

Medical News.

IT is again necessary materially to curtail the size of the JOURNAL, and it is impossible to say when it may be possible to resume publication of the usual number of pages. This must interfere with the customary rapidity of publication of the proceedings of the Sections of the Annual Meeting. The main reason for this curtailment is the shortage of paper, which has become a very serious difficulty for the periodical press. The consumption is greater owing to the enormous demand for the many editions of the newspapers, and the supply has greatly diminished owing to the stoppage of exports of paper and material from the Continent and the other side of the Atlantic. The supplies from the latter source will, it is hoped, shortly increase, but with regard to the former it is not safe to hazard any conjecture. No German or Austrian medical periodicals have been received for the last two weeks, and very few from France. In these circumstances the regular publication of the Epitome of Current Medical Literature has been suspended.

DURING the absence of Dr. Bertram Rogers as a major in the 3rd South Midland Field Ambulance (T.F.) Dr. Alexander Smith will act as medical adviser to the Bristol Insurance Committee as locumtenent for Dr. Rogers.

AT the annual meeting of the board of directors and members of the Apothecaries' Hall, Dublin, on August 1st, Dr. Edward Magennis, J.P., was elected its representative on the General Medical Council.

A FRENCH anti-opium league has been formed, of which the presidents are M. le Myre de Vilers, formerly Governor of Cochin-China, and Professor C. Richet. The object of the league will be to use every endeavour, by enlightening public opinion and by securing the infliction of heavy penalties on offenders, to stop the opium traffic. It will include within the sphere of its operations an active campaign against the sale of cocaine, haschich, and other narcotics.

UNTIL further notice, the head office of the Automobile Association, Fanum House, Whitcomb Street, London, W., will be open day and night, including Sunday, for any urgent messages, telegrams (Fanum, London), or telephone calls (300 Regent). The same will apply to the principal provincial branch offices at Manchester (5489 City), Leeds (2027 Central), Birmingham (973 Central), Exeter (1000 Exeter), and Glasgow (7199 Central).

A THREE months' course of lectures and demonstrations in hospital administration for the diploma in public health will be given on Mondays and Thursdays at 5 p.m., beginning Monday, October 5th, at the North-Western Hospital, Hampstead, N.W., by Dr. J. MacCombie, medical superintendent, and at the Grove Hospital, Tooting, S.W., by Dr. J. E. Beggs, medical superintendent. The fee for the course is £3 3s. Further particulars can be obtained on application to the clerk to the Metropolitan Asylums Board, Embankment, E.C.

A LEAFLET entitled "The Best Foods to Buy During the War: The Highest Nutritive Value at the Lowest Cost," intended to be issued by Public Health authorities, has been compiled mainly from material supplied by the Croydon borough health department, and is printed by the *Medical Officer*, 36-38, Whitefriars Street, London, E.C. It points out how money may best be expended, that the real value of foods does not correspond with their cost, and that by sensible buying and cooking it is easy to prepare a meal which is pleasing and palatable and of high food value at a much smaller cost than if no care and intelligence be exercised in choosing. A few simple recipes are added. Copies will be supplied, with the name of the borough inserted, at 7s. 6d. per 100, or 30s. per 1,000.

IN view of the fact that fire brigade and fire patrol work may shortly be required on a more extensive scale than heretofore for our fortified and defended places, for our arsenals and national stores, and for certain Government establishments requiring special protection, the British Fire Prevention Committee is preparing a roll of retired fire brigade officers and firemen (both professional, volunteer, and private) who are ready to join an emergency fire service force or forces. It desires also to form a supplementary roll of young engineers (used to steam engines or motor cars) and young surveyors or architects (used to building, survey, or dangerous structure work) who, although not having actual fire experience, would be valuable in an emergency fire service force. Applications to be entered on the roll should be addressed to the British Fire Prevention Committee, 8, Waterloo Place, London, S.W.

The Services.

ROYAL ARMY MEDICAL CORPS.

THE following is a list of the successful candidates at the July competition for commissions. There were 22 candidates:

Name.	Degrees, etc.	Medical School.	Marks.
*D. C. G. Ballingall	B.A., M.B.Cantab., M.R.C.S.Eng., L.R.C.P.Lond.	Cambridge University, St. Bartholomew's Hospital	560
H. G. Winter ...	M.R.C.S.Eng., L.R.C.P.Lond.	London Hospital	552
*J. M. Evatt ...	B.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond.	Cambridge University, University College Hospital	546
*F. G. Thatcher...	M.B., Ch.B.Univ. of Edinburgh	Edinburgh University	538
*W. P. Mulligan...	M.B., Ch.B.Univ. of Aberdeen	Aberdeen University	534
*G. P. Selby ...	B.A., M.B., B.Ch. Oxon., M.R.C.S. Eng., L.R.C.P.Lond.	Oxford University, St. Bartholomew's Hospital	525
*J. G. Butt ...	B.A., M.B., B.Ch., B.A.O.Univ. of Dublin	Trinity College, Dublin	507
*N. Cantlie ...	M.B., Ch.B.Univ. of Aberdeen	Aberdeen University, Charing Cross Hospital	497
*E. A. P. Brook ...	M.R.C.S.Eng., L.R.C.P.Lond.	St. Bartholomew's Hospital	489
*P. T. Priestley ...	M.B., Ch.B.Univ. of Birmingham, M.R.C.S.Eng., L.R.C.P.Lond.	Birmingham University	479
E. Phillips ...	M.B., Ch.B.Univ. of Durham; M.R.C.S. Eng., L.R.C.P.Lond.	Durham University, London Hospital	476
S. D. Reid ...	M.B., Ch.B.Univ. of Edinburgh	Edinburgh University	453
P. J. Ryan ...	B.A., M.B., Ch.B., B.A.O.National University of Ireland	National University, Ireland	441
B. J. L. Fayle ...	B.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond.	Cambridge University, Bristol University	437
E. A. Sutton ...	M.R.C.S.Eng., L.R.C.P.Lond.	Charing Cross Hospital	402

* Received an allowance of marks as holder of an Officers' Training Corps certificate.

INDIAN MEDICAL SERVICE.

AT the July examination there were 28 candidates, the first 15 being admitted as lieutenants on probation. The names of the successful candidates with the marks obtained by each out of a possible total of 5,100 are given below:

Name.	Degrees, etc.	Medical School.	Marks.
J. W. Pigeon ...	M.R.C.S., L.R.C.P., B.C.Cantab., B.A.	Cambridge University, St. Bartholomew's Hospital	3,304
M. L. Treston ...	M.R.C.S., L.R.C.P.	London Hospital	3,173
P. Vieyra	M.B., Ch.B.Edin.	Edinburgh University, Rotunda, Dublin	3,141
B. M. Mitra ...	M.R.C.S., L.R.C.P.	Calcutta Medical College, Middlesex Hospital, Coombe Hospital, Dublin	3,101
P. Savage	M.R.C.S., L.R.C.P.	Guy's Hospital, Durham University	3,071
T. B. Paul... ...	L.M.S.S.A.	Middlesex Hospital	3,049
A. Chand	M.B., B.S. Punjab	Lahore Medical College, University College Hospital	3,046
R. Lee	M.B., Ch.B.Liverp.	Liverpool University	3,040
N. S. Jatar ...	M.R.C.S., L.R.C.P., L.M. and S.Bombay	Grant Medical College, Bombay, University College Hospital	2,972
T. S. Sastry ...	M.B., C.M.Madras	Madras Medical College, St. Bartholomew's Hospital, Middlesex Hospital	2,891
Jamal-ud-din ...	M.B., Ch.B.Edin.	Edinburgh University	2,810
F. B. Chenoy ...	M.R.C.S., L.R.C.P., L.M. and S.Bombay	Grant Medical College, Bombay, London Hospital	2,709
S. B. Venugopal...	M.R.C.S., L.R.C.P., L.M. and S.Madras	Madras Medical College, University College, Guy's Hospital	2,697
C. de C. Martin ...	M.B., Ch.B.Edin.	Edinburgh University	2,696
J. H. Smith ...	M.B., Ch.B.Edin.	Edinburgh University	2,687

THE Governor of Hong Kong has informed the Secretary of State for the Colonies that six cases of plague were reported during the week ending August 8th, and that six deaths occurred.

Universities and Colleges.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on July 15th under the chairmanship of the Vice-Chancellor, Sir Wilmot Herringham.

Recognition of Teachers.

The following were recognized as teachers of the University in the subjects and in the institutions indicated:

King's College.—Dr. Reginald J. Gladstone (Embryology).
Guy's Hospital Medical School.—Mr. T. J. Evans (Biology and Zoology).
Middlesex Hospital Medical School.—Dr. E. A. Cockayne (Pharmacology), Mr. R. A. Greeves (Ophthalmology).
Charing Cross Hospital Medical School.—Dr. R. C. Jewesbury (Medicine), Dr. E. D. Macnamara (Mental Diseases).
London School of Medicine for Women.—Dr. M. L. Hepburn (Ophthalmology), Mr. Charles A. Pannett (Surgery).
St. Mary's Hospital Medical School.—Mr. R. W. Collum (Anæsthetics), Dr. Paul Haas (Chemistry), Dr. F. S. Langmead (Medicine).

Emeritus Professor of Chemistry.

The title of Emeritus Professor of Chemistry was conferred upon Professor J. M. Thomson, LL.D., F.R.S., who has occupied the Chair of Chemistry at King's College since 1887.

Lecturers in Physiology.

The following were added to the panel of lecturers in physiology: Dr. C. J. Douglas, Dr. F. L. Golla, Dr. H. J. Page.

Mental Disease Research.

It was resolved, in response to a request from the Board of Control, to suggest the following conditions in connexion with the grants placed at the disposal of the Board by the Treasury for the purpose of aiding and encouraging scientific research into the causes and treatment of mental diseases and mental defect:

1. Individual grants to be made to a few observers who have been thoroughly trained, and who are capable of carrying out scientific investigation.
2. No grant under the scheme to be made merely to maintain or assist pathological laboratories, or to be given to persons for the purpose of routine work.
3. Grants to be given only to advance the study of fundamental problems connected with insanity and mental deficiency.

It was also decided to inform the Board that the Senate would be pleased to advise as to the objects towards which investigations aided by the Board might with advantage be directed.

Grant from London County Council.

The thanks of the Senate were voted to the London County Council for a building and equipment grant of £30,000 for the promotion of higher education at University College.

Amendment of Regulations.

It was resolved that the regulations for the examination in anatomy at the second examination for medical degrees, Part II, be amended as follows: By the substitution for the word "dissection" of the words "A practical examination consisting of an examination of freshly dissected parts," in line 12, on page 173 of the Red Book for 1913-14, and in the fourth line from the bottom of page 225 of the Blue Book, September, 1913.

Boards of Studies.

Dr. R. J. Gladstone (King's College) has been appointed to the Board of Studies in Human Anatomy and Morphology.

Chairman of Committee.

Dr. S. Russell Wells has been elected Chairman of the Council for External Students for 1914-15.

Rogers Prize.

The Rogers Prize, not having been awarded this year, will be offered for award in 1915, the subject of the essay or dissertation again being "The nature of pyrexia and its relation to micro-organisms."

Examinations.

The following candidates have been approved at the examinations indicated:

FIRST M.B.—Lena C. Adam, W. M. Anthony, N. D. Ball, L. S. Banes, Annie H. Banks, M. Baranov, L. H. Bartram, H. E. Beasley, E. A. Beaulah, H. S. Bell, Enid M. M. Bevan, J. Brodetsky, J. D. M. Cardell, C. E. Cobb, H. N. F. Cook, R. V. Cookes, G. E. Cornaby, A. B. Cowley, Nora A. Crow, G. P. Crowden, D. S. Davies, Idris Davies, Mary Day, F. P. de Caux, W. S. Dickson, G. W. R. W. Dreiheller, A. Eidinow, Sylvia Y. Elman, F. A. Evans, D. C. Fairbairn, Lilian M. Fisher, G. W. T. H. Fleming, A. Foner, W. F. Francis, F. A. Gaydon, E. J. G. Gibb, A. L. Goff, W. H. Grace, St. G. B. D. Gray, Gwenvron M. Griffiths, A. S. Hands, N. G. Hill, O. S. Hillman, J. W. Hirst, A. W. Holgate, H. N. Hornibrook, M. Jackson, S. W. Jeger, R. D. Jones, V. R. Khanolkar, Muriel E. Landau, Mary K. F. Lander, E. H. L. Leclézio, C. G. Lewis, S. S. Liebermann, C. A. Lindup, A. B. McBride, E. K. Macdonald, D. McDonald-Taylor, Janet M. McGill, N. O. C. Mackenzie, G. J. W. McMichael, Vida S. Maxwell, A. Mitchell, G. S. Morgan, Edith M. P. Morris, J. E. Nicole, Norah D. O'Flyn, R. E. Overton, Marguerite H. Pam, M. J. Panthaky, C. F. Parry, T. Parry, R. J. Perkins, G. F. Pefers, G. S. B. Philip, F. C. Player, L. D. Porteous, J. N. J. Powlesland, Dorothy P. Priestley, Mary M. Prior, W. E. K. A. Quitmann, E. F. Rabey, E. S. Ralph, E. D. T. Roberts, H. S. Robinson, G. R. Rolston,

E. S. Rose, B. Rosenstein, D. J. L. Routh, C. C. Rowland, A. E. Sawday, J. R. O'D. Scroggie, S. N. Senitzky, B. B. Sharp, S. A. Sharpe, J. H. Shaw, *J. H. Sheldon, A. H. Shelswell, R. D. Shirvalkar, W. H. Simmons, W. Skelly, B. L. Slater, G. J. Sophianopoulos, Frances M. Spickett, G. P. Staunton, Mary S. Stocks, H. E. Suter, K. S. Tan, S. R. Tattersall, J. A. Tennyson-Smith, C. J. Thomas, H. M. Toop, R. L. Walker, A. D. Wall, Hygeia L. J. Wallace, A. E. Ward, R. W. Warrick, E. R. Webb.

SECOND M.B. (*Part I.*).—C. H. Atkinson, *G. A. E. Barnes, K. C. Beatty, E. J. Bilcliffe, A. O. Bolton, J. W. Brash, I. Braun, C. H. Brew, Margaret H. Bridge, D. Cameron, H. Carpenter, J. E. Carpenter, B. R. Chandhri, H. J. C. Churchill, D. C. Clark, C. S. Cloake, H. Das, O. G. Davies, A. H. Douthwaite, *R. W. L. Edginton, W. Eidinow, V. F. Farr, W. A. Flynn, Beatrice Ford, J. C. Gie, L. C. Goument, Dorothy W. Gowers, A. S. Green, R. B. Green, W. A. Hawes, C. G. Haynes, N. R. Jenkins, T. Johnston, Constance A. Jones, D. M. Jones, M. E. Jones, N. Kamchorn, D. M. Lala, D. A. C. Layman, W. A. Low, J. G. McCann, Lily O. G. McGregor, Kathleen M. McKeown, T. H. McLeod, B. G. Marshall, C. L. Mason, G. G. Michell, Annie S. Miles, H. W. L. Nichols, D. R. Owen, A. E. B. Paul, S. L. S. Pearson, M. C. Polhill, Jean S. Pope, W. R. Ranson, A. Rathouse, Frances E. Rendel, G. H. Roberts, J. S. L. Roberts, Gwendolen M. Rolfe, H. Rowan, W. H. Royal, J. F. Ryan, S. Sacks, E. J. Samuel, G. S. Sansom, C. K. Scales, H. Schaal, Charlotte A. Shields, R. D. Shirvalkar, K. L. Singer, Muriel Starling, V. R. Stewart, M. B. R. Swann, R. Theron, A. J. Usborne, J. A. Van Heerden, Kathleen S. Vine, Elsie M. Visick, A. C. S. Whiteway-Wilkinson, I. G. Williams, E. B. Woolf.

* Passed with distinction in one or more subjects.

CONJOINT BOARD IN ENGLAND.

SPECIAL FINAL EXAMINATION.

A SPECIAL final examination in medicine, surgery, and midwifery for the diplomas of L.R.C.P. and M.R.C.S. will be held by the Conjoint Examining Board of the Royal College of Physicians of London and the Royal College of Surgeons of England, commencing on Tuesday, September 8th. Applications from intending candidates should be sent to the Secretary, Examination Hall, 8-11, Queen Square, Bloomsbury, W.C., by August 27th.

Diplomas and Examinations.

The following candidates have received the diplomas indicated from the Royal College of Physicians and the Royal College of Surgeons respectively:

M.R.C.S., L.R.C.P.—W. H. Alderton, C. P. S. Allingham, C. F. Anthonisz, A. L. Anthony, A. B. Appleton, W. D. Arthur, J. E. Ashby, L. B. Baird, F. A. Beattie, M. W. K. Bird, N. Briggs, I. M. Brown, N. H. M. Burke, A. J. Chillingworth, E. R. T. Clarkson, M. T. G. Clegg, *J. R. M. Collie, B. K. T. Collins, S. H. Cooke, D. L. Davies, D. C. de Fonseka, J. B. G. Dotto, G. E. Elkington, H. L. G. Foxell, W. D. Galloway, G. A. Gassmann, E. Gray, E. W. Griffith, B. G. Gutteridge, A. R. Hacker, O. Hairsine, C. S. P. Hamilton, A. H. Harkness, A. H Harty, H. W. Hay, H. S. C. Hooper, G. B. Horrocks, A. M. Hughes, J. B. Hunter, R. N. Hunter, B. L. Hutchence, R. T. Jones, T. C. Kidner, S. D. Kilner, G. C. King, C. Lambrinudi, J. Lloyd, C. E. Lowe, D. M. MacManus, F. Mahabir, R. Mallet, J. B. Matthews, J. L. Meynell, J. D. Milne, B. M. Mitra, F. J. Nattrass, D. W. Pailthorpe, C. E. Petley, K. B. Pinson, D. J. Platts, D'A. Power, A. B. Preston, W. B. Purchase, J. B. Rawlins, G. F. Rowcroft, H. C. Samuel, F. R. A. Sayed, F. G. L. Scott, P. D. Scott, E. J. Selby, A. el K. Selim, J. Sen, G. D. Shann, W. H. Shephard, A. G. Simmins, J. R. Smith, K. V. Smith, G. J. G. Smyth, L. C. Somervell, F. L. Spalding, C. W. Sparks, C. J. Stewart, G. Stiell, E. A. Sutton, C. H. Thomas, T. A. Townsend, D. C. L. Vey, E. H. Walker, J. F. West, C. L. Williams, F. A. Williamson, J. St. G. Wilson, F. B. Winfield, W. P. Wippell, T. M. Wood-Robinson, M. S. Woolf, E. J. Wright.

D.P.H.—Estelle I. E. Atkinson, W. J. Bannister, L. M. Biswas, A. Bloom, S. Bradbury, (Surgeon R.N.), H. Chand, A. D. Child, R. E. Collins, N. E. Dunkerton, W. Egan (Captain R.A.M.C.), H. H. A. Emerson (Captain R.A.M.C.), J. Erlank, K. Ghosh, S. M. Ghosh, D. H. C. Given (Surgeon R.N.), J. Griffiths, S. H. Griffiths, D. G. Howell (Captain R.A.M.C.), W. W. Jameson, T. S. McIntosh, W. H. McKinstry, S. B. W. Morgan, B. P. Mozoomdar, V. P. Norman (Captain I.M.S.), G. S. Parkinson (Captain R.A.M.C.), A. Z. Philips, R. B. Price (Lieutenant R.A.M.C.), K. A. Rahman, R. C. Roy, K. S. Sethna, J. V. Shirgackar, F. Standish, W. S. D. Henderson (Captain I.M.S.), S. N. Sur, A. L. Urquhart (Lieutenant R.A.M.C.), F. W. Waterworth, J. S. Webster, J. I. P. Wilson, and W. B. Winston.

The following candidates have been approved at the examination indicated:

FIRST COLLEGE, *Part I (Chemistry), Part II (Physics).*—*G. W. Almeyda, R. W. C. Ball, *Margarita S. Barfield, †F. J. Biddle, E. J. S. Bonnett, M. V. Boucaud, O. H. Brown, *J. F. E. Burns, *A. A. Casalis, *A. J. Chiappa, *A. E. Collie, A. J. M. Davies, *T. H. R Davies, †F. E. Edwards, T. G. Evans, †Ahmed Faig, D. C. MacDonnell, C. Moffatt, R. B. Munday, A. R. Neckle, Farquharson, *A. J. Fenn, Blanche S. Gardner, *Malik Girgis, W. R. G. Harris, R. Hilliard, †R. V. Hudson, A. B. Isaacs, Mahmoud F. Ismail, F. W. Lemarchand, A. V. Lopes, J. J. M. †C. Nicory, †A. A. Osman, E. J. Papenfus, J. C. Pauw, E. A. Pearson, M. L. Quinlivan-Bulger, †Hussein Ramzy, D. H. Richards, J. S. Rogers, †Khurshedjee J. Rustomjee, †M. C. Sarkies, †O. L. C. Sibley, W. R. B. Smyth, †E. A. Sparks, †E. A. L. Sturridge, *Ina V. Vincent, †P. H. Williams, †S. Wolff, *H. W Woollett, Fuad W. Zaglama. *Part III (Elementary Biology).*—F. J. Biddle, L. Birtles, A. J. M. Davies, B. O Dewes, L. Dinerstein, G. H. Duffield, A. P. H. Egerton, Malik Girgis, E. S. Goodwin, V. A. F. Greenish, G. R. Hubbard, E. L. Hunter, Mahmoud F. Ismail, H. S. Jackson, E. Kopelowitz, W. Lambert, B. L. Laver, J. C. W. MacBryan, G. Meadows, N. F. Meldrum, R. B. Munday, J. C. Pauw, A. Peine, J. Peter, D. H. Richards, O. L. C. Sibley, Mohamed Sidky, R. E. Williams, I. H. Zortman.

* Passed in Part I. only. † Passed in Part II. only.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—W. H. Duff, T. L. Edwards, R. L. Goodall, J. Hughes, A. P. Robb.

SECOND COLLEGE.—W. C. Borrie, N. S. Bruce, J. T. Dier, J. V. Griffith, L. W. Hughes, J. G. M'K. Macaulay, *J. W. Morris, D. R. Nicol, R. J. Patchett, R. Pollok.

THIRD COLLEGE.—G. Beveridge, J. T. Brady, A. Gaston, A. L. Gibbon, G. M. Harley, J. P. Mathie, *C. Read, P. M. Saptarshi, G. Thomson.

FINAL.—L. Fraser, R. B. Lilly, G. L. Neil, Rona Lockhart, Sengarapillai Ponniah, A. Crawford, J. W. Cowie, J. Gilchrist, G. F. Walker, J. R. C. Gordon, A. W. Cochrane, A. I. Clarke, Babu S. Thakur, C. A. Bernard, C. Gray, D. W. Woodruff.

* With distinction.

APOTHECARIES' HALL OF IRELAND.

THE Apothecaries' Hall of Ireland has decided to hold a special qualifying examination on August 19th. Intending candidates should communicate at once with the Registrar, Apothecaries' Hall, 40, Mary Street, Dublin.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*†J. C. P. Bayley, †C. D. Day, *†G. B. Holroyde.
MEDICINE.—†L. B. Clarke, †G. W. Maw.
FORENSIC MEDICINE.—C. D. Day, A. Glen.
MIDWIFERY.—A. Glen, S. B. King, N. W. Rawlings, E. M. Townsend.
* Section I. † Section II.

The diploma of the Society has been granted to Mr. G. B. Holroyde.

Obituary.

SURGEON-GENERAL SIR ANTHONY HOME, V.C., K.C.B.

SURGEON-GENERAL SIR ANTHONY DICKSON HOME, V.C., K.C.B., the most distinguished officer on the retired list of the Medical Department of the British Army, died in London, aged 87, on August 9th. He was born at Dunbar in 1826, took the diploma of M.R.C.S. and the degree of M.D. of St. Andrews in 1847, and entered the army as assistant surgeon on March 17th, 1848. During the first six years he served in the West Indies, Nova Scotia, Guernsey, Ireland, and Gibraltar successively. In August, 1854, he went to the Crimea with the 8th Hussars, and served there till the end of the war. On the outbreak of the Indian Mutiny he went to India as surgeon of the 90th Foot, having been promoted to that rank from February 9th, 1855. At Lucknow he won the Victoria Cross by his heroic defence of the wounded left behind by the relieving column when Havelock forced his way to the Residency during the first relief. He was thus one of the first medical officers to gain this most coveted honour (three A.M.D. officers gained the V.C. in the Crimea, and three in the Mutiny). At the time of his death he was the senior medical officer, both in date and in rank, who held it. It was conferred upon him from June 18th, 1858. On March 31st, 1858, he was appointed a staff-surgeon. From India he went to China, and served through the China war of 1860, on the staff of the Commander, Lieutenant-General Sir James Hope Grant. On his return to England he was sent to Canada, war being threatened between Britain and the United States—a war which was happily averted. Soon after he returned to India, and thence was sent to New Zealand, where he served in the Maori war of 1864–5, being decorated with the C.B. from July 5th, 1865, and specially promoted to surgeon-major. In 1873–74 he served as principal medical officer of the force under Sir Garnet Wolseley in Ashantee, being promoted to K.C.B. from March 31st, 1874. On April 4th, 1880, he reached the rank of Surgeon-General, and was appointed P.M.O. of Her Majesty's Forces in India. Many retired officers and a few still serving will remember him when holding this post. He retired, with thirty-eight years' service, on November 30th, 1886.

The list of Sir Anthony's war services is long. It comprises the Crimean campaign of 1854–5, when he was present at the battles of Balaklava and Tchernaya, the siege of Sebastopol, and the operations near Eupatoria, receiving the medal with two clasps and the Turkish medal; the Indian Mutiny of 1857–8, when he took part in the first relief of Lucknow, was in the Residency during

the second siege, and with the force left at Alumbagh, and served in the final capture of Lucknow, gaining the medal with clasp and one year's service for Lucknow, as well as the V.C.; the China war of 1860, at the capture of the Taku Forts, and the action near Palichoo on the road to Pekin, medal; the New Zealand war of 1863–5, in the campaigns in Waikato Valley, Tauranga, and Wanganui, where he got the medal, the C.B., and was specially promoted to surgeon-major; and the Ashanti war of 1873–4, when he was principal medical officer of the force, and was present at the action of Essaman, was mentioned in dispatches in the *London Gazette* of November 18th, 1873, and March 7th, 1874, receiving the medal and being advanced to K.C.B. Besides the distinctions mentioned above, he received one of the pensions awarded for distinguished and meritorious service from November 15th, 1894. In 1912 his autobiography, *Service Memories*, containing rough notes of his service and experiences to the end of the Maori war, edited by Lieutenant-Colonel C. H. Melville, R.A.M.C., was published by Edward Arnold.

WHILÆ Europe is arming for the coming struggle, another of the few remaining survivors of the surgeons of the Crimean war has quietly passed away. Dr. WALTER ACTON was born at Ludlow in 1826, was educated at University College, London, and took the diploma of M.R.C.S. and L.S.A. in 1850. He volunteered for service in the Crimea, and was Staff Surgeon to the Osmanli Cavalry for two years. After the war he practised for a few years at Stilton, and afterwards at Newcastle-under-Lyme. He retired in 1887, and since 1893 had resided at West End, near Southampton, where for some years he took a very active interest in the church and in parochial matters generally, serving as churchwarden and also guardian of the poor. Of his Crimean experiences he spoke but little, except to his most intimate friends, though from manuscript notes and paragraphs in published works it is evident that he held responsible positions, and was well known among his colleagues and the suffering troops. For the last five years failing health confined him for the most part to the house, but he never ceased to take a keen interest in the affairs of the day. During his declining years he was deservedly beloved by all whose privilege it was to know him, and all admired the truly Christian faith and patience with which he awaited the end. It came quietly and suddenly on August 8th.

Dr. JAMES MONTAGUE BRAUND, of Stratton, North Cornwall, died on July 23rd, at the residence of his son-in-law in London. He was born on October 25th, 1830, at Hatherleigh, North Devon, and was the son of the Rev. William Hoskin Braund. He received his medical education at the Middlesex Hospital, and took the diplomas of M.R.C.S.Eng. and L.S.A. in 1855. After practising for a short time at Grantham, where he married the daughter of Dr. Mather, he moved in 1857 to Stratton in North Cornwall, where he lived until he retired from practice a few years ago. He was over forty years Poor Law medical officer and public vaccinator for the north district of the Stratton Union and to the Stratton Workhouse, and was M.O.H. to the Stratton Rural District Council. On retiring he received his well-earned pension. He was greatly respected by the whole district and much beloved by his patients; he was assiduous in his attention to his poorer patients, and many stories are told by them of his devotion and kindliness of heart. In his time in the Stratton district it was no sinecure to be parish medical officer, as the people were very poor and the distances great; but to turn out at night to go perhaps ten miles to the call of one of his parish patients was to him a labour of love. He was, on retiring, succeeded in his appointments by his son, who had been in partnership with him for some years previously. He was a good sportsman, being particularly fond of shooting and coursing. He contributed original articles on two occasions to the *Lancet*. He married his second wife, the eldest daughter of Mr. B. Smyth, of Calcutta, in 1879. She predeceased him by two years. His body was brought from London and buried at Stratton Churchyard on July 27th; the funeral was attended by a large number of his old friends and patients.

Letters, Notes, and Answers.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

TREATMENT OF PRURITUS ANI.

MR. CHARLES J. LYONS, F.R.C.S.I. (Johannesburg), writes: I have read various letters on this ailment lately, but no one has suggested the treatment I have recommended for many years—namely, bathing the part with alcohol before going to bed, and in fact any time the itching occurs. The treatment is clean and effectual. Of course, the bowels should be kept regular and any local causes rectified.

W. L. notes how successful Dr. J. Cropper (Chepstow) has been with tinct. iodi and tinct. benzoini co., and would be glad to learn details of treatment.

THE CAUSE OF CANCER.

DR. ARTHUR TODD-WHITE (Leytonstone, E.) writes: The Registrar-General, in his annual report, again records an increase in the number of deaths from cancer. This obviously points to one thing—that there must be some cause in modern life, in the conditions under which we live, or in the food we take, which causes the increase, and it is the duty of our profession to consider every possible cause, and therefore I bring the following forward. I have not seen this theory mooted before. In the course of an interesting conversation with Mr. Alfred E. Moore, the energetic and enthusiastic secretary of the Pure Food and Drug Society, he suggested that "we are constantly taking food which is adulterated or faked, and often contains minute portions of drugs for preservative purposes. Now, the constant taking of these preservatives must interfere with natural metabolism. Their presence in the body must tend to cause cell growth to vary and to upset the proper development of the various organs, and in so doing either predispose to cancer or actually affect cells in such a way—in, say, a damaged part of the body—that instead of the tissues being able to recover their original condition they become cancerous." Now, Sir, those of us who are gardeners know how enormously plants vary according to their food (for example, the colours of the iris can be changed by transferring it from a gravel soil to a chalky soil), and it is perfectly obvious that abnormalities must occur in the same way in the human race if their food varies; this, of course, is well known. Cancer is more prevalent in some places than others. This is due not to humidity and atmospheric changes probably, but to the water of the district (as regards water, we have the abnormal growth of the cells in the thyroid, which has led to the term "Derbyshire neck"), or possibly to the fact that in some districts food of a special sort is taken more than in another. It is, of course, common knowledge that even now in England in different parts special dishes peculiar to each district are taken. For example, in Somerset and Devonshire people eat a lot of cream. Who has not tried a "Devonshire tea"? Probably more cider is drunk in these counties, and the bacon derived from pigs fed on apples is totally different from bacon from other parts of the country. Going north, people go in for girdle cake, hot rolls for breakfast, oatcakes, etc., more than in the south. The butter of South Wales is totally different from the butter we get from Brittany and eat in London. It seems to me that an investigation based on Mr. Moore's theory might lead to very important results, and there are two things which the medical profession ought to find a cure for, and which any medical man ought to devote his time to, and they are phthisis and cancer. Of course there is the question of heredity, and I have never seen a case of cancer without some family history; but still, this cannot be all, and I consider Mr. Moore's theory of the utmost importance.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

EIGHTY-SECOND ANNUAL MEETING
OF THE
British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.

J. Scott Riddell, M.V.O., M.B., C.M., President.

DISCUSSION ON THE EVOLUTION OF THE SHOCKLESS OPERATION (ANOCI-ASSOCIATION).

OPENING PAPER.

By H. M. W. Gray, M.B., C.M.Aberd., F.R.C.S.Edin.,
Surgeon to the Royal Infirmary and Sick Children's Hospital, Aberdeen.

I propose to consider the subject of this discussion from a purely clinical point of view.

After an experience of nearly twenty years in the use of local anaesthesia, I have come to regard it as *the* chief, *the* most important factor of any of those at our disposal in the prevention of pain and therefore of shock. I look upon general anaesthetics, narcotics, and other precautionary measures merely as adjuvants to the local anaesthetic.

Novocain, at all events in weak solutions of ¼ to ½ per cent., may be regarded as non-poisonous, having no deleterious action either at the site of application or on distant organs. This cannot be said regarding either general anaesthetics or narcotics. They may be considered at present as unavoidable evils. Following the method in which I use novocain, they play a subordinate part. According to the nature of the case, sometimes one, sometimes the other, is brought into more prominent action. Because ether, and to a greater extent chloroform, exert, by their chemical action, an undesirable effect on the brain cells, and thereby probably predispose to shock, and because morphine and omnopon not only do not have this baneful influence, but actually prevent cerebral irritation, I make use of these narcotics in preference to general anaesthetics in doses which tend to render the patient more or less regardless of what is going on. The method reduces the amount of general anaesthetic, for even extensive operations, to practically a negligible quantity.

Prevention of mental excitement or irritation is nearly as important as the prevention of pain. It is almost superfluous to say how necessary it is that the patient should have complete confidence in his surgeon. The medical attendant as well as the surgeon and his assistants—in fact, every one who comes in contact with the patient—can do much to engender this confidence. Thus is attained, in great measure, the elimination of apprehension, that great predisposing factor of shock. Apprehension can be allayed or entirely removed by the use of sedatives. Directly the operation is past, the anxiety usually at once disappears.

Few workers have succeeded in arousing such a fresh, practical interest in this subject as Dr. Crile of Cleveland.[1] I venture to think, however, that appreciation of what is necessary is still inadequate. From what one has seen and read, operation by what is called "Crile's method" entails, in too many cases, merely a haphazard infiltration of the area of incision, and too little regard to the other procedures which he advocates. It has appeared to me that many operators have had only scanty experience of what is required to produce local anaesthesia. I recommend these operators to attempt to perform intricate operations under local anaesthesia without the aid of any adjuvant. If the solutions be injected in a perfunctory or unskilled way, it is extraordinary how many failures will be experienced. The use of a general anaesthetic prevents a proper appreciation of the value of even the modified "Crile's method." If the injections are not carefully and adequately performed, they may almost as well not have been made.

I propose to give a very plain statement, couched in very plain language, of what I believe is essential in the prevention of shock. My efforts to attain this may be summed up as consisting chiefly in the efficient use of local anaesthesia combined, when necessary, with the administration of a suitable dose of a narcotic and of ether. There are, further, the very important factors of the preparation of the patient and of the technique of the operation, and these I shall discuss first.

Preparation of the Patient.

I believe that usually too much time is occupied in the preparation of the patient. It is, especially, unnecessary and undesirable to keep a patient entirely confined to bed before most operations. We should learn lessons from emergency patients of all kinds in whom "preparation" is of the worst possible type, yet 70 to 90 per cent. of such cases recover with very little manifestation of shock. The anticipation period should be cut as short as possible. Unless there be good reason to look for improvement from preparatory treatment—as, for example, when the cardiac or general condition of the patient is bad, when medical treatment, transfusion of blood, etc., may be invaluable—the operation should be carried out as soon as possible after the decision to operate has been made. Long preparation is bad, especially if the patient is kept in bed: the patients lose vasomotor tone, so that, under strain, they tend to have cerebral anaemia. We find constantly that patients who have been kept under observation for some time in medical wards not only give greater cause for anxiety during operation, but also occupy a longer time in convalescence. Other considerations I need not touch upon. As far as possible we should avoid disturbing the patient with elaborate preparations, and try to prevent undue deviation from ordinary habits and diet to within a reasonable time of the operation.

In order to exclude external impressions as much as possible during the immediate preparation and actual operation, after receiving an injection of omnopon, the patient's eyes are covered by lint or cotton-wool pads, and the ears are stopped with moist cotton-wool.

Technique of the Operation.

What is known nowadays as "carnivorous surgery" must be avoided. Cutting instruments must be sharp. Seizing large masses of tissue in pressure forceps, rough, sudden, or irregular retraction of wound surfaces, rough handling, tearing or pulling of tissues, especially of the parietal peritoneum or pleura, mesentery, and so forth, must be avoided as far as possible. In an abdominal operation conducted under local anaesthesia alone, it is easy to appreciate that severe shock is readily produced by unskilled handling. It is also very appreciable how far shock may be completely avoided by well placed injections of local anaesthetic in the abdominal parietes, mesentery, broad ligaments, etc., coupled with gentle treatment of the tissues. The use of local anaesthesia demands that desirable delicacy of manipulation.

The proper temperature and non-irritating nature of fluids used in a wound, especially if used inside the abdomen, are important in preventing shock. Too hot or too cold solutions, or too strong and irritating antiseptics will readily produce shock. Normal saline solution, at the temperature of 100° to 103° F., is all that is usually required for purposes of irrigation or cleansing.

I need not do more than mention the importance of conserving heat and obviating irritation by the avoidance of undue exposure of abdominal viscera, raw surfaces, or even of large areas of skin. Proper clothing and other coverings, preferably sterilized, and a proper regulation of the temperature of the theatre, are not unimportant factors in the prevention of shock.

Accurate and immediate haemostasis is more than desirable. Loss of even small quantities of blood may turn the scale in some patients. It is still necessary to point out that it is impossible to work with desirable accuracy in a wound whose surface is obscured by the presence of blood.

The avoidance of tight suturing and the application of a

proper dressing may appear insignificant, but even such details are of importance in the prevention of shock. The pain, occasioned by tight sutures or dragging of an unsuitable dressing, which is felt as soon as the patient becomes conscious, cannot be disregarded at a time when the nervous system is still under the deleterious influence of a general anaesthetic. This is especially of importance in neurotic patients. Proper technique, proper dressings, and local injection of anaesthetic solution obviate shock from this cause. Firm compression of the wound for twenty-four hours prevents effusion and consequent tension on the sutures.

In abdominal cases I believe that a firm binder has a beneficial effect during the first, possibly precarious, hour or two. Clinical impressions receive confirmation from Hill and Barnard's observations on the effects of anaesthesia on the abdominal vasomotor system. Such compression combats the tendency of the patient to bleed into his own abdominal vessels, and thus bring about harmful anaemia of the brain. Further, it permits of the patient being placed immediately after operation in the Fowler position, a proceeding which is beneficial in preventing various complications. I remove the binder usually after twenty-four hours.

The Use of a General Anaesthetic.

In view of numerous observations regarding changes produced by anaesthetics in brain cells and their immediate and remote effects on the heart and other important organs and tissues, surely it is right to dispense with them as much as possible. This toxicity is greatest in the case of chloroform, ether stands next, while nitrous oxide has little deleterious effect when skilfully administered.

Chloroform in surgical practice is fast becoming almost obsolete. Nitrous oxide and oxygen involve much expense, complicated apparatus, and a highly skilled administrator in cases of prolonged operations. "Open ether" is safer than nitrous oxide when a skilled administrator is not available; it is incomparably cheaper and no elaborate apparatus is required. These considerations have inclined me to develop the use of ether along special lines. By the combination of local anaesthesia and narcotics the amount of ether (if any) which may be required is negligible. Ether is given only if patients, in spite of the narcotic, remain too sensitive and apprehensive, or where it is apparent that they are suffering pain. Sometimes in excitable patients literally only a few drops of ether are required to distract their attention and produce an immediate reduction in the pulse-rate. In other cases it suffices to induce only the primary anaesthetic stage of ether.

I venture to recall that a primary anaesthesia, lasting for about a minute, is produced when ½ oz. to 1 oz. of ether alone has been given, but when a narcotic has been given beforehand usually only a drachm or two of ether is required to produce this condition. If careful and gentle manipulations are thereafter observed, the patient may continue to sleep even as long as three-quarters of an hour. The advent of this stage may be indicated by instructing the patient to hold his arm erect as long as he can. When the arm drops short operations may be effected without pain. If etherization is continued the patient may wake up again, even speak and struggle. It is desirable, therefore, when ether is combined with local anaesthetics and narcotics, to discontinue the general anaesthetic entirely at this stage. Perfectly satisfactory examination of deep parts, short, deep manipulations, injection of anaesthetics into the mesentery, etc., can be made at once. The ether mask should be removed so that the patient may breathe air as pure as possible. I cannot say that I have found that patients have benefited from respiring their own or other carbon dioxide.

The evil effect of prolonged ether anaesthesia on the brain cells and other tissues is obviated by this method. Only in very rare cases where prolonged, deep, and very difficult manipulation has to be done, is it necessary to give ether in the usual manner or amount.

The Preliminary Use of Narcotics.

In my experience the combination of omnopon and scopolamine is the best. The average dose is $\frac{2}{3}$ grain omnopon, $\frac{1}{150}$ grain scopolamine, in 17 minims of water, given an hour and a half before operation. A little experience, coupled with the indications given in my paper of 1911, enables one to modify this dose to suit individual cases. I have practically nothing of importance to add to what I wrote in 1911 except to say that now I enhance their action by giving veronal, to certain patients, on the evening before operation (5 grains at 5 or 6 p.m., and 5 between 9 and 10 p.m.). This ensures almost always a good night's rest for the patient, a matter of considerable importance. Apparently no change in the brain cells is produced by omnopon and scopolamine and the changes in these cells consequent on peripheral trauma, as by operation, are materially lessened by their use, as has been shown by Crile's experiments. They prevent the acute metabolic waste which accompanies serious operations as ordinarily conducted. They prevent psychic shock. They usually produce an agreeable indifference to what may be taking place. They usually remove any apprehension, which in ordinary cases is at its height during the hour or two immediately preceding operation. The local "atmosphere" surrounding British patients too often aggravates this apprehension if local anaesthetics are to be used, for there is still an unjustifiable distrust on the part of the large majority of medical men in this country as to the efficacy of these, especially for major operations, and this distrust is reflected in the minds of nurses, friends, and relatives, who are in more or less constant association with the patient previous to operation. This feeling is transmitted directly or subconsciously to the mind of the patient. This unfortunate attitude is engendered by the fact that most operators have not taken the time and trouble to master the technique which is essential for success.

Local Anaesthesia.

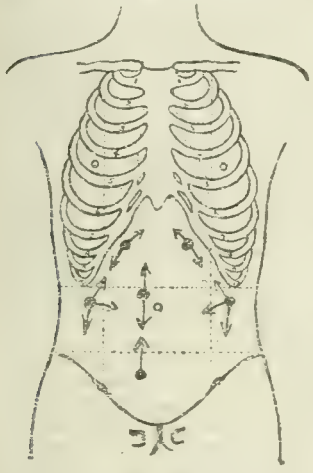
This brings up the question of whether this time and trouble are worth while. For my own part, I think it is almost criminal to neglect the development of this technique. Many life-saving operations in cardiac, pulmonary, diabetic, renal, and other cases are rendered comparatively safe, instead of being, on account of the use of a general anaesthetic, a direct cause of death in too many instances. Surely, therefore, local anaesthesia practically removes risk in ordinary cases. When I say that I have succeeded in performing painlessly all the ordinary operations which fall to be done by a general surgeon with local anaesthesia, aided merely by omnopon or omnopon-scopolamine, I am not guilty of any exaggeration. As indicated already, for various reasons, insignificant amounts of ether may have occasionally to be given. It seems absurd to speak of etherization when the quantity of ether used by the open method, even for such extensive proceedings as Albee's operation for spinal caries or abdomino-perineal excision of the rectum, amounts to no more than 2 to 4 drachms.

I have long ago given up spinal anaesthesia. I rely entirely on ordinary nerve blocking and local infiltration. I claim that, with the method I use, equally good anaesthesia can be obtained without that percentage of danger which is incurred when anaesthetics are injected inside the dura mater.

The technique I carry out in an abdominal case involving a long paracentral incision is as follows: Unlike Crile and his followers, I block the intercostal and lumbar nerves as near the costal margins (or in the subcostal grooves) and as far back in the loin as convenient. I find that I can anaesthetize practically the whole of the anterior abdominal parietes, including the sensitive subperitoneal tissue. I have not yet tried paravertebral injection. To save time and prevent post-operative pain more certainly I infiltrate also the skin and subcutaneous tissue along the line of incision. I began many years ago to infiltrate the area of the incision at the end of an operation, in order that the patient might be saved the first severe pain felt on recovering consciousness. Very soon I found that my patients did not suffer so much from shock and other discomforts. I began then to make the infiltration before the skin was incised. Long before Crile's paper appeared I had been infiltrating the line of incision *percutaneously*, not injecting each layer before it is divided as Crile advises. I found that with practice it is possible to be quite certain of the position of the point of a needle in the abdominal wall. In order to obtain this precision I recommend beginners to control their efforts to inject solutions at varying depths by making these injections

only in the line of incision, so that, when this is made, the solution is found in the tissues aimed at. When perfection is attained, they can go on to the method I now advocate, which saves much time, allows far greater freedom of intra-abdominal manipulation because a larger area of subperitoneal tissue is anaesthetized, and gives as perfect relaxation of the muscles as one can wish. With the help of a trained assistant, a series of operations can be carried out just as quickly as when general anaesthetics are used. The assistant prepares the next patient at the proper time.

The anaesthetic is injected as follows: Five or six skin blebs are made with a fine needle in the situations indicated in the diagram. Through the blebs I infiltrate with a thicker, longer needle, first the line of incision and then the lateral abdominal parietes, down to the peritoneum. If pain is made much of at this stage, the patient is given a small amount of ether, and if the operation is likely to entail difficult manipulation, he is given ¼ to ½ grain more omnopon. According to the length of the incision and the thickness of the abdominal wall, 100 to 200 c.cm. may be used. After 10 to 15 minutes the operation may be begun. If pain is felt in the deeper layers, either a little more solution is injected locally or else I wait for a few minutes longer. Further injections may have to be made into the peritoneal attachments of the organs which are to be operated on. As already stated, a small amount of ether may have to be given at this stage, but need not usually be continued.



When infiltrating the abdominal wall the solution should be injected as the needle is being pushed onwards, so that vessels and nerves, unless fixed in fibrous tissue, are floated aside. This will also cause the peritoneum and the fairly dense subperitoneal tissue immediately lining it to be carried in front of the solution, so that the looser part of the sub-peritoneal tissue is flooded with the solution. Diffusion of the fluid joins up the lines of punctures. Frequently, in cases of appendicectomy, for example, I deliberately push the needle through the peritoneum, at the same time forcing out the anaesthetic solution at greater speed, so that the bowel may be floated away from the point of the needle.

I do not believe much in statistics, but the table shows the average pulse-rate of two unselected series of abdominal cases. The cases range in severity from, for example, interval appendicectomies to extensive colectomies and cases of diffuse peritonitis. The latter probably account for the high pulse-rate at the beginning of the operation. I believe that the pulse-rate gives a fair indication of the amount of shock present, but one cannot imagine that any real shock or even predisposition to it is present in a case where a drachm or two of ether, given by the "open method," completely quietens an excited patient and reduces the pulse-rate by twenty to thirty beats within a very few minutes.

The first series is taken from patients in whom the area of incision only was infiltrated percutaneously with anaesthetic solution, the second series from patients who were injected by the method I use now. The evidence, it will be seen, is strongly in favour of using my later method.

Table showing Pulse-rate during and after Operation (60 Patients).

	Before Incision.	Abdomen opened. Retraction.	Skin Sutured.	Evening.
With infiltration of line of incision only	89	95	94	95
With blocking of abdominal parietal nerves	94	87	89	85

I wish to emphasize the feeling of well-being which patients thus treated have immediately after operation. In young adults, when the dose of omnopon is not sufficient to make them sleep, the patients frequently have a meal when they return to bed, and in an hour may be found reading a newspaper. In more severe cases, when larger doses of omnopon and possibly ether also have been given, the patients often sleep for four to six hours, and may then wake up without any knowledge that an operation has been done. In a large majority of cases little or no pain in the wound is complained of, except when the patient coughs, sneezes, or retches. This is important, because there is not much doubt that the shock which used to appear within an hour or two after operation was precipitated by the pain felt as consciousness returned. In my cases such experiences never occur nowadays. I believe that these results are due chiefly to the kind of anaesthetic solution which I have used for nearly a year. It was introduced by Hoffmann and Kochmann.[2] It consists of novocain ¼ per cent., potassium sulphate 0.4 per cent., and 12 drops of (synthetic) adrenalin to each 100 c.cm. The potassium salt enhances and prolongs the effect of the novocain. It seems to me that this solution acts almost as well as urea and quinine. After its use there has been no interference with healing, no oedema, and no sloughing, as has been stated to occur after the use of urea and quinine, and in expense it compares favourably. While 5 c.cm. of the latter costs 4½d., one litre of "N.P.A. solution" costs not more than 2s. 4d., or one seventh of a penny per 5 c.cm. My house-surgeons call it N.P.A. for short. This indicates both its composition and its action. Novocain - Potassium-Adrenalin! No Pain After! Although Claude Bernard asserted that potassium salts have a poisonous effect when injected into the blood stream, I have never seen any bad effects attributable to this. I use a special syringe for this work.* It has a capacity of 40 c.cm. It has interchangeable needles and nozzles; a fine Schimmel's needle in the straight nozzle is used for making the skin blebs; a strong long needle in the bent nozzle is used for the deeper injections. For rapid working two or more syringes may be used—one being filled while the other is in use.

During a severe operation, if the pulse tends to flag—especially if severe haemorrhage or previous sepsis has occurred—I believe that an intravenous or subcutaneous infusion of saline solution is the best restorative, unless direct transfusion of blood cannot be made, but this unfortunately is rarely possible. Transfusion should certainly be resorted to if shock threatens after operation.

In my operative cases shock is now an occurrence of the greatest rarity. In well over 2,000 abdominal sections performed during the last three years, I have records of only two which suffered from post-operative shock. In both cases dread of operation had dominated the patient's mind for weeks.

My experiences support Crile's assertions in a very ample way, and I am ashamed to say that until a week or two ago I had not read more than a short epitome of his paper. It was all the more pleasant to find that I had been working in the right direction. Crile has shown experimentally the evil effects of fear, trauma, insomnia, and other causes of vital depression. For years one has felt that too little attention has been directed to the elimination of these noxious influences. In the prevention of shock Crile demonstrates that, apart from raising the threshold of resistance and avoiding physical exhaustion in various ways, one must aim at preventing traumatic and deleterious psychic stimuli from taking effect on the brain. In this effort I believe that efficient local anaesthesia must be given first place, narcosis second place, and general anaesthesia third place—the last to be used only in exceptional circumstances. In this connexion I beg to refer to my paper published three years ago.[3]

In conclusion, I wish to remark that I have endeavoured to combine efficiency, safety, and cheapness in my operative work, and I feel that I have succeeded fairly well. As an instance, for a dozen abdominal cases of moderate severity operated on in hospital on July 9th and 10th, and in which the principles I have enunciated

* Made by Down Brothers, Ltd., London.

were carried out, the cost for local anaesthetic solution amounted, at a generous estimate, to the sum of 1s. 7d. If nitrous oxide and oxygen had been used, according to Mr. G. H. Colt's investigations made a few years ago, the cost would have been approximately £5 (five pounds). I do not venture to think that the method I advocate is at present perfect. I hope, as time goes on, that it will become more nearly so. Before becoming proficient in a new procedure one must, almost necessarily, encounter occasional failures. In spite of this an increasing number of patients in the North here are actually requesting that their operations shall be done under these new conditions. When the present prejudice in the general professional mind has yielded—and this change is occurring much more rapidly in other countries than in Great Britain—it seems to me that the public will quickly appreciate what is best for it, and demand that the principles of anoci-association shall be those which regulate surgeons everywhere in their operative procedures.

REFERENCES.
[1] *Lancet*, July 5th, 1913. [2] *Deut. med. Woch.*, 1912, No. 48. [3] *Lancet*, September 2nd, 1911.

DISCUSSION.

Mr. CUTHBERT (Gloucester) said that for the past year he had carried out the Crile method of anoci-association in a considerable number of cases. The main objections made to it were that it was troublesome, took time, and involved an extra risk of sepsis. It involved, however, very little trouble when everything was ready on a separate table and looked after by a nurse well up to such work. The time taken was certainly not more than five minutes during the operation, and this was not to be considered. The infiltration of skin and muscles by novocain could be carried out three-quarters of an hour before the patient was brought into the theatre. This allowed time for it to take good effect and got rid of the oedematous condition of the tissues; more novocain could be injected into the deep muscles and structures previous to cutting them. The peritoneum as it was cut was infiltrated with urea-quinine hydrochloride solution (½ per cent.). There ought to be no extra risk of sepsis if the syringes and fluid were properly sterilized. It was very necessary to use the proper needles bent at the proper angles, as used by Crile, Mr. Gray, and others. He had had the privilege of seeing Mr. Gray's work, and no one could help admiring the complete analgesia he obtained in the entire absence of general anaesthesia. The advantage of this seemed to be that if the patient gave any response to pain, more of the solution could be injected as the operation proceeded. Mr. Cuthbert said that hitherto he had avoided the urea-quinine method of infiltration in septic cases, and asked Mr. Gray what course he pursued in such cases, and what were the real objections to the method in septic cases. The entire absence of rigidity, and the absolute flaccidity of the muscles and hollow organs after being injected, added enormously to the ease of manipulations and in sewing up the peritoneum. In so-called fulminating appendicitis the Murphy method of rectal irrigation, with the addition of adrenalin before, during, and after the operation, was, in Mr. Cuthbert's opinion, of enormous benefit, and it seemed reasonable to suppose that adrenalin injected into the peritoneum in conjunction with urea-quinine could have no other than a good effect in shutting off nerve transference of shock. While regarding Mr. Gray's work with admiration, he still thought that light general anaesthesia, enough, as it were, to blind the patient during his removal to the theatre and at the commencement of the operation, was advantageous.

Mr. ALEX. DON (Aberdeen) said that, like most surgeons, he had had recourse to most of the newer methods of anaesthetizing patients, and had had this advantage over many hospital operators, that he was responsible for the anaesthesia as well as for the operation. Some of the intravenous and rectal methods he had not tried, but long before Crile's paper on the shockless method appeared he had formulated certain conclusions from practical experience and observations that a general anaesthetic did not prevent stimuli from the field of operation reaching the cord and brain cells, but merely dulled their effects by making the patient unconscious of the injuries and preventing motor responses. He then related a personal experience:

I have suffered from dental caries ever since I can remember; my teeth are difficult to extract and cannot be completely anaesthetized locally. I took a good dose of omnopon and scopolamine an hour before my appointment with a dentist. It certainly braced up my courage. I got a big dose of novocain and adrenalin into the neighbourhood of the offender. I did not feel the application of the forceps very much, but the wrench severely. I walked home. The whole side of my head was by then quite wooden, but touch sensation was unaltered, except that the part touched seemed a foot or so away from my face. I had got about half-way home when the calves of my legs got first creepy and then weak and shaky. In a couple of hours I was sick and the anaesthesia had almost left the side of the head. I became completely apathetic. Two hours later the telephone bell rang and I got up to answer it. I found I had to plant my feet far apart to steady my staggering gait, and then I seemed to have forgotten why I rose. I answered the 'phone, I suppose correctly, and immediately forgot all about it. It was four or five hours later before I became a normal sentient being, and had forgotten that I had been at the telephone at all. I had been perfectly conscious all the time and, except for the sickness, had felt quite well, had spoken when addressed, and had remained sitting the whole time without feeling hungry or out of sorts. But for fully a week after I felt unable for any effort, mental or physical, was yellow in colour, and had no desire for food. I do not pretend to be able to analyse the effects, nor to single out the drug that caused the symptoms, but I am sure that it was neither the mental nor physical shock of the extraction that caused the condition. I had noted similar effects on some of my patients before, and I have no doubt that had I undergone a serious operation, the effects of this combined drugging would have jeopardized my chances of recovery considerably.

Omnopon, he said, was a very crude extract of a very uncertain compound, opium. It was not known whether the alkaloids were extracted by the acid in their relative proportions, but opium itself was a very indefinite compound, and so, therefore, must be omnopon. Even were it of definite composition, it contained too many substances, the effects of which could not be judged even singly, and he considered that its use was a distinctly retrograde step in therapeutics. To compare it with morphine or with morphine and atropine or scopolamine was like comparing a blunderbuss loaded with small stones to a modern rifle. In the hands of experts, a combination of morphine with either hyoscine or atropine some time before the operation, and open ether in the theatre, seemed quite satisfactory, and there was very little shock with surgeons who cut cleanly with anatomical precision, used brutal retractors sparingly, not tearing the tissues by force or licking them back off tender structures with a coarse gauze sponge. Even if, by blocking, the impulses were prevented from reaching the brain at the time, these or similar impulses would reach the brain later from the field of operation after the local effects of the anaesthetic had worn off, and when the anaesthetic had itself reached the brain cells, and was there producing its numbing effects, as in his own case. Coarse surgery could not be indulged in under local anaesthesia. He had tried quinine-urea hydrochloride, though not on account of complaints by patients of post-operative pain. There was seldom any complaint unless vomiting was severe, and that was not so common with preliminary morphine and hyoscine. The effect of quinine-urea was said to last a day or more, but this, he thought, was surely exceptional. He had injected an ampoule subcutaneously into himself, and the effect had altogether disappeared in some eight hours, a painful spot remaining. With morphine and hyoscine there was seldom any complaint about operation pain till after eight hours, for vomiting was usually delayed after morphine. Injections into the tissues anywhere caused a certain amount of damage, even if the fluid injected was normal saline, and this damage must delay healing. He believed that there was a field for this combined anaesthesia, though the necessity for the morphine in some cases might be doubted, where there were objections to a general anaesthetic or the services of an anaesthetist could not be obtained. The field for the method of Crile was not unlimited; besides the objections already indicated, there were the element of time, the handling of many extra instruments, the diversion of the surgeon's mind from his main purpose every now and then to attend to the anaesthesia. This method produced greater risks of sepsis, and had a greater morbidity, and also, he thought, a greater mortality. Anoci-association must at present be held to be on its trial.

Mr. C. A. PANNETT (Plymouth) said that in a recent experimental investigation he had attempted to measure the efficiency of Crile's technique by determining whether, when it was employed, impulses set up by abdominal operations were prevented from reaching the medullary centres. The criterion of such interference relied upon was the disappearance of vasomotor and respiratory reflexes normally observed during such manipulations. The experiments led to the following conclusions:

1. More powerful impulses proceed towards the medulla as the result of manipulation of the viscera than result from the incision of the abdominal wall necessary to reach the viscera. Presumably they have a greater influence in the production of shock.
2. It is, therefore, more essential to block impulses coming from the viscera than those coming from the abdominal wall.
3. In animals (cats, rabbits) it is possible to block impulses coming from the stomach by local anaesthetization of the attachments of this viscus with ¼ per cent. novocain.
4. It is possible, in animals, to block impulses coming from the intestine by similarly anaesthetizing the attached mesentery.
5. When the incision is in the middle line, Crile's technique for opening the abdomen effectually prevents afferent impulses, the outcome of this procedure, from passing up to the medulla.

Manipulation of the intestines and stomach led to the dispatch of shock-producing nerve currents to the medulla, and to a disturbance in the centres much greater than occurred on injuring the abdominal wall. This was directly opposed to Crile's findings. He says on page 41 of his book:[1]

The only shock-producing factors in operations on the intestines are traction of the mesentery and traumatization of the peritoneum. Suturing, cutting, burning, and even crushing the intestines, independently of other factors, cannot produce shock, as no noci-ceptors have been evolved against these types of trauma.

But electrical stimulation and pinching of the gut produced marked changes in blood pressure and respiration. Braun[2] admitted that when the abdomen had been opened under local anaesthesia division of the mesentery might sometimes be very painful, and Hirschel[3] stated that this was usual. Moreover, Crile, on page 87, makes a statement contradictory of his fundamental views when he says: "Ligation of the stump of the appendix causes sharp cramp-like pain." Such beliefs led to the cessation of efforts to intercept a very important set of impulses. The establishment of the fact that noci-ceptors for the viscera existed rendered necessary some measures to prevent them from being the means of recording in the central nervous system the injuries which operative procedures produced. In man, at present, this could not be successfully accomplished. It was not possible to infiltrate the attachments of the stomach without so much manipulation that the advantage gained during the performance of such an operation as a gastro-jejunostomy would probably be counterbalanced by the ill effects of the increased handling. It was, however, a simple procedure to infiltrate the mesentery of a length of small intestine. The same measure could be taken when the transverse or the sigmoid colon was involved, but some research would be necessary to devise methods for blocking impulses from the caecum, ascending or descending colon. The technique recommended by Crile for the abdominal wall was only efficient when the opening was made in the middle line, where nerve endings alone were encountered, and their anaesthetization with ¼ per cent. novocain easy. Away from the middle line it was not such a simple matter to block afferent impulses. When making a Battle incision the nerve trunks running behind the rectus must be found, and their conductive power destroyed by a perineural injection of 1 per cent. novocain (or an endoneural injection of ¼ per cent. novocain), before the procedure became painless. In the McBurney incision, infiltration of the different layers with ½ per cent. novocain was necessary, and long intervals (10 to 15 minutes) must elapse between the infiltration of each layer of the abdominal wall, and its severance. Only in this way could efficient local analgesia be produced, and the method was therefore contraindicated in combination with a general anaesthetic because of the great prolongation of narcosis which it necessitated. One aspect of shock in abdominal operations, the inhibition of peristalsis which followed every laparotomy and caused so much distress to the patient, had not received the attention it deserved. This was part of a general suspension of function of the alimentary organs which Meltzer and Auer[4] and Cannon and Murphy[5] had found depended upon (1) a reflex inhibition, the centre being in the spinal cord, the afferent paths being the sensory nerves in the abdominal wall, and the efferent path the splanchnics; (2) a local reflex inhibition, the centre being Auerbach's plexus (or possibly the coeliac plexus) the afferent nerves coming from the visceral wall. The cessation of peristalsis, due to a local reflex, might be regarded as a manifestation of peripheral shock. By infiltrating the abdominal wall as indicated above the first reflex stoppage could be prevented, but there was no way of hindering the local reflex; all that could be done was to handle the viscera as gently as possible. It was claimed that local novocainization of the abdominal wall lessened muscular rigidity. The tone of the abdominal muscles was increased by injury to the abdominal wall, and especially to the parietal peritoneum, or by manipulation of the viscera. He had shown experimentally that the increased tone of the abdominal muscles resulting from injury to the small intestine could be abolished by infiltration of the mesentery, and that due to irritation of the parietal peritoneum by infiltrating it. This proved to be true in man, for the abdominal rigidity which was so often experienced when dragging on the parietal peritoneum to suture it disappeared if it were infiltrated with novocain from its abdominal surface. Suturing was thereby rendered much easier. Local infiltration of a middle line incision with ¼ per cent. novocain diminished shock by eliminating painful and other afferent impulses; it abolished the reflex inhibition of peristalsis, the centre for which was in the spinal cord; and it prevented the reflex rigidity of the abdominal muscles dependent upon injury to the parietal peritoneum. When the incision was not in the middle line this reflex rigidity could be eliminated by infiltrating the peritoneum on either side of the incision with ¼ per cent. novocain, though a similar injection of the other layers of the abdominal wall was useless as a shock-preventive procedure. In the presence of sepsis it was not permissible to risk the dissemination of organisms by thrusting the needle through infected tissues. The method, therefore, could not be employed in many serious intra-abdominal conditions in which it would be a distinct help.

Mr. MILES (Edinburgh) found himself unable to go the whole length with Mr. Gray in the method described. There was a danger of becoming too enthusiastic, and surgeons must not permit themselves to be carried away by a phrase—though there was little that was attractive in the phrase "anoci-association." No hard and fast lines could be laid down. It was necessary clearly to define the "noci" to be met and what association of noci occurred. He was not prepared to abandon chloroform, which he thought a very safe anaesthetic. Two great factors in diminishing shock were crispness and rapidity in operating. The elaborate infiltration method described demanded a large expenditure of time, no matter how expert the surgeon might be. The time element seemed to him to bulk largely in the question. Operators of past generations were much more rapid than those of the present, and he thought that in their descriptions of big operations the absence of mention of shock was due to the time factor.

Dr. MANSON FERGUSSON (Banff) said that he had used Mr. Gray's technique for three years, and his improved method of infiltrating the abdominal wall for four or five months. Prior to using the latter method, 1 per cent. and sometimes 2 per cent. novocain was necessary, but he found that a perfectly satisfactory anaesthesia could be obtained with the "N.P.A. solution." The operations during the latter period included appendicectomies, both acute and interval, gastro-enterostomies, prostatectomies and laparotomies for perforated duodenal and gastric ulcers. He used "N.P.A." also for major amputations, thyroidectomy, and excision of neck glands. The pulse had been taken regularly before, during, immediately after, and a few hours subsequently, and the variation in rate and character was very slight compared to that

[1] Crile and Lower. *Anoci-association*, 1914.
[2] *Die Lokalanästhesie*, Leipzig, 1905.
[3] *Textbook of Local Anaesthesia*, London, 1914.
[4] *Studies from the Rockefeller Institute*, vol. ix. 1909.
[5] *Journ. Amer. Med. Assoc.*, 1907, xlix. p. 840.

observed with morphine-scopolamine open ether anaesthesia. He had visited his last twenty abdominal sections every four hours during the first twenty-four hours, and had not seen the slightest appearance of shock—in fact, the feeling of well-being had been remarkable. In addition to this there were the additional advantages of a very complete relaxation of the abdominal muscles, the absence of anaesthetic sickness, and the reduction of work for the nursing staff. The sister in charge of his patients stated that the work had diminished to a quarter or less. Among the disadvantages said to attend this method was haematoma in the wound. He had had one such case, due to the fact that there was too much adrenalin in the solution and some bleeding point was missed. He had not had any case of sepsis following with this method, and thought Mr. Gray's method of percutaneous infiltration as compared with the layer by layer infiltration advocated by Crile obviated this. The amount of ether given by the open method was practically negligible and never exceeded a few drachms; it was necessary only if any great traction had to be made in the course of intra-abdominal manipulation.

Mr. MCADAM ECCLES (London) observed that the simple incision by a sharp knife gave far less pain and shock than the dragging upon tissues. To prevent pain and to lessen or abolish shock in severe operations a narcotic shortly previous to the operation should be combined with skilled administration of a general anaesthetic, the blocking during the operation of the associated nerve areas, rapidity and skill, with as little dragging as possible, and care and encouragement by a trained nurse after the operation. Shock was not so frequent as seemed to be implied, but he asked whether "anoci-association" methods lessened or got rid of such common minor post-operative trials as vomiting, meteorism, and retention of urine.

Mr. HEY GROVES (Bristol) asked if it was possible to regulate the dosage of the alkaloids administered as a preliminary injection, or whether the dosage was practically unlimited. The preliminary injections of themselves might give rise to post-operative trouble. He was anxious to know also if this was to be a routine method.

Professor J. T. J. MORRISON (Birmingham) thought that there was a province for each of the new methods of anaesthesia. He regretted absence of reference to spinal anaesthesia, which seemed to him to occupy a position of importance at least equal to local anaesthesia in contrast to general anaesthesia. Broadly speaking, from the patient's point of view and in many respects from the surgeon's, spinal and local anaesthesia were superior to general anaesthesia. He indicated three points in which spinal anaesthesia held the advantage: (1) As to time: spinal anaesthesia was induced by a single puncture and the injection of 20 drops of fluid; anaesthesia was almost immediate, certainly within three minutes amputation through the thigh or laparotomy could be proceeded with. (2) When operating over a septic area the spinal method was safest, as the puncture was distant from the operation field. (3) The after-effects of spinal anaesthesia were of no importance at all in contrast to those of general anaesthesia.

Mr. DE C. WHEELER (Dublin) prophesied the disappearance of general anaesthetics in other than exceptional cases. He had been scouting along the lines of anoci-association for ten years, following the technique of Kocher. Lately his experience had been limited to Crile's method. He joined issue with the teaching of Crile as regards the prevention of psychical and emotional phenomena by a general anaesthetic, whether ether or gas. Brain cell changes from emotional noxious stimuli could be better prevented by previous administration of some drug like omnopon. With local anaesthesia the surgeon desisted when the patient complained of pain; the operator was thus warned that he was sending harmful impulses to the brain. This was only possible in theory under general anaesthesia. He found that after major abdominal operations shock, whether Crile's method was used or not, depended more on whether the operation was "carnivorous" or was carried out methodically and gently. Nevertheless, it was obvious in most cases that breathing vomiting, coughing, and the opening of the bowels after operation were rendered easy to the patient when Crile's method was used. In some cases, even in major cases—pylorectomy and gastro-enterostomy—no sensation of operation was experienced by the patients the day of and following operation.

Dr. OGILVIE WILL (Aberdeen) desired to testify to the excellence of the results obtained by Mr. Gray in cases under his own observation, especially in regard to the comfort of the patients and the absence of anxiety.

Mr. GRAY, in reply, said that by his method he was practically independent of the anaesthetist. He admitted that a considerable amount of training was necessary for the correct carrying out of the method, but training was also necessary for administration of general anaesthetics, and no longer time was required for the former than for the latter. If a man had a knowledge of anatomy and delicacy of touch he could do this work sufficiently well. If sepsis were present he would not inject in the line of incision; for example, in an abdominal case the nerve blocking method only was used. Within the abdominal cavity he tried to inject the mesentery, the broad ligaments, the peritoneum alongside the gall bladder, and so on, so that the shock, so far as these organs were concerned, was eliminated. He did not think that the time factor was of such paramount importance, nor that the total expenditure of time was increased. He thought omnopon was less prone to cause meteorism in abdominal cases than morphine; he had found patients pass flatus on the night of the operation even after a colectomy. If meteorism persisted the best treatment was injection of pituitary extract.

OPIUM AND OMNOPON.

BY

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WHEN at the International Congress of Medicine held in London I had occasion to note that several of my colleagues were conversant with my work on the opium question. It may therefore be of interest to place before a wider circle the various phases of the further development of this problem which have led to results relatively important for general practice.

I started with the observation, confirmed by those of many observers, that the action of opium does not coincide in every respect with that of morphine, its most important and active constituent.

For many years I used tincture of opium (laudanum) as a substitute for morphine where a sedative and hypnotic effect was desired, as I had the impression that its action was frequently far more powerful than that of the amount of morphine it contained. This fact has been known for a long time, for, among many others, Bernatzik-Vogel[1] states that, although opium contains 10 to 12 per cent. of morphine, its action is not ten times, but only five or six times, less powerful than that of morphine. There are some patients upon whom a dose of even 10 drops of the tr. opii (Pharmac. Helvet.) has a marked soporific effect, yet the amount of opium in this dose does not contain quite 2 mg. of morphine. As a cough sedative and to alleviate colicky pains, opium is markedly more efficacious than morphine. The fact that Dover's powder has maintained its place in the treatment of patients suffering from cough, despite the ubiquitous introduction of morphine, shows that the practitioner has appreciated the difference between the action of opium and that of morphine. At the same time I noticed that, in many cases in which opium was administered in place of morphine, it was well tolerated even by those patients who cannot take morphine on account of digestive disturbances, nausea, vomiting, and headache. These considerations, as well as the desire to make the total active constituents of opium therapeutically applicable by subcutaneous injection, and therefore in a more powerfully active form enabling possibly a smaller dose with a lesser proportion of morphine to have an equally marked effect, determined me to approach Messrs. Hoffmann-La Roche

in Basle and to suggest to them to extract the total alkaloids from opium, preserving the same proportions in which they occur in the drug, thereby preparing a product which would present the total activity of all the opium alkaloids and could be injected subcutaneously. The preparation which this company succeeded in obtaining, representing the sum total of all the different alkaloids isolated in the form of their chlorides, has been called omnopon* in order to express the fact that the preparation represents the total action of opium—that is, of poppy juice. In opium the alkaloids occur as only slightly soluble meconates, whereas in omnopon they are present as easily soluble and rapidly absorbable chlorides. Opium contains besides these about 75 to 80 per cent. of inert and indifferent ballast material, such as waxes, fats, resins, and gum, in which the alkaloids are enveloped. Omnopon, on the other hand, is a preparation in which the alkaloids have been totally freed from these disturbing substances. Omnopon is a stable, yellowish-brown powder. The preparation dissolves readily in cold water (about twelve parts), and is very soluble in hot water; the resulting solution shows a slightly acid reaction to litmus.

It is far less soluble in alcohol. Other solvents, such as acetone, chloroform, and ether, only dissolve certain of the alkaloids, some remaining undissolved. When dissolved with Froehde's reagent (ammonium molybdate with sulphuric acid) omnopon shows a beautiful transitory violet colour (morphine reaction); with concentrated sulphuric acid the solution is of a blood red colour (thebain). When burned omnopon leaves only an unweighable residue.

Omnopon is put on the market as a powder, in tablet form (each tablet contains 0.01 or 0.02 gram), and in ampoules for hypodermic injection, containing each 0.02 gram. In order to prepare concentrated solutions it is advisable to use a mixture of 75 per cent. of distilled water with 25 per cent. of glycerine. With this it is easy to prepare a 2 per cent. solution which can be used for internal administration or for hypodermic injection should the ampoules not be available. The glycerine acts as a preservative, and solutions prepared in this manner keep indefinitely. It is advisable to fill this solution into bottles which are of glass of very low alkalinity (Jena glass), since some inferior forms of glass give up so much alkali that solutions kept in them become turbid owing to the deposit of alkaloids. The dosage of omnopon is about double that of morphine. The 2 per cent. solution mentioned above is given in similar doses to tr. opii. With opium itself the full opium action is incomplete, owing to the contained resinous and gummy substances, which hinder solubility, make the alkaloids difficultly soluble and materially interfere with their absorption. This is the reason why the pharmacopoeias have in general adopted an aqueous extract of opium. But that even this is only an incompletely purified opium product is shown by the fact that its maximum dose is but one and a half times lower than that of opium. Owing to this incomplete purification the solution is turbid and not suitable for injection. Further, the aqueous extract of opium does not contain the total opium alkaloids, since a part remains behind undissolved. Tincture of opium does not correspond to what has been achieved in omnopon, since it neither contains the total alkaloids of opium, nor is it free from gummy material; moreover, the alcohol used seriously militates against subcutaneous injection.

Taking these circumstances into consideration it was hoped that the use of omnopon would not only show advantages when injected subcutaneously, but that when taken internally the general opium action would also be enhanced. This hope rested mainly on the greater content of active constituents, compared to the older preparation, as well as on the more ready solubility and consequent rapidity of absorption.

Opium contains, besides its predominating content of morphine, not less than nineteen other alkaloids, which belong partly to the Phenanthrene group, partly to the Isoquinolin group. With such a complicated composition it can easily be understood that the therapeutic action of the morphine contained in the opium or omnopon is modified owing to this association with other substances. This fact has been empirically proved in the case of opium for some considerable time, and is confirmed by the use of omnopon. This altered and qualitatively modified action of drug mixtures, in contradistinction to simple chemical substances, can be aptly compared to the taste of flavours. The sensation of flavours is the reaction to a nerve stimulus. It is quite conceivable that the action of drugs, especially narcotic ones, should be subjected, by combinations, to similar fine gradations in their action on the central nervous system as that of combined flavours and scents, since the olfactory and gustatory apparatus is only a part of the central nervous system, and in man not the most highly developed part.

The most important modification of the action of morphine by the presence of by-alkaloids is seen in the lesser action of omnopon upon the respiratory centre. This was first recognized by Burgi and his pupils by experiments upon animals. The fact that this holds good in the case of the human subject was confirmed later on by other observers. The importance of this fact lies in the use of omnopon for omnopon-scopolamine narcosis in severe cardiac diseases and diseases of the respiratory tract; it constitutes a very tangible advantage over morphine. Popper has shown that these by-alkaloids of opium have, even if present in exceedingly minute quantities, a demonstrable action. In a series of experiments with mixtures of morphine and papaverine, Popper found that a mixture which contained the two in the same proportion as opium and omnopon produced the maximum depressor effect upon the longitudinal muscles of the intestine. This experiment, according to Popper, explains the constipating action of omnopon and opium. Recently, Pal has shown that papaverine possesses a peculiar anaesthetizing action locally and has a distinct action upon the blood vessels.

In omnopon we have a drug with a constant opium action. Mannich and Schwedes, by investigations in the Göttingen Pharmacological Institute, ascertained that the content of morphine and by-alkaloids in pantopon (omnopon) corresponds to the statements made. The literature about omnopon is extraordinarily voluminous. I have seen not less than 378 articles and references in twelve different languages, the majority in German. The bulk of these communications are very favourable to the drug, and have fully substantiated my remarks in my earlier writings upon the subject.

It is impossible to cite all the numerous indications for which omnopon has proved itself efficacious, and I shall first mention my own experiences.

Omnopon has been used daily for a number of years in the Medical Clinic at Bern. We use it internally as well as subcutaneously. The 2 per cent. solution mentioned above can be used equally well for both purposes. Besides this we use it in the form of mixtures, powders, pills, and suppositories. The dose is, roughly proportionate to the morphine content (50 per cent.), about double that of morphine.

The drug is given subcutaneously with excellent results as an analgesic and hypnotic in painful conditions, also in insomnia as a result of psychic conditions of excitation and fear, and for dyspnoea.

The injections have proved of value in dyspnoea of cardiac or pulmonary origin, and act excellently in bronchial asthma. In tabetic crises this preparation acts especially well. In facial neuralgia and sciatica its action frequently surpasses all others, even that of morphine. Haemoptysis in phthisical patients is frequently quickly stopped by one injection of omnopon, after which the patient falls into a long deep sleep. Is it not possible that the action on blood vessels of papaverine mentioned by Pal may play a part here? Pal has also achieved good results by administering papaverine alone in haemoptysis.

In all serious conditions affecting the breathing of the patient omnopon is to be preferred to morphine, owing to the fact, established by Bürgi and others, that the former has far less effect upon the respiratory centre. In view of this, one need not be so anxious about the dosage of omnopon in dyspnoea of cardiac and pulmonary origin. Omnopon gave excellent results in a case of diabetic pruritus in which the irritation prevented the patient from sleeping. Lastly, this drug is used as an agent to produce euphoria in incurable cancer and tuberculosis.

I see an especial advantage in the fact that we are now able to attain the rapid and full therapeutic action of opium by hypodermic injection of omnopon in cases of peritonitis, appendicitis, and ileus. Opium, when administered

* From *omnis*=all, and *opos*=juice.

internally in these cases, frequently acts only to a slight extent on account of the vomiting, and the fact that intestinal absorption is markedly impaired. This statement also holds good for severe cases of diarrhoea, which frequently react in a far more satisfactory manner to subcutaneous injections of omnopon than to internal administration.

Omnopon is also efficacious when injected hypodermically in cases of gall-stone colic, renal colic, intestinal colic, and tenesmus vesicae. Its action suggests that here also the by-alkaloids are of importance. Intractable hiccough will often yield to an injection of omnopon.

I have repeatedly used injections of omnopon for severe headaches due to cerebral compression, and it is a great advantage in this instance, again, that the dose of omnopon need not be so small, since there is less fear of a depressing action upon the respiratory centres with it than with morphine.

An average dose for injection would be 1 c.cm. of the 2 per cent. solution mentioned before; for delicate and weak patients half this dose is quite sufficient. In severe cases in which a certain degree of habituation has taken place larger doses will have to be given, each dose will have to be increased (rarely more than 3 cg.), and the diurnal dose will also have to be augmented by more frequent injections.

In severe cases the daily dose may be rather large without any inconvenient symptoms arising. One patient who was suffering from severe neuralgia of the trigeminal, who had become accustomed to the drug, received eight injections of 2 cg. each daily over a lengthy period without any untoward symptoms developing, and was easily broken of the habit when her condition improved.

The injections rarely occasion any local irritation. Now and then hypersensitive patients complain of a slight transient burning pain at the seat of injection, as noticed fairly frequently after hypodermic injections of morphine. Occasionally ecchymoses are seen at the point of injection, which, now that our attention has been drawn to the fact, we have noticed occur also after morphine injections. Other symptoms, such as nausea, vomiting, constipation, anorexia, or excitable conditions after injection, occur only very occasionally, and are certainly much rarer than with morphine. Retention of urine, so frequently seen after hypodermic injections of morphine, I have very rarely noticed after injections of omnopon. Many patients who have previously had morphine injections prefer omnopon. The sedative as well as the analgesic action of an injection of 2 cg. of omnopon is frequently more marked than after one of 1 or 1½ cg. of morphine. I have been able to satisfy myself on this point chiefly in the case of the pains of tabetic patients. In alcoholic delirium a combined injection of 2 cg. of omnopon and $\frac{1}{10}$ mg. of hyoscine acts excellently.

We make extensive use of omnopon as an addition to cough mixtures and to powder or pills destined for anti-catarrhal medication; 0.03 to 0.06 of omnopon can be added to 200 c.cm. of infusion of ipecacuanha or to a mixture containing ammonium chloride, or omnopon can be given by itself or with the desired anti-catarrhal additions as a pill or a powder, three to four times a day, 0.005 gram of omnopon to a dose. Dover's powder after the formula of the pulvis ipecacuanhae opiatus, containing instead of extract of opium 0.005 of omnopon, has shown itself valuable in coughs. When administering omnopon to calm an irritable cough, one can see that the drug has a more powerful narcotic effect than is warranted by its content of morphine. I shall always remember a case in my private practice. A patient suffering from acute laryngitis accompanied by severe irritation and cough, and in a nervous irritable condition, was given 5 mg. of omnopon three times a day. The cough and irritation were immediately alleviated and after two doses she fell into a peaceful sleep. This patient habitually suffered from insomnia and had tried many hypnotics without avail, among them morphine, which she could not tolerate, since it threw her into an excited and nervous condition. The action of this small dose of omnopon (each dose was only equivalent to 0.0025 of morphine) was exceedingly remarkable, and I should hardly have thought that such small doses could procure sleep so promptly. This patient experienced no troublesome effects from the omnopon. Whooping-cough is another condition in which this drug has proved of value.

Internally omnopon, either alone or in conjunction with astringents, has a marked sedative effect upon peristalsis and in checking diarrhoea, in doses of 5, 10, or 15 drops of the 2 per cent. solution, the dose to be repeated until the effect has been produced. Decoction of rhatany root, 10 to 20 grams in 200 c.cm. of water with the addition of 0.1 of omnopon, acts very well, especially in the diarrhoea of phthisis. It is no disadvantage that the alkaloids are precipitated by the action of the tannin if the mixture be well shaken. On the contrary, the formation of these insoluble tannates of the alkaloids, adhering as they do to the mucous membrane, may in this special case be of advantage.

It appears almost paradoxical that on the one hand omnopon exerts a powerful calming action upon peristalsis and is an efficient agent in the symptomatic treatment of diarrhoea, whereas on the other hand, when fulfilling its office as an analgesic, hypnotic, and a reliever of troublesome cough, the constipating action should be only so slightly marked as to be almost negligible, certainly far less than that of morphine. This noteworthy point is closely related to the technique of administering this preparation according to the different indications. In order to get the full action upon peristalsis, the preparation must be given on an empty stomach; this is usually all the easier since the administration is usually to fasting patients or to those to whom a fast has been ordered for therapeutic reasons. In this method the alkaloids of opium come into intimate contact locally in relatively high concentration, and the action upon peristalsis is therefore decidedly enhanced. When given by the mouth to allay a troublesome cough it happens that the frequently repeated doses of the preparation do not enter a quite empty stomach, and as the individual doses are small the concentration reached in the gastro-intestinal tract is rarely high. Constipation can be obviated by suitable distribution of small doses and avoiding giving them on an empty stomach. By this means the action of the preparation upon the intestinal wall is very much weakened. This is especially the case when giving omnopon in the form of a mixture in two-hourly doses for cough, since here the daily dose is widely distributed.

Paradoxical conditions with regard to the constipating effect appear to obtain also when the drug is administered subcutaneously. If the injections are made with the object of inducing sleep or for their analgesic effect, the constipating action is not in evidence or may be absent altogether. The cause of this is that, in contradistinction to internal administration, the local action upon the intestine takes place only through the excretion of the alkaloids through the mucous membrane, as has been proved with morphine, and therefore in a mitigated form. Notwithstanding this, diarrhoea can be controlled with ease by subcutaneous injections of omnopon, and this can be explained by the well known pharmacological rule, which has its analogy in the laws of irritability of the central nervous system, that an irritated function can be more easily checked than one not pathologically excited, and that generally pathologically altered functions can be more easily acted upon pharmacologically than normal functions. This is well known in the case of digitalis.

Omnopon administered internally acts as a more powerful antidiarrhoeic than opium given in a similar way, either as opium, tr. opii, or as extr. opii. This does not quite agree with the usual assumption that the insolubility and difficulty of absorption of the older opium preparations and their consequent adhesion to the intestinal mucous membrane gives them their more constipating qualities in comparison with that of morphine. I am inclined to the view that this more powerful constipating action of omnopon, noted when larger single doses are given on an empty stomach, is caused by the greater intensity of the local action.

Unpleasant symptoms I have rarely noticed when administering omnopon either by the mouth or subcutaneously. Statistics compiled by F. Kikodze of 72 patients treated with omnopon at my clinic showed nausea or vomiting in only 4 and constipation in only 2 cases.

[Professor Sahli concluded his paper by enumerating a number of indications for which this preparation has been recommended in the literature up to the present.]

SECTION OF NAVAL AND MILITARY MEDICINE AND SURGERY.

THE TREATMENT OF WOUNDED IN NAVAL WARFARE.

By Fleet-Surgeon D. Walker Hewitt, M.B., F.R.C.S., R.N.

This subject is one of vital interest and importance to naval medical officers, and not only for our own credit, but also in the interests of the service to which we have the honour to belong, it should be constantly before our eyes. As a nation we have never had an opportunity of testing our methods under actual conditions of modern naval warfare, and it therefore behoves us all the more to be on our guard. Our brothers in the Royal Army Medical Corps have had in recent years a vast amount of experience, which after all is the foundation of knowledge. Although we can learn many lessons from them, the conditions of naval warfare are so different that we must map out a line of action for ourselves. Not only are the obstacles we have to contend with very different from theirs, but also the nature of the wounds we shall have to treat, and to a certain extent even the methods of treatment must be different and adapted to our special conditions. Various matters of hygiene and sanitation incidental to fighting on land, epidemics and a doubtful if not dangerous water supply, and diseases peculiar to the country fought in have to be met by them and battled with. On the other hand, although none of the above affect us to the same extent since we fight on board our own ships and therefore in our own country so to speak, yet we have other very serious obstacles in our way, the most important of which are want of space, overcrowding, difficulties of transport from inaccessible positions, absence of Nature's germicides, sunshine and to a certain extent fresh air, and the desire not to interfere with or hamper the fighting machine. We are constantly in the fighting line, so to speak, during the action.

First and foremost we must recognize that a man-of-war is a fighting machine, and that no amount of zeal and ingenuity on our part can convert it into a floating hospital. Our arrangements, therefore, must and should be subservient to fighting efficiency, and we should endeavour to assist this to the best of our ability. In dealing with our subject, therefore, we should not forget this, while at the same time endeavouring to do our best for our sick and wounded.

Having recognized our difficulties we proceed to the most important consideration—namely, how to contend with them. This can only be done by a thorough preparation by each of us individually, taking in all the details, and of these I consider the most essential is to have an efficient first aid party—a party which has been thoroughly instructed in what to do and how to do it. Each individual should have a correct knowledge of how to carry a wounded comrade and where to carry him to. This is, in my opinion, of far greater importance than the administration of first aid properly so called. The first aid during action should be carried out in the dressing stations under the eye of the surgeon except in unusual circumstances. If we allow it to be done by the first aid party (ambulance), where the men fall at their guns, we shall, I am convinced, be running grave dangers. Our dressing stations are so near at hand to all parts of the ship that it is a waste of time for the bearers to attempt it; not only so, but the handling of wounds by men whose intentions may be of the best but whose hands cannot possibly be surgically clean, can only lead to bad results. Furthermore, in the heat and hurry of an action, how can we expect unskilled men to do the right thing? They may lose their presence of mind and forget ordinary details.

The greatest danger naval surgeons had to contend with in the old days of the cockpit was sepsis, its accompaniments and sequelae. Lacerated wounds, burns, and scalds, we know, are especially prone to sepsis, and everything will depend on the primary treatment of these cases. Thorough attempts at asepsis should be our motto, and we cannot reasonably expect these from an ambulance party. On a battlefield, where wounded men are scattered over wide areas, first aid where they fall is a necessity, and from the nature of the majority of the wounds—bullet wounds, bayonet or spear wounds—haemorrhage is common, and therefore immediate action and the use of the tourniquet a *sine qua non*. On the other hand, the character of the wounds and injuries in a naval engagement are so different that cases of haemorrhage (by this, of course, I mean primary haemorrhage) are rare. Shell wounds which lacerate and contuse the tissue are not accompanied by bleeding, and this has been borne out by the experience of the Japanese in their recent naval fights and by ourselves in accidents from big guns on board our own ships. First aid has always up to the present time been so bound up with the stopping of bleeding and the cult of the tourniquet (we have only to take up any of the first aid books to see this) that I consider it is primarily responsible for the idea that our first aid party should treat men on the spot where they fall in preference to that which I am advocating—namely, rapid transit to the surgeon and the dressing station of the wounded just as they are. In other words, if we admit, as I think we must, that the dangers of primary haemorrhage in naval warfare are slight, we, *ipso facto*, do away with one of the most important arguments in favour of treatment by the unskilled bearers. It should only be a matter of a few minutes to convey a wounded man to the dressing station, and here he will be able to have his injuries treated in a scientific manner by his medical officer. There are no surgical conditions so far as I am aware under which a delay of this kind—if we set aside the question of haemorrhage which I have already dealt with—will deleteriously affect a wounded man. Again, as I shall point out later, the most important duty of the medical officers is not to do major operations but to administer first aid, and not to stand idly by in the dressing stations till the action is over or a lull occurs, whilst unqualified bearers attempt what they are not fitted to do. In the interests of the *morale* of the rest of the crew the speedy removal of the wounded from the actual area of fighting is essential. I cannot do better than quote the words of the medical officer of the Japanese ship *Fuji*, who, from his experience in the Russo-Japanese war, says:

> It would be utterly impossible for bearers to examine the nature of wounds whilst the fight is going on briskly around them, and indeed they often fail in their hurry to make use of the simplest supplementary appliances, such as the four-tailed bandage.

It may be argued that ships, especially large battleships, have altered in construction greatly since that war, and that, owing to the numerous bulkheads and armoured hatches, transport will be more difficult nowadays. With this I agree, but at the same time it is only reasonable to expect that this compartment system will diminish the casualties under armour and that the great bulk of the wounded will be in the exposed or semi-exposed parts, from which access to the dressing stations is still easy.

I should only permit dressings by the bearers therefore:

(*a*) When the casualties are heavy and the dressing stations are filled.

(*b*) When wounded are in positions difficult of speedy removal, such as the engine room or tops.

A well-organized company trained to carry the wounded properly will be the best asset to the medical officers of a ship in action. Its numbers should be in two or more divisions corresponding to the number of the dressing stations, and one individual in each division should be stationed near the dressing station, and take as his sole duty the organization and direction of his company, especially as to the disposal of the wounded as they arrive in and around the station, thus preventing disorder, and leaving the medical officers with the sick berth staff free to look after and investigate the actual wounds and apply the first aid dressings. Another should be told off, also in the area of the dressing stations, to distribute water and medical comforts to the wounded as they arrive.

As regards the actual means of transport, I desire specially to bring to consideration the method which I believe is the only feasible one for the moving of the

wounded to the dressing stations during action or during a lull in the action, and that is the hand method. Stretchers of various descriptions are valuable and necessary after action, but their use will be very limited during actual fighting. Lack of space is the greatest difficulty we have to contend with, and it is impossible to think that stretcher parties will be able to move about interfering with working and ammunition parties during the hurry and bustle of an action; besides we cannot have mechanical contrivances for transport everywhere just when they are wanted. We will have to depend on the human element alone. I do not consider that any mechanical contrivance, no matter how simple, can take the place of the latter. One or two men unencumbered with a stretcher and properly trained can carry a wounded comrade with rapidity up or down ladders and through narrow spaces where stretchers or other mechanical contrivances would be impossible. The dressing stations are so close at hand that it is a waste of time to put a man on a stretcher.

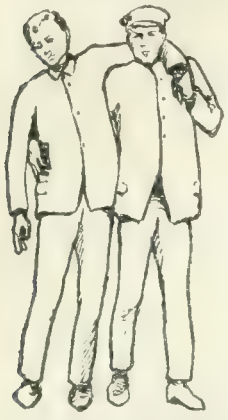


Fig. 1.—The bearer and patient side by side, one arm of the patient around the bearer's neck, and one of the latter's arms around the patient's waist.

The simple methods shown in the accompanying sketches were used in the Russo-Japanese war.

The necessary dexterity and manipulative skill in these methods of "manhandling" as it is called, so as to act with a minimum of suffering to the wounded and non-interference with others, can only be acquired by practice, and in my opinion is of more importance than niceties of bandaging and other surgical details which the bearers will probably forget in the heat of an action. They should be practised seriously as a routine drill, and include the carrying up and down ladders of men by their comrades. The first aid party should be trained in such a way that they can act automatically. I think the greater part of the crew should be trained in these methods as well as the actual bearers.



Fig. 2.—The pick-a-back.



Fig. 3.—Two bearers, one in front of the other, both facing in the same direction. The legs of the patient resting astride the foremost bearer's waist and the rearmost bearer grasping the patient round the axilla and clasping his (the bearer's) hands in front of the patient's chest.

I wish it to be understood that I am not deprecating the usefulness of a training in first aid, but am trying to prove that it is rarely necessary under the special conditions of naval warfare for the first aid party to concentrate their ideas on surgical methods, but rather to consider their sphere of usefulness to be the rapid and painless transport of the wounded to the care of the surgeons in the dressing stations.

Time will not permit me to do more than mention a few of the various preliminaries before going into action. Suffice it to say that all the crew should, if possible, scrub their bodies well with soap and water and wear clean or sterilized clothing. The dressing stations should be scrubbed down with soap and water and afterwards disinfected with carbolic acid. Dressings and instruments should be sterilized, and in this connexion I may mention that no difficulty should be experienced in rendering these sterile, and also, to a large extent, the clothing to be worn in action, thanks to the very efficient disinfectors now supplied to a large number of ships. Ice, if possible, should be made and kept ready, as also a plentiful supply of boiled water. Candles or accumulators should be at hand in case of breakdown of the electric apparatus.

Experience has shown that rupture of the tympanum is very common in action, and can be prevented by plugging the external auditory meatus with cotton-wool or other material. The medical officer should himself see that this is properly done.

As regards the positions of the first aid stations, ships differ so much in their structural arrangements that it is impossible to do more than generalize in their selection. Two or more are fitted up in our larger ships with as careful consideration as possible, and although we are met here with many difficulties, including easy mode of access, a position protected by armour, and not too hot, yet these are greatly intensified when we come to the smaller craft. To obtain the proper amount of space and protection in an already cramped and overcrowded light cruiser, not to speak of a necessary supply of fresh air, is often exceedingly difficult. I am inclined to think that in these circumstances we should select and distribute our wounded over a larger number of first aid stations than in those big ships where we can have ample protection. I appreciate the objections—and there are objections to this—but, on the other hand, the danger of a single shell to all our wounded and the medical staff when they are huddled together in an unprotected space, as actually happened in the Japanese ship *Hiyei* at the battle of Yalu, must be seriously reckoned with. I should feel inclined, therefore, to select four or more separate positions and decentralize. The whole question of the treatment and disposal of the wounded in these smaller ships is fraught with the greatest difficulty. Much must be left to the discretion and individuality of the officers concerned to make the best selection they can. One thing is certain, however, that the sooner the wounded are removed from the fighting ship the better for all concerned. If this question is difficult in ships with medical officers and their hospital-trained assistants, how much more is it so in the large number of small craft which carry neither! The present system is to give first aid lectures to the crews. I do not question the advisability of this; it is excellent in its way, but I think we should go further. I consider the best way to deal with this serious problem would be to train three or four of the crew in each small craft in practical first aid. By this I do not mean only attendance at lectures, but giving them in addition at least a week or a fortnight in the surgical wards of a naval hospital, where they could learn by practical experience something they could retain as to the actual treatment of wounds, and where they could become accustomed to surgical sights. A man cannot become a qualified gunner or torpedo man by means of lectures only, neither can he become proficient in first aid. Personally I think that the small amount of time thus spent would be worth dozens of lectures, and if there were some inducement given for qualifying the results would be well worth it. It might be arranged for the selected men to attend for a few hours daily at the hospitals when in their vicinity. One great objection, of course, to the above is that the crews change so often. I am not bringing forward this as a cut and dry scheme, but for consideration and for suggestions.

Here we are met with the question of a fresh air supply to our dressing stations. We have our supply fans it is true, but what about the source of supply? When our own guns are at work, and the enemy's shell bursting around us on our decks and possibly between decks, are we below safe from suffocating vapours and fumes pumped down to us? I suggest as a remedy here a supply of oxygen which could be carried in time of war. This may appear fantastic, but the danger is a real one, and appreciated by any one who has been on board a battleship during big gun practice, and has experienced the suffocating

effects of lyddite; when we add to all this the results of the enemy's shell, and charred and burning paint, I think we should be prepared.

Coming now to the actual surgical treatment of the wounded during an action, I shall be very brief. Aseptic or antiseptic methods, or a combination of both, must be adopted as considered necessary. Experience has shown that lacerations from shell wounds, burns and scalds, will form the great bulk of our serious cases, and the primary danger of all three can be summed up in the one word "shock." Sepsis and secondary haemorrhage are the sequelae, but our own patients should be on shore in hospitals or in hospital ships and from under our care when these supervene, so that they only indirectly concern us. For "shock," however, we must be prepared and have at our hands the necessary measures for treating it. When we consider the modern conditions of naval warfare —the exposure, want of rest, the highly strung nervous system, and the nerve racking strain of watching for an enemy concealed beneath the sea or in the air—and combine the above with the nature of the wounds, we have all the factors for the incidence of severe shock. I commend for attention the excellent work of Crile and his school on this condition and its treatment, and also the remarks of Lieutenant-Colonel Stevenson, C.B., in his *Wounds in War*.

The performance of anything approaching a major operation during the action will, I think we all agree, be out of the question. All the attention of the surgeon and his assistants is necessary for work of this description, and when the wounded are being brought down, or even when we are in a state of doubt as to what is going to happen, we cannot conscientiously attempt it.

It is our duty to assist to the utmost the fighting efficiency of our ship, and therefore to get men temporarily disabled back to their work as quickly as possible. Numbers of men with minor injuries will come for first aid, and these will have to be temporarily fixed up, and this would be impossible if all our attention is to be riveted on serious work. When the engagement is over we must be guided by circumstances; looking only at one side of the question, and, to put the matter briefly, here we should remember that these are the days of conservative surgery, and that an expectant policy, if we perhaps exclude head injuries, is oftener than not the best. Our motto should therefore be first aid, and our duty to do the best for the majority and assist the fighting force by attending to the slightly as well as severely wounded. It is not my duty, nor have I time in this paper, to go into details of surgical treatment and technique; these must be left to the individual surgeons.

When the action is over, the sooner we get rid of our wounded the better, not only for their sake but for that of the fighting efficiency of the ship. If we have to keep them with us for any length of time our mortality in spite of all our efforts will be high. In the battle of the Yalu the occurrence of sepsis was directly proportionate to the time the wounded were kept on board the fighting ships. One can picture the nightmare of a naval surgeon whose ship is going into action with a number of wounded on his hands who has to prepare for further casualties. Well equipped hospital ships are a necessity.

Now is the time when our stretchers of various descriptions and other improvised means become essential. Rapidity in clearing out our unfit will undoubtedly help our fighting force. For a ship to be kept waiting whilst the wounded are being slowly transferred to a hospital ship and thus prevented from joining the fighting line might be disastrous. Drills carried out with a view to celerity of transport should be regularly practised in all fleets. After some of these drills a conference could be held including the executive officers and the senior medical officers of the squadron, and the difficulties existing could then be attended to and opportunities obtained for further experimenting and perfecting our system.

Lastly, I should like to pay a tribute to our friends the Medical Director-General and other medical officers of the Imperial Japanese navy for the detailed surgical history they have published on the Russo-Japanese war with their usual thoroughness; it has been a great help to me in writing this paper.

Sir James Porter, K.C.B. (late Medical Director-General, R.N.), said that the problem was very large, for it embraced everything that had to be done from the minute the man fell wounded till he was in the base hospital. This would involve first aid on board, transfer as soon as possible to the hospital ship, and thence to the base hospital. If all this was to be carried out smoothly in action, it should be a frequent routine drill in peace. At inspections, for example, a proportion of the fighting force should be labelled with the particular injuries they were supposed to have sustained, and so put through routine arrangements on board individual ships: not only so, but frequently, as suitable occasion arose, they should be landed in numbers and conveyed to hospitals. All the arrangements, from start to finish, should be tested.

SECTION OF OPHTHALMOLOGY.

C. H. Usher, B.A., M.B.Cantab., F.R.C.S.Edin., President.

DISCUSSION ON THE HYGIENE OF READING AND NEAR VISION.

OPENING PAPER.

By J. Herbert Parsons, D.Sc., F.R.C.S.,
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The subject for discussion is very wide, but certain parts of it have long occupied a prominent place in ophthalmology and have been worn well-nigh threadbare. I refer to such matters as asthenopia due to errors of refraction and muscular imbalance, the effect of near work in the production of myopia, and so on. These I do not propose to deal with. Other points of the subject have received the scantiest attention from ophthalmologists, though they are astonishingly interesting and not less important than the well-worn topics. I refer particularly to the physics and physiology of the various types of near work—reading, writing, sewing, and the details of innumerable handicrafts. These occupations have gradually evolved as civilization progressed, and have now attained a complexity which demands highly developed faculties and a minute correlation of physiological functions to environmental conditions. This correlation has progressed empirically with the ever-increasing demands, but it is only recently that the attempt has been made to analyse the conditions scientifically and replace empiricism by sound logic.

Let us, first, consider reading. Anthropology teaches us that it began with the use of picture-signs to convey thoughts. The transition from pictures to alphabets is obscure, but the Egyptian and other hieroglyphics afford some inkling as to the course of development. The fully established alphabets and signs were determined with little consideration of physiological requirements, but largely by the mechanics of their production. Writings were in the early days literally upon the wall or upon clay, and the signs were such as could easily be impressed upon clay or chiselled in stone. The monotony of a cuneiform inscription was ill adapted to rapid or even accurate reading, but it sufficed. With the introduction of writing upon papyrus, parchment, and pith the result was again primarily conditioned by the implements used. Economy of effort in production rules supreme; little heed is paid to economy of effort in interpretation. Thus, the Hebrew penman and the Persian calligraphist leaves out all but the most important vowels, and, indeed, the latter in time comes to pay more attention to the aesthetic beauty of his handiwork than to utility. The result is a charming puzzle, decipherable only by the expert.

The development of writing of the Western scripts must not detain us, interesting though it be. The influence of the implements and the aesthetic taste are again prominent. Fortunately for us, the introduction of printing set a curb upon calligraphic enthusiasm. The new implements demanded a restriction in the diversity of forms of

individual letters. Gradually they became crystallized upon the basis of the written signs, until eventually their diversity became reduced to a minimum.

Thus it came about that by purely empirical processes printing became what it is. The aesthetic element was by no means lost sight of, nor is it even at the present day. The master printer, then and now, thinks more of the beauty of his printed page—the sharpness of his letters, the orderliness of his lines, the accuracy of his spacing and leading, and the width of the ample margins—than of the legibility of his handiwork. From the physiologist's point of view, he is the worst type of bibliophile; but it is not wholly his fault, but rather that of the physiologist, who has given him little or no help.

With advancing years and the increased utilitarianism of printing legibility has gradually gained in importance, but, even so, the physiological requirements have been met, in so far as they have been met at all, by empirical and tentative methods. The separation of words and sentences, the use of capitals and stops, and so on, are results of development along these lines.

It is only within the last thirty years that the *science* of reading can be said to have been studied at all. It is true that much work had been done before that time on visual acuity, in which printed letters were often the test objects. They were found, however, to introduce psychological elements which vitiated the accuracy of the results; and, though the basis of reading is doubtless visual acuity in the ordinary sense of that term, the science of reading is a complex subject which involves the most difficult problems of physics, physiology, and psychology. Nevertheless, it is well worthy of more study than has been devoted to it by ophthalmologists.

We owe almost all the knowledge we possess on the subject to the researches of Cattell (1885), Erdmann and Dodge (1898), Huey and Delabarre (1898), and Lamare and Javal.

If we consider ordinary Roman printed characters we find that all capital letters extend above the line. Of the small letters thirteen are short, eight extend above the line (ascending letters), and four below the line (descending letters). There are thus twice as many ascending as descending letters, and in an ordinary page of print it will be found that of the long letters about 85 per cent. are ascending and only 15 per cent. descending. Examination of the short letters shows that their most characteristic features are in the upper parts. Hence in reading, attention is specially directed to the upper parts of the letters, as is strikingly demonstrated by covering the lower parts of a line of print with a card. The print is almost as legible as if it were uncovered. If, however, the upper halves of the letters are covered, it is almost, if not quite, impossible to read the print.

The ends of the lines of which letters are composed are commonly emphasized by means of serifs. These were doubtless introduced empirically, but the advantage in sharpness of definition has a physiological basis. They counteract irradiation, and hence the visibility of letters is improved if the serifs are triangular.

The tendency of typefounders has been to minimize the differences between letters, probably with a view to greater regularity of line and uniformity in appearance. For example, round letters have been flattened laterally and square letters rounded. The loops of *b*, *d*, *p*, and *q*, have been equalized to *o*. If the lower parts of short letters are covered, the similarity in the topmost curves of *a*, *c*, *e*, *o*, *s*, of *n* and *r*, of *h* and *b*, or of *n* and *p*, is much greater in modern print than in some early samples.

Legibility is not determined solely by visibility in the physiological sense of the term. Thus, the emphasis of some lines in letters, which originated in the use of reeds and pens for writing, increases legibility whilst diminishing visibility. A child learning to read depends upon physiological visibility; hence there should be little difference between the breadth of the thick and slender strokes. As facility in reading is acquired legibility is increased by diminishing the breadth of the slender strokes, and as smaller letters are used the diminution must be more rapid than that of the heavy strokes, so that the interspaces may not be unduly contracted. At the same time, the slender strokes must not transgress the limits of visibility at reading distance, and their distribution should be emphasized by suitably formed serifs. Hence, Jaeger small types are more legible than Snellen's.

The spacing of the letters and words has a considerable effect upon legibility. Irradiation plays an important part here. Roughly speaking, the interspace between letters should be at least as broad as the blanks in *m* or *n*, but round letters like *o* and *e* should have slightly less interspace than square letters. Owing to irradiation the interspaces in general look larger than they really are, and two *o*'s separated by a space look farther apart than two *n*'s separated by the same space. Javal attributes a large part of the "remarkable legibility of English books" to the shortness of most English words and the consequent multiplication of blank interspaces. Of course, the spacing of words, and to a less degree of letters, in ordinary printing is very largely haphazard as far as legibility is concerned, the main object of the printer being to obtain general uniformity of appearance with rigid equality in the lengths of the lines. There is some difference of opinion as to whether "leading" or interlinear spacing is beneficial. Owing to the design of the blocks of type there is always a small space between the lower limits of descending and the upper limits of ascending letters, even without leading.

A line of print is read in a series of small jumps. At each pause a group of about ten letters is more or less accurately visualized; the movements are too rapid to permit of visualization whilst they are occurring. The number of leaps taken by the eye remains the same irrespective of the distance of the book, so long as this is consistent with legibility. A child reading makes more jumps in a line than the average, and the same applies to people reading a foreign language or correcting proofs. Attention is directed chiefly to the commencements of words, and words are not read by letters but by their general configuration. There is therefore a very important psychological factor involved in the act of reading, quite apart from the interpretation of the meaning of the words.

As long ago as 1746, in the days of Francis I, an imperial patent was issued concerning "the books in the Holy Roman Empire and the Commission by Royal Grace thereover appointed," which stated that "every publisher and printer shall henceforth use good white paper and legible type." In 1798 Immanuel Kant wrote on the precautions to be observed for the eyes with regard to the printing and paper of books, and the subject also claimed the attention of Hufeland (1825), Beer (1800), and von Arlt (1846).

Cohn takes the letter *n* as a convenient standard of size of type. A letter measuring 0.7 mm. in height subtends an angle of 5 minutes at the nodal point of the eye when it is about 30 cm., or 1 ft., away. It should therefore be clearly visible at that distance, and the amount of convergence required will be only 11 degrees. It will be found, however, that prolonged reading of print of this size is extremely trying to the eyes. Adolf Weber investigated the rapidity of reading with type of different sizes. He found that the rate diminished if the letters were more than 2 mm. in height, and that the best mean height was about 1.5 mm., which has been adopted by Cohn as a standard. Weber found that as a mean 1,464 letters could be read out loud in one minute, 1,900 if not pronounced out loud. The perception of a letter takes, therefore, three hundredths of a second, its perception and pronunciation four hundredths. It is obvious that these results are only very approximate.

Griffing and Franz in New York showed in 1896 that print 1.8 mm. in height can be read quicker than when it is only half that height. The same number of words were read in about nine-tenths the time taken for the smaller letters. The rapidity diminishes with very large print because fewer letters are seen at one glance. If short sentences are exposed to the eyes for $\frac{1}{20}$ second only, about half the number of words are read correctly with 0.9 mm. type as compared with 1.8 mm. The intensity of light necessary for reading increases rapidly in passing from 1.5 mm. type to smaller sizes. The thickness of the strokes of letters can be measured with a magnifying glass and a vernier. As a rule, the thicker strokes are barely $\frac{1}{4}$ mm. broad in type 1.5 mm. high, and Cohn advocates this thickness as minimum. Fick and Stettler found by experiment that a thickness equal to one-fifth the height gave the best visibility, thus confirming Snellen's deduc-

tions and the forms adopted in his test types. Greater thickness afforded no improvement, and diminution reduced the visibility. Fick recommends a square shape for letters, so that they are nearly as broad as long, but Javal has adduced potent arguments against adopting this style in ordinary books. Schneller recommends 0.3 mm. thickness, and the same distance between the strokes, so that his would measure 0.9 mm. in breadth.

Cohn does not agree with Javal as to the relative insignificance of interlineation; he seems to attach too little importance to the favourable effect of the ascending and descending letters in necessitating large blank areas which may be considered sufficient for practical purposes. Weber advocates a 2 mm. interspace for 1.5 mm. type, but Cohn requires 3 mm. Fick rightly points out that the interlining should be broader when the lines are long, so that in passing from line to line less difficulty will be experienced. He recommends the proportion 40 to 1 between the length of line and the breadth of interlineation. For a line 100 mm. long the interspace would be 2.5 mm., which accords with Cohn's irreducible minimum.

As regards the distance between letters and words, Weber found that an average of sixty letters in 100 mm. gave the best results. Too great dispersion of the letters diminishes legibility, forty letters in 100 mm. being, according to Weber, the minimum allowable. At least 0.5 mm. should be allowed between each letter. Cohn permits 1 mm. between the letters, 3 mm. between the words, and forty-four to forty-six letters in a line 94 mm. long; with letters 1.5 mm. high this arrangement gives a very pleasing and legible print.

The tendency in modern books has been to reduce the length of the lines, partly, perhaps, owing to the loss of favour for quarto volumes. Cohn gives 90 mm. as the ideal length, 100 mm. as the maximum, and 30 mm. as the minimum. Longer lines than the maximum throw an undue strain upon the accommodation, render it difficult to pick up each succeeding line, and involve greater range of movement and expenditure of muscular energy. Shorter lines interfere with the proper grouping of the words as the eyes pass from one group to the next, and increase the number of long jumps from line to line. At the same time it must be observed that the golden mean advocated applies only to type of fair size, such as that of 1.5 mm. in height, and that no absolute rules can yet be devised for the best proportions to be adopted under the very various conditions which can be contemplated.

Schubert in 1892 devised a method for judging the quality of printing from the hygienic point of view. He counts the letters in four lines of 10 cm. length, and takes the mean—for example, 60. He then counts the number of lines in 10 cm.—for example, 24. These numbers are multiplied together, and divided by 100—in the example given 14.4—which gives the average number of letters in one square centimetre. The number should not exceed 15 in good print. Cohn has simplified the method by cutting a square centimetre hole in a card, and counting the number of letters which can be seen through it when it is applied to the page. As a rough guide, he finds it sufficient simply to count the lines visible. Only when there is no trace of more than two lines visible in the aperture can the print be considered suitable in size and interlineation from the hygienic point of view.

Dr. R. T. Williamson of Manchester has submitted 250 school books and college textbooks to Cohn's test. The type was equal to or larger than Cohn's minimum in 109 books. In thirty other books there were in some paragraphs two lines, in other paragraphs three lines in the centimetre square. In 111 books, or 44 per cent., the type was decidedly too small, namely, three lines or more.

An admirable piece of work has recently (1912) been carried out by a committee of the British Association which included Messrs. Priestley Smith, H. Eason and N. Bishop Harman. It resulted in a report on the influence of school books upon eyesight, which contains many excellent suggestions.

Another subject to which I wish to draw your attention and elicit your opinions is the relationship of illumination to near work. Here again empiricism has reigned supreme. The effect of illumination on visual acuity and legibility has been studied by many people. I cannot enter into the complicated physical, physiological and psychological questions which are involved in this study. Roughly speaking, various observers have shown that the minimum illumination of the types which permits of normal visual acuity with Snellen's test is 2–3 metre-candles. Vision improves as the illumination is increased up to 10 metre-candles, after which it remains almost constant up to 30 metre-candles and over.

A glaring light in the field of vision has less effect in diminishing visual acuity at ordinary illuminations than might be thought, but there is no doubt that it is distressing and should be avoided. The artificial and daylight illumination of schools has formed the subject of investigation of a committee of the Illuminating Engineering Society. Two interim reports have been issued and contain much that is worthy of consideration. It is suggested that (*a*) for ordinary clerical work (reading and writing, etc.), the minimum illumination measured at any desk where the light is required, should not fall below 2 foot-candles; (*b*) for special work (art classes, drawing offices, workshops, and stitching with dark materials, etc.), a minimum of 4 foot-candles is desirable; (*c*) for assembly rooms, etc., and for general illumination a minimum of 1 foot-candle measured on a horizontal plane 3 ft. 3 in. from the ground.

DISCUSSION.

Dr. Angus MacGillivray (Dundee) said he was glad to know that the subject of school hygiene was in such practical hands as those of Mr. Parsons and Mr. Bishop Harman. He felt, however, that there was a tendency at the present time to run riot in connexion with this subject. He had never seen any organic trouble produced by the wearing of improper glasses.

Dr. F. W. Edridge-Green (London) said that some simple physiological facts had an important bearing on the subject; the explanation of these facts was that the centre of the retina was sensitized from the peripheral parts, and it was necessary, therefore, that the whole retina should be illuminated. Many persons who suffered from headaches after reading with a reading lamp in an otherwise dark room, or playing cards with a light over the table, lost their headaches when the whole room was lighted up.

Dr. L. A. Parry (Hove) called attention to the large number of rooms in elementary schools which were improperly lighted. All authorities were agreed that the only proper and scientific method of lighting rooms was that in which the whole or main source of light should come from the left. He wished more pressure could be brought to bear on education authorities to induce them to alter the lighting of their improperly illuminated schoolrooms. He was glad to be able to say that in most schools badly printed books had been abolished, and also fine sewing by small children. He thought that as the law compelled children to attend school at a period of great importance—the age of 5 to 14, during which their eyes were under considerable strain—the least that education authorities could do would be to see that they were educated under the best hygienic conditions.

Dr. A. J. Ballantyne (Glasgow) said that some speakers had expressed the opinion that the discussion of the hygiene of vision had been rather overdone. There was one direction in which the discussion of the subject might come to be of great importance. The impression was becoming more widespread that the eyes might suffer actual injury through "glare" and through badly arranged illumination in schoolrooms, to give two examples. They were all aware of the distressing symptoms which were caused by the presence of bright points of light in the visual field. He personally believed that the phenomena were psychological and not ophthalmological, but they might find, in the course of the next few years, the claim being made that compensation ought to be given to workmen on account of eye injury alleged to be due to glare in their workshops. Again, as Mr. Parsons had said, indirect illumination was inferior to direct illumination for certain occupations such as screw-cutting, yet they might find employers installing indirect illumination in their workshops to avoid claims in respect of damage from glare. With the possibility of legislation embodying popular views of the injury due to glare and faulty illumination generally, now was the time to try and arrive at a sound scientific

knowledge of the phenomena with which they were dealing in this discussion.

Dr. JAMES A. WILSON (Glasgow) thought that the whole subject was much overdrawn, and that all that was possible to say about it had already been considered.

Dr. R. A. REEVE (Toronto) spoke of the trying effect of over-glazed paper, especially when used for children's books.

Dr. CASEY A. WOOD (Chicago) spoke of various papers suitable or unsuitable for illustrations; glazed papers were essential for certain illustrative work.

Dr. MARION GILCHRIST (Glasgow) said that the eyes of children were much better looked after than was formerly the case. She considered that badly fitting spectacles were productive of great harm.

Dr. MONTAGU HARSTON (Hong Kong) said that the more this subject was ventilated the better. It was most important in the tropics, where it was necessary to keep blinds tightly drawn on account of the heat, and then artificial light had to be used. He was greatly interested in the remarks of Dr. Edridge-Green. He had noticed the same thing, and the facts mentioned by him (Dr. Edridge-Green) explained them.

Mr. PARSONS, in reply, strongly deprecated the idea that the subject was overdone. He thought that Dr. Edridge-Green had opened up a most interesting subject. Electric light he considered responsible for a good deal of discomfort in the eyes. It was a fact that all improvements made of late in illuminants made use of the violet end of the spectrum rather than the red end, such as metal filament lamps and incandescent gas mantles.

THE TEACHING OF OPHTHALMOLOGY.

By A. MAITLAND RAMSAY, M.D.Glasg.,

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To an audience of ophthalmic surgeons it is needless to emphasize the importance of ophthalmology as a branch of the medical curriculum, for we are all agreed that medical education is incomplete if it does not include a fair working knowledge of the diagnosis and treatment of diseases and injuries of the eye.

The eye is a small organ, but ever since the introduction of the ophthalmoscope able men all over the civilized world have found its study sufficient for their life's work; and some idea of the magnitude of ophthalmic specialism may be gained from the fact that its current literature as synopsized in the *Jahresbericht* for 1913 runs to over 4,000 articles by 1,884 authors. It is true that in ophthalmology, as in every other department of medicine, much is written that is of no permanent value, yet the very fact that year after year brings such a large and increasing output of literature gives some indication of the earnestness and enthusiasm of those who devote their lives to this branch of knowledge. No more epoch-making book has ever been published than Donders's *Accommodation and Refraction of the Eye*, and the Graefe *Saemisch Handbuch* ranks in importance with any cyclopaedia of medicine and surgery.

For the purpose of to-day's discussion, however, it is probably most important to emphasize the close relation of ophthalmology to general medicine. Dr. C. O. Hawthorne, in a paper read at the Oxford Ophthalmological Congress of 1913, says:

> The routine clinical examination of the patient demands an inspection of the fundus and other parts of the eyeball, just as much as it demands the use of the stethoscope and the application of chemical tests to the urine.

This close and natural relationship is, however, rarely recognized, indeed it seems to be often completely disregarded. The eye is not only in the body, but it is also of the body, and many of its diseases are simply an expression of a general pathological state, and can be properly understood only when considered in their true perspective. Moreover, it is in an eye clinic, better probably than in any other medical clinic, that the student can observe at first hand the practical application of every-day practice towards the solution of many of the most interesting problems of modern pathology.

Such being the case, it is important to ask, What is the attitude of our Scottish medical schools to the teaching of ophthalmology to medical students? Under the new ordinance the subject is compulsory, but the number of hours prescribed for its study are so few as to be quite inadequate, and, except at the University of St. Andrews, students are not required to take ophthalmology as part of the final examination. It is true that very occasionally a question on the eye appears in the paper on medicine or surgery, and that a student may in the course of the clinical examination be asked to use the ophthalmoscope or to examine a patient suffering from an ocular affection, but the university lecturer on ophthalmology does not take part in the examination. If we are agreed that ophthalmology is a subject of major importance, such a state of matters is surely far from satisfactory. It contrasts badly with the arrangements in the medical schools in Ireland, in Continental Europe, and also in many universities and colleges in America, where the study of eye diseases is not only compulsory, but the subject forms an integral and important part of the final examination. Some may regard an examination on ophthalmology as unnecessary, and argue that examinations are a hindrance rather than a help in the acquisition of knowledge, but, as we all know, the average student pays most attention to those subjects in the curriculum on which he is required to pass a professional examination.

That brings us, then, to the crux of the whole matter. The present medical curriculum is already so overcrowded, relative to the time in which the studies are expected to be completed, that the average student does not willingly add to his heavy burden, but naturally devotes himself only to the subjects on which his knowledge is to be tested, quite content with an attendance certificate for those which, although compulsory, are not required for the purposes of examination. He speaks of such subjects as the "small classes," and his chief concern connected with them is to find a spare hour during which he can conveniently fit one or other into his scheme of work. That is the situation; and, in the circumstances, it would simply be a counsel of perfection to advocate a complete course of instruction in ophthalmology for every medical undergraduate.

Our teaching should instead follow two distinct lines—for the mass of ordinary students it should necessarily be something much less ambitious, and for those who require more special knowledge there should be a post-graduate course just as there is in public health. With regard, first, to the undergraduates, there are three important factors—the point of view of the general student, his future professional aim, and the time he can reasonably be expected to give to the subject. As to the first of these the attitude of the student must be completely transformed. He must be discouraged from looking on ophthalmology as a speciality that he can afford to disregard, and must be made to realize instead that it is one of the most important branches of medicine and surgery and worthy of as much attention as the major clinics. In dealing with the student's future aim and the time at his disposal, it must at once be admitted that want of time is a very serious obstacle to the carrying out of any radical change in the teaching of ophthalmology, and one must besides always bear in mind that the majority of the students are ultimately destined to engage in general practice. In this last connexion it is sometimes said that there is no need for the general practitioners to study ophthalmology, for the public has become so much accustomed to specialists that it demands expert advice in all diseases of the eye. In a measure that is true, but the public would be better served if the general practitioner knew more rather than less of ocular affections than he does at present. Indeed the public has a right to expect the family doctor to be able to recognize the more important diseases of the eye, and to know when he can safely treat them himself, and when he should summon the assistance of a specialist.

In addition, the general practitioner never knows when he will be face to face with a serious emergency—an

injury to the eye, acute glaucoma, etc., in which prompt and immediate action may be the only means of avoiding disastrous results.

If, then, it be necessary for the general practitioner to be familiar with ophthalmology, what amount of time ought every medical student to give to the subject, and what should be the scope and method of the teaching—in short, what place ought ophthalmology to occupy in the regular medical curriculum? In present circumstances the majority of teachers will probably agree that fifty hours during one of the three terms of a session are necessary, and that the students should take the class during the fourth or fifth year of their studies. The amount of work which can be satisfactorily accomplished will depend a good deal upon the teacher, but in every case the aim will be not to train ophthalmologists, but to contribute to the efficient all round education of the family doctor. It is the country doctor who requires most of all to be trained on broad and thorough lines, for he has to meet emergencies single-handed, and to deal alone with situations that his medical brother in a city would never think of approaching without the aid of the experts who are always within immediate reach.

The aim of the teaching must therefore be not simply to put the student in possession of facts as they are known at the moment, but rather to instruct him in due scientific method. The student must accordingly be taught first of all how to examine an eye properly, and at the same time thoroughly trained in the broad principles underlying diagnosis and treatment. By individual attention and instruction he must be drilled in the use of the ophthalmoscope, and encouraged to employ it in his examination of medical and surgical patients as readily as he would a stethoscope or a clinical thermometer. He ought to be shown typical cases and made to study them well in order that he may be able to treat the commoner superficial diseases of the eye; to render first aid in cases of injury or of other emergencies which may arise in ophthalmic practice; to recognize promptly those serious diseases which may lead to blindness; and to know when he is competent to treat the patient himself and when he ought to ask for the help of a consultant. That, in my opinion, is about all that can be accomplished in the time available, and if such a range of study were agreed upon it would be no great hardship if the licensing boards insisted that every student be examined in ophthalmology before he could get a qualification to practise.

I have purposely said nothing about refraction, because if a student can examine an eye properly he will be able at once to determine the presence of hypermetropia, myopia, or astigmatism, and a working knowledge of the treatment of anomalies of refraction can be acquired only after much study and practice. What the general practitioner wants to know is, how far an error of refraction is responsible for the occurrence of headache or other departure from health, and as a rule he is wiser to leave the prescription of suitable spectacles to a specialist rather than to try to adjust them himself.

An important part of the scheme of instruction, too, ought always to be to encourage the student to look for a relation between ocular and general diseases, and, consequently, it would be a great gain if the teaching of the eye could be correlated with the teaching of medicine and surgery. Professor de Schweinitz has elaborated a method of correlation of the medical classes in the University of Pennsylvania, and in a letter which I received from him recently he says:

> I have an arrangement at the present time with the chair of medicine and the chair of surgery and, to a certain extent, with the chair of neurology, by which, at certain periods in the course of instruction proceeding from these chairs, I am permitted to take part. Thus, when the professor of medicine is engaged on the subjects of cardio-vascular disease and renal disease, I take one or two lecture demonstrations, in order to make the students realize just how closely ophthalmology and general medicine are associated. The same is true in surgery, when, for example, the surgery of the brain is under discussion, the surgery of the pituitary body, etc. We have found this blending of the courses very advantageous. You understand that this in no way alters the regular course in ophthalmology, but simply tries to impress upon the students that the eye is not a separate entity but a very distinct organ of the body, subject to all the laws that all other organs are subject to. It has really served to fix the attention of the students on their ophthalmic work in a very remarkable way.

Teaching on these lines is essentially clinical and practical, but that need not prevent it from being inspired by scientific ideals, for the clinician should work in his ward just as the physiologist or the chemist works in his laboratory or the littérateur in his library. It is essential that the student be brought face to face with the patient, and in order that each may receive the individual attention that he requires the numbers attending the classes should be limited. The lecture demonstration is of great value in training the student to observe accurately by instructing him as to what he ought to look for; and when it is illustrated by colour photographs, and by normal and pathological specimens and microscopic sections projected on a screen, it enables the teacher, speaking from the history of an individual case, to classify and generalize, and to thoroughly discuss symptoms and signs, etiology, pathology, and treatment. In all this the two most important factors of satisfactory teaching in face of the many difficulties are, to my mind, small classes and careful methodical arrangement of the work of the clinic.

Looking to the severe limitations imposed by the short space of time available and the great congestion of the curriculum, we may perhaps regard such a course as has been outlined as sufficient for the wants of the average student. It must not, however, be taken as worthy of the subject, and when we come to consider the case of those who require wider and more definite knowledge of the eye it must be held to be quite inadequate. To the profession there nowadays lie open many public posts with duties attached to them demanding special acquirements—those of county and burgh medical officers; doctors appointed under education authorities for the medical examination and treatment of school children; doctors holding other appointments under local government authorities, more especially those in remote districts difficult of access; and to these, for our present purpose, there must be added missionaries and doctors in certain industrial districts with large populations liable to accidents to the eye or to troubles that affect the sight. For all who aspire to occupy such positions or are called on to deal frequently with ophthalmic work, much greater specialized eye knowledge is requisite; and yet for this large and increasing class, so far as ophthalmology is concerned, the teaching bodies at present do nothing or next to nothing. For them there should be organized a course of instruction suited to their needs and worthy of the claims of ophthalmology to form an integral part of advanced university teaching. Such a scheme ought not to present any great inherent difficulties, other than finding the money required. What is wanted is the founding of a chair of ophthalmology in each university, the professor to have control of a complete hospital unit for treatment of patients, training of students, and prosecution of original research. The hospital unit should be on the lines suggested by Sir William Osler and advocated in Flexner's account of the medical schools of Europe and in the final report of the Royal Commission on University Education in London. It ought to include accommodation for the treatment of both indoor and outdoor patients, clinical and research laboratories, and a well equipped classroom. Teaching cannot reach its highest level and be a truly living force unless it be nurtured and invigorated by the scientific atmosphere which pervades the research laboratory. I do not mean that every investigation pertaining to the eye and connected with the eye wards should be conducted in special laboratories. On the contrary, if the larger questions which are constantly arising are to be satisfactorily solved, there must be co-operation with the laboratories devoted to general pathology and to clinical research; but provision should be made in the ophthalmic unit for the investigation of special problems and the preparation of sections and specimens to be used in the lecture demonstrations.

If a university department for the study of ophthalmology were founded on these lines adequate instruction could be offered to both medical students and practitioners. There would then be a senior class as well as a junior, and the members of the former could have ample opportunity of examining and treating out-patients under supervision, of practising refraction, of acting as clinical clerks in the wards, and of seeing operations, and to any who were specially interested facilities could be given for original research.

Lastly, the final and complete recognition of the value

of ophthalmology would be the granting of a diploma, as is done now in the universities of Oxford and Liverpool, and for that purpose the work of the eye department would be linked up with that of the physical, physiological, pathological, and probably also the psychological laboratories. Such a qualification would encourage the taking of a complete post-graduate course in the subject, and would thus necessarily give a great impetus to advanced study, and create an atmosphere in which the young ophthalmic specialist could train and develop.

DISCUSSION.

Mr. MALCOLM L. HEPBURN (London) said that the teaching of ophthalmology to medical students must of necessity fall under two headings. (1) The teaching of students who intended to become general practitioners, and (2) the teaching of those who proposed to practise ophthalmic medicine and surgery. In regard to the first, since the time at the disposal of the students in question was unavoidably short, it should be expended in accumulating knowledge of those parts of ophthalmology which were most likely to concern the general practitioner; consequently the teaching should be centred round methods of diagnosis, special attention being paid to external diseases and external manifestations of intraocular disease, with a minimum amount of ophthalmoscopic work, operative surgery, and book reading. Ophthalmoscopic work should be limited to a knowledge of the appearance of the disc and the diagnosis of opacities in the media. The teaching should be mainly clinical and practical; refraction work should be taught and learnt as accurately as possible in the time, not with a view to the prescribing of glasses, but chiefly for diagnostic purposes, owing to the importance of being able to exclude refractive error in any given case. The course should be taken near the end of the medical curriculum, and the board of examiners should always include an ophthalmic surgeon, who should examine candidates on the lines indicated. As for the education of future ophthalmic surgeons—including those who wished to do ophthalmic work under school boards, county councils, etc.—let the teaching be of the highest order in all branches of ophthalmology; let it include a thorough grounding in the preliminary subjects of optics and physiology conducted by special teachers, and let the students be required to hold a degree (by examination) in ophthalmology. The difficulty of carrying out ophthalmological teaching on a large scale lay partly in the fact that so many different branches of a subject had not so far been conducted in one central institution, and students were therefore forced to spend a good deal of time, trouble, and money in going from one place to another. At present post-graduate centres had attempted to cope with this difficulty by establishing special lectures, papers, and clinical evenings, etc., but the really practical and clinical side must in any case be neglected, owing to the absence of sufficient clinical material, the inconvenience of collecting cases belonging to different hospitals, and to the fact that disproportion between the number of students and patients often interfered with satisfactory individual examination. In addition to the subjects already mentioned, there should be facilities for the study of both medical and surgical ophthalmology, operative surgery, pathology, bacteriology, clinical work, and neurology; but the difficulty of carrying on instruction in ophthalmology on these lines was obvious. At Moorfields they endeavoured to approach this ideal by distributing the teaching amongst the thirteen members of the staff, but medical ophthalmology must necessarily be neglected at such a hospital. Cases of this order were, and should be, transferred to some general hospital, or remained under the care of the physician. Three times a year they had scheduled lectures, which lasted two months, and dealt with the examination of the eye, refraction, ophthalmoscope, motor anomalies, surgical anatomy, operative surgery, pathology, bacteriology, and medical ophthalmology, while clinical demonstration went on daily all the year round. The advantages of a surgical hospital such as Moorfields were very great, owing to the large amount of clinical material and the variety of methods employed by different members of the staff, whose results could be carefully watched and compared; but it did not represent all that was desired, and the preliminary subjects—medical ophthalmology and neurology—received only a very small place in the teaching. From the students' point of view, plenty of clinical material was essential, and some of the large general hospitals, with a correspondingly large ophthalmic department, suggested themselves as possible centres to combine all the teaching required; but there were few such hospitals, even in London, and many of the ophthalmic departments were inadequate even for the proper teaching of ophthalmology for the general practitioner. The teachers should be men engaged in ophthalmic practice, not those who had gained their experience solely in hospital work.

Dr. A. F. MACCALLAN (Cairo) said that the importance of the teaching of ophthalmology was recognized in Egypt. The students had to acquit themselves sufficiently well in a special paper in ophthalmology in the final examination for the diploma in medicine and surgery at the Government medical school. Those post-graduates who desired to take up the speciality of ophthalmic surgery were drafted to the ophthalmic hospitals, which were now sixteen in number. Here there was unlimited practical work to be done, while once a year a course of six weeks of clinical and pathological teaching was given, which included laboratory work.

Dr. MACGILLIVRAY (Dundee) detailed the method adopted in the teaching of ophthalmology in the University of St. Andrews, and in examining candidates in their final examinations. He advocated the importance of every student knowing how to correct refractive errors, showing that it was easier to teach a student how to prescribe spectacles than to prescribe rationally for dyspepsia. If adopted generally, it would stop the wholesale spectacle mending at present in vogue.

Dr. R. A. REEVE, Dr. CASEY A. WOOD, Mr. T. H. BICKERTON, and Dr. A. HILL GRIFFITH, having described the methods of teaching adopted in the universities and colleges with which they were respectively connected, Dr. RAMSAY, in reply, said he thought that during the limited time at the disposal of the medical student, he should be taught the most important subjects, and it was impossible to turn them out skilled refractionists. The aim should be to improve the general teaching as much as possible rather than to devote much time to special subjects.

A CASE OF DISSEMINATED SCLEROSIS TREATED BY INOCULATION.

BY

H. LYON SMITH, M.D.DURH.

With Clinical Report

BY T. GRAINGER STEWART, M.D., F.R.C.P.,

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THE reason for reporting this case of disseminated sclerosis at such an early date is that it presents some features of unusual interest, and that the line of treatment has apparently been sufficiently successful to justify others, who may have to deal with similar cases at their onset, in testing its value. It is in the initial stages of an infection that one can expect to intervene most effectively.

A girl, aged 19, a probationer in a sanatorium for tuberculous children, was in good health until the beginning of March, 1914, when she was invalided home with obscure symptoms of muscular weakness, and came under the care of Dr. Robert Grant of Cromer. Involvement of motor areas progressed very rapidly. Disseminated sclerosis was diagnosed; a Norwich specialist was called in consultation, and a very grave prognosis was given. On May 24th Dr. Grant sent her up to London in an ambulance for bacteriological investigation, with a view to experimental treatment if any clues were forthcoming. On admission to the Duchess Nursing Home the patient was unable to stand, to feed herself, or even to move her arms and legs without involuntary jerks. Dr. Grainger Stewart pronounced her condition to be typical of disseminated sclerosis.

Clinical Report by T. GRAINGER STEWART, M.D.

The patient, a young unmarried woman aged 19, came of a healthy stock and had always enjoyed the best of health except that between the ages of 5 and 9 she had suffered from "glands" in the neck. These quite disappeared and she has never had any sign of them since. Before Christmas, 1913, she cut the middle finger of her right hand, and the wound suppurated and did not heal up for about three weeks.

Present Illness.

Early in March, 1914, she had a slight bilious attack which lasted for two days. It was not accompanied by any febrile disturbance, and she apparently recovered completely and was quite well for a week.

About the middle of March, 1914, she suddenly lost the use of her legs, the right leg became almost powerless and the left was weak and shaky and at the same time she lost control over her water. The onset was sudden, without any noticeable febrile disturbance, and she suffered no pain and did not lose the feeling in the legs (tested with pin and cotton-wool). She was confined to bed and three days later the right hand and arm became "numb," weak, and very shaky so that she could not feed herself well or write or use the right hand at all. At the same time she saw double and a "squint" was noticed. She had no pain, headache or vomiting, and felt quite well in herself. During the next three weeks she slowly improved, the diplopia became less and the legs stronger, but the right leg was very unsteady and shaky and she was still unable to stand or walk even with help, and could not use her right hand. She then had another sudden attack in which her left hand become numb and shaky, and the right leg again became weak. Since then she has slowly improved and has not had any further relapse. At no time did she suffer from any headache, pain, or loss of vision apart from that due to the diplopia.

State on Examination, May 25th, 1914.

The patient was bright and cheerful, and her memory and attention were good. Her complexion was rather muddy, and the skin over the lower extremities dry and scaly; the skin on the soles of her feet was peeling. Her general health was good, and there was no evidence of any organic disease of the heart, lungs, or abdominal viscera. There was no glandular enlargement. The urine was normal. There was no history of any previous trouble in the nose, ears, or throat, and the mouth was healthy except for a slight degree of gingivitis. Her periods were regular.

Cranial Nerves.—Smell, taste, hearing normal. Vision good; no impairment of visual fields. Optic discs normal. 346. Pupils equal; reacted normally to light and on convergence. Ocular movements: no obvious paralysis, but the patient complained of slight diplopia on looking down and to the right. Coarse nystagmus was present on conjugate lateral movement of the eyes to the right and to a less degree to the left. Slight nystagmical jerkings were present on looking upwards and downwards.

Motor System.—General musculature good.

Upper Extremities.—Muscles well developed; no wasting. There was slight spasticity in the right arm; none in the left. Power was diminished in both arms, especially in the right. On getting the patient to hold out her hands or to touch the point of her nose there was a well marked coarse tremor, more on the right than on the left. At rest no tremor was visible. The patient was unable to write or to hold a cup of tea in either hand without spilling it.

Head, Neck, and Trunk.—She could not raise herself in bed without using her arms. When sitting up there was a distinct unsteadiness noticed, the movement being in the antero-posterior axis.

Lower Extremities.—The right leg was slightly spastic and very weak in all movements. The patient could move it in bed, but was unable to raise the extended leg from the bed: all movements were accompanied by intention tremor. The left leg was not spastic, but was slightly weak and ataxic.

Gait.—She could not stand alone, and was unable to walk even with support.

Sensory System.—There was a feeling of numbness in both hands, but there was no pain or tenderness. On examination there was definite loss of sense of position in the thumb and fingers of the right hand and in the two ulnar fingers of the left. There was no loss of discrimination of two points, of vibratory sense, or of tactile, painful or thermal sensibility. Elsewhere, sensation was normal. The patient was unable to distinguish differences in the weight of coins placed on the fingers, but there was no asteriognosis.

Reflexes.

	Right.	Left.
DEEP.		
Arm—		
Biceps	++	+
Triceps	++	+
Supinator	++	+
Leg—		
Knee	++	+
Ankle	—	—
	Clonus	Slight clonus.
SUPERFICIAL.		
Epigastric	Absent	Absent.
Abdominal	Absent	Absent.
Plantar	Extensor	Extensor.
SPHINCTERS.		
No loss of rectal control.	—	—
Some loss of control over bladder. No distension.	—	—

Further Progress.

May 30th, 1914.—No diplopia, no nystagmus. Intention tremor less in arms; still loss of sense of position in hands and fingers. Right leg stronger and less shaky, but the patient cannot stand alone or walk without support. Abdominal and epigastric reflexes absent. Plantars extensor. Micturition normal. Complexion clear, and the patient looks more healthy.

June 3rd.—No diplopia, no nystagmus. Upper extremities: Power good, intention tremor only present in slight degree in right hand. Can write slowly and unsteadily with right hand; can feed herself quite well. Legs: Power of right much improved; can stand alone and walk with help. Plantars: Right, extensor; left, flexor.

June 9th.—No diplopia, no nystagmus. No loss of sense of position in the hands or fingers; can write, sew, and crochet. Can stand alone on both legs and on the left foot, and can walk without support, though still unsteady. Plantars: Right, indefinite flexor; left, flexor. Abdominal and epigastric reflexes present on both sides.

July 1st, 1914.—Cranial nerves: Normal, no nystagmus. Motor system: Arms normal, no tremor, no weakness. Head, neck, and trunk: Normal, no tremor. Lower extremities: Slight weakness of right leg and slight ataxia, but the patient can walk alone quite well; can walk along a straight line, and can stand alone on either leg. Sensory system: No defect can be detected. Sense of position perfect in all fingers. Reflexes: Deep, are all brisk, and there is now only a tendency to clonus at the right ankle. The epigastric and abdominal reflexes are normal, and both plantars are flexor, though the right is more difficult to obtain than the left. Sphincters normal.

Treatment.

In addition to the vaccine therapy, the patient was put upon Frankel's exercises for the hands and legs, and was practised in sitting up, later in standing, and finally in walking with foot step exercises.

Remarks by Dr. GRAINGER STEWART.

The symptoms and physical signs present in this case conclusively prove it to be organic, and the history and the mode of onset and nature of the symptoms are characteristic of disseminated sclerosis. The absence of any noticeable febrile disturbance, pain, or severe sensory loss contraindicate a diagnosis of disseminated myelitis, and the absence of any evidence of specific infection negatives a diagnosis of cerebro-spinal syphilis.

It is unfortunate that the Wassermann reaction was not tested in this case, although there was not the slightest indication of any specific disease, and also that a further examination of the cerebro-spinal fluid was not possible.

The improvement which has taken place both as regards its extent and rapidity is also characteristic of the clinical course of the early stages of disseminated sclerosis, and this, taken into consideration with the fact that it had already started before the commencement of the vaccine treatment, must make any one who is acquainted with the disease very cautious before attributing the subsequent recovery to the vaccine treatment employed.

The onset of disseminated sclerosis is usually sudden and the initial symptoms may be severe or relatively slight, but in many cases complete recovery takes place, and the patient may remain apparently healthy for months or even years before the onset of the second attack. The occurrence of such remissions has led on many occasions to a mistaken diagnosis of hysteria. On the other hand, the popular conception of disseminated sclerosis as being an absolutely hopeless and incurable condition is too extreme, for although the great majority of cases eventually become chronic, yet the remissions and degree of recovery in the earlier stages should caution one against giving too gloomy a prognosis.

This tendency towards remission and recovery in the early stages makes it well-nigh impossible to attribute temporary recovery or improvement to any special form of treatment, although some apparently have a beneficial effect.

In the present case a certain degree of recovery would, I think, have been expected apart from any treatment, as it was the initial attack. As some improvement had already taken place before vaccine treatment was adopted, it might be urged that the ultimate recovery which took place was merely coincident with the treatment and not due to it; at the same time it was remarkable to note the extreme rapidity with which the symptoms and physical signs disappeared after the commencement of the vaccine treatment.

There appeared to be two possible portals of entry of infection. At the end of December, 1913, she had cut the tip of the middle finger of her right hand with broken glass, and the wound took a month to heal. It seemed possible that some pathogenic microbe might have found its way along a nerve trunk. The second possibility was infection from her gums, which were distinctly septic.

There was marginal gingivitis, and at several points the spongy gums bled at the slightest touch.

On May 25th 10 c.cm. of blood were withdrawn from a vein, and proved to be sterile. On the same day Dr. Grainger Stewart made a lumbar puncture and 25 c.cm. of cerebro-spinal fluid were withdrawn. Through the cannula 6 c.cm. of normal saline fluid, prepared with triply-sterilized distilled water, were injected with the double purpose of replacing some of the cerebro-spinal fluid and of stimulating lymph lavage. 1 c.cm. of the cerebro-spinal fluid was injected hypodermically immediately after its withdrawal, on the assumption that it might contain specific toxin in solution, or even the living virus, if such was present. The latter proved to be the case, as an examination of the fluid almost immediately after its withdrawal showed the presence of about 50 small lymphocytes in 1 c.mm. and a number of living cocci, which were roughly estimated at 2 million in 1 c.cm. The Wassermann reaction of the fluid was not tested.

Tubes of serum agar, blood broth, and ordinary agar were inoculated with the cerebro-spinal fluid, and a growth of *Staphylococcus aureus pallidus* developed quickly. A vaccine was prepared from this, and was used on May 27th. Doses of 50 million, 100 million, and 200 million were given on three successive days; 300 million were given at intervals of forty-eight hours for three doses, and then 400 million every third day. For a few hours after the lumbar puncture, the patient suffered from severe headache and vomiting. The injection of the cerebro-spinal fluid caused little local pain or discomfort, and no swelling or tenderness could be discovered over the area when examined next day.

The patient was obviously improved thirty-six hours after the first inoculation, and on June 3rd, when she had received four doses of the sterile vaccine, the general improvement was manifest. Her movements were less jerky, she was able to stand alone for a few seconds, and even to write a little. Her colour had improved, and the gums were in a much healthier state. At the end of a fortnight she was able to feed herself, to stand and walk with a fair amount of confidence, could write quite well, and each day seemed to mark some recovery of strength.

On June 21st, as the temperature still showed an afternoon rise of 1° F., daily injections of 400 million of her vaccine were given in the hope of inducing a normal temperature. She was unwilling to submit to another lumbar puncture unless further symptoms developed, therefore we were unable to complete our investigations by a Wassermann reaction or a repetition of bacteriological tests. The chart showed an improvement at the end of the week, and it was decided to reduce the inoculations to one in seven days, until absence of the slightest febrile symptoms indicated that the infection was quite dormant. On July 4th she returned to Cromer to spend a couple of months quietly convalescing, all traces of the paralysis having entirely disappeared.

Some points of interest in this case are: (1) Infection of the cerebro-spinal area, whilst blood cultures showed no indication of infection in the general systemic circulation. (2) Workers in the field of general paralysis and locomotor ataxy tell us that there is no exchange between the cerebro-spinal system and the general circulation—by which they explain the failure of salvarsan injections—but it would appear from this case that antibodies developed in the blood can reach the tissues of the cerebro-spinal system. (3) The first inoculation contained some 2 million of living cocci. Eighteen months ago Besredka urged me to use living sensitized bacteria for immunizing purposes, but this is the first time I have ventured, in spite of the brilliant results obtained by Broughton-Alcock, some of which he was good enough to show me when I was in Paris. To what extent the cocci were sensitized in the present case is an unknown quantity, but some may be inferred from the fact that there was no perceptible reaction at the site of the inoculation. (4) It is difficult to judge whether the marked constitutional disturbance which immediately followed was due to (*a*) the lumbar puncture, (*b*) the withdrawal of too much cerebro-spinal fluid (25 c.cm.), (*c*) its partial replacement by normal saline, or (*d*) systemic reaction to the living vaccine.

Reviews.

ISOLATION HOSPITALS.

In public health literature it is remarkable that so few books have been written referring exclusively to hospitals for infectious diseases. This may possibly be due to the fact that as long ago as 1882 Sir (then Dr.) Richard Thorne Thorne presented to the Local Government Board a most exhaustive report on the whole subject. This was so elaborate and authoritative that for many years there seemed little need for anything more to be said on the question. It is a tribute to Sir Richard Thorne's prescience that this report was reissued in 1901. At that date and for some time before and afterwards Dr. H. FRANKLIN PARSONS, First Assistant Medical Officer of the Local Government Board, was concerned very intimately with all the hospital schemes which came before the Board, and it was therefore quite appropriate that in 1912 he should have made a further report on the question. The document which he produced, though not so elaborate as that of 1882, has already, like its predecessor, become a classic. Upon his retirement from the Board Dr. Parsons set himself the task of producing a work in which, though basing himself upon his official report, he was able to write with greater freedom than when trammelled with official responsibilities. This work, entitled *Isolation Hospitals*,[1] was completed shortly before his death and has been included in the Cambridge Public Health Series, edited by Dr. G. S. GRAHAM-SMITH and Mr. J. E. PURVIS. It will now become a standard work of reference for all those who have to concern themselves with these institutions. He expresses the opinion that the uses of a hospital for infectious diseases are the cure or relief of persons suffering from such diseases; the separation of such persons from the rest of the community with a view to prevent the spread of disease, and to obviate the disabilities, inconveniences, and pecuniary losses which the presence of infectious sickness might entail. The very definite statement is made that scarlet fever, contrary to former belief, is infectious from the very commencement of the symptoms, and this is given as one reason for the non-success of hospital isolation of scarlet fever cases, another being that the patient may apparently in some cases continue capable of conveying infections even when no pathological condition can be discovered, for it is now believed that the contagion that was formerly, and is still popularly, supposed to have its seat in the desquamation from the skin resides in secretions from the mucous membranes of the nose, throat, and ears, and possibly also in the urine. On a review of the whole question of the advisability of the hospital treatment of scarlet fever, it is pointed out that there are instances in which the patient has not the proper lodging and accommodation required for his own well-being, nor for the prevention of grave risk of spread to other persons in the same building, such as in a common lodging-house or in the crowded houses of people of the poorer class. Then there are severe or complicated cases in which the patient requires treatment and nursing which he can obtain much better in a hospital than in his own home. Cases also occur in circumstances where non-removal might involve serious pecuniary loss, as at a hotel or a boarding-house. On the other hand, the author considers that it is doubtful whether the removal to hospital as a routine practice of every case of scarlet fever is advisable on grounds of health, or is worth the expenditure which it involves.

Referring to the isolation of cases of tubercle, it is asserted that the objects which may be had in view in the reception of phthisical patients into hospitals are the cure or arrest of the disease and restoration of the patient to health, or at least the amelioration for the time being of his condition; the isolation of the patient with the view to prevent his infecting other persons; the educative treatment of the patient with the view to teaching him good habits—as of living in fresh air and the proper disposal of sputum, which may conduce to his own benefit and to the safety of other people after he has left the hospital; and the keeping of the patient under observation for a short

[1] *Isolation Hospitals.* By H. Franklin Parsons, M.D.Lond., D.P.H. Camb. Cambridge Public Health Series, under the Editorship of G. S. Graham-Smith, M.D., and J. E. Purvis, M.A. Cambridge: The University Press. 1914. (Demy 8vo, pp. 289; 55 figures. 12s. 6d. net.)

time with a view to ascertaining whether he is likely to be benefited by sanatorium, tuberculin, or other treatment.

A very valuable, if not the most useful, portion of this work is that dealing with the designs of isolation hospitals, and it is interesting to find that the author appears inclined to prefer smaller wards than those usually designed. One of the great advantages of single bed wards appears to be that a much smaller amount of cubic space is necessary than is the case in larger wards. In the latter the Local Government Board requires 2,000 cubic feet of air space for each patient, but in the former 1,440 cubic feet is said to be sufficient. The value of the work is very considerably increased by the inclusion of a large number of plans of existing hospitals and of a very exhaustive bibliography.

NUTRITION.

The admirable lecture delivered by Professor Graham Lusk two years ago as the anniversary address of the New York Academy of Medicine has been published in a volume with the title, *The Fundamental Basis of Nutrition*.[2] It is written in a language quite suited for non-professional readers. After a short historical review in which the author leads up to the modern conception of food as fuel, he explains the method by which the heat value of different articles of food has been determined, and the production of heat in the human body under varying circumstances of rest, slight exertion, and moderate exertion fixed. These data being accepted, he shows how it is possible to arrive theoretically at the exact amount of food required by individuals under any given condition, and he demonstrates how actual experiment has justified the theoretical deductions. From these considerations, which after all have been pretty well known for a good many years, he passes to the more interesting, because comparatively novel, views of the mode in which the tissues are built up from the constituents of food. While carbohydrates and fat, however derived, possess a similar efficiency, the various proteins have been shown to be by no means equivalent to one another. Gelatine, for example, is not capable of repairing the loss of body protein, apparently because it contains no tyrosin, cystin, or tryptophan. Vegetable proteins, especially those of bread, beans, and Indian corn, are inferior in body building power to the proteins of meat, fish, egg, and milk. Of the proteins of wheat, gliadin is much inferior to glutinine, and zein, which constitutes half of the protein in Indian corn, is also inferior to it. Rats fed on zein lose in weight and die unless a change in diet affords them relief. This defect in vegetable proteins cannot be made up in the body, as is possible with casein, which, although deficient in glycocoll, yields this substance within the animal organism. Besides these differences in the chemical formation of proteins, which influence so greatly the food value of many articles, there is also the question of vitamines, the existence of which modifies what has been already said regarding the universal efficiency of carbohydrates and fats. Thus it has been shown by experiments on young rats that their growth comes to a standstill when the fat in their diet consists of lard, but proceeds rapidly if butter fat be substituted, so that butter fat contains something essential to growth in which lard is deficient. The relation of polished rice to the production of beri-beri is well known, but a chemically pure mixture of salts, fats, carbohydrates, and protein is not sufficient to maintain life. In discussing the monetary value of foods, Professor Lusk gives tables showing the cost of a thousand calories afforded by different articles, and shows how wastefully extravagant are many foods in common use. He quotes from Miss Dorothy Lindsay's report on the diet of the working classes in Glasgow, which states that "one of the main contributing factors of malnutrition among the poor is bad marketing." He suggests that all food sold in packages should bear a Government label certifying not only to its purity but to its food value. "Pure food is necessary; foul food should be strangled at its source, but besides this a widespread knowledge of what food really is would be of great value and would blast out of existence some commercial dietary impostures of the meanest description." We commend this little book as containing information by no means universally possessed, if we may judge by the kind of foods seen so often in the sick room, where money is commonly wasted upon proprietary and other articles of little worth.

Of a different type is the larger book on *Nutrition*[3] by Mr. Charles E. Sohn. In spite of its title, the greater part deals with food rather than with the problems of metabolism, which is as it should be in a work written by a chemist and not by a physiologist or a physician. The author describes and explains the chemical processes of nutrition and the composition of food, supplying an abundance of diagrams and tables which would be found useful in the preparation of popular lectures on this subject, but the drawing of some of the diagrams might be improved. The author points out the exaggerated claims too often put forward for proprietary articles of food and their comparatively uneconomic character; he makes an effective criticism of the puff of a certain meat extract by pointing out that the gain of weight shown by the dogs who had this extract added to their ration of biscuit might be explained by the fact that this meat extract contains a considerable amount of salt, which would conduce to the retention of water and thus account for the moderate increases of weight in the animals observed.

NOTES ON BOOKS.

Mr. J. Henry Lloyd has compiled a handbook[4] containing all the legal and administrative orders and memorandums with regard to medical and sanatorium benefits which have been issued by the Commissioners up to the date of publication, including the full text of the clauses of the Acts and regulations concerning these benefits. It is arranged in a convenient form, with coloured tabs projecting from the margins of the pages to facilitate reference. There is a full and detailed account of the medical card system, and all the documents concerning the constitution of insurance, local medical, panel, and pharmaceutical committees are quoted in full. The provisions of the Acts and of the Commissioners for maintaining the efficiency of the medical service are given, and the procedure in disputes fully explained. The regulations, orders, and memorandums concerning the financial arrangements with doctors and chemists and the finance of sanatorium benefit are quoted. Perhaps the fullest chapter is that on the panel arrangements for medical service, and the special arrangements for persons required or allowed to make their own arrangements, and for old and disabled members of societies and seamen. In all cases the original documents are quoted, mostly in full, with no attempt to express any opinion, the object being to collect for reference all the official information needed with regard to medical and sanatorium benefits by medical men, chemists, or members and officials of insurance committees. In an appendix is a list of the sanatoriums approved by the Local Government Board under the National Insurance Acts for England and Wales. The book cannot fail to be of the greatest value to all who are in any way connected with the working of medical and sanatorium benefits.

We can strongly recommend to all who are interested in dietetics and cookery for invalids the *Apsley Cookery Book*[5] by Mrs. John J. Webster and Mrs. H. Llewellyn, for although the primary object of the authors is to assist those who desire to live on a uric-acid-free diet, or as it is now called, a purin-free diet, the general hints on cooking may be read with advantage by every one, and the recipes are so practical and useful that they would be an addition to the resources of all housewives. The success of this little book is already assured, and it really needs no commendation from us. It is in its tenth thousand, and the new edition contains fifty additional recipes. Of special interest in the dieting of invalids are dishes which are sweet without containing sugar or saccharine, and drinks which are a substitute for tea and coffee, but this by no means exhausts the useful hints which the book affords.

[2] *The Fundamental Basis of Nutrition.* By Graham Lusk. New Haven: Yale University Press. London: Humphrey Milford; Oxford University Press, 1914. (Crown 8vo, pp. 62. 2s. 6d. net.)

[3] *Nutrition: A Guide to Food and Dieting.* By Charles E. Sohn, F.I.C., F.C.S. London: Henry Kimpton. 1914. (Cr. 8vo, pp. 270; 7 figures. 3s. 6d. net.)

[4] *The National Health Insurance Acts, 1913. Medical and Sanatorium Benefit Regulations, etc.* Edited by J. Henry Lloyd for Charts, Limited. London: Sir Isaac Pitman and Sons. 1914. (Demy 8vo, pp 230. 5s. net.)

[5] *The Apsley Cookery Book, containing 503 Recipes for the Uric-Acid-Free Diet.* By Mrs. J. J. Webster and Mrs. H. Llewellyn. New edition. London: J. and A. Churchill, 1914. (Cr. 8vo, pp. 284. 3s. 6d. net.)

British Medical Journal.

SATURDAY, AUGUST 22ND, 1914.

THE WAR.

THE MEDICAL PROFESSION AT HOME.

From all over the kingdom news has been received that the local medical profession is taking steps to safeguard the interests of practitioners who are called in the service of their country to leave their practices. This means that those who remain at home will undertake between them to act in every respect as substitutes for the absentee, keeping a separate account of all attendances on his patients, and refusing to continue attendance on them when he is able to take up his practice once again. This does not necessarily mean that any practitioner who has a distinct objection to working under the Insurance Act should undertake any such work for the absentee panel doctor, as it will in almost all districts be possible to find insurance doctors to do it. At the same time, there may be districts where a large number of panel doctors are away on service, and we can hardly imagine that any Insurance Committee will keep to the strict letter of the regulations about substitutes, even though the absentees may be away on service for a year or more. As a mere act of justice to those who are risking their lives for the country, the Insurance Commissioners should make special regulations to meet such cases. What the Commissioners on their side may demand is simply that the insured should receive proper medical attendance, and if the local panel voluntarily undertakes to provide this by attending the patients of those who are away in the field and allowing them to receive the fees on their return, the Commissioners and Insurance Committees should do everything to facilitate such arrangements.

The vast majority of the Territorials and reservists who have been called up are insured persons on the list of some panel doctor. While they are away the navy or army will, of course, provide them with medical or surgical treatment, and to that extent the work of the panel doctors remaining at home will be lessened. But, unfortunately, it is only too certain that the wives and families of the non-commissioned officers and men on active service must suffer through the absence of the breadwinners. In addition to this, the partial or complete closing of mills, warehouses, and works of all kinds, even though this should prove to be only temporary, cannot fail to cause a great amount of distress among the workers thrown out of employment, as well as among the dependants left at home of men on military service.

We have therefore two classes to consider—the necessitous wives and children and other dependants of men who are on military duty in this emergency, and the similar necessitous dependants of workers who will be thrown out of employment should the dislocation of industry and trade produced by the outbreak of war long continue. The offer of the profession—the very generous offer—which has been made in all parts of the country is to give free attendance to the first class. The care of the other class must be provided for if and when the necessity arises. When trying to estimate the effect of the war on the position of medical men, it is necessary also to recognize that acute pecuniary embarrassment has been produced among a class in receipt of incomes above the wage limit of the Insurance Act who have always been in the habit of employing private practitioners and paying their fees. It is to be feared that many so affected will hardly be in a position to pay medical accounts unless the renewal of trade for which the Colonial Secretary is working, by getting the command of markets hitherto controlled by German traders, is achieved. The medical profession will undoubtedly be hard hit by the war from all these directions.

The desire of the profession to give its services to men on military service seems to be general throughout the country, but it is essential that the work should be properly organized to ensure smooth and uniform working and to prevent abuse. The Chairman of Council and Medical Secretary of the British Medical Association, acting in consultation with the President and Parliamentary Secretary of the Pharmaceutical Society, have made suggestions on this head which are now under the consideration of the Cabinet Committee. As has been recognized at the majority of the local meetings of the medical profession throughout the country, the scheme for medical attendance should be worked through, or in co-operation with, the local Distress Committees, and should make provision for defraying the cost of drugs and appliances from the funds available to those committees.

The question has arisen as to the position of the medical and sanatorium benefit funds under the Insurance Act. The Government will, of course, be responsible for providing all medical attendance for insured persons now called up to the services, at any rate so long as they remain on service. Their insurance contributions will be at the reduced rate of 3d. per week instead of the usual 7d., and they will not, so long as they remain in service, be entitled to medical, sanatorium, sickness, or disablement benefits, the only benefit payable being maternity benefit, which will go to their wives. The question then arises, supposing the war lasts, say, at least to the end of the year—that is, roughly, five months—Will the Government or, what is for practical purposes the same thing, will the Navy and Army Insurance Fund claim to receive five-twelfths of the 9s. available for the year for the medical attendance on these persons, or will there be some method of transfer of case values? Either alternative would involve a serious lessening of the panel and drug funds of

Insurance Committees, which would entail a further hardship on the panel doctors, who will have so much unavoidable gratuitous work to do for the wives and families of their former panel patients. The least that could be done to lessen this hardship would be that part at least of the money in question should in some way be devoted to the medical and sanatorium treatment of the wives and families of the men away on service. It may be assumed that the men themselves would welcome some such arrangement. The total amount would of course fall far short of the cost at the very lowest estimate, but it might help, with what assistance the Distress Committees can give, to tide over the difficulties ahead.

A further question will arise later as to the treatment of men invalided out of the Reserves or Territorials for wounds or disease.

THE VALUE OF ANTITYPHOID VACCINATION.

AN APPEAL BY THE WAR OFFICE TO THE PROFESSION.

WE have received the following letter from Colonel Sir W. B. Leishman:

Sir,—With the permission of Sir Arthur Sloggett, Director-General of the Army Medical Department, I beg to ask the hospitality of your columns in the following matter.

Antityphoid inoculation remains, unfortunately, on a voluntary basis in our army, and it is only possible to secure the benefit of its protection to our troops by persuading the officers and men, first, of the reality of the danger of typhoid fever; and, secondly, of the protective value of the vaccine.

Needless to say, no efforts are being spared by the Medical Department of the Army to give effect to Lord Kitchener's strongly expressed wish that as many men as possible should be inoculated, with due regard, naturally, to the exigencies of the military situation. Steps have already been taken to impress this upon all concerned with the medical care of the Home Forces, as had already been done in the case of the Expeditionary Force.

Many, however, of the medical officers of the Territorial Force, as well as the newly-enrolled civil surgeons, are less familiar than Royal Army Medical Corps officers either with the danger of typhoid in epidemic form, to which the Home Forces will most certainly be exposed, or with the high protective value of antityphoid inoculation. I have no doubt that these officers, and also members of the profession outside the ranks of the army, will be consulted on the subject by many who are in doubt as to the value or the necessity of the process. In such cases I venture to appeal for the strong support which it will be in their power to give to the efforts we are making to secure the protection of the Territorial Force.

The facts relating to inoculation and its results have been widely published in recent years and the pronounced benefits and harmless nature of the procedure are admitted by all who have had experience of it. I may, however, refer to a few points which, although well known to army surgeons, are less familiar to others.

1. No army in recent wars has escaped typhoid fever, which, in several campaigns, has killed more men than the enemy. In the South African war, for instance, there were 57,684 cases of typhoid, of which 19,454 (33 per cent.) were invalided and 8,022 (13.9 per cent.) died. The deaths from typhoid exceeded the total number of men killed in action.

2. It would be most rash, in the opinion of those who have studied the question, to assume that the forces serving at home will not be exposed to the dangers of typhoid in epidemic form.

3. The benefits of inoculation are so well recognized in the regular forces that we find little difficulty, in foreign stations, in securing volunteers for inoculation; for instance, about 93 per cent. of the British garrison of India have been protected by inoculation, and typhoid fever, which used to cost us from 300 to 600 deaths annually, was last year responsible for less than 20 deaths.

4. Inoculation was made compulsory in the American army in 1911 and has practically abolished the disease; in 1913 there were only 3 cases and no deaths in the entire army of over 90,000 men.

The organization for the preparation and distribution of the vaccine should be equal to all the demands made upon it. In view of the possibility of such an emergency as has now arisen, arrangements were made some years ago at the R.A.M. College to prepare and maintain a very large reserve of the vaccine, and from this reserve we have been able to issue, since mobilization, more than 170,000 doses for the use of the troops. The Vaccine Department at the R.A.M. College, under Major D. Harvey, will continue, for the present, the preparation of the vaccine, and we are also fortunate in receiving most generous and valuable assistance from the staff of the Lister Institute and from Sir Almroth Wright.

The ideal of universal protection is, I fear, too much to hope for, but, with the support of the profession, on which I feel sure we may count, we may hope to save many valuable lives and to minimize one of the gravest causes of depletion of the fighting force.—I am, Sir, yours obediently,

W. B. LEISHMAN,
Colonel, R.A.M.C.

War Office, Aug. 16th.

MEDICAL ATTENDANCE ON PATIENTS OF PRACTITIONERS ON MILITARY DUTY.

THE information printed below, taken with that published last week, shows that the profession generally in all parts of the country is prepared to undertake to attend gratuitously the necessitous wives and dependants of men absent on military duty. As mentioned on the preceding page, a scheme prepared by the officers of the British Medical Association and the Pharmaceutical Society for the organization of the work and the provision of drugs and appliances is now under the consideration of the Cabinet Committee. The scheme would be worked in co-operation with the local Distress Committees, through which the Prince of Wales's Fund is to be administered. Dr. E. R. Fothergill writes to express the opinion that it would be wiser for the profession to subscribe to the Prince of Wales's Fund for the Relief of Distress than to offer to give medical attendance gratuitously to the wives and children of the men now serving. Whatever opinion some hold on this point, all will agree on the necessity for an organized scheme, under which all the members of the profession in each locality shall act together. It is eminently undesirable that any individual practitioner should, from whatever motive, make a personal announcement of his willingness to give those services which all his colleagues are equally ready to render.

The *National Insurance Gazette* is publishing this week a leading article in which it again refers to "the most handsome and patriotic action of the doctors in offering free treatment to the necessitous dependants of their panel patients called to the front. This action," it adds, "has already been much admired by Insurance Committee men and representatives of approved societies. . . . We should gain enormously if the doctors looked on us as friends. . . . They, too, would gain in various ways from

the better spirit. Unfriendly relations have as their outcome suspicion, complaints, demands for a State medical service." We are glad to read and to reciprocate such views, and to believe that what is now happening is leading to a more generous appreciation of the spirit by which the medical profession is actuated. Antagonism between the individual doctor and the individual sick man is unthinkable, and there is really no sound reason why there should be antagonism between the organized bodies representing the one and the other. We are all in the same boat.

LONDON.

Hospital for Officers.

Jeanne Lady Coats has placed her house in Hill Street, Berkeley Square, London, at the disposal of Princess Henry of Battenberg for use as a hospital for sick and wounded officers of the Navy and Army, including the Territorial Forces. It is now being fitted up to fulfil the purpose, and will, it is hoped, very shortly be available. Dr. Rice-Oxley, Physician-in-Ordinary to Princess Henry, has been appointed medical superintendent of the hospital, and Sir Frederic Eve has accepted the post of surgeon.

METROPOLITAN COUNTIES.

Dr. C. M. Pennefather, Honorary Secretary of the Harrow Division, reports that a circular has been sent to all medical men engaged in general practice within the area of the Division, asking them to give gratuitous medical attendance to the wives and dependants of soldiers and sailors, including Territorials, Reservists, and ambulance men engaged on active service where these dependants are necessitous. Notices have been inserted in the local press calling the attention of persons entitled to avail themselves of this offer, and the local secretaries of the Sailors' and Soldiers' Association have been notified of the willingness of the profession to give their services gratuitously.

Dr. Arthur Todd-White, Honorary Secretary, South-West Essex Division, reports that at a meeting of medical men of the district held at Leyton, it was unanimously resolved that members of the profession should look after the interests and practices of the members who had been called up for service with the colours, and should attend free of charge the dependants of men called up to the army, subject to arrangements being made by the ward committees. It was also resolved to attend without fee wounded soldiers of all nations drafted into the district from base hospitals, and to prepare a list of doctors willing to extend hospitality to wounded soldiers and receive them in their houses. A large committee was elected to deal with local medical matters during the war, of which Dr. Pottinger Eldred was appointed Chairman, and Dr. A. Todd-White, Honorary Secretary. The committee has printed its resolutions in the form of a bill, which has been sent round to all medical practitioners for placing in their surgeries.

At a meeting on August 13th of members of the medical profession practising locally in the borough of Hampstead the following resolutions were unanimously carried:

1. That this meeting of the profession loyally undertakes to safeguard the interests of those colleagues who are called in the service of their country to leave their practices; and that any medical duties for the absentees shall be performed under arrangements favourable to the latter.
2. That the ordinary custom obtaining in the neighbourhood shall be the basis upon which arrangements shall be made.

A copy of these resolutions has been sent to every member of the local profession, and members who might be called up have been informed that in cases where no private arrangement had been made with regard to their practices, every assistance for the safe conduct of such practices will be given on application to the Honorary Secretary, Dr. Adam Oakley, 19, Hollycroft Avenue, Hampstead.

The Middlesex Panel Committee has issued a circular letter recommending the practitioners on the Middlesex Panel to attend gratuitously the dependants of all insured persons who are away from home in their country's service.

KENT.

Dr. Chisholm Will, Honorary Secretary of the Bromley Division, reports that the profession in that area has agreed to safeguard the interests of their colleagues called away in the service of their country, and that the Executive Committee of the Division, with power to add to its number, has been empowered to take any action which may be necessary. In case a doctor called away is unable to make personal arrangements with doctors in his neighbourhood, he is asked to notify the Secretaries, Dr. Tennyson Smith or Dr. Chisholm Will, who will attend to the matter.

The meeting resolved to provide free of charge attendance and prescriptions for the necessitous dependants of those who were on military duty, provided that the cases are vouched for by a properly constituted local relief committee. All the practitioners in the area and also the Clerk of the Kent Insurance Committee have been notified of the arrangements.

SURREY.

Dr. T. W. Letchworth, Honorary Secretary of the Kingston-on-Thames Division, reports that a meeting of medical practitioners in that area was held on August 11th, when the following resolutions were unanimously passed:

1. That any doctor called away on duty in connexion with the war be invited in the first instance to make his own arrangements for carrying on his practice.
2. That if he be unable to make such private arrangement he shall notify same to the honorary secretary of the local Division.
3. That in cases so notified the arrangements for the carrying on of the absent practitioner's practice shall be left in the hands of trustees.
4. That the local practitioners bind themselves to attend any patient belonging to the absent practitioner, and decline to continue to attend them after his return unless released by the practitioner, and to protect his practice under all eventualities.

The following were elected trustees of absent practitioners: Dr. Cooper, Dr. Goodman, and Dr. A. E. Evans.

It was also carried, *nemine contradicente*, that gratuitous attendance, advice, and treatment be given to the direct dependants of soldiers and sailors recommended as necessitous by the relief committees in the area. A copy of this last resolution was sent to the relief committee.

Mr. E. H. Willock, Honorary Secretary of the Croydon Division, reports that the Division has appointed a Provisional Committee to deal with the present emergency, and has co-opted certain non-members of the Association. A circular has been sent to all practitioners, which states that at a meeting of Croydon doctors it was agreed that gratuitous medical attendance should be given to those cases which are really necessitous, and dependent for their support upon one serving in the war. It was recommended that each patient should be supplied with a voucher, to be obtained from the local relief committee, but that urgent cases would be treated without a voucher, a voucher being obtained before further attendance is given, and that midwifery cases would be attended at a reduced fee on the production of a voucher—the amount of reduction to be agreed upon between the doctor and patient.

The chemists in Croydon are co-operating, and will dispense medicine at cost price without any charge for dispensing. Forms have already been drafted (1) for requesting the doctor to attend a person who is vouched for by the Mayor's Medical Relief Committee, and (2) for the prescriptions ordering medicines for any of these persons.

Mr. Willock reports that similar arrangements have been made in the Sutton, Epsom, and Leatherhead areas of the Division.

SUSSEX.

A conjoint committee, representative of the Brighton Division of the British Medical Association, the Panel Committee for the Borough of Brighton, and the Panel Committee for East Sussex, has been formed for the purpose of dealing with questions which will arise in consequence of the absence of practitioners who are called upon to render military service (medical or otherwise) during the war. It held its first meeting on August 12th, when the following resolutions were passed:

1. That every practitioner who is not mobilized should be willing to assist in carrying on the practice of those practitioners who have been.
2. In view of the fact that practitioners who are mobilized will receive payment from the Government for their services, this Committee considers that those doing the work of the absent practitioners should not be wholly unremunerated by them.

3. That every practitioner called to attend a patient of another practitioner who has been mobilized should do all in his power to safeguard the interests of the absent practitioner.
4. That if it should be considered necessary to provide for the medical attendance of the dependants of soldiers and sailors (regular, territorial, reserve, or otherwise), this Committee is of opinion that the local committee of the National Relief Fund should enter into arrangements with the existing organizations in the district, such as the Brighton Public Medical Service and the Provident Dispensary.

An offer by the Executive of the Division to nominate members to serve on the local relief committee has been cordially accepted.

South-Western.

Dr. E. J. Donbavand, Honorary Secretary of the Plymouth Division, reports that at a largely attended meeting of members of the profession in Plymouth, held on August 12th, the opinion was expressed that a register should be compiled of all qualified medical men willing to give all or any part of their time to doing the work of practitioners who are serving on military duty. Dr. Donbavand has undertaken to keep this register.

East Anglian.

At a meeting of the East Norfolk Division of the British Medical Association held in Norwich on August 12th, 1914, the following resolutions were passed unanimously, and it was requested that, unless locumtenents, partners, or others are definitely engaged to act for practitioners absent on war service, the resolutions will be complied with by practitioners in the area:

1. That the members of the Division pledge themselves to help all those practitioners in the area called away on national service in their practices.
2. As regards Poor Law practice, that any substitute or substitutes doing Poor Law work for a practitioner absent on national service should be paid one-third of the salary arising from the appointment during the absence of the principal.
3. As regards private practice, uninsured members of friendly societies, and other public appointments, that any substitute attending the private patients of a practitioner absent on national service should send in his record of the work done to the absent practitioner; this latter will send in his accounts and pay to the substitute one-third of the amount received in payment of these accounts.
4. Insurance Acts practice: That the practitioners on the panel in this area agree to attend free of charge to the absent practitioner any insurance patients on his list, the patient being requested to go to the nearest practitioner.
5. That the families of Reservists and Territorials absent on national service not otherwise provided for, and who may be in poor circumstances, be attended free.

N.B. Resolution 4 was approved and adopted at a meeting of the Norfolk Panel Committee held subsequently to the British Medical Association Division meeting.

Dr. J. L. Forrest, Honorary Secretary, West Norfolk Division, reports that at a special meeting of the Division held on August 12th, it was resolved that the members should assist in every way possible to safeguard the interests of their colleagues absent on national service, and should undertake gratuitously the treatment of all dependants of Reservists and Territorials on active service.

Midlands.

Dr. A. M. Pilcher, Honorary Secretary of the Chesterfield Division, reports that at a meeting held on August 13th it was decided to adopt the Southampton scheme, and that all work done (private and panel) should simply be entered into a day book (no insurance records to be kept). It was resolved also to recommend that practitioners should treat the wives and necessitous dependants of all those called to the colours (midwifery excluded), and that the fees for ambulance and Red Cross lectures should be suspended during the war.

Mr. Alfred Linnell, Secretary of the Northamptonshire Panel Committee, informs us that at a meeting of that Committee held on August 12th at Northampton the following resolutions were passed:

That 25 per cent. of receipts be paid by absentee practitioners to their deputies (to cover expenses) for panel patients (payment to be made on a basis of number of record cards) and 50 per cent. for all others whether club, private or confinement.

That these proposals be put before practitioners in the areas affected, and if accepted by them be notified by circular to all the panel practitioners in the county and if no disapproval be expressed within four days approval will be taken for granted.

Drs. Baxter and Robb were appointed a deputation to visit the areas affected and interview the local medical men. It was decided that no panel practitioner should accept a transfer of any panel patient from the list of a panel practitioner on active service.

The Committee also resolved to recommend that dependants of men on active service be attended free of charge, and the Secretary was asked to write to the Pharmaceutical Committee and inquire if the chemists would co-operate.

Birmingham.

At a meeting of the whole profession in this district a Committee was elected to care for the practices of medical men called out, and to organize gratuitous attendance on dependants of men on active service. The Chairman of the Committee is Mr. W. F. Haslam, and the Honorary Secretary, Dr. A. G. C. Irvine (Bonshaw House, Selly Oak).

The case of the practices of specialists and consultants was referred to the Birmingham Consultants' Committee.

It was arranged that the ward secretaries of the Birmingham and District General Medical Practitioners' Union should summon meetings, to which all practitioners in the ward area should be invited, to arrange that as far as practicable the work of the absentees should be divided and undertaken.

A subcommittee has met a subcommittee of the Medical Benefit Subcommittee and arrangements have been made, it is hoped of a permanent order, to deal with Insurance practices. In one or two instances of very large panel practices it has been necessary to engage a locumtenent.

A circular letter to patients of absent doctors was drawn up, and copies will be supplied to their representatives. The letter was in the following terms:

Your medical attendant has been called away from his practice to serve his country.

This Committee is formed to ensure, as far as possible, that he shall not by so acting lose his practice, which is his livelihood.

Any of your doctor's medical brethren are now willing to attend you *for him*, and at the end of the attendance will send in an account payable to him.

This is all we are able to do, but it is in your power to do still more—by keeping faithfully to your own doctor on his return, at however long an interval, to his practice.

We feel confident that this appeal to your patriotism will not be in vain.

Staffordshire.

Dr. H. C. Mactier, Honorary Secretary of the South Staffordshire Division, reports that the Wolverhampton Panel Committee (of which he is also honorary secretary) has arranged for the attendance upon insured persons on the lists of those panel practitioners who are called away on military duty.

The Division has asked practitioners generally: (1) To undertake to treat the patients and safeguard the interests of those members serving with the forces; (2) to regard themselves as deputies for those on active service, the remuneration being a matter of arrangement between the two practitioners, and has urged that after the return of a practitioner from service the deputy shall refuse on any consideration except that of urgency to treat any of the returned practitioner's patients, whom he has seen as deputy, for a period of twelve months; and (3) to undertake the gratuitous treatment of the dependants of the non-commissioned officers and men called to the colours during the war.

Dr. Mactier reports that the response to these requests has in both cases been excellent.

Lancashire and Cheshire.

Dr. J. Shearer, Honorary Secretary of the Blackburn Division, reports that the Chairman of the Blackburn Local Medical Committee has issued a letter to the medical men of the town who are not called away suggesting that they should voluntarily undertake to attend the patients of absent doctors, "and preserve intact their practices and emoluments." It will be arranged that patients will have a free choice among the doctors nearest their residences. Already 48 out of 64 medical men in the town have intimated that they are ready to do the work in

accordance with the terms of the letter, and it is believed that the others, some of whom are at present away, will do the same.

Dr. C. Jephcott, Honorary Secretary of the Chester Division, reports that at a meeting of the profession held on August 12th, the following resolution was passed and sent to all practitioners in the Division area:

> That this meeting of the medical profession loyally undertakes to safeguard the interests of those of their colleagues who are called to leave their practices in the service of their country, and also undertakes any medical duties for the sole benefit of the absentees.

Dr. Robert Harris, acting as Honorary Secretary of the Southport Division in the temporary absence of Dr. Harker, reports that at a meeting of the profession called by the Division, held on August 15th, it was resolved to safeguard the interests of those called to leave their practices in the service of their country, and to undertake any medical duties for the sole benefit of the absentees. The opinion was expressed that the interest of those whose services had been accepted would be best consulted by their making their own arrangements. The Executive Committee of the Division was appointed a committee to look after the interests of any for whom private arrangements have not been made, and the meeting also resolved:

> That the medical profession would be willing to attend gratuitously necessitous dependants of reservists who may be recommended to them by the Case Committee of the local National Relief Committee, and that the Case Committee should be informed of this decision.

Dr. F. J. Knowles, Honorary Secretary of the St. Helens Division, reports that at a well-attended meeting of the Division, held on August 17th, it was unanimously resolved: (*a*) That practitioners in the neighbourhood should pledge themselves to safeguard the interests of those colleagues called away on active service, and to undertake any medical duties on their behalf; (*b*) to give their gratuitous services to the wives and children (up to the age of 16) of all those men engaged in the present war—including the provision of necessary medicines; and (*c*) to call the attention of the profession to the scarcity and high price of certain drugs and to the necessity of economy.

NORTH OF ENGLAND.

Dr. James Don, Honorary Secretary of the North of England Branch, reports that a circular letter has been sent to all the members of the Newcastle Division stating that at an emergency meeting representing all branches of the profession in Newcastle it was unanimously decided that it is the duty of those who remain at home to safeguard the practices of those who are serving their country, and that all members of the profession should be asked to attend without remuneration any patients, whether private or panel, belonging to practitioners called to active service. It was suggested that the detailed arrangements should be dealt with by the practitioners in the various areas of the city. The circular made the following suggestions:

> As regards private patients, records of visits and consultations to be kept; medicine to be supplied by the practitioner or a prescription given signed by the practitioner giving the prescription, and stating the name of the practitioner for whom he is acting.
>
> As regards panel patients, records to be kept in such a way as to satisfy statutory obligations. Patients calling at the surgery of any of the doctors called away will be given the visiting card of their own doctor as evidence of their bona fides.

Dr. Rutter, Chairman of the Panel Committee, is prepared to make arrangements for any practitioner who is suddenly called on active service. The chemists have arranged that they will dispense medicine for private patients on panel terms.

Dr. Don reports that similar arrangements are being made in neighbouring Divisions.

YORKSHIRE.

Dr. R. F. Castle, Representative of the Barnsley Division, acting in the absence of Dr. Harold Horne called away on service, has circularized all the practitioners in the area of the Division, suggesting that they should follow the example set by Southampton, by each medical man undertaking (1) to do his best to safeguard the interests of any of his colleagues who may be called upon to serve his country, so that the absentee may suffer as little loss as possible; and (2) to attend gratis the families of any men called away on duty connected with the war.

Dr. Castle has intimated in his circular that he will take no reply as meaning an assent to the proposition, and does not anticipate any refusals.

LOCAL HOSPITAL AND OTHER MEDICAL ARRANGEMENTS.

BRIGHTON.

The Mobilization of a Territorial Hospital.

THE mobilization at Brighton of the 2nd Eastern General Hospital, which is one of twenty-three similar hospitals of the Territorial Forces in the United Kingdom, is, perhaps, a good example of the readiness with which the force can act in an emergency and a proof of the ability and soundness of the organization now prevailing at the War Office.

The Royal Proclamation which ordered a general mobilization of the Territorial Forces was promulgated on Tuesday, August 4th. The administrative officers of the 2nd Eastern General Hospital at once took measures to ensure that their hospital should be ready at the earliest possible moment for the reception of sick and wounded men. The peace strength of the company consists of three administrative officers and 43 non-commissioned officers and men, together with a staff of 31 medical officers, whose services became available on mobilization. At war strength the number of non-commissioned officers and men is increased to 110. The necessary additional men were obtained with the greatest ease in a few days; in fact, so many were the applications that a very careful selection was made from those who were anxious to enlist. All the men were at once provided with uniforms.

After the numerous preliminary arrangements had been made, the first and great essential was to secure an appropriate building. The new Grammar School, situated in a particularly healthy, elevated, and open part of the town, in the upper part of the Dyke Road, was requisitioned. The building is a handsome new structure of red brick, standing in its own grounds, and consisting of two main blocks, the school itself, and the boarding house, both eminently suitable for use as hospital buildings. The head master and governors showed a truly patriotic spirit, although to them the seizure of the school was a very serious matter, for it meant the closing of the school certainly for next term, possibly for longer. They made no difficulties, but at once set about finding a fresh building to which their boys might return in September.

The school was occupied on Friday, August 7th. On Thursday, August 13th, the hospital was ready in all respects to receive 150 patients, or even on an emergency 260. The total number to be provided for eventually is 520. The buildings have now quite a military appearance with the large Red Cross flag flying, and the gates closely guarded by uniformed men. A few patients are under treatment in the hospital at the present time, territorials who have been seized with illness on duty.

In addition to the Grammar School, the authorities have occupied Stanford Road Council School, not very far distant. At the present time it is being used as a barracks for the men of the unit, but later it is intended to provide hospital beds there. The school is now being cleaned down thoroughly, and all arrangements made for the opening of the wards, etc. The men are at present messing at the Grammar School, where the cooking arrangements by men of the unit, who with only one range and one gas stove are providing good meals for over one hundred men, deserve every praise.

As to the details of organization, a few words will be appropriate. The beds and bedding have been obtained largely from private sources. Thus the head mistress of Roedean Girl's School, Miss Lawrence, sent 80, 100 were already in the Grammar School Boarding House, 50 were procured from the guardians of the Brighton parish, private inhabitants have given some, others are being purchased from local dealers, and some are on order from Birmingham. Drugs, dressings, stores and instruments have been purchased locally, in addition to those sent down by the Army Medical Department. All provisions, meat, groceries, vegetables, bread and milk are being procured from tradesmen in the town, and no attempt is being made by them to run up the prices. Stores of all

kinds have been laid in—in the way of provisions, jam, marmalade, rice, tapioca, lentils, bovril, cocoa, corn flour, lemonade, etc.; in the linen department, sheets, towels, bedspreads, and socks. Several gas stoves have been fitted by the Brighton and Hove Gas Company, and some new hot and cold baths have been installed. Every facility and encouragement is given to the men to have baths on the premises, and the registrar takes the whole unit when possible down to the sea in the early morning to bathe.

In four days the laundry was successfully converted into a really excellent operating theatre. All the requisites of a modern operating room are present, and any operation, major or minor, can be undertaken there.

An *x*-ray department, quite up to date, is in process of equipment, and rooms for the proper treatment of dental cases, and for the examination of nose, throat, eye, and ear cases are being arranged.

There is a fully equipped consulting room, where the orderly medical officer sees casualties, men reported unfit for duty, etc. This has been in use for some days. A mortuary has also been provided. The administrator's and registrar's offices are complete, and rooms have been, or are being, fully prepared for the matron, theatre sister, and various other officials, medical, administrative, and nursing.

The administrative staff consists of a major as administrator, a lieutenant as registrar, and a quartermaster. The medical staff is made up as follows: Two lieutenant-colonels, four majors, and twelve captains, most of them drawn from the staffs of the various local hospitals, all with special experience of surgery, medicine, or with some specialist knowledge. There are also thirteen other officers whose services may be utilized if necessary. Their duties so far have been to examine recruits, not only for their own corps, but for various other units, such as the Army Service Corps, the Artillery, the Cyclist Corps, etc. In addition they have been treating sick and injured men, and performing various sanitary and administrative duties. In the future their work will mainly consist in the medical and surgical treatment of the sick and wounded sent to the hospital by the army authorities, including the performance of any necessary operations.

The nursing arrangements are well forward. A principal matron, a matron, about thirty sisters, and ninety nurses is the full staff, all of whom have been recruited, although they have not, so far, all been sent for. Many come from the Sussex County Hospital, and others from all parts of the county. They are at present all billeted at the Convent of the Sacred Heart in the Upper Drive, where they have received a hearty welcome from the nuns, most of them French, who are most anxious to be of assistance to the allies of their country.

The dispensary is well equipped with drugs, dressings, splints, and crutches. All arrangements are made for properly dispensing the medicines ordered.

The routine day of the men is at present as follows:

Reveillé	5.0 a.m.	Dinner	1.0 p.m.
Bathing parade ...	6.0 ,,	Parade	2.15 ,,
Drill	7.30 ,,	Tea	5.0 ,,
Breakfast	8.0 ,,	Bed	9.30 ,,
Commence duties	9.0 ,,	Lights out ...	10.0 ,,

Every credit must be given to those concerned in mobilizing this 2nd Eastern General Hospital, from the administrator, registrar, and quartermaster down to every single private. All have worked magnificently, and this fully equipped hospital, ready in so short a time after the order from the War Office, for the treatment of our sick and wounded soldiers and sailors does them the very greatest credit.

SHEFFIELD.

The 3rd Northern General Hospital (T.F.).

Sheffield is the head quarters of the 3rd Northern General Hospital, with Lieutenant-Colonel A. M. Connell as commandant and Captain G. H. Pooley as registrar.

Lieutenant-Colonel Duncan Burgess has been appointed officer in command of the medical section and Lieutenant-Colonel Sinclair White officer in command for the surgical section. A full complement of medical officers whose names appear in the *Army List* as "available on mobilization" have signed on for service, and Lieutenant-Colonel Burgess and Lieutenant-Colonel Sinclair White are already in active work. An ever-increasing number of patients is being received from the Territorial camps in the neighbourhood of Doncaster and elsewhere. The revised scheme for a military hospital has been adopted. The King Edward VII Grammar School, the hostels for male and female teachers, and the Teachers' Training College have been taken over. The hostels are new buildings, and the King Edward VII Grammar School and Training College have been quite recently renovated. All four buildings are of stone, situated in a healthy locality, with plenty of surrounding open spaces. They are well drained, suitably heated, excellently lighted and ventilated, and have water, gas, and electric supplies. The two hostels and the Grammar School are provided with good kitchens and a large supply of kitchen utensils. The whole scheme provides accommodation for 20 sick officers and up to 606 beds for soldiers. It provides also for housing 91 female nurses and the 43 men forming the hospital male unit. At the end of last week 200 beds were available, and within a few days the rest of the accommodation will be ready. The authorities of the city of Sheffield have set aside 150 beds in the municipal hospitals for the treatment of soldiers suffering from typhoid fever and other infectious diseases. The Royal Infirmary and the Royal Hospital will, if required, provide over 200 additional beds. The Woofindin Convalescent Home, containing 70 beds, has been offered by the trustees and will form a valuable asset.

The male unit staff of the hospital is full to overflowing, and the men are in a high state of efficiency. They will be supplemented by two county companies of the Red Cross Society. The female nursing unit—120 strong, all fully-trained hospital nurses—is mobilized and ready for work at an instant's notice.

Field Ambulance.

Sheffield is also the head quarters of the 3rd West Riding Field Ambulance under the command of Major J. W. Stokes. The unit, with its full complement of 240 men, was mobilized a week ago and has left Sheffield to take up its allotted station. Numerous offers from private citizens to provide additional hospital accommodation are pouring in, and everybody is desirous to help.

Ordinary Work of the Hospitals.

The many gaps in the hospital staffs owing to the withdrawal of doctors by the Territorial regiments have rendered the work of those remaining very heavy, but all are working with zeal and determination to see the thing through.

MANCHESTER.

The Red Cross flag is now flying over the Manchester Royal Infirmary and the Central Receiving Branch on the old infirmary site in Piccadilly. The East Lancashire Branch of the British Red Cross Society was formed about four years ago and under the energetic direction of Colonel Coates, the County Director, is now rapidly perfecting its organization. The chief object is to make good the gap existing between the fighting line and the base hospitals, and the East Lancashire area has been divided into twenty-eight divisions often with some further subdivisions. At least two detachments, one of men and one of women, are to be raised in each division, the men's detachment consisting of a commandant, preferably a retired officer, a medical officer, a quartermaster, a pharmacist, four section leaders, and forty-eight men, most of whom are required to have a certificate for first aid. The women's detachment is to consist of a commandant or medical officer, a lady superintendent who must be a trained nurse, a quartermaster, and twenty women, all of whom except the cooks are to hold a first aid and home nursing certificate. Offers of assistance have been pouring in from all sides, and among them are offers of houses and buildings for hospitals and convalescent homes, all free of charge. Worsley Hall and Park has been offered by the Earl of Ellesmere, Haigh Hall and the Woodlands by the Earl of Crawford, Stubbins Vale House, near Ramsbottom, by Mr. Porritt, and the large house and grounds called Summerville, at Irlams o' th' Height, by Sir Lees Knowles. The Convent of the Cenacle near Alexandra Park has also been offered, and numerous other residences.

It was at first proposed to take the Manchester School of Technology and fit it up with about 1,200 beds, but it was not found to be altogether suitable, and at present the

Manchester Secondary Schools in Whitworth Street are being rapidly converted into a general base hospital. If necessary, room could be found for over 1,000 beds, but it is proposed to provide at the outset 520 beds. The nurses are at present housed in Dalton Hall and Hulme Hall, the residential halls of university students. School buildings at Rusholme, Fallowfield, Whalley Range, Stretford and Old Trafford are also to be used for hospital purposes, arrangements having been made for the pupils at other schools.

It is the wish of the East Lancashire Branch to send to the front a Red Cross Hospital fully equipped and staffed in every way, and an appeal is now being made for funds for that purpose. The central office of the Branch is now at the Y.M.C.A., Peter Street, Manchester. Messrs. Tootal, Broadhurst and Co., of Manchester, have undertaken to receive and pack and send to their destination all comforts intended for soldiers and sailors, or for the various military hospitals, and several typewriting institutions have placed their shorthand and typist clerks at the disposal of the branch. It is believed that the organization is so ready that it could at twenty-four hours' notice from the military authorities accommodate 3,000 to 4,000 casualties.

The 18th Field Ambulance of the R.A.M.C., Manchester, under the command of Colonel Watson, has definitely taken over the responsibility of joining the expeditionary army on foreign service. The unit is complete in both personnel and equipment, and though a part of the R.A.M.C., Manchester Territorials, is known as the Special Reserve, as the men have received a retaining fee from the Government to seal their contract for foreign service. The 2nd Field Ambulance, under the command of Lieutenant-Colonel W. B. Pritchard, has also been invited to volunteer for foreign service, and the response has been most gratifying to the military authorities.

BIRMINGHAM.

1st Southern General Hospital.

The university buildings at Bournbrook have been taken over for the 1st Southern General Hospital, and at the end of the period allowed for organization Lieutenant-Colonel F. Marsh was able to announce that the hospital was prepared to receive 520 patients, and that the staff consists of 21 officers, 109 non-coms. and men, matron, 22 sisters, and 63 staff nurses.

Accommodation for the nurses is provided in the Women's Hostel, and for the men in the physics laboratory. The university authorities have co-operated wholeheartedly with the unit in their efforts; some of the staff returned from their holidays in order to assist in supplying light and electricity.

LEEDS.

2nd Northern General Hospital (T.F.).

The large new training college for teachers, situated in Beckett's Park, Far Headingley, which is the finest equipped centre of its kind in the country, has been requisitioned for the purposes of the base hospital for the reception of the sick or wounded. This will be staffed by those members of the honorary staff of the Leeds General Infirmary who hold commissions in the R.A.M.C.(T.), and whose services were made available on mobilization. A staff of dressers and clerks has also been secured, and it is believed that the arrangements will work smoothly through the period of stress which is impending. Mr. J. F. Dobson is the officer in charge of the arrangements. In the main building 200 beds have already been prepared, and this number can be increased to 500. Additional beds, bringing the total up to 2,000, can be secured by the erection of marquees in the grounds. There is good tramway communication between the base hospital and the centre of the city, and the members of the staff have been ordered to hold themselves in readiness for instant service when required.

The General Infirmary.

In addition, the authorities of the General Infirmary have converted their large out-patient waiting hall into an emergency ward with some 50 beds, and arrangements have been made with the Leeds Public Dispensary for taking over the ordinary out-patient work of the institution during the time that this may be required.

Nursing.

The Lady Superintendent of Nurses at the General Infirmary, Miss Innes, will be in charge of the base hospital, and will have under her one of the former sisters of the Infirmary, Miss Hill, who is now Matron of the Halifax Infirmary, and a certain number of the sisters and nurses who have been working under her at the Infirmary, whose places will be filled by the appointment of new probationers.

Voluntary Aid Detachments.

The Territorial Branch of the St. John Ambulance Association is developing its Voluntary Aid Detachments, and will render valuable assistance.

WALES.

The organization of voluntary work in Wales to supplement the Army Medical Service during this titanic war has been taken up with quiet determination and much vigour.

Field Ambulance.

The 2nd Welsh Field Ambulance, under Colonel Tenison Collins, R.A.M.C.(T.), has had the distinction of being accepted for foreign service, and is ready to start at a moment's notice. Mr. Tenison Collins is the well-known gynaecologist to King Edward VII Hospital, Cardiff.

Hospitals.

The only base hospital in Wales (the 3rd Western General Hospital, T. F.) is under the command of Colonel Hepburn, V.D., who for many years has been a most keen volunteer, and has at last had an opportunity of displaying his great power of organization; this has already been shown in civil life in connexion with the organization of the National Medical School of the University of Wales, which for the moment must rest until war preparations are completed.

At King Edward VII Hospital 150 beds have been placed at the disposal of Colonel Hepburn by the Board of Management, and schools are converted into wards to bring the total to the establishment number, 520.

Mr. James Howell, J.P., has, on behalf of the family of the late Mr. James Howell, given the old Mansion House for fifty beds for Red Cross work; and Bedford House, the private nursing home of Mr. Lynn Thomas, is also at the disposal of the Army Medical Service.

Roughly, there are 2,000 beds in Glamorgan available in case of need.

Red Cross Organization.

Lord and Lady Plymouth have been busy in completing the Red Cross organization in Glamorgan. There are sixty voluntary aid detachments in Glamorgan, with a personnel of 1,901, and an appeal has been made for £6,000 equipment fund (£100 for each detachment). The Lady Mayoress of Cardiff convened a public meeting for the appeal at the City Hall, and, considering the short notice, it was one of the most remarkable meetings ever held in Wales for Red Cross work.

Great activity has been shown in Cardiganshire under the President of the Red Cross, Lady Webley-Parry-Pryse, and Sir Edward Pryse has been indefatigable in his exertions to assist. He belongs to an old fighting stock, and was in the Zulu war and in the Boer war, where he received serious injuries. Lady St. Davids is actively at work in Pembrokeshire, and Carmarthenshire's Voluntary Aid Detachments are being got ready by that gallant veteran, Sir James Hills-Johnes, V.C.

SCOTLAND.

MEDICAL SERVICE EMERGENCY COMMITTEE.

The Chairman of the Scottish Committee of the British Medical Association, Dr. J. R. Hamilton, reports that the Medical Service Emergency Committee appointed jointly by the Scottish Committee and Representatives of the Universities and Colleges in Scotland has elected Dr. Norman Walker to be Convener.

The Committee has been constituted for the purpose of assisting to meet the immediate difficulties, in regard to medical practice among the civil population, which have arisen or may arise owing to the departure of practitioners summoned to take up military duty.

It is understood that some 300 Scottish practitioners have been thus called away from their practices, and more are liable to be called for at short notice.

In large towns these difficulties are little felt, for the practitioners remaining have willingly undertaken to attend to the work and to safeguard the interests of their absent colleagues. But in smaller places and in rural districts such friendly arrangements are less easily made. Locumtenents are not numerous and the rate of remuneration they expect tends to become prohibitive.

To cope with the emergency the Committee suggests that the following steps should be taken:

1. That it should be generally agreed that the fee offered to a locumtenent taking the work of a practitioner engaged in military duty should not exceed 5 guineas a week.
2. That retired practitioners willing to relieve their professional brethren, and so to enable them to serve their country in the field, should send their names to the Emergency Committee forthwith for registration and ultimate allocation to temporarily vacant practices.
3. That it be suggested to the educational authorities that school medical officers should be permitted to give at least part of their time to general work.
4. That the visiting staffs of large hospitals, infirmaries, and asylums should consent to a reduction of the numbers of their medical residents and clinical assistants, and should themselves undertake a proportion of the work usually assigned to these junior officers.
5. That in the larger towns young practitioners, whose practices are not yet extensive, should in pairs make an arrangement whereby one undertakes the whole town practice for, say, two months, while the other acts temporarily in the country for a third colleague absent on duty; and so alternatively for successive periods.

In these and other ways the Committee has reason to believe that a sufficient supply of practitioners for the present need could be provided; what is still required is to bring the workers and the work together.

The Committee is convinced that the profession generally will recognize that the needs of the civilian population must continue to be met, even in the presence of an imperative call for an adequate service in the field, and that whoever relieves a colleague summoned to military duty *ipso facto* is also serving his country in this time of stress.

The ordinary agencies for the supply of qualified assistants and locumtenents are in active operation, and they should in the first place be resorted to by practitioners requiring such assistance. The Committee does not propose to assume the functions of such agencies; but by furnishing a bureau or "clearing house" for the collection and dissemination of information, on the one hand regarding districts or practices deprived of qualified practitioners to work them, and on the other hand regarding practitioners prepared to undertake the duty of supplying such vacancies for a time, the Committee is satisfied that a valuable service may be rendered to the profession and the public.

The Committee is now ready to receive communications from medical practitioners in Scotland who are desirous either of obtaining or of affording professional help in the circumstances above indicated. All such communications should be addressed to The Convener, Medical Emergency Committee, Royal College of Physicians, Edinburgh.

Edinburgh.

If one may judge from the numerous offers of hospitals, nursing homes, convalescent homes, and private mansions recorded daily in the local newspapers, the military authorities in and around Edinburgh should have no difficulty in providing beds enough for their needs.

The 2nd Scottish General Hospital.

An instance of the rapidity and smoothness with which a big change can be made is found in the transformation of the Craigleith Poorhouse into the 2nd Scottish General Hospital in connexion with the Territorial system. It is said that at a day's notice the inmates of Craigleith were transferred to the Craiglockhart institution and the former building converted into a hospital; hardly anything required to be done to the institution itself, save the addition of an *x*-ray department and the enlargement of the operating theatre.

The full working staff of the hospital numbers 220, consisting of members of the Royal Army Medical Corps (T.F.), Territorial Nursing Association, and Red Cross Society, etc. The Commanding Officer and Administrator is Lieutenant-Colonel Sir Joseph Fayrer, Bart., Superintendent of the Royal Infirmary of Edinburgh; Captain D. J. Graham is Registrar, and Hon. Lieutenant C. W. Baker is Quartermaster—these constitute the permanent staff of the hospital. The medical and surgical staff now mobilized consists of the following: Lieutenant-Colonels J. M. Cotterill, C. W. Cathcart, R. W. Philip, and F. M. Caird; Majors W. Russell, G. A. Berry, J. J. Graham Brown, J. W. Hodsdon, G. L. Gulland, D. Wallace, C.M.G.; F. D. Boyd, C.M.G.; and J. D. Comrie; Captains H. J. Stiles, R. A. Fleming, H. A. Thomson, H. G. Langwill, A. Miles, H. Rainy, A. Logan Turner, D. C. Watson, W. Guy, W. T. Ritchie, J. W. Dowden, E. Bramwell, A. S. Skirving, C.M.G.; J. G. Cattanach, G. L. Chiene, E. Matthew, W. J. Stewart, J. Eason, E. W. S. Carmichael, and J. W. Simpson. In the event of wounded being landed, a staff of nearly 100 nurses will be called upon; they will be accommodated in the new Children's Home; at present the number of nurses in residence is limited.

It is understood that a hospital in Edinburgh which had just received from the makers an expensive and up-to-date sterilizer handed it over at once for the use of the Craigleith Hospital, so that there might be no delay in the acquirement of this essential part of the surgical armamentarium; the hospital will in all probability be able to replace the sterilizer in a few days.

Convalescent Hospitals.

Among many similar presentations of buildings for use as hospitals or convalescent homes special mention may be made of Lord Rosebery's offer of Dalmeny House, the Duke of Buccleuch's of Bowhill House, Mr. A. M. T. Fletcher's of Saltounhall, and Lady Ninian Crichton-Stuart's of the House of Falkland. The Edinburgh Branch of the British Red Cross Society has shown great activity during the past few days; the Duchess of Abercorn has agreed to act as Convener of the Work Parties Committee; Professor Caird, Professor Harvey Littlejohn, and Mr. J. L. Ewing are on the Hospital Accommodation Committee; and Mr. Harold J. Stiles is on that dealing with equipment. It is also reported that Dr. John Fraser, F.R.C.S.E., has been appointed specialist in operative surgery at the Military Hospital, Edinburgh; and that Civil Surgeon C. Price has assumed medical charge of staff and departments.

Abandonment of Post-Graduate Courses.

On account of many of the teachers being needed for the 2nd Scottish General Hospital, and because several of the medical men attending the August post-graduate classes in internal medicine had to return to their own countries on the outbreak of war, this course has been stopped for the present year. The September general course and surgical course have also been cancelled for the present season.

IRELAND.

Red Cross Work.

A crowded meeting in connexion with the organization of Red Cross work in Ireland was held last week in the Royal Dublin Society's Lecture Theatre. The Countess of Aberdeen, who presided, expressed great gratification at the splendid response to the invitation to the meeting. The first thing to do was to provide means whereby as large a number as possible could be trained to care for the wounded and look after the health of the general community, who were bound to suffer many trials. Mr. George Fletcher, of the Department of Agriculture and Technical Instruction, said that it had drawn up a syllabus under which a course of instruction in Red Cross work could be provided under three groups: (1) First aid to the injured, (2) hygiene and emergency nursing, (3) ambulance work. Grants would be paid on account of each of these parts of the syllabus. A resolution calling upon the women of Ireland and men who were not serving with the army or volunteers to qualify themselves for Red Cross work was carried amidst applause, and already numerous classes have been started in Dublin and throughout the whole of Ireland.

Temporary Probationers in the Dublin Hospitals.

At a conjoint meeting of the Visiting and Nursing Committees of the Richmond, Whitworth, and Hardwicke Hospitals it was resolved, in view of the present

emergency, to admit, for limited periods of hospital training, ladies anxious to qualify themselves in preliminary hospital work. It is hoped by this means to increase the nursing resources of the country, which at the present moment are being depleted for foreign service. Other hospitals in the city are making similar arrangements.

THE BRITISH RED CROSS SOCIETY.

Organization and Equipment of Detachments.

The first British Red Cross Detachment started for Belgium on August 16th. It was sent at the request of the Belgian Government, for general service with the allied troops, and consisted of 10 surgeons, 10 dressers, and 20 nurses. The surgeons, who were carefully selected for the work, are Messrs. Elliott, Taylor, and Austin, of the London Hospital; Bloom and Erland, of Edinburgh; Wyatt, of St. Thomas's Hospital; and Attlee, Kemp, Neve, and Pascall, of St. Bartholomew's Hospital. Some of the dressers have already had experience in the Balkan war. The nurses are fully trained hospital nurses of not less than three years' training. The members of the detachment took light equipment, and on arrival their services were placed at the disposal of the war authorities. This unit is establishing a hospital at the offices of the Sleeping Car Company at Brussels. Two of the surgeons have gone forward with the Belgian troops.

The rates of payment are: Surgeons, £1 a day, with uniform and rations; dressers, £2 a week, with outfit, uniform, and rations; and nurses, £2 2s. a week, with uniform, rations, etc., and an allowance for outfit.

The Chief Commissioner of the British Red Cross Society in charge at the seat of war is Sir Alfred Keogh, K.C.B., formerly Director-General of the Army Medical Department. Sir Frederick Treves is responsible for the selection of the personnel. No one will be sent out unless seen personally, and so far no medical man over 40 has been accepted.

The British Red Cross Society will continue to send out parties of forty constituted as above unless otherwise advised. Each party takes out stores. To the first party is attached Major Richardson with his ambulance dogs; his assistant is Mr. Cherry-Garrard, who was with Captain Scott in the Antarctic, where he had charge of the dogs.

With regard to dressers, Sir Frederick Treves would prefer to take a body of ten men (picked by a responsible person) from one hospital rather than ten independent individuals. It is hoped that the hospitals will note this request.

So far the society has sent out no orderlies, none having been applied for, but they are certain to be required, and the society is working in close touch with the St. John Ambulance Association; at present all orderlies applying to the society are referred to the association.

Up to midday on August 20th the society had received £34,000 in subscriptions.

Nursing Department.

The nursing department is under Lady Gifford (who nursed for two years in South Africa during the Boer war), assisted by Mrs. Ludlow, R.R.C., late matron of the Royal Free Hospital, who served in Ladysmith during the siege. Queen Amelie of Portugal is acting as registering and checking clerk in the nursing department.

All the nurses sent out are hospital nurses with full training, but as the supply of fully trained nurses fails the society will be compelled to send out with every party of fully trained nurses a small proportion who are not so fully trained. This it is impossible to avoid, as the demand for fully trained nurses is beginning to exceed the supply. So long, however, as the fully trained nurse can be obtained, no nurse will be employed who has not completed her training. It is, perhaps, needless to add that no nurse can be accepted who has not had hospital training, and no application from amateurs can be for a moment considered.

Convalescent Homes and Hospitals.

The society has a very complete and detailed register of beds available in hospitals, or convalescent homes, and in private houses and non-medical institutions. The number of beds on the register is about 50,000. When the War Office needs beds in any particular area the society will have all the particulars ready. Several hospitals in private houses (with 100 beds) are nearly ready, operating theatre and all complete. Cardinal Bourne, Archbishop of Westminster, who was one of the first to offer accommodation for wounded soldiers and sailors, has placed Dollis Hill, Willesden, a large, fully equipped hospital, at the disposal of the society. Mr. G. H. Makins, C.B., and Sir Rowland Bailey have this in hand.

Motor Ambulances and Cars; Ships.

Lord Norreys is compiling, with Sir Frederick Treves, a register of motor ambulances, touring motor cars to be transformed into ambulances, and tractors for fitted carts. When the War Office wants such help in any district full and detailed information can be at once supplied.

No hospital ships have as yet been asked for, but it is thought probable that there will be a demand for boats of shallow draught to convey sick and wounded up shallow estuaries and rivers.

Head Quarters and Store Dépôt.

The head quarters of the British Red Cross Society are at Devonshire House, Piccadilly, W. The premises are so extensive that they afford ample space for coping with the work. The forecourt is being covered with temporary buildings for stores, and the coach houses and garage are being used for offices. A stores department has been established at 83, Pall Mall.

The Hon. Arthur Stanley, M.P., is doing splendid work in the department of stores. Lord Onslow and Major the Hon. R. White look after communications and foreign transport.

Garments for Sick and Wounded.

The British Red Cross Society has issued a pamphlet and a set of patterns for making the following:

- Bed Jacket.
- Helpless Case Shirt.
- Man's Dressing Gown.
- Man's Night Shirt.
- Nurse's Apron.
- Pyjamas.
- Surgeon or Male Assistant's Coat.
- Hot Water Bottle Covers.
- Helmet.
- Jersey (medium size).
- Knee-cap.
- Men's Socks.
- Invalid's Slippers.

The pamphlet has been prepared by Miss Emily Peck, teacher of the dressmaking classes at the Polytechnic, Regent Street, London, and has been made as simple as possible. Particular attention is drawn to the necessity of accurate cutting out, care in fixing and sewing, and evenness in machine stitching. As invalid garments require careful and quick manipulation when being changed, and frequent washing to ensure the comfort of the patient, it will be readily understood that there must be no bulky corners, no puckered seams, no badly worked buttonholes cut too near the edge, and no careless sewing on of tapes and buttons. Attention is also called to the fact that any stitches dropped in a knitted article will spoil it quicker than ordinary wear. The patterns and pamphlet can be obtained from the Red Cross Society (Garments Department), 83, Pall Mall, London, S.W., post free 1s. 8d.

ST. JOHN AMBULANCE.

The Ambulance Department of the Order of St. John of Jerusalem forms part of the Red Cross organization of Great Britain, with the British Red Cross Society and the St. Andrew's Ambulance Association (Scotland), and is recognized by the British Government under Article 10 of the Geneva Convention as a society to assist the medical services in time of war. Funds are urgently needed, as already over 4,000 men of the St. John Ambulance Brigade have been mobilized as hospital orderlies with the navy and army; several thousands more are held in reserve. Surgeons and a large number of fully certified hospital nurses have been dispatched by the Ambulance Department to Belgium at the request of the Belgium Red Cross Society.

THE LEAGUE OF MERCY.

At a meeting of the Executive Council of the League of Mercy on August 18th, under the presidency of Prince Alexander of Teck, it was resolved to utilize the machinery of the League of Mercy as a collecting agency to aid the supply of hospital treatment for the sick and injured from the war. The intention, we understand, is by this special effort, not only to secure for hos-

pitals which are preparing to admit sick and injured soldiers and sailors from the war the accustomed support afforded by the league, but also to meet the additional strain thus thrown on their resources and accommodation by more generous support from the League of Mercy. As an organization the league is well known and its machinery understood, and, without overlapping the valuable work of other agencies, it is well qualified to render in time of war yet greater assistance to the sick and suffering than it has already rendered successfully for fifteen years in times of peace. The British Red Cross Society, which received its Royal Charter nine years after the League of Mercy, is primarily devoted to "furnishing aid to the sick and wounded in time of war," and it is specially empowered "to make and carry out any arrangement for joint working or co-operation with any other association or body, whether incorporated or not, carrying on work similar to any work carried on for the time being by the society." Due care and self-restraint will be needed on the part of such central agencies, and still more on the part of less authoritative bodies and well meaning though sometimes ill-advised philanthropists, in order to co-ordinate these beneficent efforts and avoid overlapping with the resultant conflict and futility.

THE CARE OF CONVALESCENTS.

DR. W. S. GREENFIELD, late Professor of Pathology and Clinical Medicine in the University of Edinburgh, has published in the *Scotsman* a valuable letter, the following extracts from which will be read with interest:

Even in normal conditions during peace there is great difficulty in providing for the after-care of those who have been under treatment in hospitals. This is the case both with medical and surgical patients, but especially so with surgical. . . . It is clear that the immediate or early treatment of the seriously wounded should, as far as possible, be carried out in thoroughly equipped surgical hospitals, provided with a complete staff and all modern appliances. But it would be an enormous advantage if there were also hospitals to which patients could be readily sent by sea or land as soon as they could be moved with safety, where any necessary dressing and nursing could be given. And it would be especially valuable if these hospitals were in healthy suburban or country districts. There will, further, be great need for accommodation for those who only require good food, fresh air, and cheerful surroundings until they recover completely and are fit for work.

To put it briefly, there should be:

(*a*) Thoroughly equipped and staffed central hospitals.
(*b*) Hospitals where only a certain amount of after-dressing and nursing are required; in other words, relief hospitals.
(*c*) Provision for slighter cases, and for complete convalescence. This is especially important, seeing that a large number of men in the navy will be far distant from their homes, and will be unfit to travel far for some time, even after fairly complete recovery from their injuries.

In any provision which is made for (*b*) and (*c*) it should be borne in mind that the places provided may be needed for some months, even if the war be short. Probably three months after the close of the war would not be too long to arrange for. Hence, any buildings which are erected or utilized for the purpose should be such as can be retained for some time, and those responsible should lay their reckoning for a prolonged occupation, which must extend into the winter months.

It is therefore desirable that the buildings selected should not only be suitable for occupation in winter, but that such places as school houses should not be used. Unless in case of actual invasion, school work should be carried on, and the regular life of the people should be as little interfered with as possible. I may add that most school buildings are ill adapted for the purpose; factory sheds and farm buildings would often be preferable. Their use as temporary shelters in emergency is another matter, and they might be reserved for this purpose, if required. There are many hydropathics and hotels or boarding-houses at summer resorts which would be admirably adapted for the purpose. Many of them are practically empty for a great part of the winter and spring, and their use would cost little loss to the proprietors. For such loss they could, if necessary, be compensated on the basis of their average receipts during the corresponding period.

I feel sure that these suggestions will be fully endorsed by all hospital surgeons, and more especially by those who have seen anything of hospitals during and after war. In my own hospital experience of over forty years there is no more painful memory than that of the hospital wards immediately after the suppression of the Commune in Paris in August, 1871, when the beds and the wounded were so crowded together that it was difficult to move between them.

Anything which will tend to diminish the congestion of the central or base hospitals, and which will relieve surgeons from anxiety as to the after-care of cases recovering from serious operations, will be an enormous boon.

Overcrowding of wards is one of the most dangerous factors in the production of epidemic and infectious disease.

Open-air Hospitals.

Dr. W. H. Parkinson, Assistant Medical Officer for Warwickshire, writes to us to express the opinion that a mistake is being made in converting buildings of various descriptions into temporary hospitals. What seems to him more important is the establishment of open-air hospitals, since there is abundant evidence that almost all kinds of cases, but surgical cases in particular, do better in the open air than in buildings of any kind.

Professor Saundby published a letter on the subject in the *Times* last week in the course of which he wrote:

We have learnt, especially in connexion with sanatoriums for consumption, but not alone in that disease, how much better more or less open buildings with abundance of light and fresh air are for the treatment of the sick and wounded. Even so long ago as the Civil War in America in was noticed how much better the sick did in open tents than in the hospitals, and in the *Life of Florence Nightingale* there is an instructive letter from the then Crown Princess of Prussia telling how certain wounded men whose wounds had been doing badly in hospital improved rapidly and recovered after removal to a shed in the garden whose walls did not reach to the roof and on one side was open. The success obtained in the large wards of the Liverpool Country Hospital for Children under the care of Mr. Robert Jones sufficiently demonstrates the value of such open-air treatment for a class of cases that notoriously recover slowly if at all in ordinary hospitals. In Birmingham the Queen's Hospital opened a roof ward some years ago in which medical cases have been treated summer and winter, and at the General Hospital we have enlarged our balconies, and have treated as many medical and surgical patients there as we have room for. It would not only be more efficient but cheaper to put up suitable sheds in the parks and pleasure grounds surrounding the buildings it is proposed to appropriate, which latter may well serve the useful purpose of administration blocks. The patients could then be kept on one floor and more or less in the open air, while it would not be difficult to arrange that in these improvised buildings all the wards should be open to the south.

The suggestion seems worthy of note, especially by those who are seeking to provide for the second and third categories enumerated by Professor Greenfield.

DENTAL TREATMENT FOR SOLDIERS.

IF it be true that an army fights upon its stomach, then it would seem well that this organ should be protected by good teeth. The remembrance of what happened through dental inefficiency in the South African war is still with us; the economic aspect alone can only be represented by many thousands of pounds. Something, no doubt, has been done since then to remedy matters, but at the present time of expeditions and recruiting there is reason to believe that good work may be done in order to raise general efficiency.

The Executive Committee of the British Dental Association on August 6th addressed letters to the Admiralty and War Office offering to assist in arranging to provide dental surgeons to supplement the civilian dental surgeons employed by the Navy and to serve with the Army (Regular and Territorial).

At the same time, members of the association were informed of the action through the honorary secretaries of its branches and asked to offer their services. In response, a great many offers of assistance were received, and in many parts of the country recruits are already being seen and treated.

The Director-General of the Army Medical Service has gratefully accepted the offer, and has asked that recruits otherwise suitable who are rejected on account of defective teeth may be treated. He is sending out notices to all recruiting stations, suggesting to the medical officers that suitable men rejected on account of defective teeth should be given a form of application for dental treatment on the understanding that they submit themselves to medical examination afterwards. The treatment will be limited to fillings and extractions, and no dentures will be fitted.

The form of application will be presented either at some dental hospital or institution where dental treatment of a conservative nature is carried out, or, where there is no such institution, at the surgeries of members of the British Dental Association and others who have offered their services. After dental treatment recruits will be referred to the medical officers for re-examination.

It is also hoped that it will be possible for the authorities to arrange for the treatment of recruits who are accepted, of whom a great number require dental treatment, either at the dépôts to which they will at first be attached or later at their training centres. This scheme will, however, probably be distinct from the first, which is gratuitous, as it will probably require the services of whole-time dentists.

What the association is at present trying to do is to ensure that recruits, who are otherwise suitable, should not be refused simply on account of defective teeth.

Later it is hoped to arrange for dentists to be attached to base hospitals and hospital ships, both at home and abroad.

The National Dental Hospital in Great Portland Street —which has recently become the dental department of University College Hospital—has been able within a week to organize a staff of 40 volunteers amongst its former students now practising in the metropolitan area to attend in relays every morning.

Men in uniform, reservists called up, and would-be recruits who have been referred on account of defective teeth are admitted for free treatment by stoppings or extractions. It has been thought advisable not to worry the War Office at this time of stress for any official sanction or financial help, but it is hoped that by making the scheme known at barracks and recruiting stations men may learn of the opportunity offered. The medical officers at some of the barracks appear to recognize the advantage of such a scheme, and, although in working order for only a few days as yet, the attendance is increasing. A donation by a private benefactor has provided filling materials, the volunteer dental surgeons bring their own hand instruments, and the dental engines belonging to students (now in vacation) are being utilized.

ROYAL NAVY.

Appointment of Consultants.

The following consultants have been appointed by the Medical Department, Royal Navy, and in most instances have been detailed for special duties:

Sir Watson Cheyne.
Sir William Macewen.
Sir Alfred Fripp.
Mr. G. R. Turner.
Dr. H. D. Rolleston.
Mr. G. L. Cheatle.
Mr. Raymond Johnson.

The Royal Naval Hospitals are, of course, on a war footing and ready at any moment to receive sick and wounded from the fleet. The scale on which they are constructed and equipped may be gathered from the account given recently[1] of the Royal Naval Hospital, Chatham, which has accommodation for 926 patients. Should any serious pressure on these Royal Naval Hospitals arise the aim will be to send convalescents and less severe cases to the hospitals, convalescent homes, or other private institutions which have been placed at the disposal of the Medical Department of the Admiralty. The number of such beds now registered is large and more than sufficient to meet any probable requirements, at least in the near future.

[1] BRITISH MEDICAL JOURNAL, July 18th, p. 125.

WAR RISKS.

Insurance of Men with the Expeditionary Force.

Dr. John Livingston (Honorary Secretary, North Lancashire and South Westmorland Branch), writes: I have communicated with two insurance companies asking the position of men with the expeditionary army. I am told that the extra premium on policies already in existence is 3 per cent. for non-combatants and 5 per cent. for combatants.

Taking into account the expenses incurred in providing locums, in addition to the shrinkage of practice when away, I am afraid a number of men will not be able to afford this extra war tax—£15 additional premium for a policy worth £500. Can anything be done in the matter? The Government safeguard shipping extra risks, why should they not do the same for medical men called away from their practices?

*** Dr. Livingstou's letter draws attention to the fact that certain life offices are charging extra premiums to members joining the expeditionary force. It may be of some assistance to our readers if we briefly give in general terms the results of inquiries we have made on the subject. The statements, we believe, apply to most, if not all, first-class offices, but it will be necessary for the individual by examining the terms of his policy to satisfy himself as to whether it belongs to Class 1 or Class 2, and to ascertain from the office in writing its attitude in the matter. We will divide the policies into four classes:

1. *World-wide and Unconditional Existing Policies.*—Those who, by reasonable precaution in the first instance, have secured "world-wide and unconditional" policies are not liable for extra premium under any circumstances.

2. *Existing Restricted Policies*, under which members joining the expeditionary army will have to pay an extra premium of 5 guineas for one year per £100 sum assured as combatants, or 3 guineas as non-combatants. For home service ashore no extra premium will be charged, and for service in the navy 5 guineas extra will be charged for combatants and non-combatants.

3. *All New Policies.*—At present no charge is being made under any new policy in respect of home service ashore, but all new policies contain a clause throwing the onus on the assured of applying for a licence in the event of his engaging in *foreign or war service*, and paying such extra premiums as may be required. At the present time most of the offices are charging 7 guineas for combatants and 5 guineas for non-combatants for the expeditionary army, and 7 guineas for both classes in the navy.

4. *Medical Insurance Agency Policies.*—We are informed that all policies effected through the Medical Insurance Agency, with certain exceptions made for special reasons, are entirely world-wide and unconditional, and that the holders thereof may go anywhere and do anything without extra charge.

Members who have effected policies with other companies, but not through the Medical Insurance Agency, who have any intention of volunteering for service should now carefully examine their policies, and unless such policies are found to be free from restriction or special condition, they should ask for a statement in writing as to what extra premium the company will require to cover any extra risk to be incurred. In this connexion the Medical Insurance Agency will render any assistance in its power. Inquiries addressed to the Agency at 429, Strand, will receive early attention.

Grants and Pensions for Officers and their Dependants.

In respect of compensations for injuries, illnesses, or death, civilian medical men doing duty with His Majesty's forces in any capacity whatever, as also their dependants, enjoy precisely the same advantages as regular officers of equivalent rank and their dependants.

The rank of a civil surgeon is that of a lieutenant; that of a temporary surgeon in the navy, that of surgeon; and that of a Territorial officer, that which is shown on his commission or to which he is promoted by gazette.

The right of an army officer to a gratuity and a special wound pension is absolute if he receives in action a wound which occasions the loss of an eye, or of a limb, or the use of a limb; or an injury certified by the regulated medical

authority to be equivalent to such loss; and it is open to the Army Council to grant a lesser amount in respect of an injury which, though not equivalent to the loss of a limb, is nevertheless certified to be very severe. In regard to injuries received not in action, but due to the performance of military duty, the Army Council may grant a pension if the injury is permanent and serious, or a gratuity if the injury, though severe, does not justify the grant of a pension. The pensions for wounds received in action range from £300 per annum in the case of a colonel or lieutenant-colonel, to £70 per annum in the case of a first or second lieutenant. The corresponding gratuities range from £600 in the case of a colonel, to £100 in the case of a second lieutenant. The pensions for injuries received during the performance of military duty, but not in action, range from £250 per annum in the case of a colonel or lieutenant-colonel to £50 per annum in the case of a lieutenant or second lieutenant. In regard to the dependants of deceased officers, there are three classes of grants—highest, intermediate, and ordinary. Grants of the first class are made to the dependants of officers who are either killed in action, or die—within seven years—in consequence of a wound received in action; those of the second class, to the dependants of officers who die from injuries received during the performance of military duty, but not in action, or from illnesses which can be directly traced to fatigue, privation, or exposure incident to active operations in the field, provided that in either case the death takes place within seven years of such illness or injury. The lowest, or ordinary class of grant, may be made to the dependants of any officer, whatever the cause or date of his death, subject to certain stipulations in regard to the length of his service and other matters, which are of such a character as to exclude officers who do not hold a permanent commission. If a deceased officer leaves neither wife nor children, but has a mother or sister dependent on him, corresponding grants may be made to these. In the case of the dependants of a major, the "highest" pension is £140 per annum for the widow and an allowance of £21 per annum for each child; "intermediate," £135 per annum for the widow and £20 per annum for each child; and "ordinary," £90 per annum for the widow and £16 per annum for each child. In the case of the dependants of a lieutenant or second lieutenant the corresponding pensions and allowances are £80 and £15, £60 and £12 10s., £40 and £10.



Royal Naval Hospital, Chatham: Administrative Block.
(Photograph by Vernon E. Hancock, Gillingham.)

Medical officers in the navy do not ordinarily receive any special pension for wounds received in action or during the performance of their ordinary duties, but they are exempted by such a wound from the rules respecting the length of service entitling them to a pension or gratuity. Their widows and children, however, receive grants of the same kind as those already described. Thus the wife of a medical man temporarily employed in the navy as a surgeon would be entitled to a pension of £80 per annum if he were killed in action, and to an allowance of from £12 to £16 for each of her children up to the age of 18 in the case of boys and 21 in the case of girls: while, if her husband lost his life through the act of the enemy in any other fashion, her pension would be £65 per annum, and the grants for each of her children from £10 to £14. In addition to her pension, the widow of such a medical man would also be entitled to a gratuity equal to the pay which her husband would have received for one year and to one-third of that amount in addition in respect of each child under the age of 21.

DRUG STOCKS AND THE DRUG TRADE.

As was stated last week, and as the profession has been informed from other sources, it is desirable to practise economy in prescribing certain classes of drugs until the drug market has adapted itself to the new conditions brought about by the arrest of exports from Germany. At present the arrest is complete, and during the continuance of the war supplies of the potassium salts, including bromide, and of synthetic preparations hitherto obtained from Germany are not likely to reach this country except by some indirect route.



Royal Naval Hospital, Chatham: One of the ward pavilions.
(Photograph by Thornton Bros., New Brompton.)

Existing conditions offer a great opportunity to the British drug manufacturing trade; it would be not only profitable but patriotic to take advantage of it. There is no reason why the majority at least of the synthetic drugs most generally used should not be manufactured in this country if the necessary enterprise and capital be forthcoming. The home demand would at once be very considerable, and there is a good opportunity to secure new markets, for, as the French Minister of the Marine has pointed out to French shipowners, the sea commerce of the allies is now free, and there is good reason to hope that

it will so continue. The relief to overseas commerce which the silent work of the British navy and its allies has brought about in the last week or ten days, is shown in a very practical way by the reduction of the premium of insurance on cargoes in steamers. It was at first £5, it was soon reduced to £4, and on August 18th to £3 3s. per cent.

The Government has appointed a professional committee to consider questions arising in connexion with the supply of drugs in the United Kingdom. The committee has already held one meeting, and further meetings will be held as circumstances may require.

The committee is constituted as follows:

Dr. J. Smith Whitaker, of the National Health Insurance Commission, chairman; Sir Thomas Barlow, Bart., Sir T. Lauder Brunton, Bart., Dr. A. Cox, Medical Secretary of the British Medical Association; Dr. A. R. Cushny, F.R.S., Professor of Pharmacology, University College, London; Dr. E. Rowland Fothergill, Member of Council of the British Medical Association; Dr. B. A. Richmond, secretary of the London Panel Committee; Dr. F. J. Smith, Dr. W. Hale White, with Dr. E. W. Adams, medical officer of the National Health Insurance Commission, as secretary.

WIVES AND OTHER DEPENDANTS OF SAILORS AND SOLDIERS.

ON August 19th the Local Government Board, Whitehall, S.W., issued to boards of guardians a memorandum with regard to the assistance available for the wives and other relatives of soldiers and sailors (including Territorials) stating that allowances of various kinds are payable to the dependants of men who have joined the colours, and that where for some cause or another the sums thus payable to the dependants of a soldier or sailor have not reached his family, or the amount is inadequate for their necessities, assistance may be obtained either from the local branches of the Soldiers and Sailors' Families Association or from the local committees which have been constituted for the purpose of dealing with the prevention and relief of distress consequent upon the war. The Board assumes that the guardians will agree that it is not desirable that the wives and other relatives of soldiers and sailors should have recourse to poor relief.

MEMORANDUM.

1. Advances of various kinds are payable to the wives or other dependants of sailors and soldiers of the mobilized forces of the Crown by the Admiralty and the War Office respectively.

2. All sailors, including marines, are entitled to make allotments and remittances through the Admiralty to their relatives or other friends ashore.

3. The wives and children of soldiers are entitled to separation allowances on a fixed scale according to rank, paid monthly in advance through the ordinary army channels, except that in the case of Territorials serving in the United Kingdom payment is made through the county associations.

4. Soldiers serving at home should make their own arrangements as to sending money to their families out of their pay.

5. In the case of soldiers serving abroad, the army authorities compel the allotment of a minimum amount according to rank for the benefit of the wives and families of the men and issue the money.

6. On embodiment, a soldier in the Territorial Force receives a bounty of £5.

7. It is also understood that in many cases public bodies and other employers of labour whose men have been called up or have volunteered for service are making provision for the wives and families of the men.

8. Where, however, for some cause or another the sums payable to the dependants of a soldier or sailor have not reached his family, or the amount is inadequate for their necessities, assistance may be obtained in the following way:

The Soldiers and Sailors' Families Association, founded in 1885, of which Her Majesty Queen Alexandra is the president, is a body organized for the express purpose of seeing that adequate aid is given in such cases. In places where the association has branches in full working order assistance to the dependants should be granted through their agency. Wherever the local branch of the association is not in full working order steps are being taken to strengthen it.

In the meantime, any assistance required by the dependants should be given by the local committee which is being constituted for the purpose of dealing with the prevention and relief of distress consequent upon the war. Committees are receiving grants for this purpose on application to the Prince of Wales's National Relief Fund.

It is suggested that the representatives of the association on the committee might for this purpose—with the addition, if necessary, of other persons—serve as a subcommittee specially entrusted with the duty of dealing with the cases of dependants of soldiers and sailors.

9. In any necessitous case in which an advance is made for the relief of a soldier's family (whether of the Regular Army, Special Reserve, or Territorial Force) pending the issue of separation allowance, and it is intended to reclaim the same or any portion thereof from army funds:

(1) Women should be warned that the money given to them is an advance to be recovered from their separation allowance.
(2) Sufficient particulars should be taken of the soldier to secure his identification—rank, regiment, etc. In particular it is desirable to have his number, so as to be able to distinguish men of the same name.

10. The town or county committees will be advised as to keeping a general register of all persons desiring assistance in their areas and the wives and dependants of soldiers and sailors will be included upon the register, but it will be suggested that these cases should be separately distinguished.

THE SUPPLY OF "LOCUMTENENTS."

WE have received several letters on this subject, from which we make the following extracts:

APIBUS SUAM MELLEM considers that limitation of the locumtenent's fee to a maximum would be against the principle of the open market and the spirit of modern democracy. Since medicine has been "democratized" the locum will demand his reasonable share. What that should be could be easily got at by the size of the particular principal's panel and private work (1,000 panel patients equals £300 gross). Whether the actual work done is heavy or light is beside the mark; the amount contracted for is the point, and on this the principle of proper remuneration or "sweating" hinges.

D. is of opinion that Mr. Percival Turner is scarcely equitable. He must consider that retired army and naval men enjoy pensions and gratuities from the Government already. All surgeons engaged in the present trouble will, according to their rank, receive pay at a minimum of 22s. a day. All surgeons in practice will receive their quarterly cheques from their Insurance Committees, which averages another £1 a day. The emoluments from their private practice will go on as usual and also from other appointments which established practitioners have so successfully contracted for. If the law of supply and demand favours for a few months the reliable locumtenent, then why should it be altered?

LOCUM, while appreciating Mr. Percival Turner's appeal to the patriotism of locumtenents not to demand exorbitant fees, suggests that medical agents should also reduce their fees, so as to meet the smaller fees of locumtenents.

The Services.

DECENTRALIZATION OF OFFICE OF THE DIRECTOR-GENERAL ARMY MEDICAL SERVICES.

SURGEON-GENERAL GEORGE J. H. EVATT, C.B., writes: I recommend that the Director-General Army Medical Service be in future called Director-General-*in-Chief* Army Medical Services.

I further strongly advise that a new officer be appointed with an office *outside the War Office* to be called Director-General Medical Service Home Army. To him much of the routine work as to movements and duties in England, Ireland and Scotland should be devoluted. This official should have in his office a Deputy Director-General Home Army *dealing entirely with the Territorial Forces.*

It is absurd to have to trouble the Central War Office Medical Staff with routine questions that could be settled outside the War Office building.

They have ample duty in thinking ahead and dealing with great principles. I cannot imagine individual officers and nurses going into the War Office to see the high officials of the medical service about subordinate personal matters at the present crisis.

The Territorial Medical Services should at once have a separate section in the new office I suggest. I regard this latter matter as vital to effective working.

FIVE cases of plague were reported in Hong Kong during the week ended August 15th; the number of deaths was five.

BRITISH SPAS.

THE number of British subjects under treatment at German and Austrian spas when war broke out is not known, but it must have been large, though not so large as would probably have been the case had peace been maintained for another fortnight or three weeks. It is reported that some three hundred English-speaking visitors are finding their way home by way of Italy from Carlsbad alone. Their experiences are likely to have been much less distressing than those of visitors to German spas, but nevertheless they must have been involved in considerable worry, discomfort, and expense. Consequently the occurrence again raises the question why so many well-to-do inhabitants of these isles have got into the habit of going to German and Austrian spas when there are so many well managed places with efficacious mineral waters available at home. Are there not Harrogate and Buxton, Llandrindod and Strathpeffer, Woodhall, Droitwich and Leamington, Bath, and the very remarkable iron spring of Trefriw in the romantic Vale of Conway? Whatever the cause for the comparative neglect of British spas by the British in the past, it may in present circumstances be pointed out that there is no indication for treatment hitherto fulfilled by German and Austrian spas which cannot be equally well or better met by the waters of our own country.

THE PROVISION OF MEALS FOR CHILDREN.

AMID the cares which oppress the public mind in these anxious days not the least is the prospect of suffering among the children of the working classes, and the Board of Education has done well to issue a Memorandum on methods of providing meals for children in connexion with public elementary schools.[1] The Board points out that the Local Education Authorities are now competent to take such steps as they think fit for the provision of meals for children in attendance at Public Elementary Schools, and that it is intended to furnish grants in aid up to 50 per cent. of the expenditure actually incurred out of the rates. The Board further remarks that in areas where acute distress prevails it may be expedient to utilize the same machinery and organization to provide meals for children too young to have been enrolled on the school books, and suggests that, in that event, it would be convenient to supply special tickets for meals to children who are not on the school register. Since it will clearly be necessary to supplement the available funds by voluntary contributions, it is recommended that the collection of the latter should be undertaken by the local committees. With respect to machinery, the Board points out that it is desirable to enlist the services of teachers wherever possible, and thinks that in most cases it will be convenient to arrange for the meals to be given in the school buildings. The Memorandum concludes with a discussion of dietaries from the physiological and economic standpoint. The physiological information imparted seems eminently practical, even if valetudinarians dissent from the assertion that Welsh rarebit is a "usually digestible article of diet." The approximate cost per 100 children, based on estimated contract prices for food supplied in large quantities, for one course dinners varies from 7s. 2d. in the case of a soup dinner, consisting of vegetable soup with dumplings, to 11s. when stewed meat, suet pudding, dried peas, and gravy are provided. The cost of a dinner consisting of cheese pudding and meat gravy is estimated as 8s. 3d. This Memorandum ought to be closely studied by all members of Local Education Authorities and Care Committees, not to speak of others interested in charitable work. To some of those who are now imploring the authorities to allow them to assist the country in her hour of need, serving meals and washing plates may not appear very dramatic. We should do well, however, to consider whether the mitigation of children's sufferings is not a work second in importance to no other. It is, of course, obvious that the co-operation and advice of the medical profession will be required, particularly if, as is probable, provision has to be made for feeding infants, and there is no doubt that such co-operation will be readily afforded.

[1] Memorandum on Methods of Providing Meals for Children in Connexion with Public Elementary Schools and on Dietaries suitable for the Present Circumstances. Board of Education, Circular 856, August 15th, 1914.

DR. CHRISTOPHER ADDISON.

DR. CHRISTOPHER ADDISON, M.P., has been appointed Parliamentary Secretary to the Board of Education. Dr. Addison, who graduated M.D. in the University of London in 1893, and became F.R.C.S.Eng. in 1895, held successively the posts of Lecturer on Anatomy at the medical school of Charing Cross Hospital, Professor of Anatomy in the University of Sheffield, and Lecturer on Anatomy in the medical school of St. Bartholomew's Hospital. He only resigned the last named post about a year ago. He was elected M.P. for the Hoxton Division of Shoreditch in 1910. He has rapidly won his way to a position of much influence in the House of Commons, for, while always loyal to his party obligations, his political opponents recognize his knowledge of social questions, his soundness of judgement, and honesty of purpose. He served on the Departmental Committee on Tuberculosis, of which Mr. W. Astor, M.P., was chairman, and is a member of the Medical Research Committee entrusted with the duty of directing the allocation of "the research penny" accruing under the sanatorium clauses of the Insurance Act. The duties of the Parliamentary Secretary of the Board of Education are, at the present moment, onerous and important: great developments are taking place in secondary, technical, and university education, and difficult questions will arise during the coming winter in respect to elementary education, in relation especially to the feeding of school children. If wisely administered, the large grants made this year may go a long way to relieving the bitterness of the distress which seems to be inevitable. Dr. Addison's appointment is a valuable accession of strength to the Board at a time of stress. He is, we believe, only the second medical man who, during recent years at least, has become a member of the Government. The other was the late Sir Walter Foster, afterwards Lord Ilkeston, who was Parliamentary Secretary to the Local Government Board from 1892 to 1895.

THE CHAIR OF PATHOLOGY IN THE UNIVERSITY OF ABERDEEN.

THE King has been pleased, on the recommendation of the Secretary for Scotland, to approve the appointment of Theodore Shennan, M.D., F.R.C.S.Edin., at present pathologist to the Royal Infirmary of Edinburgh, to be Regius Professor of Pathology (Sir Erasmus Wilson Chair) in the University of Aberdeen, in the place of Professor George Dean, deceased. It is now some thirty-two years since David J. Hamilton, who then also was holding the post of pathologist to the Royal Infirmary of Edinburgh, was appointed to be the first occupant of the Sir Erasmus Wilson Chair of Pathology, and he acted with high distinction as professor until failing health compelled him in 1908 to relinquish his duties. Dr. George Dean, a former assistant of Hamilton's, succeeded him in the same year, but he was only able to occupy the chair for a few years; bad health, which had already begun in London, was not checked by a residence in the northern university town. Dr. Shennan, who succeeds him as the third occupant of the chair, graduated M.B. and C.M. in the University of Edinburgh in 1890, and proceeded to the doctorate in 1895. He became a Fellow of the Royal College of Surgeons in 1893, and one of his published works is the third volume of the *Catalogue* of the rich museum of pathological specimens belonging to the college. Until

about a year ago Dr. Shennan was a popular lecturer on pathology in the Extra-mural School of Medicine in Edinburgh; then he was appointed to the newly instituted lectureship on morbid anatomy in the university. For several years he has been senior pathologist to the Royal Infirmary, and he was formerly pathologist to the Royal Edinburgh Hospital for Sick Children. Professor Shennan has made many contributions of note to the literature of pathology, and the good wishes of his colleagues in Edinburgh will follow him to Aberdeen.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Provision of Meals for School Children.—Among the votes in Supply is the grant for the provision of meals for the portion of the present financial year. It represents an increase of £77,000 on the original estimate, the total now being £252,000. It is estimated that some 40,000 children are receiving meals at the present time, but it is anticipated that this number may shortly be very greatly exceeded. The Board of Education issued a circular to the local education authorities pointing out that the Elementary Education (Provision of Meals) Act, 1914, which has now become law, alters the existing law, as embodied in the Education (Provision of Meals) Act, 1906, in three respects: (*a*) It legalizes the provision of meals during holidays and on other days when the school is not open. (*b*) It repeals the limit imposed by Section 3 of the Education (Provision of Meals) Act, 1906, under which the expenditure of the local education authority on the provision of food was limited to the produce of a halfpenny rate. (*c*) It abolishes the necessity of obtaining the sanction of the Board of Education to expenditure out of the rates on the provision of food, but it will still be necessary for a local education authority which desires to provide food at the cost of the rates, to resolve that there are children who are unable by reason of lack of food to take full advantage of the education provided for them and to ascertain that funds other than public funds are not available or are insufficient in amount to defray the cost, as it is probable that dislocation of trade and other circumstances will occasion an exceptional amount of distress in the industrial population whose children attend public elementary schools. The Board considers it very important that local education authorities should in good time make preparations to deal with such distress. Grants will be made in the current financial year in respect of the expenditure incurred by local education authorities in the financial year ending March 31st, 1914, to an extent not exceeding 50 per cent. of that expenditure, and grants on as favourable a basis will in any case be available in respect of expenditure incurred in the current financial year. A great amount of voluntary service will undoubtedly be forthcoming, but it is essential that the organization of the work should be thought out beforehand and that preparation for the provision of the necessary equipment should be made in good time. To avoid overlapping and waste of effort local education authorities should work in close co-operation with the committees which will probably be established at an early date and called together by the lord mayors, mayors, chairmen of county councils, and chairmen of the larger urban district councils to deal systematically with any distress which may arise in their respective areas.

Maternity and Child Welfare.—A grant of £12,000 is made in the Supplementary Estimate to the Local Government Board for the administration of maternity and child welfare centres and the purpose of the grant is shown in the following synopsis:

MATERNITY AND CHILD WELFARE.

A complete scheme would comprise the following elements, each of which will, in this connexion, be organized in its direct bearing on infantile health.

1. Arrangements for the local supervision of midwives.
2. Arrangements for—

Ante-Natal.—(1) An ante-natal clinic for expectant mothers. (2) The home visiting of expectant mothers. (3) A maternity hospital or beds at a hospital, in which complicated cases of pregnancy can receive treatment.

Natal.—(1) Such assistance as may be needed to ensure the mother having skilled and prompt attendance during confinement at home. (2) The confinement of sick women, including women having contracted pelves or suffering from any other condition involving danger to the mother or infant, at a hospital.

Post-Natal.—(1) The treatment in a hospital of complications arising after parturition, whether in the mother or in the infant. (2) The provision of systematic advice and treatment for infants at a baby clinic or infant dispensary. (3) The continuance of these clinics and dispensaries, so as to be available for children up to the age when they are entered on a school register—that is, the register of a public elementary school, nursery school, crèche, day nursery, school for mothers or other school. (4) The systematic home visitation of infants and of children not on a school register as above defined.

The additional grant to the Board of Education for schools for mothers has also been adopted, and a memorandum has been issued by the Board describing the objects and mode of conduct of them. Regulations also have been issued setting out the conditions under which grants may be given by the Board.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

WATER SUPPLY OF DUBLIN.

IN spite of the heavy rains which have fallen during the last fortnight or three weeks, the water in the reservoir at Roundwood continues to decrease. It is now 10½ ft. below the sill, being a foot lower than it was eight days ago. The daily consumption for the past week averaged almost 13½ million gallons. Owing to the seriousness of the situation the Waterworks Committee of the Dublin Corporation has decided that no Vartry water should be used to water the streets in the city or townships, and other precautionary measures were adopted.

MEALS FOR SCHOOL CHILDREN.

The Education (Provision of Meals) (Ireland) Act which has received the Royal Assent, does not go nearly so far as its promoters intended, but limited as is its scope it cannot but prove a great boon during the winter months, for great as is the poverty in Dublin at any time it must prove particularly severe this year on account of the European war.

NON-PAUPER PATIENTS IN WORKHOUSE HOSPITALS.

At the Louth Summer Assizes in Dundalk, the Guardians of the Poor of Dundalk Union appealed against a decree for £4 7s. given by the County Court judge in a case in which Dr. Lavery, the workhouse medical officer, claimed that amount.

The case arose out of the treatment of a military patient in the workhouse for whom it was decided to charge extra, that is, more than the average workhouse hospital weekly cost of maintenance. The Local Government Board objected, but the guardians passed a resolution charging military patients at 10s. 6d. a week maintenance and a guinea a week medical attendance. It appears, as stated by counsel for Dr. Lavery, many patients were brought in under that rule and having deducted the average cost in each case the remainder was handed over to the doctor. In this particular case the guardians refused to do so. Under the Poor Law Relief Act, 1862, the guardians were only empowered to charge the average cost.

The Lord Chief Justice, in giving judgement, said that he had consulted his brother Dodd, who agreed with the decision he was about to give. In his opinion the action of Dr. Lavery must fail. There was no contract between Dr. Lavery and the guardians under which he could recover. The resolution of the guardians (charging more than the weekly average cost of maintenance) in respect of which the action was brought was *ultra vires* and void, and in his opinion the amount should be refunded to the War Office. Dr. Lavery was appointed to attend every patient in the workhouse, and having regard to all the circumstances he would reverse the decree of the Court below. As the case was of importance he was willing to state a case for the opinion of the High Court.

The board of guardians undoubtedly acted *ultra vires*, with or without the sanction of the Local Government Board, when they decided to charge more than the average weekly cost of hospital maintenance, and when they also decided to admit to the workhouse hospital patients other than those for whom they were responsible for their medical relief. The military authorities, and not the board of guardians, are responsible for the medical treatment of their military patients and those of their

dependants who are on the "strength" of the regiment. The only patients who are entitled to be admitted for medical treatment to an Irish workhouse are paupers, poor patients, and members of the Royal Irish Constabulary. The latter are admitted by a special arrangement of long standing. "Poor persons" belong to that class of persons who are too poor to pay for their medical attendance but possess sufficient means to pay the average weekly workhouse hospital cost, which varies from 4s. to 6s. per week throughout Ireland. The admission by the guardians of patients who can afford, and in some cases are willing, to pay for their medical attendance, has become a very grave abuse of the Medical Charities Act in Ireland. It is a hardship on the workhouse doctors to be asked to afford gratuitous medical attendance to those who can well afford to pay for it. It is also a great injustice to private practitioners, who would treat those people for payment if they were not irregularly admitted by the guardians. It is further a hardship on those ratepayers who have not the "necessary influence" or dishonesty to gain admission, like many of their class, to the workhouse hospital and receive free medical treatment as if they were "paupers" or "poor persons," thus defrauding the ratepayers, the workhouse doctors, and those private practitioners who would be their medical attendants if not admitted to the workhouse hospital. The remedy for this workhouse hospital abuse is for the workhouse doctor or any other doctor or ratepayer to report the matter to the Irish Local Government Board, and also to bring the specific cases of abuse before the auditor, who can be compelled to take the necessary action to protect all the interests concerned.

India.

[*FROM OUR SPECIAL CORRESPONDENTS*]

Tenure of Appointments of Honorary Officers of Bombay Hospitals.

The Government of Bombay has published the following press notice:

As it appears that considerable misapprehension prevails as to the object and the effect of the orders announced in Government *Press Note*, No. 5,347, dated July 21st, 1913, regarding the tenure of certain appointments, honorary and stipendiary, at the Grant Medical College, and the J. J. and allied hospitals, the Governor in Council is pleased to publish the following reply by the Secretary of Government to a memorandum from the Bombay Medical Union with reference to the tenure of honorary appointments in the teaching hospitals of Bombay.

With regard to the representation in connexion with the terms of appointment of honorary medical officers, and the recommendation that in future these honorary appointments should be made for periods of five and ten years, I am to observe that so far as the posts of honorary assistant surgeon or physician are concerned, the object underlying their creation in 1888 was to secure the continuance of the connexion with the Grant Medical College of the most promising of the students graduating from that institution. It is evident that, having regard to the limitation imposed by circumstances on the number of such honorary officers to whom work can be given in the hospitals, the tenure of their appointments could not be prolonged to the extent recommended by the union without largely divesting the scheme of its main purposes of maintaining a continuous connexion between these institutions and the best men turned out by the college year by year. With regard again to the appointments of honorary surgeons and physicians, I am to observe that the chief object in view in associating practitioners of standing with the work of the hospitals is not, as is assumed in the memorial, an increase in the provision for the instruction of students, which at present is adequately represented by the stipendiary staff of the college, but the extension to members of the independent medical profession of opportunities for study, observation and practice, which they would not otherwise enjoy. On this view of the case, having regard again to the limited number of appointments admissible, it is certainly preferable that these appointments should be offered, in each case for a reasonable period of time, to as large a number of practitioners as possible, rather than that they should be restricted to an extremely small number of specially favoured individuals, as would necessarily be the case if the tenure of each appointment were extended to a period of ten years.

The complaint made, avowedly in the interests of the students, as to the numerical insufficiency and the minor importance of the cases assigned to the honorary medical staff appears to overlook the fact that in the allotment of cases in the hospitals, the primary consideration must be the interests of the patients who are entitled, in all serious cases, to the highest professional skill available. Having regard to that it is unavoidable that the most important cases should fall to the senior member of the regular staff, who are also for the same reason placed in charge of the more advanced students at the college. With reference to the future number of honorary appointments, I am to state that the assumption appearing in the memorial that it represents a reduction from six to three appointments is erroneous. No such reduction has been announced or is in contemplation, the total number of honorary appointments now standing at eight.

In the case of the minor chairs the union recommend that their tenure should be one of ten years in the first instance, extensible by a further period of five years. The reason advanced in support of this recommendation is the apprehension that if the tenure of these posts is only an annual one extensible from year to year, the senior officers of the Indian Medical Service will, from motives of personal jealousy and professional rivalry, deliberately ignore the claims of the best men to retention in those posts, and will recommend their early displacement by men of inferior qualifications, and consequently less potentiality for encroaching on their own practice. With reference to this justification of their recommendations, I am to say that the Governor in Council is surprised that the Bombay Medical Union should have thought fit to make statements which cast an imputation of so grave a nature on the official and professional character of the responsible officers of Government without any attempt to justify them or to supply evidence in their support. His Excellency in Council has no hesitation in dismissing the accusation which these statements imply, and in qualifying as without foundation the apprehension on which they purport to be based.

With regard to the appointment of lecturers and tutors, I am to observe that, so far as the former are concerned, there is no apparent reason why they should hold their posts on terms differing essentially from those applicable to the other teaching appointments in the college. In the case of tutorships, the memorial, when it refers to their purpose as being the maintenance of a higher standard of teaching, indicated a misconception of the nature of the duties attaching to these posts. Those duties are not connected with the higher medical instruction at the college, but consist solely of the individual tuition of students in the elementary methods of examining patients and in case taking. The terms of appointment now prescribed ensure a constant succession of the most promising young graduates to posts in which they are able to gain valuable post-graduate experience, and at the same time hold out to the best men an opportunity of giving proof of their ability, and of qualifying eventually for honorary appointment on the hospital staff.

In conclusion, I am to explain that the principles by which Government have been guided in passing the orders discussed in the memorial are, in the first place, the extension to as wide a circle as possible among the independent medical profession of the benefits of close association with the work, both clinical and tutorial, of the Government hospitals, and, secondly, the retention of the teaching staff for only so long as they are recognized to be the best men available, and no longer. The several recommendations put forward by the Bombay Medical Union appear directly to contravene these principles; their effort would be, on one hand, to restrict very narrowly the scope for association with the work of the hospitals, and, on the other, to impose rigid limits on the tenure of the teaching appointments in the college, resulting in an obligation either to discharge a teacher, whom it might be difficult adequately to replace, or to retain one whose services it might be advantageous to dispense with. Such being the case, His Excellency the Governor in Council is unable to accept the representations contained in the memorial as affording any ground for a reconsideration of the orders already passed.

Correspondence.

THE FUTURE OF THE LISTER INSTITUTE.

Sir,—As one of the few surviving members of the executive committee formed at a meeting of representatives of medicine and science, held at the Mansion House on December 5th, 1889, at the instigation of then Lord Mayor, Sir James Whitehead, I have read with much interest and some concern the contributions under the above heading to recent issues of the Journal. The Mansion House meeting was held with the object of "securing for this country the benefits of Pasteur's treatment of rabies." The executive committee formed for this specific purpose, after careful deliberation, came to the conclusion that this and other allied objects would be most effectually promoted by founding in England a national institute of preventive medicine. Several of its members associated themselves with the Committee for the Prevention of Hydrophobia, whose influence was one of the most potent factors in bringing about by crude, but, as experience proved, scientific methods the extirpation of rabies from this country, and that happy state which justified its establishment, and at the same time the accomplishment of the ultimate object of the Mansion House committee.

The executive committee, however, took a broader view of the situation, and in their letter of appeal to the public

expressed the view that the foundation in this country of an institute in which investigations on the causes and best means of preventing and curing infectious diseases can be carried on, and in which protective material can be prepared in sufficient quantity to supply the national wants had become necessary, and that it was neither fitting nor politic for England to be dependent on foreign laboratories.

The President and Council of the Royal Society considered the subject of the proposed institute, and expressed "their satisfaction that steps are being taken to establish an institution in which researches in bacteriology and into the nature and prevention of infective diseases can be carried on, and the hope that at some future time they may find it within their power to aid such researches by material support." The Council of the British Medical Association also expressed its approval of the idea of a national institute for the study of bacteriology, and agreed "to recommend a grant of £300 towards the expenditure of the current year."

I am not a member of the Lister Institute, nor am I in a position to express an opinion as to whether its record has justified its establishment, if its present organization and management are satisfactory, if these require remodelling, or are capable of being satisfactorily remodelled, but as I was intimately and actively associated with the initiation of the scheme which called it into existence, and took some part in the secretarial duties at a period when an appeal was being made for funds, I hope I may be allowed to express the conviction that any action which would diminish the facilities for independent and unfettered research would be a violation of the principles on which the institute was founded, and a perversion of the intentions of the initiators.—I am, etc.,

JNO. PENBERTHY,
Late Professor of Pathology,
Royal Veterinary College.

Newnham, Gloucestershire, August 12th.

"ENCYCLOPAEDIA MEDICA."

SIR,—Since writing to you last in reference to the manner in which Messrs. Green and Sons advertise their *Encyclopaedia Medica* (June 13th, p. 331) a new prospectus, dated July 14th, has been issued by this firm. It professes to contain "A list of contributors to the first edition, with the addition of the names of those who have so far agreed to contribute to the second." It is hard to believe, but it is a fact, that my name is included amongst these, in spite of my previous letters to the medical press on the subject, and in spite of the fact that Messrs. Green had not yet asked for my permission or consent. I have written to them, and their answer begins: "We have your letter, and thought this matter had been adjusted previously, and cannot understand why you should have written to us as you do." The letter then goes on to ask whether I am prepared to revise or to refuse to revise my articles for the new edition, and the final sentence reads, "that every contributor, *so far as we know*" (italics are mine), "is going to revise." This statement does not appear to agree with the statement from the prospectus which I have already quoted.

It will be interesting to know how many of the contributors in this prospectus have actually agreed to revise, or have only agreed in the mind of Messrs. Green.—I am, etc.,

Dublin, August 17th. HENRY JELLETT.

Medical News.

OWING to the necessary curtailment of the number of pages in the weekly issues of the BRITISH MEDICAL JOURNAL, all correspondents are particularly requested to write as succinctly as possible.

THE fourth edition of Sir Alfred Pearce Gould's *Elements of Surgical Diagnosis*, revised by the author, with the assistance of Mr. Eric Pearce Gould, is announced for early publication by Messrs. Cassell and Co.

WITH regard to the inquiry at the instance of the Brighton Insurance Committee on July 1st, as to an application from a drug store for restoration to the list of insurance chemists (as reported in the JOURNAL of July 4th, p. 28), we are informed that the Insurance Commissioners have decided to take no action.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

A WARNING.

A PHYSICIAN in London writes: On May 30th you inserted a warning against a dusky complexioned man aged about 65, who was obtaining money from medical men. Two weeks ago he succeeded in obtaining a loan of money from me by representing himself to be a Canadian doctor, who was stranded in London owing to the war: an excuse which appeared reasonable but which I am now convinced was false.

WAR AND MOTHERHOOD.

(From a Correspondent.)

OF course the vicar talked about the war, and presently he remarked with pride that a nephew of his, in the Flying Corps, had crossed to Belgium yesterday. "War," I said wisely, "has always been a murderous job, but if there's one corps in which a man can make sure of getting killed, its the Flying Corps." The vicar, looking graver than I expected, rejoined in a low tone, "He was to have been married next month." "Poor chap! Poor girl!" I groaned. "They wanted to get married before he started," continued the vicar dismally, but I said "No, leave the girl free." "Kinder for the girl in the long run," I assented. "But its a delicate problem; and there are thousands of such cases occurring all over Europe at the present moment." "Yes," cried the vicar warmly, "These hasty marriages ought not to be allowed. One night together, then the bride is left pregnant; and soon a widow and a baby have to be supported by the country." "True," I said, "But isn't there another way of looking at it? The men who go to the front are the pick of the nation's manhood." "They are," said the vicar proudly. "And they'll get killed by the thousand," I continued. He nodded impatiently. "Then," I said, "once a war begins, the coming generation will have to be, in the nature of things, begotten by the sickly, the decrepit, and the maimed." "Its only too certain," he groaned. "Well then," I argued, "ought not a far-seing nation to encourage its fighting men to stamp their likeness on their wives before they go to get killed?" "But, Good Heavens," he cried, "the danger to morality! the ultimate cost!" "War always has been a danger to morality," I said, "and it always has been costly. But the danger you refer to might be met by the State endowing the motherhood of only those wives whose children are born within ten months of their husbands leaving home to fight. And the cost, though heavy, would aid not the murdering of useful human beings but the rearing of stalwart human beings who may become useful." "I see," said the vicar with a watery smile: "You would consider it as a productive rather than as a reproductive expenditure."

THE CAUSE OF CANCER.

VICE COTIS writes: Dr. Arthur Todd-White, in the JOURNAL of August 15th, alludes to the possibility that cancer may arise as a result of the excessive ingestion of food preservatives. This suggests a still wider possible source of cancer. We all know that almost the only indisputable point in regard to the causation of cancer is that it can be produced by chronic irritation. Is it not, therefore, well worthy of careful investigation whether or not the deposition in the tissues, or cells themselves, of insoluble sharp crystals of microscopic size produces a chronic irritation resulting in cancer? Such deposition of minute crystals seems very likely to occur in the people and parts of the body specially subject to cancer.

CORRECTIONS.

IN reference to Hoffmann and Kochmann's solution in the JOURNAL of August 8th (p. 302, col. 1, lines 10 and 11 from foot), the proportion of potassium sulphate was incorrectly given as 4 per cent.; it should have been 0.4 per cent.

DR. D. E. ANDERSON desires to correct two errors in the note of his remarks in the brief summary of the proceedings of the Section of Tropical Medicine published on August 10th, page 303. He said that vomiting sickness was known only in Jamaica, and that 16 cases had been reported in 1912. With regard to yaws, he said that both in Jamaica and Trinidad yaws had been reduced since the introduction of salvarsan.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

EIGHTY-SECOND ANNUAL MEETING
OF THE
British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF NAVAL AND MILITARY MEDICINE AND SURGERY.

COMMON AILMENTS IN CAMP: THEIR SIGNIFICANCE AND PREVENTION.

By Cecil Webb-Johnson, M.B., Captain R.A.M.C.(T.F.).

It is a well-known fact that common ailments in camp are responsible for a great wastage of public money and a loss of training for a large percentage of men. At the most, the annual training is only fifteen days, and in many cases, owing to the employers' refusal to allow their employees their full complement of time, it is only possible for them to be in camp for eight days. Owing to the improvement of the Territorial regulations every one of the fifteen days is fully planned to give the best training in the available time. The seriousness of men being off duty for one or more days must be apparent to us all, and if this loss can be either mitigated or prevented the efficiency of the force will be greatly increased.

The efficiency of a fighting force depends, *ceteris paribus*, upon the health of its component parts, and one sick man means not only loss to himself but also to the force in general. He is liable to upset the march if he falls out even for some minor trouble, and he may require the services of several stretcher-bearers to take him home, and thus deprive more serious cases of adequate assistance.

We must remember this: in the Territorial Force we have to deal with men who are during the year engaged in civic life, and who arrive in camp in a condition more or less unfit for strenuous training. For this reason it is all the more important to help and watch them, so that they may be able to do their full training without loss. It is the raw recruits who need the most careful handling and watching, for they are tyros at the art and liable to make mistakes through ignorance, which those with previous experience are wise enough to avoid.

We know that the greatest number of admissions to hospital is amongst men with less than one year's service, and that the lowest is amongst men with eight years' or more experience. Also that the rate of admission into hospital is highest amongst men between 20 and 25, and lowest amongst men between 40 and 50.

This being the case, I believe it is in the interest of the force to pay especial attention to the young recruits, and they should be questioned by their non-commissioned officer as to the state of their health for the first few days of camp life. The recruit is the last man to complain, because he is in the pristine state of enthusiasm, and naturally wishes to appear as strong and capable as his comrades who have had more experience than himself.

The first suggestion I would put forward is that the medical examination should be stricter than it is at present, and that no recruit should be allowed to join the force unless he is likely to be an acquisition to it. When a regiment is below strength there is a great temptation to pass men as fit who, had the numbers been greater, would have been rejected. This is, of course, not so often the fault of the medical officer as of the officer in command, who naturally wishes his regiment to be as near full strength as possible.

We, as officers of His Majesty's Territorial Force, have no politics nor have we any axe to grind, and all we work for is the efficiency of the force, and we must all recognize that it is better to be 10 or 20 per cent. below strength with all desirable men than full strength with 10 per cent. of undesirables. On paper, of course, it looks much better for the regiment to be full strength, but when the time comes for that regiment to be mobilized, it will be found that the undesirables are but a millstone round the neck of the unit in question. "There is always a black spot in our sunshine—it is the shadow of ourselves," and I feel that we, as regimental medical officers, should try our best to do the following:

1. We must insist on examining recruits ourselves, however inconvenient it may prove to be.

Too often recruits are examined by civil medical men in their own district, because the R.A.M.C. officer is not available. This is not a good practice for several reasons, the chief of which is that what may appear to the civilian to be of small importance may, from a military point of view, be most detrimental to a recruit.

A regimental medical officer regularly looking after the troops in camp knows much better than the civilian which points to pay especial attention to. Further, he will have the recruits he passes as fit under his charge at camp, and, if it be discovered later that any mistake has been made in passing a man, he will only have himself to blame, and he alone will be responsible. I have myself seen men in camp who have been passed as sound with varicose veins and with hernias. The subsequent trouble, loss of training and waste of money, are out of all proportion to the time it would have taken to examine a man thoroughly and find out his infirmity in the first place. If the regimental medical officer is not available in his district, in all probability another R.A.M.C. man can be persuaded to do the work.

2. A very thorough examination of the mouth and throat should be made, for a man with bad teeth, enlarged tonsils, or adenoids generally gives trouble when in camp.

A man with a mouthful of bad teeth is practically certain to suffer from toothache, alveolar abscess, or gastric trouble, owing to exposure and change of diet. It is, in my opinion, the duty of the medical officer to reject a man with very bad teeth, unless he guarantees to have them attended to before camp, and it will be doing a service to the nation at large by instilling into his mind the risks he is running of undermining his health by imperfect digestion and absorption of septic matter. I have invariably found that if this be fully explained to the recruit, he can be prevailed upon to go to the hospital and have his mouth put in order.

3. I think a man should be rejected on general grounds, even if he is quite sound, for it is a well-known fact that certain men, although they pass according to the regulations, are not fitted for military service. For example, a man might be quite healthy, but be too fat, or the ratio of height and weight might be quite wrong, or his feet might be badly formed.

I would also have inquiries made by the attesting officer and non-commissioned officer as to the moral character of the recruit, especially with reference to the drink question. Too often one hears at camp of one or two recruits who not only drink heavily themselves, but endeavour to demoralize others in their company or tent.

Of course, we are touching on delicate ground here, but often a medical officer can refuse a man at his medical examination if anything has been found out about him which is likely to do harm to the regiment, before he has been passed as medically fit.

4. I think all recruits should be medically examined *before* going to camp. It may seem superfluous to mention this, but on one occasion I was attached to a regiment and was surprised when asked by the colonel to examine about sixty recruits several days after we had been in camp. The danger of this practice can be recognized, for all cases rejected on medical grounds not only mean a great wastage of public money, but great inconvenience to the regiment. Such a procedure is unfair not only to the men subsequently refused, but also to the regiment and the nation. "He that will have a cake out of the wheat must needs tarry the grinding," and though my suggestions might appear to give more work to the officers, I think subsequent events would prove that their work would be minimized.

In all my remarks it must be fully understood that I am referring not to the regular army, but to the Territorial Force. Having briefly discussed the means of prevention to be taken before camp, we must now see

what can be done during camp, and the following points are worth mentioning:

(*a*) *Cleanliness.*—It is said that "cleanliness is next to godliness," but we know that with some people it is next to impossible.

One cannot be too strict in insisting upon the utmost cleanliness, not only in the person, but in camp generally. The men should be taught to wash themselves regularly, and especially to see that their feet are bathed and thoroughly dried after work is over. It may seem faddy to make a point of washing before eating, but although we are, according to tradition, compelled to consume a peck of dirt in our lifetime, there is no necessity to do so in fifteen days.

There is no doubt that much of the gastric trouble in camp is caused by the men eating with soiled hands and contaminating their food.

Of equal, or of still greater, importance is the thorough cleaning of all cooking utensils, and the kitchens require most careful and constant supervision. No food should on any account be allowed in the tents. The cleanliness of the camp in general, and the tents in particular, both make for the health of the camp. Remember that flies—carriers of disease—flourish in filth. The risks attending exposure and vicissitudes of weather are very small if the men are well clothed and well fed, but these are not enough without cleanliness is added to them.

(*b*) *Removal of Tents.*—Whenever possible, the tents should be moved to fresh ground periodically, the length of time for the original tent ground depending on circumstances, such as the weather, etc. If this is impracticable, all tents should be struck at the end of the first week, so that at least the enclosed ground can have the benefit of the sun and fresh air for a few hours. The tent walls must be looped up for a few hours every day, in spite of the weather.

(*c*) *Clothes and Bedding.*—Proper facilities should be given for hanging up all blankets and beddings, so that they can be sunned and aired. Similar facilities should be given for wet clothes to be dried, not inside, but outside the tents.

(*d*) While on the subject of clothes, I must mention the importance of every man having good serviceable boots and at least two pairs of good thick undarned socks. One of the greatest troubles in camp is blistered feet, and a large percentage of men are rendered unfit for duty for one or more days on this account.

I have already mentioned the importance of there being a compulsory ablution of the feet daily, and if this is not practicable the feet should be thoroughly wiped with a wet towel, and this applies particularly to the toes. In my opinion, unsuitable socks are responsible for more sore feet than any other cause, and it is a pity that there is no fund to supply proper socks for all the men in camp. The County Associations make a grant to men who supply themselves with suitable boots at camp, but ignore the question of socks. Men arrive at camp with one or perhaps two pairs of socks, with crude darnings or holes guaranteed to cause blisters within a week.

It is better to dispense with socks altogether than wear ill-fitting and shrunken ones, and an excellent substitute is an ordinary newspaper wrapped round and moulded to the shape of the foot, for this can be changed daily.

The socks should be greased on the outside with soap, and when they show a tendency to shrink they should be stretched and worn on the opposite feet.

As in my experience the two commonest causes of absence from duty on account of minor ailments are sore feet and gastric troubles, I shall touch lightly upon their treatment. I have already mentioned the importance of suitable boots and socks, compulsory ablution of the feet, etc., and I would now suggest that a foot inspection should always take place a few days after camp has commenced. This is best conducted by the medical officer in conjunction with the officers in command of the various companies. If properly conducted, it takes very little time, and the medical officer can at once tell if any feet require attention. If any blisters are actually present, they should be pricked with an aseptic needle and the serum got rid of. A dressing of some mild antiseptic ointment can then be applied to the blistered parts. In those cases in which no actual blisters are present, but where the skin in parts looks angry and red, an excellent plan is to make the men soak their feet in a bucketful of cold water coloured red with permanganate of potash. Some men complain of excessive sweating of the feet, and in this case they should be bathed in a solution of formalin and water in the proportion of 1 to 800.

A powder of powdered talc 80 parts, starch 15 parts, and boracic or salicylic acid 5 parts, should then be lightly dusted on the feet. If this procedure is adopted, a man will seldom be absent from parade on account of foot soreness. In every case of blistered feet the socks and boots of the men should be inspected.

(*e*) The next commonest minor ailment is gastric trouble. This takes various forms, including: (*a*) Constipation, (*b*) diarrhoea, (*c*) sickness, (*d*) colic. The change of air and food are responsible in a great measure for the constipation which is so common in camp life, and most men who have had previous experience present themselves at medical parade on the second day and ask for an aperient. I would make it a definite rule for inquiry to be made on this point regularly, and especially should this apply to recruits.

Every medical officer must know that cases come to his notice of men being rendered unfit for duty on account of neglect in this respect, and, on being questioned, it will often be found that they will go six or seven days without any action of the bowels. This could all be prevented by making definite inquiries through the non-commissioned officers and seeing that each case was attended to.

Diarrhoea is most commonly caused by previous constipation and invariably means that a man is off duty for one or more days. Other causes are bad teeth and imperfect digestion, damp clothing not being changed, beer drinking, and food which is not good being kept and eaten in the tents. With the diarrhoea are, in a number of cases, vomiting and colic, and they are very difficult to treat properly in camp because there is no proper provision made for special invalid diet. This makes it still more important for us to prevent these troubles by every means in our power, and I think that a careful attention to the bowels during the second or third day in camp will do much to prevent men being off duty from such causes.

GANGRENE IN WAR.

By C. MAX PAGE, M.S., F.R.C.S.,
London.

AT any time, in civil as well as in military practice, the treatment of gangrene calls for close observation and considered judgement, so I venture to think that some remarks on the cases I had the opportunity of seeing and treating in the late Balkan war may prove of practical value.

If the types of gangrene seen under war conditions be classified in accordance with their etiology, they group themselves under the five following headings:

1. Gangrene secondary to the interference with the blood flow through the main vessels of a limb.
2. Traumatic gangrene.
3. Infective gangrene.
4. Gangrene due to vasomotor paralysis.
5. Gangrene secondary to the effect of high explosives.

The occurrence of the disease in young men with healthy circulatory systems is the one feature which is common to all these types, and which differentiates them on the average from gangrene as met with in civil practice. This fact considerably affects the line of treatment and the prognosis.

I will now briefly discuss the clinical phenomena and treatment of these several kinds of gangrene, with special reference to type 4, as this latter form of gangrene has not, it seems, been recorded since the war in the Crimea.

Type 1.

Gangrene of the extremities is occasionally seen as a result of direct slow velocity gunshot injury to the main brachial or femoral vessels; it more often occurs when a bone injury is present as well. High velocity rifle bullets may pass through large vessels and at the time produce few symptoms; subsequently an aneurysmal varix will very likely appear. The symptoms of this latter condition may be evident within a week or so of the injury, and if operation is undertaken at this stage,

probably involving ligature of the artery above and below the sac, gangrene of the affected limb is very likely to occur. Makins[1] states that the only cases of gangrene from aneurysm which came under his notice in the Boer war were secondary to operative interference, and he is very strongly of the opinion that operation should not be undertaken in these cases till two or three months after the injury; operation is at this time simpler, and the secondary circulation has had a chance of becoming properly established. Only one case of traumatic aneurysm of the axillary artery was treated operatively by us in Constantinople. Operation was undertaken nine days after the injury on account of the increased swelling and pain. The circulation in the arm remained good throughout, and the man made an excellent recovery.

In Constantinople I had 4 cases of gangrene secondary to injury of the main vessel, 3 in the arm, and 1 in the leg. Of the cases in the upper extremity, 2 resulted from shrapnel injuries in the subclavian triangle, the apex of the pleura and lung being involved as well as the artery. Both men died shortly after admission, apparently from shock. In the other case, gangrene of the hand followed a comminuted gunshot fracture at the elbow-joint. The gangrene was limited to the hand, but on account of the septic state of the elbow-joint amputation was carried out after admission, when the progress of the gangrene was stationary. The local condition progressed satisfactorily, but unfortunately the man died of acute enteritis a fortnight later.

In general, I think, in this type of gangrene amputation can be carried out near the seat of injury, and as soon as the process is definitely limited. In some instances, if the primary injury has not seriously involved the bone and is not infected, amputation at even a lower level may be safe.

Type 2.

Traumatic gangrene is a term applied to a condition often indistinguishable from infective gangrene. Theoretically it is applied only to those cases in which death of a part results from direct injury, but it is evident that infection will be an important factor in the extent and progress of the condition. The treatment is practically the same as for the infective type.

Type 3.

Acute infection with many organisms may cause some degree of local tissue necrosis. The term "infective gangrene," however, is usually reserved for those cases in which the process is definitely progressive and associated with toxaemia. Under such a classification come phagedaena and the gangrene due to the bacillus of malignant oedema and the *Bacillus aerogenes capsulatus*. Phagedaena or hospital gangrene was of common occurrence in the pre-antiseptic days in both military and civil hospitals, and several types were described by those who had experience in the Franco-Prussian war.[2] Nowadays it is practically not seen except as a complication of soft chancre. Emphysematous gangrene due to the above-mentioned organisms usually occurs in lacerated and grossly infected wounds of the lower extremity. The condition, if well established, extends with astonishing rapidity and produces profound toxaemic symptoms; prompt radical treatment must be undertaken if the patient's life is to be saved. In my experience amputation as far above the apparent level of infection as possible is usually fatal. I have, however, seen two cases—one a man aged 22, the other a boy of 12—survive amputation at the hip-joint for this condition. The alternative is to make free incisions into the affected parts and to dress with hydrogen peroxide or put the limb in a continuous bath. Montprofit states that he saw on the Allies' side during the Balkan war many cases recover after such treatment.[3]

Type 4.

I have assumed in my classification that the cases of symmetrical gangrene which were seen in large numbers among the Turkish troops in the last months of 1912 resulted from a vasomotor disturbance. There was some difference of opinion in regard to the cause responsible for the condition. I will give an account of the gangrene as it appeared in the cases which came under my own observation.

History.—About half the men affected were suffering from enteritis; the distinction between the less acute cholera cases and those of acute dysentery was not at this time always possible. All gave a history of being exposed for long periods on wet ground and of having been on insufficient rations. Many had been in wet trenches for twenty-four hours on end; the temperature in the neighbourhood of Tchatalja (from which most of the cases came) at this time of year was usually about 5° C. above freezing point. The foot and leg gear of those affected varied, but by no means all had been wearing European boots and puttees. The onset of the gangrene was usually painless; in many instances the men dated the existence of the condition from the time of their arrival in hospital, even in cases in which the process was evidently of some standing. Pain was very marked during the period of reaction and was most prominent and difficult to combat in those cases in which no more than the skin was involved.

Type of the Gangrene.—The gangrene was practically always symmetrical and affected the lower extremity in nearly all cases; the fingers were involved occasionally, but, as far as I saw or could learn, never independently of the feet. The extent of the gangrene in the lower extremity varied from mere discoloured blistering over one or two toes to death *en masse* of the leg as high up as the knee. In some men who showed a dusky mottled red appearance of the skin of the feet no actual necrosis occurred, though swelling of the feet and legs persisted in such cases for some weeks. The gangrene was usually dry, but in several of the more extensive instances it became moist, and at S. Stephano Bourdillon saw several deaths from tetanus in this latter class of case. When once the men were in hospital the condition did not tend to advance except in the few instances where emphysematous infection was superadded. Toxaemia was not marked except under the latter circumstances. The urine in the three or four cases examined was normal to the ordinary tests.

Treatment.—In cases where the gangrene was moist and extending, or where signs of tetanus were present, amputation well above the lesion was carried out. The prognosis in this type of the condition was not favourable, as in addition to the profound toxaemia the subjects were usually thoroughly exhausted from exposure and dysentery. When the gangrene was fairly dry the affected parts were powdered with boracic and left exposed to the air or lightly covered with wool; good food and stimulants then assisted the rapid formation of a line of separation. Superficial parts of the toes often separated in fourteen days. When the bone was involved the latter was divided a little above the line of separation. On account of the youth and vigour of the subjects, it was possible to make use of skin flaps right down to the level of separation. In the case of the men affected with enteritis, as might be expected, the course tended to be less favourable, but even in these instances the gangrene, if dry, seldom advanced much after admission of the patients to hospital.

Etiology.—I consider the condition to be strictly comparable to that of frostbite. The arterial circulation of the men affected was rendered extremely poor by the condition of starvation and fatigue; under these circumstances a temperature above freezing was able to produce stasis in the peripheral vessels. No doubt in some instances tight boots and puttees assisted, but, as I have already mentioned, many of the men affected had been wearing the loose native footwear. Dreyer,[4] who reports on 31 cases seen in the German Hospital in Constantinople, takes this view. Depage[5] does not agree with this explanation, and gives as his opinion that the gangrene was due to the pressure of puttees shrinking as they dried. I have already given reasons for showing that this explanation does not satisfactorily account for a large number of cases seen. A further explanation put forward at the time was that the gangrene was due to the troops eating infected rye bread. Against such a possibility was the small quantity of rye bread supplied to the troops and the entire absence of similar symptoms among the local population before the war.

No figures of the mortality of this condition among the Turkish troops are yet available, but certainly many thousands were affected, and the death-rate among those

who were suffering as well from enteric complaints was high. I have not been able to find any record of a similar gangrene among the many accounts of the medical history of the Allies' armies. It is interesting to note that a strictly comparable condition attacked many of the English and French troops in the Crimean war. In English reports and statistics the condition is classified as frostbite, although it appeared quite often in the absence of extreme cold.[6] The number of men invalided on this account was 1,844. The mortality from this cause in the army which served in Bulgaria as well as in the Crimea was 33.3 per cent.; among the troops who only served in the Crimea it was 16.3 per cent. This enormous death-rate was largely due to the complication of enteric diseases and typhus, which were both frequently acquired after the troops were admitted to hospital. The figures relating to sickness incidence will remind you of the deplorable medical conditions under which our troops served in that campaign. For enteric diseases alone, the admissions to hospital amounted in the ex-Bulgarian force to 74.1 per cent. on a strength of 14,959, and in the Crimean army to 86.1 per cent. on a strength of 8,880. Haspel[7] gave an account of the condition from the French point of view which corresponds very closely with the recent experiences in Turkey. He states that amputation nearly always proved fatal and strongly advised conservative treatment.

Type 5.

Extensive gangrene of the extremities has been stated to occur in men after they have recovered from the effects of violent explosives. I have not been able to find any authoritative statement on this subject, and hope that some member of this meeting may have some knowledge of the matter.

The only recent definite communication I can find on the subject of this type of injury is by v. Berdisavljever,[8] reporting from Servia; he says he saw cases of haematuria, haemothorax, and shock as the result of explosions, but he says that in no instance did he see gangrene. Dr. Maclean had under his care in Constantinople a remarkable case of gangrene of all four extremities attributed to this cause.[9]

Such in outline is an account of gangrene as it is met with in war. It will be appreciated that in general it is merely an occasional complication of some other surgical condition, and that it only assumes epidemic importance under rare conditions of service, conditions to which one may hope it will never be the lot of our troops to be again subjected.

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SECTION OF OPHTHALMOLOGY.

C. H. USHER, B.A., M.B.Cantab., F.R.C.S.Edin., President.

AN ANALYSIS OF THE RESULTS OF THE NEW SIGHT TESTS OF THE BOARD OF TRADE.

By F. W. EDRIDGE-GREEN, M.D., F.R.C.S.

THE Board of trade has now issued a report on the new sight tests used in the Mercantile Marine. This report covers the period of April 1st to December 31st, 1913. An improved wool test in which the candidate had to match five colours, and a lantern test were used. The cases of colour blindness are divided into those definitely rejected by the local examiners and those referred for a special examination, the local examiner being doubtful. Of the 286 definitely rejected in the local examinations 148 failed in both the lantern and the wool test, and 138 failed in the lantern test only. There was no failure with the wool test which passed the lantern test. Of the 286, 93 appealed, 26 being successful. Of 125 referred cases, 20 were referred on both the lantern and the wools, 101 on the lantern only, 3 on the wools only, and 1 on form vision as well. Of this number there were 30 failures, 3 of these were referred on both the lantern and wool test, 26 on the lantern only, and 1 on form vision as well. Those referred on the wool test alone were passed.

It must be pointed out that the above summary is not given in the report, but is the result of a detailed examination of every case. This is a grave omission considering the importance of the facts which are brought out. It will also be seen that the figures do not agree with the totals given at the end of the report. For instance, the total number of failures in the local colour vision tests is given as 283, but if the number be added up it will be found to be 286. It is particularly surprising that the results of the examinations with the lantern and the wool tests are not tabulated, because they are so important and settle for ever the question of the efficacy of the wool test even in its improved form.

The Departmental Committee wrote with regard to the lantern test and the wool test:

> When the two methods had been in use for a certain number of years, long enough to afford reliable statistical data, the number of cases in which candidates who have failed in one but have passed in the other should be tabulated, and the question of dispensing with one or other could then be considered.

It will be noticed that of the 286 rejected in the local examinations, 148 failed in both the lantern and the wool test, and 138 failed in the lantern test only; there was no failure with the wool test which passed the lantern test. It will be seen, therefore, that, not taking into account the referred cases, over 48 per cent. of the rejected passed the wool test. If we add the referred cases which were rejected—namely, 3 who were referred on the lantern and wools and 26 referred on the lantern only—the percentage of those passing the wool test is still further increased—namely, to over 52 per cent. It will be noticed that those who were referred on the wool test alone were passed. The wool test used was not that of Holmgren, but had added to it two test colours similar to the two principal test colours in my classification test. The figures given for the wool test in the form it is now used do not in any way represent its defectiveness in its original form or even in the form (all three test colours being used in each case) originally adopted by the Board of Trade, after I had stated, in 1889, how very defective the wool test was. In 1909 the Board of Trade added two new test skeins similar to the chief test colours in my classification test, and which I advocated as being the best test colours in 1889 if wools were to be used. Let us therefore compare the percentage of rejections before and after the introduction of these two test colours. The following table gives the number of candidates examined in colour vision and the percentage finally failed in colour vision for different years since the introduction of the wool test.

	Number of Candidates Examined in Colour Vision.	Percentage Finally Failed in Colour Vision.		Number of Candidates Examined in Colour Vision.	Percentage Finally Failed in Colour Vision.
1894-5	*6,680	1.38	1905 ...	5,839	0.80
1896 ...	5,017	1.02	1906 ...	6,410	0.75
1897 ...	5,943	0.66	1907 ...	6,564	1.10
1898 ...	4,080	0.81	1908 ...	6,288	0.70
1899 ...	4,621	0.87	1909 ...	†5,146 ‡ 882	1.07 1.81
1900 ...	4,300	0.72	1910 ...	7,393	1.51
1901 ...	4,878	0.92	1911 ...	7,192	1.89
1902 ...	4,600	0.74	1912 ...	7,326	2.22
1903 ...	4,622	0.45	1913 ...	§2,068 ‖5,799	3.43 4.9
1904 ...	6,292	0.94			

* September 1st to December 31st. † January to October.
‡ November and December. § January 1st to March 31st.
‖ April 1st to December 31st.

Now, it will be noticed that the percentage of 4.9 is much higher than any previous year. For the ten years extending from 1897 to 1906 inclusive the percentage of rejections never reached 1 per cent., and for 1903 was 0.45 per cent.; therefore for 1913 the rejections are

ten times the number of those in 1903. It is evident, therefore, that either a considerable number have been rejected who should not have been rejected or that in former years a considerable number have been passed who are a danger to the public.

I cannot give details of the examination on appeal, but I entirely disagree with the standard of classification suggested by the Departmental Committee. I have examined many cases which have been rejected by the Board of Trade, and some of these cases I certainly should not have rejected. The examiners on appeal were all strong advocates of the wool test, and Mr. J. H. Parsons, a member of the Departmental Committee, stated in his new book, published after the report, that the wool test was "sufficiently good," and that names should not be used in a test for colour blindness, and did not even mention the lantern test. It is incomprehensible to me how a man can work at a subject and miss such a very simple fact as that certain colour-blind persons can pass the wool test, seeing that over 50 per cent. of dangerous cases can pass this test even in its improved form, and that the fact has been continually and persistently pointed out as it has been by me for the last twenty-five years, and is recognized by the overwhelming majority. Such, however, is scientific method with certain men in this country, and I commend this fact to those who are really interested in the progress of knowledge and in removing the obstacles in the path of the pioneer. It is obvious, however, that advocates of the wool test are not the right persons to fix a standard with the lantern test. The lantern employed is not mine (the official test of the navy), but is similar to one of my discarded models, but not so efficient, as there is no means of altering the luminosity of the lights, and only two, instead of a series of apertures, are used. As I predicted last year, a considerable number of normal-sighted persons are rejected by it; 93 (the summary of the report states 94) out of 286 appealed—that is to say, about one-third of the number. Of this number 26 were successful and 67 unsuccessful (the summary of the report states 68)—that is to say, apart from referred cases, the very large percentage of 27.9 were found to be rejected wrongly. It is probable that a similar percentage would be found if the other two-thirds were examined. This shows how very unfair this lantern test is to the mercantile marine. It should also be noted that two cases passed by the examiners locally for form vision were, on appealing against rejection for colour vision, rejected for form vision, one even on the old standard.

The report of the Departmental Committee contains many misstatements of fact, probably none worse than the following: "The evidence has also established that there are a number of cases, which have been described as 'border-line cases,' in which considerable difficulty has been experienced in determining whether the defects in the vision of the candidate will or will not interfere with his efficient watch keeping. These border-line cases represent much less than 1 per cent. of the candidates examined, but they must include cases of real hardship as in the interests of safety it is impossible to give the benefit of any doubt to the candidate."

Now, the great difficulty in this question for the mercantile marine is where to draw the line: it is not a matter of a fraction of 1 per cent., but the border line region is very large; 25 per cent. of men show definite defects of colour perception, in fact the whole hundred could be graded according to their colour perception, some being very superior to others in distinguishing lights. Now, in the large majority of this 25 per cent. the defect is slight, but they are obviously not up to the standard of the other 75 per cent. What is wanted is that the Admiralty should fix a standard of distance at which it is necessary to recognize lights with and without conditions of fog. If some thousands of persons were tested with actual signal lights with the aid of neutral glasses at the required distances, those rejected could then be submitted to other tests in the laboratory, the efficiency of which would then be determined. It is particularly important that all the bad cases should be rejected, and not that some bad cases should be passed and that slight cases should be rejected. Dr. T. Harrison Butler records a case of a man who passed the Board of Trade lantern but failed with my lantern with a red light, not being able to see it when it was dimmed.

DISCUSSION.

Mr. J. HERBERT PARSONS (London) spoke at length on the Board of Trade tests and upheld them.

Mr. DEVEREUX MARSHALL (London) commented very adversely on the Board of Trade tests and thought that the results obtained were very bad as recorded in the statements published by that body. He upheld the conclusion which Dr. Edridge-Green had made in his paper.

Professor H. GIFFORD (Omaha) strongly advocated the use of the lantern test; he thought it infinitely superior to that of the wools.

Major W. E. MCKECHNIE, I.M.S., said that if the lantern were sufficient in all cases as a practical test it seemed unnecessary to have a wool test, as in practice individuals were required to distinguish lights and not things of the nature of wools. The suggestion of Dr. Edridge-Green—that a standard of normal colour vision should be determined—was of great practical importance. What was practically required was to pass all who could distinguish and see signal lights at all times and to reject when failure to do so might mean danger, and to disqualify no others. To be able to do this—that is, to set up a standard—some thousands of individuals ought to be examined under practical conditions of service in all weathers at sea. Those who were fit for sea service would also be fit for land service. If a public body like the Admiralty would take up this question they could, by testing a sufficient number of persons, determine a mean standard of normal colour vision and the amount of departure from the mean which would constitute the limit beyond which rejection must take place. Having thus determined the range of colour perception within which perfect safety lay, it would be a simple matter to define by a test like that of Dr. Edridge-Green's lantern which candidates should be passed and which rejected. Unless this practical standard could be determined, tests would be apt to be too rigorous or too lax.

A CASE OF LATE INFECTION FOLLOWING ELLIOT'S OPERATION.

By A. HILL GRIFFITH, M.D.,

Lecturer on Ophthalmology, University of Manchester; Ophthalmic Surgeon, Royal Infirmary; Surgeon, Royal Eye Hospital.

I PERFORMED my first trephine for primary glaucoma on January 31st, 1911, and from my hospital statistics I find I have done in all 125 for primary glaucoma, besides a good many for secondary glaucoma and for other diseases.

I am well pleased with the results, and regard the operation as much more satisfactory than iridectomy in chronic glaucoma.

S. E., male, aged 55, came under my care at the Royal Eye Hospital on March 25th, 1912, for chronic glaucoma in both eyes. The vision had been failing very gradually for five years, more seriously for the last five months, with coloured rings around the gas lights.

State on Examination.—The conditions were practically similar in both eyes: Dilatation of the venous trunks around the cornea, anterior chamber shallow, pupil medium wide, cupping of the disc with spontaneous pulsation of the arteries; V. = $\frac{6}{18}$ and with correction of the presbyopia, No. 1 Jaeger slowly. Charts of the field of vision showed the typical contraction of the nasal side.

Operation.—The tension was decidedly increased. Both eyes were operated upon within a short time of each other by upward trephining by Elliot's method, a small iridectomy including the pupillary margin being done, and the conjunctival flap was sutured. The patient was discharged in a month. Both eyes made perfect recovery and kept well for close on two years.

Progress and Result.—On March 11th of this year he presented himself with purulent irido-cyclitis of the *left* eye. No light perception. T − 3, exudation in the pupil, injection of the entire conjunctiva, oedema of the lids, discoloration and inflammation of the iris; the pillars of the coloboma were free and well retracted. The eyeball was removed three days later. I should have mentioned that the patient on being questioned told me that the eye had been affected four days. The other eye is still quite satisfactory in every way. The naked eye preparation of one half the globe which I present to you shows purulent cyclitis, the exudation covering the entire free surface of the ciliary body and posterior surface of the lens.

REMARKS.

Dr. L. Paul, in the May number of the *Klin. Monatsblätter f. Augenheilkunde*, records a case like the above, and says that his is the twenty-eighth case so far recorded. My colleague at the Eye Hospital, Dr. J. Gray Clegg, tells me he has quite recently had a case eighteen months after operation; this with my own brings the total to 30.

This number 30 must, of course, constitute a very small proportion of the total number of cases operated upon, for many thousands have been done. My own experience of 1 in 125 gives a percentage of 0.75. On the other hand, I do not for a moment imagine that all the bad after-results have been published. I must confess that my confidence in the operation has been badly shaken, and I feel it my duty to publish this unfortunate case, and hope to elicit the experience of the gentlemen present as to any unpublished cases, with suggestions for rendering the operation safer.

DISCUSSION.

Dr. H. GIFFORD (Omaha, U.S.A.) said he too had been unfortunate enough to have a case of late infection after a faultless trephining, and it led to entire loss of sight. With the history of cataract operation in mind one ought not to be surprised at these late infections. Doubtless they would remember the cases of late infection reported by Wagenmann years ago; in these, after a cataract operation, the wound healed with a cystoid scar. Such cases were practically in the same position as that of a glaucoma patient, after a successful trephining. Unfortunate as such results were, they constituted no valid ground for rejecting trephining, since, as Axenfeld had pointed out last year, many cases of chronic glaucoma could not be saved from blindness by anything except a fistulizing operation. In still another way a successful trephining was on a parallel with a cataract operation, in respect of liability to sympathetic ophthalmia. Last autumn the speaker had ventured to predict that before long cases of sympathetic ophthalmia following trephining would be reported. Since then he had heard of two such cases—one in the practice of Dr. Spalding of Portland, Maine; one in that of Dr. McReynolds of Dallas, Texas, and it was perfectly certain that more would follow. But this also was no reason for rejecting trephining. That operation had come to stay, and the important thing was to determine what could be done to minimize the danger of such accidents. Every patient with a conjunctival bleb connecting with the interior of the eye should daily use a solution of zinc ½ grain to the ounce or something similar. If he could not be brought to do this he ought at least to carry a prescription for such a solution with instructions to use it promptly on the slightest sign of conjunctival irritation; also to use hot applications if there were any pain, until an ophthalmic surgeon could be consulted. The infection was exogenous and the danger in direct proportion to the prominence of the bleb. A case reported by Kuhnt illustrated this most clearly.

Mr. DEVEREUX MARSHALL (London) said that he considered no operation safe which caused a cystoid scar, although the risk of such might be immeasurably less than the destruction caused by the disease for which it was performed. He detailed a case in which a lady was operated upon for chronic glaucoma in both eyes in 1887, with good results, but with cystoid scars. A conjunctival catarrh developed a year later, and one eye was entirely lost from an infection of irido-cyclitis. He was not surprised to find that occasionally such results followed trephining.

Dr. MONTAGU HARSTON (Hong Kong) said he considered it important always to transilluminate the patient previous to any trephining operation in order to exclude as far as possible any latent sinus infection. He agreed with Mr. Parsons that the flap should be much larger than Dr. Hill Griffith had demonstrated in his drawing; furthermore, it was of extreme importance that dissection under the flap should, as Elliot laid down, be central only, and that the peripherally-situated subconjunctival tissue should remain undisturbed, in order to minimize as much as possible the danger of late infection.

Dr. A. J. BALLANTYNE asked whether in Dr. Griffith's case the trephine hole were covered by a prominent, thin-walled bleb. If so, it was probable that the operation did not strictly follow Elliot's technique, in which the trephine hole did not lie beneath a delicate film of conjunctiva, but was covered by a layer of corneo-scleral tissue isolated by "splitting" of the cornea. It was very probable that cases presenting a prominent thin-walled cystic scar were those which were most liable to late infection.

Mr. HERBERT PARSONS (London) said he was surprised that late infection did not occur more frequently. He thought that a large flap was essential, and also that the trephine wound should be made well forward in the cornea, as Colonel Elliot insisted.

Dr. CASEY A. WOOD (Chicago) said he had seen two cases of infection, and they commenced at the margin of the flap. One occurred three weeks after the operation and one six months afterwards.

Dr. JAMES A. WILSON (Glasgow) thought that the conjunctival flap should be cut as thick as possible. He felt sure that a very thin conjunctival flap over the trephine wound was by no means as great a protection to the eye as a thick one.

Dr. MAITLAND RAMSAY (Glasgow) thought that the ends of the flap should not be cut down to the corneal margin.

Dr. HILL GRIFFITH, in reply, said that the risk of late infection must be considered as an inherent defect of Elliot's operation, and when infection took place it was through the conjunctiva covering the bleb and not through the edges of the conjunctival flap. He entirely rejected Mr. Parsons's suggestion that any slight difference between his own and Elliot's technique could possibly account for the unfortunate result; he agreed with Marshall that it was the presence of the cystoid cicatrix that gave rise to an ever-present danger.

THE CAUSES OF BLINDNESS IN ELEVEN HUNDRED CHILDREN;

WITH SPECIAL REFERENCE TO THE INFLUENCE OF VENEREAL DISEASE.

By N. BISHOP HARMAN, M.A., M.B.Cantab., F.R.C.S.Eng.,
Ophthalmic Surgeon to the West London Hospital, and to the Belgrave Hospital for Children.

FOR the past ten years I have had oversight of a number of London blind schools. All the children admitted to these schools are examined, the state of their eyes and of their bodies is recorded; the cause of the blindness is ascertained, by clinical evidence, by inquiry from the parents or guardians of the child, or by additional inquiry directed to the hospital authority under whose care the child had been at any time. Most of these children have been examined very many times in the course of several years.

The total number of blind and partially blind children brought into this inquiry is 1,100. The causes responsible for their state of blindness may be placed in three groups:

I. Injury or destruction of the cornea consequent on surface inflammations.
II. Inflammation within the eyeball or optic nerve.
III. Congenital defects of the eyes.

GROUP I.

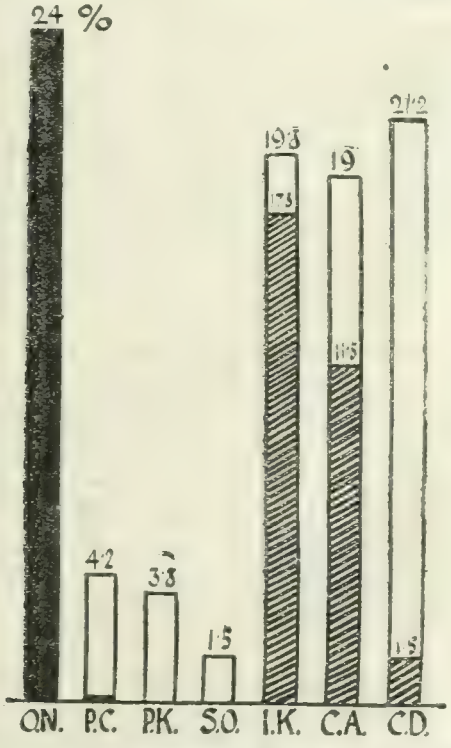
Surface Inflammations.

In the first group, injury or destruction of the cornea consequent on surface inflammations, ophthalmia neonatorum is responsible for by far the greater number of cases of blindness, and in particular for the cases of total blindness. The group contains 351 children, and the causes of the blindness are as follows:

(*a*) Ophthalmia neonatorum	...	266 = 24 per cent.	
(*b*) Purulent conjunctivitis of later years	...	47 = 4.2	,,
(*c*) Phlyctenular keratitis	...	38 = 3.4	,,
		351 = 31.9	,,

The percentages are for the grand total.

(*a*) The diagnosis of those cases marked "ophthalmia neonatorum," so far as the examination of the child at the time of school age is concerned, must rest upon the character of the eye damage, the associated symptoms, and the history of the case as obtained from the parents or other responsible party. There are certain definite characters associated with purulent conjunctivitis occurring within a few days of the birth of the child, and most important amongst these is the occurrence of nystagmus—that is, a constant jerky oscillation of the eyes. This symptom is practically constant as a sequel of gross inflammation occurring within the first few days of life, but it does not occur, with the rarest exceptions, in children who have suffered from as severe a type of inflammation, even to the production of blindness, when the date of the onset of the inflammation is some months or years after birth.



O.N., Ophthalmia neonatorum; P.C., purulent conjunctivitis in later years; P.K., phlyctenular keratitis; S.O., sympathetic ophthalmitis; I.K., interstitial keratitis and iritis; C.A., choroiditis and optic atrophy; C.D., congenital defects.

Gonorrhoeal origin. Syphilitic origin.

(*b*) The cases of purulent conjunctivitis occurring in later months or years of child life were due to a great variety of causes.

Causes unknown—that is, date of origin known, but actual cause not ascertainable ...	14
Eczema and streptococcal infections ...	4
Scarlet fever	5
Measles	10
German measles	1
Meningitis	1
Diphtheria	2
Small-pox	4
Erysipelas	1
Chicken-pox	1
Pneumonia	2
Gonorrhoeal (contracted from vaginal discharge or pus from the eye of an affected baby) ...	2
Total	47

The two last cases are of importance, for they demonstrate the danger of the presence of babies suffering from ophthalmia neonatorum to other members of the community. One is a girl whose motherliness was exercised towards an affected baby; she caught the disease, the cornea ulcerated, and she is blind for life, whilst the baby died. The other is one of a family of three girls; the youngest, a baby, had ophthalmia neonatorum; the whole family contracted the disease, and besides vaginitis. The eyes of one were damaged sufficiently to necessitate her being educated in a blind school.

(*c*) Amongst the cases of phlyctenular keratitis there was no case of suspected venereal inheritance.

Group II.

Blindness due to Inflammation within the Eyeball or Optic Nerve.

This group contains a great variety of cases—inflammations of the cornea, of the iris, of the choroid, and of the optic nerve; but it is sufficient for the purpose of these statistics to place them in two categories, according as the inflammation affected (*a*) the anterior half of the eye or (*b*) the posterior half of the eye. The distinction is arbitrary but convenient.

(*a*) Those affecting the front half of the eye total 217, or 19.8 per cent.; by far the greater number are due to interstitial keratitis; there are a few only of iritis. Syphilis accounts for 17.8 per cent. The figures are as follows:

Interstitial keratitis due to inherited syphilis ...	190
Interstitial keratitis, evidence of syphilis uncertain	14
Interstitial keratitis due to tubercle, etc. ...	7
Iritis due to inherited syphilis	6

In examining my records of the cases tabled above, I have classified all the confirmatory evidences upon which the diagnosis of the cause of the condition was made. These are many, and some of them are so definitely characteristic that there can be no manner of doubt of the certainty of the diagnosis. In most of the cases there were several confirmatory signs, but in every one of these groups in which the diagnosis of inherited syphilis was made there was at least one of these confirmatory signs present.

Confirmatory signs and their frequency in the 190 cases of interstitial keratitis due to inherited syphilis:

Hutchinsonian teeth (including a few "Moon's teeth")	129
Characteristic physiognomy	73
Iritis	77
Choroiditis (disseminated; in many cases there can be no examination of the fundus oculi owing to the opaque cornea	30
Bad family history	72
Scars at the angles of the mouth	36
Evidence of bone or joint disease	16
Ulceration of the nose or palate	9
Deafness	45

There were 13 cases of interstitial keratitis in which there were no confirmatory signs of an inherited syphilis. On the evidence of experience they would be fairly assigned to this cause, but in the absence of definite confirmation they are not included as syphilitic. It may be noted that some were seen before the Wassermann reaction was discovered; others could not be got to attend hospital for the purpose of making the test.

(*b*) Of those inflammations affecting the posterior half of the eye by far the greater number were due to a form of choroiditis known as "disseminated." This cannot be said to be diagnostic of syphilis, for other conditions are capable of causing the same or very similar conditions, but all evidence goes to prove that these cases are overwhelmingly syphilitic in origin. With the choroiditis there is always more or less atrophy of the retina and of the optic nerve, so that vision is gravely reduced. Closely associated with these cases are many cases of total optic atrophy.

This group includes 222 cases, or 20.5 per cent. Of these, 126, or 56.7 per cent., were definitely syphilitic. This group of cases may be considered in three subgroups: (I) A subgroup of mentally defective, nearly all syphilitics. (II) A subgroup all of whom were syphilitic. (III) A subgroup in which the cause of the condition was indeterminate.

I. Subgroup of cases with mental defect either during or after school years:

Became insane ...	26	...	Syphilitic ...	22
Mentally deficient ...	24	...	,, ...	18
Microcephalic idiots ...	4	...	,, ...	2
Epileptic	10	...	,, ...	9
	64	...	,, ...	51

II. Subgroup of children with disseminated choroiditis or optic atrophy of inherited syphilitic origin (74 cases):

Disseminated choroiditis	59
Optic atrophy	44
Hutchinsonian teeth	38
Physiognomy marked	12
Bad family history	41
Bone or joint disease	8
Deaf	2

III. Subgroup of children with disseminated choroiditis or optic atrophy of which the cause was assigned to other effects than syphilis, or of which the cause was indeterminate (84 cases).

Optic atrophy, cause unknown	29
Optic atrophy with disseminated choroiditis, cause unknown	15
Optic atrophy, post-febrile (5 cases):	
Measles	1
Diphtheria	1
Influenza	1
?	2
Optic atrophy:	
Accidental head injury	5
Hydrocephalus	9
Meningitis	10
Cerebro-spinal meningitis	5
Optic atrophy, familial	7
Choroiditis, familial	5
	84

Here follow a small group of cases of blindness due to causes which fall more or less into this main second group:

Buphthalmia (17 cases):	
No syphilis	10
With honeycombed teeth	2
With Hutchinsonian teeth	5
Sympathetic ophthalmitis, no syphilis	16
Macular defects (23 cases):	
Colobomata	6
Deficiency	8
Day blindness	6
Congenital nystagmus	3

There were some indications of a syphilitic inheritance in two of the macular cases.

Retinitis pigmentosa (21 cases):	
Sporadic cases	11
Familial cases	8
Sole child cases	2

There were indications of syphilis in one case.

GROUP III.

Blindness due to Congenital Defects.

This group includes 233 cases, or 21.2 per cent.; only 16, or 1.45 per cent., were known to be of syphilitic association.

(*a*) Albinism:

Familial cases	10
Sporadic cases	15
Sporadic cases due to syphilis (one illegitimate)	2
	25

(*b*) Defects of the crystalline lenses:

Microphthalmia and cataract	12	Syphilitis	1
Microphthalmia and cataract (hereditary)	5	,,	0
Microcephalic and cataract	6	,,	1
Posterior polar cataract	19	,,	4
Congenital cataract, varied types	51	,,	6
Lamellar cataract (post-natal)	30	,,	1
Dislocated lenses	19	,,	1
	142		14

(*c*) Varied defects of the globes and the accessory organs of vision:

Aniridia	6
Colobomata of iris	10
Microphthalmia	17
Congenital anophthalmia	3
Glioma retinae	2
Defective muscles	2
Defective muscles and face	1
Extreme hypermetropia	5
Oxycephaly	9
	53

No signs of syphilis found.

(*d*) Complicated myopia producing blindness or partial blindness occurred in 13 cases. There were no signs of syphilis found.

General Table of Causes of Blindness.

Cause of Blindness.	No. of Cases.	Gonorrhoea.	Syphilis Certain.	Syphilis Probable.
Ophthalmia neonatorum	266	266	—	—
Purulent conjunctivitis of later years	47	2	—	—
Phlyctenular keratitis	38	—	—	—
Interstitial keratitis	211	—	191	13
Iritis without other inflammation	6	—	6	—
Optic atrophy with or without disseminated choroiditis	222	—	125	13
Buphthalmia	17	—	5	2
Sympathetic	16	—	—	—
Macular defects	23	—	—	2
Retinitis pigmentosa	21	—	—	1
Albinism	25	—	2	—
Cataract	142	—	14	—
Other congenital defects	66	—	—	—
Totals	1,100	268	343	31
Percentages	100	24.35	31.2	2.8

Percentage of venereal disease in causation of blindness	55.55
Probable same cause	2.8
Total per cent.	58.35

Ophthalmia Neonatorum and Syphilis as Causes of Blindness.

I have examined the tabulated figures of the children attending the blind schools on three occasions—the present and two previous occasions. It will be of interest to compare the returns. On the first occasion the total coming into the count was 255 children; these were examined up to and including 1904. On the second occasion the total coming into the count, which include the previous 255 children, was 363; these were examined up to and including 1906. The third count is that given in the foregoing statements; the children now number 1,100, and they represent all seen up to and including 1913.

Year of Investigation.	Total seen.	Ophthalmia Neonatorum.	Congenital Syphilis.
1904[1]	255	94 = 36.86 %	48 = 18.82 %
1906[2]	363	132 = 36.36 %	64 = 17.60 %
1913	1,100	268 = 24.35 %	343 = 31.2 %

The figures show that there has been a definite diminution of the incidence of cases of blindness caused by ophthalmia neonatorum, and it is reasonable to credit this diminution to the great efforts that have been made to prevent the disease during the past few years. The diminution is really greater than it appears by this method of tabulation, for the cases seen and accounted for in the first two counts are included within the last return.

The apparent increase of the incidence of the cases of congenital syphilis is in part due to the diminution of the cases of ophthalmia, and in part to the use of finer methods of diagnosis—cases that formerly were tabled amongst those of "uncertain origin" are now definitely accounted for.

It is certain that the number of cases of blindness due to ophthalmia is diminishing both actually and relatively to the causes of blindness. But there is not sufficient evidence to state certainly that the apparent increase of the syphilitic cases is due to any other cause than the diminution of one large class of case of blindness and to the better means of diagnosis.

The sum total of this examination of these blind children is the finding that more than one-half of them owe their miserable state of blindness to venereal disease of their parents.

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THE FACTOR OF HEREDITY IN MYOPIA.

By James Alexander Wilson, M.D.,
Assistant Surgeon, Ophthalmic Institution, Glasgow.

It is admitted that myopia is frequently hereditary, but the general opinion is that near-work—reading, writing and sewing—is the more important factor in its production, and the chief evidence for this opinion is the striking increase of myopia that occurs during school years.

It is becoming more and more recognized that the laws of heredity are definite and fixed and that the potency of the germ-plasm in genetics is discrediting the influence of environment. Already quite a number of human diseases and malformations are known to conform to Mendelian laws, some descending as dominants, some as recessives, and further, there are some which exhibit the peculiarity of sex-limitation.

Is there anything in the incidence of myopia that suggests the operation of well-known laws of heredity? The collecting of material for such an investigation is a big and at times seems a hopeless task, for so many people are ignorant not only of the character of the eyesight of their parents and immediate ancestors, but also of the meaning of the term "short-sight." Nevertheless we frequently have opportunities of examining two and sometimes three generations, and often we have no difficulty in accepting testimony regarding those who are dead or beyond our reach.

The following table gives some details of 1,500 consecutive cases, and on these my observations are based:

Table I.

Age Groups.	No. of Cases.	Females.	Males.	Average Amount of Myopia.	Percentage of Females.
Years.				Dioptres.	
8 and under	90	54	36	4·5	60
9-12... ...	227	135	92	3.7	59
13-15 ...	172	102	70	4.2	59
16-20... ...	215	140	75	4.9	65
21-30... ...	318	218	100	5.6	68
31-40... ...	224	163	61	5.9	72
Over 40 ...	254	180	74	6.4	70
Totals ...	1,500	992	508		

These cases are ophthalmologically selected, and may not represent the relative distribution of these conditions in the general population, but intrinsic evidence may be found bearing on the question of heredity.

Sex.

In my table there are 992 females and only 508 males—that is, there are nearly two females to one male. It may be said, and as a quite legitimate criticism, that women have more opportunity than men to visit the hospital, and that this accounts for the greater number of females. School statistics show that females are more liable to myopia than males. Among the school children on my list the percentage of females is 59. At the age of puberty the percentage rises, and it increases from this onwards.

Late development of myopia is acknowledged, but there is no evidence of the frequency of its occurrence. Ten per cent. of my cases say their defective vision came on between the ages of 16 and 35 years, and these people are occupied as clerks, typists, compositors, domestic servants, tradesmen, and miners. Two-thirds of them are females. All these people have not deceived themselves as to the time of onset. Late development, then, probably accounts for some of the greater prevalence of females among my cases. In some, one eye is more myopic than the other, and the failure of the better eye may have made the person conscious of the defect. Many of these people have relations who are myopic, and I infer that the manifestations of heredity are not confined to school years.

Heredity.

I have classed a patient as having hereditary myopia when I have examined and discovered myopia in a parent, a brother, or a sister, or if I have seen the glasses worn by one of these and found them to be glasses for short-sight. I have also accepted the following statements as evidence of myopia in a parent or relative: (1) That a parent or relative could see to read, write, or sew without glasses at or over 60 years of age; (2) habitually passed friends in the street without being able to recognize them, but yet had good near vision; (3) that glasses were removed for reading; or (4) that when reading the paper was held close to the face. This method of classification gives the following results:

Grandparents myopic	... 54	
Mothers myopic	... 369	
Fathers myopic	... 254	
		— 677
Brothers or sisters myopic	... 164	
Uncles or aunts myopic	... 31	
Cousins myopic	... 9	
		— 204

In 204 cases the evidence of heredity is collateral and the transmitting parent is not disclosed, nevertheless the mother obviously plays the larger part in the transmission of myopia.

Myopia was transmitted—	
From father to son in	... 79 cases.
From father to daughter in ...	... 149 ,,
From mother to son in	... 111 ,,
From mother to daughter in ...	... 231 ,,

These figures do not include all the myopic members of the various families, for probably both sons and daughters have been omitted, but, taken as they stand, then the fathers transmitted myopia to two daughters for one son, and the mothers also transmitted myopia to two daughters for one son.

There is evidence of heredity in 58 per cent.; keratitis is classed as the cause of the myopia in 12 per cent.; cases in which evidence of heredity is unobtainable, 30 per cent.

Arranged according to the amount of myopia:

Low myopia—*i.e.*, up to 3 D. ...	Females 425; males 243
Medium myopia—*i.e.*, 4 to 6 D. ...	Females 249; males 113
High myopia—*i.e.*, 7 to 12 D. ...	Females 217; males 112
Very high myopia—*i.e.*, over 12 D. ...	Females 101; males 40

The following figures indicate the percentages of the cases in these sections that present evidence of heredity; cases due to keratitis are, of course, excluded:

Low myopia	... 65 per cent.
Medium myopia	... 66 ,,
High myopia	... 67 ,,
Very high myopia	... 67 ,,

Table II.

Occupations.	No.	Per Cent.	Average Amount of Myopia.	Hereditary. Per Cent.
			Dioptres.	
School children	491	33.0	4.0	65
Housewives and domestic servants	445	30.0	6.5	63
Shop and factory workers, etc. ...	262	17.5	5.5	68
Clerks, typists, etc.	222	14.5	3.8	60
Labourers and miners	61	4.0	7.0	60
Unknown	19	1.0	—	—

These various degrees of myopia and these various occupations show practically the same evidence of heredity, and from this there follows a suggestion of unity in the subject and of similarity in etiology.

Tscherning's[1] statistics are well known. They were obtained from the examination of 7,523 Danish conscripts, and among these he discovered 627 myopes—that is, 8 per cent. He classed the conscripts as educated and uneducated. In the educated class he had 2,336 persons, and among these he found 420 myopes, or 17 per cent. In the uneducated class he had 5,187, and among these he found 207 myopes, or 4 per cent. The myopia in the educated class was mainly of low degree, and in the uneducated

class was mainly of high degree. These figures may or may not apply to present conditions and may or may not apply to this country; but the inference is that near work is the cause of low myopia and determines its presence or absence.

The following correlation table shows the relation between the amounts of myopia in parents—fathers or mothers—and the amounts in their offspring—sons or daughters. The horizontal line of numbers indicates the amount of myopia in the parents and the vertical that in the offspring. If there were exact correlation in the amounts of myopia, then the entries would begin at 1 and cross the table diagonally to the lower right-hand corner. All entries above this diagonal line indicate higher degrees of myopia in the parents and all below higher degrees in the offspring. The table shows the amounts of myopia in 176 parents and 176 sons and daughters. The ages of the offspring vary from 5 to 30 years, but the majority are under 15 years.

TABLE III.

Fathers or Mothers.

Sons or Daughters.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	20	D.
1	16	11	6	1	1	3		4	1			4	1	1					49
2	7	4	4	5			3	1	1	1				1					27
3	8	2	3	1		1	2	1		1	1	1		2			1		24
4	2	2	4	4	1		1		1			2				1			18
5	1	3	1		1	1			1									1	9
6	1	2	1			1	1		2								1		9
7	2			1			1		1								1		6
8	1			2				1				1				1			6
9					1	1			2										4
10	1								1					1					3
11	1																		1
12	2					1		1			1	2			1				8
13															1				1
14	1								1										2
15																		1	1
16	2											2		1					5
18																			
20									1						2				3
D.	45	24	19	14	4	8	8	8	9	5	2	12	1	6	4	2	3	2	176

This table demonstrates the fact that when myopia is clearly hereditary, then it exists in all degrees—high and low—but that low degrees are more frequently hereditary than high.

High myopia makes its appearance before school work begins, and therefore must be due to heredity; but what has become of the more common variety of hereditary myopia in Tscherning's uneducated class? It may be said that when the myopia is high the intensity of heredity has been great, and that when the myopia is low the impulse of heredity has been less, and that near work or other suitable environment is necessary for the production of this variety, or to enable hereditary tendencies to become manifest. In the absence of this near work, or environment, the factor may lie dormant, skip a generation, or be only partially or fitfully expressed.

This may be the explanation of Tscherning's statistics; but I doubt if any such uneven distribution of myopia could be found in our country to-day. What would his results have been if he had also examined 7,000 young women? Probably in his uneducated class the results would have shown some approximation to the normal distribution. Near-sighted people are adapted for near-sighted pursuits, and moreover they often have a selective predilection in this direction.

This table is interesting in another way. If it is admitted that the myopia in the parents is also hereditary—and acquired characteristics are not supposed to be transmitted—then this table by itself indicates that 23 per cent. of my cases are hereditary.

Is there evidence that myopia of low degree is caused by near work, apart altogether from hereditary predisposition? It is difficult to exclude from the parentage the possibility of hereditary transmission. In my cases the percentage of near workers is relatively small, and the average amount of myopia is relatively low. This low degree of myopia seems to harmonize with the results that Tscherning obtained in his educated class. Many of the near workers on my list believed their occupation was the cause of their defective vision; but 60 per cent. of them gave evidence of heredity, and of those in whom I did not find any evidence of heredity more than one-half admitted that they had defective vision at the age of 16 years. How is it that all people who have to use their eyes much for near work do not become myopic? Is it not simply because of the presence or absence of the factor of heredity? If near work, apart from heredity, is a cause of low myopia, it can only apply to a small percentage of my cases, and in these cases I would prefer to consider it the suitable environment that enables hereditary tendencies to become manifest. Professor Pearson concludes his analysis of the school, or "hot-bed," theory thus[2]:

> Cohn's statistics seem to indicate that the moderate association they exhibit between school environment and degree of myopia is solely a secondary result of a primary relation between age and degree of myopia.

There are among my cases eight families in which both parents are myopic. The following table gives the details:

TABLE IV.

Number of Families.	Number in Families.	Affected.		Not Affected.	
		Females.	Males.	Females.	Males.
8	41	17	10	6	8
		27		14	

Among the unaffected there are one baby, one boy of 3, one girl of 7, and two girls of 10 years of age. Granting that two of these become affected during adolescence, then the percentage affected would be 70.

Here are examples of the pedigrees. Black indicates myopia.



Fig. 1

The numbers indicate the amount of myopia. It will be observed that the youngest member of the family has 5 D. of myopia in the right eye and 3 D. of hypermetropia in the left.

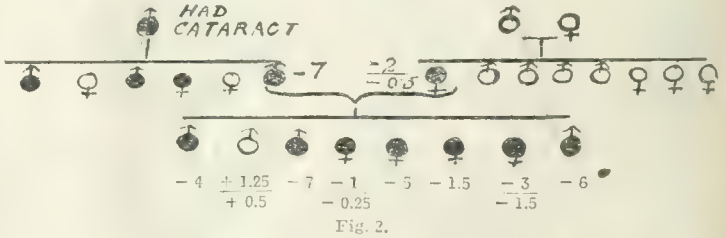


Fig. 2.

The numbers indicate the spectacles worn. The second son is hypermetropic, and so in both these families there is a slight reversion to the other extreme.

The following table gives the details of families where one parent only is myopic. Children under 7 years have been excluded. I obtained these pedigrees while I was collecting the last 500 cases.

TABLE V.

Parents Affected.	Number.	Number in Families.	Number Affected.		Number Not Affected.	
			Females.	Males.	Females.	Males.
Mothers ...	71	295	81	46	82	86
Fathers ...	34	150	44	28	32	46
Totals ...	105	445	125	74	114	132
			199		246	

Percentage affected, 44.

The following table gives the details where neither parent is myopic:

TABLE VI.

Number of Families.	Number in Families.	Affected.		Not Affected.	
		Females.	Males.	Females.	Males.
91	426	68	45	153	160
		113		313	

Percentage affected, 26.

There is evidence in some of these families given in Table VI that a grandparent was myopic, and in others that an uncle or aunt was myopic. In most of these families only 1 member is myopic, in some 2, in two 3, and in one 4 members are myopic.

Here are the details of this last family:



Fig. 3.

I have examined all those people with the exception of some of the younger children, and these have passed the visual tests in the school. These cases are undoubtedly hereditary, though no evidence of heredity is obtainable in the parentage. Myopia may skip one, perhaps two generations. Hereditary myopia may be found in children whose father and mother are emmetropic or normal.

Mr. Worth has reported[3] several families in which the males alone were affected and where the myopia was transmitted by unaffected females, but these he thinks are pathological curiosities.

Does the transmission of myopia conform to Mendelian laws? One of the peculiarities of a character that descends as a Mendelian recessive is that where both parents are affected all the offspring exhibit the characteristic. It is not so in myopia, and therefore we must conclude that it does not descend as a Mendelian recessive. A Mendelian dominant descends from an affected person to an affected person. Again, it is not so in myopia, for it is often transmitted by a person who is unaffected, and thus one is forced to the conclusion that the transmission of myopia does not conform to Mendelian laws. A person may have one eye hypermetropic and the other myopic. This does not suggest Mendelian segregation, for under this system the manifestations must be either present or absent—that is, there is no blending.

It is a fact that myopia is more prevalent in some nations than others, thus there is more among the adult population in Germany than there is with us. Sormani[4] found the greatest number of myopes in Italy among recruits drawn from the southern and sea coast provinces, that is, from districts where there is plenty of open landscape and seascape and abundance of light.

These variations are without doubt racial in character. If in adult populations such as are here instanced myopia is unduly prevalent, then it is only reasonable to expect a similar prevalence among the children and that this should manifest itself in a progressive manner during the years of growth and development, that is, during school years. During these years hypermetropia lessens and myopia increases, in short, the eyeball enlarges along with the other organs and features.

When both parents are myopic then myopia is very prevalent among the offspring; it is less so when only one parent is myopic, and still less so when neither parent is affected. There is irregularity of incidence in individual families, but this is to be expected, as one or both parents may carry unexpressed the hereditary tendency to myopia, or one parent may be hypermetropic. When taken collectively this irregularity disappears.

I have also, though to a less extent, investigated the incidence in cases of hypermetropia, and the pedigrees I have collected harmonize with those of myopia. In one outstanding case of a family of five children three of the children have very high degrees of hypermetropia, yet both parents have full vision and emmetropic refraction. There are other cases where both parents are hypermetropic, and the majority, but not all, of the children are similarly affected. Hypermetropia is the congenital condition, or the starting-point, and the line that subsequently divides hypermetropia from myopia is arbitrary. Perhaps these variations should be considered together, and the question would then be the size of the eyeball, a quantitative character that would probably come under what biometricians call the law of ancestral heredity, or "average ancestral resemblance." "Thus[5] the mean amount of correlation between (1) the two parents and the offspring, (2) the four grandparents and the offspring, (3) the eight great-grandparents and the offspring, is believed to diminish in a geometrical series which is the same for all organisms and for all characters." Pearson regards the actual amounts of these correlations as expressed by the figures 0.6244, 0.1988, 0.0630.

My percentages do not quite agree with these figures, but they show approximation to them. This system seems to offer the best explanation of my results. The appearance of hypermetropia in families where both parents are myopic is an example of ancestral contribution.

Seven per cent. of my cases have cataract in various forms, but the commonest is punctate peripheral opacities, a variety that seems peculiar to myopia, and that is found in quite young people. In only three cases did I observe drop-like areas behind the anterior capsule of the lens.

There seems to be an affinity between myopia and cataract; but I am not yet satisfied that there is any order or system in the association, still it is an association that to some extent differentiates myopia from hypermetropia, and that requires consideration in any endeavour to understand the etiology and pathology of myopia as an entity apart from hypermetropia. I believe I can account for 70 per cent. of my cases, and the remaining 30 per cent. show no features that differentiate them from the others. The extensive changes that are often found in the fundus—changes that are peculiar to myopia—are related only to the age of the patient and the degree of myopia.

Among school children the sexes are found to be disproportionately affected, and this disproportion increases at and beyond the age of puberty, giving in my cases a ratio of two females to one male—a ratio that suggests sex-limitation. The incidence of myopia bears a direct relationship to the amount in the parentage, or extraction, and there is order in the transmission. There is similar evidence of heredity in high degrees and in low degrees of myopia and in the various occupations. There is no special association with any particular occupation, and all these innate characteristics indicate that the etiology of myopia is independent of environment.

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THE CHOICE OF A CATARACT OPERATION.

By ERNEST E. MADDOX, M.D., F.R.C.S.Edin.

MR. ERNEST E. MADDOX, in a paper which will be published in full in the *Ophthalmic Review*, indicated a belief that to vary the character of the operation performed so as to meet the precise needs of the individual in question was preferable to practising the same operation on all

patients alike. A surgeon who varied his procedures must be guided in his choice by five considerations, first coming that of safety. The safest procedure was to perform a preliminary iridectomy, and extract the cataract at a second operation. The only disadvantage was that the iridectomy cicatrix sometimes baulked the subsequent carving of a good conjunctival flap. Such difficulty, however, could be overcome by making the iridectomy incision in a different way. The next safest procedure—that of combining the iridectomy and extraction into one operation—was suitable to cases in which the patient's age or calling made the extra loss of time entailed by a second operation a really serious disadvantage. Simple extraction, or removal of the cataract without an iridectomy, was an excellent operation in respect of vision, accommodation, appearance, and lessened probability of occurrence of impaction of the capsule, but was much less safe than the other procedures mentioned. The indications for it were a large cornea, a full anterior chamber, a ripe lens, a "live" iris, a healthy conjunctival sac, and a patient who was quiet and not too old, and free from a tendency to sneeze, cough, vomit, or suffer from acute flatulence. In regard to judgement of visual results, the vision recorded by Snellen's test types after correction of the refraction was not the only good criterion; a very important factor was the patient's ability to see sufficiently well to walk about without glasses. Simple extraction afforded this ability and also the full ordinary field of vision, which in these days of swift vehicles was more valuable than acute definition. The tendency to post-operative astigmatism was also less with this operation, which gave the best results in regard to appearance. The benefit of simple extraction should be afforded to cases which ideally met the stated indications for this procedure; in all others a preliminary iridectomy should be considered; if neither simple extraction nor a preliminary iridectomy operation seemed suitable to the case the combined operation should be performed. Intracapsular procedures should be reserved for cases in which the cataract was immature, and in which ideal facilities for its performance presented themselves. It could not at present be recommended for general adoption. Colonel Henry Smith had done more for it than any one else, but it was still waiting for some finishing touch, or some further flash of genius, to place it beyond the danger line and adapt it to the white races, among whom, owing to the fact that cataracts developed much later in life and other causes, intracapsular extraction was less safe than among Indians.

DISCUSSION.

Major W. E. McKechnie, I.M.S., after discussing a variety of considerations, concluded that the ideal operation was one which would secure complete removal of the lens, but leave other parts normal. This ideal could not yet be attained with certainty. The procedure that came nearest to it was Smith's intracapsular operation, which was at present the operation of choice in Northern India, and there had given very good results. It required more skill than any other, since inaccuracy of technique was less permissible, and it required a larger incision. The chief difficulty was not escape of vitreous, but the toilet of the wound after delivery of the lens. The easiest cases in which to do the intracapsular operation were those of immature cataract in orbits containing little fat, and with loose lids and sunken eyes where the lens was not very big. Largeness of the lens was indicated by a shallow anterior chamber. When the conditions indicated were present this operation was often very easy.

Dr. Casey Wood (Chicago) said there ought to be a distinct understanding as to the particular form of the disease in view when the choice of an operation was discussed. When a cataract occurred as the result of slow, almost physiological, sclerosis of the lens mass and the cataract was mature, and the lens and capsule were easily separable and the eye itself was healthy, and the patient above 60 years of age, almost any cataract operation was likely to be followed by satisfactory results. The difficulties arose when cataracts were immature but sufficiently marked to prevent the patient following his usual occupation and in those which occurred in patients under 60. The latter cases usually occurred in otherwise unhealthy eyes. In both these two latter classes of case the patients should be kept in hospital for a week's rigid preliminary and local systematic examination and treatment, and if there were no contraindications large doses of salicylates or iodides should be given two or three days before and after extraction by the first of the procedures mentioned by Mr. Maddox.

Dr. Angus MacGillivray (Dundee) expressed his preference for a conjunctival bridge operation that he had recently described in the *Edinburgh Medical Journal*.

Dr. Montagu Harston (Hong Kong) said that in dealing with Chinese patients he preferred the intracapsular method, but regarded cases in which he found hypertension as unsuitable for this operation. He regarded undertension in the same light. The tonometric readings which he always took before an operation should be within normal limits.

Mr. J. Herbert Parsons (London) said that in many cases in which the iris did not spring back satisfactorily after simple extraction the danger of prolapse could be completely eliminated by making a small peripheral buttonhole in the iris.

Dr. R. A. Reeve (Toronto) said he had performed a good many operations without iridectomy, and being satisfied with his ordinary methods had not tried the Smith operation.

Dr. Hill Griffith considered the combined operation the safest and best.

Mr. T. H. Bickerton (Liverpool), after a reference to early discussion on the same subject, said that there was much to be said for both methods was evident from the fact that some of the distinguished advocates of the simple method became its most confirmed opponents, and vice versa. But as to-day even the advocates of simple extraction admitted that iridectomy was advisable in certain cases, and as it was not possible always to recognize these "certain" cases before operation, the speaker, in order to ensure the greatest safety in all cases, remained an advocate for the performance of iridectomy, and, whenever possible, of preliminary iridectomy.

Mr. Devereux Marshall (London) said he preferred the simple operation, and if the iris did not go back easily he cut it off, but this he seldom did before the lens was removed. He always made a practice of opening the capsule with the knife as he passed across the anterior chamber.

Dr. H. Gifford (Omaha, U.S.A.) said that with the Indian peasant a one-stage operation was so much a necessity that it was legitimate to take greater risks, but in Europe and America it was comparatively easy to keep track of patients and get them to submit to secondary operations if these proved necessary. The assumption was unwarranted that after the performance of the Homer-Smith preliminary capsulotomy for immature cataracts the entire lens could easily be expressed within from six to twenty-four hours and the danger of secondary glaucoma be averted by careful attention.

In response to an appeal for funds to provide a central supply of radium for Glasgow and the West of Scotland subscriptions to the amount of over £7,300 have been intimated. In addition the Bellahouston trustees have made a grant to the committee of £500 per annum for three years to secure the expense of custody and administration, and give a proper trial for the scheme. Arrangements have been made for the purchase of 600 mg. of radium, which, it is considered, will be ample to meet present requirements. The university authorities have placed a room in the university at the disposal of the committee, and it is now being fitted up as a radiometric laboratory under the supervision of Professor Frederick Soddy, F.R.S. Arrangements are also in progress with the medical institutions in the city for the treatment of patients with radium.

ENGLISH PELLAGRA IN EARLY CHILDHOOD.

BY

CHARLES R. BOX, M.D.,

PHYSICIAN TO ST. THOMAS'S HOSPITAL AND THE LONDON FEVER HOSPITAL.

On December 24th, 1913, a child suspected of being a pellagrin was sent to see me at St. Thomas's Hospital by Dr. C. Stewart Wink from Halstead, Essex.

History.

The parents are strong and healthy; there are no other children, and there have been no miscarriages. The patient, S. S., is a little girl, who was born at Farsley, Yorks, on July 19th, 1909. She was suckled for one year. In March, 1911, the child then being 1 year and 8 months old, a rash with butterfly distribution appeared on her face and lasted until September. At first the eruption was like sunburn or erysipelas; later it



faded, and the skin peeled. The next spring the rash reappeared and ran a similar course. In February, 1913, the parents removed to Halstead in Essex, taking the child with them. The "erysipelas" appeared again, but was a week or two later in its onset. When the rash is present there may be a slight soreness of the perineum and some scalding on micturition, but the soreness is insignificant and does not last so long as the rash on the face. The child has never suffered with digestive or bowel disturbance, and maize flour has never formed part of her dietary, which appeared suitable for her age. There have been no convulsions or fainting attacks.

When I first saw the patient she was 4½ years old. The parents gave the following additional particulars:

She can walk but not run properly, and cannot get up from the floor without hold or struggle. In her bed she is uneasy, constantly tossing about and waking many times in the night with a whining cry. She cannot pick up objects without trembling, and is incontinent as regards her urine. Her disposition is irritable. She is a very weary child all the summer.

The month was December, and the typical eruption was not present, although the skin of the nose was somewhat roughened, and there was a moderately fine tremor of the hands and arms. I had an opportunity of seeing the child again in May this year. The rash had made its fourth appearance, and was very striking. A diffuse dermatitis implicated the flush area of the face, the tip of the nose, and the margins of the mouth. The dorsal aspects of the hands and of the lower thirds of the forearms showed the pellagrous gauntlets, the palmar aspects escaping with the exception of the radial side of the wrists. The legs also were implicated in a peculiar and characteristic fashion, the lower thirds of the thighs, the knees, and the upper parts of the legs being discoloured over an area which was bounded by the lower margin of the frock above and the upper ends of the socks below. The rash everywhere was of a dark brown or sepia colour, and the skin a little roughened.

The child was admitted to St. Thomas's Hospital for further examination and treatment. She was plump, but her weight was just under 24 lb., or nearly a stone less than the average. She was described by the house-physician as looking very well and "sunburnt," the skin of the affected parts being characterized as "tanned." All her movements were tremulous, and a definite, rather coarse tremor implicated the hands and arms, and also on occasions her head; the gait, too, was unsteady, but she could stand erect with the eyes closed. All the reflexes, both deep and superficial, were present and normal. No anaesthesia or muscular wasting could be detected. The ocular fundi were normal, and nystagmus was not noticeable. Although involuntary jerky movements of



the limbs were noted before she was admitted, these were not seen whilst she was in the ward. Physical examination showed nothing amiss with the thoracic or abdominal viscera. The urine contained neither albumin nor sugar. The pulse rate was always slightly accelerated and the temperature rose each day to between 99° and 100° F. The mouth was not sore and the bowels but slightly relaxed. The child was quite intelligent. In a week or two the rash was imperceptible but the tremor persisted. The medical treatment adopted was an intravenous injection of 0.06 gram neo-salvarsan. I have heard that the rash reappeared on her return home.

The interest of the case lies in its indigenous nature, the absence of maize as an article of diet, the early age, twenty months, at which the disease appeared, and the striking way in which the dermatitis involved the uncovered parts about the knees as well as the usual exposed areas on the hands and face. The pronounced tremor with occasional small jerky movements of the limbs is a characteristic nervous manifestation of pellagra.

EIGHT cases of plague and the same number of deaths were recorded in Hong Kong during the week ended August 22nd.

TWO UNUSUAL CASES OF MASTOIDITIS IN CHILDREN.

By WILLIAM WILSON, B.Sc., M.D.,
HONORARY ASSISTANT SURGEON, ST. JOHN'S EAR HOSPITAL, MANCHESTER

It is, of course, not unusual for the mastoid region to show signs of suppuration before the tympanic membrane perforates. In the following case, however, there was no bulging and no attempt at perforation of the membrane, which, to the naked eye, was apparently normal:

CASE I.—*Primary Mastoiditis?*
I was called to see a child, aged 2 years, who had been suddenly attacked by mastoid pain, with slight oedema above and behind the auricle. The tympanic membrane was practically normal. Temperature and pulse were slightly raised, but the general condition was good. There were no infected adenoids, but slight reddening of the pharyngeal mucosa was noticed. Owing to the absence of marked constitutional signs and the possibility of the condition being non-suppurative, palliative treatment was adopted.

Three days later, however, without any change for the worse in the general state, fluctuation was obvious above and behind the auricle.

Operation.—The usual incision was made and a subperiosteal abscess was found communicating with the antrum through a fistula in the outer antral wall; the superficial cells extending through the squamosa, above the antrum, were entirely full of pus. The middle ear was, of course, left intact.

Healing was rapid and uneventful. The tympanic membrane throughout was normal.

In every way this case suggested a case of primary mastoiditis. That the superficial air cells of the squamosa should to a great extent be infiltrated with pus, without any signs or symptoms of middle-ear suppuration, is rather unusual. Absence of pain in the ear itself was a noticeable feature throughout. Other members of the family had just recovered from "influenza." There was no preliminary stage of middle-ear inflammation before the mastoid cells were attacked.

CASE II.—*Primary Extradural Abscess?*
A child, aged 8 years, presenting slight mastoid oedema of one side, but no severe constitutional symptoms except slight pyrexia, was sent to me by a doctor who had only the same day been consulted. The child was recovering from a mild attack of whooping-cough. There was some thin watery yellow pus in the external meatus, but on cleansing and packing this did not recur in quantity. No evidence of any perforation of the membrana tympani could be obtained by inspection, by suction, or by the use of hydrogen peroxide after cleansing. The whole external meatus was, however, sodden. No indications of intra-cerebral involvement could be obtained.

Operation.—The usual mastoid incision was made. There was marked congestion of superficial tissues, but no pus in the antrum or middle ear. The mucosa of the antrum was a little oedematous. The lateral sinus was exposed and found to be pulsating. Part of the bridge was removed, but no pus could be obtained from the middle ear. On account of these negative findings, it was decided to open up the posterior fossa. This was done through the posterior antral wall. After removing bone which was apparently healthy, the pus-searcher suddenly perforated what seemed to be the tense wall of an abscess in the posterior fossa. Immediately the operation wound was flooded by the spurting up of about two ounces of thick white pus under pressure. The opening was then sufficiently enlarged to pack the cavity with iodoform gauze, but no attempt was made at any other treatment owing to the copious haemorrhage from the vascular granulations lining the cavity. The mastoid wound was sutured, leaving a space sufficient for the packing of this abscess cavity backwards through its narrow neck. The antrum itself was not packed.

Recovery was rapid, only a small amount of pus being found on the packing gauze, the remainder of the wound healing up cleanly. Hearing was perfect one month afterwards.

Neither before nor after operation was any evidence discovered of perforation of the membrana tympani, nor of pus in the antrum. The only pus ever seen, with the exception of that in the posterior fossa, was in the external meatus before operation, and this never recurred.

During the operation no fluid could be syringed either way through the membrane, nor at any time was there any reaction to hydrogen peroxide in the meatus. The pus present in the meatus on admission was quite different in appearance from that in the posterior fossa. The former was yellowish, then watery; the latter was thick and milky white.

There are two possible explanations: (1) Either the perforation in the tympanic membrane was so small or was so situated that it could not be demonstrated by the methods employed; or (2) the whole tract from external meatus and tympanic membrane to the dura mater was simultaneously affected by an acute infection (probably pneumococcal, from the whooping-cough); this spread by the lymphatics around veins to the posterior fossa, and was there cut off from the surface by lymphangitis occurring in the bony channel.

The pus in the external ear was probably an accumulation from a mixed infection through atmospheric exposure; it is to be remarked in this connexion that there had been no treatment of the ear by syringing. The conditions found and the rapid and complete return to the normal with such simple treatment support the second explanation.

INTRAPERITONEAL RUPTURE OF THE BLADDER.

By NORMAN FLOWER, M.A., M.B., B.Ch.Oxon.,
ASSISTANT SURGEON, YEOVIL HOSPITAL.

STATISTICS show that intraperitoneal rupture of the bladder is more common in men than in women, and nearly 90 per cent. of recorded cases occurred in adult males.

The operation for the relief of intraperitoneal rupture necessarily has a high mortality. Dambrin and Papin put it at 43.5 per cent. in 78 cases, but early operative interference and improvements in technique have in recent years reduced it to 20.5 per cent.

Death is due to peritonitis, shock, or haemorrhage. The earlier the operation the better the prognosis. Of 13 cases observed by Zuckerkandl, operated upon in the first twelve hours, 8 recovered, but in 21 cases after twelve hours there were only 6 recoveries.

The case here recorded presents several features of interest. First, the age and type of the subject, together with the associated difficulties to be contended with. Secondly, the operation, which, in itself unorthodox, was performed full twenty-four hours after the accident. Thirdly, it demonstrates the ease with which a rupture of the viscus may be produced in an individual subject to alcoholic excess, a condition which predisposes alike to the neglect of micturition, over-distension of the bladder, and relaxation of the abdominal muscles, whose protective influence is thereby lost.

On May 5th, 1914, I was asked to see a man, nearly 70 years of age, of pronounced alcoholic tendencies, with arteriosclerosis and emphysema and weighing 19 st. The story was that at 9 p.m. the previous night he was returning home when he tripped over a stone and fell upon his face. In the early hours of the morning he was seized with intense pain in the abdomen, and an urgent desire to pass urine, but repeated attempts to void any were ineffectual.

At 5 a.m. he was seen by his medical attendant; a soft rubber catheter was passed and four or five ounces of blood-stained urine drawn off. Two hours later it was passed again and a similar quantity of perfectly clear urine obtained.

He was transferred in the sitting position by motor to a nursing home, and the operation was performed at 9 p.m., that is, precisely twenty-four hours after the accident. I have mentioned that the patient weighed 19 st., and the picture which he presented upon the operating table filled me with misgivings. The diagnosis was that of rupture of the bladder, and, in view of the fact that the patient was so bad a subject, I decided merely to drain the abdomen thoroughly to relieve the fast spreading peritonitis and tie in a catheter rather than delay by trying to find and suture the collapsed bladder. The abdomen was opened and two very large tubes introduced, one to the left flank, whither the urine was tracking, and one down to the bladder. For some hours both tubes drained well, but latterly all the urine came from the pelvic one, and next to nothing from the catheter.

The patient's general condition improved so much that it was decided to look for the bladder and repair the damage. This was done on the fourth day after the first operation. It was by no means easy, even by the suprapubic route, to effect an entrance into the collapsed and, by this time, retracted bladder in so adipose an individual. When once this was accomplished, I was very agreeably surprised to find that the lower end of the pelvic tube had found its way through the small tear at the fundus of the bladder into its interior, thereby affording the most complete drainage possible. This tube was gently withdrawn from the abdominal wound above, and the edges of the tear seized and sutured in the ordinary way. The bladder was temporarily drained by a small suprapubic tube and a Hamilton-Irving's box. In the abdominal wound a short tube was left for forty-eight hours. There was a good deal of sloughing of skin and fat around the tubes, and, as the result of infiltration with urine of the pre-vesical areolar tissue, a

left-sided scrotal abscess and a good deal of oedema of both scrotum and penis developed. These were incised under local anaesthesia. The patient left the nursing home on June 16th, and I have since heard that his progress is satisfactory.

The signs of intraperitoneal laceration of the bladder are in nearly all cases immediately manifested, but here, as in rare instances, the patient passed a few hours after the accident in comparative freedom from urgent symptoms. The explanation of this, of course, lies in the fact that he was probably too anaesthetically intoxicated to be conscious of his condition.

In the treatment of intraperitoneal rupture, the adequate drainage of the peritoneum is obviously of prime importance, but the orthodox method of combining this with the second stage of the operation—namely, the discovery and accurate suture of the laceration—would have occupied time, the expenditure of which, in such a subject, would have been only to court disaster. Even so, during the shorter operation, the continuous administration of oxygen throughout the latter period of the anaesthesia, became imperative.

Yet again it may be urged that at the second operation the suprapubic wound might have been completely closed and a catheter tied in, or catheterization every six hours resorted to. It was found, however, after the preliminary operation, that the patient was particularly intolerant of the presence of the instrument. There was, in addition, some prostatic enlargement, and the bladder itself, friable with fatty infiltration of its walls, demanded very free drainage for the conservation of the intraperitoneal closure. With due regard to the varied complications, I am still inclined to the view that, on the whole, the plan of procedure ultimately adopted was the best.

A SIMPLE METHOD FOR DETERMINING THE AMOUNT OF GLUCOSE IN DIABETIC URINE AND OTHER LIQUIDS.

BY

A. F. DIMMOCK, M.D.,

HARROGATE.

There are many methods now in use for estimating the sugar in urine, and many others have been suggested from time to time. The ordinary method by Fehling's solution seems one of the best, but requires apparatus and needs a good deal of experience and skill to arrive at accurate results. The fermentation test is extremely accurate, but it takes a long time to obtain results. An objection to the picric acid test recommended by the late Sir G. Johnson is the fact that creatinin produces a colouring similar to the glucose. The following simple method can easily be used without much apparatus, and gives a quick result:

The urine is diluted twenty times, that is, 10 c.cm. of urine is measured and poured into a 200 c.cm. flask; this is made up to the 200 c.cm. mark, and the whole well shaken. A solution of potassium carbonate (K_2CO_3: 2 oz. to 6 oz. of distilled water, is filtered and made up to 8 oz. To 20 c.cm. of the diluted urine 10 c.cm. of the potassium carbonate solution is added in a small flask, and this is boiled carefully for three minutes, and when cool made up to a definite amount, say 50 or 100 c.cm., with distilled water. In order to estimate the amount of sugar present, a solution of pure glucose is prepared, 1 gram in 200 c.cm. of distilled water; 20 c.cm. of this and 10 c.cm. of the potassium carbonate solution are boiled together in a small flask for three minutes, and when cool made up to 50 c.cm. or 100 c.cm. The two solutions are then compared by holding the glass tubes over a piece of white paper at an angle of 45 degrees. By pouring the liquid from the known solution into a measure glass until the tints of both are alike, and observing the amount of the known glucose solution used, the percentage can be readily determined; for example, if 27 c.cm. of the pure glucose solution were required for the solution, then, multiplying by two, we obtain 5.4 as the percentage of glucose in the urine.

I am quite aware that it is a little troublesome to prepare two solutions, and attempts will be made to use some other method of comparison. Coloured glass seems to offer the best solution of the difficulty. Experiments have been made with various iron solutions (ferric acetate and ferric and ammonium citrate), but none have come up to expectations.

Allen says in his *Chemistry of Urine* that, using normal liquor potassae *B.P.*, when equal parts of this and urine are boiled in a flask or test tube, the test does not indicate with certainty the presence of a small amount—say less than 2 per cent.—of glucose. Albumin should be removed by acetic acid and heat. The colouring matters in urine do not seem to have any effect, but these could easily be removed by lead acetate or subacetate, taking care not to use excess, filtering or allowing to stand; any slight excess of lead is easily soluble in the potassium carbonate solution. The colouring matter of rhubarb and senna becomes reddish-brown with alkali before heating, and samples containing catechol (pyrocatechin) acquire a brown colour on exposure to air.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A MODE OF RETRO-CATHETERISM.

Some months ago a stockbroker's clerk came to me suffering from retention of urine. All the usual plans failed to relieve him; even that useful expedient of passing an endoscopic tube to the stricture, so as to widen out its face and thus find the aperture. I then used the following method, which I had thought out years ago:

The apparatus required consisted of a long, narrow, fully-curved trocar and cannula, scarcely 6 mm. in thickness, with a round and smooth proximal end, and a filiform 18 in. long, to pass through the cannula. After aspirating the bladder suprapubically by the trocar and cannula and filling the organ with boric acid solution, I reversed the trocar, so that its round blunt end protruded from the distal end of the cannula. This end was then depressed on the trigone; then lowering the hand whilst pushing gently, the instrument slid easily into and beyond the internal meatus. The trocar was withdrawn for the second time and the filiform substituted; aided by pulling the penis forward and upward the filiform passed out through the external meatus. Had it failed to do so, at worst it would have reached the posterior surface of the stricture, and any attempt to deal with the membranous urethra from the perineum would, on account of its presence, be more exact.

After twenty-four hours urethrotomy became easy; the urine in the interval trickled freely alongside the filiform as it always does. Thus a cure was established on cheap terms. I might have used and was prepared to use a larger trocar and cannula, but that would have entailed more risk.

I think the perineal mutilation one often sees is avoidable. If a Wheelhouse operation does not immediately succeed, it is better to open the membranous urethra behind the stricture or to do retro-catheterism; even better perhaps would it be to push a very fine trocar and cannula through the stricture, the direction being aided by the finger tip, a filiform being then passed through the cannula. In any case the puncture would be harmless.

The great secret in a Wheelhouse operation is not to obliterate the little pouch left at the front of the stricture until the orifice is found; if obliterated the chief landmark is gone.

London, E.C. James Mac Munn.

OCCLUSION OF COLON IN A NEWBORN CHILD.

The following case was of interest in that it showed an occlusion not only of the upper part of the rectum but of the whole colon. I attended a confinement in a primipara aged 28, which, though slow, was otherwise normal, on April 25th, 1913. The pregnancy was also normal, and the baby, a female, looked well nourished and healthy. The next day the child began to vomit at intervals, then the abdomen began to show signs of distension. Urine was passed, but the bowels had not moved. Examination of the anus showed that the sphincter was normal, also the rectum for 2½ in. to 3 in., then it narrowed and became completely occluded. The vomiting became more frequent; there were evidences of pain such as crying and pulling up of the legs.

Post-mortem examination showed that the ileum was distended in its lower two-thirds to within 3 in. of the ileo-caecal valve, where it narrowed considerably. The caecum including the appendix was small but otherwise healthy and patent, but about 1 in. beyond the ileo-caecal

junction the colon narrowed to a white cord-like rudiment which continued to the rectum, where again it presented the appearances above stated. The meso-colon, etc., looked normal. The lower part of the ileum and the whole of the colon was removed down to the rectum and laid open. The colon was with difficulty opened along its free border. The wall was thin, and coated internally by a white hard material resembling inspissated mucus, which was very adherent. The whole rudimentary colon was not thicker than a medium-sized probe. The ileum entered the colon obliquely from below upward, then seemed to dip downward on the inner surface of the caecum, making the lower lip of the opening overlap the upper. The mouth of the opening (that is, the ileo-caecal valve) was transverse, and had thus by its overlapping caused an obstruction which had persisted through fetal life, and caused the death of the child three days after birth.

Nelson. ROBERT STEWART, L.R.C.P. and S., D.P.H.

Reviews.

CHOYCE'S "SURGERY."

THE third volume of CHOYCE'S *System of Surgery*[1] completes the work. We may say at once that the high level of excellence exhibited in the first two volumes is well maintained and places this book in the front rank of general surgical works of the encyclopaedic order. Plainly, the object of the editor has been to present more than a good textbook. There are many such published in this country, but there is room also for a bigger effort, for a great collection of treatises by men specially fitted for the task.

The contributors to this volume are of the same standing as those of the other volumes, and the various chapters are written in the same lucid, full style. Mr. Rock Carling writes on the cardio-vascular system and on surgical affections of muscles, tendons, and fasciae. The lymphatic system is in the hands of Mr. J. F. Dobson; the lungs and pleura are considered by Mr. H. Morriston Davies. Mr. Sherren writes the chapter on nerves, and the section on the surgery of the central nervous system is by Mr. Wilfred Trotter. Mr. Choyce contributes the sections on diseases of bones and diseases and injuries of the joints—no mean share of original work. Fractures are in the able hands of Mr. Albert J. Walton. We make no attempt to criticize where we find the quality of the work so good. If there is any inequality at all, it is in the number and aptness of the illustrations. Authors differ on the point. On the whole, we think that of late surgical books have suffered from over-illustration; strict supervision should be exercised and pictures introduced only when words fail, or to save words, or to demonstrate a more or less rare condition. Several of the coloured plates in this book would have been quite as convincing in black and white, and some photographs of specimens in jars are very unsatisfactory. Mr. Walton's skiagraphs, though not all now published for the first time, form a well chosen representative collection. Many will feel disposed to regard the last named author's definition of a compound fracture as incomplete in so far as it does not clearly bring out that a compound fracture is one which communicates with the external air through the soft tissues. His teaching that in this class of fractures a plate may occasionally be used is contrary to the experience of many surgeons, including J. B. Murphy. We are glad to find Mr. R. P. Rowlands calling special attention to the "terrible variety of flat-foot due to the talipes valgus that is too often left after Pott's fracture." The frequency with which this deformity is met with in medico-legal practice, and the difficulty the examiner finds in suppressing his own opinion of the work of the man in charge of the case, are equally well known.

We unreservedly congratulate Mr. Choyce and Professor Beattie on the completion of this work, which is a monument to their industry, and we believe will prove a powerful indication of the strength of British surgery of the present day.

[1] *A System of Surgery.* Edited by C. C. Choyce, B.Sc., M.D., F.R.C.S. Pathological Editor, J. Martin Beattie, M.A., M.D., C.M. In three volumes. Vol. iii. London and New York: Cassell and Co., Ltd. 1914. (Med. 8vo, pp. 917; 35 plates, 242 figures. 21s. net.

THE HOUSING QUESTION.

IN the lecture[2] delivered under the provisions of the Warburton Trust in Manchester in November last, Mr. B. SEEBOHM ROWNTREE discussed how far it was possible to provide satisfactory houses for the working classes at rents which they can afford to pay. He asserted that the permanent causes of the shortage of such houses were that a house takes a century to consume, that land values are comparatively speaking inflexible, and that the working man can only afford a cheap house. He expressed the opinion that to solve the problem of housing a survey of existing conditions must first be made, and that as rapidly as possible there must be an expansion of the minimum wage policy already adopted in connexion with mines, confectionery, tailoring, shirtmaking, chainmaking, and other industries. Measures for the decasualization of labour must be pressed forward. Town planning must be made compulsory and all towns provided with adequate transit facilities, and improved powers must be obtained for the acquisition of land. Money must be more freely lent to public utility societies and the burden of rates on small houses lessened. It must be made a statutory duty of all towns to see that their inhabitants are satisfactorily housed, and anticipating the proposals of the Chancellor of the Exchequer, Mr. Rowntree considered that any grant in aid of rates from national funds should be made conditional upon the proper fulfilment of their statutory duties by local authorities. Professor PIGOU in his lecture delivered in January last considered the housing problem as one aspect of the general problem of poverty. He expressed the opinion that a great part of the squalor and discomfort of certain houses of the poor was not the result of inability to pay a reasonable rent, but flowed from the low character and want of training of those that inhabited them. Advice and help to poor persons in the art of keeping their houses in a good state—like instruction in the art of cooking, the condemnation of uninhabitable houses, and the condemnation of diseased meat—might accomplish no small amount of good. There would still, however, be many persons who, abandoned to their own unaided efforts, could not afford to purchase that quantity and quality of housing accommodation which the general judgement of the country declared to be a necessary minimum. When discussing the policy of subsidies in aid of the housing of the poor, Professor Pigou admitted that it was open to serious practical objections, though he was not convinced that these were incapable of being overcome, and considered that carefully drawn schemes of State assistance towards the housing of the poor ought not to be condemned out of hand upon grounds of principle.

[2] *Lectures on Housing.* By B. S. Rowntree and A. C. Pigou. The Warburton Lectures for 1914. Manchester: The University Press; London: Sherratt and Hughes. 1914. (Post 8vo, pp. 70. 1s. 9d.)

OLD-ESTABLISHED CHARITIES.

THE twenty-third edition of the *Annual Charities Register and Digest*,[3] by Mr. C. S. LOCH, falls into three parts: an introduction, a series of essays on various special branches of philanthropic work, and a register of all institutions and societies having head quarters in London and undertaking work of a charitable order on behalf of residents therein. There is also a comprehensive list of chapter headings and subheadings, and a very full index. The register of philanthropic enterprises divides them primarily into those whose benefits are open to all and those whose operations are confined to certain areas. They are then classified according to the particular class of work they undertake, ordinary schools which contain a charitable element and institutions such as reformatories and prisoners' aid institutions not being overlooked. The information given in respect of all of them is fuller on the whole than that to be found in any other allied publication. The essays are by various authors, each of whom is a more or less well-known specialist on the subject discussed by him. Sir Edward Brabrook, for instance, deals with friendly

[3] *The Annual Charities Register and Digest.* 23rd edition. By C. S. Loch. London: Longmans, Green, and Co. 1914. (Demy 8vo, pp. 1144. 5s. net.)

societies; Dr. H. Rayner with lunatics, idiots, and imbeciles; and Mr. Loch himself supplies an excellent review of the occurrences of 1913. Speaking of national insurance work, he indicates that the greatness of the number of organizations helping to administer the Act is not generally appreciated. The National Union for Insurance, for instance, is a combination of 600 societies, while the General Federation of Trade Unions comprises 175 unions, yet these organizations count as only two on the official list of approved societies. In regard to the free choice of doctor, "which was one of the great attractions of the Act when explained on the political platform," it has, he suggested, been so watered down in practice that even a change from one doctor to another when both are on the panel can be effected only with difficulty. One result has been that many insured persons have preferred to pay for a doctor themselves, and he says:

It is difficult to feel that legislation which results in an arrangement so thoroughly and completely inequitable for insured persons, who have in this way to pay twice over—once to the doctor who does the work, and again to the doctor who does not do it—can be permanently satisfactory.

In regard to Poor Law administration, he remarks that its most disagreeable feature is that both its pecuniary cost and its moral burdensomeness remain essentially unaffected by the enormous development which has taken place in other forms of State philanthropy. The total number of paupers of all classes has hardly been affected by the introduction of old age pensions, the reduction in cost has been quite insignificant, and there are indications that even the trifling declines that have taken place are likely to be quite temporary.

Many other forms of relief, such as free meals to children and assistance to the unemployed, have also been granted tolerably freely for some years without in any way reducing the burden of pauperism; further, even the unexampled trade prosperity, which the country has now been enjoying for a series of years, has had no very considerable effect on the returns of pauperism, and it is alarming to consider what the public burden will amount to when the period of trade depression arrives, which is evidently on its way.

All the essays are of interest, but the part of the volume which really renders it unique is the section modestly entitled, "an introduction." In effect this is an encyclopaedia of information regarding the whole official and voluntary machinery for the prevention of poverty and ill health, and for the relief and amendment of the social, moral, and physical evils arising therefrom. Each part of the volume is remarkably alike in the comprehensiveness of its character, the logical arrangement of its contents, and the succinctness with which each paragraph is written.

NOTES ON BOOKS.

Dr. M. Langeron's *Précis de Microscopie*[4] is an excellent treatise on a rather heterogeneous group of subjects which have but two factors in common; they relate to medicine and require the use of the microscope. It will be useful to the beginner for the exact account of the theory of all branches of microscopy, for it enables him to obtain in a short time sufficient information about the different forms of objective and eyepiece, the different methods of illumination, the theory of staining and of fixation, and of polarization and ultra-microscopy. The exposition is characterized by the lucidity which it is so usual to find in French textbooks. The descriptions of technique are well selected, and are evidently the work of a man who has had to teach students. Sources of error are always mentioned in order that they may be avoided, and the *rationale* of the different procedures is clearly kept in mind. In addition to these very necessary features in a book intended for students there are innumerable practical hints which may be of use to the most experienced. In these days of highly differentiated microscopical technique it is good to find a teacher who emphasizes the fact that the real essential to useful work is the observant eye. Several times we find him emphasizing the fact that most of the great advances have been made by means of unstained preparations, even to the discovery of the spirochaete of syphilis by Schaudinn. The first part of the book deals with the optical part of the subject, the second with general methods of examination, preparation, and staining, whilst the third is devoted to the special technique required for protozoology, helminthology, entomology, histology, clinical medicine, and finally botany, which includes a chapter on bacteriology. The chapter on bacteriology is very short, and deals only with the fundamental points, but so far as it goes it is excellent.

The last number of the *Royal London Ophthalmic Hospital Reports* is largely devoted to the question of inheritance in retinitis pigmentosa, a paper by C. H. Usher on this subject occupying over 100 pages. The first article in the volume is by the late Mr. Nettleship on the progress of cases of retinitis pigmentosa sine pigmento and upon retinitis punctata albiscens, and his portrait forms a frontispiece. Mr. R. A. Greeves contributes a paper upon new growths of the lacrymal gland, and Mr. J. H. Parsons writes upon the visual determination of two points and gives a review of recent work upon the influence of illumination on visual acuity. Mr. A. C. Hudson has a short article upon the surgical treatment of corneal ulcers, followed by one upon serous detachment of the choroid and the ciliary body following perforations of the globe. His instructions for dividing anterior synechiae with a Graefe knife are clear and the method itself is practical and probably in many cases superior to those in which Ziegler's or Lang's knives are employed. The operation was modified by Lang from Abadie.

It is perhaps inevitable that an occasional omission should occur in a volume of such size and scope as the *Directory of Women Teachers for 1914*,[5] but such omissions are few and far between and the contents, as a whole, show every sign of careful editing. The book, indeed, is an achievement upon which the compilers have reason to congratulate themselves. The *Directory* is something more than a mere list of names and qualifications; it is also a guide to those interested in the secondary and higher education of girls, and contains information concerning secondary schools, universities, training colleges, schools of music, art, agriculture, domestic science and other similar institutions. It should, therefore, be of real service not only to parents but also to girls hesitating over the choice of a career. The book is well bound and printed, and the arrangement of its contents leaves nothing to be desired.

BRITISH SPAS.

BUXTON.

The closing of the Continental spas is already having an effect at Buxton, and numbers of visitors who have hitherto been sceptical are realizing that Buxton can offer them, in greater comfort and at less expense, the counterpart of almost every Continental treatment. The Marienbad Moorbäder, the Plombières treatment for colitis, etc., the Bad Ems installation of nasal and throat sprays, the Schwalbach chalybeate baths, the Nauheim treatment for heart troubles, are a few of the eighty-eight different treatments administered by skilled attendants at the baths.

Buxton, at an elevation of 1,000 to 1,200 ft. above the sea, is the highest town in the country, and the air is remarkably dry and bracing. Of the healthiness of the town and the excellence of the sanitary arrangements, no better evidence need be given than the death-rate, 8.1 per 1,000—among the lowest in the country. The surrounding scenery of the Peak District, the golf, tennis, croquet, and the excellent music, illuminated concerts, theatres, etc., amply supply the relaxation of mind necessary for the well-being of the patient.

HARROGATE.

In Harrogate there are no signs of war preparations, and the motto of the town for the moment is "Business as usual." Provisions are back at their old prices, and flour is actually cheaper than it was before war was declared. The hotels and hydros are offering their customary advantages, and the season is now at its height. The varied treatments at the baths continue as usual, and the extra accommodation added to the cure establishments ensures the utmost comfort to patients and visitors. Walks and drives in the beautiful scenery, with bracing moorland air, concerts, and entertainments, render Harrogate a most attractive resort. Thousands of people, whose holidays were postponed because of the outbreak of war, have still to make up their minds where to go, and among them and among the hundreds who have hurried home from Continental spas there must be many who would be well advised to continue their cure at Harrogate.

[4] *Précis de Microscopie.* Par le Dr. M. Langeron. Préface par Monsieur le Professeur R. Blanchard. Paris: Masson et Cie. 1913. (Post 8vo, pp. 774; 270 figures. Fr. 10.)

[5] *The Directory of Women Teachers and other Women connected with Higher and Secondary Education.* London: The Year Book Press. 1914. (Crown 8vo, pp. 615. 7s. 6d. net.)

CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.

(*Continued from page 305.*)

DEMONSTRATION OF SKIN DISEASES.

On July 30th, Dr. J. H. SEQUEIRA demonstrated at the London Hospital a series of cases, which included three of lupus vulgaris that had remained cured since their treatment by Finsen light in 1903, and three of rodent ulcer which had been cured by *x*-ray treatment at dates ranging back to eleven years.

Skiagraphy of the Mastoid Region.

At the meeting of the division for surgical specialities Dr. LOGAN TURNER (Edinburgh) read a paper illustrated with a series of lantern slides on the application of skiagraphy to the mastoid region and its use in the detection of disease. He divided the region into the upper and lower mastoid. The two mastoid regions were not always symmetrical. In 300 craniums examined the mastoids were found to be symmetrical in 247, or 82 per cent., and asymmetrical in 53, or 17 cent. approximately. The mastoid bones were of two types, sclerotic or diploic and pneumatic. In the sclerotic or diploic type of mastoid there was the danger of suppurative disease of the ear resulting in chronic suppuration of the middle ear or infection of the labyrinth. In the pneumatic type acute suppurative otitis could be more easily relieved and arrested. Skiagraphy in diagnosis was of little or no value in chronic middle-ear suppuration.

The paper was discussed by Mr. SIDNEY SCOTT (London), who pleaded for stereoscopic skiagrams. These were now possible by means of stereoscopic skiagraphy, and enabled the observer to understand better what existed within the mastoid region.

SEPTIC INVASION OF LATERAL SINUSES.

Mr. HUGH E. JONES (Liverpool) read a paper on the considerations which determine the extent of an operation in septic invasion of the lateral sinus. He did not commence an operation with the fixed idea that the venous channel must be obliterated, its lumen exposed, and, as far as possible, its walls excised from the torcular Herophili to the junction of the jugular vein with the innominate; nor did he say to himself, "All that is necessary is to plug up the sinus for an inch or two after removing the clot." The conditions found, he said, were so varied that the maximum operation might in one case be as futile as the minimum, in another the minor operation as successful as would have been the major, while in a third the maximum operation would appear to give the best, if not the only, chance of recovery. For that reason also it seemed to him that collected statistics were particularly baffling, and of little value as a general guide to the extent of the operation required in an individual case.

Modes of Infection.

Passing to the common mode of infection, he said that in the majority of cases there was a regular progression of events; that progress was interrupted at various stations for a shorter or longer period, according to the anatomical features, the virulence of the infection, and the resisting power of the patient. A peri-sinus abscess might exist for a considerable period before the wall of the sinus succumbed, or might even discharge itself through the fistula formed in the posterior wall of the mastoid without having invaded the sinus. When the sinus wall was penetrated and a clot formed, the process might be arrested at the jugular foramen in one direction and at the entrance of the superior petrosal sinus in the other, a firm clot with a small central abscess being the result. Tracing the progress backwards, when the clot reached the horizontal sinus there was nothing to prevent it from extending to the torcular Herophili, or small fragments from being carried by the backwash into the torcular, and once there the progress of the infection to the other great sinuses was easy. The question of extension to opposite sinuses had not, he considered, received the attention it deserved in the literature. While the sigmoid sinus was firmly clotted extension downwards was less likely to happen than in a backward direction; at one end there was the narrow jugular foramen occasionally crossed by fibrous septa with the curved recess beyond it into which the end of the clot would first be carried. At the other end there was a wide unobstructed sinus; he concluded, therefore, that extension downwards, if it took place at all, did so before the sigmoid clot was fully formed, or after disintegration had set in, or when a half-formed or breaking up clot was disturbed by operation or sudden movements of the head and neck. There were thus five stations at which the natural progress of infection might be temporarily arrested, namely, at the sinus wall, at the superior petrosal sinus, at the entrance into the bulb, at the exit from the bulb, and finally at the junction of the facial vein. It was for the surgeon to determine what stage had been reached at the time of the operation. Extension along the petrosal sinuses to the cavernous sinus was a comparatively rare occurrence. The much discussed anatomical variation whereby one lateral sinus was made to do nearly all the work of two claimed some consideration. The occurrence of a rudimentary sinus on one side was admittedly rare; Linser put it at 3 per cent., and there was no doubt that by the time the necessity for ligation of the internal jugular vein arose, especially in sinus thrombosis, compensatory collateral circulation had been to some extent established. The first necessity in treatment was a complete diagnosis before or during the early stages of the operation so that all that had to be done might be done at the time without recourse to a second operation.

Operative Procedures.

Dr. Hugh Jones also described the operative procedures that he prefers. In every case of temporal bone disease with symptoms suggesting the presence of a peri-sinus abscess or the onset of pyaemia, the sigmoid sinus should be exposed with the least possible disturbance to its walls until healthy wall was seen and the blood in the part was judged to be fluid and the lumen controllable. This might involve removing bone up to or even over the torcular Herophili and down to within reach of the jugular foramen. If no disease was apparent except the extradural abscess and so-called "healthy" granulations springing from the sinus wall, and only one rigor had been observed, it was advisable to wait. If the pyaemia was established, but not severe, and there was a limited occluding clot in the sigmoid, compression should be applied above and below the clot, the clot removed, the outer wall excised between the compresses, and the cavity packed with gauze. If the sinus was obviously diseased, but its contents were partly fluid and the systemic symptoms marked, the internal jugular vein should be exposed in the neck. Even if the sinus was not obviously diseased, and the blood was fluid, with severe pyaemia or symptoms of bulb-thrombosis, the internal jugular vein should be exposed and both sinus and vein occluded, the intervening part being drained and, if necessary, plugged. If the sinus was clotted and the lower limit of diseased wall or clot could not be reached, the vein should be exposed in the neck. This was merely the application of the principle of exposing healthy wall beyond both ends of the clot, without undertaking the much longer and generally unnecessary operation of exposing the bulb. The internal jugular vein at the entry of the common facial vein having been laid bare, several courses should be considered. If the vein was of normal size, looking healthy, and blood was flowing freely through it, it was best to compress temporarily and remove the clot from the sinus down to the jugular foramen; if there was a free flow of blood into the sinus, the sinus should be plugged after draining, and the neck wound should either be closed or Voss' provisional ligatures put in, according to the severity and duration of the systemic symptoms. If the vein was collapsed above the facial, but healthy and full of blood below, it should be tied in two places and divided above the facial, bringing the upper end into the wound and endeavouring to clear out the clot from the bulb by gentle irrigation. The same procedure could be adopted if the upper vein was clotted, but the clot did not reach to the facial vein, and the lower vein was healthy. It was easier in these circumstances to clear the bulb than when the vein was collapsed. When the clot extended beyond the facial junction it was better to tie and divide the internal jugular as low down as possible in the neck. Having dissected up the

vein and tied off the tributaries, including the facial, he excised the greater part and brought the upper end into the wound. There was always a temptation to leave the vein unopened the first day for fear of severe haemorrhage, but the risk of extension of sepsis from the upper vein was too great, and drainage from sinus to vein should be established at once.

The paper was discussed by Mr. Hunter Tod (London), who commented on the small percentage of cases of septic invasion of the lateral sinus which were recognized in the first instance as aural in origin.

Cleft Palate.

At the meeting of the division of surgical specialities a discussion took place on the surgery of cleft palate.

Dr. George V. I. Brown of Milwaukee, whilst in favour of delaying the operation until the age of 18 months, did not contest the advantage of an earlier operation when conditions were favourable.

Dr. Joseph Eastman of Indianapolis spoke of the factors of safety in cleft-palate surgery. Among them was local anaesthesia, which, in addition to other advantages, lessened the amount of blood swallowed. The latter often caused pyrexia. It was obvious that surgeons who operated in the second or third year would have a lower mortality than those who operated earlier. At the same time it would be difficult to say how large a percentage of those not operated upon early perished from disturbances of nutrition before the third year.

Dr. Truman W. Brophy of Chicago advocated operation by the compression method, and in early infancy, before the sixth month.

Sir Arbuthnot Lane said it was formerly taught and universally believed by surgeons that the age of 4 years was the right time to operate for cleft palate. That did not fit in with his views of the mechanical development of the face; he therefore operated at one day old, and at once put into commission all the factors that were in abeyance.

The papers were further discussed by Mr. James Berry and Mr. Percy Legge of London. The former stated his grounds for being opposed to the views of Sir Arbuthnot Lane. The latter was mainly in agreement with Mr. Berry. He did not regard the operation as a life-saving one. It should be performed before the time arrived for speech, namely, within the first year. No operation he considered to be of any service unless the child was taught to speak afterwards.

Ophthalmology.

On Friday night papers on ophthalmology were read and discussed.

Lieutenant-Colonel R. H. Elliot, I.M.S. (Madras), in a paper on the sclero-corneal trephining operation for glaucoma, said that the impaction of iris within the trephine hole ought to be carefully avoided.

The paper was discussed by Mr. Treacher Collins (London), who said that from the first eyes he examined he assumed that entanglement of the iris was an essential part of establishing a filtration scar; but after examining Colonel Elliot's cases he found that his assumption was incorrect.

Mr. F. Richardson Cross of Bristol, in a paper on operative procedure for strabismus, said he was not in favour of an operation until after a course of glasses had been tried. Before 5 years of age he advised the correction of any errors of refraction by glasses, after that age glasses were of no avail.

The paper was discussed by Mr. Bishop Harman of London, who said that squint, from the parent's point of view, was a deformity only, but from the godfatherly point of view of the ophthalmic surgeon it was a matter of vision. The eye should be attended to at once. Simple measures had a marked effect. For instance, a bandage on the good eye for a month might do wonders, might alter the squint, and even shift it to the other eye.

Radiation in Cancer.

Dr. C. Jeff Miller (New Orleans), on July 30th, gave a short outline of his impressions of Professor Krönig's work at the Freiburg clinic. Many cases of cancer had been treated by x rays with good results. The treatment had been carried out in cases of deep-seated carcinoma, both early and inoperable, and had been shown to cause disappearance of the growth. He had been much impressed by what he had seen, but was not absolutely convinced.

Treatment of Uterine Cancer.

Dr. James F. Percy (Galesburg, Illinois), in the course of a paper on the treatment of inoperable carcinoma of the uterus by the application of heat, said that carcinoma cells were killed by a temperature of 130° F., whilst normal tissues could stand 135° F. to 140° F. He showed lantern slides illustrating his various instruments. The amount of heat used was controlled by the hand of the operator passed into the pelvis through the opened abdomen. Cancer cells could be destroyed by the same elements that destroyed normal cells, and something was wanted which would only kill the cancer cells; x rays were limited in their application. Heat had been used for a long time, but in the wrong way. Tumours had been arrested in animals by raising the temperature of the body to 104–105° F. All methods of treating carcinoma derived from a laboratory had proved useless, unless they were attended by the production of pyrexia, when the growth might degenerate. The temperature of the whole human body could not be raised to a sufficient degree without danger to life. Local heat had been tried by means of hot air, hot water, fulguration, etc., and results had improved when these methods had been combined with operation. An electric heating iron was the easiest and best way of applying heat; it could be raised to any temperature and accurately regulated. A low degree of heat was used, and the temperature of the whole mass raised until the surgeon, wearing a medium thickness rubber glove, was unable to retain his grip on the growth with any comfort; this temperature was then maintained for from ten to fifteen minutes. Charring of the tissues should not occur, the iron not being sufficiently hot either to scorch cotton-wool or to cause a smell of burning tissues. Cancer was destroyed at about 112° F. to 131° F., and the fundamental idea was not cauterization but the raising of the whole mass of growth to a temperature at which cancer cells died. After the main mass had been treated by this means, x rays, etc., might be used for the other deposits. A large growth should not be treated at one sitting, but two or even three applications should be made. The treatment did not encourage metastasis, and the results were good. There was, however, a decided tendency to late secondary haemorrhage, and it might be that preliminary ligature of the internal iliac arteries was a necessary precaution. He was convinced that if all cases of cancer of the uterus were submitted to this treatment many patients would be relieved and many actually cured.

Dr. Thomas Wilson (Birmingham) said that the operative treatment of cancer of the uterus was that which had so far stood the test of time. It had made slow but sure progress. Early methods cured about 2 per cent. of cases; the introduction of vaginal hysterectomy raised this to 4 to 10 per cent. Wertheim's operation had still further increased the percentage of cases, and in Great Britain was becoming the routine method of procedure. It was the only way by which infected glands could be excised, and Wertheim had published 14 cases of uterine cancer with infection of the glands at the time of operation which had shown no recurrence of disease after a lapse of five years. The final results obtained in Great Britain were slightly inferior to those of the best Continental clinics but they were steadily improving. The total number of operable cases had doubled in the last ten years, and the number of cases remaining cured after five or more years should now be about 25 per cent.

In the discussion on these papers, Dr. Joseph C. Bloodgood (Baltimore) expressed the opinion that surgeons had hitherto been overwhelmed by their technique, and that attention should be concentrated on the diagnosis of the beginnings of cancer. In the very first stages operation was simple, and results would be infinitely better than at present. The general public ought to be educated to the early recognition of cancer, and in this connexion he expressed the opinion that cancer never began in a healthy spot.

INTESTINAL STASIS.

Sir BERKELEY MOYNIHAN, in introducing a discussion on this subject, said that it was stated that certain bands, webs, membranes, or veils were to be found along the intestine, that these led to stasis, and that the auto-intoxication from this was the cause of certain diseases and exaggerated others. There was no dispute as to the existence of these bands, but with the exception of those at the hepatic and splenic flexures of the colon he thought they were of congenital origin, and could be demonstrated in the fetus and had been described for a very long time. The appearances of the intestine in these cases did not suggest obstruction, and the trouble was probably due to an inability of the intestine to empty itself. He described the appearances and symptoms of a person suffering from a marked degree of stasis, and said that he thought that in this type surgical interference was indicated. With regard to cases of tubercle and rheumatoid arthritis, he had seen cases undoubtedly wonderfully improved after operation for intestinal stasis, but it was not proved that the improvement had been the direct result of this procedure, and it might be due to other causes.

Sir BERTRAND DAWSON said that mechanical effects could not be the only cause of intestinal stasis, and he thought that there was an infective element in addition. There might first of all be a congenital or acquired habit of constipation and subsequent mild infection from the teeth or naso-pharynx. The condition then went from bad to worse until it reached a stage in which, though the constipation might be cured by drugs or enemata, the symptoms of intestinal stasis remained, because the large intestine itself had become a source of evil. He agreed that the colon should be removed, and thought that the fact that a patient showed a relapse after ileo-sigmoidostomy whenever the colon refilled, proved that the symptoms were not due to ileal stasis, but to derangements in the functions of the colon. He urged a more careful selection of cases for operation. The colon had an important function and these operations were severe, so that the indications for operation should be clear.

Sir ARBUTHNOT LANE said that he had nothing to add to what he had often said before about intestinal stasis. If his theories were true they would stand the test of time; if not they would fail. The more civilized an animal or man became the more static he became also, and if he became the subject of stasis then he was more susceptible to invasions of tubercle or other infections.

THE NEXT CONGRESS.

At the conclusion of the Congress, Dr. RODMAN, President of the American Medical Association, said that all the visitors had been profoundly impressed by the hospitality and kindness received in Great Britain, and that the clinical demonstrations and surgical work had been above expectation. Resolutions confirming these sentiments were carried unanimously.

Dr. GEORGE E. ARMSTRONG announced that Dr. Mayo of Rochester had been chosen President elect of the Congress, and Dr. MAYO returned thanks for the honour.

SECRET REMEDIES.

REPORT OF THE SELECT COMMITTEE.

THE Select Committee on Patent Medicines appointed by the Treasury in May, 1912, has presented its report, which was issued to the press on Wednesday evening, August 26th.

FINDINGS.

The Committee reports that after careful consideration of the evidence (which has been reported in our columns from time to time) it finds as follows:

1. That there is a large and increasing sale in this country of patent and proprietary remedies and appliances and of medicated wines.

2. That these remedies are of a widely differing character, comprising (*a*) genuine scientific preparations; (*b*) unobjectionable remedies for simple ailments; and (*c*) many secret remedies making grossly exaggerated claims of efficacy; causing injury by leading sick persons to delay in securing medical treatment; containing in disguise large proportions of alcohol; sold for improper purposes; professing to cure diseases incurable by medication; or essentially and deliberately fraudulent.

3. That this last-mentioned class (*c*) of remedies contains none which spring from therapeutical or medical knowledge, but that they are put upon the market by ignorant persons, and in many cases by cunning swindlers who exploit for their own profit the apparently invincible credulity of the public.

4. That this constitutes a grave and widespread public evil.

5. That in British Dominions and foreign countries severe legal restrictions exist, and that there is a tendency still further to strengthen the law against these articles.

6. That no Department of State and no public officer is charged with the duty controlling the sale and advertisement of proprietary remedies in this country; that the Home Office and the Local Government Board are virtually powerless in this respect; that the Privy Council Office, though supposed to be specially concerned with the sale of drugs, has no initiative in the matter, and in fact, it fulfils no useful function in this connexion.

7. That the existing law is chaotic and has proved inoperative, and that successful prosecution for fraud in the advertisement and sale of secret remedies is fraught with the greatest difficulty, though the Public Prosecutor has perhaps not sufficiently tested the powers of the existing law in respect to such cases.

8. That consequently the traffic in secret remedies, except as regards scheduled poisons and the grosser forms of impropriety, is practically uncontrolled in this country.

9. That this is an intolerable state of things, and that new legislation to deal with it, rather than merely the amendment of existing laws, is urgently needed in the public interest.

10. That grave injury is caused to the public by the existing large sale of medicated wines.

11. And that while, for reasons already given, it is not desirable to require the exhibition of formula of every secret remedy, nevertheless it is improper that under the protection of the law enormous quantities of alleged remedies should be sold the composition of which is unknown to any person except the manufacturers of them; and that therefore the formulae of all secret remedies should be required to be communicated to a competent officer appointed under the authority of a Minister of State, but that such formulae should not be divulged to any other person except as hereinafter recommended.

RECOMMENDATIONS.

The Committee therefore recommends:

1. That the administration of the law governing the advertisement and sale of patent, secret, and proprietary medicines and appliances be co-ordinated and combined under the authority of one Department of State.

2. That this administration be part of the functions of the Ministry of Public Health when such a Department is created, and that in the meanwhile it be undertaken by the Local Government Board.

3. That a competent officer be appointed to this Department, with the duty of advising the Minister at the head of the Department concerned regarding the enforcement of the law in respect of these remedies.

5. That there be established at the Department concerned a register of manufacturers, proprietors, and importers of patent, secret, and proprietary remedies, and that every such person be required to apply for a certificate of registration and to furnish (*a*) the principal address of the responsible manufacturer or representative in this country, and (*b*) a list of the medicine or medicines proposed to be made or imported.

6. That an exact and complete statement of the ingredients and the proportions of the same of every patent, secret, and proprietary remedy; of the contents other than wine, and the alcoholic strength of every medicated wine, and a full statement of the therapeutic claims made or to be made; and a specimen of every appliance for the cure of ailments other than recognized surgical appliances, be furnished to this Department, such information not to be disclosed except as hereinafter

recommended, the Department to control such statement, at their discretion, by analyses made confidentially by the Government chemist.

7. That a special court or commission be constituted with power to permit or to prohibit in the public interest, or on the ground of non-compliance with the law, the sale and advertisement of any patent, secret, or proprietary remedy or appliance, and that the commission appointed for the purpose be a judicial authority, such as a metropolitan police magistrate sitting with two assessors, one appointed by the Department and the other by some such body as the London Chamber of Commerce.

8. That the President of the Local Government Board (or Minister of Health) have power to institute the necessary proceedings to enforce compliance with the law, the sale, and advertisement of any patent, secret, or proprietary remedy or appliance.

9. That a registration number be assigned to every remedy permitted to be sold, and that every bottle or package of it be required to bear the imprint "R.N. . . ." (with the number), and that no other words referring to the registration be permitted.

10. That in the case of a remedy the sale of which is prohibited, the proprietor or manufacturer be entitled to appeal to the High Court against the prohibition.

11. That the Department be empowered to require the name and proportion of any poisonous or potent drug forming an ingredient of any remedy to be exhibited upon the label.

12. That inspectors be placed at the disposal of the Department to examine advertisements and observe the sale of proprietary remedies and appliances.

13. That an annual fee be payable in respect of every registration number issued.

The Committee makes the following recommendations regarding the amendment of existing laws:

1. That the Stamp Acts be consolidated and amended to remove the numerous existing anomalies and unreasonable exceptions. In this connexion, pure drugs vended entire under a fancy name should no longer be exempt from duty; the distinction between the name of an ailment, and the name of an organ the seat of that ailment, should be abandoned; and the exemption of medicines generating carbonic acid gas should be omitted (see Par. 16). Further, any reference in advertising matter to the Government stamp should be prohibited, and no name of a proprietor or firm should be printed upon the stamp.

2. That the Indecent Advertisements Act be amended on the lines of Lord Braye's Bill.

Your Committee further recommend the following legislative enactments:

1. That every medicated wine and every proprietary remedy containing more alcohol than that required for pharmacological purposes, be required to state upon the label the proportion of alcohol contained in it.

2. That the advertisement and sale (except the sale by a doctor's order) of medicines purporting to cure the following diseases be prohibited:

Cancer,	Diabetes,	Locomotor ataxy,
Consumption,	Paralysis,	Bright's disease,
Lupus,	Fits,	Rupture (without operation
Deafness,	Epilepsy,	or appliance).

3. That all advertisements of remedies for diseases arising from sexual intercourse or referring to sexual weakness be prohibited.

4. That all advertisements likely to suggest that a medicine is an abortifacient be prohibited.

5. That it be a breach of the law to change the composition of a remedy without informing the Department of the proposed change.

6. That fancy names for recognized drugs be subject to regulation.

7. That the period of validity of a name used as a trade mark for a drug be limited, as in the case of patents and copyrights.

8. That it be a breach of the law to give a false trade description of any remedy, and that the following be a definition of a false trade description: "A statement, design, or device regarding any article or preparation, or the drugs or ingredients or substances contained therein, or the curative or therapeutic effect thereof, which is false or misleading in any particular." And that the onus of proof that he had reasonable ground for belief in the truth of any statement by him regarding a remedy, be placed upon the manufacturer or proprietor of such remedy.

9. That it be a breach of the law—

(*a*) To enclose with one remedy printed matter recommending another remedy.

(*b*) To invite sufferers from any ailment to correspond with the vendor of a remedy.

(*c*) To make use of the name of a fictitious person in connexion with a remedy. (But it should be within the power of the Department to permit the exemption of an old-established remedy from this provision.)

(*d*) To make use of fictitious testimonials.

(*e*) To publish a recommendation of a secret remedy by a medical practitioner unless his or her full name, qualifications and address be given.

(*f*) To promise to return money paid if a cure is not effected.

The Committee believes that departmental and legislative action as outlined above will not inflict injustice upon any patent or proprietary medicine or appliance; that it will, alike by its operative and its deterrent effect, afford the public efficient and urgently needed protection against injury and fraud; and that no measures of a smaller scope will secure this result.

Medical News.

Owing to the necessary curtailment of the number of pages in the weekly issues of the British Medical Journal, all correspondents are particularly requested to write as succinctly as possible.

The ambulance of 200 beds which the American Hospital of Paris is now establishing is in need of an administrator and secretary having experience of hospital administration. The person appointed must speak French fluently as well as English. Offers should be addressed to Dr. Jarvis, 81, Boulevard Malesherbes, Paris.

The Seamen's Hospital Society has placed 200 beds at the disposal of the Admiralty in the Dreadnought Hospital at Greenwich. The hospital is close to the river, and patients can be removed from the vessel which brings them direct to the hospital. The number of beds could be increased if necessary. In addition the Society has offered 25 beds at its Albert Dock Hospital.

We are pleased to be able to state that the action against the British Medical Association and certain former members of the medical staff of the Mount Vernon Hospital for Consumption and Diseases of the Chest, which was instituted by the president and trustees of such hospital, has been settled by agreement between the parties.

Medical officers whose duties include school work are invited to attend a meeting of the School Medical Service Group of the Society of Medical Officers of Health to be held at 1, Upper Montague Street, Russell Square, London, W.C., on Saturday, September 5th, at 3 p.m., when a petition asking the Council to constitute a Branch of the Society to be called the "School Medical Officers Branch" will be submitted. The Honorary Secretary is Dr. A. Ashkenny, 38, George Road, Edgbaston, Birmingham.

The Yarrow Convalescent Home at Broadstairs, which was established some years ago and endowed by private benevolence, is intended for children whose parents may be of the professional and educated middle classes, but who are possessed of only limited means. An illustration of the desire of those responsible for the management of the institution to render it as efficient as possible is to be found in the erection last year of a dairy in connexion with the home, in order that the milk supplied to the children might be produced under the best possible conditions. On the occasion of the last celebration of founder's day Mr. A. F. Yarrow gave a very satisfactory account of the results which had followed this new enterprise. A comparison was made of the average gain in weight per child during two periods of ten weeks, one of which was prior to, and the other subsequent to, the date of the provision of the new milk supply; it was found there had been an improved daily increment in weight per child of nearly 30 per cent. That the milk of the home is now produced as it should be is evidenced from the statement made by Mr. Yarrow that it was found to contain on examination at the Lister Institute only 1,200 bacteria per cubic centimetre. The example set at the Yarrow Home might well be followed at other institutions.

British Medical Journal.

SATURDAY, AUGUST 29TH, 1914.

EPIDEMIC RISKS IN WAR.

TYPHOID, CHOLERA, AND DYSENTERY.

THE organization of the general hospitals of the Territorial Force seems everywhere to have been completed according to orders within the period allowed by the scheme of mobilization. At present the provision is very much in excess of the demand, but we understand that the staff of some at least have been warned that they may be asked to admit sick or wounded from the Expeditionary Force. Moreover, it is to be expected that a considerable number of patients suffering from diseases of greater or less severity will reach them in ever-increasing numbers from the Territorial Forces at home. Among these patients there will be, it is to be feared, cases of typhoid fever, and it is clear that the nursing of such cases in the Territorial general hospitals established in schools and other requisitioned buildings not primarily adapted to the purpose will present very serious difficulties.

As Sir William Leishman pointed out in the important letter published last week (page 369), no army in recent wars has escaped typhoid fever. In the South African war there were nearly 58,000 cases, the deaths (8,022) exceeded the total number of men killed in action, and in addition nearly 20,000 were invalided. Such measures as were possible in the circumstances have, it appears, been taken to protect by antityphoid vaccination the members of the Expeditionary Force, who will be very specially exposed to the risk of infection under campaign conditions in France and Belgium, but it would be rash to assume that the Territorial Force embodied and retained in this country will escape exposure to the dangers of typhoid fever in epidemic form, though it will no doubt be far easier to guard their sources of water supply and to attend to latrines and camp sanitation generally. These are among the first duties of the officers of the Royal Army Medical Corps (Territorial), and there are in addition available for consultation the sanitary experts who form the sanitary service of the Territorial army.

The medical officers of the Territorial Force, we are confident, have given most anxious attention to this matter, but it may not be out of place to state again that the benefits of inoculation are so well recognized in the regular forces that, though the treatment is voluntary in the British army, unlike the American in which it is compulsory, 93 per cent. of the British troops in India have been thus protected. The result is seen in the fact that last year the deaths numbered twenty, instead of the three or six hundred that used to occur before. We understand that the Vaccine Department of the Royal Army Medical College (Grosvenor Road, London, S.W.) is prepared, with the assistance of the Lister Institute and Sir Almroth Wright, to supply as much antityphoid vaccine as may be required.

But we have also to bear in mind the risk arising from typhoid carriers. It would be too much to hope that there are not among the men who are embodied in the Territorial Forces at home some—it may be a considerable number—who are passing the typhoid bacillus in a virulent state in the urine or faeces, or both, either continually or at irregular and undetermined intervals. The experience of the concentration camp of the American army during the Cuban war proved conclusively that infection spread in tents or huts and from tent to tent or hut to hut in an apparently capricious way, which could best be accounted for by assuming personal contagion from carriers. This must always be easy under the conditions of camp life.

During the three years 1911, 1912, 1913 there were notified in England and Wales, excluding ports, 30,109 cases of typhoid fever, and during the present year nearly 5,000 cases have been notified. Detailed records of all these are in the possession of medical officers of health, and it would not be a difficult matter to trace a proportion of those men of military age who have been affected, and place the information at the service of the medical officers of the Navy, Army, and Territorial Forces, who would thus be forewarned of possible carriers.

Professor Dreyer and Dr. Ainley Walker, in the letter published this week (p. 408) supporting Sir William Leishman's appeal to the profession, after expressing astonishment that in this day of crisis antityphoid inoculation has not been made compulsory in the military services, go on to direct attention to the risk of the occurrence of cholera and dysentery among the troops, especially those serving abroad. They express the opinion that in the case of both diseases there is evidence that a degree of protection can be conferred by means of suitable vaccines, and in this connexion we may refer to the paper on antidysenteric vaccination by Dr. Broughton-Alcock, published in our columns three weeks ago (August 8th, p. 306), in which he describes a method he considers to be both simple and practical.

Mention may also be made of the possibility of the use of vaccines against sepsis. Wounds produced by shells, whether on sea or land, almost inevitably become septic under the conditions of actual warfare, and a prophylactic inoculation of the wounded at the earliest possible moment might prove of considerable value.

THE GOVERNMENT AND HOUSING.

WITHIN four days of the outbreak of war the Government introduced legislation empowering the Board of Agriculture and Fisheries as regards agricultural districts and the Local Government Board elsewhere to make arrangements with local authorities or with authorized societies for the provision of houses for the working classes. The same measure gave power to the Treasury to lend sums for capital expenditure in this direction to the extent of four millions sterling. A circular letter has now been issued by the Local Government Board to the local authorities concerned drawing attention to the Act, which is entitled Housing (No. 2) Act, 1914. Information is asked for as to districts in which further housing for the working classes is required and in which unemployment exists or is likely to arise which the undertaking of building operations might prevent or mitigate. The local authorities are also asked to submit schemes for the consideration of the central departments. The period for which the loans will be granted will be sixty years as regards buildings and eighty years with respect to land. The rate of interest payable is to be that at which the Government may be able to borrow, and with regard to this it has been urged upon the President of

the Local Government Board by a deputation from the National Housing and Town Planning Council that the rate of interest should not be higher than was current before the war. Mr. Samuel pointed out, however, that no one could possibly forecast what the rates of interest would be for several years after the war. The enormous expenditure now going on would produce a scarcity of capital, and if in addition there was a trade boom the rate of interest would be high as a result of the demand for capital. It is hoped that public utility societies as well as local authorities will take advantage of the facilities offered by the Act, and in this connexion it is satisfactory to learn from Mr. Samuel that the Treasury will grant to these societies nine-tenths of the value of the property as against the two-thirds provided for in the Housing, Town Planning, etc., Act, 1909.

THE LONDON COUNTY COUNCIL AMBULANCES.

THE concentration of the public mind on the munitions of war and the ancillary organizations essential to its efficient conduct cannot fail to bring under review the great improvement in ambulance construction and organization which has taken place during the last few years. It was the genius of Larrey, who earned the highest tribute ever passed on a fellow man by Napoleon, that first contrived and elaborated the *ambulances volantes* in the service of the Grande Armée. The term "ambulance" is applied both to the *hôpital ambulant*—a moving hospital, or a projection as it were from the hospital base—and to the vehicle for the conveyance of sick and wounded. The great improvement in speed due to motor power and the greater smoothness of running have made the need for full equipment of the civil ambulance with elaborate apparatus less needful. In military work the motor ambulances have still to be tested, and their relative efficiency compared with horsed ambulances. Meanwhile in civil work the supersession of the hand-stretcher, wheel-litter, and horsed ambulance by the motor machine proceeds apace. In the streets of greater London, as already in the city, these will soon be familiar objects. It is anticipated that the first London County Council motor ambulance will be ready early in October, and the remaining seven will be delivered as they are completed. It has been found necessary to make some rearrangement of the sites and distribution of the six ambulance stations comprised in the tentative scheme approved in March last. The sites of the stations already announced at North End Road, Fulham; Boundary Street, Shoreditch; High Road, Lee; London Road, Southwark; and Brixton Hill are already being prepared by direct employment of labour, and tenders have been invited and accepted for the erection thereon of wood and galvanized iron buildings, and for the installation of electric light and telephonic communication. Four of these sites have been easily found (as we all along suggested might be the case) on land already in the possession of the Council. The proposal to place a station in Devonshire Mews, Harley Street, had to be abandoned, and instead a site has been found in Herbrand Street, Euston Road, on one of the Council's housing sites. The proposal of the General Purposes Committee to appoint an officer at £400 to £500 a year to organize the working of the service broke down, and meanwhile the organization of the service is in the competent hands of Lieutenant Sladen, R.N., the Chief Officer of the Fire Brigade. With the inauguration of this service in the autumn, the Council will have at length put into operation the powers which were conferred upon it by the Metropolitan Ambulances Act, 1909.

NAPOLEON AND HIS MEDICAL OFFICERS.

M. FRÉDÉRIC MASSON, who has taken all knowledge about Napoleon to be his province, has contributed an introduction of much historic interest to the *Journal* of Lagneau, a surgeon of the Old Guard who followed the great emperor in his campaigns in Italy, Prussia, Poland, Spain, Austria, Russia, Germany and Belgium. This journal was not long ago published under the editorship of M. Eugène Tattet.[1] M. Masson says that in the military literature of the wars of the Revolution and the Empire the surgeons and physicians of the army have made a deep mark. Larrey, Percy, and Desgenettes, have left works the study of which is necessary to the understanding of certain campaigns, in particular that of Egypt, where their devotion and their eagerness to learn were particularly manifest. Although there is no certain proof of the fact, M. Masson seems inclined to believe that the medical officers did not accompany their comrades of the fighting ranks into captivity, perhaps because they were looked upon as non-combatants, and on this ground were liberated by the enemy: on the other hand, possibly they were the first exchanged. In 1743 an agreement that the hospitals, the wounded, and the military surgeons should be considered neutrals was concluded between the Duc de Noailles and Lord Stair. In 1759 a similar arrangement was made between the Marquis de Barail, commanding in the Province of Flanders, and General Henry Seymour Conway. This agreement included commissaries and chaplains, as well as doctors, hospital orderlies, and others attached to the service of the sick. The idea was making progress when the Revolution, in the very name of humanitarian principles, brought about the most violent reaction. The Convention decreed the immediate execution of prisoners, whether they were *émigrés* or soldiers of the Coalition, wounded or not wounded. There seems to be no mention of what was done with regard to the hospitals and the surgeons, but there is evidence which points to the fact that if the medical officers were accorded certain privileges it was some time before they came in force. Whenever the people rose, as in Egypt and in Spain, the first thing they always did was to butcher the sick, the wounded, and those who had charge of them. Governments, of course, can scarcely be held responsible for such breaches of common humanity. We are proud to think of the courage shown by doctors in the face of angry mobs. During the revolution of 1830, when a crowd came to attack the Invalides, Larrey, standing alone at the entrance, told them they would have to pass over his dead body before touching the sufferers under his care. In the same revolution Dupuytren met the inquiries of the police seeking for insurgents in the Hôtel-Dieu with the reply that he knew nothing about rebels; he had only wounded men there under his charge. In the campaigns against Austria in 1805 and 1809 much regard was paid on both sides to the medical officers. Napoleon gave gold snuff-boxes to a number of the surgeons attached to the hospitals of Vienna in recognition of their care of the French wounded. Louis Vivant Lagneau was a doctor of medicine at the age of 22, and had made arrangements to take over a practice in Paris when he was caught by the conscription and attached to the hospital at Bruges as surgeon of the third class. The demand for surgeons was so great that, notwithstanding facilities extended to students, almost anybody was accepted to fill the vacancies. We hear of the wounded being dressed by bandsmen, inspectors of forage, and men of all sorts and conditions. At the beginning of the wars of the Revolution numbers of seminarists and young priests were caught by the conscription, or enrolled themselves under the flag as a shelter against the Terror, quickly gained a superficial knowledge of minor surgery and gradually went on to operate. In order to give them a regular title, a general examination was after a time prescribed for all officers employed in the army. The medical officers had to suffer many indignities.

[1] *Journal d'un Chirurgien de la Grande Armée* (L. V., Lagneau), 1805-1815. Paris: Emile-Paul Frères, Editeurs, 1913.

They were subordinated, even on professional questions, to the executive, who claimed the right to punish them for breaches of regulations made solely with the object of keeping down expenses regardless of the welfare of the sick and wounded. This kept many excellent men out of the service. Moreover, army doctors could be dismissed without pension or allowance by the Minister of War as soon as a peace was declared. If war broke out again while they were trying to build up a practice in civil life, they were liable to be recalled suddenly to an existence of hardship and danger. They had little prospect of reward or honours. The number of military physicians and surgeons who received titles under the Empire was infinitesimal. It was more profitable to a man to have treated a member of the Imperial household for a cold than to have risked his life on the field of battle. We find only six barons—Boyer, Desgenettes, Heurteloup, Larrey, Percy, and Yvan, and of these Boyer and Yvan had no war service. This is in striking contrast with the multitude of generals who were made counts, dukes, and princes. There were, indeed, a few chevaliers, but these need not be counted, as the title, such as it was, went with the decoration of the Legion of Honour, or that of the Reunion, an order which was soon abolished by Napoleon himself. The pensions granted after years of active service, even to men who had been severely wounded, were scarcely enough to keep the souls and bodies of the veterans together.

THE CHILDREN'S TUBERCULOSIS SANATORIUM AT HOLT.

In dealing with tuberculosis of the lung, two main considerations have to be kept in view. The first, and the most important, is to check the disease as soon as it shows itself, and the second, to keep it under effective control when it has become established. Hence it follows that the search for evidence of its presence cannot be begun too early in life, and, putting aside the debated question of subsequent immunity, it becomes of the first importance to counteract its virulence and cut short its initial stages wherever possible. Excellent work has been done in this direction for several years past at Holt in Norfolk, where a sanatorium has been recently established in permanent buildings, after its usefulness in temporary premises had been abundantly proved. Accommodation is provided for forty-three children, and they are further supplied, to use the words of the last report, "with those things which are generally absent in home life." Sufficient and suitable food, cleanliness, fresh air and general hygienic control may be regarded as the chief of "those things." While personal health is being maintained, the educational needs of the children are well supplied by means of open-air school. The value of this department has been recognized by the Board of Education and will be subsidized accordingly. The curative results obtained in the early cases, not acute and with only a small portion of lung involved, show remarkable success. A large proportion of the small patients, discharged as fit for the ordinary round of school life, have been found to remain equally fit for long periods up to the present time. Of those with more pronounced disease, a smaller percentage of success must be admitted, but in many cases the disease has been arrested and has remained so up to the last date of inquiry. Work such as this must appeal to every one who recognizes the value to the community of a steady reduction in the number of persons rendered incapable of usefulness as the result of neglected tuberculosis. The Children's Sanatorium at Holt has proved its value and may fairly ask for a larger measure of public support to enable it to meet the increasing demands which are being made upon it.

THE WAR.

THE VALUE OF ANTITYPHOID VACCINATION.

The Appeal by the War Office to the Profession.

We have received the following letter from the Professor and Lecturer in Pathology in the University of Oxford, supporting the appeal from Colonel Sir W. B. Leishman in the Journal of August 22nd (p. 369):

Sir,—It is to be hoped that the widest possible attention will be drawn to the important letter of Colonel Sir W. B. Leishman in your issue of August 22nd.

His statement that even now in the time of war "antityphoid inoculation remains, unfortunately, on a voluntary basis in our army" is an astonishing admission. It is difficult to believe that such a state of affairs will be permitted to continue once the medical profession and the public are made clearly aware of its existence.

Colonel Leishman quotes figures to show the value of antityphoid inoculation, but the matter is one which requires no discussion at the present time. The facts are indisputable, and they are plain enough to be within the comprehension of every intelligent person. There is no kind of question that inoculation properly carried out is protective against typhoid fever.

There is equally no question that casualties from typhoid fever among unprotected troops may acquire an importance at least as great as that of casualties from wounds. And as Colonel Leishman points out, it is hardly less certain that among the troops which will be collected in large camps at home a similar danger of widespread epidemic typhoid fever will arise.

Surely on this account alone it is high time that the Army Medical Department should be empowered to insist upon compulsory inoculation. That they should in time of war be required to proceed by "persuading officers and men" is well-nigh incomprehensible.

It is also necessary to direct attention to the fact that typhoid fever is not the only epidemic disease, nor the most serious, which an army in the field has reason to fear. Cholera is more severe, and dysentery may prove more intractable. Either of these diseases may well make its appearance in the course of a war which involves the greater part of the Continent of Europe, and in which troops from Russia and from the Balkans will continue to be engaged. In the case of both diseases there is evidence that a degree of protection can be conferred by means of suitable vaccines.

Without entering here into a discussion of the question of dysentery, about which it might be held by some that uncertainty remains, it may be stated with confidence that the necessary inoculations against cholera and typhoid could be carried through on each unit within about a month without occasioning on an average the loss of more than four or five separate days of military training. In the majority of cases each inoculation causes at most a day's slight indisposition, while the diseases themselves would mean in many cases the death of the man, and in very many more his loss as an effective.

It is evident that any considerable loss of effectives from diseases against which protective inoculation is available must be regarded as to a great extent an avoidable and unnecessary loss. Surely, even from purely military considerations, it cannot be permitted

that our relatively slender forces should be subjected to avoidable losses.

Accordingly it appears desirable that the appeal issued by Sir W. B. Leishman should be supported in the strongest possible manner by the profession, and that no effort should be spared to emphasize the necessity of rendering protective inoculation compulsory throughout the army.

The labour involved in carrying out a thorough scheme would certainly be heavy. But there are, besides the Lister Institute, a considerable number of university and hospital institutions in the country capable of giving assistance. These, no doubt, would gladly help, if required, in a task of such importance.—We are, etc.,

G. Dreyer.
E. W. Ainley Walker.

Department of Pathology, University of Oxford, August 25th.

THE ROYAL NAVY.

The arrangements made by the Medical Department of the Royal Navy for dealing with the sick and wounded from the fleet seem to be as complete as the foresight of the Admiralty officials and the good will of the coastwise voluntary hospitals can make them. They are adapted both to meet the emergency of a great general action, and to deal with the needs of individual vessels which may suffer in minor encounters.

The first line is formed by the hospital ships which act in conformity with the rules of the Geneva Convention. Notification has been made to the International Authority that the British Navy has eight hospital ships afloat, of which number five are in home waters, Germany six, and Austria three. The duty of the British hospital ships will be to collect the wounded from any general action and to give them first treatment. The ships have a full complement of medical officers and probationer surgeons (dressers). The hospital ships are based on the large Royal Naval Hospitals, and the wounded from the ships will be conveyed to these great institutions where there is a full staff of medical officers reinforced by the special consultants whose names were published last week.

On the East Coast the chief Royal Naval Hospital is that at Chatham with nearly a thousand beds. South of this is the Royal Marine Infirmary at Deal, which is a large hospital with a full medical and sick-berth staff and nurses. Northward there are the so-called Sick Quarters at Shotley in Harwich Harbour, also a modern hospital with a full complement of surgeons, nurses, and sick-berth staff. In the estuary of the Humber a hospital with 250 beds has been organized by Lady Nunburnholme with the sanction of the Admiralty. In the Firth of Forth the Admiralty has accepted a voluntary base hospital established by H.R.H. Princess Christian under the direction of Mr. Alfred Mosely, C.M.G., as an extension of the Naval Sick Quarters at South Queensferry opposite the naval establishment at Rosyth, a surgical staff drawn from the London Hospital, and orderlies supplied by the St. John Ambulance Association.

To meet the needs of individual ships and of the units of the destroyer flotilla which may become engaged in minor actions, these hospitals will be available if convenient. The wounded from the mine-layer *Königin Luise* were, for instance, landed at Shotley, but, in addition, offers have been made to the Admiralty by all the principal hospitals in East Coast towns to receive sick and wounded, and these have been accepted for specified numbers amounting altogether to a large total. Similar offers have been received and accepted from hospitals in towns on the south and west coasts. As a rule, it will be possible to convey wounded from these minor actions direct from their ship in ambulances to the voluntary hospital of the coast town. These offers will also be available to relieve the Royal Naval Hospitals should there be any sudden press of wounded. Ships afloat, including the hospital ships, are in wireless communication with Admiralty head quarters, and if in doubt as to their port for wounded will receive instructions.

Numerous offers have been received to form naval hospitals in various localities by private or municipal enterprise, but it has been considered advisable to accept only those, such as the hospital at Hull, which fit in with the schemes worked out beforehand.

Should any pressure of sick and wounded occur in the Royal Naval Base Hospitals the aim will be, following the principle recognized by all navies and armies, to transfer convalescents as early as possible to convalescent homes or inland hospitals willing to receive such cases. The Medical Department has a long list of such places, and it is to this purpose that private individuals may most usefully turn their energies, although the offers conditionally accepted would appear to be sufficient to meet any need that can at present be foreseen.

No reference has been made here to the great Royal Naval Hospitals at Haslar (Portsmouth) and Plymouth, to the Royal Hospitals at Portland and Haulbowline (Cork Harbour), nor to the Royal Naval Hospitals at Malta, Gibraltar, Bermuda, the Cape of Good Hope, and Hong Kong.

THE ARMY AND TERRITORIAL FORCES.

Typhoid Prophylaxis.

The laboratory at the Royal Army Medical College, Millbank, habitually keeps up a supply of antityphoid vaccine sufficient to meet all the needs of troops in India or elsewhere, and at the date of mobilization it had enough in store to meet the requirements of all regular troops for many months to come.

If, however, very large numbers of the Territorial troops were simultaneously to make up their minds to submit to inoculation, the manufacturing resources of the college itself might be overtaxed. Consequently arrangements have been made with the Lister Institute and the vaccine-therapy department of St. Mary's Hospital to furnish supplies if required. In any case, therefore, every requisition for a supply of antityphoid vaccine made by a Territorial medical officer would be at once met.

It is hoped that sooner or later the whole of the Territorial Force will have been protected against typhoid by inoculation; to this end the authorities, so soon as mobilization began, issued circulars to all Territorial medical officers attached to units urging the importance of inoculation, and as soon as mobilization was completed and the various units were in occupation of their assigned positions throughout the country, Sir William Leishman began to pay personal visits to each unit for the purpose of interviewing the medical officers concerned and posting them up on the whole subject.

Surgical Work.

The arrangements in regard to operative work seem equally well thought out. Attached to every base-hospital there is at least one R.A.M.C. officer who has specialized in operative surgery, and in addition one or more civil surgeons specially selected on account of their surgical accomplishments.

A considerable number of all civil surgeons sent abroad are Fellows of the Royal College of Surgeons, and many of them hold surgical appointments in civil life.

So far as actual operating is concerned, all requirements have been very fully met, but later on it may be thought proper to make further arrangements of a somewhat different character. On the staffs of the Territorial General Hospitals in this country there are men of the very highest surgical skill and attainments, and if the services of some of them can be spared at home they may possibly be utilized by asking them to volunteer to go abroad for attachment to base hospitals, the idea being not that they should operate but that they should be available as consultants in the treatment of doubtful cases.

Sanitary Work.

With the Territorial Force.

Medical officers attached to Territorial units are the responsible advisers of commanding officers on matters of sanitation both in camp and on the march; that is to say, attention to sanitation is part of their ordinary duties.

Apart from this, there is on the head quarters staff of each Territorial division one special sanitary officer whose duty it is to supervise the sanitation of all units in the command. He visits the units, if need be, consults with

the medical officers in direct charge of them, and issues to these any special instructions that he may think necessary. It is this officer who is directly responsible through the A.D.M.S. and the Divisional Commander for the well-being of all units in each command, so far as these can be affected injuriously by defective sanitation.

Many of these divisional sanitary officers are county medical officers of health or men occupying similar positions. Should at any time large bodies of troops be quartered in centres of population it will be the duty of these divisional sanitary officers to arrange with the local medical officers of health for the districts in which they live—as to any special steps that should be taken. The officers of the (*B*) Division of the Sanitary Service (T.F.)* are not likely to be employed as a class, though some of them may be employed as individual medical officers of health.

Apart from these arrangements there is a sanitary officer with a staff of assistants at every port of embarkation and at every base throughout the country.

Abroad.

The arrangements abroad are of the same general nature, but in addition there is a large body of men controlled by specially qualified and experienced officers of the Royal Army Medical Corps, engaged in looking after the sanitary environment of the troops, wherever they are serving. The whole of the men employed under these officers are specially trained, and in order to secure that their work should be effective they were the very first men sent abroad, the object being that they should make preparations in advance by examining water supplies, etc., etc.

Local Hospital and other Medical Arrangements.

Birmingham.

Great attention has been given to the sanitary requirements of the 1st Southern Territorial General Hospital mobilized in the buildings of the University of Birmingham, and authority has been given to expend a large sum of money on the sanitary fittings and the necessary structural alterations which are nearly complete.

One of the great advantages of the University buildings at Edgbaston is that there is a large kitchen which can cook for about 2,000. The lighting, heating, and ventilation of the buildings are worked by a power station in the grounds.

The plans for converting the University buildings into a hospital were prepared about five years ago, and have been constantly revised since. The men of the R.A.M.C.(T.) came into residence on the first day of mobilization and were quartered in the physics block, which makes excellent barracks. The work of converting the various rooms into wards, offices, store-rooms, theatres, etc., was enormous, as the rooms were filled with heavy tables, while in some there were large pieces of machinery which had to be taken to pieces and removed. This work was done by the R.A.M.C.(T.) men, who worked incessantly and very willingly from early morning until late at night.

Agreements had been made with different firms in the city and neighbourhood some years ago to supply equipment in case of need within seven days and were promptly fulfilled. The whole of the equipment was in the hospital within the week, and was placed in the various wards, stores, etc. It is found that a large lecture theatre makes a most excellent store.

The administrator of the Hospital, Lieutenant-Colonel F. Marsh, F.R.C.S., is to be congratulated on having accomplished the task of mobilizing a general hospital in so short a time. During the process of mobilization the other permanent officers were Major J. E. H. Sawyer, M.D., who acts as Registrar, Captain S. G. Webb, M.D., who undertook the duties of Company Officer to the R.A.M.C.(T.) men numbering 109, and Lieutenant Bennison the Quartermaster. On all these officers fell a great deal of responsibility, and they worked hard. The strength of the R.A.M.C.(T.) men was 46 on mobilization, but in three days enough recruits were enlisted to make the numbers up to 109. The new recruits are a most excellent class of men.

On the eighth day of mobilization the medical officers whose services were available on mobilization reported themselves, and they are all ready to take up their work when the occasion arises. They are chosen chiefly from the consultants of the city, and their duties at the hospital are being so arranged as to interfere as little as possible with their work at the civil hospitals and their private practice. To serve in a military hospital means a great sacrifice of income to most of them.

The Territorial sisters and nurses, with Miss Lloyd as their matron, reported themselves on the same day as the medical officers. They number 91, and they have been chosen chiefly from the hospitals in the neighbourhood. Some, however, have come long distances. Their qualification to serve was a training of three years in a civil hospital of over fifty beds. They have been lodged in the Women's Hostel of the University, which is about 300 yards' distance, and is just large enough for them. These nurses have been in residence ever since, and have found plenty of work to employ them in further arranging the wards, etc., covering splints, and nursing a few Territorial soldiers who have been admitted.

The number of beds provided is 520, but they could be increased to about 800 in the buildings themselves. There are large playing grounds around on which wards under canvas or in huts could be established. Such expansion, however, would of necessity mean a corresponding increase in the personnel of the hospital.

A guild has been in existence for some years in connexion with the hospital, which has provided a large number of useful garments, etc.

Arrangements are being made to carry on the educational work of the various departments of the university, which are being used for military purposes, in other buildings in the city.

Portsmouth.

Portsmouth has become quiet since the departure of the troops. But a few days ago further regiments of khaki-clad men arrived here from no one knew where and left for France in the early grey hours of the morning, secretly and silently.

Three council schools have been transformed into up-to-date hospitals, and are ready for nursing our sick fighting men back to health and strength. The Eye and Ear Hospital is prepared to render war service at the shortest notice, as all the new wards are now in order. Splendid work is being done by the Soldiers' and Sailors' Families Association in relieving the families residing in Portsmouth who need assistance owing to the war, and so render it unnecessary for any of them to be driven to any extreme measure, such as selling up their home. At a meeting of the local executive committee of the National Relief Fund, held on August 22nd, it was stated that the National Relief Fund will be available to assist civilian cases. For the moment grants are only being made for dependants of soldiers and sailors. It is the intention to allocate money to the different districts, so far as possible, with reference to their respective needs. The local relief fund now amounts to £3,700, and from this it is intended to forward £3,000 to the central fund, from whence the local grants will come.

Glasgow Territorial Medical Units.

On the outbreak of war the mobilization of the Territorial medical units in Glasgow was carried out satisfactorily, and after the usual period the field units departed to their pre-arranged war stations. The Lowland Mounted Brigade Field Ambulance mobilized within the buildings of the University, and the 1st and 2nd Field Ambulances at the head quarters at Yorkhill. The 3rd and 4th General Hospitals have taken up their quarters at Stobhill Parish Hospital, which has been fully equipped and staffed in readiness for such service as is required. According to previous arrangement the Parish Council of Glasgow removed the 800 patients from the hospital immediately on being notified, to other institutions belonging to the Council. In the General Hospitals now ready there is accommodation for 1,040 patients, and this can be increased if necessary. The equipment was carried out by the Territorial Force Association, and the Scottish Branch of the Red Cross Society provided all auxiliary assistance, such as garments, comforts, and appliances. The Society has also made arrangements for a service of

* There are two divisions of the Sanitary Service (T.F.): (*A*) Sanitary Companies, of which the Army List shows two only, the 1st and 2nd London, and (*B*) sanitary officers whose services are available should they be required.

motor cars to be available on the requisition of the officers commanding the hospitals. Store room has been provided by the Corporation of Glasgow in St. Andrew's Halls, and special arrangements have been made by the executive of the Society for the due concentration of all voluntary effort.

Cambridge Research Hospital.

The Research Hospital at Cambridge has been offered to the War Office as a fully staffed and equipped hospital for the reception of about twenty wounded officers for a year or such shorter time as may be required. Mr. Otto Beit has undertaken to provide funds for the complete equipment and maintenance of the hospital, and for a full medical, surgical, and nursing staff while used for this purpose. Until required by the War Office the work and research of the hospital will continue as usual. The hospital is fully equipped, and possesses an *x* ray department, operating theatre, and pathological laboratories.

THE BRITISH RED CROSS SOCIETY.

Continental Base at Rouen.

THIS week finds the head quarters of the British Red Cross Society at Devonshire House, Piccadilly, W., very busy dispatching a big unit with supplies to Rouen, which is to be the medical base on the Continent. How the various contingents will subsequently be dispersed depends upon the developments of the situation. Although located in France, it is to be understood that the unit is intended for British wounded.

Information has reached London that the unit sent to Brussels, as already reported, has been allowed to withdraw to Antwerp. Before the German occupation, however, two of the surgeons proceeded to the Belgian front, at the request of the Belgian military authorities. Of their present whereabouts information is not yet to hand.

Rest Station.

Through the generosity of a lady who desires to be anonymous, the Red Cross Society has been able to establish a rest station at Havre. It has been planned so that it can be removed to any other port where the sick are detrained, if the requirements of the War Office dictate this transfer. The rest station is interposed between the ambulance trains bringing the wounded from up country and the ship that will carry them to England. An ample staff, cooks, cooking appliances, and everything necessary have been included in the gift. By means of the rest station, which will adjoin the railway, men brought to the coast can be fed, and receive medical attention; those who are dying can be housed, and those who are too desperately ill to bear any more travelling can be retained. When an interval of many hours occurs between the arrival of the train and the departure of the transport or hospital ship the men can be made comfortable at the rest station.

Southampton.

A large base hospital is being established near Southampton, and steps are being taken to acquire ships to be used partly as hospitals and partly as transports. Several yachts, admirably adapted to the purpose of conveying the sick, especially in shallow waters, have been secured.

Staff.

Large numbers of doctors and surgeons have placed themselves at the disposal of the Society, and their standard of ability is high. None but fully trained nurses are being sent out, and the matron reports that there are now 1,500 on the list.

Auxiliary Home Hospitals.

Many offers of private houses to be used as temporary hospitals have been received by the British Red Cross Society, but the time has not arrived when any definite undertaking to utilize these houses can be given. The offers are being arranged with regard to the counties in which they are situated and their relation to the various military hospitals, these particulars influencing the manner in which the offer might be employed in the future. Offers from public institutions are being placed on a special list, and those fully staffed and equipped have been particularly noted as likely to be useful.

Temporary hospitals to be established by Voluntary Aid Detachments form an integral and important link in the Territorial military organization, but detachments are asked not at present to prepare any actual hospitals, but to have schemes for them ready to open at any moment when required by the military authorities. Their equipment, except in the case of a small supply of drugs and dressings, should not necessarily consist of articles except such as can be obtained from neighbouring houses. No Voluntary Aid Detachment will, it is understood, be utilized except in the district in which it is registered, although the military authorities may ask for volunteers for duty elsewhere from specially selected detachments. The recommendations of the British Red Cross Society are (1) that no hospital should be actually prepared before the mobilization order of that hospital has been received from the military authority, in order that personnel and equipment which may be urgently needed elsewhere shall not be uselessly locked up, (2) that funds should not be prematurely laid out on the preparation of these hospitals which might be more usefully expended in other directions, and (3) that the work of institutions intended for other purposes, such as schools and colleges, must not be interfered with, except on military requisition or in consultation with the educational authorities: Voluntary Aid Detachments have no authority to take over of themselves any public or private building.

RED CROSS WORK IN MONMOUTHSHIRE.

A committee has been appointed by the Lord-Lieutenant of the county, consisting of Dr. Rocyn-Jones and Dr. John Cropper, Medical Officer of Health and Honorary Secretary of the British Red Cross Society respectively, under the chairmanship of Sir H. Mather Jackson, Bart., to co-ordinate the voluntary ambulance service of the county. Besides temporary hospitals in various parts, accommodation for at least 200 convalescents has been offered by Colonel Ed. Carre, Mr. D. A. Thomas and others in private houses, and quite half of these are ready for occupation at short notice. The work of the committee is to co-ordinate and direct these efforts, which are being staffed by Voluntary Aid Detachments of the Red Cross.

The question of the acceptance of the offer of the Royal Gwent Hospital at Newport as an auxiliary base hospital is under consideration, but its close proximity to the Cardiff Infirmary makes it doubtful if the authorities will take it up.

The main work of the Volunteer Ambulance Committee will be the allocation of funds to the various convalescent homes, thus assisting the funds of the local branches of the Red Cross Society and St. John Ambulance Association.

RED CROSS WORK IN SCOTLAND.

The Scottish Branch of the British Red Cross Society has its head quarters at 137, Sauchiehall Street, Glasgow, and the country has been divided into four districts to facilitate work and economize time. The Western District, including the City of Glasgow, has Lieutenant-Colonel D. R. M'Ewan as Commissioner; the Eastern, including the City of Edinburgh, has Mr. David Wallace, C.M.G., in the same position; and there are also the Central Eastern District, including the city of Dundee, and the North-Eastern, including Aberdeen, with Colonel W. Gordon Thomson, V.D., and Colonel J. Scott-Riddell, M.V.O., respectively as Commissioners. There are also committees in every county in Scotland, the four large towns being regarded as counties. According to the Geneva Convention, the Red Cross Society can only provide for sick and wounded, or, in other words, for the soldiers who have ceased to become combatants; it cannot, therefore, supply clothing, food, and comforts for troops in the field, but provision for them will, it is understood, be made by the Regimental and Territorial Force Associations.

A great deal of preparatory work is being done at 2, Frederick Street, Edinburgh, the head quarters of the Scottish Branch of the British Red Cross Society in the East of Scotland, the fruit of which will be evident in due time. The Duchess of Montrose, in a letter published in the *Scotsman*, draws the attention of all persons desirous of furnishing aid to the sick and wounded to the fact that such help should be given entirely through the Scottish

branch of the society, "as the unco-ordinated efforts of individuals only lead to overlapping and waste of energy and material." She goes on to point out that the executive in Scotland contains several eminent members of the medical profession, and has Sir George Beatson as chairman, and that it is working in conjunction with representative Red Cross Committees formed in Edinburgh, Glasgow, and Aberdeen. Arrangements have been made for the provision of ambulance trains, for the co-ordination of all offers of temporary hospitals and convalescent homes, and for the reception and distribution of medical stores, hospital clothing, etc. Money, however, was urgently needed at head quarters, and it had to be borne in mind that a Scottish Hospital might suddenly be required at the seat of war, and were the necessary funds available it could be dispatched without delay.

Among the more recent offers made to the Red Cross Society is that by the Duke of Richmond and Gordon, through the Morayshire branch of the society, of his Scottish seat of Gordon Castle, Fochabers, as a convalescent home for sick and wounded.

Major J. Boyd Jamieson, R.A.M.C. (T.F.), has been appointed Sanitary Officer for Edinburgh and Forth Defences (south side) from August 16th.

MEDICAL ATTENDANCE ON PATIENTS OF PRACTITIONERS ON MILITARY DUTY.

IN the last two issues of the JOURNAL meetings of the profession, most of them called by the Executive Committees of the Divisions of the British Medical Association, were reported at which it was resolved that the members of the profession remaining in the district should take every means—

1. To safeguard the interests of medical men on military duty at home and abroad, and to undertake any medical duties for the sole benefit of the absentees.

2. To co-operate with the authorities in giving gratuitous medical attendance to the necessitous dependants of men called away from their employment on the service of the country.

At a meeting of the South-Eastern Counties Division of the Edinburgh Branch the word "dependant" was defined as including "those actually dependent on the wages of those serving the country, but not necessarily to include other members of their families not dependent on their wages for support."

In most instances—possibly in all, though the fact has not always been stated—either the Executive Committee of the Division or a special committee has been appointed to take steps to carry out the resolutions in co-operation with the municipal authorities and local Distress Committees; for example: Dr. F. E. Wynne informs us that at a meeting of all practitioners in the area of the Wigan Division a subcommittee was appointed to meet the Distress Committee to arrange details as to the supply of drugs and any other administrative matters necessary to carry out the resolution to give medical services gratuitously to all dependants of men engaged on active service. Again, Dr. G. Bertram Muriel informs us that at a meeting of the Whitehaven medical men the following resolution was passed and subsequently signed unanimously, and the Mayor is making the necessary arrangements to carry it out:

> We the undersigned medical practitioners of Whitehaven express to His Worship the Mayor our willingness to undertake free of charge the medical treatment of all such dependants, not already provided for, of men engaged in the service of the empire in the Navy, Army, Reserves, and Territorial Forces called to the colours, as may be recommended by the Mayor's Committee; to give all necessary medical and surgical attendance that may be required in connexion with any emergency hospital, convalescent hospital or sanatorium for sailors or soldiers, wounded or invalided, that may be established under the National Fund inaugurated by His Royal Highness the Prince of Wales; and generally to give professional advice and assistance in regard to any scheme that may be devised by His Worship the Mayor for the alleviation of sickness and distress in the borough consequent upon the war.

We are informed that resolutions similar to or identical with those published in previous issues and indicated above, have been adopted by medical practitioners resident in the areas of the following Divisions and Branches:

Bath.
Bristol.
Portsmouth.
Cambridge and Huntingdon.
Nottingham, which proposes also to co-operate with the Red Cross Society.
Huddersfield.
Shropshire and Mid Wales, which, however, still has under consideration the question of the provision of free medical attendance on the necessitous wives and dependants of men called out.
Wandsworth.
Hull (see SUPPLEMENT, p. 157).
North Riding of Yorkshire (see SUPPLEMENT, p. 157).

As will be seen by reports published in this and previous issues, many Panel Committees have adopted similar resolutions, and have recommended that permanent transfers of patients from the insurance lists of absent practitioners should not be sanctioned during the continuance of the war.

The position with regard to midwifery is rather special. In the first place, it is to be remembered that, though members of approved societies who are in the Navy or Army Reserves or in the Territorials, will, from the moment they are called out, be treated not as employed contributors, but as serving sailors or soldiers, the societies will continue to deal with any claims for maternity benefit exactly as if the members had remained ordinary employed contributors. The men will be making weekly contributions at the reduced rate of 3d. There seems, therefore, no reason why midwifery attendance on the wives of insured men on military duty should, as a rule, be given gratuitously, for it is a legitimate charge on the insurance funds and the position has not been directly affected by the war. Further, it has long been the rule that where one practitioner attends a confinement for another, as pretty often happens, the substitute receives half the fee, and it has been suggested that this custom should apply now.

We have already drawn attention to the generous offer of the pharmacists in a number of localities to forego their dispensing fees in respect of the dependants of men in military employ to whom the medical profession has offered to give gratuitous attendance. The cost of drugs must be defrayed from some source, and the general opinion seems to be that it should be provided out of the National Relief Fund of which the Prince of Wales is Treasurer

The whole undertaking—the gratuitous attendance by the medical profession and the supply of drugs at cost price by the pharmacists—is a big matter which will need careful organization to ensure smooth working and to prevent abuse. As was stated last week, this question has already received attention. The Chairman of Council and Medical Secretary of the British Medical Association, acting in consultation with the President and Parliamentary Secretary of the Pharmaceutical Society, have made suggestions on this head which are now under the consideration of the Cabinet Committee. It is probable that an official announcement may shortly be made.

THE WAR AND THE FUTURE OF THE INSURANCE FUNDS.

AT the last monthly meeting of the Salford Insurance Committee it was stated that very few of the Salford panel practitioners belong to the Army Reserves or Territorials, but that in case any practitioner is called up for active service, the other practitioners on the panel will keep his practice together for him during his absence and arrange that he shall not suffer financially. Attention was called to the fact that owing to the absence on service of a large number of the insured persons there is some danger that the medical and sanatorium benefit funds may suffer by deductions. The medical attendance on the wives and families of the men on service will unavoidably fall to a large extent on the panel practitioners, and the men who went away as the best of lives will in only too many cases return as the worst of lives. This will impose a large amount of extra work on the panel doctors which will in many cases last for years, and the extra drain on

the sickness and disablement benefit funds will be a most serious consideration for approved societies. The following resolution was accordingly carried unanimously, and ordered to be sent to the Commissioners:

> That moneys provided under the National Insurance Acts from contributions paid by and on behalf of Reservists and Territorials during their embodiment ought, after a proper proportion has first been set aside for maternity benefit, to be secured proportionally to the approved societies to which they belong and the Insurance Committees in whose areas they reside, in view of the excessive demands that will later fall on the approved societies for sickness and disablement benefits and upon the panel practitioners and pharmacists for medical and sanatorium benefits.

It will be seen that in many respects this resolution is in accord with the opinions expressed in the leading article in the BRITISH MEDICAL JOURNAL of last week.

WAR RISKS.

AT a special meeting of the Committee of the Medical Sickness Annuity and Life Assurance Society on August 21st, the following resolutions were adopted:

> Any member serving with His Majesty's Forces on active service abroad shall be allowed to retain his membership without extra premium, and shall, on return to the United Kingdom, come into sickness and accident benefit.
>
> Any member serving with His Majesty's Forces while in the United Kingdom shall be held fully covered for sickness and accidents without extra premium.
>
> Any member insured for life assurance serving with His Majesty's Forces either abroad or in the United Kingdom shall not be charged any extra premium, and shall be held fully covered.

NOTES.

DRUG STOCKS AND THE DRUG TRADE.

Duty-Free Alcohol.

IT has been suggested in the press, and in letters we have received, that an explanation of the want of enterprise among manufacturers in Great Britain which has led to the trade in fine chemicals and synthetic products passing so largely into the hands of German firms is to be found in unreasonable restrictions imposed by the Excise and Customs in this country on the use of alcohol for manufacturing purposes. This is not the case, but in place of expressing any opinion of our own on the subject we are glad to be able, by the courtesy of the Editor of the *Pharmaceutical Journal*, to make the following extracts from an article which will appear in the issue of that journal for this week:

"The alcohol difficulty is the least of the obstacles, and we have little doubt that at the present juncture the authorities would not hesitate to grant all reasonable facilities to manufacturers who desire and have the means to perform the patriotic duty of keeping up the supplies of valuable drugs. The idea that the coal-tar colour industry was lost by this country for want of duty-free spirit has become so firmly rooted that it still persists, notwithstanding the definite statement of a Departmental Committee, which made a thorough investigation of the subject, that the assertion was based upon no solid foundation of fact. The Committee made certain recommendations, which were largely adopted, for removing certain disabilities under which British manufacturers did suffer, and the present position may be briefly stated in the words of Mr. Thomas Tyrer, who is one of the best authorities on the subject: "There is nothing to prevent, upon application and proof, the use of spirit for any purpose whatsoever, provided, of course, a suitable denaturant is submitted for approval by the authorities, and there are numerous instances in this country in which such an application has been made and granted." Each case will be considered upon its merits, and there can be no question of any general extension of the use of specially denatured alcohol."

PROPOSED CHOLERA CORPS FOR THE RUSSIAN RED CROSS.

A scheme is on foot to organize a special corps for cholera service with the Russian forces, and the Russian authorities are considering the proposal. The scheme at present contemplates the enrolment of ten medical men and twenty nurses. It is desirable that medical volunteers for this work should have had practical experience of cholera as clinicians or bacteriologists, and that nurses should have had a full hospital training. Applications, in the first instance by letter only, may be sent to the Secretary of the Provisional Committee, 67, Margaret Street, W.

NATIONAL RELIEF FUND.

The Secretaries of the Prince of Wales's National Relief Fund (York House, St. James's Palace, S.W.) state that the Subscription Subcommittee has heard of a good many cases in which use has been made of its name, or of the names of those connected with it, with the object of securing support for appeals which are quite unauthorized. The public are warned that any extravagant or grotesque appeals emanate from persons who have neither the authorization nor the support of this Committee.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

BRISTOL.

OPENING OF A NEW WING AT THE GENERAL HOSPITAL.

THE ceremony of opening the new wing of the General Hospital was performed on July 27th by the President, Mr. George Alfred Wills, who in the course of his address said that the original hospital was founded in 1832 in order to afford medical assistance to the poor in the district around Redcliffe, beginning with only 30 beds. In 1853 the main building was erected, and again in 1891 a wing was opened, making the number of beds up to 200. Additional accommodation being required, a successful appeal was made for £40,000.

Mr. Herbert Baker, the treasurer, having stated that the new buildings were absolutely free from debt both for the actual structure and for the fittings and furniture, Dr. Michell Clarke, the senior physician, expressed the gratification of the staff at the completion of the work—an addition to the number of beds for which there had been an urgent demand. He did not think there would be any less need for institutions like theirs now the Insurance Act was in full working; indeed, the need might be greater, and he hoped that the voluntary system would continue for many years to come. The great advance of medicine during the last few years was largely due, he believed, to the voluntary hospitals, because they attracted the best men and gave facilities for research. He wanted it clearly understood by the patients who came for treatment that no experiments were practised on them, for no procedure was carried out there which would not be done in private practice.

The new building is a plain serviceable structure, made of reinforced concrete without the slightest attempt either to follow the style of the older buildings or to add to the architectural beauties of the city. Money has not been spent on the outside, but nothing has been spared to make the inside as complete as modern requirements demand. The site is a strip of ground on the south side of the old buildings. On the basement floor is a dental department, the entrance being from Commercial Road. This has a porter's room, two large waiting-rooms for men and women, two surgeries, a recovery room, a conservation room, arranged with eight chairs, but capable of holding twelve or more, and a work-room and offices. There are also on this floor a dining-room for sisters and nurses and for laundry maids; and a new laundry. The ground floor contains six private sitting-rooms and bedrooms for resident officers, an officers' smoking-room, a mess-room for men students and one for women students, and also for the matron and assistant matron, a private room for the staff, and a room for the registrar and other offices.

The first floor is devoted to women's medical ward. This is made to hold 25 beds, but will only be used for 22 at present. At the south end is a large sun balcony. There is also a single-bed ward and a two-bed ward, sister's room, ward kitchen, larder, and rooms for storing linen and patients' clothes. The sanitary wing contains the usual equipment. Attached is a clinical laboratory.

The second floor is to be a maternity ward, and is, like the one below, a potential 25-bed unit. It is intended

as now arranged to have 12 beds—10 in the large ward and 2 in a separate ward. It has attached a day-room, and a sun balcony large enough to take all the beds of the ward. The administrative portion of this ward has a room for washing babies, provided with four basins; an operating room; a room where the patients can wash and change upon arrival, and a room for the staff.

The roof of the building is a garden or airing place for the women patients. Each floor is connected with a fire escape reaching from the roof to the ground, and by connecting the top story with the old building 22 new rooms for nurses have been added.

All the floors are of teak and the wall surface is of Keen's cement, which it is intended to finish with enamel. The heating is by low pressure hot water, the circulation being accelerated by means of electrically-driven pumps. In the large wards the warming is supplemented by open fires.

The ventilation is by natural means, including the opening of windows. Extraction shafts are carried up the sides of the building. The operating theatre alone is ventilated by mechanical means—namely, an electric fan to effect an interchange six times in an hour.

A water-softening plant has been provided for the hot water supply, laundry purposes, and boiler feed make-up. It is estimated that its introduction will save something like 50 per cent. in the cost of soap and 35 per cent. in the cost of soda.

A new pathological department has been erected on land behind the museum.

MANCHESTER AND DISTRICT.

Maternity Benefit and the Salford Board of Guardians.

Ever since maternity benefit under the Insurance Act came into operation, the Salford Board of Guardians have found that a considerable number of women who are entitled to the benefit have applied for and had to be granted admission to the union infirmary for their confinements and for several weeks afterwards. On their dismissal they obtained the benefit of 30s., and in some cases £3, and as the guardians had no right to demand any part of this, the women thus obtained at the expense of the ratepayers all they desired in the way of medical attention and board, and made a clear profit of the maternity benefit which was intended really to pay for the expenses incident to confinement. The guardians felt that this was hardly fair to the ratepayers, especially as some of the women in question were unmarried and had been in the infirmary several times before for the same purpose. The guardians accordingly wrote to the Commissioners calling their attention to the matter and asking that they should be empowered to recover part of the cost of maintenance in the infirmary out of the maternity benefit. The Commissioners have now replied to the effect that no payment on account of maternity benefit can be made while the mother is in hospital; that, if the hospital is one that is supported out of public funds, the benefit must be applied in whole or in part for her dependants, if any, and that when she leaves the hospital she is entitled herself to receive the whole or such balance as remains of the benefit. The Commissioners conclude: "The right to this benefit is absolute, and the provisions of the National Insurance Acts do not enable the Commissioners to take action on the lines indicated in the resolution passed by the guardians." There can be no question that the attitude of the Commissioners is legally correct, and much can be urged in favour of the law as it stands when it applies to respectable or unfortunate women. But when it is applied to include unmarried women of bad character, who in many cases time after time thus impose on the ratepayers and afterwards spend the benefit in any way rather than for the purpose for which it was intended, it is impossible to deny that the guardians have some right to complain of the indiscriminate character of the law.

Health of Manchester School Children.

The annual report of the school medical officer for Manchester, Dr. A. Brown Ritchie, shows that during the year 1913 nearly 30,000 children were medically inspected and examined. The tendency towards a gradual increase in the height and weight of the children, which was noted in previous reports, is again recorded, although the standard is still below the anthropometric standard of 1883. Attention is specially drawn to the home circumstances of many of the children. Many of the boys out of school hours are employed as messengers and in street trading, and the deteriorating effect of this is often very noticeable. Bad effects, too, are often noted among the girls, owing to the excessive amount of domestic work which many of them have to do. In the case of the boys the medical officer has frequently had to intervene, but it is evidently difficult to deal with the girls. Dr. Ritchie states that the general standard of cleanliness in the schools has gradually risen; he says "only those having experience of pre-inspection days can at all realize the enormous change."

During the year 1913 there was an extensive epidemic of scarlet fever among the children, the cases reaching the number of 2,252, which was nearly as many as the number recorded in the two previous years together. It was specially noticeable that the schools attended by the Jewish children were most seriously affected, and numerous visits were paid to the Jewish schools, though it is satisfactory to find that there was practically no proof of school infection. The number of cases of diphtheria was 342, which is the greatest on record. On the other hand, the number of cases of measles, though it reached 3,747, was the lowest on record. It was found necessary to lay continuous stress on measles as being one of the most serious diseases which they had to deal with. It was only with difficulty that they were gradually dissipating the old idea that measles is a trivial complaint which every child must have once, and which requires no medical treatment. The teachers were now realizing to a greater extent the rôle of measles as a retarder of intellectual progress. Evidence is accumulating that after an attack a child is not so mentally alert as he was, and combining with this all the other complications to which measles leads, Dr. Ritchie regards it as the great cause of much scholastic inefficiency.

With regard to defective vision, it is largely as a result of previous work of inspection that in the year 1913 the number of fresh cases requiring spectacles was considerably less than the average of the previous four years, though the total number of children wearing spectacles has risen. The problem of dealing with defective teeth still remains a difficulty, and Dr. Ritchie considers that if any visible improvement is to be made, dental clinics will have to be provided. In addition to this, for a very large group of cases the treatment required can only fully be given by providing open-air schools. He recommends, too, that at least six school clinics ought to be established, three to begin with in Hulme, Ancoats, and Gorton. It may be added that the committee has already considered this last recommendation, and has approved plans for a clinic for Hulme. The Chairman of the Committee, Sir T. T. Shann, specially called attention to the decrease in the school attendance which was due to the more efficient medical inspection. The more thorough this inspection became, the more must the school attendance suffer. A few years ago the Board of Education paid grants for children who were unable to attend school owing to illness, and he thought the Board ought to do the same to-day. He was glad that pressure was being brought to bear in this direction by the education authorities.

WALES.

King Edward VII Welsh National Memorial Association.

No more fitting memorial could be found of the late King Edward, who for so many years was the Prince of Wales, than that which has for its object the prevention of a preventable disease in the Principality. Within a very short time the Welsh National Memorial Association, with its thoroughly representative body of governors and council, has raised a sum of £200,000, and has inaugurated a scheme which, when complete, should bring the means of treatment within the reach of all consumptives in Wales. The second annual report of the association, for the year ending March 31st, 1914, states that the counties of Wales, with the sole exception of Pembrokeshire, have

been divided up into 14 areas, each controlled by a district committee conversant with local needs and able to report thereon to the central council. Tuberculosis hospitals, sanatoriums, institutes, and visiting stations, staffed by skilled medical officers with special experience of tuberculosis, are being provided in these areas. The nursing of cases is undertaken by existing nursing organizations. The scheme provides for 549 beds in tuberculosis hospitals, but at present only 87 are available, but 299 beds are provided in various sanatoriums throughout the country. Plans for two large sanatoriums in the north and south of Wales, respectively, have been accepted and sites obtained. The capital expenditure must of course be heavy, and more money is required to bring the whole scheme to fruition. The cost per bed has been carefully estimated, and will probably exceed £200. The report for the past year contains a large amount of statistical and other information which should prove useful to the organizing committees of similar undertakings. Institutes or "visiting stations" have been established within the areas of seventeen county councils or county borough councils, and the work carried on in them corresponds with that of the tuberculosis dispensary as already formulated for many similar bodies in England. In Wales, as in other parts, a certain amount of unreasoning opposition has had to be contended with, but it is gradually being overcome. Thus far the results of sanatorium treatment show an approximate figure of 50 per cent. for complete arrest of disease with disappearance of bacilli from the sputum. Of the cases treated in hospital, presumably limited to advanced cases, a definite improvement is recorded in 66.8 per cent. A relatively smaller number of good results appear to have been obtained in the course of institute treatment, but the reports of domiciliary treatment seem to be encouraging, and although many of the cases were already too far advanced for any real improvement, the success in the earlier cases has justified one of the physicians in commenting favourably upon the possibility of carrying out effective treatment at home.

The Tubercle Bacillus in Streets and Parks.

Perhaps the most important information from the preventive point of view is conveyed in the report of the tuberculosis physician at Swansea, Dr. Frank Clifford, who has made a series of careful observations upon samples of sputum taken from the ground in the streets, parks, and football grounds most frequented by the public, and has found that tubercle bacilli were present in nearly 60 per cent. of such samples. Such a demonstration of the common danger speaks for itself, and once more suggests the reflection that much of the money spent in treatment is thrown away so long as this obvious source for the dissemination of the disease is permitted to go on without legislative restriction.

The Educational Value of Sanatorium Discipline.

Sanatorium treatment, unless it be intelligently appreciated by the patients whom it serves, may sometimes fail to aid recovery. The patient sent to the sanatorium against his will is only too apt to resent exposure to draughts and to imagine "chills." He may also object to limitation of the amount of warm clothing which he has hitherto considered essential to prevent catching cold. Such a patient gets little good from his stay in the institution, and may induce a spirit of discontent amongst others. Hence the importance of informing any intending patient as to the reasons for the routine life of the sanatorium and as to the necessity for strict conformation with hygienic regulations during his course of treatment. With a view to providing this information, Dr. Marcus Paterson, the medical director of the Memorial Association, has drawn up a short and concise pamphlet which every candidate for admission to a sanatorium is required not only to read but to sign before he can be accepted. He has recently supplemented this pamphlet by another entitled *Advice to a Patient who leaves a Sanatorium fit for Work* (Cardiff: Murrell, Richards, and Co., Limited. 1914), which is given to every patient who leaves the sanatorium in fit condition for work. The advice which it contains is couched in the simplest language, conveying in conversational style a strong appeal to the common sense of the individual to utilize the knowledge that he must have acquired, and pointing out all the weak points and dangers that may beset him in his efforts to obtain suitable work and to maintain his recovered health. Exception might perhaps be taken to some of the remarks upon various articles of diet, and allowance must always be made for individual peculiarities of appetite and digestion, but the little pamphlet as a whole may be warmly commended to the notice of all sanatorium managers.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

The Belfast Scheme for Combating Tuberculosis.

The Belfast scheme for combating tuberculosis is now in fair working order. Some years ago the death-rate from consumption was exceedingly high; the numbers of deaths fell, however, from over 1,000 to 811 in 1909, to 825 in 1910, and to 802 in both 1911 and 1912; in 1913 it rose to 844, with 318 from non-pulmonary forms of tuberculosis, so that the question is not one of facing a disease which is naturally declining with gradually improved hygiene. We have gone back during the last year.

The Forster Green Consumptive Hospital has some 60 beds and a dispensary, the Abbey Poor Law Sanatorium had 265 beds, and the Throne Consumptive Hospital 10 beds. Under the new scheme the City Council has taken over the Abbey Sanatorium from the Poor Law guardians and will add 200 beds; an extra dispensary is already provided and working, so that the city will very shortly have 500 beds, two working and well-equipped dispensaries, and a staff of one principal tuberculosis medical officer, two assistant medical officers, and five female visitors. Extensions are in contemplation in the near future; the two dispensaries will be supplemented by two others, and the scheme includes the provision for "a modern central institute, equipped for clinical, electrical, bacteriological, and clerical work;" there is also in contemplation a dental department, an open-air hospital school, and a farm colony, which will be an extension of the Abbey grounds. The important and complicated problem of the relation of the health of the child to consumption in the adult is also awaiting solution, and the department will join in the prevention of the disease in its relation to the health of the child. The population of the city is now estimated at 400,000; the total deaths from all forms of tuberculosis numbered 1,162 last year; the number of insured is over 160,000, and of these 1,200 received sanatorium treatment last year; consequently provision must be made for about 3,000 new cases annually.

The cost is estimated at £45,000 per annum, but by utilizing the provisions of the Insurance Act the cost will not be much more than £16,000 per annum, and a large part of this sum is already paid by the city for the Abbey Sanatorium and for the beds maintained by the Corporation in the Forster Green Hospital. The Government grant for building purposes has already been received; the cost of domiciliary treatment will be met out of a special fund based on the product of 6d. per head of insured persons *plus* an arbitrary amount for the treatment of non-insured; the rate of remuneration will be £1 per head and the balance left over at the end of the year will be divided.

Sir Patrick Dun's Hospital.

The report of the governors of Sir Patrick Dun's Hospital for the past year states that during the year 343 persons suffering from accidents were admitted, 136 fever patients received treatment, and 1,115 general cases were also admitted for treatment. In the extern department 13,920 cases of accident received treatment, 4,702 visits were made to the general dispensary; 1,044 visits were made in respect of diseases peculiar to women, and 2,030 cases were treated for affections of the throat, nose, and ear; 16,876 visits were made to the dispensary for dressing; 3,420 visits were made to the accident room for special dressings. The daily "diets" issued reached the high figure of 31,079, and the average daily number of beds occupied was 85.1. The cost per bed calculated on maintenance of patients was £21 13s. 10d., and the cost per bed calculated on maintenance of the establishment was £46 6s. 3d. The income from all sources, exclusive

of bequests, for the year amounted to £4,700, and the expenditure for the same period, exclusive of building accounts, £6,764.

SIXPENCE A BAG FOR FLIES.

Posters have been issued by Sir Charles Cameron, Medical Officer for Health, Dublin, stating that cases of typhoid fever have recently occurred, which there was good reason to suppose were caused by eating infected cockles, and that it is essential that cockles or mussels should be thoroughly boiled. It is notified that bags to contain dead flies can be obtained at the Sanitary Office, Cork Hill, and that sixpence will be paid for each full bag.

Correspondence.

NERVE CELLS IN THE AORTA AND ANGINA PECTORIS.

SIR,—The leading article in the JOURNAL for July 29th under the above title, which gives a summary of Manoélian's recent paper on the subject,[1] is a useful reminder of the fact, somewhat needed at the moment, that when we have obtained a picture of the cardio-vascular movements we are not at the end of a rational interpretation of the clinical phenomena of heart disease. Manoélian's paper contains a number of interesting observations, few of which, however, can be regarded as altogether new. The post-aortic situation of the plexuses he describes is certainly not new, and his anastomoses resembling "motor plates" have, I think, very questionably the significance attributed to the structures he describes.

His most important observations are, perhaps, his detection of ganglion cells in the connective tissue of the "middle coat" of the aorta and the presence of apparently sensory fibres there. This last observation, if confirmed, is the most important and original he makes. For as regards the presence of ganglion cells in the mesarterium, this fact has already been demonstrated by myself in the case of the coronary artery, and this not in the dog, on which animal Manoélian's observations were made, but in a man who was also the subject of a small intra-arterial coronary aneurysm, and suffered much from angina pectoris, in an access of which he died.[2]

As regards angina pectoris itself, the tendency is frequently manifested to express, on some single principle, its nature. The myogenist has very little difficulty in settling the matter by a sweeping generalization affecting some Gaskellian quality of cardiac muscle, contractility for choice. But a more detailed consideration of the phenomena of cardio-aortic pain leaves little doubt that the interpretation of these phenomena is as various as the phenomena themselves, and Manoélian's researches, as you remark, usefully support views concerning an aortic variety of angina which have frequently been advanced by Sir Clifford Allbutt in this country and more recently by Vaquez and others elsewhere. While granting this, however, I altogether take exception to Manoélian's statement, reproduced by yourself, of the absence of proof of pathological states in the coronary arteries capable of accounting for angina pectoris *in some cases*. Indeed, the facts I have already mentioned show that both the anatomical and pathological conditions capable of explaining aortic angina are likewise to be met with in the coronary arteries and explain coronary angina—a circumstance which, surely, was *a priori* to be conjectured.—I am, etc.,

London, W., July 26th. ALEXANDER MORISON.

PATHOLOGICAL LABORATORIES.

SIR,—I wonder how many have noted the incongruity of issuing in the same number of the BRITISH MEDICAL JOURNAL (1) an editorial (page 193) in which health authorities are stated to be concerned mainly with sanitation, and where it is inferred that their officers are persons who know little of clinical matters, and (2) a statement (on page 200) that the City Bacteriologist of Glasgow examined 7,234 specimens for medical practitioners last year. I have often heard the following question asked: "Why this constant effort in the pages of the JOURNAL to circumscribe the sphere of work of public health bodies which are vitally concerned with *everything* which is likely to reduce the prevalence of disease?" These health authorities have efficiently discharged clinical functions for years in their fever hospitals, and are now with marked success undertaking the care of tuberculous cases and of ailing school children. Again, in many places health authorities have already either established bacteriological laboratories, or arranged with universities for bacteriological work to be done. The M.O.H. of a county or county borough is not a head clerk or a sanitary inspector, as certain persons appear to imagine, but the controlling head of all medical work performed by the municipality. Clearly it is better to encourage existing bodies to extend their arrangements for bacteriological and pathological work rather than create an *ad hoc* authority, and thus add yet another body to those already in existence dealing with matters concerning the public health.

Surely what is wanted is the concentration of all matters concerning public health in one body, and so promote efficiency and economy, rather than have several authorities doing the same or similar work, with the resulting extravagance, overlapping, waste of effort, and waste of money.

What is being done in Glasgow under the supervision of the M.O.H. can be done and is being done elsewhere, and, with very little modification, can be made to fulfil every object desired by those who are anxious to limit the scope of work of existing public health officers. The suggestion that such laboratories should be controlled by the Insurance Commissioners is very amusing to one who carefully read the criticisms of such bodies in your pages of twenty months ago.

I could adduce many reasons why nursing facilities also should be provided by arrangement with the councils of counties and county boroughs, but this letter is already sufficiently long.—I am, etc.,

T. W. NAYLOR BARLOW,
Medical Officer of Health, and Honorary Secretary-elect, Society of Medical Officers of Health.

Wallasey, Aug. 10th.

SCHOOL MEDICAL OFFICERS.

SIR,—One still occasionally hears the gibe against school medical officers, who are busy forming themselves into a group for the discussion of their peculiar interests, scientific and sociological—and I dare say it is said of the tuberculosis officers also, who are doing the same thing—that it is only a movement of discontented juniors bent on forcing up their own salaries.

Now there is no doubt an increase of salary has a perennial interest for most of us, but this does not entirely explain the agitation. The fact is, specialized services, like the school medical service, are more and more feeling the need of being self-contained and self-feeding. We shall not in future be able to staff the lower ranks with mere transitional young people on their way to general practice or other departments of the public medical service, for which indeed experience in school work very imperfectly fits them. The ideal of the future must be that of a civil service in which even the lower grades of responsible workers must have a living wage, so that, if they go no higher, their lives will not have been a disastrous failure.—I am, etc.,

Stafford, July 18th. JOHN PRIESTLEY.

DR. JANE WALKER, president of the Association of Registered Medical Women, states that a subcommittee has been formed to collect information as to the different forms of assistance which medical women can give in the contingencies arising from the state of war, to collect data from the whole body of medical women as to possibilities of rendering service, to form a bureau to which requests for help can be sent, and to organize whatever help can be given. It is anticipated that medical women will probably be needed for civilian work rather than for work directly connected with the army. Communications should be addressed to the secretary, 17, Pembroke Square, Kensington, W.

[1] *Annales de l'Institut Pasteur*, June, 1914.
[2] *Lancet*, 1902, and *Sensory and Motor Disorders of the Heart*, 1914.

Universities and Colleges.

ACADEMIC POSITION OF STUDENTS ON MILITARY SERVICE.

Immediately after the outbreak of war we suggested that the case of medical students who had volunteered for duty as dressers should receive special consideration from the university and other licensing authorities. The matter has since been considered by some of the universities in respect of their undergraduates generally. The following letter addressed to us by Sir Donald MacAlister, Principal of Glasgow University, seems to express the general attitude assumed by the authorities of the universities which have moved in the matter:

Sir,—May I ask for your kind offices in conveying to undergraduate students, called to active service for their country, the assurance that the University of Glasgow will do what it can to safeguard their academic interests? The authorities whom I have been able to consult agree with me in recommending that to such students every consideration should be extended which the Ordinances will permit. In relation to attendance on courses of instruction, to duration of study, to periods of notice required, and the like, account will be taken of a student's absence on military duty, so as, if possible, to ensure that his graduation shall not be unduly delayed.—I am, Sir, yours very faithfully,

Donald MacAlister,
Principal.

University of Glasgow,
August 19th, 1914.

The Vice-Chancellor of the University of Oxford anticipates that the same course will be followed as during the war in South Africa—that is to say, that the time limit for entering the Honours Schools will be extended, and that, by a separate decree for each individual, other undergraduates will be allowed to count the terms elapsed during their absence as if they had been in residence.

The Senate of the University of Cambridge has decided "to allow terms and leave to 'degrade' (that is, to postpone examination) to all undergraduates prevented from residing by the requirements of military service."

The Vice-Chancellor of the University of London states that he is confident that the Senate will do all in its power to render it easy for members of the university, and especially for cadets of the Officers' Training Corps, to offer their services, and that it will (1) remit fees paid in for examinations which a student is unable to take, and (2) that generally it will take each and every step possible to prevent students who are serving their country from being in any way prejudiced in their university career.

It is proposed to hold a meeting of the Vice-Chancellors of the universities of Liverpool, Manchester, Leeds and Sheffield, before the session begins to consider how far common action can be secured in dealing with the various claims for consideration that may be expected to arise. The Vice-Chancellor of the University of Liverpool, who makes the announcement, states that in due time everything that can be done by the university will be done to safeguard the interests of members of the staff and of students who have offered themselves for national service at home or abroad—"It is our duty to ensure, so far as may be, that one sacrifice shall not involve another."

Sir George Hare Philipson, writing on behalf of the College of Medicine, and Dr. W. H. Hadow on behalf of Armstrong College, state that at the first meeting of the Senate of the University of Durham a special grace will be proposed to safeguard the interests of all undergraduates who have volunteered for training or for active service. The session at both colleges will open at the appointed time. The Vice-Chancellor states that the colleges at Durham have taken similar steps.

The Vice-Chancellor of the University of Wales has undertaken that the university will arrange that, in the case of students who entered the university in 1911, the coming session shall not be reckoned as the last of the four years beyond which honours in the B.A. or B.Sc. degree cannot be obtained, so that they may complete honours schemes in the session 1915-16 under the same conditions under which they would have completed them in the coming session. As pursuance of qualifying courses is essential for initial degrees, a year of absence cannot be reckoned as a year of the qualifying period, but, subject to this proviso, he has no doubt that the university will be anxious to consider cases of disability arising other than the one above provided for, with a view to making special arrangements for their relief.

UNIVERSITY OF GLASGOW.

Special Graduation for Medical Students.

Among the undergraduates who volunteered their services for the war were a number of medical students who had practically concluded their course, and would have come up for examination in October. Arrangements were made for a special examination, and the following passed and received the degree of M.B., Ch.B., on August 15th: Edmund Tytler Burke, John Eglinton Cameron, Thomas Ingram Dunn, James Jackson Finlay, Allan Dumbreck Fraser, M.A., B.Sc., Robert Masson Greig, Fergus Leslie Henderson, Alastair Caulfield Jebb, Douglas Reid King, George M'Cullum, Joseph M'Culloch, *Archibald Munn M'Cutcheon, David Mackie, Percival John Moir, †§Andrew Pickin, John Stuart Prentice, James Vallance, ‡†William Semple Wallace, ‡Joseph Bannister Williamson, B.Sc.

* Received degrees of M.B., Ch.B., with honours.
† Received degrees of M.B., Ch.B., with commendation.
‡ Passed with distinction in surgery and clinical surgery.
§ Passed with distinction in midwifery.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have been approved in the subjects indicated:

Medicine.—*D. Aucutt, *†H. S. Baker, *†A. G. Bodman, *P. H. Burton, *‡W. E. K. Coles, *†L. S. Daly, *†C. D. Day, *‡J. A. W. Ebden, *‡C. de W. Gibb, *†R. M. Handfield-Jones, *‡G. W. Hassall, *†H. R. Ibbotson, †G. L. Lawlor, *‡A. N. Minns, *†T. S. Nelson, *‡G. D. Newton, †L. E. Pimm, *†R. H. Simpson, *†C. R. Smith, *†L. H. Terry.

Forensic Medicine.—D. Aucutt, H. S. Baker, A. G. Bodman, P. H. Burton, W. E. K. Coles, L. S. Daly, J. A. W. Ebden, C. de W. Gibb, R. M. Handfield-Jones, A. N. Minns, T. S. Nelson, G. D. Newton, L. E. Pimm, R. H. Simpson, C. R. Smith, L. H. Terry, E. M. Townsend.

Midwifery.—D. Aucutt, H. S. Baker, A. G. Bodman, P. H. Burton, W. E. K. Coles, V. H. M. A. Dangerfield, J. A. W. Ebden, C. de W. Gibb, A. E. Gravelle, R. M. Handfield-Jones, A. N. Minns, T. S. Nelson, H. B. Padwick, L. E. Pimm, R. H. Simpson, F. Simpson, C. R. Smith, L. H. Terry.

Surgery.—*†D. Aucutt, *†H. S. Baker, *†A. G. Bodman, *†L. B. Clarke, *†W. E. K. Coles, *†L. S. Daly, *†J. A. W. Ebden, *†C. de W. Gibb, *†R. M. Handfield-Jones, *†G. W. Maw, *†A. N. Minns, *†T. S. Nelson, *†G. D. Newton, *†H. T. Roberts, *†M. P. dos Santos, *†R. H. Simpson, *†C. R. Smith, *†L. H. Terry, *†J. A. Watson.

* Section I. † Section II.

The diploma of the Society has been granted to Messrs. H. S. Baker, A. G. Bodman, W. E. K. Coles, V. H. M. A. Dangerfield, L. S. Daly, C. D. Day, J. A. W. Ebden, C. de W. Gibb, R. M. Handfield-Jones, A. N. Minns, T. S. Nelson, R. H. Simpson, C. R. Smith, L. H. Terry, L. B. Clarke, G. W. Maw, H. T. Roberts, M. P. dos Santos, and J. A. Watson.

Obituary.

OLIVER HUMPHREY FOWLER,

CIRENCESTER.

Mr. Fowler, of Cirencester, whose death at the age of 74 took place on August 10th, was for forty years a leading practitioner in the Cotswolds. He was born at Kingsclere, Hants, where his father practised, and received his medical education at St. Bartholomew's Hospital. He obtained the diploma of M.R.C.S.Eng. in 1864, and two years later began work at Cirencester as locumtenent to the late Mr. Edward Cripps. Soon afterwards he joined Mr. Cripps as a partner, and was associated subsequently with his son, Mr. E. C. Cripps. Later on Mr. Fowler became the senior of three partners. He early obtained a leading position in the district, and his success was due in large measure to his untiring industry and powers of physical endurance; he was in the saddle early in the morning and his work was not finished until late in the evening, yet he was always able to turn up everywhere and anywhere to meet a professional engagement or take part in a social gathering, neat and spick and span, full of buoyant, not to say boyish, spirits; with his weather-beaten face and athletic figure, he looked very much an old-fashioned sportsman, but never, we believe, gave any time to field sports. His whole energies were devoted to his profession and to public work. He was surgeon to the Cottage Hospital and to the Cirencester Hospital, which grew out of it, and at the time of his death was an active member of the managing committee. He was one of the founders of the Winsley Sanatorium for consumptives and for long a member of its managing committee.

At Christmas, 1906, Mr. Fowler retired, and at a meeting in Cirencester, presided over by Earl Bathurst, was presented by his patients and friends with an address accompanied by a fine silver cup; in the address the signatories gave expression to their deep gratitude for his constant care, patience, and kindness in their times of sickness. "In matters which have touched us nearly," the address continued, "we have always been able to rely on you as a true friend, as well as a medical adviser; you have inspired us with complete confidence in the soundness of your judgement, as well as in your skill in treatment, and we know that all alike would testify to the faithfulness, honour, and delicacy with which you have discharged your duties."

After his retirement he became a member of the Cirencester Urban District Council, and was its chairman from

1911 until his retirement last year. He was secretary also to the Cirencester Children's Care Committee.

Mr. Fowler was an old member of the British Medical Association and had been president of the Gloucestershire Branch. He worked hard to ensure the success of the Annual Meeting of the Association in Cheltenham in 1901, and both before and after that date was a regular attendant at the annual meetings of the Association and had made a host of friends among the members.

Mr. Fowler was twice married and leaves three sons by his first wife.

The funeral, which took place at Cirencester on August 13th, was attended by a large concourse of friends, including many members of the medical profession.

PROFESSOR RICHARD JOHN ANDERSON, M.A., M.D.

GALWAY.

PROFESSOR ANDERSON died on July 25th at his residence, Beech Hill, Newry, after a short illness, having been at his duties in Galway up to the beginning of April. He was born in Newry on July 29th, 1848. He received his medical education at Queen's College, Belfast, and St. Bartholomew's, London, and also studied in Leipsig, Paris, Heidelberg, and Naples.

As a boy he was remarkable for his scholastic attainments, and afterwards as a student at the Queen's College, Belfast, his career was brilliant. He took the M.A. degree with first class honours and gold medal in 1870, and the M.D. degree with first class honours and gold medal in 1872. In the same year he took the diploma of M.R.C.S.

For a time he entered general practice, having been appointed to the No. 2 Dispensary District, Newry, in 1873, but in 1875 he became demonstrator and lecturer in anatomy and physiology to the Queen's College, Galway, and, after holding that post until 1883, he was appointed to be professor of biology, mineralogy, and geology in the same college, a post he held until his death.

He was examiner in the old Royal University, and afterwards in the National University. He was Honorary President of the Anatomy Section of the International Congress of Medicine in Lisbon in 1906 and of the Physiological Section of the International Congress of Medicine at Budapest, 1909.

He was co-editor of various Continental anatomical and physiological periodicals, and published many papers on scientific subjects in British and Continental journals.

Those who knew him intimately were always charmed to have an opportunity of a social hour with him. Many of his old students and scholars will miss his friendly and useful counsel. By his death Ireland has lost another of her talented sons. R. E. H.

DR. WM. ALEXANDER, of Liverpool, writes as follows: I was much shocked to hear of the death of my old friend and companion of my college days. Richard John Anderson, even in those early days, was an encyclopaedia of all kinds of scientific knowledge. His bent was to academic pursuits, and not to practical medicine, and the records of his college and of scientific societies show how hard he worked and with how much success.

He rarely failed to attend the annual meetings of the British Medical Association, or of the British Association. The year before last he was my guest at the meeting of the British Medical Association in Liverpool. He had acquired very quaint and lovable ways, and was full of humorous stories, with which he delighted my guests whom he met at my table. The tale of his days is now told, and after a well-spent life he now rests from his labours.

J. D. FARQUHARSON, M.B., C.M.,

NEWCASTLE-UPON-TYNE.

IT is with great regret that we record the death of Dr. James D. Farquharson of Newcastle-upon-Tyne. He was one of the best known practitioners in the city, and his loss will be keenly felt in many spheres of activity.

He was born at Perth in 1858, the son of a contractor, and was educated at Kinnoul, and then at Perth Academy. He started business at an early age in Glasgow, and through his interest in athletics became attached to the *Glasgow Evening News*. In a short time he rose to be sporting editor of this paper and he retained that position during the whole of his undergraduate career. He graduated in 1884 at the University of Glasgow with commendation, and immediately started practice as assistant to the late Dr. Lynn, Newcastle-upon-Tyne, on whose decease, soon after, he succeeded to the practice, which, by his conspicuous ability and urbanity of manner, he rapidly increased. It was only his habits of concentration and power of doing with the minimum of rest that enabled him to carry on for nearly thirty years what was considered one of the best practices in the city.

Dr. Farquharson had many interests. He was for some years a member of the council of the city of his adoption. He did not often take part in debate, but whenever he spoke his remarks showed that he had brought to bear upon the question under discussion careful and intelligent study. To military matters he gave a great deal of time and thought. For over twenty years he was a member of the Newcastle Royal Garrison Artillery, and held the rank of Major, R.A.M.C. (T.F.); within the last two months he received the V.D. He enjoyed great popularity with the officers and men. He was one of the founders of the Pen and Palette Club, and twice president; he was many times president of the Burns Club, an active member of the Glasgow University Club, president of the West End Medical Society, joint secretary of the Northumberland and Durham Medical Society, Fellow of the British Gynaecological Society, Fellow of the Edinburgh Obstetrical Society, and also a member of the executive of the Newcastle Division of the British Medical Association.

In politics he was a Conservative and an ardent tariff reformer. His chief recreations were hunting and fishing. He was a son of the Highlands, and to hear Farquharson at his best was in the evening when, the day's work done, he would regale those present with an account of his fishing experiences in some remote Highland loch. He had all the hospitality of his countrymen and his generosity was unbounded.

For some time his health had caused anxiety to his friends. Three years ago he had general septicaemia, from which he really never recovered. His death at a comparatively early age is sincerely mourned by a wide circle of friends, and the deepest sympathy is extended to his widow, son, and daughter.

The interment took place at Melton Village, near Doncaster.

SURGEON-GENERAL WILLIAM MAXWELL CRAIG, C.B., R.N.

By the death of Surgeon-General William Maxwell Craig the naval service has lost a brilliant officer at the height of his career of usefulness at a time when his great ability as a surgeon and capacity for organization would have been of the greatest value to the nation.

He was born in India in 1859, was educated in Edinburgh, and graduated M.B., C.M. in that university in 1880. After being house-surgeon at the Peterborough Infirmary, he entered the Naval Medical Service, and served as surgeon on the West Coast of Africa, in the Channel Fleet, and on the China station. He was afterwards posted in succession to the Royal Marines at Plymouth, and the Royal Naval Hospital, Plymouth. When the hospital ship *Maine* was taken over by the Admiralty he was the first principal medical officer; under his capable organization this became a most important asset to the fleet during 1901–3. Subsequently he was in charge of the Royal Naval Hospital at Simonstown, Cape Colony, and on his return to England he was in charge of the junior surgical section at the Royal Naval Hospital, Haslar, which appointment he gave up on being promoted to the rank of Deputy Surgeon-General in 1909. In 1910 he was again appointed to Haslar, this time in charge of the senior surgical section. This appointment he held for several years, and at its conclusion he received the thanks of the Lords of the Admiralty. He was promoted to Surgeon-General in May, 1914, and was made a Companion of the Bath on the occasion of the King's birthday last year. He was chosen President of the Naval and Military Section of the British Medical Association meeting held at Aberdeen this year, but much to his regret was by medical advice obliged to throw this up and take the much needed rest necessitated by the strenuous life of the

last few years. His death took place at 6, Glebe Place, Chelsea, on August 6th.

Throughout his life he was always a keen officer, a man of great resource, always willing and able to give advice and help to his subordinates; a steadfast friend and loved by all who knew him, his passing away has left a great gap impossible to fill both among his brother officers and his immediate relations. He leaves one son, who is now a subaltern in the Royal Marine Light Infantry, to carry on the traditions of the family in the service which he loved so well.

The death of Dr. Albert Roberts Pyne, of Toronto, took place on July 6th. Dr. Pyne was Dominion analyst, and a brother of the Hon. Dr. R. A. Pyne, Minister of Education for the province of Ontario. The late Dr. Pyne was 65 years of age; he was born in Waterford, Ireland, and was the son of Dr. Thomas Pyne.

The announcement of the death of Dr. Colin Garner, of Preston, at the early age of 34, will have been received with great regret by those who knew him as a student in Edinburgh as well as by many friends in the district in which he practised. Dr. Garner, who was the son of Dr. J. E. Garner, who was so well known to many members of the Association as an active member of the Representative Body, obtained the diplomas granted by the Conjoint Board in Scotland in 1904, and was afterwards for a time assistant house-surgeon at the Sunderland Infirmary; subsequently he joined his father in practice, and succeeded him last year as medical officer to the No. 1 District of the Preston Union. Some months ago he suffered from scarlet fever, and did not recover sufficiently to resume practice.

The death of Mr. Myers-Ward, one of the lecturers on physiology at King's College, London, occurred recently at Skegness, where he had gone for the summer vacation. Mr. Myers-Ward, who was a Birmingham student, was at one time professor of physiology at Sheffield. In 1902 he was appointed lecturer on physiology to Charing Cross Hospital Medical School. When in 1911 the anatomy and physiology departments of this school were transferred to King's College, he became lecturer on physiology in that college. At Charing Cross he served as a member of the school committee from 1903 onwards, and in 1909 was elected dean. His work in this capacity was carried out under difficult conditions, especially during the "transition period," and was much appreciated by the staff. Mr. Myers-Ward's death will leave a gap not only in his immediate circle but in the teaching world. He was a specialist in practical histology, his technical ability being universally admired. He was an excellent teacher, and had great influence with students. As a friend Mr. Myers-Ward was of the somewhat brusque but absolutely true type. He liked his old students to keep in touch with him, and never failed to help them when opportunities occurred. Many of them feel that whatever manliness they may have is partly due to their association with him.

Lieutenant-Colonel Henry Percival George Elkington, R.A.M.C., died at Shorncliffe on August 5th, aged 50. He was the son of the late Deputy Surgeon-General A. G. Elkington, of the Brigade of Guards, was educated at St. George's, and took the M.R.C.S. and L.S.A. in 1885, and the D.P.H. of the London Colleges in 1894. He entered the army as surgeon on January 30th, 1886; became surgeon-major on January 30th, 1898; and lieutenant-colonel on January 30th, 1906, being placed on the selected list from February 13th, 1913. He served in the Hazara campaign of 1891 on the North-West Frontier of India.

Lieutenant-Colonel Charles Malcolm Moore, Bombay Medical Service, died at Quetta on July 23rd, of an accidental gunshot wound. He was the son of David Moore, Director of the Botanical Garden at Glasnevin, Dublin, and was born on February 4th, 1864, and educated at Trinity College, Dublin, where he took the degrees of B.A., M.B., B.Ch., and B.A.O., in 1888; also the M.D., M.A.O., and D.P.H. in 1889. Entering the I.M.S. as surgeon on March 30th, 1889, he became major on March 30th, 1901, and lieutenant-colonel on March 30th, 1909, and was promoted to the selected list on June 13th, 1913. He served on the North-West Frontier of India in the operations in the Kurrum Valley in August and September, 1897, receiving the medal with two clasps; in the Tirah campaign of 1897–98, in the reconnaissance of the Kharmana defile, and action of November 7th, 1897, and in the operations against the Khani Khel Chamkannis, clasp: also in China in 1900. He had been medical officer of the 106th Hazara Pioneers for the last ten years, since that regiment was raised at Quetta in 1904.

Lieutenant-Colonel Sydney Edward Duncan, R.A.M.C. (retired), was killed by a fall from a three-story window, at Barrow, on August 7th. He was born on August 16th, 1856; educated at University College, London; and took the M.R.C.S. in 1878, and the L.R.C.P.Edinburgh in 1879. He was assistant medical officer to the Western Fever Hospital of the Metropolitan Asylums Board, to the Metropolitan District Asylum at Caterham, and to the London County Asylum at Banstead, so that he was much older than most of his fellow-officers when he entered the army as surgeon on January 31st, 1885. He became surgeon-major on May 1st, 1897, and lieutenant-colonel on January 31st, 1905, retiring on April 20th, 1910. After his retirement he was employed by the War Office as medical officer at Shrewsbury, and had gone to Barrow on the recent mobilization. He served for some time in the South African war during 1900-1, and was present at the actions of Houtnek, Vet River, and Zand River, in the Orange River Colony, and in those at Johannesburg, Pretoria, and Diamond Hill in the Transvaal, receiving the Queen's medal with four clasps, and the King's medal with two clasps.

Public Health
AND
POOR LAW MEDICAL SERVICES.

TEACHING OF HYGIENE.

Mr. Pease, in a reply to Sir Godfrey Baring, stated shortly before the adjournment that hygiene was one of the subjects of the instruction in a public elementary school named in Article 2 of the Code. It was there defined as instruction adapted to the ages and sexes of the scholars in the elementary rules of personal health, particularly in respect of food, drink (including alcohol), clothing, cleanliness, and fresh air. An official syllabus of lessons on temperance had been issued. Some suggestions as to the teaching of hygiene were given in Section XII of the report of the chief medical officer of the Board for 1910. Mr. Pease added that the subject was one in which education authorities and teachers took considerable interest, and there seemed to be no reason for interfering with their discretion.

NOTIFICATION BY PARTNER OF A MEDICAL OFFICER OF HEALTH.

J. F. B.—Section 11 of the Infectious Disease (Notification) Act, 1889, provides that where a medical practitioner attending on a patient is himself the medical officer of health of the district he is entitled to the fees for notifying to which he would be entitled if he were not the medical officer of health. A medical officer of health is entitled to a fee of 2s. 6d. for notifying a case which occurs in his private practice. The partner of a medical officer of health should claim the ordinary fees for notifying; his position as partner does not affect him at all. The above remarks apply also to notifications of cases of tuberculosis.

The Board of Agriculture has issued a useful leaflet (to be obtained free on application to the secretary, 4, Whitehall Place, S.W.) containing suggestions for the autumn treatment of land by the holders of allotments and gardens, and for the sowing of turnips, carrots, onions, lettuce, and spinach at the present time.

The Year Book of Radiology for 1915 is announced by Messrs. Longmans and Co. as in preparation, edited by Dr. Robert Knox and Mr. James H. Gardiner, F.C.S. The object of the work is to give an account of the more recent advances in the knowledge of radium, *x* rays, and the allied phenomena, both from the medical and physical points of view. Notices of new books and apparatus, legal information, physical data, hints for the laboratory, and matters connected with practice will be included.

Letters, Notes, and Answers.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

CORN asks for information as to Desoulter's artificial legs, and whether the metal in them is suitable for use at the seaside.

ANSWERS.

KAFFRARIAN.—Cryogenine is stated by Crinon (*Revue des Médicaments Nouveaux*, 1908, p. 124) to be metabenzamido-semicarbazide. It is a white crystalline powder, which is only very slightly soluble in water; no information can be found regarding its solubility in alcohol. Various reports recommend it for use in the treatment of the fever of tuberculosis.

TREATMENT OF PRURITUS ANI.

DR. W. F. SOMERVILLE (Glasgow) writes that the local application of high-frequency currents as a rule gives speedy and permanent relief. If this method of treatment is not available, an ointment containing 80 grains of calomel, 40 grains of camphor, and 20 grains of quinine to the ounce will probably remove the anal irritation. An evacuation at bedtime and scrupulous cleanliness after stool would assist in obtaining a cure.

OLD CASE BOOKS.

H.—The purchaser of a medical practice is only entitled legally to what is set out in the deed of purchase. This may or may not include old case books, etc. But it is not unusual for the vendor to hand over books connected with the practice that will assist his successor in carrying it on. Old case books dealing with patients in the past who may be dead or have left the neighbourhood, and which may contain confidential matters having no bearing on the future conducting of the practice, should be burnt.

LETTERS, NOTES, ETC.

THE SUPPLY OF LOCUMTENENTS.

MR. PERCIVAL TURNER (London, W.C.) writes to thank the very numerous practitioners who have so generously written and offered their services at reduced fees in this time of stress. He adds, in reply to correspondents, (1) that during the summer months very many practices return to their owners little or no profit; (2) that very few service men in practice will draw £1 a day from panel cheques, especially as in many cases their panels are largely depleted through patients who have joined the army or navy, and that private practice will be also affected owing to the unanimous and generous decision of the profession to attend free of charge patients dependent on men called to active service; (3) that all the old established and recognized agents are only charging fees in proportion to the sums received by the locumtenents.

SPECIAL MARK FOR DOCTORS' CARS.

DR. J. MOORE BENNETT of Ruddington, Notts., suggests that at the present time it would be well that doctors' motor cars should bear some distinguishing mark in order that the public may easily obtain their services in case of accident, and also reliable information as to the nearest place where accommodation can be obtained for men and horses. The Automobile Association and Motor Union informs us that it has passed on to the Home Office information it has received to the effect that in Canada and the United States the cars owned by doctors are distinguished by a square white plate bearing a green cross, which is placed immediately over the number plate.

PITUITRIN IN LABOUR.

MR. REGINALD JOHNSON, B.A., M.B., B.Ch., B.A.O.Dub. (Singapore), writes: I have been reading with interest the letters concerning the use of pituitrin in labour. I began to use pituitrin over eighteen months ago, and have never had any bad results. In the tropics there is a common saying that birth is usually easier and less painful than at home. I cannot say that I have found this so, but I have certainly found pituitrin a great help. In two cases in which I was sure the pains had not started, but I knew the patients to be at full term, I used pituitrin with the idea of starting pains. In one case, a young healthy woman, the result was immediate, as pains began five minutes after an injection of 1 c.cm. into the buttocks. The pains in both cases tended to die away in about one hour, but were renewed on injection of another cubic centimetre of the drug. I had to give in all 10 c.cm. to each case. There was slight blue asphyxia of the babies. I do not advise the injection of pituitrin to produce labour until a great deal more is known about the drug. One effect I have noticed in several babies who have been helped into the world by pituitrin, and that is an unnatural brightness of their eyes and a general look of "wide-awakeness." They have now and again made almost convulsive movements. This condition passed off in each case in a few hours' time. I have never used more than 3 c.cm. I have used pituitrin in a few cases of slight contraction of the pelvis with good results. From what I can see of the drug, it ought not to be thought of in eclampsia or placenta praevia. In eclampsia the raising of the blood pressure is detrimental, and in placenta praevia the condition of the lower uterine segment is enough to prevent use of the drug. In all my cases the patient passed water with great ease within twelve hours of the child's birth. In an ordinary normal case I give pituitrin in the following way: I wait till the os is fully dilated, and if the membranes are unruptured I rupture them. I give 1 c.cm. of pituitrin into the buttocks, and get ready to guard the perineum; there is usually only one long pain, which I ease by using a little chloroform, and then pains become regular and strong. The danger is that with such strong pains the perineum may be torn, and as the head is distending the perineum at the time it is often advisable to administer a little chloroform and to tell the woman not to strain. The placenta in all my cases came away in about five minutes after the child. I have never had a case of *post-partum* haemorrhage out of over sixty cases. One hour after the placenta has come away I give ½ c.cm. of pituitrin subcutaneously, and repeat the dose in two hours. I agree with Dr. P. A. Hendley (JOURNAL, May 16th), when he says that we must not rely on pituitrin alone. My last case was a multipara. It was her third child in thirty-eight months. I saw her when the os was not fully dilated; the membranes had ruptured, but the pains were somewhat feeble and ineffective. At 3.15 a.m. I gave her 1 c.cm. of pituitrin into the buttocks. At 3.30 a.m. the child had been born quite naturally, the placenta following as soon as the cord had been tied and cut. As Dr. Hendley says, "careful selection of cases" is necessary. With the knowledge that the drug produces pains and hastens expulsion of the child, comes the desire to push the drug. Never give more than 4 c.cm. of pituitrin to one case, and give it at intervals of one hour and in doses of 1 c.cm. at a time.

FOOD VALUES AND VITAL PRINCIPLES: A WARNING.

DR. J. GORDON SHARP (Leeds) writes: Much advice is now being given to the laity as to the best and most economical food to buy, and the only point apparently kept in view is the food value. My reason for troubling you is to ask medical men to interest themselves in this subject and to warn the people against all foodstuffs which have been artificially treated by heat, cold, or electricity, for by these means their vital principles (vitamines) may be destroyed or materially impaired. Condensed and dried milks and prepared and concentrated cereals are all to be suspected. There is to-day less fear of the people not getting enough nourishment than there is of them losing the elements of freshness in their food. Especially should we be on our guard in prescribing foodstuffs for the poor, for babies, and for all who must of necessity live on a limited dietary. All who see the condition of the poor and especially of the children who throng our large out-patient departments will realize the importance of this subject.

HILL DIARRHOEA.

A CORRESPONDENT has sent us a specimen of an Indian native remedy for "hill diarrhoea" which, he states, has proved efficacious in the case of a patient who lived in India for over forty years. Microscopical examination of the specimen shows that it consists largely, if not entirely, of the fruit of some plant of the order Umbelliferae, having a fairly strong resemblance to anise. On the other hand, the odour is more like that of cummin. It is not possible to say with certainty from the microscopical appearance that there is no other drug present besides the umbelliferous fruit, but there is no clear evidence of another. No alkaloid has been detected and the powder consists apparently only of the powdered vegetable tissue. It would not be possible to identify it further or to report on its constituents, unless a much larger quantity were available for examination, including at least some of the fruits not in the powdered condition.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
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A page	10	0	0

An average line contains six words.

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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

THE

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THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

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THE PROFESSION OF MEDICINE.

THE main object of this issue of the BRITISH MEDICAL JOURNAL is to meet the needs of two classes—those who require information as to the course which must be followed in order to become a legally qualified practitioner of medicine, and those who, having already obtained this position, are doubtful as to what particular path in medicine they should choose as a life career.

In this country the conditions with which those who desire to enter the medical profession must comply are regulated by a statutory body known as the General Medical Council, and a statement of its requirements will be found on page 422. The task of examining candidates as to their fitness to practise medicine is left to the universities and to certain corporations in England, Scotland, and Ireland, but the Council takes steps to ensure that the tests imposed do not fall below a certain standard, and that none of these bodies admit to their examinations persons who have not undergone certain definite courses of instruction at one or other of the many recognized medical schools.

Successful candidates at such examinations eventually receive from the body holding them either degrees—in the case of the universities—or diplomas or licences—in the case of the corporations—entitling them to claim that their names shall be inserted in the *Medical Register* kept by the General Medical Council. The difference in the result is, however, no criterion of the comparative difficulty of the examinations undergone, nor yet of the expenditure in time and money that has been involved by the education necessary to pass them. At one time the holders of diplomas and licences formed the great majority of all medical men, especially in England and Wales, but of recent years universities have greatly multiplied; consequently so many medical men now hold degrees that, save in exceptional circumstances, the wisest course for a medical student is to aim at a degree, though it may be desirable to take also a diploma or licence.

Apart from the degrees and diplomas and licences, on the strength of which the General Medical Council grants admission to the *Register*, most of the bodies in question bestow on candidates who have passed further examinations higher titles, such as "Fellow" and "Doctor of Medicine." It may be said that as a rule they are worth obtaining, though the difficulty of doing so, as also the added professional status they confer, varies considerably. There are also a certain number of diplomas in special branches of work, such as public health and tropical medicine, which are superfluous in the case of the great majority of medical men, but either useful or absolutely necessary in the case of those who wish to specialize in the work covered by them.

The expenditure involved in successfully completing a medical curriculum varies so much that no very precise statement on the subject can well be made. Apart from differences in the charges made by different medical schools for instruction, there are differences also in the fees for examination, as well as in those charged for the actual certificates given to successful students, whether these relate to degrees, licences, or diplomas. Besides this, not all medical students, however industrious, get through their examinations with equal facility, and since in any case their professional education must continue for at least five years—a period exceeded by the vast majority—and since the cost of living in different parts of the kingdom varies considerably, and personal expenditure varies still more, it can only be said that no one should think of entering the profession of medicine who is unprepared to spend on his medical education a sum of about £1,000.

When once a medical graduate, diplomate, or licentiate has obtained the insertion of his name on the *Medical Register* there are many courses open to him; he can aim at becoming a general practitioner, or at entering one of the Government services at home or abroad; or at specializing in public health or asylum work; or in pure science; or in one or other of the many modern subdivisions of medicine and surgery. Most of these different paths in medicine are considered in some detail elsewhere, but a few observations may here be made as to the first and last of them.

A man becomes a general practitioner either by taking a house and waiting for patients to seek his services, or by entering into partnership with some already established practitioner. The successful conduct of a private practice entails, however, the possession of a great deal of knowledge other than that acquired at the medical schools, and consequently no man is likely to be accepted as a partner, or to prove successful as an independent practitioner, unless he has first gained experience in private practice as an assistant. The pay of assistants was at one time very small, but of late years has risen to what is quite a respectable figure, when consideration is paid to the

fact that most assistants are still more or less *in statu pupillari*. Their average pay may be put down as between £150 and £250 a year.

The path of those whose ambitions lie in the direction of becoming consultants or specialists is rugged. Their eventual success will depend not only upon their mental attainments and capacity for hard work, but on their possession of the various qualities which help to win for a man the confidence both of his colleagues and of the general public. Moreover, since it is certain that, however well equipped they may be, they will not for many years make as specialists enough to pay their outgoings, this particular path is open only to those who are in possession of sufficient means to maintain themselves for an indeterminable number of years, or who are able, by acting as coaches or by other means, to make sufficient to defray their expenses.

It is not the purpose of this number to put forward any opinion as to what paths in medicine offer the greatest attractions, whether financial or scientific, nor even as to the attractions of the profession as a whole. Still, this at least ought to be said: the movement represented by the passage three years ago of the National Insurance Act is not yet at an end, and the full effects even of this Act itself cannot be foretold with certainty. Consequently the whole medical profession must be regarded as in a state of mutation. The various straws, however, by which the direction of the wind may to some extent be gauged certainly indicate that the profession of medicine is less than ever one which those can be advised to enter whose financial means are likely to be totally exhausted by the time they have completed their studies. Nor should it be entered by any but those who, besides being endowed with a good deal of altruism and a love of science, are physically strong, free from hereditary and other weaknesses, and likely to prove capable of sustaining a very trying existence.

It is to be remembered, too, that the financial returns of the vast majority of medical men are of a very moderate kind and that the incomes of even the most successful practitioners compare but ill with those obtained by persons of equal eminence in other walks of life.

Finally, it should be noted that a further quality every medical man should possess is a strong sense of *esprit de corps*. Medicine, like the Church, is a profession which the general public—as also public authorities—persistently regards as being of a semi-philanthropic character; furthermore, it is a profession whose aims and requirements are very ill understood by persons who have not undergone a medical education, including in that term not only a certain number of years at a medical school, but also a certain number of years passed in the actual practice of medicine. Consequently the interests of the medical profession, both on its financial and scientific sides, are continually being attacked, sometimes openly, sometimes insidiously. For this reason it is absolutely essential that medical men should band themselves together for the common protection of themselves and the profession that they represent, and to this end join the British Medical Association [1] as soon as they have entered their names on the *Medical Register*. For the objects of this body are to promote the progress of medical science and the interests of the medical profession, and its past history shows that it has well fulfilled them.

[1] The ordinary subscription of members resident within the United Kingdom is £2 2s., but as from January 1st, 1915, those admitted within two years from the date of their registration pay only 25s. until the expiration of four years from such registration. Members resident outside the United Kingdom pay 25s. to the parent Association.

THE GENERAL MEDICAL COUNCIL.

THE General Medical Council is a body which was called into existence by the first Medical Act of 1858. A certain number of its members are elected by the medical profession, and the rest—who form the great majority—are nominated by Government itself and by the universities and such medical corporations of the United Kingdom as have a statutory right to issue diplomas. Its head quarters are at 299, Oxford Street, and it has branch offices at 54, George Street, Edinburgh, and 35, Dawson Street, Dublin. Its duties are to control the medical and dental professions in the interests of the general public, and to that end to maintain a register of legally qualified practitioners. It is admission to this *Register*, and not the possession of a medical degree or diploma, that constitutes a person a legally qualified practitioner. The Council is bound to admit to the *Register* those who hold the degrees or diplomas granted by the bodies represented among its members, but it can prescribe the terms on which those bodies shall grant such diplomas or degrees, and it can erase from the *Register* the name of any medical man or dentist who has been convicted before a court of law of an ordinary crime or of a serious offence against public morality, or who is proved before the Council itself to have been guilty of certain actions which the Council regards as professionally infamous. Its disciplinary powers are strictly limited to legally qualified practitioners, and it has no control whatever over irregular practitioners of any kind.

An account of the regulations that the Council has drawn up in respect of the education of medical students here follows and should be carefully studied. The primarily important things to note about them are that they entail (1) the production of proof of a certain degree of proficiency in subjects of preliminary or general education; (2) application for registration as a medical student either at the head-quarter office in London or at one of the branch offices in Edinburgh and Dublin, although this latter requirement is not invariably enforced.

PRELIMINARY EDUCATION.

The subjects of which proof of efficient knowledge must be produced by applicants for registration as medical students are as follows:

(1) *English:* Grammar; paraphrasing; composition; questions on English history and geography.
(2) *Latin:* Grammar; translation into English from unprescribed Latin books; translation into Latin of a continuous English passage, and of short idiomatic English sentences. In the case of natives of India or other Oriental countries, whose vernacular is other than English, a classical Oriental language may be accepted as equivalent to Latin.
(3) *Mathematics:* Arithmetic; algebra, including easy quadratic equations; geometry, including the subject matter of Euclid, Books i. ii, and iii, and simple deductions.
(4) One of the following subjects:
(*a*) *Greek:* Grammar; translation into English from unprescribed Greek books; translation into Greek of short idiomatic English sentences; or
(*b*) *A modern language:* Grammar; translation into English from unprescribed books; translation of a continuous English passage, and of short idiomatic English sentences.

The Council does not hold an examination itself in these subjects, but expects a candidate to prove his knowledge of them by the production of evidence either that he holds a degree in arts or that he has passed one or other of the tests imposed by various educational bodies which it recognizes for this purpose. Such tests include the matriculations of universities at home and abroad, and the "local examinations" held by the Universities of Oxford and Cambridge, the "leaving" and other examinations held by the Education Departments in Scotland, Ireland, and Wales, as also the examinations of the College of Preceptors and the Educational Institute of Scotland. In regard, however, to nearly all these tests the Council qualifies its acceptance of them by some condition, and these vary so considerably and are so numerous that the leaflet issued by the Council should itself be studied.

REGISTRATION OF MEDICAL STUDENTS.

In addition to showing that he has passed one of these examinations, any person applying for registration as a medical student must (1) produce satisfactory evidence that he has attained the age of 16 years; (2) show that he

has commenced medical study at a university or school of medicine, or at a teaching institution recognized by one of the licensing bodies and approved by the Council. The commencement of professional study will not be reckoned as dating earlier than fifteen days before the date of registration.

Application for registration should be addressed to the Registrar for the division of the United Kingdom in which the applicant is residing—England and Wales, or Scotland, or Ireland. It must be made on a special form, which can be obtained on application at the offices either of the General Medical Council itself or of one of the various licensing bodies and medical schools, and when forwarded it should be accompanied by the certificates as to age and general education.

The regulations with regard to registration apply equally to medical and dental students, with the exception that in the case of the latter pupilage with a registered dental practitioner may be regarded as a commencement of professional study, and that applications for registration should be addressed to the London office only.

Professional Education.

The rule is that it is only from the date which appears against his name in the *Students' Register* that the medical student's career officially begins; thereafter five years must pass before he can present himself for the final examination for any diploma which entitles its lawful possessor to registration as a qualified medical practitioner under the Medical Acts.

There are, however, certain important exceptions to this rule: thus (1) to meet the circumstances brought about by the dates at which sessions of the medical schools commence and end, the close of the fifth year may be reckoned as occurring at the expiration of fifty-seven months from the date of registration. (2) Graduates in arts or science of any university recognized by the General Medical Council, who have spent a year in the study of physics, chemistry, and biology, and have passed an examination in these subjects for the degrees in question, may be held to have completed the first of the requisite five years. (3) The Council will accept as six months of that year six months passed, subsequent to obtaining a certificate in general education, as a student of chemistry, physics, or biology at any teaching institution recognized by a licensing body and approved by itself. In any case, the period of five years must be one of bona fide study, and during its course education in the following subjects must be pursued and examinations passed:

(i) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity.
(ii) Chemistry, including the principles of the science, and the details which bear on the study of medicine.
(iii) Elementary Biology.
(iv) Anatomy.
(v) Physiology.
(vi) Materia Medica and Pharmacy.
(vii) Pathology.
(viii) Pharmacology and Therapeutics.
(ix) Medicine, including Medical Anatomy and Clinical Medicine.
(x) Surgery, including Surgical Anatomy and Clinical Surgery.
(xi) Midwifery, including Diseases peculiar to Women and to newborn Children.
(xii) Theory and Practice of Vaccination.
(xiii) Forensic Medicine.
(xiv) Hygiene.
(xv) Mental Disease.
(xvi) Anaesthetics.

The practical study of Subject (xi) shall not commence until the student has held the offices of Clinical Clerk and Surgical Dresser, and the work done in connexion with it must follow prescribed lines. The Council also expects that study of the Subjects vii to xvi shall extend over not less than twenty-four months subsequent to success at the examination in Subjects iv and v. It also now recommends licensing bodies to require of candidates at their final examinations evidence of instruction in the administration of anaesthetics and in infectious diseases, and of sedulous attention in hospital wards, out-patient departments, and *post-mortem* rooms, as clerks and the like.

Wherever the first of the five years is spent, the next three must be passed at one of the schools of medicine recognized by any of the licensing bodies enumerated in the schedule to the Medical Act of 1858. The final or fifth year the Council recommends should be devoted to clinical work at any public hospital or dispensary at home or abroad which is recognized by any of the licensing bodies.

Special Considerations.

The requirements of the General Medical Council in respect of the education of those who desire to enter the medical profession have now been given in sufficient detail, but before leaving this part of the subject the steps which the aspirant should take may finally be rehearsed in their due order:

(1) Pass an examination in arts;
(2) Enter himself at a medical school or other scientific institution recognized by the Council;
(3) Get himself registered as a medical student;
(4) Study for a minimum of five years certain prescribed subjects;
(5) Meanwhile pass sundry intermediate examinations, and, finally, at the end of the fifth year, one which will entitle him to receive at the hands of a licensing body a legal authority to practise.

The Arts Certificate.—There are, however, other important considerations; thus, it is not a matter of indifference what certificate of proficiency in general education, or arts, the student obtains. The General Medical Council, it is true, will accept any of the large number of tests to which reference has been made, and this, too, is the case with practically all the college corporations in England, Scotland, and Ireland. But all the licensing bodies are not equally accommodating; some of the universities require that their own ordinary matriculation should be passed, others have special matriculation examinations for those wishing to join their medical faculty, and a third and larger number will accept any arts degree and certain matriculation examinations, as well as several other of the tests entered in the Council's list.

The first thing, therefore, the future medical student should, if possible, decide is at what degrees or diplomas he intends to aim, and then find out what arts certificate will be required. If he cannot decide the question in advance, the best course probably would be to matriculate at London University, choosing as two of his optional subjects Latin and one other language, so as to meet the requirements of the General Medical Council with respect to general education. It is a troublesome examination in many respects, but gives a wide choice of subjects, and has the advantage of being accepted as sufficient testimony to general education by a larger number of bodies than is any other analogous examination.

The Minimum Period.—Another point to remember is that the period of five years mentioned is a minimum; a good deal more will almost certainly be required even by the man of good abilities and reasonable industry. Besides these qualities, a student to obtain a registrable qualification in the minimum period of five years, or fifty-seven months, must have a considerable amount of good luck; in other words, he must keep in good health through every term, and never fail at a single examination. Otherwise it is almost inevitable that his career as a student should be prolonged for a greater or smaller number of months beyond the possible minimum. Thus, for instance, a student before presenting himself for any examination has to get what is called "signed up" for the subjects covered by that examination; this means that his teachers have to certify that he has attended the required number of lectures or classes in the subjects in question. If, however, the student happens to be ill during the term when such lectures or classes are taking place, he may miss a sufficient number of them to make it impossible for him to be "signed up." Then, again, should a student fail to satisfy the examiners at some examination, he cannot present himself again for re-examination for at least three months. This fact generally entails further consequences, because, apart from the student's success at the next stage in his career being imperilled by his having to give up some time to restudying the subjects in which he has failed, the Examining Boards in the majority of instances insist upon a definite interval elapsing between a student passing one examination and his presenting himself for that which should follow it. Then, again, many Boards refuse to recognize lectures and classes which have been attended at a date anterior to that at which the student has passed the requisite examination in earlier subjects. Failure at an examination may thus not only mean

deferment of the date of examinations, but deferment of the commencement of the student's study of certain subjects. It is thus exceedingly easy for a student to fail to qualify in five years, and, as a matter of fact, the vast majority of students take very much longer than that period.

Furthermore, in speaking of the minimum period, it is to be remembered that that time is only sufficient to gain a registrable qualification, such as a Bachelorship of Medicine or Surgery or a diploma of one of the Royal Colleges. These are quite sufficient for the purposes of general practice, or for entering the Services, etc., but those who wish to take a higher qualification—for instance, the F.R.C.S.Eng.—must prolong their work for another year or more. So, too, must in some cases they who desire to convert their Bachelorship into an M.D. This may entail further formal examination, but at some universities the M.D. is obtainable on presentation of a thesis when the Bachelor has attained a certain age, and has practised his profession for a certain number of years. However, a student's career proper may be considered, perhaps, to have ended at the time he obtains his first registrable qualification, for while preparing himself for any further tests he can, and usually does, hold some junior appointment which more or less covers his expenses.

The Normal Course.

In conclusion, it may be convenient to sketch the general fashion in which the student will pass his five years or more, but discussion of this need not be prolonged, because once a student has entered at a school, and chosen the degrees or diplomas at which he wishes to aim, the dean of the school will guide his steps in every particular.

Whatever the precise final goal, the path thereto is in all cases identical in broad outline. Practically it is divided into three stages, the conclusion of each being marked by an appropriate examination. In the first stage the student acquires a more or less extensive knowledge of the preliminary sciences — chemistry, physics, and biology; in the second he studies anatomy and physiology; and the third he devotes to the real work of his future life—medicine and surgery and their branches. During each of these stages the student must attend not less than the prescribed number of lectures and classes to ensure getting "signed up" in the subjects of the stage and also do a very considerable amount of practical work. As for the examinations at the end of the stages, these are known by different titles by different examining bodies, but "preliminary science," "intermediate," and "final" are in common use. Some bodies demand that the student should pass in all the subjects of one stage at one time; others allow the candidate to present himself in each of the subjects separately, thus multiplying the actual number of examinations, but limiting their scope. There are also differences in the requirements of the different licensing bodies as to the length of each stage, but practically all demand that the second shall be longer than the first, and the third not shorter than the second. By the length of the allotted stage the candidate may gauge the comparative importance the licensing body attaches to the subjects within the stage and the difficulty of the tests it will impose, and he may feel certain that the time allotted is none too much.

In any case it should be the aim of the student to get through his first two stages as quickly as his abilities and the regulations will allow; and, as a rule, he should have completed the first stage by the end of his first year, and may hope to complete the second stage not later than the end of his third year. He will then have two years in which to prepare for his final examination, and it will prove a very crowded period, for he has to get into it not only medicine, surgery, and midwifery proper, but many other allied subjects, such as pathology and bacteriology, forensic medicine, gynaecology, and therapeutics. In the first of the final two years he may be able to complete his formal lectures, and thus have the fifth year for entirely practical work and private study; during those two years, too, he will take part in the work of his hospital by holding clerkships and dresserships in the wards and out-patient department for the periods laid down by the licensing bodies. Then, at length, after perhaps a few weeks of special coaching, he will be ready to present himself for his final examination, which the regulations of most bodies will allow him to divide into two or more parts. The final examination passed in its entirety, he will be able to claim registration as a qualified medical practitioner at the hands of the General Medical Council, and become an independent personage. There is still room for him to continue a student's career if he will, for, apart from the higher qualifications to which reference has been made, it may seem to him worth while to devote time to acquiring greater knowledge of some particular branch of medicine, such as ophthalmology or laryngology, or to undergo the courses of study necessary to obtain a diploma of special proficiency in questions of public health (page 452), or in tropical medicine (page 451). Points such as these, however, the student will be fully capable of deciding for himself when he has reached the stage to which our account has now brought him.

The next matters to be considered, therefore, are the requirements in detail of the different licensing bodies, and what they have to offer in the way of degrees and diplomas.

The English Universities.

THERE are eleven universities in England and Wales, and some account of each of them follows. With one exception they all have fully developed medical faculties. The exception is the University of Wales, whose constituent colleges are those of Aberystwith, Bangor, and Cardiff. It is in a position, however, to grant degrees, and has laid down a six years' curriculum for candidates for the M.B. degree, and it already provides, at the School of Medicine at Cardiff—of which an account will be found at page 444—thorough training in the work of the first three or four years.

UNIVERSITY OF OXFORD.

THE professional degrees conferred by this university are those of Bachelor of Medicine (B.M.), Bachelor of Surgery (B.Ch.), Doctor of Medicine (D.M.), and Master of Surgery (M.Ch.). It also grants a diploma in State Medicine and a diploma in Ophthalmology. On receiving the B.M. the candidate is entitled to registration by the General Medical Council. In favourable circumstances this degree and the B.Ch. may be obtained in six or seven years from matriculation. Before receiving either, however, the candidate must have taken a degree in Arts (B.A.), for which three years' residence within the university is necessary. This, however, does not necessarily mean deferment of professional study for that period; for some of the subjects chosen for the final stage of the arts course may be the same as those in which examinations would in any case have to be passed for the medical degrees.

THE B.A. DEGREE.

A candidate may obtain the B.A. degree in either of the following ways:

(*a*) By passing Responsions (or one of the examinations which are accepted as equivalent), Moderations, a Scripture examination, or, in the event of a candidate objecting, an examination in some substituted book; and the Final Pass School in three subjects, two of which may be the same as two in the preliminary examinations in natural science.[1]

(*b*) By passing Responsions, an additional subject in Responsions, the Scripture examination, some of the preliminary examinations in the Natural Science School,[1] or the Preliminary Examination and the School of Jurisprudence, or the Honour School of Mathematics in the first public examination; and one of the final honour examinations.

Responsions and the additional subject may be passed before a candidate is a member of the university;[2] Moderations and Scripture can be passed in or after the second term; the final pass school may be taken any time after

[1] The four subjects of the medical preliminary examinations are four of the subjects in the natural science preliminary, and can be commenced directly after passing Responsions.

[2] Membership is constituted by matriculation and by becoming a member of a college or hall, or a non-collegiate student.

Moderations; a final honour school may be taken at the end of the third or within the fourth academical year—that is, twelve or sixteen terms respectively; the preliminary examinations of the Natural Science School may be taken as soon as Responsions have been passed.

PROFESSIONAL DEGREES.

To obtain the B.M., B.Ch. degrees the candidate must first pass in four of the subjects of the Preliminary Examination of the Natural Science School—namely, physics, chemistry, zoology, and botany.

He then has two further examinations to pass—the First M.B. and the Second M.B. These take place twice a year, the first on the Thursday, the second on the Wednesday, of the eighth week of Michaelmas and Trinity terms. Every candidate at the First M.B. is examined in human anatomy and also in physiology and in organic chemistry, unless he has previously taken a first or second class in the two latter subjects in the Natural Science School. Once he has passed this examination he can, on production of certain certificates, be examined as soon as he pleases in pathology, forensic medicine, and hygiene, materia medica, and pharmacology[1] (subjects of the second examination), but cannot present himself for the remaining subjects—medicine, surgery, and midwifery—until the twenty-fourth term from the date of his matriculation, and not until a period of at least twenty-two months have elapsed from the date of his passing the first examination, and he must take all the three subjects at one and the same time.

D.M. AND M.CH. DEGREES.

A Bachelor of Medicine who wishes to proceed to the M.D. must have entered his thirty-ninth term and must present a dissertation for approval by the appointed examiners. If a candidate for the M.Ch., he must have entered his twenty-seventh term and must pass an examination which is held in June.

TEACHING.

The several colleges provide their undergraduate members with tutors for all examinations up to the B.A. degree. In addition, the university provides certain courses of instruction, including lectures, demonstrations, and practical work, which cover all the subjects of the Preliminary Examination and First M.B., and in part those of the Final Examination. For the diploma in State Medicine and the diploma in Ophthalmology certain of the courses can be taken in Oxford.

SCHOLARSHIPS.

The several colleges grant scholarships of £80 a year, tenable for four years, in natural science, chemistry, physics, and biology. Exhibitions of varying value are also awarded in these subjects. Particulars can be obtained on application to the college tutors. A Radcliffe Travelling Fellowship of £200 a year, tenable for three years, is conferred annually; candidates must have taken the B.M. degree. A Philip Walker Studentship in Pathology of £200 a year, tenable for two years, is awarded biennially for the encouragement of research in pathology, as also are the Rolleston Memorial Prize, for research in natural science (including pathology), and the C. Theodore Williams Scholarships in Anatomy and Physiology, and in Pathology, of the value of £50 each, tenable for two years.

FEES.

An annual fee of £2 10s. is paid to the university for the first four years, being reduced to £1 when the B.A. has been taken. For the degree the fees are—the B.A., £7 10s.; the B.M. and B.Ch., £14; the D.M., £25; the M.Ch., £12. College fees, varying in amount, are paid for the first four years of membership and in taking degrees. Tuition fees vary from £21 to £30. The minimum annual cost of living during the three university terms may be regarded as not less than £120.

UNIVERSITY OF CAMBRIDGE.

THE professional degrees given by this university are those of Bachelor of Medicine (M.B.) and Bachelor of Surgery (B.C.), which entitle the possessor to admission to the *Register* by the General Medical Council, and the higher degrees of Doctor of Medicine and Master of Surgery. It also grants diplomas in State Medicine and Tropical Medicine to persons who are registered medical practitioners, but not necessarily graduates of the university.[2] A candidate for the M.B., B.C. degrees need not possess a degree in arts: it is sufficient if he has passed the *Previous examination* or some other examination accepted by the university as its equivalent.

PROFESSIONAL EXAMINATIONS.

To obtain the M.B., the candidate must pass three examinations, of which the latter two take place twice a year—in Michaelmas and Easter terms; those who are finally successful receive the B.C. degree without further examination.

First M.B. or Preliminary Examination in Science.—This comprises (1) chemistry, (2) physics, (3) elementary biology. The parts may be taken together or separately. In either case the candidate before admission to examination must have satisfied the requirements in respect of the *Previous examination*, paid the matriculation fee, and entered on his first or some later term of residence. The examination is held three times a year—in October, December, and June.

Second M.B.—This examination, which cannot be passed until the first examination has been completed, comprises Part I. human anatomy and physiology; Part II, elementary pharmacology, including pharmaceutical chemistry and the elements of general pathology. No one may enter Part II unless he has passed Part I. The candidate must be signed up in both subjects and have dissected for six months.

Third M.B.—This is divided into two parts, to neither of which is the candidate admitted until he has passed the examinations previously mentioned. A candidate for the first part, which deals with surgery and midwifery, must be signed up in these subjects and have completed two years of hospital practice.

Before admission to the second part the candidate must have completed five years of medical study and be duly signed up in all subjects. He must also possess certificates showing that he has fulfilled all the recommendations as well as the requirements of the General Medical Council. The examination consists of principles and practice of physic, pathology, and pharmacology.

Act for the M.B.—Before receiving his degree, a candidate who has been successful at the Final M.B. has to write a thesis. This he reads in public on an assigned day, and is then questioned concerning it and other subjects of medicine by the Regius Professor of Medicine. If approved at this test he is then certified as having "kept the Act" satisfactorily, and in due course receives his degree. Medical degrees may be taken in absence, the candidate sending a thesis to the Regius Professor of Physic, which is laid before the Board.

THE HIGHER DEGREES.

The M.D. degree may be taken by an M.B. of three years' standing, after keeping a further Act and writing a short extemporary essay, in which he may deal at his choice with either medicine, physiology, pathology, or State medicine. The M.C. degree may be granted to a candidate who has qualified for the B.C. at least three years previously; he is then examined in pathology, surgery, surgical anatomy, and surgical operations, or submits books or writings of his own which constitute original and meritorious contributions to the science and art of surgery.

FEES.

In addition to college fees, tutorial fees, and the expenses of living, the following examination fees are payable: First M.B., £4 4s.; Second M.B., £4 4s.; Third M.B., £9 9s. For schedules referring to the examinations, lists of schools recognized by the university, and other information, application should be made to the University Registrar.

UNIVERSITY OF LONDON.

UNDER the regulations of the University of London, the degrees obtainable in the Faculty of Medicine are those of Bachelor of Medicine and Surgery, Master of Surgery in two branches, and Doctor of Medicine in six different branches. The university has its own matriculation

[1] A candidate who passed in materia medica and pharmacy under the old regulations in the First Examination before April 14th, 1909, is exempt from the examination in materia medica and pharmacology in the second examination.

[2] See p. 451.

examination, and this is of so peculiar a kind that candidates should secure and carefully study the booklets relating to it.

In no circumstances is a degree granted to any one in less than three years after the date at which he passed the Matriculation Examination or obtained registration in some other way, and unless they are already registered medical practitioners of a certain age and standing, all students must pass not less than five and a half years in professional study subsequent to matriculation. Four and a half of those years must be passed at one or more of the medical institutions or schools at home or abroad recognized by the university for the purpose; and not less than one school of the university itself.

PROFESSIONAL EXAMINATIONS.

M.B., B.S.—There are three examinations, the two last being subdivided. They are held twice a year.

The First Examination covers inorganic chemistry, general biology, and physics, there being two papers, a practical test and a possible viva voce test in each subject. The names of successful candidates are placed in alphabetical order, with a note as to any subject in which a candidate has distinguished himself.

The Second Examination, Part I, cannot be passed within six months of the passing of the First Examination. It covers organic and applied chemistry, the candidate's knowledge being tested as in the earlier examination. It is a pass examination, but a mark of distinction may be won.

Candidates for Part II must have passed the First Examination at least eighteen months previously besides having completed Part I of the Second Examination. The subjects are anatomy, physiology, and pharmacology, the tests being written, oral, and practical. Candidates who fail in one subject may offer themselves for re-examination in that subject alone if the examiners think fit.

No candidate is admitted to the Third M.B., B.S. examination within three academic years from the date of his completing the Second Examination. The subjects are medicine (including therapeutics and mental diseases), pathology, forensic medicine and hygiene, surgery, and midwifery and diseases of women. They may be divided into two groups, one comprising medicine, pathology, forensic medicine and hygiene, and the other surgery and midwifery and diseases of women. Either group may be taken first at the option of the candidate, or the groups may be taken together. Only candidates who show a competent knowledge of all the subjects comprising a group are passed. There is no separate examination held for honours, but in the list of successful candidates the names are divided into an honours list and a pass list, in each of which the names are placed in alphabetical order, and a university medal may be awarded the candidate who has most distinguished himself in the whole examination.

THE HIGHER DEGREES.

M.D.—An examination for the M.D. is held twice yearly—in December and July. Every candidate must have passed the examination for the M.B., B.S., unless he became M.B. before May, 1904. He may present himself for examination in any one of the following branches: (1) Medicine, (2) pathology, (3) mental diseases and psychology, (4) midwifery and diseases of women, (5) State medicine, (6) tropical medicine; and, if he wishes, may pass also in another branch at a subsequent examination.

The period that must elapse between acquiring the M.B. and sitting for the M.D. in any branch varies with the nature of the candidate's previous work between one year and two years, and in all cases evidence must be afforded of special study of the subject chosen, whatever the branch; both written and practical examinations must be passed, though exemptions can be obtained from the former in exceptional circumstances. In each branch the scheme of examination is the same: two papers on its special subject, a paper on an allied subject—for example, medicine in the case of branch (4), pathology in branch (1)—an essay on one of two suggested topics connected with the special subject, and a clinical or other practical test. In any branch of the M.D. Examination a gold medal of the value of £20 may be awarded.

M.S.—The regulations with regard to the Mastership in Surgery are of a corresponding kind, but there are only two branches in which it may be obtained—General Surgery and Dental Surgery.

FEES.

For Matriculation: £2 for each entry. First Examination: £5 for each entry to the whole examination. For re-examination in one subject the fee is £2. Second Examination, Part I: £2 for the first and each subsequent entry. Second Examination, Part II: £8 for each entry to the whole examination. For re-examination in one subject the fee is £4. M.B., B.S. Examination: £10 for each entry to the whole examination, and £5 for examination or re-examination in either group. M.D. and M.S. Examinations: £20 and £10 on re-examination.

UNIVERSITY OF DURHAM.

To its own graduates, who may be of either sex, this university grants the degrees of Bachelor and Doctor of Medicine (M.B. and M.D.) and Bachelor and Master of Surgery (B.S. and M.S.); it also grants special degrees and diplomas in State Medicine, Psychiatry, and Dental Surgery.[1] To become a graduate, however, at the university it is not necessary to pass the major portion of the five years' curriculum within its precincts, or even to commence that period by matriculation. It is sufficient if, before he presents himself for his final examination, the candidate has passed at least one year in study at the University of Durham College of Medicine, including the practice of the Royal Victoria Infirmary in the same city. The earlier examinations may be passed while a student elsewhere, but not less than a year must elapse between the time that the student satisfies the requirements of the university as regards matriculation and his presenting himself for the Final M.B., B.S. Examination.

MATRICULATION.

The university has its own matriculation examination, but accepts the tests of a considerable number of other educational bodies as a full or partial equivalent. A list may be obtained on application.

PROFESSIONAL EXAMINATIONS.

There are four professional examinations for the M.B., B.S. degrees. They are held twice a year—in March and June. The first deals with elementary anatomy and biology, chemistry, and physics; the second with anatomy and physiology; the third with pathology, materia medica and pharmacy, elementary bacteriology, medical jurisprudence, and public health. At the final M.B., B.S., the candidate is examined in medicine and clinical and psychological medicine; surgery and clinical surgery; midwifery and diseases of women and children; clinical and practical gynaecology and therapeutics.

M.D.—A Bachelor of Medicine who wishes to proceed to this higher degree must be of at least two years' standing, and satisfy the university that he knows either Greek or German. He then submits a typewritten essay dealing with original work or observation of his own, and is examined in its subject. If the candidate is not an M.B. of the university, he must be a practitioner of fifteen years' standing and submit to special tests.[2]

B.S.—A candidate for this degree must have passed the examination for the M.B. of the university, and have attended courses on operative surgery and regional anatomy. He must then perform operations on the dead body before the examiners.

M.S.—Candidates for this degree must, like those for the M.D., satisfy the authorities as to their knowledge of Greek or German, and must have been engaged in practice for at least two years subsequent to becoming B.S.Durham. They are submitted to an examination which covers the whole range of surgical knowledge.

FEES.

The following fees are payable: Matriculation or its equivalent, £1 10s.; First, Second, and Third M.B. Examinations, each £5; Final M.B., £10; M.D., B.S., and M.S., £5 for each examination and £6 6s. for each degree. Further information respecting the examinations and

[1] See pp. 452 and 455. [2] See p. 449.

degrees may be obtained from Professor Howden, at the University of Durham College of Medicine, Newcastle-on-Tyne.

VICTORIA UNIVERSITY OF MANCHESTER.

This university grants the four ordinary degrees in medicine and surgery, M.B. and Ch.B. and M.D. and Ch.M.; a diploma and a degree (B.Sc.) in public health; a certificate in factory and in school hygiene; a diploma in psychological medicine; and a degree and diploma in dental surgery. Candidates for degrees must pass the special Matriculation Examination prescribed by the Faculty of Medicine (or some equivalent examination accepted in lieu thereof; see the prospectus of the Joint Matriculation Board), and study at the university itself for at least two years of the five years' curriculum, one such year being subsequent to the passing of the First M.B. Examination. The Matriculation Examination comprises (1) Latin, (2) mathematics, (3) the English language, its literature and history; (4) English history; (5) two subjects at choice, one of which must be a language approved by the Joint Board, the other being elementary mechanics, *or* physics, chemistry, geography, natural history, *or* botany. It is held in July and September.

Professional Examinations.

M.B., Ch.B.—There are four examinations for this degree. They must be passed in proper order, and before admission to them the candidate must be duly certified as having attended in the subjects involved. At all examinations the subjects, or groups of subjects, prescribed can be taken separately or together, as the candidate pleases. The First M.B. is divided into Part 1, inorganic chemistry and physics; Part 2, biology (including animal and vegetable morphology, physiology, and laboratory work); Part 3, elementary organic chemistry and bio-chemistry. The parts may be taken separately or together. At the Second M.B. the candidate is examined in anatomy and physiology; at the Third in pathology, hygiene, and pharmacology and therapeutics (including materia medica and practical pharmacy). The Final Examination includes medicine, systematic and clinical (separate papers being given on mental diseases), and diseases of children, surgery (systematic, clinical, and practical, with a separate paper on ophthalmology), obstetrics and gynaecology, and forensic medicine and toxicology.

M.D.—A candidate for this degree must be an M.B. of at least one year's standing. He has a choice between presenting an original dissertation or undergoing a written (practical and clinical) examination in medicine, and a written and practical examination in pathology, and one other subject to be selected by the candidate.

Ch.M.—A candidate must have held, since becoming Ch.B., and for not less than six months, an appointment in a public institution affording opportunity for the study of practical surgery, and produce certificates of having attended certain courses of study. The examination comprises the general field of surgery, including ophthalmology and bacteriology.

Fees for Examinations.

The following fees are payable: Matriculation, £2; on readmission, £1 10s. Each M.B. examination, £5; on readmission, after failure, £2. M.D., including the conferring of the degree, £10. Ch.M., £5 each for the examination and degree. Application for further information should be addressed to the Dean of the Medical Faculty.

UNIVERSITY OF BIRMINGHAM.

This university confers the ordinary medical and surgical degrees—M.B., Ch.B., M.D., and Ch.M., and also diplomas and degrees in State medicine and dentistry. It has a plan, too, by which, extending his study to six instead of five years, the M.B., Ch.B. candidate may become a Bachelor in Science as well. Of the five years' curriculum, the first four must be spent, as a rule, at the university itself, the fifth being passed at any approved school or schools. Occasionally, however, the Senate will reduce the period of enforced residence to three years and exempt from the First M.B. those who have passed elsewhere an examination considered to be its equivalent.

All students in the Medical Faculty must (1) either matriculate in mathematics, in chemistry or experimental mechanics, in the English language and literature and history, and in Latin, and one other foreign language; or (2) show that they have passed an examination deemed an equivalent elsewhere. Subject to certain provisos, the following are at present thus regarded:

(*a*) The Previous Examination of the University of Cambridge if it includes the "additional subjects." (*b*) Responsions of the University of Oxford, except in mathematics. (*c*) The Matriculation Examination of a recognized university. (*d*) The Higher Certificate of the Oxford and Cambridge Boards. (*e*) The Oxford or Cambridge Senior Local Examination.

Professional Examinations.

The candidate for the M.B., Ch.B. degrees has five examinations to pass. In the second and final examinations the candidate must pass in all the prescribed subjects or undergo the whole examination again.

First M.B.—This deals with chemistry, physics, and elementary biology; it may be passed before the student commences residence at the university, provided the regulations as to matriculation have been met.

Second M.B.—This deals with anatomy and physiology, and the student must pass in both simultaneously.

Third M.B.—This deals with general pathology and bacteriology, materia medica, and practical pharmacy.

Fourth M.B.—This takes place at the end of the fourth year, the subjects being forensic medicine, toxicology, public health, therapeutics and special pathology.

Final M.B.—This comprises medicine, surgery, midwifery and diseases of women, ophthalmology, and mental diseases. The candidate, in addition to more ordinary certificates, must be prepared with a certificate of having acted as a *post-mortem* clerk for three months, and received special instruction in anaesthetics and clinical instruction in diseases peculiar to women, asylum ward work, and ophthalmology. In respect to the latter he must show that he has learnt refraction work. He also has to present to the examiners reports drawn up by himself on six gynaecological cases, and certificates drawn up by himself regarding four actual cases of lunacy, and notes respecting two others.

M.D.—An ordinary candidate for this degree must be an M.B., Ch.B. of not less than one year's standing. He presents an original thesis for approval, and then passes a general examination in the principles and practice of medicine. From the latter the Board of Examiners may exempt a candidate whose thesis is of exceptional merit. The regulations respecting the Ch.M. are of the same general character. Subject to certain requirements as regards special research or other post-graduate study, graduates of other universities may obtain the M.D. and Ch.M. in the same way as the holders of the Birmingham M.B., Ch.B.

Fees.

The fee for matriculation is £2, and that for each of the first four professional examinations the same amount: M.B., Ch.B. degree fee, £8; M.D. and Ch.M. examination, £10 each. For further particulars application should be made to the Dean of the Medical Faculty.

UNIVERSITY OF LEEDS.

The degrees granted in the Medical Faculty of this university are Bachelor of Medicine, Bachelor of Surgery (M.B. and Ch.B.), and Bachelor of Dental Surgery (B.Ch.D.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.), and Master of Dental Surgery (M.Ch.D.). It also gives diplomas in public health, psychology, and in dental surgery.

Candidates for the M.B. must have attended courses of instruction approved by the university for not less than five years, two at least of such years having been passed in the university subsequently to the date of passing the first examination. They must also have matriculated by satisfying the examiners in (1) English (language or literature); (2) English history; (3) mathematics; (4) Latin; (5) two of the following, one of which must be a language; (*a*) Greek, (*b*) French, (*c*) German, (*d*) some other modern language approved by the Board, (*e*) either mechanics or physics, (*f*) chemistry, (*g*) geography, (*h*) natural history. Exemption from the examination may be granted to applicants holding certificates of having

passed examinations of a standard deemed by the Matriculation Board to be at least equal to the Board's examination.

PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., Ch.B. number three. The first deals with (1) physics and chemistry, (2) biology. In each subject laboratory work is included, but the two parts can be taken separately. For neither can the candidate present himself until after matriculation, and at least two or three terms' approved work in the respective subjects indicated.

Second M.B.—This may be taken in two parts, (*a*) anatomy and physiology, including practical work; (*b*) materia medica and pharmacy, including actual compounding of drugs. The candidate's certificates must show, among other things, that he has dissected during at least five terms.

Final M.B.—This may be divided into three parts. The first part, pathology and bacteriology, may be taken at the end of the tenth term; the second part, forensic medicine and public health, and the third part, medicine, surgery, and obstetrics, cannot be taken before the end of the fifth year; and before being admitted to the examination in its subjects the candidate, in addition to ordinary certificates, must produce proof that he has done both intern and extern maternity work, and received clinical instruction in gynaecology, and in eye, skin, or laryngeal diseases, and in the administration of anaesthetics. This division covers all branches of surgery, medicine (including mental diseases and diseases of children), and obstetrics and gynaecology. Passages for translation from French and German are included in the papers on medicine. First and second class honours may be obtained in this division.

M.D.—A candidate for this degree must be an M.B., B.Ch. of at least one year's standing. He presents a dissertation embodying the results of personal observation or original research, and, if this is approved, passes an examination which consists in the writing of an extemporary essay, and answering questions on the history of medicine and the subject of his dissertation.

Ch.M.—The candidate for this degree must have been admitted to the M.B., Ch.B. not less than a year previously, and during that time must have held for at least six months a surgical appointment in a public institution affording full opportunity for the study of practical surgery. In addition, he must have attended certain special courses, including one on ophthalmology and one on bacteriology; he is then examined in the subject of surgery in all its branches.

FEES.

The matriculation fee is £2, and on readmission £1 10s. For each of the other examinations £5, and £2 on readmission. On conferment of the degree of Ch.M. £5 is payable, the same remark applying to the M.D. degree.

UNIVERSITY OF LIVERPOOL.

THIS university, besides granting degrees in medicine (M.B. and M.D.) and in surgery (Ch.B. and Ch.M.), gives a degree in dental surgery (B.D.S.), a degree in hygiene (M.H.), and degrees in Veterinary Science (B.V.Sc., and M.V.Sc.). Diplomas are awarded in dental surgery (L.D.S.), tropical medicine (D.T.M.), public health (D.P.H.), ophthalmic surgery (D.Ch.O.), veterinary science (D.V.H.), and in several single subjects.

MATRICULATION.

The Matriculation Examination is governed by the Joint Matriculation Board, 24, Dover Street, Manchester, which accepts under certain conditions the tests of several other bodies as its equivalent. These *include* the Matriculation of London University, the Senior Local Examination of Oxford and Cambridge, the Higher Certificate of the Joint Oxford and Cambridge Board, Responsions of the University of Oxford, the Previous Examination of the University of Cambridge, the Leaving Certificate of the Scottish Education Department, and the Senior Certificate of the Central Welsh Board. Of the five years' curriculum, not less than two must be passed in the university itself, one such year being subsequent to the date of passing the First M.B. Examination.

PROFESSIONAL EXAMINATIONS.

Candidates for the M.B., Ch.B. degrees have three examinations to pass, the first including (1) chemistry, inorganic, organic, and physical; (2) biology, including zoology and botany; (3) physics. Section 2 may be taken alone or in conjunction with Sections 1 and 3.

Second M.B.—This test covers (1) anatomy and physiology, including physiological chemistry and histology, and (2) materia medica, pharmacy, and pharmacology; these two sections may be taken separately.

Final M.B.—This examination deals with six subjects, which may be taken altogether or divided into three parts: (1) Pathology, morbid anatomy, and bacteriology; (2) therapeutics, forensic medicine, toxicology, and public health; (3) obstetrics and diseases of women, surgery, including ophthalmology, medicine, including mental diseases and diseases of children.

M.D. and Ch.M.—Candidates for these degrees must have received the M.B. and Ch.B. at least a year previously. The M.D. candidate submits for approval a dissertation covering original work, the M.Ch. candidate undergoing an examination in all subjects of surgery, including ophthalmology. Other information concerning the diplomas of this university and its medical school will be found on page 451.

UNIVERSITY OF SHEFFIELD.

THE degrees of this university (M.B., Ch.B., and M.D. and Ch.M.) and the diploma in public health are open to candidates of either sex. Candidates for a degree must have matriculated in the university or have passed such other examination as may be recognized for this purpose.

PROFESSIONAL EXAMINATIONS.

A candidate for the degrees of M.B., Ch.B. must produce certificates that he will have attained the age of 21 years on the day of graduation; that he has pursued the courses of study required by the university regulations during a period of not less than five years subsequently to the date of his matriculation, three of such years at least having been passed in the university, one at least being subsequent to the passing of the first examination. He or she has eventually to pass the following examinations in due order:

First Examination.—The subjects are chemistry, physics, and biology. The intermediate examination in science—chemistry, physics, and biology—will, on payment of the required additional fee, be accepted instead of this examination. Candidates on presenting themselves for this examination are required to furnish certificates of having attended for not less than one year approved courses of instruction, after matriculation, in (i) chemistry, inorganic and organic; (ii) physics: (iii) biology.

Second Examination.—The subjects are anatomy and physiology. The candidate must have completed the third winter session of professional study, must have passed the First Examination, and must have attended (1) lectures on anatomy, and dissections during five terms; (2) lectures on physiology during four terms, practical, experimental, and chemical physiology during four terms, and histology during one term.

Third Examination.—The subjects are pathology and pharmacology. Candidates must have completed the fourth year of medical study and completed the requisite courses in these subjects, including *post-mortem* clerkship for three months.

Final Examination.—The subjects are medicine (including forensic medicine, public health, mental diseases, and diseases of children), surgery, obstetrics, and gynaecology. Candidates must satisfy the examiners in all subjects at the same examination. Candidates must have completed the fifth year of study.

M.D.—Candidates for the degree of Doctor of Medicine must have passed the examination for the degrees of M.B., Ch.B. at least one year previously, must present a thesis embodying observations in some subject approved by the Professor of Medicine, and must pass an examination in the principles and practice of medicine.

Ch.M.—Candidates for the degree of Master of Surgery must have passed the examination for the degrees of M.B., Ch.B. at least one year previously, and must, since taking the degrees of M.B., Ch.B., have held for not less than six

months a surgical appointment in a public hospital or other public institution affording full opportunity for the study of practical surgery. The subjects of examination are systematic, clinical, and operative surgery, surgical anatomy, surgical pathology, and bacteriology.

Other information concerning this university will be found in the section devoted to Provincial Medical Schools.

UNIVERSITY OF BRISTOL.

THE university grants the following degrees: In medicine and surgery, M.B. and Ch.B., M.D., Ch.M. (the M.D. may be taken in State Medicine); in dental surgery, B.D.S., M.D.S. Diplomas in public health (D.P.H.) and dental surgery (L.D.S.) are also granted. Candidates for degrees must pass the Matriculation Examination (or some equivalent examination accepted in lieu thereof; see the Regulations for Matriculation), and study at the university itself for at least three years of the five and a half years' curriculum, two such years being subsequent to the passing of the Second M.B. Examination. The Matriculation Examination comprises (1) Latin, (2) mathematics, (3) English grammar and composition, (4, 5) two subjects at choice, one of which must be a foreign language. It is held in July and September.

PROFESSIONAL EXAMINATIONS.

M.B., Ch.B.—There are three examinations for this degree. They must be passed in proper order, and before admission to them the candidate must be duly certified as having attended in the subjects involved. The First M.B. comprises chemistry, physics, botany, and zoology. The Second M.B. comprises organic chemistry, elementary anatomy (Part I), advanced anatomy, physiology (Part II). The two groups may be taken separately or together. The Final Examination includes materia medica and pharmacy, pharmacology and therapeutics, general pathology, morbid anatomy and bacteriology (Part I), special pathology, forensic medicine, toxicology and public health, obstetrics (including diseases of women), surgery (systematic, clinical, practical, and operative), medicine (systematic, clinical, and practical), including mental diseases (Part II). The two groups may be taken separately or together. At the option of the candidate forensic medicine and toxicology may be taken either with Group I or Group II. First or second class honours may be obtained by a candidate whose work is deemed of sufficient merit, but cannot be awarded to one who has recorded against him a failure at any examination after the First M.B.

M.D.—A candidate for this degree must be an M.B. and Ch.B. of at least two years' standing. He has a choice between presenting an original dissertation, undergoing a general examination in medicine (including medical anatomy, medical pathology and bacteriology, systematic and clinical medicine), or passing an examination in State medicine.

Ch.M.—A candidate must have attended, since becoming M.B., Ch.B., and for not less than two years, a public institution affording opportunity for the study of practical surgery, and produce certificates to that effect; the candidate shall be required to pass a general examination in surgery (including surgical anatomy, surgical pathology and bacteriology, operative and clinical surgery), and to present a dissertation in some department of surgery. He must be of two years' standing as an M.B., Ch.B.

Applications for other information should be addressed to the Dean of the Medical Faculty.

UNIVERSITY OF WALES.

THE statutes of the University of Wales provide for a Faculty of Medicine and for the granting by it of the following degrees: Bachelor in Medicine (M.B.), Bachelor in Surgery (B.Ch.), Master in Surgery (M.Ch.), and Doctor in Medicine (M.D.).

A candidate for the M.B., Ch.B. cannot be admitted to examination until the completion of not less than six academic years subsequent to matriculation in the university, and of these years at least three must have been passed as a student in one of the constituent colleges of the university. He must also hold an Arts or Science degree of the University of Wales, or of some other university approved for this purpose. Some of the courses of study pursued for a B.Sc. or B.A. degree may be counted as part of the courses required for the degrees in the Medical Faculty.

The courses for the M.B., Ch.B. are divided into two sections, of which the first include the preliminary subjects—physics, chemistry, botany, zoology; and the ancillary subjects—organic chemistry, human anatomy, and physiology. Study of the preliminary subjects must extend over at least one academic year, study of the ancillary subjects must extend over at least two academic years, and, excepting organic chemistry, cannot be commenced until all the preliminary courses have been completed; hence the first section of the course must occupy not less than three years. The second section includes courses in pathology, bacteriology, pharmacology, medicine, surgery, and obstetrics, and cannot be commenced until the examinations relating to the preliminary and ancillary courses have been passed. Examinations in the earlier subjects are held at the end of each academi year, and in the subjects of the second section each July.

English Medical Corporations.

THERE are three medical corporations in England—the Royal College of Physicians, the Royal College of Surgeons, and the Society of Apothecaries of London. The first two combine for certain purposes to form what is known as the "Conjoint Board." Details concerning this body, its component colleges, and the third licensing body here follow.

THE CONJOINT BOARD.

THIS body deals with the qualifications of all candidates for the Licence of the Royal College of Physicians of London and for the Membership of the Royal College of Surgeons of England. It prescribes for them certain periods of study, and recommends those who satisfy it for the licence and diploma of Membership respectively. The successful candidate is then entitled to admission to the *Medical Register* as an M.R.C.S.Eng., L.R.C.P.Lond. It performs the same task in connexion with diplomas in State medicine and tropical diseases jointly issued by the two colleges in question. It obliges all candidates to pass one of a large number of examinations which it considers satisfactory tests of general education, and thereafter to pass five years in professional study at a recognized medical school, allowing, however, six months to be spent at any institution which may be recognized by the Board as giving efficient education in chemistry and physics. A list of such institutions, as also of the tests accepted in regard to general education, can be obtained from the Secretary of the Board at Examination Hall, Queen Square, Bloomsbury, W.C.

PROFESSIONAL EXAMINATIONS.

There are three examinations for the Conjoint diploma, or M.R.C.S., L.R.C.P., which are commonly known as First Conjoint, Second Conjoint, and Final.

First Conjoint.—This examination is in four parts: (1) Chemistry, (2) physics, (3) elementary biology, (4) practical pharmacy.

A candidate must present himself for examination in Parts I and II together until he has reached the required standard to pass in both, or in one of these parts, but he will not be allowed to pass in one part unless he obtains at the same time half the number of marks required to pass in the other part. A candidate may take Parts III and IV separately, or he may present himself for the whole examination at one time.

Before admission to either part the candidate must show that he has undergone certain courses of theoretical and practical instruction, but these courses need not be completed within one year, nor need they run concurrently, and they may be commenced or attended before the candidate passes the required preliminary examination in general education. A candidate referred in any part or parts will not be admitted to re-examination for three months. If referred in chemistry, physics, or biology he must produce evidence of further instruction. Those who are already graduates in medicine, or who have passed an

examination in the same subjects before a university board for a degree in medicine, may obtain exemption from re-examination in those subjects at this examination.

Second Conjoint.—This examination deals with anatomy and physiology, and both subjects must be passed at the same time. A candidate must have attended at a recognized medical school lectures on anatomy, physiology, and a course of practical physiology and histology, and have dissected for twelve months during the ordinary sessions. The study of anatomy and physiology before passing in two of the first three parts of the first examination is not recognized. If rejected, a candidate, before being admitted to re-examination, must continue his studies at a recognized medical school for not less than three months.

Final Conjoint.—This examination consists of three parts: Part I, medicine, including medical anatomy, pathology, practical pharmacy,[1] therapeutics, forensic medicine, and public health; Part II, surgery, including pathology, surgical anatomy, and the use of surgical appliances; Part III, midwifery and gynaecology. The examination may be passed at one time or in each part separately. Evidence of attendance at courses of instruction in the subjects of the three parts must be produced, and also of having conducted twenty labours. A candidate will be admissible to Parts I, II, and III of the Third or Final Examination at the expiration of two years (twenty-four months) from the date of passing the Second Examination, and on production of the required certificates of study, provided that the examination is not completed before the expiration of five years (five winter and five summer sessions) from the date of passing the Preliminary Examination. A rejected candidate must produce evidence of further instruction during three months.

NOTE.—A person holding a Colonial, Indian, or foreign qualification which entitles him to practise in the country where such qualification has been obtained is, after a course of study and examination equivalent to those required by the Regulations of the two Royal Colleges, admissible to the Second and Third or Final Examinations without any interval. Members of an English, Scottish, or Irish university are under certain conditions eligible for admission to the Third or Final Examination two years after passing at their university the subjects included in the First and Second Examinations of the Board.

A Doctor or Bachelor of Medicine or Surgery of an Indian, Colonial, or foreign university recognized for the purpose, who shall have passed at his university in the subjects of the First and Second Examinations will be eligible for admission to the Third or Final Examinations two years after passing in the said subjects.

FEES.

First examination, £10 10s. Re-examinations, Parts I and II, £3 3s.; Parts III and IV, each £2 2s. Second examination, £10 10s. Re-examination, £6 6s. Third examination, £21. Re-examination, Part I, medicine, £5 5s.; practical pharmacy, £2 2s. Part II, surgery, £5 5s. Part III, midwifery and diseases of women, £3 3s. Members of an English, Scottish, or Irish university, £5 5s. For the diplomas, £36 15s.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THIS College has three grades—its Licentiates, its Members, and its Fellows. The Licence is only issued through the Conjoint Board, as already stated, unless the candidate commenced professional studies before October, 1884. Its Membership is only granted to those who have passed the final examinations for the Licence; or those who are registered practitioners and graduates of a recognized university; in any case they must be persons over 25 years of age, who do not practise in partnership, dispense medicines, or engage in trade. Candidates are examined in pathology and the practice of physic, partly in writing and partly viva voce. Those under 40 are also examined in Latin, and either Greek, French, or German. The examination fee is £6 6s., the Membership fee being £42, or the difference between that sum and what the candidate has already paid if a Licentiate. The body of Fellows is maintained by election from among the Members.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THIS College has two grades—Members and Fellows. The Members are admitted as stated in the section dealing with the Conjoint Board. The Fellowship is granted after examination to persons at least 25 years of age who have been engaged in professional studies for six years. There are two examinations—the first in anatomy and physiology, which may be passed after the third winter session; the second, chiefly directed to surgery, which may be passed after six years of professional study. Candidates must pass the Final Examination of the Examining Board in England and be admitted Members of the College before admission to the Second Examination for the Fellowship, except in the case of graduates in medicine and surgery of not less than four years' standing of universities recognized by the College for the purpose, who are required to attend for one year the surgical practice of a general hospital recognized by the College after obtaining their degrees. The College also issues a diploma in dentistry.[1]

Fees.—At first examination: £5 5s. At second examination: £12 12s. Diploma fee: Members, £3 3s.; non-members, £13 13s.

SOCIETY OF APOTHECARIES OF LONDON.

THIS body confers a registrable diploma in medicine, surgery, and midwifery, now known as the L.M.S.S.A., on those successful at the following examinations:

Primary Examination.—This is divided into two parts, of which Part I includes elementary biology, chemistry, chemical physics, practical chemistry, pharmacy. Part II includes anatomy, physiology, and histology, and cannot be passed before the completion of twelve months' practical anatomy, with demonstrations. The subjects cannot be taken separately, except in the event of the candidate having previously passed in one. Candidates will be excused any or all the subjects of the primary examination on producing evidence that they have passed equivalent examinations before an examining body recognized by the Society. Candidates referred in anatomy will be required to produce evidence of further work in the dissecting room before being admitted to re-examination.

Final Examination.—This is divided into two sections, the first of which is subdivided into three parts. Part I includes the principles and practice of surgery, surgical pathology, operative manipulation, surgical anatomy, instruments and appliances. Part II includes: (*a*) The principles and practice of medicine (including therapeutics, pharmacology, and prescriptions), pathology, and morbid histology; (*b*) forensic medicine, hygiene, theory and practice of vaccination, and mental diseases. Part III includes midwifery, gynaecology, and diseases of newborn children, obstetric instruments and appliances. A candidate for any part of Section 1 must have passed not less than three winter sessions and two summer sessions at one or more of the medical schools recognized by the Society. Section 2 consists of clinical surgery and clinical medicine and medical anatomy, and a candidate before appearing at it must have completed five years of medical study.

FEES.

Primary examinations, £5 5s.; final, £15 15s. Further information may be obtained from the Secretary, Court of Examiners, Apothecaries' Hall, Blackfriars, E.C.

The Scottish Universities.

THERE are in Scotland four universities, each of them possessing a faculty of medicine, and having the right to confer degrees which admit the holder to the *Medical Register*. In essential points the regulations in their medical faculties for undergraduates are on all-fours with one another, so that an account can be given of all of them together.

The universities in question are those of Edinburgh, Glasgow, Aberdeen, and St. Andrews, and in point of standing and repute it is not easy to differentiate between them. What provision each of the cities in which these universities are situated makes for the education of medical students will be found in the section on Medical Schools in Scotland; here it need merely be said that

[1] Candidates who have previously passed in practical pharmacy will not be re-examined in that subject at the Third Examination.

[1] See p. 455.

degrees in medicine from Scotland as a whole have always enjoyed an excellent repute.

The degrees granted in medicine and surgery to candidates of either sex are four in number—Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.). The two former are not separably obtainable one from the other. Besides these degrees a diploma in tropical medicine and hygiene is obtainable from the University of Edinburgh, as also a diploma in psychiatry. As for public health, registrable degrees in this subject are granted both by the University of Edinburgh and that of Glasgow, while diplomas in public health may be obtained from the universities of St. Andrews and Aberdeen. Information as to these will be found in the appropriate sections dealing respectively with preventive medicine and tropical medicine.

Matriculation.

There is a special matriculation examination for medical students, the subjects being English, Latin, elementary mathematics, and either Greek or French or German. Candidates are required to pass in all these subjects either at one or at not more than two examinations, but they can present themselves as often as they please. A large number of corresponding tests held by other bodies are accepted as the equivalent of this examination.

Professional Education.

The regulations comply in all respects with the requirements and recommendations of the General Medical Council, and in addition necessitate definite study for stated periods of diseases of children, of the larynx, ear and nose, of the skin, of ophthalmology, and of mental diseases. In respect of the various courses certificates must be obtained showing that the student has not only attended the courses regularly, but has duly performed the work of the class. Out of the necessary five years of medical study, not less than two must be spent at the university whose degrees the student hopes to obtain, and the balance at any place officially recognized for such purpose. In each academic year there are two sessions—one lasting from the beginning of October to the middle of March, and the other from the middle of April to the end of June.

Professional Examinations.

The distinctive feature of the Scottish curriculum is that, though nominally there are only four examinations, each of these may be, and habitually is, split up by the student into sections. Hence, a student may complete some stage of his career during the course of nearly every session. Thus, by the end of the first winter session the student may get rid of physics and chemistry. At the end of the first summer session he can finish with botany and zoology, and with anatomy and physiology at the end of the second. Practical materia medica may be taken at any period of examination after the necessary course of instruction has been attended. Pathology and materia medica he will pass at the end of the third year, and so on, until the final examination in midwifery, surgery and medicine, and the corresponding clinical subjects at the end of the fifth year of study. At each examination the candidate may pass "with distinction," and a record is kept of the merit displayed, so that, when the time comes for the candidate to graduate, one who has done well throughout can be declared as graduating with first or second class honours. A further point in the system is that the student's own teachers commonly take some part in his examination.

Of the four examinations, the first deals with physics, botany, zoology, and chemistry; the second with anatomy and physiology; the third with materia medica and pathology; the fourth with medicine and surgery (clinical and systematic), midwifery, forensic medicine, and public health, and clinical gynaecology. The first three examinations are held three times a year; the final twice a year.

Exemption from the first professional examination can be obtained by candidates who have passed a degree examination in its subjects at any recognized university. When a candidate presents himself for an examination in several of its parts, but is not successful in all of them, he is credited at the next examination with those subjects in which he has previously been approved.

The Higher Degrees.

It is open to those who are already M.B., Ch.B. to proceed either to the M.D. or the Ch.M. A candidate for the former must have been engaged for not less than one year at work in the medical wards of a hospital or in scientific research in a recognized laboratory or in the Naval or Military Medical Services, or have been at least two years in general practice, and he must be 24 years of age. He has to write a thesis on any subject not exclusively surgical, and is examined in clinical medicine and in some one or other of its special departments. The regulations for candidates for the Ch.M. are of a corresponding character, a period of surgical work in a hospital or elsewhere being substituted for medical work, and his thesis being on a surgical rather than a medical subject. He is examined in surgical anatomy, clinical surgery, operative surgery, and in some of the special departments of surgery.

Fees.

It is estimated that the class examination and other fees for the M.B., Ch.B. come altogether to £150, the separate fees included in this calculation being as follows:

	£	s.	d.
Preliminary Examination	0	10	6
First Professional	6	6	0
Second Professional	5	5	0
Third Professional	4	4	0
Finals	7	7	0

Re-entry in any subject in which the candidate has failed entails a fresh payment of £1 1s. Candidates for the M.D. and Ch.M. pay £15 15s., and on re-entry £5 5s.

More detailed information with regard to the University of Edinburgh can be obtained from the *Medical Programme*, price 2d., which is published by Mr. Thin, 55, South Bridge, Edinburgh, or on application to the Dean of the Faculty of Medicine. Similar information about Glasgow should be sought from the Assistant Clerk, Matriculation Office, Glasgow. With regard to Aberdeen, application may be made to the Secretary of the Medical Faculty, Marischal College. In respect of St. Andrews, information can be obtained either from the Secretary of the University or, alternatively, the Secretary of the United College, St. Andrews, or the Secretary of University College, Dundee, these being the two constituent colleges of the University of St. Andrews.

Finally, it should be mentioned that, in connexion with all the Scottish universities, including St. Andrews, there are valuable bursaries and scholarships, some information as to which will be found in the article on Medical Schools.

The Scottish Corporations.

There are three medical corporations in Scotland—the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow. Their licences can be separately obtained only by persons who are already in possession of a recognized qualification—in surgery in the case of the College of Physicians, and in medicine in the case of the College of Surgeons and the Faculty of Physicians and Surgeons of Glasgow. All others must submit to the examinations held by the Conjoint Board which the three corporations have combined to form. Details concerning this Board and its component colleges follow. The conditions on which their higher qualifications are granted will be found set forth separately in connexion with each corporation.

THE CONJOINT BOARD IN SCOTLAND.

This body has charge of all questions connected with candidates for the Conjoint Licences of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow. Those finally approved by it are entitled to registration and to the initials denoting the Licences of the three bodies concerned — namely, L.R.C.P.Edin., L.R.C.S.Edin., and L.R.F.P.S.Glasg. The Board requires all candidates to comply with the regulations of the General Medical

Council as set forth on page 422. It has an arts examination of its own, but is prepared to accept in its place any of the other educational tests approved by the General Medical Council.

Professional Curriculum.

Subsequent to registration as a medical student, the candidate must pass not less than five years in medical study, each comprising a winter and a summer session. The Board does not exact that candidates shall pursue their study at any particular place, and is prepared to accept certificates of having attended the necessary courses from any recognized medical school.

Its examinations are four in number, each of them being held six times every year—four times in Edinburgh and twice in Glasgow; and it is open to candidates to present themselves for examination at either place. The first examination deals with physics, chemistry, and elementary biology; the second with anatomy and physiology, including histology; the third with pathology and materia medica, including pharmacy; and the final with (1) medicine, including therapeutics, medical anatomy, and clinical medicine; (2) surgery, including surgical anatomy, clinical surgery, and diseases and injuries of the eyes; (3) midwifery and diseases of women and of newborn children; (4) medical jurisprudence and hygiene. Candidates may also be examined on diseases of children, diseases of the ear and throat, insanity, vaccination, etc.

These examinations must be passed in due order, and before admission to any of them the candidate must supply certificates showing that he has completed the due periods of study of their subjects. He can present himself in any single subject of the first three examinations. As regards the final examination, a candidate can present himself in medical jurisprudence and hygiene at any time after completion of the third examination and of his study of these subjects; but in medicine, surgery, and midwifery he cannot present himself until the completion of five years' study, and he must take them all simultaneously. A candidate who takes up several subjects of an examination or the whole of the subjects at one time but fails in some of them, is credited at the next examination with those subjects in which he has been approved.

Part or entire exemption from the three first examinations may be granted to those who have already passed before other bodies examinations deemed by the Board as equivalent to its own; but all candidates for the conjoint licence must sit for the final examination, and at no examination can a candidate present himself within three months of his rejection by some other licensing body.

Fees.

It is estimated that the total cost of lectures and fees for the conjoint licence is about £152. The separate examination fees are as follows: First, Second, and Third Professional, £5 each; Final, £15. On re-entry for any of the first three examinations £3, and on re-entry for the Final, £5. If the re-entry is only in one or two subjects, the fees are smaller.

Information concerning this Board should be sought either from Mr. D. L. Eadie, 50, George Square, Edinburgh, or from Mr. Walter Hurst, Faculty Hall, 242, St. Vincent Street, Glasgow.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

This College has two grades—its Licence and its Fellowship. Licentiates may be of either sex, but for the Fellowship women are not eligible. As an original qualification the Licence is only granted after fulfilment of the regulations of the Conjoint Board, but as an additional qualification can be obtained by those already possessed of a registrable qualification in medicine. In this case the candidate has to pass a written, oral, and clinical examination in surgery and surgical anatomy, and may be asked to operate on the dead body. The fee is £15 15s., of which £10 10s. is returned to unsuccessful candidates. On due cause being shown, a special examination may be granted, the fee being £20, of which £10 is returned to a candidate if he is not approved.

Candidates for the Fellowship must be not less than 25 years of age, and have been in practice subsequent to registration for at least two years, and must hold either a surgical degree from a university recognized for that purpose by the College, or an approved diploma obtained as the result of an examination which includes surgery as well as medicine. Candidates are examined in surgery, including clinical and operative surgery, surgical anatomy, and one other subject which they may choose from among the following: Ophthalmology, laryngology, including aural and nasal surgery, dental surgery, advanced midwifery with obstetric surgery, gynaecology, surgical pathology and operative surgery, and advanced anatomy. The examination is written, oral, and clinical or practical. A candidate who desires to be examined must give one month's notice, his application for admission being supported by two Fellows of the College, one of whom must be resident in Edinburgh, or, in default, by testimonials obtained specially for the purpose.

Licentiates of the College pay £35, and others £45. For further information application should be made to the Clerk of the College, Mr. D. L. Eadie, 50, George Square, Edinburgh.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

This College has three grades—Licentiateship, Membership, and Fellowship; to the latter women are not admissible. The regulations applying to candidates for the Licentiateship have already been generally indicated. If desirous of receiving it apart from those of the other two corporations, they must be holders of a surgical qualification recognized by the College, and must pass an examination corresponding to the medical part of the Final Examination of the Conjoint Board, and conditioned in the same way, and also an examination in materia medica. The fee for examination is 15 guineas, a special examination being obtainable on due cause being shown, and on payment of 5 guineas extra. Ordinary examinations take place monthly on the first Wednesday, except in September and October. A candidate for the Membership must be either a Licentiate of a Royal College of Physicians or a graduate in medicine of a British or Irish university, and in either case not less than 24 years of age. He is examined in medicine and therapeutics, and in one further subject at his choice. This may be either (*a*) one of the departments of medicine specially professed; (*b*) psychology; (*c*) general pathology and morbid anatomy; (*d*) medical jurisprudence; (*e*) public health; (*f*) midwifery; (*g*) gynaecology; (*h*) diseases of children; or (*i*) tropical medicine. Licentiates of the College pay £21, others £36 15s. The examination is held quarterly, and application for admission to it must be made a month previous to its date. For the Fellowship, the candidate must have been a member of the College for at least three years, and, if accepted, pays fees amounting altogether to a little less than £65. Any further details required can be obtained on application to the Secretary of the College.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

This body possesses two classes—Licentiates and Fellows. The regulations applying to the former correspond with those respecting candidates for the Licence of the Royal College of Surgeons of Edinburgh. Candidates for the single Licence are examined in surgery (including clinical surgery and surgical anatomy). The fee is £15 15s., and examinations are held quarterly. Candidates for the Fellowship must be qualified medical men of not less than two years' standing and 24 years of age. Candidates approved at this examination are then eligible for election as Fellows. The Faculty can also elect two Fellows annually without previously submitting them to examination, provided they "have highly distinguished themselves in medical science or practice." They must be of not less than ten years' standing and 40 years of age. Further information can be obtained from Mr. A. Duncan, B.A., LL.D., Faculty Hall, St. Vincent Street, Glasgow.

The Irish Universities.

THERE are three universities in Ireland, and each of them has a medical faculty. These are the University of Dublin, usually known as Trinity College, Dublin, the Queen's University of Belfast, and the National University of Ireland. The two former teach students, examine them, and grant or withhold degrees accordingly; while the third is by way of being an academic body only, inasmuch as its practical work is divided up among three constituent colleges, situated, one at Cork, another at Galway, and the third in Dublin. The regulations of all these universities in respect of medical degrees are given in the following sections; while specific information as to the arrangements for the education of medical students made at each of them will be found in the section relating to Irish Medical Schools.

UNIVERSITY OF DUBLIN.

THIS university, better known, perhaps, as Trinity College, Dublin, grants two degrees in medicine (M.B. and M.D.), two in surgery (B.Ch. and M.Ch.), two in midwifery (B.A.O. and M.A.O.), and diplomas in the same subjects and in public health. It also confers two degrees in dentistry. Its degrees it grants only to those who, besides having passed the Professional Examination, have graduated in arts.

PROFESSIONAL EXAMINATIONS.

A candidate for the Final Examination for the M.B., B.Ch., and B.A.O. degrees must be a matriculated student of at least five years' standing, and though he need not have taken his degree in arts before admission to the Professional Examination, he cannot take his medical degrees until he has been admitted a B.A. At least three years of the five years' medical curriculum must be pursued at the School of Physic of the university. The examinations which students must pass are the Preliminary Scientific, the Intermediate Medical, and the Final, and of course before admission to any of them he must be duly signed up as regards study in the subjects involved.

Preliminary Scientific.—This covers (*a*) chemistry and physics, (*b*) botany and zoology; the two divisions may be taken together or at different times.

Intermediate Medical.—This is divided into two parts: (*a*) Anatomy, physiology, and histology; (*b*) applied anatomy and applied physiology. The two parts may be taken separately, but in each part all subjects must be passed at one time.

Final Examination.—Part I: Hygiene and medical jurisprudence, pathology, materia medica, and therapeutics. *Part II:* (*a*) Midwifery, gynaecology (clinical, paper, and viva voce); (*b*) medicine, clinical medicine, and mental diseases; (*c*) surgery in all branches, including clinical ophthalmology. The three sections of Part II may be taken separately or together. In either case the full curriculum must have been completed, nor can the final subject be taken until at least the end of the fifth year.

M.D.—The candidate must have passed all the qualifying examinations in medicine, surgery, and midwifery, and have taken, or have been qualified to take, the degree of B.A. three years previously. He must read a thesis before the Regius Professor of Physic.

M.Ch.—The candidate must be a B.Ch. of not less than three years' standing, and have been engaged in practice for two years. Graduates of ten years' standing may be given a special examination.

M.A.O.—The candidate must have passed the qualifying examination in medicine, surgery, and midwifery. The examination is specially directed to obstetrics and practical gynaecology.

For the university diplomas mentioned the candidate must have completed two years in arts and five in medical studies. The examination and courses required are the same as for the degrees.

FEES.

Matriculation, 5s.; M.B., B.Ch., B.A.O., £17; M.D., £13; M.Ch., £11; M.A.O., £5; L.M., L.Ch., L.A.O., £11. Further information may be obtained from the Registrar of the School of Physic, Trinity College, Dublin.

QUEEN'S UNIVERSITY, BELFAST.

THE degrees granted by the Medical Faculty of this university are as follows: Bachelor of Medicine (M.B.), Bachelor of Surgery (B.Ch.), Bachelor of Obstetrics (B.A.O.), Doctor of Medicine (M.D.), Master of Surgery (M.Ch.), Master of Obstetrics (M.A.O.). The university also confers a diploma in public health. The first three degrees mentioned serve as a qualification for admission to the *Medical Register*, and are not granted separately. In addition to matriculating and passing his professional examinations, a candidate for these degrees must have passed three of the regulation five years as a student at the Belfast School of Medicine.

PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., B.Ch., B.A.O. are four in number. The first deals with: (1) Inorganic, organic, and practical chemistry, (2) experimental and practical physics, (3) botany and practical botany, (4) zoology and practical zoology. It is divided into two parts, of which botany and zoology form one. The Second Examination covers anatomy and physiology, and may be taken at the end of the second year of the student's career. The Third Examination includes: (1) Pathology, (2) materia medica, pharmacology and therapeutics, (3) medical jurisprudence, and (4) hygiene. To be valid a certificate in regard to the study of the subjects of this examination must show that the work has been done subject to passing the First Examination.

The Final Examination includes: (1) Medicine, (2) surgery, (3) midwifery, (4) ophthalmology, and otology. The student may pass in all subjects at once at the end of his fifth year, or he may divide the examination into two parts—namely, (1) systematic, (2) clinical, practical, and oral. The first part may be taken at the end of the fourth year, but for the second part the candidate may not present himself until the end of his fifth year. No certificate in regard to study of the subjects of this examination will be valid unless the work was done subsequent to passage in all the subjects of the Second Examination.

THE HIGHER DEGREES.

Candidates for the degree of Doctor of Medicine must be graduates in medicine of at least three years' standing, unless they hold also a degree of the university in arts or science. In that case a standing of two academic years will suffice. Moreover, candidates must be able to show that the interval has been passed in the pursuit of such courses of study or practical work as may be prescribed. The degree may be conferred either (*a*) after a formal examination, or (*b*) in recognition of the merits of a thesis or of some piece of original study or research carried out by the candidate, followed by an oral or other examination in its subject. When an ordinary examination is imposed it will include (1) a written paper on the principles and practice of medicine, (2) a commentary on a selected clinical case, (3) a clinical and viva voce examination, and (4) a written paper and clinical or practical and viva voce examination of a subject chosen from the following list: (1) Human anatomy, including embryology, (2) physiology, (3) pathology, (4) pharmacology and therapeutics, (5) sanitary science and public health, (6) forensic medicine and toxicology, (7) mental diseases. The regulations for the degrees of M.Ch. and M.A.O. are of the same general nature.

NATIONAL UNIVERSITY OF IRELAND.

THE National University of Ireland carries on most of its educational work through three constituent colleges—one in Dublin, one in Cork, and one in Galway. Each of these provides a full medical curriculum, and all candidates for the medical degrees of the university must pass three of their five years of study at one or other of them. These years do not count except after matriculation or recognition as a student of the Medical Faculty obtained in some other fashion. The candidates at each constituent college are examined thereat by the university, and a common standard of education is secured by all courses of instruction and the regulations concerning them having to be approved by the Senate, after considering report thereon from the Board of Studies of the University. In

addition to the ordinary degrees in medicine and surgery, the university grants those of Bachelor and Master of Obstetrics, Bachelor and Master of Science in Public Health, and Bachelor and Master in Dental Surgery, as well as diplomas in Public Health and in Mental Diseases.

PROFESSIONAL EXAMINATIONS.

There are four examinations. The first, which should be passed at the end of the first year, includes Part A (chemistry and physics) and Part B (botany and zoology), which parts candidates may take separately or together. At the end of the second year they should pass in anatomy and physiology; and at the end of the fourth year in pathology, materia medica and therapeutics, hygiene and public health, forensic medicine, and toxicology. The final examination is divided into three parts, each of which may be taken separately—namely, (*a*) Medicine, including mental diseases; (*b*) surgery, including ophthalmology and otology; (*c*) midwifery and gynaecology.

The higher degrees are obtainable either by examination or on presentation of an approved work, but in each case not less than three years must have elapsed since the candidate acquired the corresponding degree of Bachelor. Further information as to the constituent colleges will be found in the section relating to Irish Medical Schools.

The Irish Corporations.

THERE are three licensing bodies other than the Medical Faculties of Universities, and, just as in London, there are two Royal Colleges of Physicians and Surgeons and an Apothecaries' Hall. The similarity is still more complete, for in Ireland also the two colleges have formed a Conjoint Board, as in London, which is responsible for the recommendation of candidates to the two bodies for their respective licences. The Apothecaries' Hall gives its Licence separately.

THE CONJOINT BOARD IN IRELAND.

THIS body requires of candidates the passage either of its own preliminary examination in the subjects of general education or proof that the candidate has passed one of the tests accepted by the General Medical Council.

PROFESSIONAL EXAMINATIONS.

There are four professional examinations, the first of which cannot be passed earlier than the end of the first winter session, nor the fourth before the conclusion of full five years of medical study, and before being admitted to any of them the candidate must show that he has studied the different subjects in practice and theory for the requisite periods, certificates to this effect being accepted from the authorities of most of the recognized medical schools at home and abroad. The first and second examinations deal respectively with (*a*) chemistry and physics, and (*b*) biology; and (*a*) anatomy, and (*b*) physiology and histology. All parts of these examinations, as also of the following one, which deals with (*a*) pathology, (*b*) materia medica, pharmacy, and therapeutics, (*c*) public health and forensic medicine, may be taken separately.

Final Examination.—This is divided into three divisions, which cannot be completed until at least four years have passed in medical studies other than those for the first examination, and five years, at least, since the beginning of the curriculum. The divisions are (*a*) medicine, including fevers, mental diseases, and diseases of children; (*b*) surgery, including ophthalmic and operative surgery; (*c*) midwifery, including diseases of women and newborn children, and the theory and practice of vaccination. Candidates are recommended to present themselves in all the subjects of the Final Examination at one time, but a candidate at or after the end of the fourth year may present himself in any one of the divisions (*a*), (*b*), or (*c*), provided he has completed his curriculum as far as concerns the division in which he presents himself.

Fees.—Preliminary Examination, £2 2s.; re-examination, £1 1s. First Professional Examination, £15 15s.; Second, £10 10s.; Third, £9 9s.; Final, £6 6s.; re-examination fee is £2 2s. for each division.

Further information can be obtained from Mr. Alfred Miller, Secretary of the Committee of Management, Royal College of Surgeons, 123, St. Stephen's Green, Dublin.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

THOSE whose names already appear on the *Medical Register* can obtain the separate Licence in Medicine of this College, and its Licence in Midwifery. In either case an examination has to be passed in the subjects indicated, questions on midwifery, hygiene, and jurisprudence being included in the examination for the Licence in Medicine. For the Licence in Midwifery practitioners of over five years' standing are exempted from examination by printed questions. The other grades of the College are Members and Fellows. The former are admitted after an examination which is open to all university graduates in medicine and Licentiates in medicine of Royal Colleges of Physicians, and deals with the general subjects of medicine. Fellows are selected, by vote, from among the Members.

Fees.—For the Licence in Medicine, 15 guineas; for the Licence in Midwifery, 5 guineas; or 16 guineas for both if they are taken within an interval of a month. Special examinations cost in each case 5 guineas extra. For the Membership, 20 guineas to a Licentiate of the College; 35 guineas to others; a special examination costing 10 guineas extra. The Fellowship £35, in addition to stamp duty, £25. Information as to special examinations and other points can be obtained from the Registrar, the Royal College of Physicians, Kildare Street, Dublin.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THIS body, besides granting a Licence in Surgery, admits those possessed of registrable surgical qualifications to its Fellowship under certain conditions. Its Licence is usually granted conjointly with that of the College of Physicians, but it is given separately to holders of a registrable qualification in medicine, provided that the College is satisfied that adequate courses of study have been pursued, and provided its own professional examination is passed. This examination is held on its behalf by the Conjoint Board, and is identical with the ordinary surgical portion of the examinations imposed by that body.

The Fellowship.—Candidates for the Fellowship must pass two examinations, of which the first is in anatomy (including dissections), physiology, and histology; and the second in surgery (including surgical anatomy) and pathology. Both examinations are partly written, partly practical, and partly viva voce; while the final examination includes the performance of operations. All subjects of either examination must be passed at one time, and to neither can a candidate be admitted who has been rejected in any of its subjects by any other licensing body within three months. Candidates are not admitted to the Primary Examination except on evidence that they have already passed an examination in anatomy, physiology, and histology, held by some university or other body whose degrees or licences entitle the holder to admission to the *Register;* if, however, the candidate is a person whose name is on the Colonial or foreign medical *Register*, at the discretion of the Council. Candidates for the Final Examination must be over 25 years of age, produce a certificate of general good conduct signed by two or more Fellows of the College, and, if successful, must make a declaration before admission to the effect that they do not conduct dispensing practices, and will not do so as long as they are Fellows.

Fees.—Candidates for the Licence pay 5 guineas for examination, which sum, if they pass, is counted as part of the fee payable on admission to the Licence, this being 25 guineas. Candidates for the Fellowship pay 5 guineas for each examination, the total of 10 guineas being reckoned as part of the fee payable on admission to the Fellowship. That fee is 25 guineas in the case of those who are already Licentiates, and 40 guineas in the case of others.

APOTHECARIES' HALL OF IRELAND.

A DIPLOMA is granted by this Hall which entitles the holder to be registered as a practitioner of medicine, surgery, and midwifery, and confers also the privileges of an apothecary.

Two periods of dissection, each not less than six months, must be included, and twenty-seven months of hospital attendance, or its equivalent. Three professional examinations have to be passed; they are held quarterly. The Primary Examination deals with biology, physics, and chemistry, practical and theoretical; the Intermediate Examination is in practical anatomy and physiology, and histology and materia medica. A candidate who has passed tests in any of the subjects of these examinations before another licensing body is exempt from further examination in such subjects. The Final Examination deals with, Part I, pathology and medical jurisprudence and hygiene; Part II, medicine, surgery, midwifery, and pharmacy. The Hall's own examination in all these subjects must be passed. Women candidates are eligible.

Fees.—Primary Examination, £5 5s.; Intermediate Examination, £10 10s.; Final Examination, £15 15s.; Final alone, when the others have been passed elsewhere, £21. Application for other information should be made to the Registrar, 40, Mary Street, Dublin.

MEDICAL SCHOOLS AND COLLEGES.

LONDON.

APART from post-graduate and other special schools, the medical schools of London number as many as fourteen, including in the count two institutions which provide education only in the preliminary and intermediate subjects, under the title of "university centres."

Little guidance can be given in these columns as to choice of one school rather than another, for such choice must depend largely on personal factors. In a general way, however, it may be said that while to the student of to-day it may, perhaps, be almost a matter of indifference to what school he belongs, there is often in after-life a certain advantage in having been an alumnus at one of the more celebrated schools. On the other hand, at the smaller schools more opportunities, perhaps, present themselves to the average man for obtaining student appointments, and especially the coveted posts of house-physician and house-surgeon.

Information as to the fees at the different schools, and the scholarships, prizes, and junior appointments which they offer, will be found in the following pages, and should be carefully studied by those who have no personal reason for preferring one to the other. The courses which they provide are fundamentally the same, and in all of them the arrangements made are such as to meet the requirements of students of every class—of those who are aiming at the diplomas of the Conjoint Board or the Apothecaries' Society not less than of those who have London or other university degrees in view. At all, too, as has been said, special facilities are offered to men who have commenced their professional education at the older universities, Oxford and Cambridge. Apart from these facts, the only point to which attention can usefully be directed is that on personal inquiry and investigation reason may perhaps be found for regarding the teaching accommodation and general arrangements for students at some schools as superior to those at others.

ST. BARTHOLOMEW'S.

THIS institution fills one side of Smithfield and Giltspur Street, sharing with the Post Office buildings a large island of ground separated practically from all other buildings; it is on the edge of the City, and easily reached from all parts of London. The hospital contains 750 beds. Extensive new buildings, opened in July, 1907, occupy part of the ground acquired from the old Bluecoat School, and these materially enhance the attractions of the hospital as a place of medical study. The medical school buildings, including the library and the chemical, physical, biological, and physiological laboratories, and anatomical department have now at their side a very large building, which includes club rooms for the Students' Union, a writing room, luncheon and dining halls, new quarters for the resident staff, and an out-patient department and accommodation for special departments of such large size as to be unsurpassed by any hospital in the kingdom. During the year 1909 a second block of new buildings was completed. These form the pathological department, and include, in addition to a new and extensive *post-mortem* room, large and well-equipped laboratories for clinical pathology, pathological histology, bacteriology, and chemical pathology, altogether forming the most complete pathological department in the country. Within the precincts of the hospital also there is a residential college for a large number of students. The Students' Union owns, moreover, grounds of some 10 acres in extent for recreative purposes at Winchmore Hill, which is easily accessible from the hospital.

Special classes are held for students preparing for the Preliminary Scientific and other examinations for the M.B., M.D. of the Universities of London, Oxford, and Cambridge, and for the higher surgical degrees at the same universities, including the M.Ch.Oxon., M.C.Cantab., M.S.Lond., and F.R.C.S.Eng. Special laboratory instruction for the D.P.H. of Cambridge, Oxford, Durham, and London is also given.

Appointments.—Clinical clerks to the physicians and to the physician-accoucheur, and dressers to the surgeons and in the casualty department, are chosen from the students; clerks and dressers are also selected from the students to attend in the out-patient rooms, in the special departments (Ophthalmic, Orthopaedic, Gynaecological, Laryngological, Aural, Dermatological, Electrical, and Dental), and in the *post-mortem* room. Chief assistants and clinical assistants are selected from qualified men appointed yearly to help in the general medical, surgical, and in the special departments. Ten house-physicians and ten house-surgeons are appointed annually. During their first six months of office they act as "Junior" house-physicians and house-surgeons, and receive a salary of £25 a year. During their second six months they become "Senior" house-physicians and house-surgeons, and are provided with rooms by the hospital authorities, and receive a salary of £80 a year. A resident midwifery assistant, an ophthalmic house-surgeon, and a house-surgeon for diseases of the throat, nose, and ear are appointed every six months, and are provided with rooms and receive a salary of £80 a year. Two assistant anaesthetists are appointed annually, and receive salaries of £120 and £100 a year respectively. An extern midwifery assistant is appointed every three months, and receives a salary of £80 a year.

Scholarships.—Five entrance scholarships are annually awarded after an examination held in September. The subjects of examination and conditions of eligibility for these scholarships are: (1) Two scholarships, value £75 each, in not fewer than two nor more than three of the following subjects—Chemistry, Physics, Botany, Zoology, Physiology, and Anatomy, limited to students under 25 years of age who have not entered on the medical or surgical practice of any London medical school. (2) One scholarship, value £150, in not fewer than three of the following subjects—Chemistry, Physics, Botany, Zoology, and Physiology, limited to students under 21 years of age who have not entered on the medical or surgical practice of any London medical school. (3) The entrance scholarship in Arts, of the value of £100, will be given in Latin and Mathematics, with one other language—Greek, French, or German. (4) The Jeaffreson Exhibition in Mathematics, Latin, and one other language—Greek, French, or German—and of the value of £50. The value of the scholarships and prizes is over £1,000 annually.

Further information and a handbook can be obtained on application to the Dean of the Medical School, St. Bartholomew's Hospital.

CHARING CROSS.

THIS school, with its hospital, is situated in the very centre of London, and courses of instruction are specially designed to meet the requirements for the University of London degrees, the diplomas of the Royal Colleges, and the final studies of other universities. The hospital, with its convalescent home at Limpsfield, contains 200 beds. Over 2,000 cases pass through its wards each year, and some 24,000 out-patients and casualties are treated. There are special departments for all classes of work.

The school has an arrangement whereby its students can carry out their work in the primary and intermediate portions of their studies in the laboratories of the University of London (King's College), which are situated within a few minutes' walk of the hospital. This enables its students to get the best university education from a large professional and teaching staff in their earlier

studies, while still allowing them to take advantage of their own school for social and collegiate purposes.

A large laboratory, capable of accommodating up to 100 students, is available for general pathological work, demonstrations, and research, and systematic demonstrations covering the whole range of pathology are arranged daily throughout each session between 10 a.m. and 5 p.m. Good departments are also available for other final subjects of bacteriology, chemical pathology, materia medica, toxicology, public health, and operative surgery, and also for research work by post-graduates. Some of these serve King's College as its "University Laboratories of Public Health and Bacteriology."

The museum contains over 4,000 specimens, and has received a notable collection of over 700 gynaecological specimens, "The Cuthbert Lockyer Collection," from one of the members of its hospital and school staff.

The library contains the latest editions of the usual textbooks and the chief medical periodicals. The Students' Club Union includes reading and smoking rooms, cloak-room, refreshment room, and adds greatly to the social comfort of the students.

Appointments.—Demonstratorships and assistant demonstratorships are open to students of the school. Medical, surgical, and obstetric registrars to the hospital are appointed annually. Six house-physicians, six house-surgeons, and two resident obstetric officers are appointed each year after competitive examination. They are provided with board and residence in the hospital. Clinical clerks and dressers are appointed in the general and special departments of the hospital, and every student holds in turn the post of pathological assistant and assists at the autopsies, and on the completion of his clinical appointments takes up the duty for three months of pathological clerk in the clinical laboratory. Special facilities are offered for students and post-graduates desiring to take up particular classes or work in the wards and special departments of the hospital for longer or shorter periods.

Fees.—Sessional payments of 17 guineas for the winter session and 8 guineas for the summer session for London University and other university students, and 15 guineas and 7 guineas respectively for Conjoint Board students, with an entrance fee of 10 guineas; or a total composition fee for five and a half years' tuition of 120 guineas in the case of London University students, and of 110 guineas for five years' tuition for the Conjoint Board students. The above fees are inclusive, with the exception of vaccination, dispensing, and fever hospital attendance, which have to be taken outside the school.

All information desired may be had of the Dean (Dr. William Hunter), the Medical School, Charing Cross Hospital, London, W.C.

St. George's.

This school is at Hyde Park Corner, and is carried on in connexion with St. George's Hospital, an institution having a service of 436 beds, of which 100 are at the convalescent hospital founded by Atkinson Morley at Wimbledon. It provides for the instruction of its students in the preliminary and intermediate subjects of the curriculum at the teaching centres of London University established at King's College and University College. The school at Hyde Park Corner is devoted entirely to the teaching of clinical subjects, great attention being paid by the members of the staff to individual teaching. A number of special courses are given, in which the requirements of university and all other examinations receive careful attention.

The St. George's Hospital Club consists of an amalgamation club, with smoking and luncheon rooms on the hospital premises, and other students' clubs, with an athletic ground at Wimbledon. Students have the advantage of a well-filled library of medical and scientific books. A register of accredited apartments, and a list of medical men and others willing to receive St. George's men as boarders, may be seen on application to the Dean.

Appointments. — Dresserships to the surgeons and clinical clerkships to the physicians are open without fee to all students of the hospital. There is a large number of resident appointments, which may be held for six, twelve, or eighteen months, and are open without fee to every perpetual student of the hospital, and are made strictly in accordance with the merits of the candidates. Besides this, after the student has held a house appointment, the following are, among others, open to him: Medical registrarship at £200 per annum; surgical registrarship at £200 per annum; curatorship of the museum at £200 per annum; assistant curatorship of the museum at £100 per annum; obstetric assistantship, resident, at £50 per annum; the post of resident anaesthetist at £100 per annum; the post of senior anaesthetist at £50 per annum; the posts (2) of junior anaesthetists, each at £30 per annum.

Scholarships.—Two university entrance scholarships in anatomy and physiology (70 guineas and £50) are awarded at the commencement of each winter session. The William Brown Exhibition of the value of £100 per annum (tenable for two years) is awarded by examination to a perpetual pupil of the hospital every second year. The William Brown Exhibition of £40 (tenable for three years) is awarded by examination to a perpetual pupil of the hospital every third year. Other prizes to the value of £200 are awarded annually to the students of the hospital.

Fees.—First year (preliminary science or first conjoint) £26 5s., or £21, according to course. Second and third years, £63 in two equal instalments. For the course of clinical study, in the fourth and subsequent years, entrance fee, £10 10s.; annual composition fee, £31 10s. No entrance fee is payable by St. George's students who have studied at King's and University Colleges.

Further information may be obtained from the Dean of the Medical School.

Guy's.

The hospital contains 617 beds in constant occupation; an additional 50 beds have been opened on the medical side of the hospital. Thirty-three beds are set apart for diseases of the eye, and 40 for the most urgent and interesting medical cases, which form the subjects of the weekly clinical lectures. There is a special ward of 32 beds for the reception of cases of diseases of women and for cases of difficult labour. Beds are also allotted to the throat and ear departments, to the orthopaedic department, and to the department for the treatment of diseases of the genito-urinary system.

The medical college fronts the east gate of the hospital, providing accommodation for 60 resident students. This contains a dining-hall, reading rooms, a library of general literature, and a gymnasium for the use of the residents and of the members of the Clubs Union. The athletic ground at Honor Oak Park is reached from the hospital in twenty minutes. The Gordon Museum of Pathology, the Wills Library, the newly-built Departments of Chemistry, Physics, Pathology, and Pharmacology, and the school buildings in general, afford unrivalled opportunities for a liberal education and for research. Special classes are held for the First and Second Examinations for Medical Degrees of the University of London and for the first F.R.C.S.Eng. Special teaching is provided to meet the requirements of the universities of London, Oxford, and Cambridge in general pathology and pharmacology.

Appointments.—All appointments are given to students without extra payment, and according to the merits of the candidates, as determined by a committee of the medical staff. Sixteen out-patient officers, 8 house-physicians, 20 assistant house-surgeons, 8 house-surgeons, 2 ophthalmic house-surgeons, and 9 resident obstetric assistants are appointed annually. The house-physicians and house-surgeons, obstetric residents, and ophthalmic house-surgeons hold office for six months each, and receive free board and lodging in the college. Every student is provided with rooms and commons in the hospital during the period of his "take in" as dresser. In addition to the clerkships and dresserships in the medical and surgical wards, students are appointed to the posts of clinical assistant, dresser, or clerk in the special departments of ophthalmology, laryngology, gynaecology, diseases of children, diseases of the nervous system, dermatology, otology, electricity, anaesthetics, and dentistry. More than 150 additional appointments have been added to the list of those annually open to students of the hospital, the majority of them being in the special departments.

Scholarships, Prizes, etc.—The following entrance scholarships are awarded annually in the month of September: A. Junior Scholarships in Arts, Classics, Mathematics, and Modern Languages, and Science, of the value of £120, £100, and £50,

open to candidates under 21 years of age. B. Senior or University Scholarships of the value of £75 and £35, open to candidates under 25 years of age, who have completed their study of Anatomy and Physiology. Subjects, any two of the following: Anatomy, Physiology, Pharmacology, General Pathology, Organic Chemistry, Biology, and Physics. Junior prizes for general proficiency, £20, £15, £10; Hilton prize for Dissection, £5; Michael Harris prize for Anatomy, £10; Sands-Cox Scholarship for Physiology, £15 for three years; Wooldridge Memorial prize for Physiology, £10; Beaney prize for Pathology, £34: Treasurer's gold medal in Medicine, Treasurer's gold medal in Surgery, and the Golding-Bird gold medal and scholarship for Bacteriology (£20) are awarded annually after competitive examination. The Gull Studentship in Pathology and the Beaney Scholarship in Materia Medica, of the annual value of £150 and £31 10s. respectively, are awarded without examination to enable research to be carried on in these subjects. An Arthur Durham Travelling Scholarship of £100 is awarded triennially. The Douglas Research Studentship in Pathology, value £300 per annum, is awarded without examination.

Fees.—An annual composition fee is paid by all students until a registrable qualification is obtained. Further information may be obtained from the Dean of the Medical School.

KING'S COLLEGE HOSPITAL.

THE medical school carried on in connexion with this institution, at Denmark Hill, deals, as do the sister institutions at Westminster and University College Hospitals, with the advanced or final subjects of the medical curriculum. The arrangements for education in these subjects are very complete. The new and up-to-date hospital contains 286 beds, which number will ere long be increased. When complete there will be over 600 beds. There are special departments for diseases of women and children, nervous diseases, ophthalmology, otology, laryngology, dermatology, dental surgery, etc.; pathological and vaccine departments are also included.

Appointments.—Sixteen resident medical and surgical officers are appointed yearly, as well as dressers and clerks in the wards, out-patient departments, *post-mortem* room, and special departments. Each of the special departments has several clinical assistants, and there are six registrars, most of whom receive salaries. There is also a Union Club, which combines athletics, music, and other societies connected with the school, and provides also a common room.

Fees.—The composition fee is 70 guineas if paid in one sum, or 72 guineas in two instalments, one of 40 guineas at entrance and the other of 32 guineas at the commencement of the second year.

The prospectus of the school can be obtained on application to its Secretary, Mr. Clifton Kelway, King's College Hospital, Denmark Hill, S.E.

THE LONDON.

THIS hospital (which contains 922 beds) and its medical college and dental school are in the Mile End Road, Whitechapel. All the departments are modern, and adapted for the teaching of all subjects in the curriculum. Special classes for the first and second M.B.Lond., the primary and final Fellowships, and other examinations are held. Those for the final and primary F.R.C.S. commence early in September. A residential hostel on hospital ground has been opened for the convenience of students who wish to live near the wards and casualty departments. The college athletic club is at Highams Park, and is open to all members of the Clubs Union.

Appointments.—The salaried appointments open to students are those of medical registrars (3), surgical registrars (3), obstetric registrar, registrars in the ear, nose, and throat department (2), medical, surgical, and obstetric tutors; senior dressers to out-patients; clinical assistants in the medical, surgical, ophthalmic, aural, light and skin, orthopaedic, and electrical departments. There are 2 resident accoucheurs, 6 resident house-physicians, and 8 resident house-surgeons, 7 receiving-room officers, 2 emergency officers, 1 assistant director of Pathological Institute, and 3 pathological assistants, also paid and unpaid clinical assistants in the various special departments. In addition there are numerous assistantships, clerkships, and dresserships in the various departments.

Scholarships and Prizes.—The following is a list of scholarships and prizes: At Entrance: Price Scholarship in Science, £100; in Anatomy and Physiology, £52 10s.; Entrance Scholarship in Science, £50; Epsom Scholarship, £126; Buxton Scholarship in Arts, £31 10s. After Entrance: Anatomy and Physiology Scholarship, £25; Letheby Prizes, £25; Prizes in Clinical Medicine, Surgery, and Obstetrics, £20 each; Duckworth Nelson Prize, £10; Hutchinson Prize, £40: Sutton Prize, £20; Sir Andrew Clark Prize, £26; Anderson Prizes, £9; Dressers' Prizes, £40; Practical Anatomy Prizes, £10; Douro Hoare Prize, £5; Wynne Baxter Prize, £5 5s.; Harold Fink Prize in Dental Surgery, £5 5s.; Prize in Dental Microscopy, £5; Frank Farmer Prize, £5 5s. The London Hospital Medical College and the Eliza Ann Alston Medical Research Funds amount to over £21,000.

Fees.—Full course, entrance fee, 15 or 20 guineas, according to examinations passed; annual fee 30 guineas. Full information may be obtained from the Dean at the London Hospital Medical College, Mile End, E.

ST. MARY'S.

THIS school and its hospital are situated in Praed Street, in the neighbourhood of the residential districts of Paddington, Bayswater, and North Kensington, and is thus especially convenient to students who wish to reside in the immediate vicinity. A register of approved lodgings is kept in the office of the Medical School.

The athletic ground at Park Royal, Acton, is easily accessible from the Medical School. It is seven acres in area, and provides ample accommodation for the various athletic clubs; the pavilion is large and well equipped.

The hospital contains 305 beds, of which 31 are devoted to treatment by therapeutic inoculation.

The Medical School provides complete courses in the preliminary and intermediate subjects of the curriculum which are recognized by the University of London as approved courses for internal students. Students may join in October, January, or April.

The departments of biology, chemistry, anatomy, physiology, and pathology are under the direction of full-time lecturers, and special courses are provided twice yearly for the Primary F.R.C.S. In addition special tuition is provided for the Intermediate and Final Examinations of the universities of Oxford, Cambridge, and London, and for the Final F.R.C.S.

All clinical appointments in the hospital are free to students of the school, the term of office in each case being of four months' duration, and the resident medical officers are chosen by competitive examination. Six house-physicians, six house-surgeons, four obstetric officers, and two resident medical officers to the inoculation wards are appointed each year, and receive board and residence in the hospital. A large number of salaried appointments are open annually to qualified students, including those of medical registrar, surgical registrar, casualty physician, casualty house-surgeon, resident assistant anaesthetist, assistant curator, together with several demonstratorships. In the inoculation department there are nine assistantships, the salaries of which amount to £1,600 per annum.

Scholarships.—There are Entrance Scholarships in Natural Science. One of £100, one of £50, one of £25, and two University Scholarships of £52 10s. awarded annually by competitive examination in September.

Fees.—The composition fee for students is £140 if paid in one sum, or £145 if paid in four instalments. University students who have completed their examinations in anatomy and physiology are admitted on payment of a composition fee of 65 guineas (£68 5s.) paid in one sum, or 70 guineas (£73 10s.) if paid in two annual instalments. Separate courses of lectures, laboratory work, or hospital practice may be taken.

The School Calendar and full information can be obtained from the Secretary, St. Mary's Hospital Medical School, Paddington, W.

THE MIDDLESEX.

THE school and hospital are in Mortimer Street, W., close to Oxford Circus, Goodge Street, and Portland Road stations. There is a residential college for a limited number of students overlooking the hospital garden, a gymnasium within the precincts of the hospital, and an athletic ground within easy distance at Park Royal. The hospital contains 440 beds, including a wing containing

90 beds for patients suffering from cancer, and special cancer investigation laboratories, which offer unrivalled opportunities for the study of this disease, both in its clinical and pathological aspects. In connexion with the investigation laboratories there are several valuable scholarships awarded.

There are special wards for maternity and gynaecological cases, and for diseases of children and of the skin and eye.

The Bland-Sutton Institute of Pathology is under the charge of a director, who has a staff of assistants. The institute, which includes a pathological and anatomical museum, a lecture theatre, large pathological and public health laboratories, and smaller rooms for original investigation, will be opened in October. Bacteriological, chemical, and microscopical examinations of material from the wards, operating theatres, and out-patient departments are carried out in the laboratories. Senior students are eligible for clerkships in the laboratories of the institute, and every facility is given for original investigation.

In the electro-therapeutical department special attention is given to the treatment of lupus and cancer by the *x* ray, and opportunities are afforded to students wishing to become acquainted with the use of the apparatus employed in this method of treatment.

Appointments.—Twenty-two resident appointments are open annually for competition among students of the hospital. The officers reside and board in the residential college free of expense. Two Casualty medical and two Casualty surgical officers, and two resident officers to the special departments, are appointed annually. Eight house-surgeons are appointed every year at intervals of two months, after examination; six house-physicians are also appointed annually at similar intervals. An Obstetric and Gynaecological house-surgeon is appointed every six months. In the Out-patient departments the appointments are: clerk and dresser to the physicians and surgeons to out-patients; clerk in the departments for diseases of the skin and nervous diseases; dresser to the department for diseases of women, to the ophthalmic surgeon, to the throat and ear department, and to the dental surgeon. Extern midwifery clerks and *post-mortem* clerks are also appointed. The appointments are so arranged that every student may, during his course, hold all the out-patient and in-patient clerkships and dresserships. Students must have held an out-patient clerkship and dresserships before being eligible to hold in-patient clerkships or dresserships. No student can be appointed to any of these offices until he has passed the second examination of the Examining Board in England or its equivalent. Non-resident qualified clinical assistants are appointed in the Medical, Surgical, Skin, Neurological, Ophthalmic, Throat and Ear, Odontological, Children's, and Electro-therapeutical Out-patient departments.

Scholarships.—Three Entrance Scholarships, value £100, £50, and £25 respectively, are open to students commencing their medical studies in April or October, 1914. An annual Entrance Scholarship, of the value of £50, is open to students of the universities of Oxford and Cambridge who have completed the curriculum for, or passed the examinations in, anatomy and physiology. The examination for these scholarships will take place on September 21st, 22nd, and 23rd. Application for admission must be made on or before September 12th. Students joining the school in the previous April are eligible. The Freer Lucas Scholarship, value £126, is annually awarded on the nomination of the head master to a pupil of Epsom College who has passed the first examination for medical degrees (Preliminary Scientific Examination). There is also a scholarship, value £50, awarded annually to students from New Zealand. In addition to the Entrance Scholarships, there are a number of other valuable scholarships, prizes, and exhibitions open to students of the hospital, including the Broderip Scholarships, value £60 and £40; Lyell Gold Medal and Scholarship, value £55 5s.; Freeman Scholarship, value £30; John Murray Gold Medal and Scholarship, value £25; Hetley Clinical Prize, value £25; Leopold Hudson Prize, value 11 guineas; and the Second Year's Exhibition, value 10 guineas.

Fees.—The composition fee for students taking the London University degree is 145 guineas, or by five equal annual instalments of £32 11s. For those who have passed the first examination for medical degrees the fee is 120 guineas, or by four equal annual instalments of £34 2s. 6d. Students taking the Conjoint Board diploma pay 135 guineas, or by five equal annual instalments of £30 9s. Students who have passed the First Professional Examination pay 115 guineas, or by four equal annual instalments of £32 16s. 3d. For members of universities and others who have completed their anatomical and physiological studies the fee is 70 guineas, or by three equal annual instalments of £26 5s.

Further information may be obtained on application to the Dean.

ST. THOMAS'S.

THIS school, and the hospital in connexion with which it works, is situated in Lambeth, the joint buildings on the Thames facing the Houses of Parliament, and forming one of the well-known architectural features of London.

The school buildings are separated from the hospital by a quadrangle on which there are cricket practice nets for the use of the students, and comprise numerous theatres, laboratories, and classrooms well adapted for the modern teaching of large bodies of students in the subjects of the medical curriculum. A splendid library and reading room and a complete museum are open to all students from 9 a.m. to 5 p.m.; Saturdays, 2 p.m. The club premises contain a dining room and smoking and reading room supplied with daily and illustrated weekly papers, and a gymnasium. Good meals are obtainable at a moderate tariff. The Terrace affords facilities for exercise and recreation. A cloak-room with lockers, and a lavatory with bath rooms, are in the main school building. Students are thus able to spend the whole day at the school. The sports ground of more than nine acres in extent is at Chiswick. It can be reached in forty minutes from the hospital; it is admirably adapted for football, cricket, lawn tennis, and athletic sports.

The hospital contains 604 beds, and in addition to the ordinary provisions of a great hospital has connected with its out-patient department physicians' and surgeons' rooms provided with ample sitting accommodation, so that large numbers of students are enabled to follow closely the practice and teaching of the out-patient staff. There is a full complement of special departments, and connected with the hospital a special tuberculosis department gives opportunity for instruction of students. There is a clinical theatre, centrally situated, so as to facilitate the illustration of lectures by patients from the wards and out-patient room; it is arranged also for lantern demonstrations. The maternity ward, containing 20 beds, gives students full facilities for maternity training, under supervision, within the precincts of the hospital. This obviates any necessity for seeking instruction elsewhere, and fully prepares the student for the extern maternity practice of the hospital district. The revised regulations of the examining bodies can thus be fully complied with.

Appointments.—All hospital appointments are open to students without charge. A resident assistant physician and a resident assistant surgeon are appointed annually at a salary of £150 each, with board and lodging. Two hospital registrars, at an annual salary of £150 each, are appointed yearly. The tenure of these offices may be renewed for a term not exceeding two years. Eight resident casualty officers and anaesthetists are appointed every six months. An obstetric tutor and registrar is appointed each year at an annual salary of £50. Four house-physicians, four house-surgeons, two obstetric house-physicians, two ophthalmic house-surgeons, and eight clinical assistants in the special departments are appointed every three months, and hold office for six months if recommended for re-election. Two research assistants (bacteriological and chemical) at salaries of £200 per annum each. Clinical clerkships and dresserships to the in-patient and out-patient departments are available to the number of 400 each year.

Scholarships.—There are five entrance scholarships offered: Two in Arts, giving one year's free tuition; one of £150 and one of £60, in Chemistry, Physics, and Biology, for students who have not received instruction in Anatomy or Physiology; one of £50 in any two of the following subjects: Anatomy, Physiology, or Chemistry, for students who have completed their examinations in Anatomy and Physiology, for a medical degree in any of the universities of the United Kingdom, and have not entered as students in any London medical school Numerous scholarships, prizes, and medals are open for competition throughout the whole career of a student, including a Fellowship of £100 given by the Salters' Company for research in Pharmacology, and the Louis Jenner Research Scholarship of the annual value of £60 for Pathological research.

Fees.—The entrance fee for second year's students is 20 guineas; for third year's students 10 guineas. The annual composition fee is 30 guineas. For Preliminary Science students the fee is 15 guineas. The fees cover all tutorial classes given by the school teachers, and there are no extra charges made for materials required in practical courses. Special courses of instruction are given for various examinations, and a register of lodgings is kept at the school. A list of medical practitioners, clergymen, and others who receive students is also available. Further information may be obtained from the Secretary of the School, St. Thomas's Hospital, Albert Embankment, S.E.

University College Hospital.

THE school, which forms part of the Corporation of University College Hospital, is in immediate proximity to the hospital in University Street and opposite University College. It comprises departments of medicine and clinical medicine, surgery and clinical surgery, midwifery and gynaecology, pathology including morbid anatomy, clinical pathology and bacteriology, cardiography, forensic medicine, mental physiology and mental diseases, dental surgery, practical pharmacy, and other departments for the study of special diseases, such as those of the eye, skin, ear, and throat, and for instruction in anaesthetics, electro-therapeutics, and radiography.

The school thus provides the final course of study for the degrees of the universities of London, Oxford, Cambridge, and Durham, and for the diplomas of the Royal Colleges of Physicians and Surgeons, and the Licence of the Society of Apothecaries. Special bacteriological classes are also held in preparation for the various diplomas of public health. Each department is also equipped for more advanced work, and provides facilities for research.

A student may enter the medical school at the commencement of his career, in which case he will pursue his preliminary and intermediate studies at the University of London, University College, and his final studies in the school. He may also enter the school for the final studies after having completed his preliminary and intermediate studies at any recognized university or school.

Scholarships.—The following scholarships and prizes are open to competition: Two Entrance Exhibitions of 80 guineas each, awarded after a competitive examination in anatomy and physiology; Graham Scholarship in pathology of a sum not exceeding £200 per annum; the Atkinson Morley Scholarship of £45 a year for three years, awarded after examination in the theory and practice of surgery; the Atchison Scholarship of £55 a year for two years for general proficiency in medical studies; Magrath Clinical Scholarship, value about £100; the Filliter Exhibition in pathology of £30; Graham Gold Medal for research work; four Fellowes Medals in clinical medicine; Liston Medals in clinical surgery; the Bruce Medal in pathology and surgery; two Tuke Medals in pathology, and the Erichsen Prize for practical surgery.

Appointments.—All the appointments at the hospital are reserved for students of the school, the dresserships and clerkships being open, of course, to those who have still to qualify. The qualified appointments, in addition to a number of posts as house-physicians and house-surgeons and obstetric assistants, include the appointments of resident medical officer, surgical registrar, obstetric registrar, casualty medical officers, casualty surgical officers, assistant in ear, nose, and throat department, assistant in ophthalmic department, registrar in anaesthetic department, and deputy anaesthetists.

Fees.—The fee for the full course of final studies at the school is 80 guineas if paid in one sum, or 82 guineas if paid in two instalments.

Westminster.

THIS school, with its hospital, situated in Broad Sanctuary, opposite Westminster Abbey, provides for the education of its students in the preliminary and intermediate subjects of the University of London at King's College. The rest of the work is done in the school buildings near the hospital, which contains upwards of 200 beds, and affords most ample facilities for instruction in all branches of medicine and surgery.

Appointments.—A medical and surgical registrar are appointed annually, each with a salary of £50. Two house-physicians, three house-surgeons, one assistant house-physician, one assistant house-surgeon, and a resident obstetric assistant are appointed after examination, and are provided with rooms and commons, except the assistant house-physician and the assistant house-surgeon, who are provided with commons only. The assistant house-physician after three months' service becomes house-physician for a further period of six months, and the assistant house-surgeon, after two months' service, becomes house-surgeon for a further period of six months. Clinical assistants to the assistant physicians and assistant surgeons, and to the officers in charge of special departments, are appointed from among qualified students. Every student must perform the duties of out-patient dresser for four months, and afterwards hold the office of in-patient dresser for four months. He is also required to serve two terms of four months each as medical clinical clerk to in-patient physician and one term as gynaecological clinical clerk. Two Pathological clerks are appointed every four months to assist in the *post-mortem* room. No student is eligible as an in-patient dresser or clinical clerk until he has passed the Second Examination of the Conjoint Board, or an equivalent examination. Clerks and dressers in the special departments of hospital practice are periodically appointed. So far as vacancies permit, students of other hospitals are admitted to in-patients' dresserships or clerkships.

Scholarships.—The following scholarships are offered for competition during the year 1914-15. In the summer session two natural science scholarships, £60 and £30, and one in Arts, £60 (and again in July, 1915). In the winter session two scholarships in anatomy and physiology, £50 each. In the spring two scholarships in anatomy and physiology, £50 each.

Fees.—The annual composition fee is 25 guineas, and an entrance fee of 15 guineas is payable by every student, including scholars. Under certain conditions 10 guineas of the entrance fee is returnable on qualification. Special terms are given to the sons of medical men. These fees include subscriptions for membership of the Clubs Union.

Further information can be obtained on application to the Dean at the Westminster Hospital Medical School, Caxton Street, Westminster, S.W.

London (Royal Free Hospital) School of Medicine for Women.

THIS school is carried on at 8, Hunter Street, Brunswick Square, in connexion with the Royal Free Hospital, and it is, like all the other London schools which have so far been mentioned, one of the constituent schools of the Medical Faculty of London University. The new school buildings, among the best of their kind, were completed in 1900 at a cost, with equipment, of over £35,000. The laboratories are large and well lighted, and are fully equipped for the first and second medical examination courses of the University of London. A large library and common room are provided for the use of the students, and sets of chambers to accommodate sixteen students.

The hospital has 165 beds, all of which are available for clinical instruction. A new block is in course of construction, containing a Maternity Department, with a lying-in ward of 8 beds, new and enlarged students' quarters, a new Out-Patients' Department, with special operating theatre, and departments for massage, electrical and *x*-ray work, dentistry and casualty. There are also separate departments for gynaecology and obstetrics, and diseases of the eye, ear, and skin. Instruction is given in anaesthetics, bacteriology, etc., in addition to the ordinary clinical lectures and demonstrations and tutorial classes. Students attend the practice of one of the fever hospitals of the Metropolitan Asylums Board, and receive special instruction in lunacy at Bethlem Hospital; they are also admitted to the practice of a number of special hospitals.

The work of the school includes preparation for the M.B., B.S.Lond., the diplomas of the Royal Colleges of England and of the Conjoint Boards of Scotland and Ireland, and the Society of Apothecaries, London; also for the greater part of the course required by the University of Durham and the other universities of England which admit women to their degrees, and the University of Glasgow; also for the medical school and general hospital course for dental students.

Appointments.—Qualified students of the school can obtain appointments as house-physician and house-surgeon, obstetric assistants, surgical and medical registrars,

anaesthetists, medical electrician, radiographer, curators of the school and hospital museums, and clinical assistants and demonstrators in various subjects.

Scholarships.—The Isabel Thorne Entrance Scholarship value £30, the St. Dunstan's Medical Exhibition value £60 a year for three years, extendible to five years, and the Mabel Sharman-Crawford Scholarship value £20 a year for four years, are offered for competition in each year. The Bostock Scholarship, value £60 a year for two or four years, is awarded by the Reid Trustees on the result of an examination held in May by the University of London. The holder of the scholarship must enter the London School of Medicine for Women. The Agnes Guthrie Bursary for Dental Students, value £60, is awarded each year. The John Byron Bursary of £20 a year for two years, the Helen Prideaux Prize of £40, the Mabel Webb Research Scholarship of £30 for two years, the Fanny Butler Scholarship of £14 10s. a year for four years, together with many other scholarships and prizes, are offered on sundry conditions. Various missionary societies also offer scholarships on certain conditions, and assist ladies who wish to go to India and other countries as medical missionaries.

Fees.—University of London and diplomas of Royal Colleges of England course for the first medical examination, £25; course for second and third, £135; course after the second medical examination, £90. Composition fee for course of study for other qualifications, £140. Further information can be obtained from the Secretary.

King's College.

SINCE the incorporation of King's College in the University of London, the instruction given to medical students is carried out there in the classes of the Faculty of Science (Medical Division), and deals only with the subjects of the preliminary and intermediate parts of the curriculum. King's College Hospital (which see) is now a separate institution, and the studies for the final examinations only are carried out there.

A special class for the Matriculation Examination is also held.

There is a large athletic ground at Wormwood Scrubbs, managed by the Students' Union Society.

Scholarships.—The entrance scholarships are: 1. Two to four Warneford Scholarships, each £25 for four years; subjects—mathematics, classics, divinity. 2. One Sambrooke Exhibition of £25 for two years, open; subjects of examination—mathematics, elementary physics, inorganic chemistry, botany, and biology. The holders of the preceding awards must proceed to King's College Hospital. 3. Rabbeth Scholarship, value £20, in July, for the best student of the first year. 4. Second year's scholarship, value £20, for the best student of the second year.

Fees.—Information as to fees can be obtained from the Dean of the Medical Division of the Faculty of Science at the College.

Information as to scholarships and subjects of examinations can be obtained from the Secretary of the College.

University College.

THIS institution, one of the principal component parts of the University of London, possesses a Faculty of Medical Sciences whose work covers all the subjects included in the group commonly known as the preliminary medical sciences—namely, physics, chemistry, botany, and zoology; and also the intermediate medical sciences—namely, anatomy, physiology, and pharmacology. The Department of Hygiene and Public Health prepares for the diplomas in public health of the Royal Colleges and of the various universities. Research work is undertaken in all the above-named departments, as well as in pathological chemistry, the work of which is entirely post-graduate. It undertakes the education of students in all the subjects mentioned, leaving them free to complete their education in the strictly professional subjects—medicine, surgery, and the like—at any one of the recognized schools of advanced medical studies. The work is somewhat differently arranged, accordingly as whether the student has in view the degrees of the University of London or the diplomas of the Royal Colleges. In either case the whole work to be done is divided into courses devised to meet the requirements of different examinations, and students can join the College for any of them. The general arrangements for the benefit of students include membership of the Union Society, with its gymnasium and athletic ground. There is also a collegiate residence for about forty students at Ealing.

Scholarships.—The scholarships and exhibitions obtainable include the Bucknill Scholarship, value 135 guineas, in chemistry, physics, botany, and zoology (the successful student must complete his work at University College Hospital Medical School), and two entrance exhibitions on the same subject, each of the value of 55 guineas.

Fees.—The fees for the courses covering the work of the First Examination for medical degrees of the University of London, and in both parts of the Second Examination, amount to 84 guineas. The fees for the courses covering the corresponding examinations held by the Conjoint Board in England come together to 79 guineas. These fees may be divided into payments for the different courses which it may be desired to take out, but do not cover tuition for more than a stated period.

A handbook specially relating to this faculty may be obtained on application to the Provost of University College.

Cooke's School.

THIS school is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half a dozen students in the course of the year; these have special advantages, both as regards anatomy and physiology. The fees, we are informed, are but slightly in excess of current charges. The operations of surgery are performed on the dead body.

The school, which is open all the year round, possesses a good collection of anatomical models, physiological and chemical apparatus, and gentlemen preparing for the higher examinations (F.R.C.S.Eng., M.B.Cambridge, Oxford, London, etc.) receive special instruction in the more difficult subjects. Other information may be obtained from the Secretary on the school premises, Handel Street, W.C.

THE PROVINCES.

THERE are in England and Wales, not counting London, ten medical schools, each, with one exception, supplying instruction in the full medical curriculum. Accounts of them here follow, these being placed more or less roughly in the order of their foundation. In several cases there is appended information concerning other hospitals than those directly connected with the school in question; such hospitals, officially and unofficially, play a part in the education which the students of the school receive, and in any case serve as places of additional or post-graduate study.

Oxford and Cambridge.

BOTH at Oxford and Cambridge there are medical schools which furnish unsurpassed opportunities for obtaining a good knowledge of the preliminary sciences and of anatomy, physiology, and pathology. The laboratories are excellently equipped, and the teaching staffs most distinguished. Both schools provide a full medical curriculum, and there is no essential reason why the student should not complete his career at either of them, but this is not commonly done. The local hospitals are comparatively small, so the authorities encourage the students, so soon as they have completed the earlier examinations, to join some London school, and thus spend the time of their preparation for the final examination in a city where the opportunities for gaining clinical knowledge are greater and more varied.

University of Durham College of Medicine.

THIS, the Medical School of the Faculty of Medicine of the University of Durham, is in the neighbouring city, Newcastle-on-Tyne. Its classes and lectures are arranged to meet the requirements of the university in all the degrees which the latter grants, and also those of the other examining bodies. The students do their work in the preliminary sciences at Armstrong College, also part of the university, and their clinical work in the new *Royal Victoria Infirmary*, an institution with over 400 beds and special accommodation for the benefit of students. In a new wing of the school itself there are the departments of bacteriology and physiology. There are also in this wing a gymnasium and a set of rooms for the use of the Students' Union.

Appointments.—Assistant demonstrators of anatomy and prosectors for the professor of anatomy, assistant

physiologists, pathological assistants, assistants to the dental surgeon, and assistants in the eye department, throat and ear department, and department for skin diseases, are elected annually. Four times in the year clinical clerks and dressers are appointed for three months.

Scholarships.—A University of Durham Scholarship, value £100, for proficiency in arts, open annually at the beginning of the winter session to intending students. The Pear Scholarship, value £150, for proficiency in arts (when vacant). The Dickinson Memorial Scholarship, interest of £400, with a gold medal, for medicine, surgery, midwifery, and pathology, open to perpetual students in their fifth year. The Tulloch Scholarship, interest of £400 annually, for anatomy, physiology, and chemistry, for students at the end of their second year. The Charlton Memorial Scholarship, interest of £700 annually, open to full students entered for the class of medicine, at the end of their fourth or fifth winter. The Gibb Scholarship, interest of £500 annually, for pathology, at the end of summer session. Gibson Prize, interest of £225, for midwifery. Outterson Wood Prize, interest of £250, for psychological medicine. The Goyder Memorial Scholarship, proceeds of £325; subjects: Clinical medicine and clinical surgery. Luke Armstrong Memorial Scholarship, proceeds of £680, for best essay in some subject in comparative pathology. The Stephen Scott Scholarship in Surgery, interest on £1,000 annually. The Heath Scholarship in Surgery, interest on £4,000, awarded every other year. First award in 1896.

Fees.—The composition fee for lectures at the college is 72 guineas. Composition fee for hospital practice 35 guineas, *plus* £2 2s. yearly for three years payable to Committee of Royal Victoria Infirmary. Other information should be sought from the Secretary of the School at Newcastle.

Other Hospitals.—The Hospital for Sick Children and the Infirmary for Diseases of the Eye throw open their various departments to students.

Birmingham.

The school in this city is carried on by the Medical Faculty of the University of Birmingham, its students having an adequate number of good laboratories, classrooms, and other necessaries devoted to their use by the university. The clinical work is done at the General and Queen's Hospitals, which are amalgamated for this purpose. Together they have upwards of 500 beds for medical, surgical, and special cases, and with an array of special departments of all kinds, including one for lying-in women. Clinical instruction is given in the wards and out-patient and special departments daily, and formal clinical lectures delivered weekly throughout the winter and summer sessions. Special tutorial classes are also held alike for the degrees of Birmingham and some other universities and for the diplomas of Corporations.

Appointments.—The large number of appointments open to past or other students include the following:—At the General Hospital: 1 resident medical officer, salary £100 a year; 1 resident surgical officer, salary £100 a year; 1 resident pathologist, salary £50 a year; 2 non-resident casualty assistant physicians, salary £50 a year; 3 non-resident surgical casualty officers, salary £50 a year; 2 non-resident anaesthetists, salary £50 a year; 4 house-surgeons, office tenable for nine months, £50 a year; 1 house-surgeon to the gynaecological and 1 to the ophthalmic and aural departments, each tenable for six months, £50 a year; 3 house-physicians, post tenable for six months, £50 a year; 1 resident medical officer at the Jaffray Branch Hospital, salary £150 a year; 1 resident assistant at the Jaffray Branch Hospital, tenable for three months. At the Queen's Hospital: 3 house-physicians and 3 house-surgeons (post vacant in January and April); 1 obstetric and ophthalmic house-surgeon (post vacant in April and October). These appointments are tenable for six months. Salaries at the rate of £50 per annum, with board, lodging, and washing. One resident dresser, tenable for three months; candidates must previously have attended their lectures, etc., and need not be qualified. At the Maternity Hospital: 1 house-surgeon, salary £50 a year. At the City Workhouse and Workhouse Infirmary: 5 resident medical officers. At the Birmingham General and Branch Dispensaries: 12 resident surgeons. At the Birmingham Lunatic Asylums: 5 assistant medical officers. At the City Fever Hospitals: 3 assistant medical officers. At the Children's Hospital: 1 resident surgical officer, 1 resident medical officer. At the Birmingham and Midland Eye Hospital: 4 resident surgeons. At the Orthopaedic and Spinal Hospital: 2 clinical assistants (non-resident). At the Ear and Throat Hospital: 1 house-surgeon, £70 a year; 4 clinical assistants (non-resident). There are also 4 non-resident Poor Law appointments in the gift of the Board of Guardians.

Scholarships.—There are numerous money and other awards for students of sufficient merit, among them being the following: The Walter Myers Travelling Studentship of £150; the Sands-Cox Scholarship of £42 (an entrance scholarship in the Faculty of Medicine, awarded on matriculation marks); four Queen's Scholarships of £10 10s. each, awarded annually at the second, third, fourth, and final university examinations respectively; one or more Sydenham Scholarships, allotted on entrance to students who are the sons of deceased medical men. The Ingleby Scholarship of £10 for proficiency in midwifery and diseases of women. There is also an entrance scholarship of £37 10s. for students proceeding to a degree in dental surgery. University Clinical Board Prizes are awarded annually as follows: Senior Medical Prize, Gold Medal; Senior Surgical Prize, Gold Medal; Midwifery Prize, Gold Medal; Junior Medical Prize, Silver Medal; Junior Surgical Prize, Silver Medal.

Fees.—The composition fee is £85. This covers all the work required for the degrees of Birmingham and some other universities, and for the ordinary qualifications of licensing corporations, but not the additional courses required for the Fellowship of the Royal College of Surgeons of England, the diploma and degrees of the university in State medicine and some other special work. Other information should be sought from the Dean of the Medical Faculty.

Manchester.

The staff of the Medical School in this city constitutes the Medical Faculty of the Victoria University, all the arrangements for the instruction of students, both in their earlier and their later studies, being of an elaborate nature. The clinical work of the undergraduates is done chiefly in connexion with the Royal Infirmary, an institution which itself contains about 592 beds, and has associated with it a large convalescent home and the Royal Lunatic Asylum at Cheadle. Instruction in practical gynaecology and midwifery is given at the Royal Infirmary and the St. Mary's Hospitals.

Appointments.—The following are among the appointments open to past and present students of this school in connexion with its arrangements for clinical tuition: A surgical registrar, at £75 per annum; a pathological registrar, at £100 per annum; a medical registrar, at £75 per annum; a surgical tutor, at £30 per annum; a director of the clinical laboratory, at £250 per annum, and 1 assistant director, at £75; 3 assistant medical officers and 3 assistant surgical officers, each at £35 per annum; 1 assistant surgical officer, Aural department, at £35 per annum; 5 anaesthetists, at £50 per annum each; 1 medical officer for radiography and electricity, £100 per annum; 1 medical officer for home patients, one year, £150 per annum; 1 resident medical officer, one year, £150 per annum; ditto, at Cheadle, one year, £150 per annum; 1 resident surgical officer, one year, £150 per annum; 2 resident medical officers for Central Branch, £100 per annum; 1 accident room house-surgeon, six months, £100 per annum; 1 assistant medical officer at the Convalescent Hospital at Cheadle, appointed every six months, at a salary of £80 per annum; 8 senior and 8 junior house-surgeons and 10 house-physicians, appointed during the year for a term of six months. Resident officers are appointed to the Gynaecological, the Eye, and the Ear and Throat departments every six months. Four or more clinical clerks are attached to each physician and assistant physician, and 4 or more dressers to each surgeon and assistant surgeon, to the Gynaecological surgeon and assistant Gynaecological surgeon, to the Ophthalmic surgeon, and to the surgeon for the Ear and Throat department, and 4 or more clerks to the Pathologist, 2 clerks to the Director of the Clinical Laboratory, and a number of clerks, not exceeding 6, are appointed to assist the medical officer for home patients. Accident-room dressers are appointed every three months, 3 senior dressers and 12 or more junior dressers.

Entrance and other Scholarships.—The following are among the scholarships obtainable by students of the school: Rogers and Seaton Scholarships in Arts (in alternate years), £40 per

annum, tenable for two years. Two Dalton (entrance) Scholarships in Mathematics, tenable for two years, value £40, one being awarded annually, except in such years as a Cartwright Scholarship is awarded. Cartwright Scholarship, £35 per annum, tenable for three years. Three Hulme Scholarships, tenable for three years, of £35, one being awarded annually for proficiency in subjects of general education. Two James Gaskill Scholarships of £35, tenable for two years, one being awarded annually for proficiency in the branches of Mechanics and Chemistry. A Dora Muir Scholarship, £30 per annum, tenable for three years, and open to the competition of women students only. This is awarded triennially; next competition in May, 1917. Sir J. P. Kay-Shuttleworth Scholarship, £30 per annum, tenable for three years, open to the competition of scholars from Sedbergh School, Giggleswick School, and Burnley Grammar School. Subjects: Mathematics, Chemistry, and Mechanics. Dreschfeld Memorial Scholarship, value £30, tenable for one year and awarded triennally on the results of the Entrance Examination. A Theodores Modern Languages Exhibition, £20, awarded annually. Two Dauntesey Medical Scholarships, value £45 and £35, tenable for one year, for candidates who have not commenced the second year of study leading to a medical qualification. Subjects: Zoology, Botany, and Chemistry. Two Entrance Scholarships in Medicine, value £100, awarded annually for proficiency in Arts or Science respectively. Two Research Fellowships in Public Health of £50 each, awarded annually. Tom Jones Exhibition in Anatomy: £25, offered annually. Robert Platt Physiological Exhibitions: Two, about £15 each, offered annually. A Robert Platt Physiological Scholarship of £50, tenable for two years. A Robert Platt Zoological and Botanical Scholarship, £50. A Leech Fellowship of £100 for original research after graduation. A Graduate Scholarship in Medicine: One of £25, tenable for one year, awarded annually for proficiency shown at Final M.B. Examination. The Tom Jones Memorial Surgical Scholarship: Value £100, tenable for one year, awarded usually triennially; next award in September, 1916. The Turner Medical Scholarship: Value £20, awarded annually for proficiency in certain subjects of the Final M.B., Ch.B. Examination. The John Henry Agnew Scholarship of £30, awarded annually for proficiency in the Diseases of Children. The Bradley Memorial Scholarship in Clinical Surgery of £20. The Ashby Memorial Scholarship, tenable for one year (£100), for research in the Diseases of Children; offered biennially; next award, 1916. Sidney Renshaw Exhibition in Physiology: One, offered annually.

Fees.—The composition fee for the university courses in medicine is 70 guineas, payable in three instalments of 30, 20, and 20 guineas, but this sum does not include the fee to cover the work required for the First M.B. Examination. This is £25, payable in one sum. A prospectus and further information about the school and scholarships may be obtained on application to the Registrar.

Clinical Work.—The Royal Eye Hospital, the Manchester Northern Hospital for Women and Children, the well-known Hospital for Children at Pendlebury, and St. Mary's Hospital for Diseases of Women and Children all make arrangements for the instruction of students.

LIVERPOOL.

THE Medical School of this city is part of the university, and, owing to the enlightened liberality of several men of wealth, is exceptionally well provided with special laboratories, as well as with ordinary spacious and well-equipped classrooms and laboratories for the instruction of students proceeding to medical degrees and diplomas in special and ordinary subjects. All the laboratories and other rooms are situated close to one another and intercommunicate, together forming large blocks of buildings. The work of students throughout all stages of their career is arranged upon very satisfactory lines, and the teaching hospitals, of which an account is given below, have amalgamated to form the clinical school of the university.

Appointments.—The nature of the appointments open to past and other students at this school will be gathered from the account which follows of the hospitals forming its clinical department.

Scholarships.—The awards made each year to successful students total over £1,000. They include the following: Two Holt Fellowships, one in Pathology, the other in Physiology; a Robert Gee Fellowship in Anatomy; an Alexander Fellowship for Research in Pathology; a Johnston Colonial Fellowship in Pathology, Bacteriology, and Bio-Chemistry; a John W. Garrett International Fellowship in Physiology, Pathology, and Bio-Chemistry; an Ethel Boyce Fellowship in Gynaecology and Pathology, and a Thelwall Thomas Fellowship in Surgical Pathology, all of the value of £100; a University Scholarship of £25, awarded on the results of the Second M.B. Examinations; a Scholarship in Mechanical Dentistry of £20; two Lyon Jones Scholarships, of the annual value of £21 each for two years, one for the junior and the other for senior students; the Derby Exhibition of £15; the Clinical School Exhibition of £15; the Torr Gold Medal in Anatomy; the George Holt Medal in Physiology; the Kanthack Medal in Pathology; the Robert Gee Prize of £5 5s. in Children's Diseases; two Robert Gee Entrance Scholarships, each of the value of £25 per annum for two years; Orthodontia Prizes, Senior £3 3s., Junior £1 1s.; Dental Operating Prizes, Senior £4 4s., Junior £2 2s.; Ash's Prize in Dental Surgery, value £2 2s.; and other Entrance Scholarships.

Fees.—Information as to the fees paid for the courses of instruction provided by the schools should be sought from the Dean of the Medical Faculty.

The Clinical School.

As many as 9 hospitals have combined to form the clinical school of the university, these being: The Royal Infirmary, the David Lewis Northern Hospital, the Royal Southern Hospital, the Stanley Hospital, the Infirmary for Children, the Hospital for Women, the Eye and Ear Infirmary, St. Paul's Eye Hospital, and St. George's Hospital for Diseases of the Skin. Between them they provide over 1,200 beds.

LEEDS.

THE School of Medicine—which is open to both male and female students—in this city forms the teaching centre of the Medical Faculty of the University of Leeds, and is situated in immediate proximity to the General Infirmary, where students sufficiently advanced receive their clinical instruction. The buildings were opened in 1894, and contain excellent dissecting rooms, several well-arranged laboratories for physiology, pathology, and bacteriology, three lecture theatres, and several similar class rooms. In addition there are a library and reading room and two museums, one being devoted to pathology and the other to anatomy. The comfort of the students is secured by common rooms and refectory in which they can take meals. It is estimated by the authorities that the approximate cost of medical education to a student in this university is £195, *plus*, of course, the expenses of living during the five years covered by the curriculum. The General Infirmary has over 420 beds in constant use, and includes gynaecological and ophthalmic wards and a large out-patient department. The Ida and Robert Arthington Semi-convalescent Hospitals, Cookridge, attached to the infirmary, has over 80 beds. The West Riding Lunatic Asylum at Wakefield is also open for the study of mental diseases. Students can, in addition, attend the practice of the Leeds Public Dispensary (where the practical instruction in dental subjects is also given), the City Fever Hospitals (100 beds), the Hospital for Women and Children, and the Leeds Maternity Hospital.

Appointments.—One senior anaesthetist, £50; 7 assistants, £25 each; medical and surgical tutor, at £125 each per annum; 1 resident medical and 1 surgical officer, each at £150 per annum; 1 casualty officer, at £125 per annum; 1 resident ophthalmic officer, at £100 per annum; 1 resident aural officer, at £100 per annum; 1 resident obstetric officer, at £50 (attached to the gynaecological ward and an extensive external maternity department); 1 ophthalmic house-surgeon, at £50 per annum; 3 house-physicians, each holding office for six months, and 4 house-surgeons, holding office for six months. Surgical dressers are appointed every six months; physicians' clerks, ophthalmic and aural dressers, gynaecological ward clerks, gynaecological out-patient clerks, maternity clerks, assistant physicians' clerks, dermatological clerks, and assistant surgeons' dressers, dressers in the casualty room, *post-mortem* clerks, and laboratory assistants every three months. A clinical pathologist (£300 per annum), together with an assistant clinical pathologist (£150), has charge of the pathological laboratory. A resident medical officer (honorarium, £30) is also appointed every six months for the Ida Semi-convalescent Hospital. Appointments are also open to students at the Leeds Public Dispensary (1 senior and 4 junior resident medical officers, with salaries commencing at £80), at the Hospital for Women (2 house-surgeons, at £50 per annum, and 2 anaesthetists, £20), and at the West Riding Asylums.

Scholarships.—The university awards annually a scholarship on the results of the July Matriculation Examination in the form of a free admission to the lectures and classes given in the university, which are covered by the composition fee. The

infirmary also awards a scholarship on the results of the first examination, of the value of 40 guineas, in the form of a free admission to the clinical teaching of the infirmary.

Fees.—The fee for a complete course for the First M.B. is £27; the composition fee for the course for the second and third examinations is £73 2s. 6d. (for students who have passed the second examination, £48 16s. 6d.), and for the clinical work at the infirmary, £42.

Further information can be obtained from the Academic and Clinical Subdeans, School of Medicine, Leeds.

SHEFFIELD.

IN this city the Medical School is one of the departments of the university, being conducted and controlled by its Medical Faculty, and occupying practically the entire north wing of the quadrangle of the university buildings overlooking Weston Park. The laboratories and lecture rooms connected with the subjects of the first and second examinations — namely, chemistry, physics, biology, anatomy, and physiology—are, both as regards structural arrangements and scientific equipment, on the most modern and complete lines. No expense has been spared in the matter of apparatus for teaching or research work, and the facilities for practical study in these subjects are as excellent as all the other arrangements of the school.

For students of pathology and bacteriology there are laboratories replete with everything necessary for the most advanced work, and a large pathological museum, which is open daily. In addition, there is a museum devoted to materia medica specimens, and a large library and reading room. There are a number of recreation, athletic, and other societies, all under the management of an annually elected students' representative council, and large and comfortable common rooms both for men and women students. In the university buildings there is a refectory open to all students of the school, and a university journal, *Floreamus*, edited by a joint committee of the staff and students, is published each term. The ordinary clinical work of the school is done at the Royal Infirmary and Royal Hospital, which have amalgamated for the purpose of clinical instruction, and provide 517 beds for the treatment of medical, surgical, and special cases, including diseases of the eye.

In addition, the Royal Infirmary has special departments for the treatment of diseases of the skin and ear, with beds assigned to them; whilst at the Royal Hospital there are special out-patient departments for diseases of the throat, ear, skin, orthopaedics, and mental diseases. The medical and surgical staffs attend daily, and give clinical instruction in the wards and out-patient rooms. Clinical lectures in medicine and surgery are given weekly. Instruction in the practical administration of anaesthetics is given at either institution by the anaesthetists, and the *post-mortem* examinations at both institutions are in charge of the Professor of Pathology, and afford ample material for study of this subject. Students also have the advantage of being able to attend the practice of the Jessop Hospital for Diseases of Women, while special courses on fever are given at the City Fever Hospital, and on mental diseases at the South Yorkshire Asylum.

Appointments.—The following appointments are open to all students who have passed their examinations in anatomy and physiology: (1) Casualty dresserships, (2) surgical dresserships, (3) medical clerkships, (4) pathological clerkships, (5) ophthalmic clerkships, (6) clerk to the skin department, etc. Except in the case of casualty dressers, these appointments are made for three months, commencing on the first day of October, January, April, and July. The casualty dresserships last two months, beginning on the first of any month. All students are required to hold them, and to have attended the tutorial classes for casualty dressers, before being eligible for any other of the above appointments.

Scholarships.—Entrance Medical Scholarship, value from £122 to £130, open to both sexes. A Special Medical Scholarship, value £100, open to women only, is awarded on the result of the Joint Board Matriculation Examination. Open to any woman candidate over 16 and under 25 who has not previously registered as a medical student. Two Town Trustees' Scholarships, each of the value of £50, tenable for three years, for boys or girls under the age of 19 years who have been educated in a Sheffield secondary school for a period not less than two years immediately preceding the examination. Four Town Trustees' Scholarships, value £50, for boys or girls under 19 years of age, educated in any school in Sheffield, secondary or otherwise. Town Trustees' Fellowship, value £75, tenable for one year. Mechanics' Institute Fellowship, value £50 (with remission of fees), tenable for one year, and renewable for a second year. The Frederick Clifford Scholarship, value about £50, tenable for two years. Kaye Scholarship, for proficiency in anatomy and physiology, value £22 10s. Gold and bronze medals are also awarded for proficiency in various subjects.

Fees.—The composition fee of £80, payable in three instalments, covers attendance on all the courses of lectures and practical classes, except pharmacy, required for a degree course in the university, or for the ordinary qualifications in medicine and surgery of the Examining Boards. It does not include hospital practice, the fee for which is £49 17s. 6d., payable in three instalments.

BRISTOL.

THE school is carried on by the Faculty of Medicine of the university, and provides full instruction for all its degrees and diplomas. The allied hospitals (Bristol Royal Infirmary and Bristol General Hospital) have between them 470 beds and extensive out-patient departments, special clinics for diseases of women and children, and those of the eye, throat, and ear, in addition to arrangements for dental work and large outdoor maternity departments. At each of these institutions there are well-arranged pathological departments, comprising large pathological museums, *post-mortem* rooms, and laboratories for morbid anatomy. There are also laboratories for work in clinical pathology, bacteriology, and cytology, in which special instruction is given in these subjects. Departments are provided and well equipped for *x*-ray work, both for diagnosis and treatment, the various forms of electrical treatment, including high-frequency currents, electric baths, Finsen light treatment, and massage.

The students of the school have also the advantage of attending the practice of the Royal Hospital for Sick Children and Women, containing 108 beds, and that of the Bristol Eye Hospital, with 40 beds. The total number of beds available for clinical instruction is therefore upwards of 600. Excellent facilities are thus afforded to students for obtaining a wide and thorough acquaintance with all branches of medical and surgical work. Each student has the opportunity of personally studying a large number of cases and acquiring practical skill in diagnosis and treatment. All classes are open to women.

Appointments.—(1) Undergraduate: Clinical clerkships, dresserships, also ophthalmic, obstetric, and pathological clerkships, are tenable at the Bristol Royal Infirmary and the Bristol General Hospital. In these institutions the dressers reside in rotation free of charge. (2) Post-graduate: —At the Bristol Royal Infirmary: Two house-surgeons, £100 each per annum; 2 house-physicians, £100; resident obstetric and ophthalmic house-surgeon, £75; throat, nose, and ear house-surgeon, £75; casualty officer, £50; dental house-surgeon, £100. All these appointments are made for twelve months, except that of casualty officer, which is for six months. From the resident officers a senior resident officer is appointed at an additional salary of £30. At the Bristol General Hospital: Senior house-surgeon, £150 per annum; casualty house-surgeon, £100 per annum, if another resident appointment has been previously held; two house-physicians, £80 per annum; house-surgeon, £80 per annum; dental house-surgeon, £200 per annum. All these appointments are for six months, except that of senior house-surgeon, which is for three years, and that of dental house-surgeon, which is for two years.

Scholarships.—The following are among the scholarships and other awards open to students of the school: Two Martin Memorial Pathological Scholarships, of £10 each; the Tibbits Memorial Prize, value 9 guineas, for proficiency in practical surgery; the Committee's Gold and Silver Medals for fifth-year students for general proficiency; the Augustin Prichard Prize, value 7 guineas, for proficiency in anatomy; the Henry Clark Prize, value 11 guineas, for general proficiency; the Crosby Leonard Prize, value 7 guineas, for proficiency in surgery; the Suple Surgical Prize, a gold medal and 7 guineas; the Suple Medical Prize, a gold medal and 7 guineas; the Henry Marshall Prize, value £12, for dressers; the H. M. Clarke Scholarship, value £15, for proficiency in surgery; the Sanders Scholarship, value £22 10s., for general proficiency.

Fees.—The fee for all the courses required for the medical curriculum, including hospital practice, is 135 guineas.

Cardiff.

The school in this city is carried on by the University College of South Wales and Monmouthshire, and devotes itself at present principally to training students during the first three or four years of the medical curriculum, all classes being open to women students. The courses of instruction given are recognized by all licensing bodies in Great Britain, and after passing the tests corresponding to the first three years of the curriculum, the student can complete his course, for whatever degree he is aiming at, in London or elsewhere. Besides this, there is an arrangement with the Managing Committee of the infirmary by which students at the school can take advantage of the opportunities for acquiring experience afforded in the wards of this large, well-ordered hospital. Hence many students, especially from Wales and Monmouthshire, find it convenient to avail themselves of the advantages of being able to pursue the earlier part of their medical curriculum near home. They can also obtain instruction in vaccination and in the administration of anaesthetics, and with a little additional work can qualify for the B.Sc. degree of the University of Wales. This degree includes the subjects which comprise the first three years of a medical student's curriculum, and it (or the B.A.) is a compulsory degree for those students who propose to sit for the M.B., Ch.B. of the University of Wales. There is also a department of public health, in which all the work for diplomas in State medicine, whether for the University of Wales or other Examining Boards, can be done. A Chair of Pathology and Bacteriology has been established, and before long there will be facilities for the study of the subjects of the fourth year of the medical curriculum.

Post-graduate vacation courses are carried on in association with the Cardiff Infirmary.

Scholarships.—There is a considerable number of scholarships connected with the college, and open to students of the School of Medicine, information as to which can be obtained on application.

Fees.—The composition fee for the three years' courses required for students proceeding to the M.B.Lond. is £63; that for the two years' courses for students proceeding to a diploma of the licensing corporations being £41 10s. The composition fee for D.P.H. classes is £30. Further information may be obtained on application to the Dean of the Faculty of Medicine.

SCOTLAND.

As will be gathered from the following paragraphs, the facilities for acquiring a medical education in Scotland are very ample, whether the student be proceeding to a university degree or to a diploma. To the descriptions of its different medical centres is in some cases added an account of hospitals which either play an official part in the education given to students as yet unqualified or offer valuable opportunities for post-graduation work.

Aberdeen.

The school is conducted by the Faculty of Medicine. This comprises twelve chairs, from which instruction is given in all the main branches of medical science—namely, botany, zoology, physics, chemistry, anatomy, physiology, materia medica, pathology, forensic medicine, surgery, medicine, and midwifery. Special opportunities for practical instruction are afforded in the laboratories and museums attached to these departments.

Clinical instruction is obtained in the Royal Infirmary (accommodating 230 patients), the Royal Lunatic Asylum (700 patients), the Sick Children's Hospital (85 patients), the City Fever Hospital (250 patients), the General Dispensary, Maternity, and Vaccine Institution (10,000 out-patients annually), and the Ophthalmic Institution (1,600 patients annually). Courses of practical instruction are given in diseases of children at the Sick Children's Hospital; in fevers at the City Fever Hospital; in insanity at the Royal Asylum; in diseases of ear, nose, and throat at the Infirmary and Dispensary; in diseases of the eye at the Infirmary and Eye Institution; in diseases of the skin at the Royal Infirmary.

Bursaries.—Scholarships and Fellowships, to the number of fifty and of the annual value of £1,180, may be held by students of medicine in this university. They range from £8 to £100 per annum, and are tenable in most cases for two or three years.

Fees.—The fee for each university course is, as a general rule, £4 4s.; and for a second attendance, £3 3s. An inclusive fee of 90 guineas is now payable, covering the necessary instruction within the university. Matriculation fee, both sessions, £1 1s.; summer session alone, 10s. 6d. Royal Infirmary, perpetual fee, £10; or, first year, £5 10s.; second year, £5. The winter session begins on October 15th.

Edinburgh.

There are three Schools of Medicine: the School of the University, the School of Medicine of the Royal Colleges, Edinburgh, and the Edinburgh School of Medicine for Women.

The University School.—This school, in addition to other resources of the university, has the following means of affording practical instruction: Royal Botanic Garden, Herbarium, and Museum; Zoological Laboratory and Museum of Science and Art; Physical Laboratory; Chemical Laboratories; Dissecting Room, Bone Room, and Anatomical Museum; Physiological Laboratory; Medical Jurisprudence Laboratories; John Usher Institute of Public Health; Materia Medica Museum and Laboratory; *Post-mortem* Department of the Royal Infirmary and University Pathological and Bacteriological Laboratory; Tutorial Classes of Practice of Physic, of Clinical Medicine, and Clinical Surgery, Surgery, and Midwifery; and the practice of the hospital mentioned on the following page.

Fees.—The sessional fee for zoology, botany, chemistry, anatomy lectures, physiology, pathology, materia medica, medical jurisprudence, surgery, medicine, midwifery and gynaecology, clinical surgery (winter), clinical medicine (winter), is £4 4s. each. Second course £3 3s. Third free. A perpetual ticket taken at the beginning of the first year is £6 6s. Physics, practical chemistry, advanced practical physiology, practical pathology, practical anatomy (winter), operative surgery, obstetric operations, practical materia medica, including pharmacy, pathological bacteriology, experimental pharmacology, vertebrate morphology and comparative embryology, are £3 3s. Clinical surgery, £2 2s. per term. Clinical medicine, first term, £3 13s. 6d.; subsequent terms, £2 2s. No perpetual ticket in these subjects. Practical botany (besides garden fee of 5s.), elementary practical zoology, practical physiology (experimental), practical physiology (histological), practical botany (advanced), practical zoology (advanced), practical anatomy (summer), anthropology, anatomy demonstrations, diseases of children, diseases of the eye, diseases of the larynx, ear, and nose, diseases of tropical climates, clinical instruction on diseases of the skin, regional anatomy, physiological chemistry, invertebrate zoology, organic chemistry, mental diseases, £2 2s. Applied anatomy (medical and surgical), £1 1s. Vaccination, £1 1s.

Scholarships.—There is a very large number of funds for the assistance of students by means of bursaries, scholarships, exhibitions, and money awards from the beginning to the end of their undergraduate career. In addition there are funds which help those who have taken a first degree in medicine and surgery to continue at work as research students. The value of these awards, and the conditions attaching to them, are so varied that those interested should consult the prospectus of the school itself. No other university is in a better, even if in as good, a position to smooth the financial path of earnest students.

The School of Medicine of the Royal Colleges.—This school is composed of lecturers licensed by the Royal College of Physicians and the Royal College of Surgeons, and also recognized by the university through their *licentia docendi;* for the sake of convenience they lecture in separate buildings near to the Royal Infirmary, but form a single corporate body governed by a board consisting of five members elected by the Royal College of Physicians, of five members elected by the Royal College of Surgeons, and of five members elected by the lecturers in the school. This board, with the assistance of the standing committees of the school, supervises the whole management, and especially the maintenance of the efficiency and discipline of the school. The different buildings at present utilized for the purposes of lecturing

are the following: (1) Surgeons' Hall, Nicolson Street; (2) New School, Bristo Street; (3) Nicolson Square; (4) Marshall Street; and other places. The teaching is similar to that of the Scottish universities, and the students receive similar certificates at the close of each session. The courses on the special subjects not included in the curriculum of the Examining Boards are also conducted by teachers specially qualified in each branch, and have for the last quarter of a century formed a special feature of the school. The fees payable for class and other instruction, and including the sums payable on admission to the examination of the Conjoint Board for the triple qualification, amount to about £115. The Calendar, giving full information regarding classes and fees, can be obtained gratis on application to the Dean of the School, 11, Bristo Place, Edinburgh.

THE EDINBURGH SCHOOL OF MEDICINE FOR WOMEN.—The Edinburgh School of Medicine for Women provides all the classes required for a complete curriculum. The classes qualify for the university degree in medicine, for the diploma of the Royal Colleges, and for the triple qualification. The lecturers of the school are specially recognized by the Court of Edinburgh University for the education of women who propose taking the degree in medicine of the University of Edinburgh. Most of the classes are held in Surgeons' Hall. The office of the school and a sitting-room and other conveniences are provided in the same building for the use of the women students. The clinical instruction of the students is conducted in the wards of the Royal Infirmary specially set apart for the purpose, in the Royal Hospital for Sick Children, in the City Hospital for Infectious Diseases, at Bangour Asylum, and at the various public dispensaries. The fees and the regulations as to the course of study are the same as for pupils at the School for Male Students. Further particulars are obtainable from the Secretary of the School, Surgeons' Hall, Edinburgh.

Clinical Work.

A large number of institutions take part in the clinical instruction of students attending the Edinburgh schools, the more important of them being the Edinburgh Royal Infirmary; the Royal Victoria Hospital for Consumption; the Royal Edinburgh Hospital for Sick Children; the Edinburgh Eye, Ear, and Throat Infirmary; the Edinburgh Royal Maternity and Simpson Memorial Hospital; the Edinburgh City Hospital for Infectious Diseases at Colinton Mains; the Royal Mental Hospital, Morningside; and the District Asylum at Bangour Village. Taken together these institutions furnish some 3,000 beds.

GLASGOW.

THERE are five medical schools in this city: the two schools of the university, one of which (Queen Margaret College) is for women students; St. Mungo's College (the school of the Royal Infirmary), Anderson's College, and the Western Medical School.

THE UNIVERSITY SCHOOL FOR MEN.—The whole course of study required for graduation at the University of Glasgow can be passed here. Besides provision for lectures there is practical and clinical work at the hospitals, and practical courses are conducted in the laboratories of the following departments: Surgery, Pathology, Public Health, Pharmacy, Physiology, Anatomy, Chemistry, Zoology, Physics, and Botany; the Botanic Garden and the Hunterian Museum are also open to students. New buildings and equipments have been provided for botany, for practical anatomy, for operative surgery, as well as for pathology; the very large additions made a few years ago to the Chemical Laboratory rendered it one of the most extensive in Scotland. The classrooms and laboratories for the departments of Physiology, Materia Medica, and Medical Jurisprudence and Public Health are also of recent erection, and are elaborately equipped. The university, in short, has made great and successful efforts to extend and improve the accommodation of the medical departments, to strengthen the teaching staff, and to encourage post-graduate and research work. Three very extensive general hospitals in the city afford exceptional opportunities for clinical instruction—namely, the Western Infirmary (600 beds), near the university, and attended by the bulk of the men students; the Royal Infirmary (600 beds); and the Victoria Infirmary (260 beds); while the Royal Asylum (460 beds), the Royal Hospital for Sick Children (74 beds), the Maternity Hospital (34 beds), the Glasgow Eye Infirmary (100 beds), the fever hospitals at Belvidere (680 beds), and Ruchill (540 beds), and other institutions afford facilities for the practical study of special branches.

Bursaries.—Bursaries confined to the Medical Faculty amount in annual value to about £1,000, while bursaries in any Faculty, amounting to about the same annual sum, may be held by students of medicine, a number of both sets being open to women. Several valuable scholarships may be held by medical students who have graduated in Arts. Some of the bursaries are described below.

Fees.—The matriculation fee for each year is £1 1s. In most cases the fee for each university class is £4 4s., but in some cases it is £3 3s. For hospital attendance students pay an entrance fee of £10 10s. at the Western Infirmary, with an additional fee of £3 3s. for each winter and £2 2s. for each summer clinical course; at the Royal Infirmary the fees are somewhat similar. The university fee for the four professional examinations is £23 2s. (£6 6s. for each of the first and second examinations, and £5 5s. for each of the third and fourth). For the whole curriculum the fees for matriculation, class attendance, hospital attendance, and professional examinations amount to £150.

For further information apply to the Registrar, Glasgow University.

Bursaries.—The following bursaries are open to undergraduates of both sexes: The Gibson Bursary, annual value £56, tenable for four years. This is open to medical students who are preparing for service as medical missionaries in connexion with the Church of Scotland, and will be awarded to the eligible candidate who has gained the highest number of marks in the First Professional Examination. One Logan Bursary, annual value £16, tenable for four years; appointment by the Senate. The Mackintosh Mental Science Bursary in medicine, of the value of £31, is awarded annually to the student (of either sex) attending the class of insanity who stands first in an examination in that subject, the bursar to continue the practical study of the subject to the satisfaction of the Faculty of Medicine. The Gardiner Bursary, annual value £14, tenable for two years, will be awarded after the autumn professional examination to the candidate who has passed in physiology at the Second Professional Examination, and whose aggregate of marks in that subject and in chemistry and physics of the First Professional Examination is the highest. The following are tenable in any faculty: Two Pratt Bursaries (each £20 and tenable for four years); and two Taylor Bursaries (each £10, tenable for four years). Andrew and Bethia Stewart Bursaries (50 each, tenable for three years); candidates must have taken the M.A. degree of Glasgow. There is a special examination. Nine Glasgow Highland Society's Bursaries, for students of Highland descent, of the annual value of £25, and tenable for five years; two vacant each year. The Carnegie Trust for the Universities of Scotland is empowered to pay the whole or part of the university ordinary class fees of students of Scottish birth or extraction, under conditions given in the *University Calendar*. The Dobbie Smith Gold Medal is awarded for the best essay on a prescribed subject within the science of botany. The Brunton Memorial Prize of £10 is awarded annually to the most distinguished graduate in medicine of the year. The University Commissioners issued an ordinance to make regulations for the admission of women to certain bursaries, scholarships, and fellowships. Scholarships and fellowships are offered by the Carnegie Trust in science and medicine for post-graduate study. There are also four McCunn Medical Research Scholarships (£100 for one year) for graduates in medicine of the Scottish universities.

QUEEN MARGARET COLLEGE.—In this, the Women's Medical School of the University of Glasgow, the courses of study, degrees, regulations, fees, etc., are the same as for men. Women students have their own buildings, with classrooms, reading room, library, etc. They are taught in some classes apart from male students, in others together with them, but in either case have all the rights and privileges of university students. Their clinical studies are taken in the Royal Infirmary, where wards containing 400 beds are available for their use, and in its dispensary; also in the Royal Hospital for Sick Children, the Glasgow Ear Hospital, the Royal Asylum, Gartnavel; the Ophthalmic Institution, the City of Glasgow Fever Hospitals, Belvidere and Ruchill, and the Glasgow Royal Maternity and Women's Hospital.

Scholarship.—The Arthur Scholarship, annual value £20, tenable for three years. Open to competition by medical students of first year at the First Professional Examination in October each year. This scholarship is the gift of Mrs. Arthur, of Barshaw, and is restricted to women medical students.

Board for Students.—A house of residence for women students, Queen Margaret Hall, is situated near the college. The cost of board and residence is from 17s. 6d. to 25s. 6d.

per week, according to accommodation. Full information can be obtained from the Mistress, Queen Margaret College, or from the Warden, Queen Margaret Hall, Bute Gardens, Glasgow.

St. Mungo's College.—This is the Medical School of the Royal Infirmary, which is the largest in Glasgow. The infirmary is situated in Cathedral Square, Castle Street, and has car communication with every part of the city. St. Mungo's College is in the infirmary grounds.

The infirmary has (including the ophthalmic department) over 660 beds, the average number occupied in 1913 being over 600. There are special beds and wards for diseases of women, of the throat, nose, and ear, venereal diseases, burns, and septic cases. In the out-patient department the attendances in 1913 numbered over 180,000. In addition to the large medical and surgical departments, there are departments for special diseases—namely, diseases of women, of the throat and nose, of the ear, of the eye, of the skin, and of the teeth. There is also a fully equipped electrical pavilion, and year by year the latest and most approved apparatus for diagnosis and treatment are added.

Appointments.—Five house-physicians and ten house-surgeons, who must be fully qualified, are appointed every six months, and board in the hospital free of charge. Clerks and dressers are appointed by the physicians and surgeons. As a large number of cases of acute diseases and accidents of a varied character are received, these appointments are very valuable.

Fees.—The average class fee is £2 2s. The fees for all the lectures, practical classes, and hospital attendance necessary for candidates for the diplomas of the English or Scottish Colleges of Physicians and Surgeons amount to about £70. The classes are open to male and female students.

The Anderson College of Medicine.—This school provides education in all subjects of the curriculum both for medical and dental students. The school buildings are situated in Dumbarton Road, immediately to the west of the entrance of the Western Infirmary, within two minutes' walk of that institution and four minutes' walk of the university. The hospital practice and clinical lectures are provided in the Western or Royal Infirmary; pathology in the Western or Royal Infirmary; vaccination and dispensary practice in the Western or Royal Infirmary Dispensary. These classes are recognized by all the licensing corporations in the United Kingdom, and also by the Universities of London, Durham, Glasgow, and Edinburgh (the latter two under certain conditions which are stated in the school Calendar). The courses (lectures and laboratory) in public health are also recognized by the Scottish Licensing Board, Queen's University of Belfast, the Irish Colleges, and the University of Cambridge.

Fees.—The fees for the lectures and practical work required by ordinary students range between 1 and 5 guineas a session. In the Public Health Department the fee for a six months' course is £12 12s. The Carnegie Trust pays the fees of students at Anderson's College on conditions regarding which particulars may be obtained from the Secretary, Carnegie Trust Offices, Edinburgh.

A Calendar will be sent on receipt of a post-card by the Secretary to the Medical Faculty, the Anderson College of Medicine, Glasgow W., who will forward any further information which may be desired.

Glasgow Western Medical School.—This school, which is situated in University Avenue, faces the principal entrance to the university, and is not far from the Western Infirmary. The subjects in which it affords instruction by means of lectures and demonstrations are anatomy, medicine, surgery, ophthalmology, dermatology, midwifery, gynaecology, and diseases of the ear, the throat, and the nose. Some of the classes qualify for the medical degrees of the university, and also for the diplomas of the Scottish Conjoint Board. The fee for most of the subjects is £2 2s. There is no matriculation fee. Further particulars relating to the school can be obtained from its Secretary, Mr. J. N. Morton, 58, Bath Street, Glasgow.

Clinical Work.

The opportunities for obtaining clinical instruction and experience are ample, the following institutions all making arrangements for the benefit of ordinary and post-graduate students: The Royal Infirmary, the Glasgow Western Infirmary, the Glasgow Eye Infirmary, the Royal Hospital for Sick Children, and the Glasgow Hospital for Diseases of the Ear, Nose, and Throat.

St. Andrews and Dundee.

The medical departments in these two teaching centres cater specially for students proceeding to the degrees of the University of St. Andrews, but admit other students as well. In the former city the United College provides education in all subjects of the first two years. In Dundee, University College provides for the needs of students from the beginning to the end of the five years' curriculum. Its buildings are modern, and contain laboratories and work-rooms for anatomy, physiology, materia medica, pathology, ophthalmology, public health, medicine, surgery, and gynaecology. The clinical work of the school is facilitated by various institutions. The class fees are 4 guineas for systematic classes, and 3 guineas for practical classes. The hospital ticket is £1 1s. for three months, £3 3s. a year, or perpetual £10 in one sum or £10 10s. in instalments. Added up, the fees for the curriculum amount to about 100 guineas. In connexion with both institutions there are bursaries and scholarships of considerable value, which are awarded after competitive examination. Information as to these can be obtained from the Secretary of the University of St. Andrews. Information regarding the clinical facilities may be obtained from Professor Kynoch, Dean of the Medical Faculty, Medical School, Dundee.

Clinical Work.

Good opportunities for clinical work are afforded by the Dundee Royal Infirmary, the instruction given thereat being recognized for purposes of graduation by all the Scottish universities, the University of London, the University of Cambridge, the Royal University of Ireland, and by the Royal Colleges of England and Scotland.

IRELAND.

There is a choice of six schools for those prosecuting their medical studies in Ireland, and for clinical instruction the choice is equally satisfactory and varied, though the hospitals themselves are comparatively small. Some account of the schools follows:

Dublin.

The School of Physic.

This school is in Trinity College, Dublin, and is carried on under the joint auspices of the University of Dublin and of the Royal College of Physicians in Ireland; the King's professors of institutes of medicine, practice of medicine, materia medica, and midwifery being appointed by the latter. Clinical instruction is given at Sir Patrick Dun's Hospital, and some twelve other metropolitan hospitals and asylums are recognized by the Board. A three weeks' post-graduate course is given each autumn, and covers all departments of medicine and surgery. Information concerning the post-graduate course can be obtained from Dr. Alfred Parsons, 27, Lower Fitzwilliam Street.

The Schools of Surgery.

These are schools carried on in Dublin under the supervision and control of the Council of the Royal College of Surgeons. They are formed of the college's own school, combined with two famous old medical schools—Carmichael and Ledwich; they are attached to the college by charter. The buildings contain spacious dissecting rooms, one set apart for lady students, and special pathological, bacteriological, public health, chemical, and pharmaceutical laboratories. Advantage can be taken of the lectures and instruction afforded by students otherwise unconnected with the college.

Prizes.—Among the prizes annually awarded are: The Barker Anatomical Prize (£26 5s.); the Carmichael Scholarship (£15); the Mayne Scholarship (£8); the Gold Medal in Surgery, and the Stoney Memorial Gold Medal in Anatomy; class prizes of £2 and £1, accompanied by silver medals, will also be given in each subject.

The next session begins October 15th. A prospectus can be obtained post free on application to Mr. Alfred Miller, Registrar, Royal College of Surgeons, Dublin.

University College.

This is one of the constituent colleges of the National University of Ireland, and at present conducts its work at buildings on St. Stephen's Green, at those formerly occupied by the Cecilia Street School of Medicine, and at the University Buildings in Earlsfort Terrace. Its permanent home is not yet ready. It possesses a good library, and the arrangements for the teaching of medical students from beginning to end of the curriculum are adequate. The teaching staff is numerous, and through it the college is connected with many of the hospitals of the city. Students, however, are allowed to pursue their studies at any of the hospitals recognized for the purpose by the university.

Clinical Work.

There are numerous well-arranged hospitals in and around the city, and almost all of these are recognized for teaching purposes by the Conjoint Board of Ireland, the University of Dublin, the National University of Ireland, and by like bodies elsewhere in the United Kingdom. Among them are the Mater Misericordiae Hospital, with 345 beds; Dr. Steevens's Hospital at Kingsbridge, with 200; Meath Hospital and County Dublin Infirmary, with 160; Mercer's Hospital, close to Trinity College, with 120; the Royal City of Dublin Hospital, with 124; the Adelaide Hospital, with 140; the Royal Victoria Eye and Ear Hospital, with 100 beds; Sir Patrick Dun's, which has a direct connexion with the School of Physic, and the combined institutions formed by the Hardwicke Fever Hospital, the Richmond Surgical Hospital, and the Whitworth Medical Hospital, with an aggregate of 230 beds. As for that known as the Rotunda Hospital, this practically consists of two distinct hospitals, and is believed to be the largest combined maternity and gynaecological hospital in the United Kingdom. It receives nearly 3,000 patients every year, and apart from ordinary out-patient work of a gynaecological order annually attends approximately 2,000 women at their own homes during their confinement. It possesses residential quarters for students, and, taken as a whole, offers exceptional opportunities for study both to ordinary students and to post-graduates of any nationality.

BELFAST.

The Medical School is part of the Faculty of Medicine of Queen's University, Belfast, and provides a complete medical curriculum for all purposes. The laboratories in connexion with the departments of biology, chemistry, physiology, pathology, anatomy, physics, and materia medica are all excellent, and there is a Students' Union which gives students the advantage of dining rooms, reading rooms, a library, and various recreation rooms. Women are eligible as students. Clinical instruction is given at the Royal Victoria Hospital, which was rebuilt a few years ago and has 300 beds, and the Mater Infirmorum Hospital, which has 150 beds. Other hospitals open to the students of the university are: The Maternity Hospital, the Ulster Hospital for Women and Children, the Hospital for Sick Children, the Ophthalmic Hospital, the Benn Ulster Eye, Ear, and Throat Hospital, the Union Infirmary and Fever Hospital, the Fever Hospital, Purdysburn, the District Lunatic Asylum, the Samaritan Hospital, Forster Green Hospital for Diseases of the Chest, and the Belfast Hospital for Skin Diseases.

Scholarships.—(1) 12 are assigned as Entrance Scholarships in the Faculties of Arts, Science, and Medicine, tenable for one year; (2) 16 Professional Scholarships, value from £15 to £40 each; (3) 1 Hutchinson Stewart Scholarship, £12, in mental diseases; (4) 1 Mackay Wilson Travelling Scholarship, £100, awarded triennially; (5) Isabella Tod Memorial Scholarship, tenable for three years, awarded triennially to a woman student; (6) numerous sessional prizes. There is also a post-graduate research fund open to all graduates of not more than three years' standing. Gold medals are awarded at the M.D. examination.

Fees.—The cost of the curriculum intended for students proceeding to the degrees of the Queen's University of Belfast is, approximately, £105. This includes examination fees and a perpetual ticket for attendance at the Royal Victoria Hospital or the Mater Infirmorum Hospital, but not fees for the special hospitals. The course for the Conjoint Board costs about the same amount. A pamphlet containing full information can be obtained on application to the Secretary, Queen's University, Belfast.

UNIVERSITY COLLEGE, CORK.

This institution, formerly known as Queen's College, Cork, is one of the constituent colleges of the new National University. It holds examinations for all the faculties of that university, in addition to continuing the work which it has hitherto performed—namely, that of providing education adapted to the needs of medical students at all stages of their career. Its first aim is to fit students for the degrees of the new university, but students proceeding for the examinations of the Conjoint Boards of England, Scotland, or Ireland, the Society of Apothecaries of London, or the Apothecaries' Hall of Ireland, or London University, can arrange the courses of lectures which they attend, and the order in which they attend them, to meet the requirements of those bodies. Certificates of attendance at the college courses are also accepted by the University of Cambridge. Clinical instruction is given at the North and South Infirmaries (each 100 beds) and at the Cork Union Hospital (1,200 beds). Students can also attend the Mercy Hospital (60 beds), the County and City of Cork Lying-in Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglington Lunatic Asylum. The session extends from October to June inclusive. The college contains laboratories in the departments of biology, chemistry, physiology, pathology, and materia medica and pharmacy, and there are a botanic garden and plant-houses in the grounds.

Scholarships.—Over £4,000 is available annually for scholarships in the college. Particulars as to each of them can be obtained on application to the Registrar.

Fees.—The fees for the lectures and hospital attendances required by the National University of Ireland course, including examination fees, come to about £120. Further information can be found in the college regulations, or obtained on application to the Registrar.

UNIVERSITY COLLEGE, GALWAY.

This institution is one of the constituent colleges of the National University of Ireland, and includes Faculties of Arts, Science, Law, Engineering, and Medicine. Candidates for degrees in medicine must reside for three years. For the remaining two years certificates from any recognized medical school are accepted. The college buildings are well lighted and well ventilated, and contain dissecting rooms, an anatomical theatre, and laboratories for the study of physiology, chemistry, physics, and other departments of medical science. For pathology and chemistry new laboratories are in process of construction. It has good grounds surrounding it, and there are many arrangements, such as a library and an athletic union, for the benefit of those belonging to the Medical Faculty, as well as for students in other departments of the college. The clinical teaching, which is recognized as qualifying not only for the degrees of the National University, but for those of London University and the diplomas of the various colleges in the three kingdoms, is carried on at the Galway County Hospital, the Galway Union Hospital, and the Galway Fever Hospital. The former is a general hospital, and at the two latter students have ample opportunities of studying zymotic and chronic diseases. The Union Hospital has a special ward for diseases of children. The college entrance scholarships number thirteen, and range in value from £30 to £25 each. They are open to all students, including those of the Faculty of Medicine. For students in their second, third, and fourth years, two scholarships are in each year reserved for those belonging to the Faculty of Medicine. Further information can be obtained on application to the Registrar.

CLINICAL HOSPITALS IN ENGLAND.

THERE are a great many hospitals in the United Kingdom which, though not connected with any medical school, open their doors either to those who have yet to become qualified, to those who are doing post-graduation work, or to both. The facilities they offer for gaining practical clinical experience are very great, and should not be overlooked. Their honorary staffs commonly make a point of giving what instruction opportunity offers, and at those which are situated in the larger towns there are often appointments as clinical assistants to be obtained. In addition, they all have to offer, at shorter or longer

intervals, appointments in the way of resident medical officerships, house-physicianships, and house-surgeoncies. These are usually paid offices, which may be held for periods varying from six months to a year. Some of those situated in the great medical centres in the provinces, and in Scotland and Ireland, have already been mentioned in speaking of the medical schools in these localities, but it should be added that there are many other provincial hospitals where admirable work is done and at which much valuable experience can be gained both by senior and junior students, and by those already admitted to the *Medical Register*. Cases in point are the Royal Infirmary, Bradford; the Royal Sussex County Hospital, Brighton; the Royal United Hospital, Bath; the Kent and Canterbury Hospital; Derbyshire Royal Infirmary; the Royal Albert Hospital and Eye Infirmary, Devonport; the Royal Devon and Exeter Hospital; the West of England Eye Infirmary, Exeter; the Gloucestershire Royal Infirmary and Eye Institution; the Royal Infirmary, Leicester; the County Hospital, Lincoln; the General Hospital, Northampton; the Norfolk and Norwich Hospital; the General Hospital, Nottingham; the Royal Portsmouth Hospital; the Royal South Hants and Southampton Hospital; the Staffordshire General Infirmary, Stafford; the North Staffordshire Infirmary at Hartshill; the Royal Hants County Hospital, Winchester; the Wolverhampton and Staffordshire General Hospital, and the County Hospital, York. As for hospitals in the metropolis, so many of these play the part of clinical schools that it is worth while to classify them.

General Hospitals.—These include the Dreadnought Hospital at Greenwich, and its annexe at the Albert Dock, which form the head quarters of the London School of Clinical Medicine and the London School of Tropical Medicine; the West London Hospital and the Prince of Wales's General Hospital, Tottenham, both of these being described in the article on post-graduate work; the Great Northern Central Hospital, Holloway Road, an institution containing 185 beds; and the Temperance Hospital in Hampstead Road.

Children's Hospitals.—There are at least five of these, the leader among them being the Hospital for Sick Children, Great Ormond Street, which has 240 beds. There are also the East London Hospital for Children, Shadwell, with 124 cots; the Queen's Hospital for Children, Bethnal Green, with 134; the Belgrave Hospital for Children, which has a considerable out-patient department, but in-patient accommodation for only 40 children; the Paddington Green Children's Hospital, an institution of about the same size; the Evelina Hospital for Sick Children, Southwark Bridge Road, with 76 beds; and the Victoria Hospital for Children, Chelsea, with 104.

Hospitals for Women.—These include Queen Charlotte's, which specializes in the teaching of midwifery; the Samaritan Hospital for Women, Marylebone Road; the Hospital for Women, Soho Square; the Chelsea Hospital for Women, Fulham Road; and the New Hospital for Women in Euston Road, the latter being in the nature of a general hospital so far as concerns the class of case treated.

Eye Hospitals.—The largest of these is the Moorfields Eye Hospital, City Road, with 138 beds and a very large out-patient department; others are the Royal Westminster Ophthalmic Hospital, near Charing Cross, the Royal Eye Hospital, Southwark, each with about 40 beds; and the Central London Ophthalmic Hospital, Judd Street, W.C., with 28.

Fever Hospitals.—The Metropolitan Asylums Board has under its control a good many institutions for the treatment of the more serious zymotic disorders, and makes special arrangements for the instruction of students in this subject, and grants certificates at the end of the courses. Detailed information should be sought from the Clerk to the Board, Victoria Embankment.

Chest Hospitals.—The largest of these is the Brompton Hospital for Consumption, which has 333 beds and a large sanatorium at Frimley. There is also the City of London Hospital for Diseases of the Chest, Victoria Park, with 175 beds, and the Royal Hospital for Diseases of the Chest, City Road, which during the past eighteen months has reorganized its various departments with the object of better fitting itself to act as a tuberculosis school. Further afield is the Mount Vernon Hospital, Northwood, which has an out-patient department in Fitzroy Square, W.

Nose, Throat, and Ear Hospitals.—The institutions which confine their work to disorders of the throat, nose, and ear all make special arrangements for the benefit of senior and post-graduate students. They are the Metropolitan Ear, Nose, and Throat Hospital, Fitzroy Square; the Royal Ear Hospital, Dean Street; the Central London Throat and Ear Hospital, Gray's Inn Road; and the Hospital for Diseases of the Throat, Golden Square—the latter, which possesses 75 beds, being the largest of the four institutions.

Miscellaneous Special Hospitals.—Among these are the Bethlem Royal Hospital, Southwark, which confines its work to the treatment of mental diseases; St. Peter's Hospital for Stone and Urinary Diseases, Henrietta Street, Covent Garden; St. Mark's Hospital, City Road, which devotes itself to the treatment of diseases of the rectum, including cancer and fistula; St. John's Hospital for Diseases of the Skin, in Leicester Square; the Hospital for Diseases of the Skin, Stamford Street, Blackfriars; and the National Hospital for the Paralysed and Epileptic, Queen Square, W.C., an institution possessing 200 beds and a worldwide reputation.

Detailed information as to the teaching arrangements of all these institutions may be obtained on application to their secretaries.

MEDICAL EDUCATION OF WOMEN.

WOMEN are admitted to the medical examinations of the following qualifying bodies: All the universities of Great Britain, with the exception of Oxford and Cambridge; the Royal College of Physicians, London, and the Royal College of Surgeons, England; the Society of Apothecaries of London; the Conjoint Colleges of Scotland and of Ireland.

The regulations of each differ considerably, so that it is necessary for a student to decide, before beginning her course, which degree or diploma she will aim at obtaining. The ordinary regulations of the General Medical Council (see page 422) must be observed, and women can pursue their education either at certain schools only open to women, or at ordinary schools where they do their work more or less in common with men students.

The schools which admit women only are the London (Royal Free Hospital) School of Medicine for Women, which is one of the constituent schools of the Medical Faculty of the University of London; the Edinburgh School of Medicine for Women (see page 445), and Queen Margaret College, Glasgow (see page 445). Women are also admitted to the schools of medicine conducted in connexion with the Universities of Dublin, Dundee, Durham, Liverpool, Manchester, Birmingham, Leeds, Sheffield, Bristol, and Aberdeen; St. Mungo's College, Glasgow, the Schools of Surgery of the Royal College of Surgeons in Ireland and of the National University of Ireland in Dublin, Cork, and Galway. Women can also attend classes for the first three years of the medical curriculum at University College, Cardiff.

Year by year the openings for women who adopt a medical career have increased, and the field open to their energies is now wide. Women hold many appointments as resident medical officers in hospitals for women and children all over the country, and are eligible for appointments in some general hospitals, and in a large number of sanatoriums, infirmaries, fever hospitals, and asylums. Many medical women are also engaged in public health and school inspection work.

As regards the London School of Medicine for Women, particulars will be found at p. 439 in the article on London Medical Schools.

DEGREES FOR PRACTITIONERS.

AT one time it was almost the universal custom for medical students educated in London not to seek a university degree, and as that custom still prevails to a considerable extent, a very large proportion of medical men in actual practice in England possess diplomas to practise but not degrees in medicine. This is a fact which they sometimes find reason to regret, and to such practitioners the following

paragraphs may be of interest. It should be noted that the M.D. degree of the University of Brussels is not registrable when it has been obtained subsequently to June, 1886, but this fact does not lessen its value to those who see any utility in possessing a degree as well as a registrable diploma.

University of London.

Registered medical practitioners who have passed the First Examination for medical degrees and the Second Examination for medical degrees, Part I, may proceed to the Second Examination for medical degrees, Part II, and M.B., B.S. Examinations without observing the intervals prescribed by the regulations on producing certificates that they have gone through the required course of study at a school of the university; subject to the proviso that no degree of the university can in any circumstances be granted by examination to any one in less than three years after passing the Matriculation Examination or after admission by the university of the candidate's right to exemption therefrom.

University of Durham.

The degree of M.D. is granted by the University of Durham to registered practitioners of not less than fifteen years' standing, who have been qualified and in practice for that period, upon the following conditions without residence: The candidate must be 40 years of age, and must produce a certificate of moral character from three registered medical practitioners. Should he not have passed previously to the professional examination in virtue of which his name was placed on the *Register* an examination in arts, he is examined in classics and mathematics; if otherwise, he is required to translate into English passages from any one of the following Latin authors: Caesar, *De Bello Gallico* (first three books), Virgil, *Æneid* (first three books), or Celsus (first three books).

Professional Examination.—The candidate must pass an examination in the following subjects: (i) Principles and practice of medicine, including psychological medicine, hygiene, and therapeutics; (ii) principles and practice of surgery; (iii) midwifery and diseases of women and children; (iv) pathology, medical and surgical; (v) anatomy, medical and surgical; (vi) medical jurisprudence and toxicology. The examination is conducted by means of printed papers, clinically and viva voce, at the College of Medicine, Northumberland Road, Newcastle, and in the Royal Victoria Infirmary, Newcastle. The classical portion of the examination may be taken separately from the professional on payment of a portion (£10 10s.) of the full fee.

Foreign and Colonial Practitioners.—Natives of India or the British Colonies are placed on the same footing as natives of Great Britain. Natives of India must produce evidence from an Indian university that they have passed within one year an examination in Latin.

Fees.—The inclusive fee is 50 guineas; if a candidate fail to pass, 20 guineas are retained, but if he present himself again, 40 guineas only are required.

Dates, etc.—The examinations are held twice a year, towards the end of March and of June. Notice, accompanied by the fee and certificates, must be sent to Professor Howden, Secretary of the University of Durham College of Medicine, Newcastle-on-Tyne, at least twenty-eight days before the commencement of the examination.

University of Brussels.

This university grants its M.D. to such foreign candidates as are already duly qualified in medicine and surgery in their own countries, provided they pass the three examinations imposed. These must be passed in due order, but if desired may be passed without any formal interlude, the time covered in the latter case being ten or twelve days. They are viva voce examinations, the language used being French. There is, however, an official interpreter present, whose services are at the disposition of candidates; besides this, the examiners commonly speak the English language. At their desire candidates may also undergo written tests on payment of an extra fee of £1 for each test, but such written examination does not exempt them from the viva voce examination. There are now over six hundred medical men holding this degree in England and the colonies.

Examinations.—Of the three examinations, the first Doctorate covers general medicine, materia medica and pharmacology, general surgery, and the theory of midwifery. The second covers general therapeutics, pathology and morbid anatomy (including microscopy), special and general therapeutics, the special branches of surgery, and mental diseases. The third covers public health, medical jurisprudence, clinical medicine, and surgery, operative surgery (including the performance of some of the commoner operations on the dead subject), ophthalmology, midwifery (including obstetric operations on a model), regional anatomy (with dissection), and bacteriology. The examinations commence on the first Tuesday in November, December, March, and May, and the second Tuesday in June.

Fees.—The fees aggregate to £22; they are paid in advance, but those for any examinations to which a candidate has not been admitted are returned to him. A rejected candidate may be examined three months later on repayment of the examination fee, provided his second appearance takes place in the course of the same academic year; otherwise the matriculation fee (£8 12s.) must be paid again. Any fee paid includes the right to attend any lectures delivered in connexion with the subjects of the examination to which it relates. Other information can be obtained either from the Secretary of the University, 14, Rue des Sols, Brussels, or from Dr. Arthur Haydon, Honorary Secretary of the Brussels Medical Graduates' Association, 11, Welbeck Street, Cavendish Square.

POST-GRADUATION STUDY.

THE value, and in some circumstances even the necessity, of post-graduation study is now so generally recognized that there is no occasion to dilate upon it here. The need for some means of acquiring direct knowledge of the technique of the new branches which are constantly springing up is indeed so generally felt among otherwise experienced practitioners, that several institutions designed solely for their benefit have been at work now for some years. Of these institutions some account follows. Beyond this it need merely be said that in most medical centres it is now exceptional for one or more courses for qualified men not to be held once or more often during the year; that most of the institutions mentioned in the section on Clinical Hospitals make special arrangements for the benefit of qualified men desirous of studying work of the kind undertaken within their wards; and that valuable adjuncts to post-graduation study exist in the shape of the Library of the British Medical Association—one specially rich in recent works—of the libraries of the several universities, and in those of the Royal College of Surgeons of England and of the Royal Colleges of Physicians in London and in Edinburgh.

London Medical Graduates' College and Polyclinic.

This institution, familiarly known as the Polyclinic, opened its doors some fourteen years ago, its work being arranged on quite original lines. The soundness of these became very early apparent, and large numbers of practitioners now attend the classes and avail themselves of the various forms of instruction which the college offers.

The work is carried on in a building in central London which is well arranged and readily accessible from all quarters. It stands at the corner of Chenies and Ridgmount Streets, its postal address being 22, Chenies Street, W.C. This latter street runs at right angles to Tottenham Court Road, crossing Gower Street. The ground floor of the college is given up to the classrooms, which are furnished with various appliances for clinical instruction. When occasion requires, the partitions between adjacent rooms can be removed, and a lecture room of fine proportions thus provided. On the first floor is a library, a reading room, and the consultation theatre, and on the upper floor is found an excellent laboratory for bacteriology and clinical pathology, each table being provided with its own set of reagents and test tubes and its Bunsen burner. Besides these rooms there is in the basement an important annexe in the shape of a dark room, so arranged that twelve patients can be examined simultaneously, but

separately from each other, with the ophthalmoscope, laryngoscope, or other instruments of precision. An adjoining room is fitted with appliances for instruction in ophthalmic cases, such as type tests, working models of eyes, stereoscopes, lenses, etc.

The most characteristic feature of the school is the system of consultations and clinical demonstrations. These take place every afternoon at four o'clock, and patients attend them either at the invitation of the management, or they may be brought by practitioners who are members of the school. Besides the excellent opportunities for teaching which these consultations afford, they provide occasion for discussing difficulties and studying exceptional forms of disease by the most recent methods of diagnosis. Notes are taken of the cases, and are supplemented on occasion by photographs or other portraits of the rarer morbid conditions.

On Mondays, Tuesdays, Wednesdays, and Thursdays of each session, at 5.15 p.m., formal lectures are delivered on medicine, surgery, and their branches, while at the same hour on Fridays the resident pathologist gives an occasional pathological demonstration.

An annual payment of 1 guinea admits to the consultations and lectures, and secures the use of the reading room, museum, and library; subscribers also receive the *Polyclinic Journal*, which is published every month.

Of practical classes there are four sessions in the year, each lasting six weeks, while a vacation course extending over three weeks takes place in August.

These classes include all special subjects, including abdominal surgery, clinical examination of gastric contents, cardiology, cystoscopy, massage, medical hydrology, and sigmoidoscopy.

Provision is also made for those who are reading for the higher qualifications, special tutorial classes being conducted for this purpose. Full particulars of all the work done may be obtained on application to the Medical Superintendent, 22 Chenies Street, W.C.

West London Post-Graduate College.

The work of this institution is carried on at the West London Hospital, the first in London to devote its clinical material solely to the instruction of qualified medical men. The college started in 1895, and the present building was opened in 1901; it is provided with lecture, reading, writing, and class rooms, and accommodation of all sorts for the convenience of post-graduate students. In the last five years the yearly entry has averaged over 220.

As for ward work, the students accompany the senior staff on their visits to the wards at 2.30 p.m. daily, and also go round with the resident medical officers in the morning. Out-patient work begins at 2.15 p.m. This department is large, and affords ample facilities for post-graduates to see and examine patients. There are the usual special departments dealing with diseases of the eye, ear, throat, nose, skin, orthopaedics, *x*-ray work, electrotherapeutics, gynaecology, and mental diseases of children. Post-graduates are appointed to act as clinical assistants for three or six months. There is no charge to members of the college. Practical classes are held in medicine, general practical surgery, gastro-intestinal surgery, surface anatomy, and blood and urine analysis, cystoscopy, venereal disease, tropical diseases, retinoscopy, ophthalmic operative surgery, when material is available, and in operative surgery. The size of the classes is limited so as to ensure that each student shall have full opportunities of gaining experience in methods of examination and treatment.

Operations take place at 2 p.m. daily, the surgeons often availing themselves of the assistance of the post-graduates, and in any case making arrangements so that they can readily see what is going on. The anaesthetists give instruction in the administration of different anaesthetics, including spinal analgesia, on the operating days, students being allowed to administer them under supervision, while special classes are held in each session.

The pathological laboratory is in charge of a pathologist who attends every day. In bacteriology and microscopy special instruction is given on three mornings a week, the students working at other times under the general guidance of the pathologist.

Demonstrations are given every day in the morning by the assistant physicians, assistant surgeons, and by the medical and surgical registrars in practical medicine and surgery. Lectures of a practical kind are given daily (except Saturday and Sunday) at 5 p.m.

The arrangements of the college may be said to be equally suited to those who are preparing themselves for examination for the higher degrees and diplomas, to the needs of officers in the different services on study leave, who attend in large numbers, and to those medical men in ordinary practice who desire to get themselves up to date in general medicine and surgery, or to make a special study of some particular branch of work. The college, it may be noted, is in a residential quarter, and there are plenty of good lodgings in its neighbourhood.

The fees are as follows: Hospital practice, including all ordinary demonstrations and lectures, £1 1s. for one week, £3 3s. for one month, £4 4s. for six weeks, £6 6s. for three months, £10 10s. for six months, £15 15s. for one year, and £30 for a life ticket. Every year in August there is a special vacation class lasting four weeks, for which the fee is £3 3s. Three months' instruction in the administration of anaesthetics costs £3 3s. Subscriptions for any course can be taken out from any date. The certificates of the school are recognized by the Admiralty, the War Office, the Colonial Office, the India Office, and the University of London (for higher degrees).

A prospectus concerning the school can be obtained on application to the Dean.

London School of Clinical Medicine (Post-Graduate), Dreadnought Hospital, Greenwich, S.E.

The school buildings, lecture rooms, operative surgery, classrooms, pathological laboratories, museum, library, etc., are in the Seamen's Hospital at Greenwich. The whole hospital of 250 beds, with its out-patient departments, is open to students from 10 a.m. till 5 p.m.

Medical, surgical, and special department in-patient clinics are held every afternoon except Saturday by the senior members of the staff, whilst out-patients are demonstrated daily in the forenoon in the medical, surgical, and special departments by the assistant physicians and assistant surgeons. Operations are performed daily both in the in-patient and out-patient theatres. A series of lectures are delivered each session in the afternoon by specially invited lecturers. Emeritus lecturers, members of the staff of the Dreadnought Hospital, and by members of the staff of the hospitals affiliated to the school. Practical classes are arranged each session in the following subjects: The practice of medicine, diseases of the nervous system, medical diseases of women, medical diseases of children, diseases of the skin, practice of surgery, operative surgery, diseases of the eye; diseases of throat, nose, and ear; surgical diseases of women, midwifery and gynaecology, surgical diseases of children, pathology, clinical pathology, bacteriology, surgical and medical pathology, hygiene and public health; the administration of anaesthetics, radiography, mental diseases.

Two sessions of five months (October–February) and four months (April–July) are held in each year. The session's work is arranged so as to enable individual students to join the demonstrations, etc., at any time during the session.

Affiliated to the London School of Clinical Medicine for the purposes of extension of the variety of clinical material and teaching are the Royal Waterloo Hospital for Children and Women, the Miller General Hospital, Greenwich, and the Bethlem Royal Hospital for Mental Diseases. These hospitals are directly linked to the Dreadnought both by rail and by tram. The supply of material affords exceptional facilities for practical instruction in operative surgery and in pathology. There is also a wide field for the study of venereal diseases, on which special clinics are given, and there is a department with open-air wards for the treatment of tuberculosis. Every variety of disease may be studied in the wards and out-patient rooms of the Dreadnought Hospital and at the affiliated hospitals. The certificates of the school are recognized by the University of London (for the higher degree), the Admiralty and the War Office, the India Office, and the Colonial Office.

Appointments.—There are a medical superintendent, surgical and medical registrars, two house-physicians, and

two house-surgeons at the Dreadnought Hospital, Greenwich. The pay of these officers varies from £50 to £150.

Prospectuses, lists of special lectures, and other particulars can be obtained on application to the Dean at the School.

NORTH-EAST LONDON POST-GRADUATE COLLEGE.

The head quarters of this post-graduate school are situated at the Prince of Wales's General Hospital, which is in the midst of what is now a densely-populated neighbourhood containing about a quarter of a million inhabitants. It contains 125 beds, and its precise situation is South Tottenham, N., where it is within a few minutes' walk of South Tottenham Station on the Midland Railway, Seven Sisters Station on the Great Eastern Railway, and Tottenham Hale on the Great Eastern main line. It is also readily accessible from Finsbury Park and Hackney by electric tram passing the hospital door, and by corresponding means may be reached easily from Dalston, Edmonton, Hackney, and other parts of North London.

The college is recognized by the Admiralty and the India Office for the purposes of study leave, and by the University of London as a place for advanced study for the M.D. and M.S. degrees; the course of practical teaching of bacteriology is approved by the University of Cambridge for its D.P.H. diploma, and there are ample arrangements for the convenience of men who are thus working, or who are general practitioners desirous of getting themselves into touch with modern methods. There is provided for their use a reading and writing room, and they can obtain afternoon tea and receive telephonic messages; similarly there is a reference and lending library for their benefit, and a museum and pathological laboratory in which they can work. The hospital as a whole certainly affords excellent facilities to qualified medical practitioners who wish to take part for a time in the work of an active general hospital, or to obtain special instruction in the several branches of medicine and surgery, since it is open to them to study diseases of the eye, ear, throat, nose, skin, fevers, children's diseases, psychological medicine, dental surgery, radiography, and the application of electricity in disease, and the administration of anaesthetics. Throughout the sessions into which the year's work is divided, clinics, lectures, and demonstrations are given by members of the teaching staff in the lecture room, in the wards, in the various out-patient departments, and in certain affiliated institutions. Operations are performed every afternoon of the week except Saturday. Special classes are arranged in modern methods of the investigation and treatment of diseases of the lungs and heart, gynaecology, diseases of children; diseases of the throat, nose, and ear; diagnosis of diseases of the nervous system, ophthalmoscopy and refraction, diseases of the skin, abdominal surgery, surgical anatomy, surgery of the urogenital tract, radiography, anaesthetics, bacteriology, clinical pathology, vaccine therapy, pathological chemistry, and medical electricity. In all these classes the numbers are carefully limited, so as to give every member full opportunity for work.

As for fees, these are as follows: One guinea for a three months' course of study in any one department, which may be begun at any time; a fee of 3 guineas admits to the whole practice of the hospital for a similar term (one month, 2 guineas), and a perpetual ticket for the practice of the hospital may be obtained on payment of a fee of 10 guineas. Clinical assistants are appointed in the various departments. A certificate, signed by the staff, may be obtained at the end of three months' hospital attendance.

Additional information about the college and its work can be obtained on application to the Dean of the Post-Graduate College, at the hospital, or at 142, Harley Street, London, W.

TROPICAL MEDICINE.

THERE are Schools of Tropical Medicine in London and Liverpool, and several examining bodies have instituted diplomas or degrees in the subject. The Colonial Office now expects all nominees for the Colonial Medical Service to pass through one or other of the two schools mentioned before their appointments are confirmed, and commercial firms engaged in tropical enterprise commonly demand from medical applicants for employment corresponding evidence of special knowledge. Information with regard to these schools and diplomas and degrees follows.

DIPLOMAS AND DEGREES.

LONDON UNIVERSITY.—Tropical medicine is one of the six branches in which the M.D. degree may be obtained, the regulations relating to the curriculum and examination corresponding to those applying to the other branches.

LONDON CONJOINT BOARD.—This body grants a diploma in tropical medicine to candidates after an examination usually held in the months of April and July. Ordinary candidates must present evidence of having attended, subsequently to obtaining a registrable qualification in medicine, surgery, and midwifery, (1) practical instruction in bacteriology, parasitology, medical zoology, and haematology, in a laboratory recognized for this purpose during not less than six months; (2) instruction in hygiene applicable to tropical countries; (3) the clinical practice of a hospital recognized for the study of tropical diseases during not less than six months. These conditions may be modified in the case of candidates who have had practical experience in tropical countries deemed likely to have furnished them with the same kind of training. The fee for admission to the examination is £9 9s.

UNIVERSITY OF EDINBURGH.—This university grants a diploma in tropical medicine and hygiene after an examination which is usually held twice a year. It is open to those who are graduates of the university in medicine and surgery, and to registered practitioners who have had experience of tropical diseases in a tropical country, who may be approved by the Senatus on the recommendation of the Faculty of Medicine. In addition to this the candidates must show that they have attended approved courses of instruction in practical bacteriology (including the pathogenic micro-organisms of tropical diseases), in diseases of tropical climates (including the zoological characters and life-history of disease-carrying insects), in tropical hygiene, and in clinical study of tropical diseases. They must possess, too, certificates of efficiency in the conduct of *post-mortem* examinations. The examination is in the four subjects indicated, the fee for each part being £1 1s.

UNIVERSITY OF LIVERPOOL.—A diploma in tropical medicine is given by this university to students who have been through the courses provided by the Liverpool School of Tropical Medicine, and have passed the examination held twice yearly by the university examiners. The examination lasts three days, and consists (1) of three papers dealing with tropical medicine, tropical pathology, and tropical sanitation and entomology respectively; (2) of a clinical examination; and (3) of an oral examination. The results are declared as soon as possible afterwards. Further information can be obtained from the Dean of the Faculty of Medicine, University of Liverpool.

UNIVERSITY OF CAMBRIDGE.—This university grants a diploma in tropical medicine and hygiene to any person whose name has been on the *Medical Register* for not less than a year, provided that he passes the examination of the university in this subject. Previous to admission to the examination he must produce approved evidence that he has studied pathology (including parasitology and bacteriology in relation to tropical diseases), clinical medicine, and surgery, at a hospital for tropical diseases, and hygiene and methods of sanitation applicable to tropical climates.

The examination deals with the following subjects:

1. The methods of pathological and bacteriological investigation. The examination of the blood. The characters, diagnosis, and life-history of animal and vegetable parasites. The examination, chemical and microscopic, of poisonous or contaminated foods and waters.

2. The origin, pathology, propagation, distribution, prevention, symptoms, diagnosis, and treatment of the epidemic, endemic, and other diseases of tropical climates, including malaria; blackwater fever; trypanosomiasis; relapsing fever; dengue; yellow fever; plague; tetanus; beri-beri; dysentery and hepatic abscess, cholera, enteric fever, Malta fever, and specific diarrhoeal affections of the tropics; diseases due to cestode and other worms; filariasis; bilharzial disease; specific

boils, sores, and other cutaneous affections; mycetoma; ophthalmic affections of the tropics; affections caused by poisonous plants and animals, and by poisoned weapons; sunstroke.

3. The general effects on health in the tropics of seasons and climate, soil, water, and food. Personal hygiene, acclimatization. Principles of general hygiene, with special reference to food supplies and water supplies, sites, dwellings, drainage, and the disposal of refuse. The sanitation of native quarters, camps, plantations, factories, hospitals, asylums, gaols, pilgrim and coolie ships. Principles and methods of disinfection.

Examinations are held in January and August each year, and last four days. The fee for the examination and diploma is 9 guineas on admission or readmission. Application for further information should be made to Dr. G. S. Graham-Smith, Pathological Laboratory, Cambridge.

SCHOOLS.

LONDON SCHOOL OF TROPICAL MEDICINE.—This school is under the auspices of the Seamen's Hospital Society. Its buildings, laboratories, museum, library, etc., are within the grounds of the Branch Hospital, Royal Victoria and Albert Dock (Station, Connaught Road, Great Eastern Railway), and excellent opportunities are afforded to students and others who may be desirous of studying diseases incidental to tropical climates before entering the services or going abroad. In the hospitals of the society are to be found cases of tropical disease such as may be met with in actual practice in the tropics. There are three courses in the year, each lasting three months, beginning October 1st, January 15th, and May 1st respectively. The course is so arranged as to equip men for the Cambridge and English Conjoint Board diplomas in tropical medicine. Advanced classes in entomology, protozoology, and helminthology are held each term by the respective teachers in those subjects, and for the accommodation of students taking these advanced courses new and commodious laboratories have been provided. The laboratories, museum, and library are open all day, and clinical instruction is given daily in the wards of the hospitals. Certificates are granted after examination to those who complete a full course. Resident chambers are available for students. All qualified medical practitioners and students in the final year of their studies and qualified veterinary surgeons may attend the course. Women graduates are received as students. The Stanley Memorial Grant of about £55, and the Wandsworth Scholarship of about £300, for research work, are awarded annually. A prospectus and other information can be obtained on application to the Secretary, Seamen's Hospital, Greenwich.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—This school is affiliated with the University of Liverpool and the Royal Southern Hospital of Liverpool. Two full courses of instruction are given every year, commencing on January 6th and September 15th, lasting for the term of about thirteen weeks, and followed by the examination for the diploma of tropical medicine given by the University of Liverpool. Each course consists:

(1) Of a systematic series of lectures on tropical medicine and sanitation delivered by the Professor of Tropical Medicine at the university; (2) of systematic lectures and demonstrations on tropical pathology, parasitology, and bacteriology by the Professor of Parasitology and the Lecturer on Parasitology at the university; (3) of similar instruction on medical entomology by the Professor of Medical Entomology and the Lecturer on Entomology at the university; and (4) of clinical lectures and demonstrations delivered at the Royal Southern Hospital by the physicians in charge of the tropical ward or the professor.

The instruction given occupies six hours a day for five days a week during the term. Teaching under headings (2) and (3) above is delivered in the laboratory of the school at the university, which contains accommodation for thirty students, with all necessary appurtenances, including a well-equipped museum, a class library, and access to the general departmental library. Teaching under heading (4) is given in the tropical ward and the attached clinical laboratories of the Royal Southern Hospital on two or three afternoons a week.

In addition to the full courses, an advanced course of practical instruction in tropical pathology and medical entomology, lasting one month, is given every year in June; it is of such a kind as to be very useful to medical men returning from the tropics on short leave. A special course of instruction in entomology, etc., is also given three times a year to officers of the East and West African Colonial Services.

Students of the school who do not care to undertake the examination held by the university at the end of each term for its diplomas in tropical medicine are given a certificate for attendance if the latter has been satisfactory.

It is proposed to institute at an early date a course of instruction in tropical sanitation. Full particulars will be issued as soon as possible.

For research students there is excellent accommodation at the laboratories of the school in the university, and also in the research laboratories of the school at Runcorn, 16 miles distant from the city.

Since it was instituted the school has dispatched to the tropics thirty scientific expeditions, many of the workers having been taken from among its students. The work done by them has been published in twenty-one special memoirs, with many plates and figures, besides textbooks and numerous articles in the scientific press.

Fees.—The fee for the full course of instruction is £13 13s., with an extra charge of 10s. 6d. for the use of a microscope if required. The fee for the Diploma Examination is £5 5s., and that for the Advanced Course is £4 4s. Further information about the school may be obtained on application to the Secretary, 10B, Exchange Buildings, Liverpool.

PSYCHOLOGICAL MEDICINE.

THE study of mental diseases has long been a necessary part of the ordinary medical curriculum, and mental psychology is one of the branches of medicine which candidates for the M.D. degree of the University of London can take up. In addition diplomas in psychiatry can be obtained from the universities of Edinburgh, Leeds, and Cambridge. The Medico-Psychological Association of Great Britain and Ireland also grants certificates of proficiency after examination and encourage study of psychology and connected subjects by the offer of prizes for competition.

Those who take up psychological medicine as a career work as medical officers either of private mental hospitals, or of county or other public institutions of the same order. In all cases they are resident officers, those in the lower ranks always receiving board and lodging in addition to their salary. As a whole they fall into three ranks—junior assistant medical officers, senior assistant medical officers, and medical superintendents. The salaries of those belonging to the junior rank have hitherto been in the neighbourhood of £150 a year, and those of senior assistants about £300 a year, but have recently shown some tendency to rise. Medical superintendents, whose pay commonly ranges between £500 and £1,500 a year, are always provided with a house in the grounds of their asylum, and usually draw allowances in the way of vegetables, coal, and light; at some asylums the same rule applies to senior assistant medical officers.

Many asylums are now provided with pathological departments, and this fact, coupled with increasing knowledge of the physical causes of mental disease, has made asylum work more scientifically interesting than formerly. Nevertheless, asylum work as a career is by no means growing in favour, and is unlikely to do so until all the public asylums throughout the country have been linked up in such fashion that their officers can be regarded as members of one common service. At present it is quite possible for a man who does excellent work to remain in the lower rank all his life, and this fact, coupled with the desirability of minimizing as far as possible other existing drawbacks to asylum life, has recently led to the starting of a movement for reform; and in this the British Medical Association is co-operating.

PUBLIC HEALTH SERVICES.

THE Public Health Service, to use the term in a strict sense, consists of medical officers of health appointed by local public health authorities and holding office under varying conditions of tenure. In addition, there are county medical officers appointed by the county councils. The latter are not, strictly speaking, public health authorities; the duties of their medical officers are somewhat similar to those of other medical officers of health, but include

few executive functions. In many of the county boroughs and counties, assistant medical officers of health or assistant county medical officers are appointed, and such appointments may afford stepping stones for promotion to higher offices. The service is, however, not unified throughout the country, and there is no regular system of promotion; appointments are to be obtained only by application to some particular local authority which has advertised a vacancy.

Also ungraded are two other services which have been brought into existence by recent legislation, and whose members are charged with duties which bring them into more or less direct relation with public health authorities or county councils and their officers. The members of the one are called school medical officers, and those of the other tuberculosis officers. Appointments as school medical officer are made by education authorities, while appointments as tuberculosis officer are made in fulfilment of the duties imposed directly on the county councils and the county borough councils, and indirectly on the Insurance Committees by the scheme for the treatment and prevention of tuberculosis which was worked out by the Local Government Board for England in consultation with the Insurance Commissioners.

The Local Government Board for England, it may be noted, employs a staff of medical inspectors in connexion with the performance of its duty as the controlling department of the Government in matters of public health, and the same is true of the corresponding boards in Scotland and Ireland. The medical men forming these staffs are, however, appointed to their position directly by the head of the Local Government Board in each country, and the posts are not open to public competition.

Medical Officers of Health.

The office of medical officer of health in a county borough—a designation which now includes nearly all the larger towns—is in practice a permanent appointment so long as the incumbent desires to retain it, and is the same by law in administrative counties and metropolitan boroughs. The position of a medical officer of health to an urban or a rural district, or to a combination of districts which have joined together to obtain the services of a whole-time medical officer of health, is much less satisfactory, for his appointment is terminable at the will of the public health authority served by him. This fact tends to militate against the efficiency of the service, and consequently the British Medical Association, in co operation with some other bodies, has long been endeavouring to induce Parliament to establish security of tenure of office and superannuation for medical officers of health. In view of statements recently made by the Government, security of tenure, at any rate, seems likely soon to be granted. A medical officer of health to a district or combination of districts having 50,000 inhabitants must hold a diploma in public health. The first step which must be taken by any medical man who desires to follow the career of medical officer of health must be therefore to obtain such a diploma.

School Medical Officers.

School medical officers are appointed by local education authorities under schemes of medical inspection of school children which must be approved by the Board of Education. Primarily their duty is to detect among the children attending the public elementary schools any physical or mental defect which may retard the education of such children, and to inform their parents of its existence. But practically their duties vary considerably in different areas. This is because most approved schemes of inspection include systems of work which aim at facilitating the task of parents in obtaining for their children the necessary treatment, at checking the results of the latter, and at keeping each defective child under skilled observation both at home and at school until it has passed altogether out of the hands of education authorities. The general object of all schemes alike is to make the inspection imposed by law of benefit not merely to the individual child, but to the community at large, by preventing conditions which lead to the existence of a large proportion of inefficient citizens among the adult population. In short, the work is so far related to that of a medical officer of health that in most areas the senior school medical officer fills both appointments, his work, when necessary, being supplemented by that of whole- or part-time assistants. Whole-time assistants are commonly paid salaries ranging between £250 and £300 a year, the chief attraction of the posts being that they may lead on to appointment as medical officer of health of some large area where the combined salary of medical officer of health and school medical officer will represent a fair income. In view of this consideration, if for no other reason, it is desirable for a prospective whole-time school medical officer to obtain a diploma in public health.

Tuberculosis Officers.

The prescribed duties of tuberculosis officers are to act as advisers to Insurance Committees in connexion with the operation of the sanatorium clauses of the National Insurance Act and to take charge of the work of the tuberculosis dispensary, which is the main unit of the Departmental Committee's scheme. A tuberculosis officer is a whole-time officer: he should have special training in tuberculosis work, and be of suitable age and attainments to command general confidence. At present the number of appointments is small, and the salary generally attached to them is in the neighbourhood of £500 a year.

Diplomas in Public Health.

Most of the universities and licensing corporations now grant diplomas in public health to candidates who pass the examinations imposed by them. Since all such tests must conform to the requirements of the General Medical Council there is considerable similarity in their nature, though they differ not a little in their reputed difficulty. All of them aim at excluding any candidate who does not appear to have a thorough knowledge of his work in theory and in practice, for the regulations of the General Medical Council demand that the granting of a diploma in Sanitary Science, State Medicine, or Public Health shall be proof of the "possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the public health." The tests, in short, are supposed to constitute an honour and not a mere pass examination. As regards the special tuition required, it is now easy to obtain this in practically every centre of medical education, and at almost every medical school of any importance. It is desirable to note in this connexion that the chemical and bacteriological examinations for many of the health diplomas are so practical, and the time allowed so short, that unless a candidate—even though familiar with the duties of M.O.H.—has a considerable amount of the manipulative dexterity only to be acquired by ample work in a laboratory, he would not be likely to satisfy the examiners.

The regulations of the General Medical Council require that every candidate (subsequent to obtaining a registrable qualification in medicine and surgery) shall have passed through a stated curriculum in the subjects of sanitary science. This must last not less than nine calendar months, and include four months' study in a laboratory in which chemistry, bacteriology, and the pathology of diseases of animals transmissible to man are taught, six months' practice study of the duties involved by public health administration, and attendance at least twice weekly for three months on the practice of a hospital for infectious diseases, at which instruction is given in methods of administration. These rules do not apply to practitioners registered or entitled to be registered before January 1st, 1890, while that regarding six months' practical study of public health administration is waived in the case of a candidate who has himself been in charge of a sanitary district with a population of not less than 15,000 for a period of not less than three years. The study in question must be passed under the personal supervision of a medical officer possessing certain definite facilities for affording it, these being carefully described in the regulations. The period may be reduced to three months in the case of a candidate who has undergone a corresponding period of study in the public health department of a recognized medical school, or who has been resident medical officer at a hospital for infectious diseases with accommodation for 100 patients for not less than three months. The laboratory study must include at least 240 hours' work, not more than half being devoted to practical chemistry. The examinations imposed by the diploma-granting bodies

must extend over not less than four days, one at least being devoted to practical work in the laboratory, and one to practical examination in, and reporting on, subjects within the duties of a medical officer of health, including those of a school medical officer.

The steps which examining bodies take to ascertain the candidate's fitness for a diploma are in all cases much the same, though the order in which the subjects are taken is not always identical. Practically all of them divide the examination subjects into two parts, which are usually taken by candidates at more or less widely separate dates. Many of the bodies also have an age clause not allowing the candidate to complete the examinations until he is two or three years older than the average newly-qualified man. The general rule is to place in the First Examination such subjects as chemistry and physics (in relation to the air, water, food), ventilation, the sanitation of houses, principles of architecture, of sanitary engineering, geology in relation to the same, bacteriology in all its relations, and the pathology of human and epizootic diseases. Two or more papers are devoted to such subjects, this being followed by a corresponding number of practical examinations in the laboratory, at one of which the candidates will have to complete an analysis of a specimen of water, discover the impurity in some specimens of air, identify the adulteration in some food specimens, and the like. The other laboratory examination will probably be given up to the preparation of bacteriological specimens, the identification of cultures and parasites, and other tests of practical knowledge of bacteriology; as a rule, a viva voce on the work done follows. In the second part are commonly included two or more papers dealing with sanitary law, epidemiology, vital statistics, the management of hospitals, and all other general questions which affect the public health. The practical examination in this part commonly consists in drawing up a report on the sanitary construction and condition of some actual building or habitation, the whole being followed, perhaps, by a clinical examination in a fever hospital, and nearly always by a viva voce test in which the candidate is called upon to explain the use of apparatus shown him, express an opinion of specimens of food, and answer offhand queries as to the established practice concerning various points of sanitary administration, including school work. As has been stated, however, there are variations among the examining bodies which, though possibly not great in themselves, may be quite enough materially to increase or diminish the difficulty of passing examinations which many Boards seriously endeavour to make a proof of really high proficiency. Every candidate, therefore, should, when he has settled what diploma or degree in State medicine he wishes to obtain, seek the schedule relating to it from the authority concerned. A certain number of the universities grant degrees in the subject as well as diplomas, but only the latter constitute a legal qualification in State medicine.

THE PUBLIC SERVICES.

THE ROYAL NAVY, THE ARMY, AND THE INDIAN MEDICAL SERVICE.

THE medical departments of the Royal Navy, of the Army, and of the Indian Government employ between them some three thousand medical men and fill vacancies in the ranks of the services thus formed by offering commissions for competition once or more often each year. All candidates must be between the ages of 21 and 28 years, and besides possessing registrable qualifications to practise medicine and surgery in Great Britain and Ireland, must be adjudged by the Medical Boards appointed for the purpose to be physically fit for service before permission is accorded them to compete at the entrance examinations. Special attention is given to a candidate's power of vision; a moderate degree of myopia is not considered a disqualification, provided that it can be corrected by glasses so as to secure adequate vision for the performance of operations, and that no organic disease of the eye exists. Testimony has also to be furnished, or is sought by the authority concerned, with regard to the candidate's moral and general character, and the Secretary of State in each service reserves the right to refuse permission to compete to any candidate he pleases.

In the case of a candidate for the Indian Medical Service, the certificates submitted must include one showing that he has studied in an ophthalmic department for not less than three months, the work including refraction, and candidates for the other two services who have qualified in the Officers' Training Corps, or who have been employed in active service, receive an allowance of marks. In all three services the prospect of a medical officer attaining to the highest administrative grades depends to a large extent on the regulations with regard to compulsory retirement at the age of 55 (if below a certain grade at that age), so there is a distinct advantage in entering them at the earliest possible age.

In peace and apart from climatic conditions the lives of officers in these three services are of a less trying nature than those of civilian practitioners, and in the Royal Army Medical Corps, and still more in the Indian Medical Service, the opportunities for professional work of the highest kind are exceptionally great. In regard to emoluments, the pay in no rank is high, but in all it is sufficiently good to make the possession of private means not absolutely necessary. Furthermore, officers in all three services enjoy considerable social advantages, and are relieved to some extent from the ordinary cares of married existence by a system of allowances for widows and orphans. They are also, if they live, able to retire from work at a comparatively early age on pensions representing a larger capital than that which an average general practitioner is able to accumulate as the result of his professional labours. An officer in the Indian Medical Service, for instance, can retire after seventeen years' service on £300 a year, and after thirty on £700 a year with large additions should he have been employed in certain positions. In the other two services twenty years is the lowest pensionable length of service (the minimum is £365 a year, the maximum £1,125); but from either of them an officer whose record is good can retire while still under 30 years of age with a gratuity of £1,000. In the Indian Medical Service, after working for three years in a military capacity officers are allowed as a rule to transfer, if they please, to the civil department. Therein they do work not essentially dissimilar from that performed by civilian practitioners in other warm climates, but retain their military titles and are promoted from one grade to another as their service lengthens. It should be added that during the last few years competition for admission to the Navy has been very slight, while that for admission to the Indian Medical Service has greatly fallen. The reason is that the attractions of both services set forth above are to some extent counterbalanced by removable causes of discontent among their members. The nature of these can be learned from recent issues of the BRITISH MEDICAL JOURNAL.

Candidates for all three services have to fill in printed forms before the question of permitting them to compete is considered, and copies of these, together with detailed information as to what each service has to offer, can be obtained on application to the Director-General of the Royal Navy, the Secretary of the War Office, and the Military Secretary of the India Office, respectively.

PRISON MEDICAL SERVICE.

CANDIDATES for the medical staff are approved by the Secretary of State for the Home Office on the recommendation of the Prison Commissioners. The Chairman of the Board is Sir Evelyn Ruggles-Brise, K.C.B. Application for employment may be made to the Board on a special form, which can be obtained from the Secretary, Prison Commission, Home Office, London, S.W.

In the smaller prisons the medical officer is usually a local practitioner, but in the larger the members of the medical staff are required to give their whole time to the service.

In the case of those required to give their whole time to the service the appointment in the first instance is to the post of deputy medical officer, and from the seniors of this rank the medical officers are selected as vacancies occur. The deputy medical officers are paid £225 yearly, rising to £400, with unfurnished quarters. The whole-time

medical officers are paid £450, rising to £550, with unfurnished quarters. There are twenty deputy medical officers and ten whole-time and forty-six part-time medical officers. The number of vacancies is never large.

APPOINTMENTS UNDER THE COLONIAL OFFICE.

MEDICAL appointments are from time to time filled up by the Colonial Office in various Crown and other Colonies, and vacancies in the West African Medical Staff are of fairly frequent occurrence. As a rule officers are required on appointment to undergo a three months' course of instruction at the London or Liverpool School of Tropical Medicine, and to obtain a certificate of proficiency before taking up their appointment. In addition to the ordinary medical appointments, vacancies also occasionally occur for which specialists are required—for example, to take charge of a lunatic asylum.

The nominal value of the appointments varies very considerably; but, as a general rule, it will be found on close examination that the rates of pay correspond in real value pretty closely when questions of climate, opportunities for private practice, the cost of living, and the actual work demanded are taken into consideration. The posts to which the lower salaries are attached commonly involve work which can be regarded as merely an adjunct to ordinary private practice, while high pay means either few opportunities for practice, an undesirable climate, or work of a special character demanding high administrative ability. Taken as a whole, all these appointments may be put down as offering their occupant the opportunity of gaining his livelihood, and possibly saving a little money, in a fashion which will test his abilities to the full. Pamphlets relating to the various appointments in its gift are published by the Colonial Office, and copies can be obtained on application by letter to the Assistant Private Secretary, the Colonial Office, Downing Street, S.W.

It may be added that, apart from the Government appointments mentioned, a large number of men find employment as medical officers of mining and other companies carrying on their operations in various parts of the tropics. Much caution should be exercised in accepting these appointments, and those to whom they are offered would find it worth while to read what was said on the subject in our issues for May 25th, 1912, and August 24th, 1912.

MEDICAL MISSIONARIES.

To medical men suitably endowed the mission field seems to offer increasing opportunities for interesting work. We find that at the beginning of this year over 450 medical practitioners holding British degrees or diplomas were employed in different parts of the world by missionary societies, and the latter seem to stand in constant need of men and women to fill vacancies as they occur, and also to enable them to take advantage of fresh openings. It is not usually expected, or indeed considered desirable, that a medical missionary should take a position such as would otherwise be occupied by an ordained clergyman or minister, but it is essential that he should be willing to take his share of definite missionary work in any hospital in which he may be placed and that he should be adequately prepared for this purpose. As for scientific and other qualifications for the work, a medical missionary, apart from being physically capable of sustaining what may prove to be a trying life, should be a thoroughly well trained physician and surgeon. It is very desirable that he should have held a residential appointment at a general hospital and have a good knowledge more particularly of practical surgery, tropical medicine, and the treatment of eye diseases. Working as many missionaries do in isolated parts of the world, they have very large professional responsibilities thrown upon them, and should be persons endowed with much natural resource, capable of devising occasionally their own appliances and of being independent of other assistance than that which they themselves can bring into existence. There are, of course, many medical mission hospitals which are excellently equipped, but the workers even in these have to be less dependent on thoroughly trained assistants and on an unfailing supply of instruments all handed to them at precisely the right moment, than need those who do corresponding work in the hospitals of thoroughly civilized countries. It would seem at first sight as if professional work performed in the circumstances indicated must be full of disappointments and entirely unattractive, but this is much less true than might be supposed. For one thing, the natives of most countries in which medical missionaries work are notably satisfactory as surgical patients. It should be added that, apart from ordinary professional work, it is not uncommon nowadays, at all events in China, for medical missionaries to be called upon to take a part in the professional training of native practitioners. It may be noted, in conclusion, that there exist societies whose purpose it is to assist intending medical missionaries in professional preparation, and that a certain number of scholarships have been established for the benefit of the latter. Societies from whom useful information can be obtained are the London Medical Missionary Association, 49, Highbury New Park, N.W.; the Edinburgh Medical Missionary Association, 56, George Square, Edinburgh; and the Society for Promoting Christian Knowledge, Northumberland Avenue, S.W.

MEDICAL PRACTICE IN BRITISH COLONIES AND FOREIGN COUNTRIES.

MEDICAL Acts have now been passed in almost all places forming part of the British Empire beyond the seas, and registers of duly qualified practitioners are consequently maintained. To these registers medical men educated in the United Kingdom are always admissible merely on payment of a fee, provided they produce evidence that they are of good repute and eligible for registration in the United Kingdom. The only exception to this statement that need be made relates to the Dominion of Canada. Until eighteen months ago each of its provinces acted in medical connexions as an independent State, but last year a Medical Act which established a State examination and a common register for the whole country came partly into operation. It could not come into complete operation until each province had amended its existing Medical Act so as to come into line with the new Act. This step is understood to have now been taken by all of them; but it is not clear how far the reciprocity with the United Kingdom previously accorded by all but Ontario and the three Western provinces has been affected. Consequently, any medical man proposing to practise in Canada should first communicate with the Registrar of the Medical Council of Canada, 180, Cooper Street, Ottawa, stating what degrees or diplomas he holds and the length of the curriculum he has undergone, and asking for information as to the precise steps he must take in order to obtain admission to the Dominion Register.

Italy, Egypt, and the Principality of Monaco are the only foreign States which accord a right to practise in virtue of British degrees and diplomas, though the authorities in Spain occasionally issue a temporary permit in favour of British practitioners, and those of Holland and Greece sometimes exempt British practitioners from portions of the examinations imposed on ordinary candidates for registration. In all other Continental countries a British medical man desiring to exercise his profession therein must pass practically the same examinations as those imposed on natives of the country. The same observation applies to all foreign States in the South American continent, while each of the United States of North America has its own laws and regulations; some of them admit any holder of a degree or diploma to their Register, but the majority require a candidate for registration to submit to an examination.

Dental Surgery.

THE profession of dentistry in this country is on the same footing as that of medicine; that is to say, only those who have complied with certain stipulations laid down by the General Medical Council have a legal right to practise dental surgery. This, unfortunately, by no means implies

that the practice of dentistry is confined to legally qualified practitioners, for the Dental Acts offer even less protection to dental surgeons than do the Medical Acts to doctors. An ordinary medical man is within his legal rights if he practises dental surgery, but since owing to his lack of the necessary technical training he could not do so with success, dental surgery is in effect legally practised solely by men of two classes—those who hold a qualification both in dental surgery and in medicine and those who hold a qualification in dental surgery alone or have otherwise obtained admission to the *Dentists Register*. The early stages of the education of dental and medical students cover the same subjects, and it is possible to combine the two educations so as to obtain qualification both in medicine and in dental surgery without any very great extension of the time which would be necessary to become a registered medical man alone.

In any case a prospective dental surgeon must obtain registration as a dental student (see p. 422) and thereafter pursue a curriculum which lasts a minimum of four years. His education does not necessarily become differentiated from that of an ordinary medical student until he has passed an examination in the subjects covered by the First Professional Examination held by the various degree or diploma granting bodies—namely, elementary chemistry, biology, physiology and anatomy. As a rule, however, the student who is seeking the L.D.S. only at once enters upon the two years' course of study of mechanical dentistry,[1] which he can take under a registered dental practitioner, or, better still, at a recognized dental hospital and school. During this period he should also study chemistry and physics, and, if possible, pass the examination in these subjects, so that when he has completed his two years' study of mechanical dentistry he can proceed with the First Professional Examination.

During the last two years, which must be spent at a medical school and hospital, concurrently with attendance at the dental hospital, in addition to studying anatomy and physiology, surgery and pathology, he will include in his work the more specific subjects—namely: Dental anatomy and physiology, dental histology, dental surgery and pathology, and practical dental surgery, for all of which he must be "signed up" by the authorities of the dental and medical schools before entrance to the Final Examination for the Licence.

Recognized dental schools are numerous; in London there are those connected with the Royal Dental Hospital, Leicester Square; the National Dental Hospital, Great Portland Street; Guy's Hospital and the London Hospital. In the provinces and Scotland and Ireland there are those connected with the universities of Sheffield, Manchester, Liverpool, Leeds, Bristol, Durham and Birmingham, and the Devon and Exeter Dental Hospital; the Edinburgh Incorporated Dental Hospital; the Glasgow Incorporated Dental Hospital; the Royal Infirmary, Glasgow; and the Dental Hospital of Ireland, Dublin. As for qualifications in dental surgery, these are almost equally numerous; licences in dental surgery being granted by the Royal Colleges of Surgeons of England, Edinburgh and Ireland; the Royal Faculty of Physicians and Surgeons of Glasgow, and all the universities that have been mentioned. A majority of provincial universities also grant degrees in dental surgery, and this subject is one of the branches of surgery in which a Bachelor of Surgery of the University of London can proceed to the Mastership (see page 425). There are considerable variations in the order in which different licensing bodies require various subjects to be taken up, and every prospective dental student should consequently study not only the regulations of the General Medical Council, but also those of the body whose licence or degree he hopes to obtain.

THE WINTER SESSION IN THE MEDICAL SCHOOLS.

Information received from the deans of the various medical schools shows that by the middle of October the work of the winter session of the medical schools will be in full progress throughout the United Kingdom, despite the difficulties created in some localities by the existence of the war. The London schools as a whole are adhering to their customary date—namely, October 1st—while, as a rule, in the provinces and in Scotland and in Ireland work will begin—likewise in accordance with established precedent—on dates varying between five and fourteen days later.

At St. Bartholomew's Hospital the commencement of term will be marked as usual by a gathering of old students at dinner in the Great Hall on October 1st, Dr. W. S. A. Griffith being in the chair. At St. George's there will be a distribution of prizes on October 1st, followed by an address from Mr. A. E. Shipley, F.R.S., Master of Christ's College, Cambridge, on the subject of zoology and medicine; while on the evening of the same day an old students' dinner will take place at Prince's Restaurant, with the Right Hon. Sir Gerard Lowther, G.C.M.G., C.B., in the chair. There will also be a distribution of prizes at St. Mary's Hospital, an address being delivered by Sir Philip Magnus, M.P. for the University of London; but no dinner will be held this year. At the London School of Medicine for Women an inaugural address will be delivered by Dr. Frances Ivens. At King's College Hospital work will begin on October 1st without ceremony, but on the following day past and present students are to meet at the Waldorf Hotel for dinner, and it is hoped that Sir Arthur Sloggett, Director-General of the Army Medical Department, will find time to take the chair. At the Middlesex Hospital the opening of term will be marked by a distribution of prizes by H.S.H. Prince Alexander of Teck, and an address will be delivered by Dr. C. Hubert Bond, Emeritus Lecturer in Psychiatry. In the evening Sir John Bland-Sutton is to take the chair at a dinner at the Trocadero. At the other metropolitan schools work will likewise begin on October 1st, but without any formal ceremony, though at the London Hospital a dinner has been arranged for October 6th, when Dr. C. A. Mercier will preside over a gathering of past and present students at the Savoy Hotel.

At Aberdeen the commencement of term on October 15th will be marked by the induction of two new professors—Professor Frederick Soddy to the chair of chemistry, and Professor Theodore Shannan to that of pathology. At the medical school of the University of Leeds work will commence on October 1st, an address being delivered by Professor Arthur Keith, F.R.S., and a dinner being held in the evening. The medical school of the University of Durham and the School of Physic of Trinity College, Dublin, are others which this year will follow the metropolitan custom and commence work on October 1st. At Manchester work will be inaugurated on October 8th by an address from Professor E. S. Reynolds, on the industrial diseases of Greater Manchester, and at Liverpool work will begin on October 8th, and on the following day Sir Victor Horsley is to deliver the William Mitchell Banks lecture.

We mentioned last week that the Senate of the University of Leeds had resolved that no member of the university should be placed at a disadvantage in academic studies or status owing to his absence on active service or on other approved duty in connexion with national defence, and may now add that a corresponding resolution is everywhere in view.

[1] A student's two years' training in mechanical dentistry may be undergone at any time, but it does not count as part of his four years' curriculum unless he has previously been registered as a dental student. Some examining bodies demand three years' training in mechanical dentistry.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Note.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

EIGHTY-SECOND ANNUAL MEETING
OF THE
British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.

J. SCOTT RIDDELL, M.V.O., M.B., C.M., President.

DISCUSSION ON THE ETIOLOGY AND TREATMENT OF CARCINOMA OF THE TONGUE.

OPENING PAPER.

By WALTER G. SPENCER, M.S.,
Surgeon to the Westminster Hospital.

(*Synopsis.*)

I SHALL best respond to the honour conferred upon me in the invitation to open this discussion by a brief statement particularly relating to the recognition of cancer of the tongue in its earliest stages by the aid of the microscope.

It has been the hope of those who have paid special attention to cancer, like the late Sir Henry Butlin, that by removing the conditions which were destined to become cancerous, or, what practically comes to the same thing, cancer in its earliest stages, a safe cure without deformity might be ensured. This would offer an escape from the vicious circle of severe and deforming operations, so often followed by recurrence because done too late. Owing, however, to the introduction of fresh methods of treating inflammatory conditions by salvarsan, or exposure to x rays or radium, there are now further causes of delay.

It is a fact of first importance that an inflammatory condition exists on the tongue for a time before carcinoma actually commences. Such lesions are well known under the names of chronic superficial glossitis, leucoplakia, papilloma, wart, chronic ulcer, fissure, or irritable scar.

As to the lesions due to syphilis, the Wassermann reaction is an important aid to diagnosis, and the administration of salvarsan aids in clearing off the earlier manifestations, and will prevent many cases from going on to cancer. But salvarsan has no influence on old syphilitic lesions, and certainly none when an epithelial new growth is about to begin. The position remains the same as before the use of salvarsan. Within a fortnight after its administration there should be an absolute improvement leading to the disappearance of the glossitis, or recourse must be had to surgery.

Faced by a smoker's patch which does not disappear with the cessation of smoking, the view must be adopted that such a patch is really a cancerous lesion, however long the development of the epithelioma may be postponed.

A dental ulcer may within a few weeks become the seat of cancer. A section through such an ulcer five weeks after its production showed evidences of the commencement. In two further cases in which the precise time from the production of the ulcer to the date of the operation could be fixed, the duration was ten weeks; in one, after the removal of half the tongue, the floor of the mouth, and the lymphatic glands in the submaxillary region, the disease reappeared in the posterior triangle of the neck of the same side; in the second case, after a similar operation, there occurred a deep infiltration by carcinoma in the region of the hyoid bone on both sides.

The importance of oral sepsis as an aggravation of carcinoma is obvious; the distinct thesis that oral sepsis *per se* is a cause of cancer is another matter. The term "oral sepsis" lacks definition. Patients complain of irritability and pain in the tongue, of a wandering rash, or of swollen and tender papillae, or of recurring attacks of herpes, and excluding cases caused by syphilis, gout, or smoking, the cause may well lie in some pyorrhoea about the lower incisor teeth. But then the noteworthy point is the absence of a definite and persistent lesion such as gives rise to cancer. In the absence of such, fear of the onset of cancer is baseless.

The earlier stages of cancer as seen under the microscope present a proliferation and keratinization of the active cells of the epidermis within the limits of the epithelium, even the formation of cell nests, before there is any extension into the underlying subepithelial connective tissue. At first in this latter tissue there is no change at all; later an infiltration by small round cells takes place.

The specimens exhibited may be distinguished into those—

(1) In which the change is wholly in the epidermis.

(2) With the foregoing there is an infiltration of small round cells in the subepithelial connective tissue.

(3) Further, a commencing downgrowth of the epithelial columns, but not so far as to invade the muscular substance of the tongue.

(4) Simultaneously with the last there is seen in the lymphatic sinuses of the lymph glands which correspond to the particular area affected a collection of small round cells in the lymphatic sinuses of these glands.

Of these small round cells the great majority are of inflammatory origin, but it is necessary to assume that among them are some cells derived from the epithelium, which can develop epithelioma, although at the moment none can be recognized as actually epitheliomatous. This statement applies both to the small round cells in the subepithelial tissue and in the sinuses of the lymphatic glands. The term "precancerous" is too indefinite; it is necessary to include the zone of small cell infiltration as part of the cancer. I am allowed to quote the authority of Dr. E. Bashford and Dr. James A. Murray, from their experiments on the transmission of squamous celled carcinoma in the mouse, that the small cell zone should be included as part of the cancer. By contrast, lesions were exhibited with no tendency to cancer, such as lingua plicata, hypertrophied papillae, and melanoglossia or black tongue. Sections show no subepithelial small cell infiltration.

The author has followed Butlin in removing all persistent lesions, a procedure free from risk; no deformity results if the patch is small and single.

The best way of recognizing that an epithelioma has begun, and its extent, is to have a microscopic section made immediately whilst the surgeon waits. This avoids the very real objection that the patient may refuse to undergo a second operation until too late. Guided by such an immediate section, the surgeon must then remove sufficient to include all the small cell infiltration, and if an epitheliomatous downgrowth into a subepithelial tissue is found, he must then proceed to remove the contents of the corresponding anterior triangle. In doing this, if the mylohyoid muscle and hypoglossal nerve are not injured, the patient will recover good articulation, and, as the wound does not communicate with the mouth, it may be expected to heal by the first intention.

The histories of cases quoted prove that this is a reliable procedure so long as the epithelioma has not extended beyond the subepithelial connective tissue, because the epitheliomatous infection has as yet passed through the lymphatics to the corresponding glands without being arrested in the course of the lymphatics. If it fails, the reason is that there has been such a widespread invasion from the first that even the most extensive operation would be useless, as instanced by cases which were quoted. When epithelioma has invaded the muscular substance of the tongue and also the lymphatic glands, it is then that an excision *en masse* or *en bloc* becomes necessary. There is then a risk of death after the operation, and deformity follows, varying with the extent of the operation. In the less malignant cases there is a prolongation of life, but, the three years' limit passed, there is still no certainty that late recurrence may not supervene. In the more virulent cases life is prolonged for a year or so; the most painful feature in this class of case is the suffering endured after recurrence has set in. A few cases of limited recurrence are benefited by secondary operations, as in the cases quoted.

As for palliative treatment, the greatest amount of relief is obtained by reducing the septic decomposition of the ulcerating surface by painting on several times a day some efficient non-irritating antiseptic, such as mercury bicyanide, 1 in 1,000. Other proposed methods of palliative

treatment seem contraindicated—the division of the lingual nerve, because it is useless; the application of *x* rays, because the glands develop the more rapidly; the insertion of radium, because of the greatly increased pain; diathermy, because, whilst effectually disinfecting the surface for the time, a general anaesthetic is required, and so it can be used only exceptionally as compared with the continuous use of an antiseptic; the injection of adrenalin, because it causes sloughing.

In illustration of this paper the author exhibited a series of microscopic sections and photographs to which were attached histories from some typical cases. After the discussion these were placed on view in the Pathological Museum.]

DISCUSSION.

Before the formal discussion was begun, Professor J. KAY JAMIESON (Leeds) and Mr. J. F. DOBSON (Leeds) gave an elaborate demonstration relating to the distribution of the lymphatic vessels and glands of the tongue, and based thereon certain conclusions. Among these were: that Crile's block dissection was the only adequate operation for removal of glands; that the bilateral gland operation was indicated in growths of the tip and fraenum, of the dorsal surface, of the lateral border, if at all advanced towards the mid-line, and of the back of the tongue; and that unilateral gland operation was permissible only in early growths of the lateral border. The glands were invaded as a result of permeation of the smaller lymphatic vessels in the substance of the tongue followed by passage of emboli along the larger vessels to the glands. The large vessels themselves were not permeated. It was not, therefore, necessary to remove the large lymphatic trunks, and also not practicable, seeing the course that these vessels ran. Lenthal Cheatle's work had shown that a much more radical removal of the primary growth was advisable than had previously been generally believed. It did not prove that the larger trunks were permeated or need be removed. Therefore, though in early cases, particularly of growth in the lateral border, an intrabuccal operation would suffice, if care were taken to cut the tongue off close to the hyoid bone, it was clear that in the later cases only an extrabuccal operation would do. As for dividing the entire procedure into stages, a unilateral Crile and intrabuccal excision of half the tongue might be performed at one sitting in early lateral border growths; but, if the patient were in poor condition, the Crile should be performed ten days after the intrabuccal excision. In more advanced growths and in all growths of tip, fraenum, or back of tongue, a Syme, or modified Syme (for tip), should first be performed, both submaxillary sets of glands and the submental glands being removed at the same time, and a double Crile should be performed ten to sixteen days later, the jugular vein being left on one side. Alternatively the procedure might spread over three sittings, the tongue being first removed by Syme's method, and a Crile operation performed on either side at two subsequent sittings.

Mr. CHARLES P. CHILDE (Portsmouth) pointed out that inasmuch as cancer was frequently grafted on old syphilitic tongues, apparent improvement under iodides was only too likely to occur and to lead to a disastrous waste of time. In a doubtful case the time required to obtain a competent microscopic report was the only legitimate delay. His invariable practice was to ligature the lingual artery previous to excision of the tongue, as this greatly facilitated the intrabuccal procedure, and also, by obviating complication of obstruction of breathing from blood, rendered preliminary laryngotomy or tracheotomy, with all their disadvantages, unnecessary. Before tying the lingual he always performed a Crile gland dissection if the disease were unilateral, and removal of only half the tongue and the glands on one side alone seemed necessary. He tied the facial artery when he had turned the submaxillary gland out of its bed, cut through the hyoglossus close to the hyoid bone, and then, exposing the lingual artery, cut it between two ligatures. Formerly he used to do less than this, and found the disease almost invariably recurred. Consequently, complete dissection should be the rule. It was not difficult, and could usually be completed in three-quarters of an hour. The tongue part of the operation should be done if possible immediately after the gland dissection, because if postponed for a fortnight it was possible that in the interval cancer cells might be carried to the neck and there form the starting-point of a recurrence. If in the first place it was decided—owing to fear that the patient would not stand the whole operation—to divide it into two sittings, there was an additional reason for beginning with the gland dissection; if the tongue were removed first the patient might refuse the subsequent dissection in the neck, not recognizing any inconvenience or danger at that spot, whereas if the gland dissection were completed he would not afterwards refuse removal of the disease in the mouth. This had actually occurred to the speaker some years ago. After removal of the tongue the patient refused the neck dissection and got a recurrence there within a few months. When it was considered necessary to remove the whole tongue and perform a neck dissection on both sides, the operation must be divided into two stages, as it was too severe an operation for one sitting, and the procedure otherwise modified. The speaker never removed both internal jugular veins; he commenced by the usual block dissection on the worse side and ligatured the lingual on that side. He also endeavoured at this sitting to remove the tongue, and if he thought this possible ligatured the lingual on the other side, this occupying about ten minutes. At the end of a fortnight or three weeks he dissected the anterior and submaxillary triangles of the remaining side of the neck, but did not include in it removal of the internal jugular vein. In cases involving the fraenum and the floor of the mouth, necessitating division of the lower jaw to remove the disease effectually, the operation had frequently to be performed in three stages—dissection of the neck on one side with ligature of the lingual, followed a fortnight later by dissection of the other side of the neck, and when this later wound was healed, division of the lower jaw in the mid-line and excision of the primary disease. It was too dangerous to have the mouth communicating with an extensive fresh wound in the neck, such as the gland dissection involved. Men suffering from intraoral carcinoma were generally advanced in years and frequently broken in health, and it was often a nice point to decide how much they would stand. The speaker always went for a very thorough removal, if possible, as it was really better, not for statistics, but for the patient to die after the operation than to have an early recurrence and endure the miseries of his disease all over again within a few months.

Mr. MCADAM ECCLES (London) said that it was an interesting fact that only one patch on a tongue might become carcinomatous, the rest remaining free from malignancy. There were two places widely distant from the tongue where similar conditions seemed to exist—namely, the mucous membrane of the bladder and the skin of the digits in *x*-ray damage. It was not uncommon to find attached to the bladder mucous membrane more than one patch of papilloma. One of these patches might show infiltration of the mucous membrane with epithelial cells, and that it had become malignant. Why of numerous patches did one become malignant? Again, the patches of thickened epithelium—"warty excrescences"—all too frequently seen on the digits of the early workers with *x* rays, might be quite numerous and yet only one patch become epitheliomatous. Until the cause of carcinoma was discovered, operation in early cases offered by far the best prospect of cure. In early cases of carcinoma of the tongue the speaker believed the free removal of glands was perhaps the most important part of the whole operative measures. He was accustomed to deal with the glands first, as in this way the removal of these structures was assured, the patient not objecting to the intrabuccal operation later, usually within a fortnight. In dealing with the tongue itself the extent of the operation must go beyond the small round-celled infiltration upon which Mr. Spencer had laid so much stress.

Mr. HEY GROVES (Bristol) referred to the very great advantages of division of the lower jaw as the preliminary of all extensive operations for the removal of the tongue.

The point which prevented many from doing this was the fact that non-union or necrosis of the jaw often resulted from it when done in the ordinary way by a linear division of the symphysis. If, instead of this, the jaw were divided by a > shaped saw-cut, with the two portions of the > bevelled in opposite directions, then the union of the bone after wire suture invariably took place simply and certainly. After division of the jaw there was a freedom of access to the intrinsic muscles of the tongue right down to the hyoid bone, with complete vascular control, which was attained by no other means. In the matter of anaesthesia, the intratracheal method presented overwhelming advantages. Not only did it prevent blood and septic material from entering the air passages, but it gave a quiet anaesthesia which was almost free from post-operative shock. But in order to introduce an intratracheal catheter in bad cases, where the tongue was much fixed, it was necessary to use indirect laryngoscopy, as the rigidity of the floor of the mouth would often prevent the larynx being pulled forward into line with the mouth in the way demanded by the direct laryngoscopy.

Dr. T. K. DALZIEL (Glasgow) called attention to the presence of a lymphatic gland lying close to the mastoid process often adherent to the base of the skull. He had frequently observed that even after most thorough operations for malignant disease in the mouth and pharynx recurrence took place in that gland, and his practice now was to ensure its removal with the others more obviously involved. He dissented from the view that there was special danger in doing the double-sided operation. He saw no particular benefit in intratracheal anaesthesia; he performed tracheotomy so that he was able to deal with the floor of the mouth thoroughly in the after-treatment by packing the operation area with gauze.

Professor CAIRD (Edinburgh) believed that the diagnosis of lingual carcinoma was easy, and that, moreover, no morbid tissue was more readily recognized under the microscope. All the so-called "precancerous conditions" he had encountered had either already become malignant or remained simple, and yielded to simple treatment under observation. He had not found that syphilis played the rôle so frequently attributed to it as a factor. He now generally employed novocain as a local anaesthetic, and with it it was possible to carry out most complete intrabuccal operations without pain or difficulty. In every case he removed the entire half, or both halves, of the tongue at the first sitting, as by so doing the septic original focus was got rid of, and there could be no further propagation by the lymphatic channels from that source. No gag was required, and Whitehead's or Syme's method was selected according to the requirements of the case. After ten days, under general or with local anaesthesia, all the lymphatic structures, along with the submaxillary and a portion of the parotid glands, and such veins as were in too suspicious proximity, were removed in one sheet from the submaxillary region to the sterno-clavicular articulation. The identification of the lymphatic structures was easier at the second sitting, from the inflammatory reaction which followed on the primary removal of the tongue. At the second sitting it was well to open into the mouth, thus dealing with any remains of the hyoglossus and lymphatic elements about the mylohyoid muscle. The mortality of such operations was remarkably low, but unfortunately the ultimate prognosis was very uncertain, the most promising cases turning out badly, and vice versa. Recurrence was frequent, but rarely took place in the mouth or vicinity of the hyoid bone; it rather favoured the lower post-auricular area. He only removed the lymphatics on both sides of the neck when very definite indications for this course were present.

Mr. LUCAS (Birmingham) found that in about one-half of his cases of tongue cancer syphilis had pre-existed. Most of the patients had been smokers, and nearly all suffered from arterio-sclerosis. In regard to operative technique, he favoured splitting the jaw. He employed Crile's method of anaesthesia by a double nasal tube, and placed a plug of gauze in the back of the mouth.

Mr. SPENCER, in reply, pointed out that Sampson Handley's permeation theory did not hold good in the early stages of cancer of the tongue, but only in the later stages. In his experience, cancer of the tongue did follow syphilis. General statistics were against the operation of dividing the lower jaw, on account of sinus formation and recurrence in the jaw.

A METHOD OF OPENING THE ABDOMEN FOR APPENDICECTOMY.

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IN the performance of laparotomy the surgeon aims at an incision giving good access to the viscus on which he wishes to operate, and leaving a scar so situated and supported as to reduce to a minimum the probability of post-operative hernia. The method which I shall now briefly describe, and which I have employed for appendicectomy many times during the past year, seems to me satisfactorily to realize both these aims.

The principles underlying the method are: (1) Division of the posterior sheath of the rectus transversely, in the direction of the aponeurotic fibres, and (2) preservation of the muscle itself to form a support to the scar. And, while I claim no originality for the principles, the details of the technique which I follow have been elaborated by myself, and I make no apology for communicating them.

It was while perusing Mr. Maylard's interesting work on *Practice and Problem in Abdominal Surgery*[1] that my attention first was directed to the importance of dividing transversely the posterior sheath of the rectus. The idea of preserving the rectus muscle to act subsequently as a support to the scar in the posterior sheath was derived from Messrs. Battle and Corner's description of their operation;[2] and more recently from Dr. Gwilym Davies's paper in the *Annals of Surgery*.[3]

The method of operation consists in exposing the rectus muscle, loosening it in its sheath, retracting towards the middle line, and transverse division of the posterior sheath and peritoneum. After the appendix has been removed, and the posterior sheath and peritoneum sutured, the rectus is allowed to fall back into its normal position, and the anterior sheath and superficial wound closed.

Incision.—An incision through the skin and superficial fascia, and exposing the aponeurosis, is made transversely from the middle line outwards to a fingerbreadth inside the iliac crest, and at the level of one fingerbreadth above the anterior superior spine. This level is chosen because, while it gives good access to the base of the appendix, it avoids in the majority of individuals the subumbilical tendinous intersection in the rectus, and lies below the nerve (eleventh or twelfth dorsal),[4] which pierces the outer edge of the sheath in this neighbourhood to supply the muscle. It is desirable to avoid the intersection because the intimate connexion between that structure and the anterior sheath would require extensive division before the muscle could be mobilized. The desirability of avoiding the nerve is obvious.

Opening the Sheath.—A transverse incision, about half an inch in length, is then made in the aponeurosis over the rectus. This incision is made about one inch outside the linea alba, and is then prolonged by blunt-pointed scissors outwards to the linea semilunaris. Frequently a small arterial twig on the anterior surface of the muscle is divided at the inner end of the incision, and requires ligation.

As the outer half of the rectus is exposed, the aponeurotic sheath is seen to separate into two layers. The superficial layer is the aponeurosis of the external oblique muscle, and as it is divided obliquely to the direction of its fibres it gapes somewhat and usually gives a clear view of the deeper layer.

Separation of the Muscle.—The rectus is separated from the edges of the opening in the anterior sheath and also from the linea semilunaris by the closed scissors; the index finger is introduced under the edge of the muscle and separates it from the posterior sheath until the deep epigastric vessels come into view. The muscle thus loosened is retracted by hooks towards the middle line, the lower lip of the anterior sheath incision is hooked

downwards, and the transversely coursing fibres of the posterior sheath are thus exposed.

Opening the Posterior Sheath.—The posterior sheath and along with it the peritoneum is opened in the direction of the fibres transversely or slightly upwards and inwards. Should, as occasionally happens, an intercostal nerve enter the sheath at the level of the field of operation, it is easily separated from the posterior sheath and held clear while the latter is being incised. The upper and lower lips of the opening are caught in toothed forceps and retracted, and the caecum immediately comes into view, is brought out of the wound, and the appendix removed.

Closure of Wound.—Peritoneum and posterior sheath are closed by a continuous catgut suture, beginning at the inner end of the opening. The muscle is then let go and the anterior sheath similarly closed. To obliterate the subcutaneous space three or four silkworm-gut sutures are passed through skin and subcutaneous tissue and anterior sheath. They are not tied till the skin edges have been approximated by a continuous suture of silkworm-gut. By this means drainage of the subcutaneous space by a drainage tube is rendered unnecessary.

Enlarging Opening (if necessary).—It may be found necessary during the operation to enlarge the opening in the peritoneum—for example, if the appendix be retro-colic, in retro-caecal abscess, etc. If so, the enlargement is made *outwards* into the internal oblique and transversalis muscles and in the direction of their fibres, enlarging at the same time the opening in the external oblique aponeurosis. In such an event, when sewing the wound the suture of the posterior sheath is continued outwards to close the aperture in the muscles.

Drainage.—Should drainage of peritoneum be considered necessary—and I may here say that I am employing drainage less and less—the drainage tube or gauze is brought out through the aperture in the internal oblique and transversalis muscles.

After-treatment.—The patient is kept in bed for a fortnight, sitting up in bed about the eleventh or twelfth day. If drainage has been necessary, he is not allowed up till the drainage track has closed.

Results.—I have employed the method in close on 100 cases, and where there has been primary closure of the incision the results, as regards absence of hernial protrusion, have been absolutely satisfactory.

REFERENCES.

[1] Maylard, London, 1913, vide p. 34. [2] *Surgery of the Diseases of the Appendix Vermiformis*, London, 1904, p. 76. [3] Davies, *Annals of Surgery*, 1906, vol. xliii, p. 106. [4] Pannett, *Proc. Roy. Soc. Med.*, Surgical Section, October 14th, 1913, figures the nerves entering the rectus sheath.

POTT'S DISEASE IN CERVICAL REGION, WITH METHODS OF BONY SPLINTING.

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EXPERIENCE of the older methods of treating caries of the cervical spine by splints, rest in bed, etc., has been so unsatisfactory and so prolonged that one feels justified in bringing forward any method which will help to shorten the period of recovery from such a trying disease. Bony splinting in other regions of the spine is fairly well known. Hibb's method, by fracturing the base of the spine above and turning it down to unite with the body of the vertebra below, is useful and satisfactory mainly in the dorsal region. Albee's method of splitting the spinous processes and grafting a piece of bone from the tibia into the V thus formed is equally satisfactory in both the dorsal and lumbar regions. But if one looks at the spines of the vertebrae in the cervical region it is seen that one is limited to the very stumpy spine of the second, shaped like a house-roof, and to the rather prominent seventh spine. Between these the spines could neither be split nor turned down, and even the second and seventh could with difficulty be made use of for either of the two methods mentioned. The anatomy of the spinal axis requires only passing notice. The muscles and fascia are so interlaced and so firmly fixed between the transverse and the spinous processes that it is impossible for any abscess arising from disease of the bodies to get round into the region of the spines, so that you have a clear area for operative work behind the lateral processes. Of course, these lateral and spinous processes themselves do sometimes get affected by tubercle, as do all joints and cancellous bony tissue, but in the cervical region the disease is nearly always in the bodies of the vertebrae below the second.

The spine is normally fixed at two points—the bodies in front and the articulations laterally, and if either of these becomes diseased, the muscles and ligaments behind and around the spinal axis have to ensure rigidity to prevent pain. But the muscles soon get tired, during rest, get relaxed, and further damage and pain is the result of movement. Another point of fixation must be sought for when either the bodies or joints are affected, and in disease of the bodies below the second, the seventh and second spines are available. The method I employ is to expose the spines from below the seventh to above the second spine by an ordinary central incision, clear well of periosteum the seventh and under-side of second spines, and then to pack the space with gauze to arrest haemorrhage. A piece of rib long enough to stretch from the tip of the seventh spine to well over the second is quickly excised subperiosteally from a most convenient part of the chest wall next the operator. A hole is drilled in the wider (generally anterior) end of this piece, big enough to fit easily over the seventh spine, which has been cleared of periosteum to receive it. When the piece is adjusted over the seventh spine, with the convexity forwards, it is then easy to mark and cut across at the point which will just fit into the groove below the second spine. A small hole for a suture is drilled in the upper end of the piece of rib, and through this a stitch of silver wire or catgut is put and a curved round needle threaded to one end of it. With the needle it is quite easy to get a good grip of the interspinous ligaments and tendons between the second and first vertebrae or base of skull and thus to fix the upper end of the splint. Much does not depend on this suture, for the muscles and fascia when sutured together over the splint in closing the wound are sufficient to hold it in good position till healing takes place. This bony cervical spine (see figure) shows the splint in position better than any explanation that I can give. Should the second spine not be available owing to the disease being in the first or second vertebrae, a length of rib is taken sufficient to be jammed against the base of the skull and fixed there as before.



I shall give brief notes of a case so treated.

The patient, a boy of 14, a mill worker, was under my care in the Royal Infirmary, Dundee, in March, 1912, and at that time had some tuberculous glands removed from his neck. A year later he came under the care of one of my colleagues with a retropharyngeal abscess which was opened through the mouth. The note on admission to my colleague's ward says: "The patient sits up in bed evidently distressed. Salivation profuse. Breathing laboured—a long inspiration and a short expiration. There is no swelling in the neck, but a soft swelling, visible and palpable, projects into the pharynx from the posterior pharyngeal wall."

His condition after the operation was critical for some time, but the abscess cavity soon closed, though he complained of great pain in the neck. Three months later he was transferred to my ward with the following complaint: "Pain in occipital region, increased when head is moved. When asked to sit up in bed, does so very slowly, supporting head at the back with both hands. If asked to turn his head to the side, right or left, he turns his whole body with it. Nothing visible on posterior wall of pharynx."

A radiogram revealed, rather indistinctly, some thinning and erosion by disease of the third and fourth vertebral bodies, and I decided to fix the spine by the method I have described. This was done on May 17th, 1913, and he was put to bed with his head and neck between sandbags. The wound healed

per primam, but later some redness from pressure showed over the seventh spine. A pad of wool soon corrected this. On June 7th, after sitting up for a short time, he complained of a little pain in the neck, and a jurymast splint was adjusted, but he could only wear it for an hour, when it had to be removed, and he was again placed on his back with sandbags. By June 24th he was able to sit up with no complaint of pain, and on July 3rd he was out walking in the hospital grounds. Since then he has kept well, and though I think it would be advantageous to keep a patient after such an operation continually on his back for at least two months, we were forced to allow this boy up or to strap him down in bed, as after he had no pain he would persist in sitting up whenever the nurses' backs were turned.

COMBINED SECTIONS OF MEDICINE, DISEASES OF CHILDREN, AND ELECTRO-THERAPEUTICS AND RADIOLOGY.

DISCUSSION ON THE DIAGNOSIS OF CHRONIC PULMONARY TUBERCULOSIS IN INFANCY AND CHILDHOOD.

OPENING PAPERS.

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After pointing out that children exhibit the same susceptibility towards tuberculosis as they do towards rheumatism and zymotic disorders, and that the clinical picture of pulmonary tuberculosis in children differs from that in adults just as is the case in rheumatism, Dr. Lees indicated that it was his intention to endeavour to show that, quite independently of any assistance from bacteriology or radiology, it was not only possible, but even easy, to establish a diagnosis of chronic pulmonary tuberculosis in children by inspection, palpation, percussion and auscultation, provided these were carefully and methodically used.

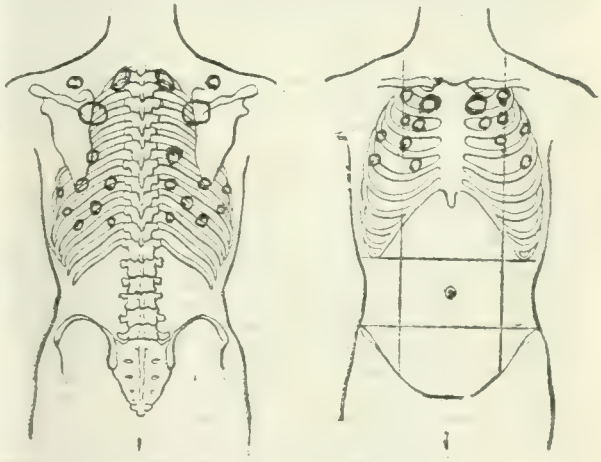
Continuing, he said: I lay stress on the words "carefully and methodically used," because I am convinced that failure in diagnosis by means of percussion and auscultation is due to a defective method and to insufficient care in conducting the examination. It is essential to successful percussion of the chest that all the patient's muscles shall be relaxed, and also that an adequate counter-resistance shall be provided for even the gentlest percussion-stroke. Both are impossible for the front of the chest while the patient is standing or setting erect; it is essential that he shall be lying on a comfortable couch with his muscles relaxed. Little or no progress will be made in this matter until this fact is generally recognized, and the recumbent position adopted for every case. For the examination of the back of the chest, the sitting (slightly stooping) posture, with the hands on the anterior aspect of the opposite shoulders, the elbows near to each other, and the muscles voluntarily relaxed, allows sufficient relaxation of the dorsal muscles and sufficient counter-resistance to the percussion-stroke.

The regular employment of this method will soon convince any physician that very definite dull areas in certain characteristic regions of the chest wall can frequently be detected in cases of suspected tuberculosis in which auscultation reveals hardly any crepitant or catarrhal sounds, any prolongation of expiration, or any wavy inspiration. In fact, there may be an entire absence of morbid sounds, and the only auscultatory evidence may be a defect of air entry over the dull areas, in cases where the percussion evidence is undoubted and even marked. If in such cases there is no cough, no sputum, and no obvious pyrexia, it is no wonder that the physician who relies almost wholly on auscultation reports that he "can detect no evidence of pulmonary tuberculosis." And yet the percussion evidence may be absolutely decisive, and the local defect of air entry quite characteristic.

The annexed diagrams show the distribution of the dull percussion areas in incipient and early pulmonary tuberculosis in adults and adolescents. This distribution is invariable, occurring regularly in case after case, whether bacilli are present in the sputum or absent, and whether or not there is any sputum at all. The distribution is nearly symmetrical in the two lungs, but presents certain invariable differences, evidently due to the fact that the right lung has three lobes, while the left has only two. The largest of these dull areas are always in the upper parts of the lungs, in positions corresponding to those indicated twenty years ago by Sir James Kingston Fowler, from pathological observation, as the earliest sites of origin of pulmonary tuberculosis.

This distribution of dull areas is quite different from the irregularly distributed areas of pulmonary collapse or atelectasis, and also from the usual localization of a pneumococcal or influenzal bronchopneumonia, and also from the usual position of pulmonary infarcts. It has been present in every case of early pulmonary tuberculosis which I have examined during the last few years. Almost invariably the whole series of typical spots can be detected in both lungs, though they are usually larger on one side than on the other. Only very rarely, and in the very earliest stage of an infection, they may be present in the apex or apices of one lung only.

All the dull areas shown in this diagram are pulmonary areas. Occasionally, even in adults, and especially in those who have suffered from spasmodic dyspnoea described as "asthma," it is possible to detect on the posterior aspect of the chest an area of dullness, which is



caused by enlargement of the bronchial glands, especially of those situated at the root of the right lung. This area is found close to the spine at the third dorsal level—a position which is definitely below the dull areas of the upper apices and internal to the dull areas of the lower apices. If this glandular area is small it may exist on the right side only; if larger, it may usually be detected (but much smaller) on the left side also.

The real existence of these dull pulmonary and glandular areas is readily confirmed by an *x*-ray examination. In every one of six cases of incipient pulmonary tuberculosis in which I had detected their presence, my colleague, Dr. Harrison Orton, without knowing my results beforehand, confirmed them by examination by screen and photograph. The last of the six was specially interesting, because Dr. Orton's verdict, based on the screen examination, appeared to contradict my previous result by percussion, but when he took the photograph he found that it confirmed the facts revealed by percussion.

The precise investigation of these typical dull areas of pulmonary tuberculosis is important for prognosis as well as for diagnosis. The exact size of the six large apical areas—two in the upper part of the upper lobe in each lung and one in the upper part of each lower lobe—ought to be carefully measured and recorded once a month in every case of pulmonary tuberculosis. The measure may easily be made with sufficient clinical accuracy, in finger-breadths and fractions of a fingerbreadth, during the routine examination of the patient and without his knowledge. The fingerbreadth is a standard invariable for the same observer, and it is always available. The comparison of such monthly records, taken in conjunction with a monthly record of gain or loss of weight and a

consideration of the improvement or deterioration of symptoms and of auscultatory evidence, gives unerring information as to the progress of the case, and a decided diminution in the size of the dull areas affords good grounds for a hopeful prognosis, even when the other conditions show little improvement.

The records of size of the dull areas may conveniently be preserved in the form of a simple diagram, in which the upper part shows the front view of the chest and indicates the size of these areas in the inner and outer parts of the first and second intercostal spaces, while the lower part shows the back view of the chest and indicates the size of the areas in the inner and outer parts of the suprascapular fossa on each side, and also that of the lower lobe dull area on each side at the extremity of the scapular spine.

Brief notes of the auscultatory signs should be added on the right of the diagram, and on the left the date of the record and the patient's weight. Examples of the usefulness of these diagrams are given in my published Bradshaw Lecture.

All that I have said thus far about the typical dull areas of pulmonary tuberculosis has related to adults and adolescents. But our debate to-day is concerned only with infancy and childhood. In this early period of life the clinical picture produced by a tuberculous infection has special features which differentiate it from the clinical picture produced by a similar infection in adults. Probably in consequence of the more active lymphatic circulation in young children, it is certainly true that in them a tuberculous infection of the finest bronchial tubes and alveoli is less likely than in adults to develop into a disease limited to these localities, and is much more likely than in adults to spread along the peribronchial lymphatics to the pulmonary, bronchial, and tracheal lymphatic glands. This is much more prone to happen on the right side than on the left.

The reason for this remarkable predominance of the right side is not clear. It is true that a more marked infection of the right lung than of the left by incipient pulmonary tuberculosis is about twice as frequent as a more marked infection of the left lung than of the right. But this does not seem wholly to explain the very special proclivity to implication of the bronchial glands on the right side. Possibly the explanation may be found in the anatomical relations of the pulmonary lymphatics. When the tuberculous infection is specially virulent or the child's power of resistance is unusually feeble, the affected glands become much swollen and press upon the adjoining structures, especially upon the root of the lung and upon the right pneumogastric nerve and posterior pulmonary plexus. The compression and irritation of the vagus may bring about a spasmodic dyspnoea which is fairly described as "asthma," or a spasmodic contraction of the adductors of the vocal cords causing symptoms described as "croup." The effects of pressure on the root of the lung are even more serious, especially when a gland softens and ruptures into a bronchial tube, causing a rapid tuberculization of the middle or lower lobe of the lung with bronchopneumonic consolidation and frequently an outbreak of acute miliary tuberculosis of the lungs. Or a localized empyema may be produced, which may cause the greatest difficulty in diagnosis. In one such case, in a girl of about 11 years old, under my care at the Hospital for Sick Children, my colleague, Mr. Stansfield Collier, succeeded in opening a small empyema situated in the interlobar fissure of the right side, and evacuated a small amount of caseous pus, with the result that the child recovered her health.

The peribronchial tuberculous fibroses and the swollen bronchial glands which are almost invariably present to a greater or less extent in children affected by chronic pulmonary tuberculosis form a very striking picture on *x*-ray examination. But in order to secure a correct interpretation of what is thus revealed to us, it is necessary in the first place to remember that no sound conclusions can be based on a screen examination without the aid of a photograph. I have already mentioned a case in which a screen examination by so highly skilled an expert as Dr. Harrison Orton led to a conclusion which was reversed by a photograph taken on the same day. Even with regard to a photograph the highest technical skill is required if mistaken conclusions are to be avoided. All the apparatus must be of the best, and the exposure must be extremely short, for a longer exposure makes the finest details obscure. And when a first-rate negative has been obtained the greatest care is needed for its correct interpretation. For in such a photograph the effects of morbid changes in different transverse vertical planes are all thrown on one plane and almost inextricably mixed. Not only so, but the mixed result will vary according to the angle which the sensitive plate makes with the chest wall at the time the photograph is taken—an angle which will be different in well developed and in ill developed chests. Thus, the fine "mottling" caused by incipient pulmonary tuberculosis at one of the areas already described may be projected on an entirely different area, and it may require the greatest care to disentangle them. Yet it is the fine "mottling" which should be searched for if we are to draw right conclusions as to the origin and progress of the morbid process. The thickenings around the bronchi which cause radiating lines and the gross changes at the roots of the lungs are far less important for a true understanding of the real course of the morbid process. In a large number of cases in which these root areas and radiating lines are the most prominent objects in a photograph, and the only definite results (except for defective lighting up of the apical regions and lessened movement of the diaphragm) that can be seen by the fluorescent screen, they may be really of very little present importance. We may compare them to the extinct volcanoes which are so conspicuous, and so inactive, on the surface of the moon. For fibroid and calcareous changes may be quite quiescent, as Dr. Jordan has shown by taking *x*-ray photographs of the roots of lungs passed as "healthy" in the *post-mortem* room.

It is the fine "mottling" which is all-important in the diagnosis of early pulmonary tuberculosis, and this is lost on the fluorescent screen and obtained with difficulty in a photograph, and even when obtained liable to be misplaced and therefore misinterpreted.

A careful percussion, however, will detect these small areas of an incipient pulmonary tuberculosis when even the best *x*-ray photograph shows little or nothing definite, and it will give their true localization with complete accuracy. A careful percussion will also easily demonstrate the existence of large (sometimes very large) typical areas in cases where there are few or no morbid sounds audible, and in which the *x*-ray findings are so obvious that the radiologist is led to the belief that the disease is spreading backwards from the glands along the bronchi to the lung tissue. The large typical areas seem to disprove this theory.

A second cause of the distortion of the clinical picture of chronic pulmonary tuberculosis in infants and young children is their special susceptibility to mixed infections. Children are much more liable than adults to bronchopneumonia—pneumococcal, streptococcal, diphtherial, or due to the microbes of measles or of whooping-cough. It is a commonplace of experience that what appeared at first to be a simple bronchitis or bronchopneumonia has often been followed by manifest tuberculosis, and that measles and whooping-cough owe a great part of their fatality to a tuberculous infection which is either introduced along with the microbes of these diseases, or aroused from a latency in a child already tuberculous. Fortunately for diagnosis, the dull areas so freely scattered over the lungs in the various infections above mentioned affect chiefly the lower halves of the lungs. A predominant localization at the six typical areas at the four apices is probably proof of the tuberculous nature of a supposed simple bronchopneumonia.

A careful clinical examination of the thorax in children, and even in infants, who are suffering from what is thought to be merely a catarrh or an ordinary bronchitis very frequently reveals the typical distribution of small dull areas at the apices and other parts of the lungs, exactly as found in tuberculous adults and as shown in the diagram. It is a clinical confirmation of the results obtained by the cutaneous reaction to tuberculin, which demonstrates the existence of a tuberculous infection in many cases in which the fact is not obvious without careful percussion. It explains the greater frequency of infection of the thoracic glands as compared with the mesenteric, and confirms the fact, clearly proved by *post-*

mortem examination, that fatal tuberculosis in children originates far more frequently in the lungs than in the intestines.

The existence of mixed infections makes the diagnosis by percussion more difficult, especially as regards the lower half of the lung, but I believe that the discovery of the six typical dull areas at the four apices is sufficient ground for asserting either that the fresh infection by pneumococci, streptococci, or the microbes of diphtheria, of measles, or of whooping-cough, is accompanied by a tuberculous infection, or that the fresh infection has attacked a child who is already tuberculous.

In each of three *x*-ray negatives taken by Dr. Ironside Bruce from children in whom I had detected what appeared to me to be characteristic percussion evidence of past or present pulmonary tuberculosis, additional dull areas close to the spine at the third dorsal level seemed to indicate enlarged bronchial glands. The *x*-ray report in each case stated that there was increased opacity in both lungs, often most marked towards the root, and in each case "small rounded opacities arranged in groups" were present, which are, at all events, very suggestive of tuberculosis. In one of these three cases the cutaneous reaction to tuberculin gave a positive result; the child died in hospital, but no autopsy was obtained. The other two cases recovered sufficiently to leave the hospital; in one of these the cutaneous reaction to tuberculin gave a negative result; in the other it was not tested.

It appears to me, therefore, that careful and accurate percussion is of primary importance in the diagnosis of early pulmonary tuberculosis, both in the child and in the adult, and that it is capable of detecting the disease at a much earlier period than is possible by any other method of investigation. It is a method which does not require any expensive or complicated apparatus, which is independent of the laboratory and its products, and which calls only for care and accuracy on the part of the doctor. When the general practitioner of medicine realizes what is possible for him in diagnosis by careful percussion and auscultation, and determines his treatment in accordance with the knowledge which he may thus easily acquire, the final extinction of the disease known as pulmonary phthisis will have become a possibility.

[Dr. Lees then concluded by relating four recent cases. The first demonstrated the importance of percussion evidence, and of deficient entry of air, in a case in which absolutely no morbid sounds could be heard on auscultation. The second illustrated the production of asthma in a young child by enlarged tuberculous bronchial glands. The third was complicated by spinal caries. The fourth demonstrated the possibility and the importance of detecting the very earliest indications of tuberculosis of lung and bronchial gland, when one lung only might be implicated. All four cases were treated by the method of continuous antiseptic inhalation described by the author in his Bradshaw Lecture, and all had made a good recovery.]

II.—Clive Riviere, M.D.Lond., F.R.C.P.Lond.,
Physician, East London Hospital for Children, Shadwell; Physician for Out-patients, City of London Hospital for Diseases of the Chest.

Chronic pulmonary tuberculosis is nothing more than a "curiosity" in infancy. The susceptibility of the young tubercle-free human is so great that tuberculosis nearly always runs an acute or subacute course during the first three or four years of life. After this period chronic forms of tuberculosis begin to appear, and become more and more frequent as age advances.

It is a peculiarity of "primary" as opposed to "super" infection with the tubercle bacillus that the lymphatic glands draining the point of entry bear the brunt of the first onset. In consequence of this, and partly also on account of the activity of lymphatic structures in early life, tuberculosis in childhood is essentially a tuberculosis of glands in the first instance. The point of entry is little in evidence, or in some cases disappears, and the diseased glands form, from the clinical standpoint, a primary focus from which tuberculosis may spread elsewhere.

Thus in the pulmonary area, in the child, the first stage clinically is disease of the tracheo-bronchial glands, and this is nearly always associated with more or less secondary spread into the lung itself, forming what is termed "hilus tuberculosis." Such secondary lung infiltration is not necessarily accompanied by any symptoms or signs indicative of its presence; it is only when it reaches a notable extent that it claims separate recognition. In most cases the terms "tuberculosis of tracheo-bronchial glands" and "hilus tuberculosis" may be used synonymously.

This tuberculosis of tracheo-bronchial glands, giving rise to symptoms and to characteristic physical signs, is so much commoner in children than is apical phthisis that we cannot afford to omit it from our discussion to-day. It is very apt to be confused with phthisis, but must be clearly separated from it on account of its different course, different prognosis, and the different treatment it requires. It represents, in all probability, the material out of which adult phthisis is manufactured, but it generally runs a very chronic and uneventful course during childhood, often with but little or even no effect on the general health. Indeed, it is in the school rather than in the hospital that these cases are common, and it is, perhaps, for this reason that the earliest signs of thoracic gland disease have been hitherto but little sought for or recognized. Its treatment is that of a localized tuberculosis, and thus differs widely from that required in an autotoxic disease, such as phthisis.

Apical phthisis is but rarely seen below the age of 7 years, and does not become at all common till near the time of puberty. Its course is familiar to all, and I need only here remark that, certain broncho-pneumonic cases apart, phthisis is of far more favourable prognosis in children than in adults.

We have, then, two separate conditions before us for diagnosis, and I hope that subsequent speakers will make it quite clear to which of these conditions their remarks are directed.

Tuberculosis of Tracheo-Bronchial Glands.

I propose to ask members under this heading to tell us those signs they have found most useful in its diagnosis, my own contribution being confined to a certain sign which, I think, merits the attention of this meeting. There is nothing new or startling in the mention of dullness in the interscapular region as a sign of enlarged chest glands. Ever since Leblond described this sign in 1824—that is, two years before the introduction by Piorry of mediate percussion—the textbooks have nearly all mentioned interscapular dullness as a sign of tuberculosis of chest glands. But the earlier observations, including those of Leblond, were made on cases of advanced disease confirmed by *post-mortem* examination, and there is little doubt that the impairment they recorded was generally that of lung infiltration secondary to the glandular disease. Since then interscapular impairment has been accepted without much comment as a sign of enlarged chest-glands, and is invariably described as occurring on either side of the spine, or in some cases on both. Only a few German authorities—Henoch, Biedert and Litting, Heubner, and some others—denied on theoretical grounds that interscapular impairment could arise from enlargement of these gland groups.

So much for the earlier observations, restricted, for the most part, to demonstration of the physical signs of advanced disease. Two notable additions to our clinical armamentarium now enable us to discover disease at a far earlier stage. Of these the first is the widespread recognition of gentle percussion, and the second is the introduction of the Roentgen rays into medicine. For it was not till the final appeal to the skiagram could be made that the significance of the physical signs in really early cases could receive confirmation.

The point I claim to put before you to-day as something new is the fact, hitherto unrecorded, that interscapular impairment as an early sign of tuberculosis of tracheo-bronchial glands occurs on the right side only.

For a long time, though impressed with the fact that I failed to meet with left-sided impairment in these cases, I was content to attribute the fact to the well-recognized tendency of the glands round the right root to suffer earlier and more extensively than those of the left. This, however, soon seemed insufficient explanation of a sign invariably right-sided in the large number of cases I had examined. Moreover, the anomaly arose that with strictly right-sided signs *x* rays usually discovered diseased

glands on both sides of the chest. It seemed clear that some striking anatomical difference between the two sides was involved, and, without going into further detail here, I may say that evidence is collecting to point to pressure on the right pulmonary artery where it passes in front of the bifurcation-glands as the causation of these right-sided signs. The bifurcation-glands are those most commonly tuberculous of all the thoracic group; they show the most extreme changes, and hence are probably the first to suffer. Batten found them affected in 67 of 83 cases, the root glands on the right side coming next in frequency, and being affected among 59 of these cases. Hence a sign which depends on enlargement of the bifurcation-glands, if subsequent research confirms this, must be of considerable value in the diagnosis of tuberculous disease in the chest. As a matter of fact, the sign to be here described is quite commonly elicited, though it is not invariably present, where enlarged glands have been discovered by other methods. Among a batch of seven school children in whom Dr. C. G. L. Reade had found *x*-ray shadows indicative of root disease, four showed this area of right interscapular impairment, and there was present in these no other sign on which a diagnosis of enlarged thoracic glands could have been made. One of the remaining three appeared to be a case of bronchiectasis, so that this sign was present in two-thirds of this small group detected by *x*-ray examination.

I will now proceed to describe this sign so as to elicit the experience of others on this point, and to bring it to the attention of those who have not yet found it.

The Normal.—Normally there exists an area of slight impairment to gentle percussion on each side of the spine between the first and fifth dorsal vertebrae, extending out about one inch from the middle line. This area is not difficult to map out in thin children, but becomes more difficult in adults, especially in those with thick dorsal musculature.

The Right-sided Dullness of Gland Disease.—It is an increase in size and in dullness of this area on the right side which constitutes the sign I desire to bring to your notice. The normal impairment becomes more marked, being often sufficient to be termed "dullness," and extends out two or three inches from the middle line. The area extends downwards to the sixth, seventh, or even the eighth vertebral spine, while its outer limit, mapped by percussion from without inwards, forms a well-defined curved line, though the note outside it is sometimes not so good as that over corresponding parts of the opposite lung. It is interesting and important that this clear outer limit can be shown to undergo a distinct respiratory fluctuation during deep breathing. There is also present in nearly all cases slight impairment at the apex of the lung, both front and back, with some diminution of the area of apical resonance as described by Kroenig. It is

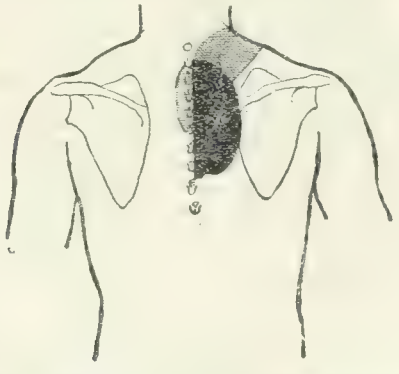


Fig. 1.—Areas of impairment in tuberculosis of tracheo-bronchial glands.

this apical impairment that leads most of these cases, when found, to receive the diagnosis of phthisis in children. I have had many such sent to me at my chest hospital from surrounding schools with this diagnosis, proving that the signs are sufficiently coarse to be discoverable in a noisy school clinic, and that a need has thus arisen for emphasizing their true significance. The distinction is, indeed, of the highest importance; a lung infiltration on the one hand, a condition of serious import; on the other hand, a mere change of air content, in all probability due to interference with certain "lines of communication."

It may, perhaps, be as well at this place to emphasize the points in which the signs differ from those of apical phthisis in children. It seems very natural, at first sight, that the clinician, especially if he places what I should like to call a proper reliance on percussion, should regard

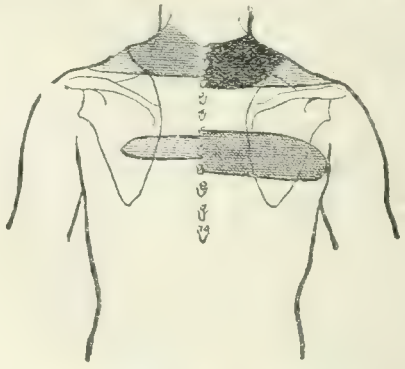


Fig. 2.—Areas of impairment in phthisis.

the apical and interscapular impairment in these cases as evidence of lung involvement at the top of the upper and lower lobes respectively on the right side. There are, however, on further examination, certain well-marked differences between these signs and those of true phthisis.

Tuberculosis of Tracheo-Bronchial Glands.	*Phthisis.*
In gland disease the apical impairment is less marked than that in the interscapular region; it may be appreciable behind only, and tends to vary in its amount at different examinations.	In phthisis, on the other hand, it is the apical impairment which is the most marked and fixed, the lower lobe being secondarily involved, and there may be, as confirmatory evidence, some slight impairment or contraction of Kroenig's area of resonance at the left apex also.
The interscapular dullness in gland disease spreads out from the middle line, and has a well-defined outer border if percussion is made from without inwards.	In cases of phthisis, however, an area of the shape and size referred to is never present apart from glandular disease. Instead there is found an area of impairment no less characteristic in position and outline, but with no resemblance to that produced by glandular enlargement. (See diagram.) On auscultation, moreover, in phthisis sooner or later râles appear at the apex, and at a later stage they may be found also over the apex of the lower lobe.
In glandular enlargement râles practically never appear over the area of apical impairment, and are even uncommon over the interscapular area. It is only where cases progress to considerable lung disease—and this is uncommon—that râles appear over the back at all. More often if râles are heard anywhere in these cases, it is in the region of the nipple and below this in front. Indeed, the striking point about these cases of glandular enlargement is how slight altogether are the auscultatory findings—either no change in the breath sounds, or, not uncommonly, an accentuated conduction from the larger tubes about the apex.	

Phthisis.

The diagnosis of phthisis in children is but little removed from its diagnosis in adults. It is not, in my experience, any more difficult, unless perhaps in the smaller chance of a confirmatory sputum examination. The different physical conditions of the child's chest do, however, make some difference in the reliability to be placed on various signs. Thus, conduction of sounds is more striking, both of tubular breath sounds from the bronchi to the surface, and also of abnormal sounds, such as râles, from one part of the chest to another. For this reason blowing breath sounds, especially on the right side, are to

be interpreted with caution. It is a striking comment that where the diagnosis of phthisis is wrongly made, it is nearly always at the right apex. I would warn, also, against any but the very lightest percussion audible over the lungs of a child; anything more than this will elicit a higher note at the right apex, and if allowance has to be made for this, comparison of the two sides becomes a farce. To really gentle percussion the lung apices are strictly equal, and the slightest shade of difference, if in the same respiratory phase, may be interpreted as an undoubted abnormality.

I have no doubt myself that the most valuable of all the physical signs of phthisis are those obtainable by gentle percussion. They are, particularly in the child, the earliest, and they are the least open to fallacy. Impairment at an apex means, pleurisy apart, nothing more than a diminution in the air content of the lung tissue at this point, and may, consequently, be as likely due to collapse of some causation as to the deposition of tubercle. But the appearance of a second area of impairment of characteristic outline over the lower lobe behind makes tubercle extremely probable, and a third area at the opposite apex is practically pathognomonic. (See diagram.) These confirmatory areas are present at a quite early stage, nearly always by the time suspicious symptoms have brought the patient to the physician. I am far from denying the value of auscultation—all signs should be taken together in the diagnosis of phthisis—but gentle percussion patiently practised will give, in my opinion, an assurance which can be derived from no other source. The man who relies too greatly on auscultation will be repeatedly scored off by the skiagrapher, and, in my opinion, he will deserve it. Cases of phthisis are to be found where considerable areas of impairment correspond with advanced deep-seated disease revealed by *x* rays, but where no râles or other added sounds are present, and where the stethoscope alone could hardly have achieved more than a doubtful diagnosis.

The profession in this country is, in my opinion, greatly indebted to Dr. Lees for his insistence on the value of percussion and of topographical percussion in the diagnosis of phthisis. I have myself become fully convinced of the reality of the areas he has described; he has himself pointed out elsewhere that the mere presence of these areas is no evidence of active disease, and that, once present, they may persist for the remainder of the individual's life. It is, perhaps, only to be expected, therefore, in view of the ubiquity of tubercle infection, that the areas described by Dr. Lees should be discoverable in a very large number of healthy people. In my own experience they have been present in every chest examined with this point in view, and I should not, therefore, myself regard their mere presence as any evidence of clinical disease. Whether they are absent in the strictly tubercle-free is a point of very great interest, but one which I have myself had no opportunity yet of deciding. I think there is no doubt, however, that these areas enlarge in cases of active disease, and it would seem, therefore, possible that a diagnosis of phthisis could be made by their careful measurement, though I should myself consider it a difficult and laborious means of arriving at this result. Practical experience has taught me to place reliance on the larger areas of impairment, two on each side, already brought to your notice in my diagram, and I would recommend these to your consideration as a sheet-anchor in the diagnosis of pulmonary tubercle.

III.—W. IRONSIDE BRUCE, M.D.Aberd.,

Physician, *X*-ray and Electrical Departments, Charing Cross Hospital; Honorary Radiographer, Hospital for Sick Children, Great Ormond Street.

THOSE familiar with *x*-ray examination of the thorax cannot fail to recognize that this method of investigating the lung in pulmonary tuberculosis of childhood is of the utmost value. Fortunately, the lung is very easily penetrated by the radiation from the *x*-ray tube on account of the large amount of air such tissues contain, and in consequence the slightest infiltration of the bronchi or substance of this organ by some opaque material, fluid or fibrotic in nature, produces alterations in the normal appearance of these structures which are easily recognizable. Tuberculous infiltration of the lung is associated with blocking up of the alveoli by catarrhal products and the formation of fibrous tissue, and since fluid and fibrous tissue are much less permeable to the *x*-ray radiation than normal lung, shadows must result when a photographic exposure is made, the distribution and shape of such shadows, as might be expected, being characteristic.

Diversity of opinion as to the exact appearance of tuberculous lung may be explained by variation in the technique employed. The chest may be examined first by the fluorescent screen, and secondly, by using the photographic plate, that is by skiagram. The screen is useful in viewing the movement of the diaphragms and heart, but the amount of detail available is very small.

Fine detail is absolutely necessary for the recognition of tuberculous infiltration of lung, and this can only be obtained by employing the photographic method. In order that efficient skiagrams may be secured, it is essential that the exposure be made without movement of the lung. When dealing with an adult all that is necessary is to instruct the patient to expand the chest fully and hold the breath, but with children it is a difficult matter to ensure the absence of movement of the diaphragm during the exposure, despite the fact that very short exposures are now possible. Improved instrumentation will, no doubt, abolish this difficulty, but in the meantime useful results may be obtained by getting the child to practise holding the breath before the examination. In this connexion it is well to remember that instantaneous exposure, as now made, is only possible with the use of an intensifying screen or screens—a procedure which is followed by considerable graining of the plate and loss of detail sufficient to make such skiagrams of little use for the purpose under consideration.

Should it be found that the diaphragm has moved during the exposure, the result cannot be relied upon, for detail is lost in the most surprising manner, and a well-marked infiltration may be unrecognizable. In very young children occasionally the involvement of one lung results in inhibition of the movements of the diaphragm, and thus good detail is available.

With regard to the appearance of tuberculous lung in *x*-ray examination: The *screen* shows that there is some limitation of the movement of the diaphragm on the affected side; increased opacity, most noticeable on comparing the lungs in this respect on inspiration, and general elongation of the cardiac opacity. The *skiagram* shows increased opacity of the affected lung, which is to some extent striated in arrangement, but is also made up of small rounded opacities arranged in groups.

There appears to be considerable difference of opinion as to the value of these signs individually. Thus, limitation of movement of the diaphragm may result from any inflammatory lesion of the lung or any such condition in the immediate vicinity of the diaphragm, either in the thorax or abdomen. The increased opacity of the lung on inspiration may be caused by the limitation of the movement of the diaphragm alone, or may be due to inflammatory lesions other than tuberculous. The elongation of the cardiac opacity, though indicating a tuberculous type of thorax, does not prove tubercle to be present.

The striated opacity noticeable in skiagrams may result from old inflammatory lesions, and may therefore be seen, and is certainly seen, in healthy subjects. The rounded opacities arranged in groups constitute an appearance which may be relied upon, except that it is difficult to distinguish active from inactive, simple catarrhal from tuberculous infiltration. For the recognition of tuberculosis of the lung all these signs should therefore be employed, and no single one of them be placed in the position of first importance.

In chronic tuberculous diseases of the lungs the typical appearances just described may undergo alterations, for when infiltration is dense the smaller rounded opacities may overlap and larger patches result, or it is possible that an area of the lung affected may become more or less uniformly opaque, though there always remains some degree of irregularity. When lung tissue has been destroyed and cavity formation has occurred, this process produces areas of great translucency, usually rounded in shape, and not unusually surrounded by more densely infiltrated lung tissue, which results in prominence of the translucent areas and sharpness of their margins.

Fibrosis of the lung, when extensive, results in displacement of the viscera towards the affected side, so that the contracted lung becomes uniformly opaque, recognition of

the condition underlying the fibrosis being then dependent on typical appearances observed in part of the affected lung, or on the opposite side.

Pleural effusion, when present in quantity, produces total obliteration of all detail, and obscures the outline of the diaphragm and heart, the opacity thus produced being evenly distributed. The amount of fluid present may be estimated by examination in the erect posture, when its upper limit can be made out, or by noting the amount of displacement of viscera when the cavity is completely filled.

When pneumothorax occurs, the diaphragm on the affected side is immobile, and remains in the position of full inspiration, the collapsed lung being usually visible as a dense mass lying in the region of the root. Should a fluid effusion be associated with air in the pleural cavity, the condition of affairs is most beautifully demonstrated, for in the erect posture the upper limit of the opaque fluid is represented by a sharp horizontal line, the direction of this line being maintained notwithstanding alterations in the position of the subject. On shaking the patient the splashing movements of the fluid can be plainly seen with the screen. From an *x*-ray point of view chronic tuberculous disease may be confused with certain other diseases of the lung. Lobar pneumonia results in increased opacity of the affected lung, but this increase in opacity is uniform, lobar distribution often being indicated. When a small fluid effusion is present, in tuberculous disease of the lung, the evenly distributed opacity caused by the fluid may be confusing, but examination in the erect posture and lying down will demonstrate movements of the fluid, and so serve to indicate the correct diagnosis. Should the fluid be localized, movement will not take place on change of posture, but fortunately under these circumstances the imprisoned fluid presents a sharp outline which is unmistakable.

Catarrhal pneumonia presents an appearance on *x*-ray examination which may be very difficult to distinguish from that of tuberculous disease. Rounded opacities somewhat similar to those of a dense tuberculous infiltration are to be seen, but they are larger and usually more widely distributed. Pleural effusion is usually distinguishable, as already mentioned, by its movement on alteration of the position of the patient, but when occurring in conjunction with tuberculous disease all detail may be obliterated, a diagnosis being impossible unless the fluid is removed, or a typical lesion is present in the opposite lung.

The demonstration of bronchiectasis by *x* rays is most disappointing, for all that may be observed is a small amount of fibrous tissue formation represented by opacity striated in arrangement; should fluid remain in the cavities, large irregularly shaped opaque patches result.

The appearance of an abscess of the lung is quite unlike that of tuberculous disease, for the former presents a localized area of opacity, which is not uniform and is most irregular in outline.

Hydatid cyst occurring in the lung produces a sharply-outlined shadow, roughly spherical in shape and of uniform opacity, its appearance being quite unmistakable.

DISCUSSION.

Dr. FRANK EVE (Hull) thought that the only fruitful way to study pulmonary tuberculosis in children was to begin by separating cases into groups. The cases in one of these, which was very small, closely resembled pulmonary tuberculosis of the adult, the physical signs being easily recognizable by the time the cases came to the hospital. The other, a much larger group, was formed of cases of glandular tuberculosis of the hilus; the cases generally occurred in children who were much less ill, and in whom the physical signs were very variable, transitory, and unconvincing. These children did very well on the hospital balcony, and seldom seemed to die of the disease. When they did so (as in a recent case he had had of suffocation following ulceration into the trachea) the lung might not be obviously tuberculous. Hence in many cases, if not in all, it was bewildering and incorrect to think or speak of these cases as pulmonary tuberculosis at all; they should be considered as tuberculosis of glands which happened to be near the lung. In these glandular cases the prognosis was quite good, and the treatment that of tuberculous glands.

Dr. CHARLES MCNEIL (Edinburgh) suggested that the statement made by Dr. Riviere, to the effect that nearly every child showed on light percussion areas of dullness at one or both apices, and that these areas were significant of apical tuberculosis, active or latent, involved the conclusion that tuberculous infection was practically universal. That might be true in some European localities, but neither from *post-mortem* statistics nor from tuberculin tests was there forthcoming the evidence of such widespread tuberculous infection in Great Britain. The presence of numerous small enlarged glands above both clavicles had been adopted in some places as a clinical stigma of apical tuberculosis in children. But an investigation for the presence of these glands in some 300 children showed them to be present in over 90 per cent.

Dr. D. LAWSON (Banchory, N.B.) welcomed the statement that *x* rays in themselves should not be relied upon for diagnosis, for he had long held the view that *x* rays and physical diagnosis were not competitive, but that the one method was the complement of the other. Evidence of the presence of enlarged hilus glands did not necessarily indicate tuberculosis. He recalled one case which he followed to the *post-mortem* room, and which turned out to be one of endothelioma starting in the pleura.

Dr. FREDERICK LANGMEAD (London) confessed to being much impressed by the difficulty of diagnosing tuberculosis in small children, and thought that others experienced it likewise, for there was great discrepancy between the results of the bacteriological tests and the findings by the ordinary methods of physical examination. Positive tuberculin tests had been obtained in a very large proportion of school children of all ages, and even as great a percentage as 80 or more of children over 10 years of age had reacted positively in Vienna and other Continental centres. Now, if one accepted a positive reaction as evidence of past or present tuberculosis, it was clear that the great majority of cases were undiagnosable by ordinary physical methods, for in the routine examination of school children only a few per thousand were detected. With a few exceptions, all medical inspectors of school children were agreed as to the small percentage of clinically diagnosable cases. If the tuberculin tests were considered fallacious this argument fell to the ground, but *post-mortem* evidence was in their favour, and bore out the contention that a very large proportion of children either had or had had tuberculosis. In many of these cases the thoracic glands and roots of the lung were the parts affected, and presumably areas of dullness and opacity to *x* rays would be present, according to the views of the openers of the discussion, but it was scarcely possible to treat the majority of school children as though active tuberculosis were present until it had been proved to be latent. He did not wish to minimize the value of *x* rays as a means of diagnosis, for he had often obtained great help from their use. In certain cases in which his colleagues and himself had been unable to come to a definite conclusion, a skiagram had proved that tuberculosis was present without a shadow of doubt. The most serious limitation to the value of percussion, and in most instances to skiagraphy also, was the impossibility of deciding by such means whether the tuberculous focus was active or not. That was the all-important question, on the answer to which hung the need for treatment or notification. It was the practical problem which had to be faced more often than any other in connexion with this disease in children. To come to a decision, repeated examination was necessary in the earliest cases, and observation of the patient's symptoms, such as weight, temperature, cough, etc., was essential. By percussion or by skiagraphy, alone or combined, no decision could be reached as to whether a child needed treatment.

Dr. E. E. PREST (New Cumnock) agreed with Dr. Langmead that the point of importance was the activity or otherwise of the disease. They had heard from Dr. Eve that the proportion of children suffering from pulmonary tuberculosis was not large, but that such cases, in distinction from those of glandular tuberculosis of the hilus, were immediately recognizable. There must, however, be certain intermediate stages between a case which was at once recognizable and a case which was doubtful. In Ayrshire

he got a considerable number of children with definite physical signs in the lungs, and was accustomed to inquire very carefully into their history in order to discover whether there were night sweating, inability to eat food, constant tiredness, and lessened weight, because, if these existed, the case must be treated. It was safer, for some of them at least, to rely far more on symptoms—although this might be heterodox—than on physical signs, the full meaning of which many of them were unable to appreciate.

Dr. D. BARTY KING (London) said that some years ago, while examining a number of London school children, he thoroughly tested for true phthisis, with the result that out of 1,500 examinations only about 4 per 1,000 children revealed this condition on ordinary clinical examination. The presence of glands in the neck was sometimes put down as a sign of pulmonary tuberculosis, but was quite fallacious. It was quite a frequent occurrence to have, as he had had the previous week, a case which had been treated for six months as one of pulmonary tuberculosis, with marked dullness at both apices, and to find, on taking the case into the observation wards, that nothing of this nature was discoverable in the lung at all, and that the *x*-ray report and the cutaneous tuberculin test were negative. In one case recently brought to his notice the *x*-ray report stated that there was peribronchial mottling, and inferred definite pulmonary tuberculosis of the left lower lobe of the lung. Clinically, from the posterior aspect, there were a few crepitations. The patient died of another affection, and at the necropsy he took care to section the lung from the roots towards the periphery, finding thickened bronchi, but no trace whatever of tuberculosis. On staining for tubercle there was no trace. He would suggest that skiagraphers should report, in the first place, exactly what they saw, and on the other side, quite separately, what interpretation they placed on it.

Dr. F. J. SMITH (President of the Section of Medicine), after summing up the discussion, said he preferred to trust more to a patient's feelings than to any physical signs for his view as to taking therapeutic measures. Bronchopneumonia slew as many children as tubercle, though in a different manner.

Dr. D. B. LEES, in reply, desired to say (1) that the dull areas, though found very frequently, were not universal, even in children. In many cases, both in adults and in children, none of the dull areas characteristic of pulmonary tuberculosis could be detected; (2) the frequency with which these dull areas were found in children was roughly approximate to the results obtained by the tuberculin test. If percussion were perfectly carried out, the parallelism between clinical, experimental, and pathological results would become very much closer than it had been in the past; (3) as had been brought to their notice already, and as he himself had emphasized elsewhere, the discovery of these dull areas did not prove an active condition. One judged partly by auscultatory signs and partly by symptoms, but in all doubtful cases it was best to advise a short course of treatment by rest and antiseptic inhalation for two or three weeks. If at the end of that course the dull areas had distinctly diminished in size, there was good reason for believing that there was a certain amount of activity about them. The younger the patient in whom such dull areas were detected, the greater was the probability that they indicated active disease. An incipient pulmonary tuberculosis was often insidious in onset, and might slowly extend, with very little auscultatory evidence, and with few or no general symptoms. (4) Several speakers had expressed very definitely a belief that the two conditions of "apical phthisis" and what had been called "hilus tuberculosis" were different in nature. One saw a similar difference in cases of tuberculosis in adults. In children the difference was more marked; there was greater tendency to spread, and less tendency to break down. They were different types of the same disease, pulmonary tuberculosis. (5) Until physicians would undertake to improve their percussion they would not make progress in this matter, and this failure in accurate diagnosis might easily cause disaster in the practice of those who were treating cases by means of tuberculin.

Dr. CLIVE RIVIERE, in his reply, pointed out that what he and his colleagues in opening the discussion had endeavoured to do was to draw attention to points in diagnosis which they considered the most helpful; they were quite alive to other points. The speaker, for instance, fully recognized the distinction between tuberculous infection and tuberculous disease, and they agreed with Dr. F. J. Smith and Dr. Prest on the importance of considering symptoms, and disagreed with Dr. McNeil as to the value of cutaneous tuberculin tests, since these could only discover tuberculous infection. The fact that they were discussing chronic disease practically excluded infants, and the cutaneous tuberculin tests were not of much value after infancy was past. He agreed with Dr. Eve that cases of tuberculous chest glands hardly merited the title of "pulmonary tuberculosis," although the lung was often slightly involved. The speaker had introduced them into the discussion because they gave definite lung signs, and because these signs were commonly mistaken for those of true lung infiltration. Both *post-mortem* experience and skiagrams upheld the view of a spread of tuberculosis outwards from the glands against the lymph stream; the work of Ghon, quoted by Dr. Barty King, dealt only with primary lung infection in infants, and not with the later stage in older children.

Dr. IRONSIDE BRUCE, in reply to a question, said that as to the diaphragmatic excursion in children, the distinction between the right and left diaphragm was less considerable than in adults. The right was a little higher in children, but not in such a marked degree as in cases occurring later in life. In children it was not possible to distinguish between a serous and a purulent fluid. Dr. Langmead had stated that by *x*-ray examinations active and inactive conditions could not be distinguished, but this was not invariably true. Of some cases it was possible to say that they were active, and of others that they were inactive, although, of course, many cases were indistinguishable. He had purposely omitted any mention of striations extending from the root, as they were seen in perfectly healthy children, so he did not rely upon them; but he did rely upon opacities which were arranged in groups, for they seemed to represent catarrhal infiltration of the lung.

ON SOME CONDITIONS SIMULATING CHRONIC APPENDICITIS.*

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THE undoubted fact that in past years many unnecessary operations for appendicitis have been performed where the appendix was not the cause of the symptoms should challenge us to a far more critical attitude of mind. It is particularly in that variety of chronic appendicitis characterized by chronic pain and tenderness in the right iliac fossa, without any history of acute attacks, that mistakes occur, and only those other causes of similar symptoms that lie in the immediate neighbourhood of the appendix are here considered. Lane and his followers hold that symptoms simulating chronic appendicitis may be caused by a kink of the lower ileum produced by a peritoneal band occasionally present on the left or inferior aspect of the ileum some three inches from the caecum, which tethers down the gut near the pelvic brim. Lane's view of the origin of this band—that it was acquired as the result of a tendency to enteroptosis—has been quite disproved, as has the peritonitic theory, though inflammatory bands may occur in the same situation. The band is congenital in origin and a relic of the descent of the testis or ovary. There is no evidence that the band had caused any intestinal stasis in my own cases, either from radiographic findings, clinical histories, or appearances at operation, and it is argued that, apart from the very rare accident of inflammatory contraction of the band, it probably never gives rise to trouble, so that the many ingenious operations devised for dealing with it are the outcome of misdirected enthusiasm.

* Abstract of a paper read before the annual meeting of the Lancashire and Cheshire Branch of the British Medical Association.

Jackson's pericolic membrane, on the other hand, may give rise to symptoms simulating chronic appendicitis. This occasional membrane is a congenital abnormality, and takes origin from the primitive right lateral process of the great omentum. When only a limited band persists as a relic of the membrane, constriction of the ascending colon may result, though often the symptoms resembling chronic appendicitis are due to an associated abnormal mobility of the proximal colon.

In the condition of mobile proximal colon, which is a reversion to the primitive pronograde arrangement, the patient is predisposed from birth to constipation and the various ills resulting from it. Symptoms resembling chronic appendicitis may result, or actual inflammation of the appendix, but in either case the right surgical procedure is not a simple appendicectomy, but fixation of the colon back into the right loin.

The commonest cause of an erroneous diagnosis of chronic appendicitis is right tubo-ovarian disease, often of gonorrhoeal or septic origin. In such cases a spasmodic contraction of the right psoas muscle sometimes occurs on palpation, which may be mistaken for an abscess or a neoplasm.

Many cases of chronic pain in the right iliac fossa cannot, with our present knowledge, be diagnosed with precision before operation. All that can be said is that they need exploration. In exploring, the incision should be adequate for an inspection of all the possible sources of the mischief, and such source when found should be dealt with by appropriate measures. The practice of a blind appendicectomy in such cases through a 2 in. gridiron incision is unscientific, and often disastrous to the patient's prospects of a cure.

AN UNUSUAL CASE OF APPENDICITIS.

BY

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A COLLIER was suddenly seized with abdominal pain of such severity as to necessitate the administration of chloroform by his medical attendant, Dr. Cooper of Kenfig Hill, Glamorgan. On the following day I was sent for in consultation and advised removal to Miss Talbot's Hospital at Port Talbot. The patient complained of sharp continuous pain situated under the heart and in the upper part of the abdomen, of obstinate constipation, and of vomiting of clear green fluid. In 1887 he had a similar pain which lasted five days; it came on after a fall from a tree. On five occasions since then he had suffered from the same pain, of greater or less severity, the attacks lasting five or six days.

His face was pale and typically Hippocratic and covered with beads of perspiration. The tongue was clean, the pulse was 78, and the temperature 96.8° F. The abdomen was not distended. The respiratory movements were good, but better on the right side than on the left. Superficial and deep epigastric tenderness were present, and there was a zone of hyperaesthesia in the left hypochondrium. There was deep tenderness on pressure over the left kidney region posteriorly. The whole of the left side was tympanitic. The liver dullness was normal. The apex of the left lung showed some apical retraction, Krönig's sign being present, and there was some impairment of breath sounds. There was a slight systolic murmur at the apex of the heart, conducted out to the axilla. The urine was normal. There was slight leucocytosis. Loewi's adrenalin mydriasis test was applied with a view to determine the possible presence of pancreatitis. The result was negative. There was nothing definitely indicative of perforation of a peptic ulcer. Repeated enemas were unavailing.

The patient was seen by my partner, Dr. J. H. Davies, and it was decided to wait twelve hours before proceeding to laparotomy in view of the patient's history. The patient appeared to improve slightly, but in about eight hours he suddenly became much worse; the temperature fell to 96°; the pulse went up to 102, and became very thin. He was now evidently moribund. Operation was out of the question, and in a few hours the patient died, evidently of shock.

Post-mortem Examination.

The caecum and ascending colon were enormously distended and hyperaemic. This part of the gut was freely movable, and had a large mesentery. It lay looped between the hepatic and splenic flexures, below the transverse colon and great omentum, and suspended on the left to the cardiac end of a dilated stomach, by the tip, middle, and mesentery of a long recurved appendix.

The appendix, when unravelled, was 9½ in. long, was full of hard concretions, and was gangrenous at its tip. The tip was densely adherent to the greater curvature of the stomach on the left side, and by fine adhesions to the spleen. The right iliac fossa was occupied by coils of small intestine.

There was a small calcareous old focus of phthisis at the apex of the left lung. There was some thickening of the mitral valve.

A CASE OF RUPTURE OF THE KIDNEY FROM SLIGHT TRAUMA.

BY J. LEE ATKINSON, M.R.C.S., L.R.C.P.,

VICTORIA, AUSTRALIA.

RUPTURE of the kidney is a comparatively rare result of trauma, and more particularly so when the actual kidney tissue itself is lacerated. Keen quotes Küster's statistics of injuries under his observation in the clinics of Berlin and Basle, and these show only 10 cases in 7,741 injuries, or a little over 1 in 1,000.[1] Israels, with a large experience of renal surgery, had only 1 operative case.[2]

But in practically all cases met with either in actual practice or in the records, the condition has always been caused by a severe accident, such as falling from a height, crushing between buffers of a train, or by the wheel of a heavy cart passing over the abdomen. In view of these facts the following case is of interest, as the injury was caused by an accident of the most trivial nature, and the subsequent history also contains points of interest.

R. A., a girl of 14, above the average height and well made in proportion, had never had a previous illness of any consequence. At 9 p.m. on August 28th, 1913, she ran along the verandah of the house after a dog. Between the two corner posts of the verandah some light wire netting had been fixed to a height of 2 ft. and fastened on each side to the post by a light staple. The floor of the verandah was 11 in. from the ground, and immediately beneath it at that point was a large flower bed which the day previously had been dug over, and in consequence was in a soft condition. The end of the verandah was only 15 ft. from the door, and so she could not have gained much momentum in the short distance. She ran into the netting, having forgotten it was there, and it caught her in the middle, gave way, and she fell on to the flower bed. She immediately complained of intense abdominal pain with nausea, and was carried into the house. A quarter of an hour later she wanted to micturate, and passed a quantity of bright arterial blood. Dr. Parker of Kingston was sent for and he telephoned for me.

I saw the girl at 1 a.m., and she was lying in bed in a condition of profound shock. The abdomen was rigid, and she complained of great pain, not confined to any particular region. Another marked feature was thirst. The temperature was 97° F.; the pulse 124, thin and thready. The face was pallid and the facies Hippocratica well marked. The right flank was dull on percussion, but the liver dullness was hard to make out; it was diminished in area. She had passed blood by the urethra three times since the accident—about a pint in all. Owing to the fact that the parents were away from home, operation was delayed until their return at 10 a.m. on the following day.

Operation.

A median subumbilical exploratory incision was first made, and immediately the peritoneum was opened about a pint of blood-stained serum gushed out, together with a large quantity of faecal-smelling gas. With sponges the abdominal cavity was dried as far as possible and the bladder examined. There was no sign of any injury to that organ, but it was of bluish colour, due to the blood it contained.

The ascending colon was pushed towards the middle line and was congested and dilated at the caecal end. About midway between the caecum and the splenic flexure there was a kink, formed by the lower end having a long mesocolon allowing a partial volvulus. Just above this kink, and about on the level of the junction of the lower and middle third of the kidney, was a transverse tear, about an inch long, into the lumen of the gut. On replacing the lower end of the colon in its normal position and fixing it there by shortening stitches in the mesentery, a quantity of flatus escaped from the rent in the bowel wall and the whole of the ascending colon collapsed.

The tear in the wall was repaired with Lembert sutures, which were themselves oversewn again. There was no trace of faeces on the peritoneum or of any material whatever from the colon.

The left kidney was normal, but the whole of the right kidney pouch was occupied by a large fluctuating tumour.

Then the abdominal incision was closed, and in view of an after-event it is worth while noting that the layers were all sewn up separately, the inner ones with Van Horn's gut No. 1, and the skin with medium silkworm gut.

The patient was turned on to her left side and a pillow placed under her side. After a hurried cleansing of the skin and painting it with iodine the kidney was exposed through the loin. As soon as the deep fascia was opened a lot of dark blood and clot escaped. The kidney was felt to be lacerated, with the laceration extending right through the kidney substance; but as the upper pole was much more badly injured than the lower, it was decided to remove that portion and put deep sutures in the remaining portion in the hope of saving half the kidney. This was done, and having cleaned out as much blood and clot as possible, the wound was closed, leaving a large cigarette drain reaching down to, but not touching, the remains of the kidney.

The patient was then returned to bed, but as she was in a very low condition continuous rectal salines containing adrenalin were administered. She rallied well and was feeling comparatively comfortable by evening. She only vomited once.

Next day (August 30th) she felt comfortable. The temperature varied from 99° to 101.4°, pulse from 116 to 134, respirations 24 to 32. There was a good deal of blood-stained discharge from the tube; this had diminished on August 31st, but the temperature rose to 103°. The bowels were opened three times.

On September 1st the patient complained of slight headache and nausea; the temperature rose to 105°, the respirations to 42, and the pulse to 140. A vaccine of *Bacillus coli* was administered in a dose of five million. She began to cough towards evening. The bowels were opened twice during the day. During the night she was delirious at times, but at 6 a.m. on September 2nd she had a profuse sweat and the delirium ceased. By midday the temperature was down to 101.6°. The cough grew more troublesome, and it was found that the right base was dull with diminished voice sounds. From the way in which this condition afterwards cleared up it seems probable that the lung was also crushed at the base, although the sputum never contained any blood. No rib was broken at the time of the accident.

On September 4th the condition was much the same, but the temperature dropped still further to 99.8° at 6 p.m. The abdomen was supple, and there was no abdominal pain. The bowels acted once daily. She slept fairly well at night. There was very little discharge on the dressing that day.

On September 7th at 6 a.m. the temperature had dropped to 99°, but when the dressing was changed there was a decided smell of ammonia. Otherwise the condition was much improved and the cough almost gone. She was on a light diet and ate food well. When the wound was dressed on September 8th there was a fair quantity of urine on the dressing although the tube had been shortened on the previous day, and on September 9th a renal fistula was well established. The temperature during the day reached 103°; the bowels were opened once; the diet was reduced.

On September 10th the patient felt very well. The only discomfort was irritation of the wound in the loin, due to the urine. The abdominal wound having healed by first intention, and union being apparently good, the stitches were removed and the binder replaced. The temperature still varied from 100° to 102.2°. She slept well and had no pain. As the bowels did not open on September 11th the nurse gave an enema at 7 p.m. The bowels acted without effort, but an hour later she awoke from a light sleep and called the nurse, and said that "her inside had fallen out"; the nurse raised the clothes, and saw coils of intestine protruding from the lower edge of the binder. I arrived at 10 p.m., and found that the abdominal wound had given way along its whole length, and the edges appeared smooth, as if varnished. I returned the bowels to the abdominal cavity, and sewed up with through-and-through stitches. When I removed these stitches ten days later perfect union had occurred, and there was no sign of early ventral hernia nor any division of the muscles.

For the next week she steadily improved, but on September 16th developed oedema of the legs affecting the right leg more than the left. The wound in the loin looked very unhealthy, large sloughs having formed along the track of the fistula, which was discharging urine and pus freely. The temperature also became remittent in type, although the patient herself was feeling very well.

On September 17th I removed her to the hospital, and on the following day reopened the wound in the loin. I found the remnant of the kidney in a very unhealthy state and decided that the best course to pursue was to remove it. Accordingly I tied off the vessels and ureter and removed the organ. Then swabbing out the cavity I sewed up the wound and left a small drain in.

For the next few mornings the cavity was syringed out with hydrogen peroxide solution and the temperature came down, gradually reaching normal on September 25th. By that time all the discharge had ceased and the wound was looking healthy. The oedema of the legs continued, but was now confined to the right leg, was slight and did not seem to be increased by exertion.

She eventually returned home on October 14th, after an uneventful convalescence, and when last seen she was in the best of health and had put on 9 lb. in weight in the previous month.

The points of interest in the case are the trivial accident causing such disastrous results, and the spontaneous opening of the abdominal wound thirty-six hours after removal of the stitches on the tenth day. It is curious, considering the contamination of the peritoneum on the skin and dressings and binder, to say little of the friction of its surface by the dry dressings, that no infection resulted, but I have since heard of a similar case in a Melbourne general hospital after a hysterectomy, when the wound reopened on the day following removal of the stitches, just subsequent to the administration of an enema. In that case also no ill effects occurred.

As if to prove the irony of things, on the day that this patient left the hospital I admitted a child aged 1 year and 10 months, who had been kicked at close quarters by a big Clydesdale mare. The print of the hoof covered its abdomen, but the only injury received was a fracture of the right femur.

REFERENCES.
[1] and [2] *Keen's Surgery.*

THE TREATMENT OF ACUTE GONORRHOEA IN MEN.

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I FEEL convinced that, with very few exceptions, it takes on an average from two to three months to cure gonorrhoea. The general treatment consists of dieting, resting, and the taking of certain drugs. Butchers' meat, alcohol of any kind, strong tea or coffee, condiments and spices should be prohibited; milk and milk puddings, fish, chicken, eggs, vegetables, weak tea, water, and mineral waters may be permitted. Plenty of bland fluid is advisable, though in some cases of acute posterior urethritis lessening the fluid intake seems to lessen the urgency and frequency of micturition, and so gives a little more physiological rest to the inflamed membrane. If the patient can remain in bed for a week or two, well and good, but that is usually out of the question: consequently, it is advisable to instruct him to take no unnecessary exercise, to retire to bed early, and to avoid all sexual excitements.

It is best to start at once with urinary antiseptics, such as urotropin and cystopurin, for they tend to minimize the severity of the disease and shorten the acute stages; they may be continued for some weeks. When the anterior urethra only is affected, some alkaline diuretic may be given; and when the posterior urethra is involved, some of the balsams, though often their effect on the digestive system prohibits the latter, and they are by no means necessary.

In considering local treatment we may divide the urethra into (1) the anterior or movable urethra, and (2) the posterior or fixed.

The anterior urethra extends from the meatus to the bulb, is ensheathed in the corpus spongiosum, and is about 5 in. long. Its mucous lining is studded with many openings, larger (lacunae of Morgagni) and smaller (glands of Littre). Further back, opening into the bulbous portion, are the two ducts of Cowper's glands. The chief complication of anterior urethritis is stricture.

The posterior urethra, which embraces the membranous and prostatic portions, is about 2 in. long. It is usually involved about the second week of the disease, and as the ducts from the prostatic gland and the common ejaculatory ducts open into it, it is the source of the more serious local and systemic complications. Attempts to treat posterior urethritis by ordinary anterior injections are futile. Even when the anterior urethra only is diseased we are dealing with a delicate mucous membrane, and strong injections are to be deprecated.

In local treatment support of the parts is the first indication, and should be carried out by a support that will lift both scrotum and penis up against the abdominal wall. The meatus should be protected by aseptic wool, and sponged over with some antiseptic solution whenever

the opportunity arises, to prevent contamination of clothing.

Of the injection or irrigation methods recommended, Janet's appears to be the best. There are special irrigators made for this treatment with two-way nozzles by means of which the anterior urethra only may be lavaged or through-and-through irrigation carried out; the process is very simple and the results exceedingly satisfactory.

In the early stages, where the anterior urethra is affected, anterior irrigations of potassium permanganate (1 in 6,000 solution) will be found beneficial. It is best to use low pressure and only irrigate about the first three inches of the urethra, using a pint of solution at a time; it is well to do this twice daily. Should there be much pain or swelling of the penis, irrigations may be withheld until it subsides.

As soon as symptoms of posterior urethritis, indicated by urgency and frequency of micturition, are observed, through-and-through irrigation should be commenced, beginning with 1 in 10,000 solution potassium permanganate, very gradually increased from day to day till about 1 in 3,000 can be tolerated; the best temperature for the solution is between 95° and 100° F. At the end of a week or ten days the urine, which had previously been cloudy with pus, begins to clear, and small shreds or flakes may be seen floating in it; at this stage irrigations may be reduced to one a day. Complications such as prostatitis and epididymitis may arise, but they are so modified in extent that they are readily amenable to treatment.

When all acute symptoms have abated, it is well to make a rule of passing a Kollman's anterior dilator once a week, and stretching it very gradually and gently up till it meets with resistance; in any case it should not be stretched beyond 37 as indicated on the dial. This method serves the double purpose of expressing any secretions that may have got lodged in the glands of Littre or the lacunae of Morgagni, and at the same time acts as an excellent precaution against stricture.

Each dilatation should be followed by a through-and-through irrigation with a solution of potassium permanganate (1 in 6,000). At this period the prostate, seminal vesicles, and Cowper's glands should be examined, and, if necessary, massaged.

Through the courtesy of the senior surgeon of All Saints' Hospital I have had the opportunity of studying a great number of acute and chronic cases of gonorrhoea, and, regarding the treatment, the above are the conclusions I have drawn. The vaccines I have found more useful in the chronic complications than in the acute stages of gonorrhoea.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ANTITYPHOID INOCULATION.

A Speedy Method of Inoculating.

IN the preventive inoculation of the troops with typhoid and other vaccines the following method may be of service where time is limited. By such a method I have been enabled to inject carefully graduated doses of vaccines and serums (½ c.cm. and 1 c.cm. doses) into mice at the rate of 60 to 80 an hour; even when an occasional, animal has complicated matters by a temporary escape.

The vaccine, contained preferably in a 20 c.cm. bottle, is poured into a cold sterile watch-glass or Petrie dish and sucked up into a cold sterile all-glass 20 c.cm. syringe, graduated into ½ c.cms. This is done more rapidly without attaching a needle. Some twenty to forty sterile needles boiled in water to which a little soda has been added should be available, as also a pair of sterilized dressing forceps for picking out the needles. In the case of 1 c.cm. doses as many as twenty inoculations can be made from one syringeful by merely throwing off a needle after each inoculation and affixing another. The men being lined up, an assistant (unqualified), slightly in advance of the operator, prepares the skin with 2 per cent. iodine, and another assistant behind the operator repeats the iodine application so as to seal the puncture with iodine after the inoculation. The chief precaution to be observed is to keep the needle pointing downwards to prevent the weight of the piston drawing into the syringe the tissue fluid from the last man inoculated. A fairly long needle will also prevent this reflux, as also the gradual removal of the needle towards the end of the inoculation.

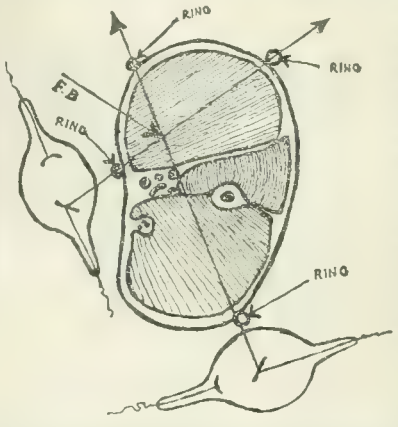
If such precautions are observed the procedure is as safe as any other, and with men as the subjects instead of mice, should enable any one to perform at least eighty inoculations an hour. Those accustomed to inoculation on the large scale will no doubt have their own methods, but I put the suggestion forward chiefly to Territorial R.A.M.C. officers who may not previously have been called upon in this way.

ARNOLD RENSHAW, M.B., B.S.
The University, Manchester.

LOCALIZATION OF FOREIGN BODIES.

THE following is a simple, and, as far as I am concerned, original, method of localizing an embedded foreign body by means of the *x*-ray tube and fluorescent screen.

The part should first be so thoroughly cleansed that little will be needed immediately before the surgical exploration. The couch and under surface of the screen should be covered with sterilized material. A rubber band of suitable size is then made to encircle the limb at the level of the foreign body. This band carries on it four small metal rings or pieces of bent wire, which can be moved along it, but not too easily. Two observations are then made with the rays, and the rings moved with forceps till they cover the foreign body above and below in two widely different planes. If they have been carefully placed and the limb properly rotated, the body will be found at the intersection of the two lines joining the opposite rings; and it can be approached from whatever direction best suits the anatomy of the part.



I have not tried the method in many cases, since experience is rather limited here, but think I ought not to keep it to myself any longer; I desire rather to throw it out as a suggestion to others, with a good hope that it may be found practical.

W. REGINALD WILSON, M.A., M.B., B.C.Cantab.,
Honorary Surgeon, Doncaster Royal Infirmary.

GALYL IN SYPHILIS.

THE medical profession should give a thorough trial to the merits of galyl as an antisyphilitic. Since reading the article on it by Dr. Johnston Abraham in the BRITISH MEDICAL JOURNAL (March 14th, p. 582) I have employed it extensively with excellent results. Nearly all my cases have given a negative Wassermann reaction after three injections (35, 40, and 45 cg.), and this, though not a positive proof of cure, is at least satisfactory. I do not think galyl as good a general tonic as neo-salvarsan, but it certainly produces a negative Wassermann reaction in shorter time. It is cheaper, and it is made in Paris.

JOHN HARTIGAN,
Medical Superintendent, Royal Hamadryad Seamen's Hospital, Cardiff.

MALARIAL FEVER WITH SEVERE CEREBRAL SYMPTOMS.

A. P., a negro boy aged 11 years, was admitted to the Public Hospital, Buff Bay, Jamaica, West Indies, on June 11th, in a comatose condition. Reflexes were absent, and soon after admission he passed urine and faeces involuntarily. He seemed in a dying condition. The thoracic

and abdominal organs were found to be normal, except that the spleen was slightly enlarged; the temperature was 104° F.

Malarial fever was diagnosed; a hypodermic injection of quinine hydrochloride was given, and an icebag applied to the head. Next day the boy had improved considerably, and he was in a semiconscious state.

On June 13th he was able to answer questions, but was dull and apathetic. He was then having a mixture containing quinine sulphate gr. iv in each dose.

On the morning of June 15th he had frequent epileptiform convulsions, and was in a semicomatose state; the temperature, which had fallen to normal, was again 104°. He was given another hypodermic injection of quinine hydrochloride gr. v, and this was repeated every four hours. A mixture containing sodium bromide and chloral hydrate was also prescribed. The convulsions soon ceased; the hypodermic injections of quinine were continued, and he gradually improved. He proved to be a bright, intelligent boy, and was discharged perfectly well on July 6th.

Unfortunately there was no examination of the blood made for parasites, but 95 per cent. of cases of malaria in the district are of the sub-tertian variety.

I have to thank Dr. George, senior medical officer of the hospital, for permission to publish this case.

Jamaica, W. I. R. F. RUSSELL, M.B., Ch.B.

ANAESTHETICS IN EYE-WORK.

IN a notice of a pocket-book of ophthalmology by Dr. Curt Adam your reviewer expresses the opinion that chloroform as an anaesthetic should be entirely banished from ophthalmology.

I venture to criticize this view because it is, I believe, contrary to the experience of most ophthalmic surgeons in this country. The duty of the anaesthetist in any particular case is to administer the anaesthetic so that the surgeon may carry out the operation under as favourable conditions as possible, and at the same time to keep in view the safety of the patient.

Now, what are the main conditions required in anaesthetics for eye operations?

1. Anaesthesia must be deeper than in most general operations, since the corneal reflex must be abolished.

2. The surgeon must have as much as possible of the patient's face clear of the anaesthetist's hands and apparatus.

3. Coughing, vomiting, or straining of any kind must not occur during an operation which involves opening the globe, and are highly undesirable in any eye operation.

These conditions are either satisfied with difficulty or not at all by ether anaesthesia, while they are, as a rule, easily met by the use of chloroform or chloroform and ether mixed. From the point of view of the surgeon, then, chloroform or chloroform and ether provide the most suitable anaesthesia.

Is the use of these agents compatible with the reasonable safety of the patient? By reference to the records of the Royal London Ophthalmic Hospital I find that out of 3,082 administrations of anaesthetics in the last five years, in all but 80 the anaesthetic was either chloroform or chloroform and ether. During that period there has been only one death, though the anaesthetics are there given by the house-surgeons, and not by a regular anaesthetist.

The following table has been kindly drawn up for me by Mr. Bland, the secretary of the hospital:

Operations Performed in the In-patient Theatre, Royal London Ophthalmic Hospital.

General Anaesthetics.

	1909.	1910.	1911.	1912.	1913.
Chloroform	790	526	321	50	—
Gas and ether	3	39	7	—	—
Chloroform and ether ...	5	11	266	566	467
Gas, chloroform, and ether ...	—	9	4	—	—
Gas	—	2	—	15	6
Ether...	5	—	—	—	—
Deaths under anaesthesia ...	—	—	—	—	1

My own experience at Moorfields included about 450 anaesthetics in sixteen months. A few of these (mainly other than eye cases) were gas, and the rest all chloroform and ether mixture. The method I adopted has no claim to originality, but as a matter of personal experience I found it answered well. I used a Schimmelbusch mask covered with a double layer of lint, and gave chloroform and ether from separate bottles. Starting with chloroform by the drop method, ether was soon added, and anaesthesia was maintained at the requisite depth, using as large a proportion of ether and as small a proportion of chloroform as possible. The series of over 400, though small from the point of view of anaesthetics for general operations, yet represents, I suppose, considerably more eye anaesthetics than the professional anaesthetist would give in a corresponding time. I did not feel any serious anxiety with regard to any of these cases—in fact, no more than it is desirable to feel with every administration until the patient's recovery.

From the Moorfields figures it would appear that anaesthesia by chloroform or chloroform and ether mixture may lay claim to a reasonable degree of safety.

I should like to ask those who are better fitted to judge than myself whether the abandonment of the "corneal reflex" test of anaesthesia would seriously inconvenience the anaesthetist or seriously imperil the patient's safety. This ritual appears often to distract the attention of the less experienced anaesthetist from more important observations, and certainly adds to the discomfort of patients after operation. It is not tolerated in eye-work. The patient has to suffer many things after operations; surely it is unnecessary to add the pain of extensive corneal abrasions.

London, W. MAURICE H. WHITING, M.B., B.C.Cantab.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

TUBERCULOSIS SANATORIUM, KILLINGBECK, LEEDS.

ACCUMULATION OF TARTAR RESEMBLING ODONTOMA.

(By ALLAN B. HAMILTON, M.B.)

MRS. G., aged 41 years, was admitted to this sanatorium suffering from pulmonary tuberculosis fairly advanced. Her mouth showed well marked marginal gingivitis; the gums were swollen and tender, and the dental margins oozing pus. Some teeth were missing, chiefly molars, and, excepting the incisors and canines, the rest were carious. On the right side of the upper jaw, and surrounding the first and second molars, the ends of which were visible, was a large mass, the size of half a walnut, firm and hard, and resembling bone, except that it was dull and slightly brownish. Pain was not present on admission, but developed soon afterwards. On closer examination slight movement was made out, and a fine steel probe was passed under its anterior edge, the point disappearing apparently into a cavity. On endeavouring to estimate the firmness of attachment more accurately with the fingers, the "tumour" collapsed like an egg-shell, exposing a large cavity within, filled with foul-smelling greenish débris. The shell was about $\frac{1}{10}$ in. thick, and was detached piecemeal. The two molars which it surrounded were carious and were extracted, along with some other stumps. The gum underneath was very red and swollen, but improved rapidly, as did the general condition of the mouth.

The interest of the case lies in the fact that the mass had been present for nearly ten years and had not given rise to any symptoms or pain. The patient had not been in the habit of cleaning her teeth in any way. In appearance the mass resembled a true bony tumour, and to be of such a size and composed of tartar must, I think, be unusual in medical practice.

DURING the week ending August 29th there were five cases of plague in Hong Kong, and the same number of deaths; in the following week there were three cases and three deaths.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BOMBAY BRANCH.

AN ordinary meeting of the Bombay Branch was held in the University Library on July 16th, when Lieutenant-Colonel ASHTON STREET, I.M.S., presided. Besides the Honorary Secretary, Dr. D. R. Bardi, there were about twenty-five members present.

Surgery in the Mofussil.—Professor Y. G. NADGIR, M.S. Bombay), read a paper on the surgery in the Mofussil, which created great interest and was much appreciated by members.

Wassermann Reaction.—Dr. F. D. BANA described his modification of Wassermann's reaction and gave notes and tables of cases in which it had been used.

Clinical Case.—Dr. F. D. BANA showed an interesting case of syphilis with symmetrical eruptions on palms and soles, cured by a single injection (intravenous) of salvarsan.

Serum Reactions in Kala-azar.—Dr. R. Row gave a brief account of a case of kala-azar now under his care, from whose peripheral blood (finger) he had succeeded in obtaining a pure and rich culture of flagellates, although in smears form of this blood no parasites could be detected even after a careful and prolonged search. The photograph of the patient and also the photomicrograph of the flagellates were shown. In this connexion Dr. Row also showed a series of coloured plates, drawn from nature by his brother Dr. N. Row, illustrating two or three remarkable serum phenomena of the patient. These were briefly described and summarized under four heads—(*a*) complement fixation; (*b*) cytolytic action; (*c*) agglutination; and (*d*) a precipitation phenomenon. The antigen used in all these experiments was an emulsion of flagellates of *Leishmania donovani* killed at 50°.

Parasite in Simple Continued Fever.—Dr. R. Row also showed a coloured plate illustrating a curious protozoan-like parasite found by him in two blood films (stained by Giemsa's method) from a patient who came under his care towards the end of an attack of simple continued fever which lasted fifteen days. The parasite looked like an amœba with a well marked nucleus like that of a mature malarial parasite but more condensed, and a pale blue vacuolated body protoplasm. The parasites were found outside the red blood cells, except in one instance when a parasite was detected inside a leucocyte which looked like a macrophage. Some of the parasites, apparently full grown and old, were of three or four times the average size and attained that of a red blood corpuscle. The parasites were found in all shapes from round and ovoid to irregularly ovoid and were free from pigment or spores. They were very few in the blood smear, not more than about thirty being demonstrable in the two films made when the patient presented himself as an outdoor patient. The patient came from Palanpur (North Gujerat), and was free from fever as well as parasites the next time he presented himself—forty-eight hours after his first appearance.

Vote of Thanks.—A vote of thanks was accorded to all those who had contributed the papers and notes.

ENCOURAGING work is being done by the Potteries Fund Committee, whose objects are the discovery and assistance of women and girls suffering from lead poisoning. Under the new factory regulations the health of female workers has improved, while by the Insurance Act a moderate income is now assured until compensation can be obtained, should incapacity for work be due to plumbism. During 1913 no female died from lead poisoning. This is cause for congratulation. Recovery from plumbism is at any time slow and tedious. The Potteries Fund Committee has therefore been of great assistance not only by providing for female potters change of air and nourishing food, but also by helping the workers to recover by legal redress the compensation to which their malady entitles them.

Reviews.

SURGERY.

IN considering a new textbook on surgery, one naturally inquires into the reason for its being. In our language there are several most admirable textbooks, sufficient, one might think, to meet the wants of student and practitioner, and as these books are re-edited periodically, a new textbook is a kind of challenge. In the preface to Mr. RUSSELL HOWARD'S *Practice of Surgery*[1] we find that the book "has been written at the request of many past and present students of the London Hospital, and it embodies, as far as possible in a textbook, the surgical teaching received by the writer in that medical school." There is here, then, a somewhat local appeal and a modest challenge. We feel it to be an unfortunate implication that the surgical teaching in one school differs from that in another. To our mind there should not be, and probably after all there are not, any serious discrepancies between the surgical teaching of one school and that of another. We have made a fairly thorough examination of Mr. Russell Howard's book, and think that it will readily earn for itself a good name amongst textbooks of moderate size. The style of writing is plain and straightforward, with no waste of words. The arrangement by short paragraphs, each with heading in bold type, lends itself to clearness and ready reference. Greater space and attention are given to diagnosis and treatment than to pathology, though it is by no means neglected. Elaborate operations are not described in detail, but their main intentions and features are indicated. The author apparently has a liking for a summing-up at the close of a chapter—a most useful means of focussing the reader's mind on the salient points of the section. The dogmatic mode of statement prevails throughout the volume; probably it is the best for the student, who as a rule has little patience and time for discussion. We are glad to observe the author's recommendation to avoid classical amputations in favour of procedures designed to meet the particular case. The illustrations on the whole are well selected; many are, however, very hazy and ill defined, especially some radiograms. The diagrams of Finney's operation and of posterior gastro-jejunostomy are very poor—the latter should show the "no-loop" operation rather than the other—while those of the mastoid regions are not very informing. Printer's errors are not many. On page 542 the numbering of the page is wrong; on page 842 "Koenig" should be "Kernig"; and on page 707 "excised" should be "incised." Mr. Russell Howard may well be satisfied with his work, and the students of the London Hospital may be congratulated on the possession of a clear and concisely written textbook containing sound and forceful teaching.

To present modern surgery within the limits of one volume is an ambitious effort, but that it is capable of successful achievement DACOSTA'S *Modern Surgery*[2] amply demonstrates. We have had occasion to commend earlier editions of this work, and we in no way stint our praise of the latest, the seventh. It is a bulky volume of 1500 pages, with plenty of pictures and diagrams. The great difficulty is to keep a book like this within reasonable bounds. The author says that the writer of such a book is held by a short tether. It is well that he should recognize this, so that he may not wander too far afield and sweep in great masses of undigested facts and untried theories. He must preserve in his mind a clear definition of what modern surgery is, and carefully incorporate matter not because it is new or modern but because it represents progress. This edition may quite reasonably be regarded by its author as the best yet issued. It is written in terse, precise style, with a total absence of verbiage, so that it has been found possible to pack into the volume everything that the inquirer, be he surgeon or practitioner, may seek. The author throughout the book quotes his authorities

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[1] *The Practice of Surgery.* By Russell Howard, M.S.Lond.; F.R.C.S.Eng. London: E. Arnold. 1914. (Roy. 8vo, pp. 1234; 8 plates, 523 figures. 21s. net.)

[2] *Modern Surgery, General and Operative.* By J. C. Dacosta, M.D., LL.D. Seventh edition, revised and enlarged and reset. Philadelphia and London: W. B. Saunders Co. 1914. (Roy 8vo, pp. 1515; 1085 figures. 25s. net.)

and gives references very freely—a most useful procedure—and introduces short historical statements on each subject woven into the narrative in unobtrusive fashion. The arrangement follows the usual plan by dealing in succession with bacteriology, asepsis, and antisepsis, inflammation, repair, general surgical diseases, diseases and injuries of tissues, and diseases and injuries of regions. The upper digestive tract is dealt with separately from diseases of the abdomen. The index is, so far as we have been able to investigate it, complete. Perhaps the characteristics of this textbook which stand out most prominently are its fullness and completeness as a presentation of modern surgery and the practical everyday bearing of its teaching. Its place is in the highest rank of surgical textbooks.

Dr. BRYAN states that the object of his *Principles of Surgery*[3] is to lay a foundation upon which an intelligent understanding of the detail of practical work may be built, and he has certainly achieved his object. A practical and accurate account is given of surgical pathology and bacteriology. Upon this is based the discussion of symptoms and the indications for treatment, but a detailed account of surgical procedures is not given. The work is undertaken from the general standpoint in contradistinction to regional. The book is to be commended, and will give to students the groundwork that is essential to a real knowledge of surgery. If they combine the knowledge to be obtained from this book with the practical detail to be obtained in the wards they will gain a more than average knowledge of surgery. The book embodies a method of teaching which is thoroughly sound; the illustrations are for the most part good.

Dr. GARMO'S essay on the *Mechanical Treatment of Abdominal Hernia*[4] contains a clear account of methods of treatment by means of support. Full descriptions are given with numerous illustrations of every kind of truss, the correct method of measuring patients for trusses, and the special indications for different herniae. The work is intended for those who are occupied in fitting trusses; they will certainly find it useful, and if they carry out the author's recommendations will be enabled to make comfortable trusses that fit.

THE PROGNOSIS OF CONSUMPTION.

THE prognosis of the probable course of any disease can be reasonably founded only upon correct interpretation of the symptoms which it presents and of the manner in which those symptoms may be modified by other conditions.

The symptoms and physical signs produced by tuberculous disease of the lungs are fairly well recognized, but the conditions which accompany them may vary to an indefinite extent. Most writers have been content to summarize the main points which usually present themselves for solution, and a few only have made a systematic study of the whole subject. By far the most comprehensive work that has yet appeared has been put before the profession this year by Dr. D. O. KUTHY of Budapest and Dr. A. WOLFF-EISNER of Berlin.[5] The result of their labours may be described as an encyclopaedic record of the opinions of competent authorities on the whole question of prognosis in consumption and of the skilled observations and experiments upon which these opinions have been founded. The outcome of this laborious undertaking has been to prove that in the main the summaries of the less ambitious writers are correct, but in the course of so widespread an investigation many secondary points have come to light which have a bearing upon prognosis in difficult cases, and many others hitherto considered important have been relegated to their proper position of insignificance.

The whole work is arranged under definite headings, and reference to particular branches of the subject is thus rendered easy. A good deal of overlapping and repetition is perhaps inevitable and confusion may be saved thereby, but the bulk of the volume is proportionately increased.

The more intimate acquaintance with the pathology of consumption, which has served to permit of earlier diagnosis, has also had its effect upon the accuracy of prophecy, and many more considerations have to be passed in mental review in estimating the probable course of any given case than were thought necessary in less enlightened times. Etiological influences—heredity, environment and temperament, the indications afforded by study of physical conformation and the course of growth, the predisposing or immunizing effects of similar or different disease, the effects of changed metabolism at different periods of life, and all and every such possible condition that may bring some influence to bear upon the progress of tubercle and its attendant pathological changes—are examined with the greatest minuteness and mainly by the collation of expert observation and deduction. No fewer than a thousand references taken from the medical literature of the civilized world are tabulated, and hence every school of thought is represented. Many of the puzzling points remain as perplexing as ever. The question of long-continued inheritance, for example, implies a degree of hypersensitiveness to tubercle. But long-continued inheritance has also been shown to afford a definite degree of immunity to minor infections, while it manifests increased susceptibility to larger doses. Experiment would thus seem to show that persons of a so-called scrofulous type may be at the same time in part immune and in part susceptible to the same poison.

Much difference of opinion has been manifested as to the importance to be attached to gain of body weight under ordinary or special lines of treatment, and the outcome of discussion does not indicate more than a general rule that such gain of weight may be held to show a capacity for general improvement.

Very many competent observers have endeavoured to obtain prognostic data from the chemical and microscopic examination of sputum. More attention has been paid to the stainable granules which appear in bacilli than was formerly the case. Regarded by some as merely degenerative, they have been held by others to represent a stage in development; but the evidence for and against such a view is not sufficiently conclusive for general acceptance. Staining methods have not yet reached perfection, and much yet remains in doubt.

Every phase of modern research into the relations believed to subsist between the various constituents of the blood and the bacilli and their products, is described and examined at length, and the results of modern treatment in relation to prognosis subjected to equally minute scrutiny.

The work as a whole may be said to contain reference to all that is worth referring to, and as such should be found useful by future writers. As a practical guide to prognosis it is far too large and lacks the summary, representing the judicial aspect of the vast amount of evidence adduced, which alone could render each branch of the subject to be of service to the busy practitioner.

THERAPEUTICS AND HYGIENE.

IN his textbook[6] of *Therapeutics, Dietetics, and Hygiene*, Dr. J. W. SPRINGTHORPE has included a quarter of a century's experience of medicine in its widest applications, personal, private, and public. The work is an amplification of his course of university lectures, and covers a vast amount of ground. Beginning with a brief account of ultimate ontology and a review of the philosophy of medicine, the author devotes two-thirds of his first volume to the subject of hygiene in its most various personal and public aspects. The special points he wishes to emphasize are illustrated by the free use of statistics on the one hand, on the other by quotations from such poets as Robert Browning and Rossetti. But for all his wealth of detail and local colour—for it is to hygiene in Australia

[3] *Principles of Surgery.* By W. A. Bryan, A.M., M.D. Philadelphia and London: W. B. Saunders Co. 1913. (Med. 8vo, pp. 677; 224 figures. 18s. net.)

[4] *The Mechanical Treatment of Abdominal Hernia.* By William Burton De Garmo, Professor of Special Surgery, New York Post-Graduate Medical School. Philadelphia and London: J. B. Lippincott and Co. (Pp. 147. Price 6s. net.)

[5] *Die Prognosenstellung bei der Lungentuberkulose, mit eingehender Berücksichtigung der physikalischen und serologischen Befunde und der therapeutischen Prognostik.* Von Priv.-Doz. Dr. D. O. Kuthy und Dr. A. Wolff-Eisner. Berlin und Wien: Urban and Schwarzenberg, 1914. (Sup. roy. 8vo, pp. 588; 21 figures. (Br., Mk 13; Geb., Mk 20.)

[6] *Therapeutics, Dietetics, and Hygiene.* An Australian Textbook by J. W. Springthorpe, M.A., M.D.Melb., M.R.C.P.Lond. Vol. i, *Hygiene and Dietetics;* vol. ii, *Therapeutics.* Melbourne: J. Little, 1914. (Roy. 8vo, pp. 604 and 612; illustrated. 25s. net each volume.)

that Dr. Springthorpe devotes most of his attention—he is never deaf to the call of a possible generalization. Thus, in Victoria the ancestors of the present population were of the sanguine and nervous temperament, he says, and he deplores the fact that the modern conditions of climate and diet are now developing the hepatic and the hybrid bilio-nervous types of humanity. His figures show that in New South Wales about 280 lb. of meat are consumed per head of the population per annum; in England, the consumption is said to be 105 lb., in France and Germany about 70 lb. It is reported that sheep shearers may consume on the average over 2½ lb. of meat a day while at work. The second volume is devoted to therapeutics in the widest sense of the term, and contains many chapters on special subjects contributed by various Australian practitioners of medicine and specialists. Every imaginable form of treatment seems to find its place in this volume, and at its end are printed many pages of prescriptions and posological tables.

Both volumes are freely illustrated; portraits of such personalities as Hygiea (misspelt Hygeia), Apollo, Pasteur, and Florence Nightingale are given, and the scenic attractions of numerous Australian health resorts are copiously exhibited.

There are countless points in this highly interesting and original work that cannot be mentioned here for lack of space. In general design and execution it recalls the encyclopaedic scientific volumes of bygone centuries, written *de omnibus rebus et quibusdam aliis*. It contains a mass of detail and statistical evidence on all sorts of subjects connected with the health and hygiene of Australia, and the diets and modes of treatment that experience has shown to be of particular service in that country. But it also makes an appeal to many others besides medical men, and includes admirable practical instructions as to the most suitable modes of upbringing and life that should be welcome to those in need of instruction in these matters. The printer and publisher have done their work in a highly creditable manner, and many of the illustrations leave nothing to be desired. Dr. Springthorpe writes with *élan* and vigour, and his pages breathe on the whole a spirit of cheerfulness and optimism. His book is a thoroughly practical production, and may be cordially recommended to the attention of all who are interested in the many subjects with which it deals.

NOTES ON BOOKS.

THE call for a second edition of *Lunacy Practice*,[1] by Mr. W. H. GATTIE, is the best evidence of its usefulness. In no legal procedure with which medical men have to do is the need for precision so great as in that which deals with lunacy, and the cost of a mistake may be very serious. There is plenty of opportunity for going wrong, even with the experienced. It is a boon to the practitioner, layman, or lawyer to have the varied forms and procedures crystallized into reliable shape for rapid consultation. On two points we venture to make suggestions. First, as to the exact periods of time covered by the varying requirements of "seven clear days," "within seven days," "not more than seven days," etc. These might advantageously be translated by a lawyer, for the Lunacy Acts leave such important interpretations to judge-made law. Then, when the subject of absence from an asylum *on leave* is considered, it would be well to describe also absence *on trial*, in regard to which important decisions have been given of late, making it very necessary to limit the form of leave by words enabling the patient to be brought back before the expiration of the period of absence should he break down. Without such terms it would appear there would be no such power. We warmly commend the book to all who are concerned with practice in mental disease or with lunacy administration.

[1] *Lunacy Practice: a Practical Guide for the Certification and Detention of Persons of Unsound Mind.* Second edition. By W. H. Gattie. London: Shaw and Sons. 1914. (Fcap. 4to, pp. 59. 2s. 6d. net.)

IT is stated that Dr. Alexis Carrel, of the Rockefeller Institute, New York, is serving as a medical officer with the French army. Dr. Carrel was awarded the Nobel Prize in Medical Science for his researches on the transplantation of organs in 1912.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE annual meeting of the Medico-Psychological Association was held at Norwich on July 14th and 15th.

The late Dr. Neil.

Reference in sympathetic terms was made to the death of Dr. Neil, of Warneford Asylum, Oxford, and a resolution of condolence with his widow was carried by the members upstanding.

Mental Deficiency Act.

Dr. HYSLOP, Chairman of the Committee on the Mental Deficiency Bill, presented the report. This showed that the committee had been concerned with the Elementary Education (Defective and Epileptic Children) Amendment Bill and in the provisional regulations in pursuance of the Mental Deficiency Act. It was hoped that the Mental Deficiency Act Regulations, which came into force in April, would be simplified when reissued. Several recommendations were made in the report. The Central Association for the Care of the Mentally Defective had taken the necessary steps to register itself as an incorporated association. Following upon a short discussion, Dr. Hyslop said difficulties were likely to arise, unless care were taken, owing to persons with no knowledge of mental conditions seeking to define the border-line between insanity and mental deficiency on the one hand, and between mental deficiency and health on the other. It was for the association to present a guiding memorandum. The report was approved, and the committee reappointed to continue its work. The President (Dr. Thomson) and Dr. Bedford Pierce (Chairman of the Status Committee) were appointed to act with the subcommittee of the Board of Control.

President's Address.

Dr. CHAMBERS introduced the new president, Dr. D. G. THOMSON, Superintendent of the Norfolk County Asylum, who delivered an address, in which he reviewed the legal and medical arrangements for dealing with the insane during the past hundred years. He said that since this was the centenary year of the establishment of the Norfolk County Asylum, the oldest county institution of its kind in the country, the stages in the evolution of treatment of mental alienation found illustration within its walls. Dr. Thomson discussed the origin and progress of the laws relating to the insane, beginning with the crude efforts in 1745. Though these were called laws for the regulation of "madhouses," there appeared to have been no amelioration of the awful lot of their unfortunate inmates until the later half of the eighteenth century. The first serious legislation in favour of the insane poor was enacted in 1808, in what was commonly called "Wynne's Act." This enabled each county, through its justices and quarter sessions, to build and equip institutions out of the county funds, so that parishes, for a weekly *per capita* payment, could send insane poor to the county institution instead of to gaols, houses of correction or industry. Only a few counties used this permissive power—namely, Nottinghamshire, Norfolk, Lancashire, Yorkshire, and Staffordshire. A Special Committee of the House of Commons in 1815 took evidence as to the deplorable state of the insane in privately owned madhouses, and even in a few public asylums. Dr. Thomson gave some lurid specimens of this evidence, and incidentally referred to the form of treatment meted out to George III for his mental aberration. The report of this Committee resulted in an amending Act, which sought to "enforce" the provisions of the Act of 1808. But it was not until the early years of the reign of Victoria—namely, in 1845—that the Act was passed which had been styled the "Magna Charta of the Insane," as it gave them, for the first time, full legal protection and supervision. Other beneficent forces were also by this time at work, for Dr. Gardiner-Hill, of Lincoln Asylum, had begun his great campaign against the use of restraint. His strenuous contention that chains and manacles and other coercive measures were unnecessary and harmful led people to declare that he was himself insane, but his views ultimately prevailed, and for many years mechanical restraint had been abolished, except in occasional in-

stances for surgical reasons. The year 1841 saw the foundation of the Medico-Psychological Association, by a few doctors concerned with the study of insanity, its etiology, prevention, and treatment. The chained lunatic now became a patient, and as time went on it was felt more and more that no time or trouble spent in efforts to ameliorate or cure his condition was wasted. County and borough asylums came into being all over the kingdom, private asylums for the well-to-do put their houses in order, and every institution for the insane was brought under the benign regulation and visitation of the Commissioners in Lunacy, now the Board of Control. Dr. Thomson paid a warm tribute to the memory of the late Lord Shaftesbury for his great work in this relation. Gradually the view that insanity was a possession of the devil, or the metaphysical idea of it as a manifestation not amenable to medicine, gave place to the conviction that it had a physical basis, like other affections; this altered view had resulted in great advance of knowledge, for alienists had not been slow to apply the great advances in general medicine to this speciality. In an eloquent passage Dr. Thomson animadverted on the barren theorems of a former day, ghosts of which, in brand-new shrouds, were being invoked to-day by advocates of various fads and "isms," such as faith healing, Christian Science, and the like. He dealt next with the more recent work of the Medico-Psychological Association, the system of training, certification and registration of mental nurses, the adoption by six universities of its recommendation in favour of special post-graduate training and diplomas in psychiatry, on lines similar to those in public health and tropical medicine. If the association had done nothing besides providing better doctors and nurses for mental disorders, its existence would have been justified, and its labours gratefully acknowledged by the public. Among other topics dealt with were the following: The disabilities of asylum medical service, and the resulting dearth of candidates; the absence of provision for early incipient forms of mental disorder without the dreaded legal certification and committal to the insane wards of workhouses and asylums; the absence of properly equipped clinics for this purpose and for the ante-graduate and post-graduate training of young men in psychiatry; the Mental Deficiency Act; the Elementary Education (Defective and Epileptic Children) Bill; and the unsatisfactory state of the law with regard to crimes committed by insane persons.

Intrathecal Treatment of General Paralysis.

DRS. MAPOTHER and BEATON said that in early cases of general paralysis attempts had been made to introduce salvarsan and neo-salvarsan, in aqueous solution, by intraspinous injection; but these had been followed by unfortunate sequelae, probably attributable to the vehicle in which the drug was dissolved rather than to the drug itself. A modification of method used by the authors consisted in the addition of arsenical drugs to the serum *in vitro*.

The Detection of a Dysentery Carrier.

Mr. H. SALTER GETTINGS and Dr. ETHEL WALDRON (of Wakefield Asylum) reported a case in which the dysentery bacillus was discovered in the loose stools of a patient who displayed no other symptoms; there had been no blood or slime and no rise of temperature. There had been one or more cases in her ward for four years, and soon after her transfer to another ward there was a fatal case of the disease. Since 1913 there had been in the asylum 14 cases, with 5 deaths. The opinion was expressed that the disease was disseminated by quiet, unobtrusive cases. A discussion ensued as to the difference between "carriers" and ordinary cases of chronic dysentery.

Status of British Psychiatry.

A discussion of the report of the Committee on the Status of British Psychiatry and of Medical Officers of Asylums was introduced by the Chairman of the Committee, Dr. BEDFORD PIERCE. Dr. ROWS, Honorary Secretary of the Committee, and Drs. SOUTAR, COLLINS, STANSFIELD, HAYES NEWINGTON, CHAMBERS, EDWARDS, DANIEL, and the PRESIDENT joined in the discussion, and the most part commended the recommendations made. The meeting approved the report, and it was agreed to forward copies to the Home Secretary, the President of the Local Government Board, the members of the Board of Control, the chairmen and clerks of asylum boards and visiting committees, and the corresponding officials in Scotland and Ireland. The Committee was reappointed. The report contains the following resolutions:

1. That it is desirable that provision be made for the detention of patients in psychiatric clinics for a limited time without certification.
2. That it is desirable that any form of detention under modified conditions, such as proposed in the Lunacy Bill of the year 1905, should not be confined to private houses, but should be extended to all institutions for the insane and clinics duly approved for the purpose.
3. That it is desirable that the provision already made for the reception of voluntary boarders into licensed houses and registered hospitals be extended to public asylums and psychiatric clinics.
4. That the psychiatric clinics be for the reception and treatment of voluntary boarders and notified persons.
5. That it is desirable that patients be admitted to county asylums direct from their homes without being of necessity taken to the Poor Law institutions—in this way making better use of the existing hospital accommodation at these asylums.
6. That urgency orders be made to apply to Poor Law cases.
7. That it is desirable that neighbouring asylums be enabled to establish and maintain joint laboratories.
8. That it is desirable that a Standing Committee of the association be formed, to be called the "Research Committee," and to have as its object the encouragement and guidance of original work in psychiatry.

Prizes.

The association's divisional prizes were awarded to Dr. Eager (Devon County) and Dr. Macphail (Newcastle). The Gaskell prize had not been awarded. The bronze medal was awarded to Dr. J. C. Wootton of Cane Hill Asylum.

Annual Dinner.

On July 15th the members were entertained to luncheon at the asylum, and in the evening Dr. Thomson presided over the annual dinner, at which the BISHOP OF NORWICH proposed the toast of the Medico-Psychological Association of Great Britain and Ireland. This was acknowledged by Dr. THOMSON.

ROYAL COMMISSION ON VENEREAL DISEASES.

THE following is the official report issued to the press by the Secretary of the Commission:

"The Alliance of Honour."

Mr. Edward Smallwood, L.C.C., Chairman of the Directors of the Alliance of Honour, said that this organization was an association of men who pledged themselves to purity. The Alliance had been in existence about eleven years, and had now some 500 branches in different parts of the country and a membership of 42,000, which was steadily growing. He believed that by inculcating principles of purity and chivalry, and by the work of moral education, the Alliance was attacking a great social evil, with its attendant diseases, at the source. Mr. Smallwood said that his experience showed that ignorance was one great cause of persons contracting venereal diseases. The Alliance was endeavouring to combat this ignorance by means of lectures and public meetings and by the dissemination of literature; the two branches of instruction—moral education and instruction in the actual physical dangers—were kept side by side. Official action was, however, extremely desirable on the subject of education. Instruction should be given to the young in schools and colleges on a properly graduated plan, and it would be necessary that carefully selected teachers should receive special training which would enable them to impart this particular kind of instruction.

Deafness.

Mr. Macleod Yearsley, senior surgeon to the Royal Ear Hospital, stated that in his opinion syphilis and its concomitants were as severe amongst children of the poor as they were when he started practice as an aural surgeon twenty-one years ago. He had found that amongst

children there were far more cases manifesting congenital syphilis among the poor than among the richer classes; this he attributed to the fact that in the latter the disease was recognized earlier, and therefore treated earlier. Among the poor syphilis very often went untreated, and this was specially the case with children. Records he had kept in connexion with work at special deaf schools showed that of the 845 children (427 boys and 418 girls) examined during a period of seven years, 61, or 7.21 per cent., were deaf from congenital syphilis; the females affected were greatly in excess of the males, the relative percentages being—boys 4.94, girls 9.56. The treatment of acquired syphilitic deafness nearly always failed. It had been pointed out that the children who became blind and deaf were those in whom syphilis went untreated in infancy. It was therefore important that treatment should be obtained as soon after birth as possible. The widest possible routine application should be made of methods of diagnosis, and the Wassermann reaction should occupy a prominent place. Advantage should especially be taken of school inspection for the purpose of applying the reaction in all suspected cases, not only of the school children themselves, but of the parents. All cases should be thoroughly treated as early as possible.

Mr. Macleod Yearsley stated that the National Bureau for Promoting the General Welfare of the Deaf, whose representative he was, had among its provisions for promoting the prevention of deafness, the notification of all cases of congenital syphilis and the facilitation of treatment for mother and child.

Facilities for Treatment at Hospitals.

Dr. James Galloway, senior physician to Charing Cross Hospital, stated that recent experience gained in dealing with venereal diseases in the army and navy greatly encouraged the expectation that these diseases might, if favourable conditions were obtained, be prevented and their evil consequences diminished in the general population. He did not think, however, that compulsory measures involving registration and treatment were likely to lead to satisfactory results. In dealing with the general community it was necessary that all efforts to cure and eradicate these diseases should be reinforced by the willing consent of the sufferers and by the sympathetic co-operation of the rest of the community. Social slur or stigma should, so far as possible, be removed from those under treatment. It should be strongly impressed upon the public that large numbers of persons suffered from venereal disease through no fault of their own. Facilities for efficient treatment should be provided for all classes of the community and for both sexes. It was more important from the point of view of the public health that poor and ill-educated patients should be successfully dealt with than those in better circumstances and presumably greater intelligence. In the case of the poorer patients these diseases (even when recognized) were often looked upon as matters of comparatively little importance. All hospitals willing to undertake the treatment of venereal diseases in their early or acute stages should be encouraged to do so. If this were done, facilities would immediately be at hand for the greater number of patients. It was especially desirable that hospitals with medical schools should undertake the treatment of those diseases in any general scheme of dealing with these maladies throughout the community. Opportunity would thus be provided for the instruction of medical students in the recognition and treatment of venereal diseases in a way which had been impossible in the past. Dr. Galloway thought that the cost involved in the treatment of these diseases on a large scale would be considerable, and, as the proper treatment and eradication of the diseases was a matter affecting the general health of the whole community, it was proper that the expense should be met by local authorities or by the State.

Mr. Pugin Meldon, senior surgeon at the Westmorland Lock Hospital, Dublin, gave evidence as the representative of a Joint Committee appointed by the Royal College of Physicians of Ireland, the Apothecaries Hall, Ireland, the School of Medicine at Trinity College, Dublin, and the National University of Ireland. The committee laid stress on the point that the difficulty in dealing with venereal diseases arose from the social stigma attaching to those suffering from it. This stigma was certainly a hindrance to early diagnosis and treatment, and this being so, it was not desirable to establish for the treatment of the general class of venereal disease patients special dispensaries and hospitals or special laboratories for diagnosis. As regards diagnosis, it was essential that clinical methods should be supplemented by the aid of the pathological laboratory, and arrangements should be made for the free diagnosis of venereal disease at the laboratories in the pathological departments of the universities and medical schools. The committee was of opinion that one cause which operated very extensively in deterring people from obtaining proper treatment was the penalization of venereal disease. Employers of all kinds were in the habit of either dismissing from their employment persons who were found to be suffering from these diseases or refusing them leave for the purpose of treatment. The result was that these persons either endeavoured to treat themselves or resorted to advertising quacks, and only sought a physician when the disease was so far advanced that they were unable to do their work. So long as this penalization persisted it was impossible seriously to suggest any scheme of notification and therefore any really effective method of prevention. Similar considerations led the committee to suggest that the Insurance Act should be amended so as to make it impossible to withhold sick pay and disablement pay in cases of venereal disease. The committee referred to the fact that some general hospitals had rules precluding the admission of venereal patients, and suggested that pressure should be put upon such hospitals to have these rules rescinded.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the committee eighteen cases were considered, and grants amounting to £130 voted to thirteen of the applicants. The following is a summary of the cases relieved:

Widow, aged 26, of M.R.C.S.Eng., with one child aged 21 months. Husband had been ill for some time before death. Friends only able to help slightly. Voted £10 in two instalments and referred to the Guild.

Daughter, aged 31, of M.R.C.S.Eng. Has endeavoured to earn her living by needlework, but her health has broken down. Voted £2, with leave to apply again in October, and referred to the Guild.

M.D.Edin, aged 58, unable to practise owing to bad health. Has endeavoured to run a nursing home, but has not been successful owing to the illness of his wife and self. Three children unable to help. Voted £12 in twelve instalments.

Widow, aged 44, of M.B.Aberd. Has endeavoured to maintain herself by letting rooms, but has been unsuccessful lately. Two children at school. Relieved seven times, £75. Voted £12 in twelve instalments.

Daughter, aged 63, of M.R.C.S.Eng. In ill health. Only income 5s. per week from friends, which pays for rent. Relieved seven times, £87. Voted £12 in twelve instalments.

Daughter, aged 58, of M.R.C.S.Eng. In bad health. Only income from another charity, 5s. a week. Relieved twice, £20. Voted £10 in two instalments.

Daughter, aged 64, of M.R.C.S.Eng. A confirmed invalid. Only certain income about £13 per annum. Relieved once, £12. Voted £12 in twelve instalments.

Widow, aged 57, of L.R.C.P. and S.Edin. Earns a little by taking in lodgers. Relieved eight times, £82. Voted £12 in twelve instalments.

Widow, aged 43, of L.R.C.P. and S.Edin. Seven daughters, ages 4 to 17. Only income about £57 per annum. Tried unsuccessfully to supplement income by taking in boarders. Relieved twice, £24. Voted £12 in twelve instalments and referred to the Guild.

M.R.C.S.Eng., aged 81. Blind. Eldest son now practically blind and unable to work; lives with his father. Joint income less than £50 per annum. Relieved once, £12. Voted £2 and deferred for further investigation.

Widow, aged 57, of L.R.C.P. and S.Glasg. Endeavours to earn a living by taking in boarders; recently not very successful; health indifferent. Relieved three times, £15. Voted £10 in two instalments.

Daughter, aged 58, of M.R.C.S.Eng. No income and too ill to work. Relieved nine times, £94. Voted £12 in twelve instalments.

Widow, aged 64, of M.R.C.S.Eng. Five children, none able to help. Rent paid by her brother. Relieved once £12. Voted £12 in twelve instalments.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

INDIAN SANITATION.

In a recent issue[1] we drew attention to an important memorandum addressed by the Government of India to local governments on the subject of sanitary administration and work. At a meeting of the East India Association last May an interesting paper was read by Colonel W. G. King, C.I.E. (I.M.S. retired), on the "Position of sanitation in the administration of India," and gave rise to a discussion in which Indian officials and natives took part. Colonel King's devoted and fruitful work in the promotion of scientific and practical sanitation in the Madras Presidency entitles his views to respect; and, although exception may be taken to some of his contentions, the motive and aim of his address are undoubtedly commendable and salutary. While fully acknowledging that, through the advice and agency of the Indian Medical Service, a great reduction of sickness and mortality has taken place in communities under organized sanitary control, he does not consider the position of sanitation in India to be sound or promising. He asserts that the policy of the Government of India is one of inhibition and restraint as regards sanitation. This, in the face of what has been accomplished by means of the arrangements and undertakings carried out by Indian administrations, is a surprising statement, and appears, indeed, to be inconsistent with the facts which Colonel King has recorded in this paper, indicating decided and progressive diminution of suffering and death consequent on persistent sanitary effort. He objects very strongly to the association of sanitation with education in the new department which has been established for the purpose of relieving congestion in the Home Office and securing closer attention to these important subjects. If this arrangement involves "the professionally and financially unjustifiable supremacy of education," it is of course objectionable: but the reputed supremacy is probably more nominal than real. A separate Ministry of Health would no doubt be a preferable plan; but the multiplication of central bureaux is a costly proceeding, and practical sanitation has in the past suffered in India from the creation of departmental heads, and the neglect to provide an educated sanitary executive to do local sanitary work. Colonel King also represents that sanitation is starved in favour of education; on the other hand, Sir George Birdwood expressed himself as "entirely opposed to the idea of beggaring public education in India for the richer endowment of public sanitation." There ought to be no rivalry or antagonism between these two important services; indeed, education is capable of materially aiding and advancing sanitation, and the lecturer in his reply fully acknowledged this. Much as has been accomplished in India in sanitary reformation, Colonel King shows that, as regards both area and population, very much more remains to be done. While cities, cantonments, and municipalities have been provided with sanitary appliances and agencies, rural areas—and these constitute some 90 per cent. of the whole—have not been reached, and the principal object of this address is to urge the provision of a skilled sanitary executive working under rural authorities for purposes of general and special sanitation. This system has been introduced to some extent, on Colonel King's initiative, in the Madras Presidency with excellent results. We must, however, enter a protest against the excessive isolation and specialization of sanitary business which is recommended in this address. Health depends on such an infinity of conditions—personal, domestic and communal—that it is necessary to obtain the consent and co-operation of men and women individually and collectively in order to achieve the most complete success possible. The proposed segregation of sanitary administration and work is carried to such an extreme that "mixing the cure and prevention of disease" is alluded to as an "old fallacy," and sanitation is referred to as a different profession from that of medicine—aiming at the "prevention, not the cure," of disease. This view is more emphatically stated by one of the speakers, Mr. B. N. Surma, who is reported to have said that "the medical and sanitary departments must be divorced from one another." This is a strange doctrine. The preservation of health is quite as much a function and duty of the medical man as the restoration of health. He is educated and qualified for both purposes, and the two offices rest on the same principles and facts, constituting two phases of the Ministry of Health. In all enlightened communities the medical practitioner and the sanitarian work hand in hand. In the matter of notification of infectious diseases the services of the family doctor are essential. In all infective cases medical management is a powerful means of limitation, and in some—venereal diseases, for example—cure is at present the only bar to spread—apart from moral restraints. The practitioner has welcome access to the home, and his advice is a potent stimulus to personal and domestic hygiene. From this point of view the benefits conferred by the Dufferin Fund and by the employment of educated nurses and midwives are effective in promoting general cleanliness, inculcating useful preventive measures, and reducing the terrible mortality among infants, to which Colonel King directs special attention. Indian women are very conservative of religious and social customs. Many of these are excellent, others objectionable, and as several speakers remarked and the Indian Government has laid down, sanitary reform must recognize and preserve the former and amend the latter; and the strong hold of usage on native life and the amenability to law of the people constitute powerful aids to sanitary amelioration. In fact, sanitation demands not contraction and specialization, but expansion and generalization; and in any community sanitary success must always depend largely on the concurrence and assistance of its members, and sanitary effort must be applied through the organizations established for communal purposes. At the same time the employment of a specially educated and trained executive is absolutely necessary for special sanitary work, and Colonel King's insistence on this principle, founded on useful personal experience, constitutes the main merit of his paper, which, while owning the importance of research and education, impresses the need in India of more extended and concentrated sanitary endeavour under the guidance of facts already ascertained.

[1] BRITISH MEDICAL JOURNAL, June 13th, page 1317.

ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1913.*

No important factory legislation has to be recorded for 1913. Separate reports by various factory inspectors were published dealing with such subjects as shipbuilding accidents, dust explosion, and illness among cotton weavers. Material is still, we are informed, being gathered for the industrial museum. The staff of the factory department has now reached 217—not too large a number considering that during the year nearly 300,000 works were inspected in which are employed in factories 4,488,774 persons, and in workshops 638,335. That really good work has been done by the department is shown by the fact that 425,000 visits of inspection were made. It is in inspection that the factory department of Great Britain compares so favourably with that of other countries. The fatal accidents have risen from 1,260 to 1,309, and the non-fatal accidents from 154,972 to 176,892. The increase is attributed to greater general trade activity, greater pressure of work requiring more general cleaning of machinery, and to more complete notification. From the divisional report, however, it is evident that all accidents are not being notified. Instances are constantly cropping up of non-compliance with the order, not necessarily from any desire on the part of employers to deliberately withhold information, but from a belief that it is only the more severe accidents which have to be reported. Ignorance of requirement and carelessness on the part of clerks are also responsible for the omission.

Although factory hygiene is far from being what it ought to be, there are signs of an increasing interest being taken in it by employers and of a disposition on their part to improve matters. There is still call for greater cleanliness in many works where sweets and chocolate are made, also in sausage factories. The floors of workshops are frequently bad. In certain works, where the manufacturing processes render them liable to be wet, no attempt is made

* His Majesty's Stationery Office (Cd. 7491), 1914. 1s. 7d.

to drain them. The advantages of good lighting are pointed out by several of the inspectors, not only in regard to diminishing the number of accidents but in securing greater comfort and in saving the eyesight of employees.

In previous reports attention has been drawn to the large number of minor wounds received by workmen which become septic through faulty dressing in the first instance. It is desirable that, especially in all large factories, there should be widespread knowledge of "first aid"; also that sterilized dressings should be kept in readiness. Managers are more alive to these necessities than formerly. In all shipyards there will be in the future an ambulance staff, a stretcher, and sterilized surgical dressings. This requirement of modern factory life is better developed in the United States than in this country. Not only is there a small, well-equipped receiving hospital in the works, but a trained nurse is always on duty to attend to injuries. Since it is the small wound and the minor injury which are so frequently followed by blood poisoning, it should be a regulation that every injury, however trivial, should be reported to the certifying factory surgeon.

Accidents in shipbuilding are usually severe. By stricter discipline and supervision of the staging, and manner of working, it is hoped to reduce the number of accidents. Fatigue and long hours are causes of accident. In one instance a man who suffered fatal injuries had worked 23½ hours. Of 81 accidents reported in one district 69 happened to persons who had worked from 12 to 15 hours.

The lady inspectors draw attention to a marked deficiency in the supply of women and girl labour in the textile trades of Glasgow, Dundee and Dunfermline, also in the hosiery factories of Hawick. In Dundee with its almost exclusive employment of female labour, particularly in the jute trade, it has been suggested that it would be well if male labour could be substituted in some of the departments in which work has hitherto been done by women.

Accidents in laundries have fallen from 409 in 1909 to 384 in 1913, notwithstanding the fact that the number of persons employed has considerably increased. There are fewer accidents involving the crushing and burning of hands, also fewer accidents due to wringers. Much suffering has been saved by better fencing of machinery in laundries.

The lifting of heavy weights by children and young persons still continues. It is wrong that boys and girls 14 years of age should be found carrying materials upwards of 50 lb. in weight. The fines imposed seem to be readily enough paid, but repetition of the offence should be followed by heavy penalties, for only thus will the gravity of the offence be driven home.

In welfare work considerable advance has been made, but we are still far behind some other nations. The social helper has come to stay, and is likely to play an important part in the factory life of the future.

The data furnished by the electrical inspector supply some of the most interesting reading in the annual report. In 1913 there were 418 electrical accidents with 17 fatalities, as against 283 with 15 fatalities for the previous year. To inadequate skilled supervision as regards the initial selection and installation of plant and its subsequent working many accidents are due. It is a blot upon British factory management and technical instruction that it should be possible to say:

> In many works of considerable size operated and lighted by electricity, there is no one employed who is technically qualified to look after the plant. Even if the plant is good and well installed in the first instance, it is often run without technical supervision until trouble arises and accidents occur.

In three of the fatal cases the voltage of shock was less than 220.

Dr. T. M. Legge is to be congratulated on his sixteenth annual report. Much good work has been done by him during the last decade and a half, in the latter part of which he has been ably assisted by Dr. E. Collis. The figures for lead poisoning compare most favourably with those of former years. In 1900 there were 1,058 cases notified, with 38 deaths; in 1912, 587 cases, with 14 deaths; and in 1913, 535 cases, with 27 deaths. The returns of lead poisoning for the china and earthenware trades are the lowest recorded, with the exception of 1909. The attack-rate per 1,000 employed is 9. In electrical accumulator work the number of cases of lead poisoning has increased. Much of the work is dusty and most of it can only be done by hand.

Six cases of arsenical poisoning occurred during 1913. Anthrax supplied 70 cases with 7 deaths, a higher death-rate than in previous years, and attributed to the increased number of cases caused by wool. Attention is drawn to "pitch ulceration," and to the fact that as manufacturers have introduced the necessary improvements, the draft regulations have for the present been withdrawn. "Paraffin cancer" as occurring in shale workers is mentioned as having been met with by Dr. W. W. Walker, Certifying Factory Surgeon of Mid Calder.

We cannot close this review of the report of the medical inspector without alluding to the excellent work which has again been done during the year by Dr. E. Collis upon dust and fumes, etc. His latest work, "Weaver's Cough," is an interesting contribution. He traces the affection to the threads becoming mildewed, and to obviate this he recommends the introduction of antiseptics into the "size" through which the cotton threads are passed.

TUBERCULOSIS SOCIETY.

DR. HALLIDAY SUTHERLAND, President of the Tuberculosis Society, informs us that in 1910 a small clinical society was formed in London whose members, for the most part, were medical officers to tuberculosis dispensaries and to sanatoriums. The rapid development of the tuberculosis service throughout the country led to the formation of a larger society in 1912. The society holds meetings in London on the third Saturday of every month from October to June, and three provincial meetings. The annual meeting will be held at the same time and place as the annual conference of the National Association for the Prevention of Consumption. The subscription is 10s. per annum.

A memorial in the following terms has been submitted to the Chancellor of the Exchequer and to the President of the Local Government Board:

MEMORIAL.

Your Memorialists represent the Tuberculosis Society.

The Tuberculosis Society is a body including in its ranks Tuberculosis Officers appointed to County Councils, County Borough Councils, and the Metropolitan Borough Councils in England, and to County Councils and Town Councils in Scotland, and also Medical Officers to sanatoriums, farm colonies, and hospitals for advanced cases. The newly constituted Tuberculosis Service consists of medical men engaged in the diagnosis, treatment, and prevention of tuberculosis under public bodies.

For the proper discharge of the duties which recent legislation in relation to tuberculosis demands, special training and experience are essential. An endorsement of the view that Tuberculosis Officers should be specialists in the work is to be found in the recommendations of the Departmental Committee on Tuberculosis, 1913.

The Local Government Boards have endorsed generally the recommendations of the Departmental Committee, and proceeded on the view that these officers are to be regarded as an independent service, so far as their clinical duties are concerned, and shall be responsible for the management of institutions to which they are attached.

It seems to your Memorialists most important that from the outset a satisfactory status and security of tenure should be ensured. Without this it will be difficult to induce the best class of men to enter a service for which years of special training are required. Your Memorialists consider it necessary to emphasize the fact that the Tuberculosis Service is mainly clinical in its duties, and does not therefore naturally lead on to transference to the ordinary administrative posts in the Public Health Service. To regard the Tuberculosis Service as a subsidiary branch of the Public Health Service would be to discourage special training in a department which constitutes one of the largest fields in clinical medicine.

In some other departments of State Medicine, such as the Lunacy and Prison Service, security of tenure and superannuation have been ensured for Officials of the same standing as members of the Tuberculosis Service. A claim for the extension of such treatment on the part of Medical Officers of Health and Sanitary Inspectors has recently been submitted to and friendly received by the Treasury and the Local Government Board.

Your Memorialists respectfully submit that the Tuberculosis Service has a similar claim to security of tenure and to superannuation, and that such a claim is in the highest interest of an important Public Service, and is entirely reasonable in respect of those who have entered or may enter this special department.

The honorary secretary of the society is Dr. W. O. Pitt, 66, Upper Walthamstow Road, Walthamstow, Essex, to whom inquiries may be addressed.

British Medical Journal.

SATURDAY, SEPTEMBER 12TH, 1914.

TO GUARD THE HEALTH OF THE TERRITORIAL AND NEW FORCES.

ALL members of the medical profession who admire the fine spirit which is being shown by the men of fighting age—and who is there who does not?—must feel very strongly that the first return that the country can make is at once to take the steps necessary to ensure that these men who are being made into soldiers and combined into armies shall not during their training be exposed to needless risks of disease. They feel equally that the men of the Territorial Forces who are now embodied deserve the same care.

We believe that if the public understood as medical men understand the serious risks that must always be incurred when bodies of men are brought together for military training and exercise, it would unanimously insist that a carefully thought out system for all Territorial troops and all units of the new forces now being raised should at once be applied to prevent preventable diseases. It will be justly indignant if, owing to some punctilio of etiquette between Government departments and public services, these early days, all-important from the health point of view, are allowed to slip by without effective arrangements being made. It is impossible for a medical journal to undertake an inspection of all the stations of the Territorial Force, but in following out the mobilization of the forces in one district our representative saw enough to create the strong impression that while the sanitary organization at the head quarters of the division was good and was receiving careful and anxious attention, the condition in the smaller units at isolated posts was most unsatisfactory. There is an absence of combined action and a lack of executive sanitary authority.

The tone of the circular issued on August 31st by the medical officer of the Local Government Board to medical officers of health on the need for co-operation between civil and military sanitary services is not reassuring. It begins, "It is likely that during the next few months there will be occasions when the military forces will desire the assistance of the public health service," whereas the Territorials have desired it, or at any rate needed it, for the past month. The medical officer of health is told in the circular that he should assist the military authorities by advising as to water supplies, by helping to secure disposal of garbage, and satisfactory drainage, and by making provision for the hospitalization of ordinary infectious diseases, for the care of typhoid convalescents, and for disinfection. As to water supplies, medical officers have on their own initiative and at the request of the Territorial medical officers given advice, but, as to drainage and the disposal of garbage, local sanitary authorities may be expected to object, and there is evidence that they do, to spending ratepayers' money on work which is properly military, although their officers may be ready to give facilities to the military for doing it. Similar remarks apply to the questions of hospitals, of the disposal of typhoid convalescents and as to disinfection. Few rural districts are adequately provided in these respects, and such provision as there is is required to meet the needs of the civil population, which, if epidemics arise in the military forces, will be in grave peril.

The circular concludes by stating that "a medical inspector will consult locally as to prospective arrangements when the need for this is indicated." This is a rather ambiguous sentence. We believe that a medical inspector has visited the head quarters of some divisions, and it may be the intention to send medical inspectors to the head quarters of all divisions, but they are least wanted there, where there is strict discipline and a full staff.

It is especially and urgently necessary that all the posts of the Territorial Forces and all the places in which the new recruits are to be billeted should be inspected and plans carefully thought out for dealing scientifically with army camps of exercise that are to be formed; the plans in both instances should include a rigorous system of sanitary policing. At present there appears to be uncertainty as to the relative responsibilities of the several authorities and a lack of money, material, and labour to carry out the scavenging and general sanitary supervision necessary to keep camps and villages where men are billeted clean and in good sanitary condition.

The relative responsibility of the Local Government Board and local sanitary authorities on the one part, and of the military (including the Territorials) on the other, should be clearly defined. Under this head would come the sanitary organization and administration of the new armies that are being formed in response to Lord Kitchener's appeal, and are, in some places at least, to be put into camp.

We do not wish to minimize the difficulties of the Local Government Board in interfering either with military or with local public health administration, even in present exceptional circumstances, but unless it is prepared to take the matter up strongly and at once, it might be the better policy for it clearly to state that it will not take any responsibility; that would clear the air and make the military authorities, both of the Territorial Forces and of the new armies, understand the full weight of the responsibility on them.

On the other hand, the scheme of the Territorial Force includes a Sanitary Service. This consists of (*a*) Sanitary Companies, and (*b*) Sanitary Officers. In the *Army List* for August there are only two Sanitary Companies (1st and 2nd London). But under (*b*) "Sanitary Officers whose services will be available on mobilisation," there are over a hundred names, and most if not all of them are or have been medical officers of health. The idea was that they would be available to advise and direct each in his own locality, but apparently little use has been made of them, and some at least of those who are supposed to be on duty seem to have no authority and no men under them.

SECRET REMEDIES AND PHARMACY LAW AMENDMENT.

THE report of the Select Committee on Patent Medicines, coupled with the ratification by Great Britain of the International Convention on Opium, Cocaine, etc., serves to emphasize the urgent need for a radical reform of our pharmacy laws. It is true that at the moment domestic legislation must stand aside, and the word "international," first coined by

Jeremy Bentham, must for a while disappear from our vocabulary. Nevertheless, the Committee's report and the ratification of the convention constitute events which in time to come cannot fail to have an important bearing upon national and international control of the sale and distribution of potent drugs.

One generalization stands out quite clearly, and that is that the law in relation to poisons, drugs (whether officinal or non-officinal), to medicated wines, and other quasi-therapeutical paraphernalia, is obsolete and chaotic, and stands in need of radical review and drastic amendment, such new legislation to be conceived upon not only a national but an international basis. The Select Committee naïvely summarizes its conclusion of the whole matter in the disquieting pronouncements that "for all practical purposes British law is powerless to prevent any person from procuring any drug or making any mixture, whether potent or without any therapeutical activity whatever (so long as it does not contain a scheduled poison), advertising it in any decent terms as a cure for any disease or ailment, recommending it by bogus testimonials and invented opinions and facsimile signatures of fictitious physicians, and selling it under any name he chooses, on the payment of a small stamp duty for any price he can persuade a credulous public to pay." The Committee finds "that the Privy Council Office, though supposed to be specially concerned with the sale of drugs, has no initiative in the matter, and, in fact, it fulfils no useful function in this connexion," and that, in order to remedy this "intolerable state of things," it is necessary to invoke "new legislation rather than merely" to effect "the amendment of existing laws." They prefer "new legislation *ad hoc*" rather than the amendment of the various statutes which are now supposed to control the traffic in drugs. They would have a special Department of State to deal with the matter, and sigh for a Ministry of Public Health. A special court or Commission is advocated to sit in judgement on the claims made on behalf of "every patent, secret and proprietary remedy," the composition of which is to be disclosed, not to the public, but to the aforesaid Department or Commission. The public are, however, to be enlightened as to the proportion of alcohol in medicated wines, and the advertisement of medicines purporting to make what are regarded as impossible cures is to be prohibited. False or misleading therapeutic claims are to be punished, like false trade descriptions, under the Merchandise Marks Act, 1887, are punished here, or as "misbranding" is penalized in the United States.

Doubtless much discussion will ensue as to the nature of the amending legislation which may be consecutive upon the interesting report of Sir H. Norman's Committee, and it will be well to keep in view certain principles upon which such new statute law should be based. It will also be wise to study attentively and comparatively similar legislative efforts abroad and in our own dominions. Our present Pharmacy Acts date from 1852 and 1868, and the principles underlying them are akin to those laid down by Mr. John Stuart Mill in regard to the sale of poisons in the fifth chapter of his famous essay *On Liberty*. It may well be that modern opinion will be prepared to sanction in this sphere of legislation, as in general politics, a greater intervention of the State in the direction of protecting the individual against his own ignorance or folly. Mill himself was prepared to go no inconsiderable length when inducements were laid before the individual "to alienate his freedom." "The principle of freedom," he said, "cannot require that he should be free not to be free." Herein comes the special and exceptional claim for strict and resolute control over the traffic in so-called "drugs of addiction"—drugs, that is, that enslave the will and are the insidious foes to all freedom of volition. Against such drugs was directed the International Opium Convention now signed by nearly every civilized nation in the world, and already ratified by many of them. Its object, as expressed in Article IX, is to enable the contracting Powers "to enact pharmacy laws or regulations to confine to medical and legitimate purposes the manufacture, sale, and use of morphine, cocaine, and other drugs liable to similar abuse, and to co-operate with one another to prevent the use of these drugs for any other purpose." To this end such drugs of addiction are, from the beginning of their manufacture to their eventual sale to individuals, to be kept under Governmental supervision. We understand that a Departmental Committee has for some months been engaged in drafting the legislation necessary to give effect to these provisions. The report of the Committee on Patent Medicines comes opportunely to enforce the need for limiting by law "to medical and legitimate purposes" the use of drugs potent for ill as well as for good, and around the sale and advertisement of which enormous vested interests have grown up and flourished, and which it will require much determination and disinterestedness to overcome and destroy.

ON A HOSPITAL SHIP.

As the hospital ship is something of a novelty in naval warfare, it may be interesting to give some account of the staffing and equipment of such a vessel. The following extracts from letters from a young surgeon of the Royal Naval Reserve Volunteers who is serving on one of them may give an idea of the organization of this modern adjunct to the medical service of the navy. They will also show the spirit in which our young doctors have gone to serve their country. After announcing during the early days of August that mobilization orders had arrived and that he was starting to join a hospital ship, he says: "Everybody tells me that getting on a hospital ship is about the best job one could get, so I am very lucky. I hope to goodness we get away before any action is fought." In a later note he describes his ship: "They have certainly spread themselves in doing us well. We have beds for about 190 patients, and our medical complement is principal medical officer, 6 surgeons, 6 dressers, 4 nursing sisters, and about 40 naval sick berth nurses (males). We have two theatres—really quite nice considering, with lifts down from the main deck to the wards, laundry, etc., in addition. Our own cabins are very nice, large and airy, with electric fans. There is quite decent bathroom accommodation. She is quite a large ship, employed in peace time as a troopship, and ought to be a pretty good sea boat. The crew have their own doctor quite apart from us. There is no doubt about it that this is the billet to get in war time. Our principal medical officer strikes me as being a very nice man. Somehow he knew that I was senior resident at the ——— Hospital. On the whole I think I am in for a thoroughly good thing, and I hope I am able to make the most of it." After the ship had sailed for her destination he writes: "We have been very busy getting everything straight and ready for business. All things considered we are really fitted up very nicely. We have two operating theatres, over one of which I have charge, and I also, of course, have my own ward to look after. My quarters are extremely comfortable."

THE RED CROSS ABROAD.

ON August 13th President Wilson, as President of the American Red Cross Society, issued an appeal to the people of the United States for contributions to the Red Cross fund. On August 17th the Rockefeller Foundation made a contribution of £2,000 to the fund. A unanimous joint resolution was passed on August 18th by the National Congress authorizing the President to admit to American registry foreign built ships for use by the Red Cross. On August 19th the American Red Cross offer of relief had been accepted by Holland, Russia, France, Great Britain, and Servia. Among the first offers made to the French Government, says the *Boston Medical and Surgical Journal*, was that of the directors of the American Hospital at Paris to fit up a wing in a school at Neuilly as a hospital to accommodate 200 French wounded, and to provide a full staff of American physicians and nurses. On August 1st the municipal council of Moscow appropriated £1,000,000 for the Russian Red Cross Service. This service, which is one of the strongest in the world, comprises a board of administration, 8 boards of district administration, 509 local Red Cross committees, 60 communities of nurses, 90 ambulatory clinics, 6 emergency hospitals and 7 convalescent homes, besides numberless asylums and homes for the care of widows and children of soldiers. In Japan the permanent endowment fund alone is over £2,000,000. The estimated wealth of the French Red Cross Society amounts to nearly £1,000,000. In Austria there are over 63,000 members of the Red Cross, with funds estimated at about £217,000.

VITAL STATISTICS AND WAR.

WE learn from the *Medical Record* that the Department of Health of New York has recently issued a compilation of statistics which "explain why the Kaiser is able to put so large an army of young fighters into the field, and, perhaps, also indicate why Germany preferred fighting now to postponing the conflict." In 1880, it is stated, Berlin had the highest birth-rate of the large European cities—40 births per 1,000 of population. This lead it held from 1880 until 1893, at which time London took the leading place. In the following year the birth-rates in both London and New York were larger than in Berlin. "It is clear," says the *Bulletin* of the Department, "that the enormous birth-rate between 1880 and 1893 still shows its effect in the present German army, for all these individuals are now between 21 and 34 years old, and therefore constitute the flower of the fighting force. With the decline in the birth-rate, and especially since Berlin was passed by London in 1893, it must have been clear to the Kaiser that the prospects for a continuation of an overwhelmingly large army were becoming dimmed." The Napoleonic doctrine that Providence is always on the side of the big battalions is firmly implanted in the Teutonic military mind, and it is at least conceivable that those who direct the policy of Germany may have chosen the time to strike a blow for the mastery of the world before the shrinkage in the number of their "cannon fodder" began to make itself felt. It may be mentioned that in 1913 the birth-rate of New York was 26 per 1,000 of the population; of London, 23; of Berlin, 20; of Paris, 17; and of Brussels, 16.

MATERNITY BENEFIT AND OBSTETRIC TEACHING.

Mr. EDGAR S. KEMP read a paper in May before the council of the Charity Organization Society in which he analysed the results of an inquiry into the effects which the receipt of maternity benefit by patients had had upon the various institutions which dealt with lying-in women in London. The paper has been published in pamphlet form, and contains some information of importance in respect of the working of the maternity benefit part of the Insurance Act. It was found that there were nineteen institutions in London (apart from Poor Law infirmaries) which provided treatment for women in childbirth as in-patients or out-patients; of these five were lying-in hospitals, treating both in-patients and out-patients, two were maternity charities with out-patients only, and twelve were general hospitals with medical schools and with in-patients and out-patients in some instances, and with only out-patients in others. The five lying in hospitals were the institutions most affected by the maternity benefit section of the Insurance Act: in 1913 as compared with 1912 the in-patients showed a reduction of 12 per cent., and the out-patients of no less than 41 per cent.; it is to be noted that in each of these hospitals the money charge was increased, or one was imposed where none had been previously demanded. Further, three out of the five made a fixed charge. To whom have the women who have left the hospitals gone? The answer is that district midwives attached to hospitals are now treating privately numbers of women who are in receipt of the 30s., and who would previously have applied to the hospitals. With regard to the two maternity charities, one showed a drop of 61 per cent. in its patients, whilst at the other about as many cases were dealt with in 1913 as in 1912. At the latter the women always paid according to their means, but after the benefit became available they were charged more (10s. 6d. or 12s. 6d.); in the former no charge at all had been or was made, but the production of a "letter" was demanded. The explanation of the big falling-off in the numbers treated at this charity was, however, easily found; no women in receipt of maternity benefit were given treatment in 1913. The committee has, however, reconsidered its policy, and insured women are now dealt with free of charge on the production of a "letter." With regard to the twelve general hospitals, there was found to be a falling-off of 13 per cent. in the out-patients in 1913, but the in-patients varied only slightly. None of the twelve made a charge before the Act came into operation (except St. Thomas's, which made a small charge for in-patients), but three of them now make or propose to ask payment. The general result is that nine out of nineteen institutions are now making a charge; in three it is a fixed charge, in three payments are assessed after inquiry by an almoner, and in the three others payments are invited and accepted without inquiry. In the majority of the cases the contributions are paid by the patient or her husband; but in some instances payments are made direct by the approved societies, sometimes with the help of an almoner who assesses the amount. There would seem, however, to be doubt as to the strict legality of some of the ways in which moneys have been handed from the society to the hospital. Some of the secretaries of institutions which exacted no payments stated that many of the women were quite unable to part with any of the 30s., for "it was often car-marked already for back-rent, redemption of clothing from pawn," etc. With regard to the three methods of exacting or soliciting payment (the fixed charge, assessed payment after inquiry, and the simple invitation of contributions), Mr. Kemp does not state his preference, although he quotes one matron who reported very favourably on the third. After all, a good deal depends upon the necessities of the institution itself; if it has to supply cases for medical students and midwives pupils and is finding difficulty in so doing it will be tempted to make no charge and to exercise no discrimination. Mr. Kemp thinks it is doubtful whether the plea of keeping up the medical school is a sufficient excuse for some of the methods employed to attract cases; he is of opinion that a preferable plan would be the better allocation of the ground to be covered between the various competing institutions. He mentions the fact that a few square miles to the north of Oxford Street are served by four general hospitals, by a lying-in hospital, a maternity charity, the out-patient midwives of another lying-in hospital, and a women's hospital; certainly it would be

well if these various institutions were not jostling each other so closely. The report is of considerable value, and it serves to show that the coming of the maternity benefit has had a serious immediate influence upon maternity hospitals and the maternity departments of general hospitals, that the best way of adjusting these institutions to the new conditions has not yet been discovered, and that, in particular, the money difficulty has not yet been got over in a perfectly satisfactory way. It is doubtful if the money difficulty can be got over at all without a recasting of some parts of the Act.

THE LATER RESULTS OF SANATORIUM TREATMENT.

FOLLOWING its custom, established during the last few years, the Charity Organization Society has issued a further report[1] as to the present condition of the consumptive patients treated under its supervision in various sanatoriums since the year 1902. A total of 737 individuals have been discharged from these institutions up to the end of last year and of these no less than 48.30 per cent. are either at work or are fit for work. With each succeeding year the statistics must be affected by the deaths of those whose period of benefit has been short, but the fact that so large a percentage can be recorded after eleven years have passed, forms an effective answer to the pessimistic criticism of the work of the society which is too often forthcoming from those who have not taken the trouble to study the question. The report, which is drawn up by the Medical Advisory Subcommittee of the council of the society, presents many interesting statistical details; but it also contains some valuable comments which may appeal to practical workers with even greater force. The methods of selection of cases is simple. The opinion of an expert is relied upon before admission and the advice of the resident medical officer is followed before a patient is discharged. Thus every effort is made to apply sanatorium treatment only in such cases as present reasonable hope of benefit by it, and no restriction is placed upon the length of stay. In some respects the uninsured patient fares better than the insured. The latter, if he applies for sanatorium benefit under the Act, must of necessity become a marked man in his employer's eyes and hence such application is too often postponed until the time for effective arrest of the disease has passed and the sufferer becomes a permanent charge upon others. The insured patient with established disease may learn the lessons of hygiene in the institution, but thus far he is not placed under any effective home supervision. His panel doctor has too much to do to keep a watch upon the home conditions of all his consumptive cases, and even if he were able to do so, it rarely happens that such home conditions can be rendered truly hygienic. Under the Act, too, it must often happen that patients in very different stages of the disease are herded together in the same building or even in the same ward. The uninsured, under the society's plan, can generally secure earlier admission and obtain the full period of treatment which his case demands. He may sometimes be embarrassed for lack of decent clothes, but here again the society is able to give a helping hand. Yet another most important consideration is the condition of the teeth, not only on account of the supposed presence of the popular complaint known as pyorrhoea alveolaris, but on the more commonplace need for proper means of mastication. The society has rendered good service in the continued publication of its results and has certainly shown a strong case to justify its appeal for funds to carry on the work.

SANATORIUM REPORTS.

THE Society for the Prevention and Cure of Consumption in the County of Durham, founded in 1898, has recently issued its fifteenth annual report,[1] by which it appears that much good work has been done and that much more will have to be done to meet the existing demand in the county. Two sanatoriums are already established, at Stanhope and Wolsingham respectively, but during the past year the greater number of beds have been taken over by local authorities or Insurance Committees. Twenty beds are subscribed for by workmen, and a few are reserved for private patients. The average stay of each patient extended to thirteen or fourteen weeks, and the average weekly cost for each patient amounted to 21s. or 22s. The general results in early cases were satisfactory, and 48 out of 51 patients were able to return to work on discharge. Many of these, however, still showed bacilli in the sputum, and only 13 could be classed as cured. Tuberculin was not used in a sufficient number of cases nor in a sufficiently systematic manner to warrant any deductions as to its real effect. The medical officers rightly urge a strong protest against the admission of advanced cases, and advocate segregation apart from others either in hospitals or special homes. Their inclusion in a sanatorium brings discredit upon the treatment, and they derive no real benefit from it. They occupy the places of those who might so benefit, and they depress their fellow patients. The time must soon come when the advanced consumptive will be placed under some form of State control. It is only such cases as are daily distributing bacilli that can reasonably be regarded as a danger to the community. An interesting report,[2] furnished by Dr. Prest, the Superintendent of the Ayrshire Sanatorium, affords statistical and other evidence for comparison. Opened in 1906, this institution has received 702 patients up to March last. They have for the most part been kept under treatment for about five months, and the results among cases of incipient disease show a working capacity of 83 per cent., while 48 per cent. of the whole number of cases were reported as well and working up to last April. Far too many cases had already reached the incurable stages before admission. It would seem that the incidence of pulmonary tuberculosis among school children in Scotland is higher than would appear from published figures. The length of stay in the sanatorium is determined by the class of case, and where recovery of health is probable a much longer period of treatment is undertaken than in the more advanced case, where relief only can be looked for. The weekly cost for each patient works out at a little over 27s., and expenses seem to be decreasing rather than the reverse. Much support from various parts of the county, both in money and in kind, has enabled the managers to provide adequately for the present requirements of the consumptives in Ayrshire.

PORTSMOUTH MUNICIPAL DISINFECTANT STATION.

THE county borough of Portsmouth has followed the example of the metropolitan borough of Poplar and laid down a plant for the manufacture of disinfectant fluid by means of electrolysis. The method of production, as described by Dr. Mearns Fraser, the medical officer of health, is by running sea water in at the top of a series of four narrow tanks and allowing it to flow slowly through each of these to the outlet pipe. In the tanks it is forced by several weirs to come into contact with a series of electrodes by which it is exposed to an electrical current of about 40 ampères and 120 volts. The resultant fluid is discharged at the outlet pipe at the rate of 25 gallons an hour, and after the addition of a small amount of fixing solution the disinfectant is ready for use. In addition to its disinfectant qualities the fluid is a powerful deodorant. In experiments carried out with some of the most stinking

[1] The Sanatorium Treatment of Consumption. A Report of the Charity Organization Society's work in the years 1902-1913.

[1] Fifteenth Annual Report of the Society for the Prevention and Cure of Consumption in the County of Durham. Sunderland: 1914.

[2] Sixth Annual Report by the Medical Superintendent of the Ayrshire Sanatorium, 1914.

and decomposed organic material that could be obtained the effect was instantaneous, and the foul odours were at once destroyed. The disinfectant should, therefore, be especially useful for cleansing urinals. The capital cost of the Portsmouth installation was £678, and it is estimated that the annual cost entailed will be £210. Considerable economy will be effected in the use of the plant, for the annual expenditure in Portsmouth upon disinfectants is now about £700.

THE ACCOMMODATION OF HOP-PICKERS.

It is probable that no industry will be less interfered with owing to the military conditions now prevailing than that of hop-picking. Comparatively few able-bodied men are required in the hop-yards during the picking season, and the vast majority of those employed in actual picking are women and children. The reports from the hop-growing counties, both in the east and the west, indicate that there will be plenty of employment in this direction for some weeks, and the money earned should go a long way towards relieving distress among a certain proportion of the working classes. The incursion of many thousands of poor people into the hop districts necessitates for them the provision of sleeping and other accommodation, and there is no doubt that in many cases this has been and now is of a very indifferent character. Particular attention has been given in recent years, not only by the local authorities but also by the Local Government Board, to the improvement of the conditions of the hop-pickers, and there has just been issued by the Board a report[1] on inquiries made during 1913 by Dr. Reginald Farrar, one of the Board's medical inspectors. Comparing the result of his investigations with those made in previous years, Dr. Farrar considers there has been a distinct improvement in many respects. There are about thirty rural districts within whose areas of administration hop-yards are to be found, and all but three of these have adopted by-laws regulating the accommodation of the pickers. If these are properly enforced a great deal may be done in the way of improvement. There are still, however, many places where the sanitary accommodation is either entirely wanting or sadly defective; where the scavenging around the quarters occupied by the pickers is neglected; where water supplies are deficient in quality and quantity; and where there is no proper provision made for cooking. One of the most important and practical of Dr. Farrar's recommendations is that inspection of the quarters should be made several weeks before the picking begins, and that for this purpose where necessary additional inspectors should be appointed.

MR. SAMUEL stated in the House of Commons on Wednesday that the Government had offered to refugees from Belgium the hospitality of the British nation. We understand that among the refugees are a certain number of members of the medical profession or their wives and children. All such cases hitherto found have been dealt with by the private efforts of medical men in London, but whether there are other similar cases cannot at present be ascertained. The Editor would receive the names of any medical men who would be willing to help should occasion arise.

[1] Reports to the Local Government Board on Public Health and Medical Subjects. Dr. Reginald Farrar's Report on the Lodging and Accommodation of Hop-pickers. (New Series, No. 99.) London: Wyman and Sons, Ltd. (39 pp. 6d.)

ACCORDING to the *Boston Medical and Surgical Journal*, the New York City Health Department received on August 4th a cablegram from the Serum Institute of Vienna requesting the immediate delivery of 50 litres of tetanus antitoxin for use in the Austria-Hungarian army. This amount exceeded the supply on hand, but an order was sent to the laboratory at Otisville, where the antitoxin is prepared, to furnish the desired quantity as promptly as possible.

THE WAR.

THE PROTECTIVE INOCULATION OF TROOPS.

THE important letter published below is signed by some of the leading men of science in this country, and the number of names might, we are given to understand, easily have been largely increased had there been more time, and had not some of those very willing to sign been already engaged in various military capacities, so that they feel themselves excluded from addressing the public direct. It will be seen that the signatures include those of many of the most distinguished men who have themselves made important contributions to the particular department of pathological science concerned with protective inoculation, as well as those of senior men of scientific eminence who are well qualified to appreciate the value of the work done by the younger school.

SIR,—At this momentous crisis in the history of the empire one plain and simple duty is incumbent on the people of this country. It is to see to it without delay that the health and lives of our brave soldiers and of all the volunteers who are so nobly coming forward at their country's call to form new armies should be adequately protected against avoidable and unnecessary risks.

The gravest of all risks in time of war is that from devastating epidemics of infective disease. In the South African war there were more than 57,000 cases of typhoid fever. Of a total of nearly 22,000 deaths from all causes, over 14,000 were deaths from disease; 8,000 of these were due to typhoid fever, the deaths from this disease thus outnumbering all the losses due to wounds.

But it is not at the seat of war alone that danger exists. Among the men now collecting into camps at home or billeted about the countryside the same risk is present. Some of them are practically certain to be typhoid carriers, for about 3 per cent. of all cases of typhoid fever become chronic carriers. Hence an epidemic may arise at any moment under service conditions.

This danger can be obviated by means of antityphoid inoculation. The fact is proved beyond question, and the data are indisputable. In the British garrison in India, where about 93 per cent. of the men are now inoculated, the deaths from typhoid fever have been reduced from several hundreds per annum to less than twenty. In the army of the United States, where inoculation against typhoid is compulsory, there were last year among 90,000 men only three cases of typhoid fever and no deaths.

In the army of our French allies also antityphoid inoculation is compulsory. But in our own army, as Colonel Sir W. B. Leishman stated a few weeks ago, "antityphoid inoculation remains, unfortunately, on a voluntary basis;" and the Army Medical Department still has to proceed even in this time of war "by persuading officers and men first of the reality of the danger of typhoid fever; and, secondly, of the protective value of the vaccine." Yet even in the Turkish army, as has recently been stated, the soldiers are now not only vaccinated against small-pox, but also inoculated against cholera and typhoid immediately upon enrolment!

Besides the risk of epidemic typhoid fever, the danger of dysentery and cholera cannot be ignored in a war which involves the greater part of Europe, and in which troops from Russia and from the Balkans will continue to take part. Of ominous significance is the news published in the *Times* of September 5th that cholera has already appeared in Anatolia.

We therefore strongly urge that the time has now arrived when inoculation against typhoid fever ought at once to be made compulsory throughout our forces; and when the Army Medical Department should be given full discretionary powers to carry out such other protective

inoculations as they may from time to time deem necessary or advisable.—We are, etc.,

CLIFFORD ALLBUTT.
JAMES BARR.
WILLIAM BULLOCH, M.D., F.R.S.
W. S. CHURCH.
G. DREYER.
DYCE DUCKWORTH.
ARCH. GEIKIE, O.M., K.C.B., Past President, Royal Society.
RICKMAN J. GODLEE.
W. P. HERRINGHAM.
E. RAY LANKESTER, K.C.B., F.R.S.
FREDERICK W. MOTT.
ROBERT MUIR.
MOULTON.
WILLIAM OSLER.
RICHARD DOUGLAS POWELL.
JAMES RITCHIE.
SEYMOUR J. SHARKEY.
C. S. SHERRINGTON.
E. W. AINLEY WALKER.
A. E. WRIGHT.

September 7th.

AN APPEAL BY SIR ALMROTH E. WRIGHT.

Sir Almroth Wright, in a letter to the *Times* dated September 3rd, from the Department for Therapeutic Inoculation, St. Mary's Hospital, Paddington, W., made a forcible appeal, in the course of which he said:

If it be permissible for the author of a method to recommend it for compulsory adoption, I would wish very earnestly to support that suggestion and to urge that every soldier should before proceeding abroad be inoculated against typhoid fever.

The absolute necessity of making provision against this disease by inoculation is now a commonplace of military hygiene. It is, however, as yet only the few who appreciate that in war the deaths caused by bacterial infections are many times more numerous than the deaths caused by the direct act of the enemy. Professor Koch reckoned them to stand in war in the proportion of 10 to 1. But the wastage from bacterial disease is greater than that. For ordinary wounds incapacitate chiefly by opening the way to bacterial infections taking the form of suppuration and blood poisoning. Against these also our army ought to be protected, and it is in connexion with wound infections—one of the things that has been placed beyond dispute—that these can, if taken in time, be rapidly controlled by the appropriate vaccines.

To ensure that this method of prevention should have a chance all that is required is to create a general demand for its application. The required "antisepsis vaccine" is available. In this connexion it is perhaps allowable to state that this department, which is presided over by Mr. Balfour, and which owes a great deal to the generous aid of Sir Ernest Cassel and a few others, has within the last three weeks supplied gratuitously to our army and navy, and also to the French military hospitals, a total of 180,000 doses of "antisepsis vaccine." In addition this department has, by working long hours in response to a War Office request, furnished, as a contribution, for the use of the army, nearly 280,000 doses of antityphoid vaccine.

TYPHOID FEVER AND OUR TROOPS.

The Presidents of the Royal College of Physicians (Dr. J. J. Graham Brown) and of the Royal College of Surgeons of Edinburgh (Professor Francis M. Caird) have published in the *Scotsman* the following letter, dated September 7th, a copy of which they have forwarded to us for publication:

On several occasions recently reference has been made in the press to the advisability of inoculating our troops against typhoid fever before sending the men abroad.

The high necessity of this procedure does not appear to be sufficiently recognized. Yet our experience in the South African war showed that, were typhoid fever to break out among such masses of men, it would destroy many more lives than the fire of the enemy could do.

So necessary and so effective is this precaution, that we would press on all commanding officers the importance of seeing that inoculation is widely carried out, especially in the case of all men who are likely to be sent abroad. It should, in our opinion, be made compulsory.

However, for reasons which are known to those most experienced, inoculation ought to be performed at least a fortnight before the man leaves this country. The procedure is simple, and but little inconvenience is suffered.

We know that the officers of the Royal Army Medical Corps are overburdened with work at present. They are doing what they can. To save them this additional work we suggest that arrangements could be made so that Fellows of our respective Colleges would undertake the task of inoculation.

The Laboratory of the Royal College of Physicians is prepared to supply the necessary vaccine, and when the organization is complete we calculate that many hundreds of inoculations could be performed each week.

This matter is not only extremely important but also very urgent.

ORGANIZATION REQUISITE.

We have received from a physician (whose name would command the respect of the profession were we permitted to publish it, but we are not because he is on military duty) a private communication of which we feel at liberty to indicate the general purport. It independently corroborates the importance of the practical point made by Dr. Graham Brown and Professor Caird.

Our correspondent comments on the need of working out a practical method of inoculating a large number of men; 100,000 men require at least 200,000 injections. Each injection, if properly carried out, requires time and care. The skin has to be carefully cleansed, and the needle for each injection has to be sterilized.

He formed the opinion that in the various chief centres of the country small groups of medical men, including laboratory workers, should be organized who would be ready to go on short notice to any place where Territorial troops were stationed to inoculate men who had given the medical officers of the force their consent to inoculation.

Recently our correspondent had an opportuity of putting the plan to the test. The medical officer of a corps which had been warned for foreign service addressed the men, strongly advising them to be inoculated. Striking the iron while it was hot, he communicated with our correspondent. A body of doctors, including several pathologists and laboratory workers, drove over to the camp in motor cars and inoculated some 500 men. He found that it took ten medical men—accustomed to such work—nearly two and a half hours to make the 500 inoculations. The same party will shortly make the second inoculation for these men. The work is very tedious, and if any one worker had overmuch of it to do he might easily get careless in sterilizing the needle and cleansing the arms.

He considers that, if the work is to be done on a large scale voluntarily, the men must be done in large batches; when they see their comrades coming forward they do not like to be left out, but it has to be remembered that the arm may be painful for a short time, and there may be some general malaise for a day or two. For this reason alone, if only small batches were inoculated daily by the medical officer in charge, volunteers might be discouraged.

[In this connexion readers may refer also to the Memorandum on page 470.]

NURSES.

SIR,—In the letters recommending antityphoid inoculation for all soldiers I see no mention of nurses, for whom it is even more essential. If our own army statistics prove anything, and if the American claim is sound that by inoculation they have so utterly wiped out enteric in their army that not a single death occurred in 90,000 men during twelve months, surely no nurse ought to be allowed to attend on typhoid patients unless she is inoculated. We all know how many nurses become infected, and how easily accidents happen when a nurse is hard worked and has many patients to attend to. Is it not time to insist that every typhoid nurse should be advised to receive protection whether she is working in a hospital or privately? The present state of things is not fair to them or to their patients.—I am, etc.,

Clifton, Bristol, Sept. 8th. G. PARKER, M.D.

THE BRITISH RED CROSS SOCIETY.

Relief to Minds as well as Bodies.

ONE of the surgeons of the Belgian unit of the British Red Cross Society who managed to escape from Brussels, where the other members are still detained, has brought some interesting news to London this week. Two British Red Cross nurses and one surgeon were allowed to be on duty at the railway station when a considerable number of British prisoners were passing through on the way from Belgium to Germany. In many hundreds of households in this country great anxiety must be caused by the publication of casualty lists owing to doubt whether soldiers described as "missing" are dead, wounded, or captured. The British Red Cross surgeon has been the means of relieving anxiety on this score in many homes. He was allowed to take the names and home addresses of every British prisoner passing through Brussels during several days, and the Society immediately communicated with the families, assuring them that the missing men, though prisoners, were sound and well. The surgeon, who has returned to England and who took the names of the prisoners in Brussels station, states that the men are well treated by the Germans.

German Attitude towards Red Cross Work.

There are no fewer than 102 British nurses in Brussels without any work to do; twenty of them belong to the Society, the others having been sent out by other organizations. The capture of two British Red Cross surgeons who were proceeding to the front at the request of the Belgian authorities, and the fact that they are still prisoners, no communication having been made as to their whereabouts, throws an unpleasant light on the spirit in which the Germans treat the Geneva Convention.

The Unit in France.

The French unit of the British Red Cross Society landed at Cherbourg, and has made its way northwards to get into touch with the British base. It is composed of twenty hospital-trained nurses, ten surgeons, and ten dressers. Lord Brassey has been kind enough to place his famous yacht, the *Sunbeam*, at the disposal of the Society for any service at home or abroad.

THE MEDICAL SERVICE OF THE NEW ARMY.

S. H. B. writes: I wish to support the excellent suggestion on page 164 of the SUPPLEMENT for training medical officers for the new army. I served as civil surgeon in the South African war, but had no special instruction whatever. I went out on a hospital ship with six or seven other civil surgeons. We had three weeks of absolute idleness on the voyage out. There was a major of the R.A.M.C. on board who certainly might have given us some idea of what would be expected of us. But we did not even accompany him on his daily round of inspection, and it was not till I had been for several months in medical charge of a regiment that I learnt that one of my duties was to inspect the cooking utensils and see that they were kept clean. Probably I never discovered what some of my duties were.

Mr. W. MCADAM ECCLES (Major R.A.M.C., T.F.) writes: The suggestion made in the SUPPLEMENT of September 5th that a special committee of medical men acquainted with army medical methods should be formed at once so as to organize the instruction of a number of the medical profession is an excellent one. It is not generally known that at least 350 officers of the Royal Army Medical Corps are needed for every 100,000 of troops. If medical men who are entirely ignorant of the military routine and the special drill of this corps are given commissions, much valuable time will be lost before they become efficient. If, therefore, competent lecturers could be appointed, say, by the British Medical Association in the larger centres, many medical men ready to offer their services could easily gain this preliminary training at once.

Dr. JOHN MUIR (Retired Captain, R.A.M.C.T.) writes:

I think that the suggestion in last week's SUPPLEMENT that the Association should serve as an auxiliary to the War Office is an excellent one.

I am one of many who have had some experience of R.A.M.C. work in the Territorial Force in past years, but whose present civil duties prevent from volunteering services whilst there are younger men available who are equally fitted professionally, and who are more free from responsibilities—personal and civil. But if there be any suggestion of shortage of medical officers, or if posts exist for which previous experience render such men especially fitted, we would at once offer ourselves.

The British Medical Association might well then get in touch with the Medical Department of the War Office, find out their wants at present and as time proceeds, and act as a bureau of information to members of the profession fitted and anxious, as we all are, to serve our own country in this time of emergency.

A classified register could be kept, as suggested, to which the War Office would have access, and from which they might select men to meet their requirements at any time.

I shall be pleased enter my name, with particulars of experience, on such a register immediately it is decided to open one.

I am meanwhile endeavouring to find out otherwise whether, and how, I can be of service, but it is difficult to obtain any definite information. Replies to each individual applicant can hardly be expected at present, but collective information might readily be obtained by the Association acting as suggested by your correspondent.

AN APPEAL FOR AMBULANCE OFFICERS.

Urgent.

SIR,—Eleven officers (medical men) are required to complete the establishment of the 3rd East Anglian Field Home and Foreign Service Ambulances.

Applications stating age should be sent here *at once*.—I am, etc.,

A. GRAHAM, M.B.,
Captain,
Acting O.C., 3rd E.A.F.A.,
Home Service.

Head Quarters,
3rd East Anglian Field Ambulance,
Church Hill, Walthamstow.
September 9th.

NOTES.

SCOTLAND.

Medical Service Emergency Committee.

THE following is the text of a model undertaking drawn up by the Scottish Medical Service Emergency Subcommittee for the signature of any medical practitioner sent to take up work in any place through that committee. At present there does not appear to be any serious pressure, but when winter comes on it will not be possible for a man to do the work of two practices as many are doing now. The motto, "Business as usual," which we see on every hand applies to medicine as well as to commerce. A man may serve his country just as well by attending to the needs of the civil population as by going to the front. At the present time there are, we are told, a number of men waiting for military employment who might put in their time in assisting in the medical work for the civil population. In Scotland, all such should send their names to the convener of the Medical Service Emergency Committee at the Royal College of Physicians, Edinburgh.

SCOTTISH MEDICAL SERVICE EMERGENCY COMMITTEE.

Royal College of Physicians,
Edinburgh.....

Dear Sir,—In asking you to agree to act as *Locum Tenens* for Dr....., I feel sure that you will not misunderstand the request that you should give the undertaking referred to below. It is obviously the duty of the Committee to take all reasonable steps to prevent any difficulties arising later. UNLESS IT IS OTHERWISE ARRANGED BETWEEN THE PRACTITIONERS CONCERNED IN WRITING, each *Locum Tenens* acting under the present arrangements shall, by the very fact of his so acting, be held to agree not to practise as a Physician, Surgeon, or Apothecary in the town in which he is acting for the regular practitioner, or within the distance of seven miles from such town—or from the regular practitioner's house where it is not in a town—for a period of five years from and after the date when the regular practitioner returns to work or ceases to serve with the colours from whatever cause; and to join with the regular practitioner or his representatives in submitting all questions that may arise in connexion with the practice to the Presidents for the time being of (*a*) the Royal College of Physicians of Edinburgh; (*b*) the Royal College of Surgeons of Edinburgh; and (*c*) the Royal Faculty of Physicians and Surgeons of Glasgow as joint arbiters; and to abide by their decision.

If you agree, please sign the docquet below and return this circular to me, when I shall have it stamped as a binding Agreement.

I am, Yours faithfully,

.....

I confirm the terms above set forth in connection with the practice of Dr. ..... of which I agree to take charge as *Locum Tenens*.

Sign as follows:—
"Adopted as holograph, ⟶
JOHN SMITH, M.D."

.....

Signature .....

Date .....

IRELAND.

Dublin.

The large majority of the principal hospitals in Dublin have made arrangements, or are making them, to place from 25 to 50 beds each at the disposal of the military authorities. The Jervis Street, Meath, and the Royal City of Dublin Hospitals are each allotting 30 beds, Mercer's Hospital 25, and Dr. Steevens's Hospital has offered 30 beds immediately and another 30 if required. Most of the hospitals have also sent both nurses and doctors to the front. A member of the visiting surgical staff of the Royal City of Dublin Hospital is at present with the 1st Field Hospital, in company with the assistant physician and pathologist. The æ-rayist has been called up with the Reserves. The dentist has left to join his company in the Territorials, and the doctor in charge of the Nose and Throat Department has gone to the front as a civil surgeon. The house-surgeon was one of the first to leave Dublin, having obtained a commission in the R.A.M.C.; some twenty students of the hospital, most of whom have been resident pupils, and were recently qualified, have either obtained commissions in the R.A.M.C. or posts as civil surgeons. Three nurses, including a sister, have already left, and seven more are expecting to receive orders to proceed at any moment. A class of lady probationers has been admitted for a month's training, and it is expected that a further class will be formed as soon as the present course is finished.

A good deal of disappointment has been caused by the receipt of a notification from the head quarters of the British Red Cross Society, stating that the third and fourth Red Cross units organized in Dublin would not be required, at any rate for the present.

CANADA.

[From our Correspondent.]

Throughout the country there is evidence that the people of Canada are anxious to do their part and to help the Mother Country in every possible way. War is upon us, and response to the call to arms is heard from every part of the empire. The first Canadian division is mobilizing at Valcartier. In it is included a medical corps of fifty officers and men, and in the medical personnel of the militia are over 700 officers ready for service—one in every ten of the physicians in the country. Inoculation against typhoid is being carried out systematically, and although it is not compulsory, no objection appears to have been made by the men. The vaccine used is all supplied by the Ontario Board of Heath, and is obtained from a bacillus supplied by Sir William Leishman. Thus the inoculation will be uniform, and the results, apart from their first intention, should be of great statistical service. The women of Canada are engaged in raising funds to be used as the British authorities may deem best, and provision is being made for the care of those dependent upon the men who have joined the allied forces. At a recent meeting of the Toronto Academy of Medicine it was decided that members should undertake without charge the professional care of such needy dependants, and it is probable that some such action will be taken throughout the Dominion.

PORTSMOUTH.

There are some 140 patients in the 5th Southern General Territorial Hospital. A few sick Territorials have been admitted since the reception of the wounded and sick from the army on foreign service on September 1st. Medical cases (chiefly rheumatism) preponderate. There are but few wounds from rifle bullets; the larger number were produced by shrapnel. One death has occurred from acute tetanus following a shrapnel wound in the leg. There are no cases of sword or bayonet wounds or of severe sepsis. The soldiers have settled down very comfortably in their new quarters. Many luxuries that are good for sick folk have been given. There are ninety nurses, all with three years' hospital training, who are under Miss Alcock, Matron of the Royal Portsmouth Hospital, as the principal matron. The male personnel consists of ninety non-commissioned officers and men.

The military authorities consider that one emergency hospital is sufficient for the present, consequently two council schools which had been requisitioned and prepared as a Territorial hospital and Red Cross hospital respectively will not be utilized. School duties have been resumed in them, but all the hospital equipments are stored and kept ready for use in case it becomes necessary to increase hospital accommodation here.

A further batch of wounded (about eighty) arrived at the Alexandra Hospital, Cosham, on September 8th. The cases did not appear to be of a very serious character. There were no officers amongst the party.

A DIVISIONAL MOBILIZATION.

The following notes concerning the mobilization of one particular Territorial division are, we believe, typical, and will be of general interest. A Territorial division is a very complex body. All its members lead—from the date of mobilization—what is for them an abnormal existence, but their actual occupations vary very largely according to the nature of the units that they help to form, so it would not be easy to draw any but very broad conclusions as to the health effect of their common duty—namely, soldiering, but at a great distance from any opposed force—from the personal experience of individuals or individual units. This is the more obvious when it is remembered that, though a Territorial division is made up mainly of infantry battalions to the number of about 12,000 men (distributed in three brigades, each consisting of four battalions), its whole personnel is brought up to about 18,000 by the addition of mounted infantry, field and heavy artillery, engineers, ammunition and supply columns, and field ambulance units.

On the issue of the mobilization proclamation officers and men began to report themselves at the stations to which they had previously been allotted. Here the various units which they severally helped to make up were embodied, and then were gradually brought together in the neighbourhood of the town which had previously been selected as head quarters for the time being. Meantime, the training of each unit had been proceeding, the men being either billeted on the inhabitants of villages and small towns or kept under canvas.

When the different units had been assembled together into a division in being, it was found that the town previously chosen as head quarters—an average country town with a population of about 30,000—did not lend itself well to the suitable billeting of so considerable a force, so for billeting purposes the units were again separated. Some remained in the town itself, while quarters were found for others in two village suburbs. In either case the accommodation was of the same general order, some individuals being told off to private residences, others to barracks improvised by the transformation of schoolrooms, railway sheds, and public halls.

After a time the housing system, so to speak, was again changed, the whole division being placed under canvas on different convenient pieces of open ground in the neighbourhood of the town. This was not the last change, since about a month after mobilization the whole division — this time for purely strategic reasons — was moved away to a larger town of manufacturing type. In this town, which seems likely to be the division's head quarters for some time to come, the men have settled down very happily to their strenuous life. A large proportion are in private houses and the rest in various public buildings and secondary schools. The rule is lights out at 10 p.m. and no soldier is allowed to be served in a public-house before noon or after 8.30 p.m. The food all through has been ample in amount and fairly well cooked, and in the case of men billeted in private residences the regulation allowances have often been supplemented by the hospitality of the hosts. (The payment is 9d. a day for non-commissioned officers and men and 3s. a day for officers.) The various changes of station in respect of the division and its units have

thrown a great deal of work on the medical and engineering officers of the force in the matter of providing adequate latrine and other accommodation, and they have received much courtesy and assistance from county, borough, and local Medical Officers of Health. The men of the division received much kindliness from the inhabitants of all the towns and villages through which its units passed. Ladies, for instance, have helped the men in the matter of laundry work and the mending of clothes, and at the first head quarters the house-surgeon of the county hospital afforded men belonging to the ambulance units opportunities of visiting the casualty department and picking up knowledge regarding the practical treatment of injuries. A like course is being followed at the principal hospital of the present head quarters of the division, batches of ambulance men being admitted to the casualty department and even to the operating room.

At the first head quarters, cases of any importance were sent to the civil hospital, where they were received free of charge. At the present head quarter town a like arrangement exists (the actual cost of maintenance being charged) but in addition a building has been placed at the disposal of the medical staff to receive cases of minor importance and those still awaiting diagnosis. It is administered by half sections from each field ambulance.

From the date of mobilization up to the present the sickness rate has been very low (approximately 3 per cent.), and, save for a few cases of pneumonia, sore feet and slight accidents have furnished the majority of the patients. Curiously enough, considering the age of the persons concerned measles has given some trouble, so too has mumps. Men thus affected have been sent to civil isolation hospitals and the contacts kept apart from the rest of the troops. The lowness of the sickness rate is the more satisfactory because the men are living in totally novel conditions, and doing a very great deal of hard and often unaccustomed work and yet meantime are getting daily fitter in point of physique, and each man—including those of the ambulance units—more expert in the duties of his present life. The experiences of this division hardly justify the drawing of any conclusion as to the respective advantages of billeting men in private houses and keeping them under canvas. While billeted men certainly enjoy a greater degree of comfort, those under canvas seem perfectly happy and rapidly improve in physique. Still, when cases of infection occur, it is easier to deal with them without interfering with training when the patients are men billeted in private houses, and it is an open question whether any large body of men continuously kept under canvas would after some weeks figure well in respect of sickness returns. This at least is certain—only by the most unremitting attention to sanitation would a camp of any size remain healthy. The liability to an increased sickness rate would be very greatly augmented by the same camping ground being used by several different bodies of men in succession.

Medical Examination of Recruits.

The information which reaches us from various quarters points to the existence of a certain amount of confusion and misunderstanding with regard to the medical examination of recruits for the new armies. Conditions have been relaxed, but the degree of the relaxation does not seem to have been defined with sufficient clearness. This has an unfortunate effect in two directions: in the first place, recruits may be rejected at one office who would be accepted in another; in the second, if the examination is, as some recruiting officers seem to expect, perfunctory, men will be accepted who will be almost certain to break down before their training is completed. At the present moment especially, with eager recruits who find it difficult to gain admission to the units they prefer, this is doubly unfortunate. While in the present crisis no man should be rejected without good cause, no man there is good cause to reject should be accepted.

The most recent appeal by Lord Kitchener merely stated that:

"The age limit has now been extended, and any man may be accepted who is physically fit for active service, and between 19 and 35."

Further Casualties in the Medical Service.

The casualty lists published since our last issue contain the names of the following medical officers:

Navy.

Seriously Wounded.

Smyth, Staff Surgeon Thomas Aubrey (*Pathfinder*).

Army.

Killed.

Williams, Captain A. S.

Wounded.

Holden, Captain C. W.
Leckie, Captain M.
McConaghy, Captain W.
Morrison, Lieutenant W. K.
Perry, Captain H. M.

Missing.

Bell, Lieutenant T. H.
Brown, Captain G. H. J.
Brunskill, Major J. H.
Butler, Lieutenant P. P.
Crymble, Captain W.
Davies, Lieutenant E.
Davy, Captain P. C. T.
Dwyer, Captain P.
Edmunds, Captain C. T.
Graham, Captain J. H.
Hamilton, Captain E. S. B.
Hildreth, Captain H. C.
Kelly, Captain H. B.
Long, Major H. W.
Nelson, Lieutenant M. K.
O'Carroll, Captain A. D.
Rees, Captain G. H.
Shields, Lieutenant H. J. S.
Sinclair, Captain M.
Smales, Captain W. C.
Vidal, Captain A. C.

ORGANIZATION OF THE RELIEF OF DISTRESS.

Supplemental to the circulars noticed last week (p. 165) issued for the guidance of bodies concerned with the relief of distress arising in consequence of the war, the Local Government Board has drawn up a memorandum explaining for the general information of the public what the Government does for the families of soldiers and sailors. The document will be indispensable to any concerned with the administration of relief. It unfortunately bears out the criticism frequently made of late—that the separation allowance for the dependants of private soldiers, even when supplemented by the maximum sum a soldier can send home, does not reach the figure which social students have declared to be the minimum upon which town life can be supported. Nor is the separation allowance available to dependants other than wives and children. In regard to the payment of separation allowances it has been arranged that where the wife consents, or it is considered desirable, payment may be made weekly through a local relief committee.

The Government Committee on the Prevention and Relief of Distress has appointed inspectors, each to act as intermediary between it and a limited number of local committees. Experienced officers of the Local Government Board, the Board of Education, and the National Insurance Commission are to serve as inspectors.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

The Insurance Commission and the Medical Profession.

At a recent meeting of the County Cork Local Medical Committee a resolution was passed unanimously

approving of the proposal that the Irish medical practitioners should render every assistance in our national emergency to the Volunteer Medical Aid Associations, but at the same time calling the attention of the public to the fact that the Irish medical profession is at present ignored and insulted by the Irish Insurance Commissioners and some leading officials of approved societies in connexion with the medical administration of the Insurance Act.

It may be necessary to explain that while the Irish doctors are always ready to discharge their duties as citizens of the empire and as members of their profession, they strongly resent the insult and injustice offered them by the Irish National Insurance Commission—a Government department—whose attitude towards the Irish doctors is that they are "too dishonest" to be allowed to discharge under the Insurance Act those duties of medical certification which are entrusted to their colleagues in Great Britain. In some localities in this country the doctors have resented the insult and injustice inflicted on them at the hands of the Irish Insurance Commissioners by refusing to associate themselves with the Volunteer Medical Aid Association; though this is regrettable, it can

scarcely be wondered at, when the provocation they have received is considered. There is some reason to fear that the Irish Insurance Commissioners intend, under cover of the war crisis, to continue their present insulting and offensive campaign against the Irish doctors, notwithstanding that such a reckless and injudicious policy of a Government department must have a damping effect on the enthusiasm of Irish doctors who have gratuitously placed their professional services at the disposal of the Irish Medical Volunteer Aid Associations.

CANCER CURE.

An inquest was recently held near Clones, co. Fermanagh, touching the death of a woman, aged 56, who died two days after admission to the Fermanagh County Infirmary. The evidence showed that the deceased had been told by a doctor two years previously that she had cancer of the breast; he advised her to have it removed. She had then consulted a woman who was reputed to have a cancer cure, and received three plasters from her in the course of two months; she then became so weak that she consulted Dr. Fitzgerald, of Newtownbutler, who sent her into hospital at once. The woman who had treated the case gave evidence to the effect that she had a cancer cure which had been in her family for a long time, and that she had cured hundreds of people; the cure consisted in the application of a plaster she made herself, and she gave no internal medicines. When asked if arsenic was an ingredient, she said she preferred not to say what the ingredients were. She charged 10s. for a small plaster to cure; in this case, the plaster being large, she charged the deceased £1. The *post-mortem* examination showed a large abrasion on the right mammary gland, about 7 in. in diameter, which bore the appearance of having been caused by the application of a caustic. The brain, heart, and lungs were healthy. The mucous membranes of the stomach and intestines showed marked traces of congestion and inflammation. The inquest was adjourned in order to have an analysis of the viscera made. At the adjourned inquest a verdict of "Death from arsenical poisoning" was brought in, based on the expert evidence of Professor McWeeney, who found arsenic in the stomach, liver, duodenum, kidney, and rectum, and a considerable quantity in the diseased breast.

HEALTH OF BELFAST.

Dr. Bailie, the medical superintendent officer of health of Belfast, has issued his annual report for 1913. The population of the city is estimated at 396,000; the death-rate was 18.8 per 1,000, which is an increase of 0.7 over that of 1912. This increase is accounted for by the number of deaths due to diarrhoea and to scarlet fever; diarrhoea caused 457 deaths and scarlet fever 153. Diarrhoea may be taken as a rough index to the sanitary condition of the town, and education and improved home hygiene amongst the working classes would bring about a considerable improvement. The steady increase in scarlet fever during the last few years is rather a satire on preventive methods, for the city has been paying a large sum for the upkeep of the Purdysburn Fever Hospital, which has been occupied to its full extent with patients suffering from scarlet fever, yet the number of cases of this disease has risen steadily during the last four years. The number of deaths from phthisis was 844, an increase over the preceding year. There was a natural increase of population of 3,543, or 230 less than in 1912, and 379 below the average for the last ten years; 3,024 cases of infectious disease were notified, as compared with 1,436 in 1912.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

GIFT TO THE EDINBURGH ROYAL INFIRMARY.

On August 4th our correspondent, whilst passing along the main corridor of the surgical part of the Edinburgh Royal Infirmary, had his attention arrested by the spectacle of men laying down rubber flooring there; the incident was put on one side for the moment, but with the intention of further inquiry into its meaning later. The declaration of war that day and a rush of events of all sorts put the matter in the background; but now it appears that the india-rubber flooring, which covers the whole of the main right and left wing corridors and entrance hall of the infirmary, and measures over 800 square yards, was a gift to the institution from the Rubber Growers' Association, and was manufactured by the North British Rubber Company, Limited, Edinburgh. The flooring, which has large black and white squares suggestive of tesselated pavement, is resilient to the tread and perfectly quiet to walk upon, and it is said to be "practically everlasting," for it "gives" instead of wearing with use. It can also easily be kept clean. The formal presentation of the flooring was made in the board-room on August 31st by Mr. William Greenhill, C.A., on behalf of the association. Mr. Walter B. Blaikie, LL.D., presided, and sketched briefly the history of the Edinburgh Royal Infirmary from its projection in the year 1725 to the completion of the original building in that memorable 1745 when Prince Charlie came to the city, and when wounded soldiers from the battle of Prestonpans for a time were inmates, and so on down to the present time, when with its 921 beds, 42 cots, and 80 beds in the Convalescent House, the claim was made that it was the largest general hospital in the British Empire. Dr. Blaikie accepted the gift on behalf of the managers, and Dr. McKenzie Johnston also spoke of the value of the flooring.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN SALFORD. At the beginning of 1913 the medical staff of the Salford Education Committee consisted of the medical officer of health, who is school medical officer, an assistant medical officer, a part-time assistant, and a specialist to examine the eyesight of the children. Early in the year the specialist tendered his resignation, and as the Health Committee required the full-time services of the part-time assistant, a full-time assistant medical officer, with special qualifications for dealing with eyesight, was appointed. It was also decided to appoint a full-time school dentist. During the year the medical officers conducted 17,704 examinations of children and teachers, but this figure does not include general examinations of whole schools which were made necessary by outbreaks of sore throat or scarlet fever, where no account was kept of the numbers examined. Whenever the inspection reveals defects calling for treatment the parents are first notified, and during the year medical treatment was advised in 717 cases. In no case are the parents advised to take their children to hospitals unless they state definitely that they cannot afford private medical treatment. In the course of their later inquiries, the inquiry officers found that treatment had actually been obtained in 456 cases, and parents had promised to obtain it in a further 154 cases, but in 107 cases the parents had refused to obtain treatment. The local authority itself undertakes treatment of visual defects, ringworm, tuberculosis, and certain complaints, such as running ears, impetigo, eczema, chronic nasal discharges, etc. At present the Education Committee has two centres for medical examinations, and parents are always invited to be present at the examinations, though less than half the parents avail themselves of the opportunity. A room at the education offices is used for retinoscopic examinations, but by far the greater number of the special cases reported for examination are seen at the new school clinic which has been established at a convenient centre adjoining the Tuberculosis Dispensary in Regent Road. At present the rooms at the clinic consist of a large waiting-room, two consulting-rooms and an *x*-ray room. A very complete and convenient *x*-ray apparatus, with all necessary safeguards, and costing about £175, was installed in April last year, and from that date to the end of the year 90 cases of ringworm were submitted to the rays. With very few exceptions it was found necessary to depilate the whole of the scalp with the rays by the five-exposure method of Kienbock, and the results are stated to have been singularly successful, all the children being able to return to school in an

average of thirty-five days, whereas treatment before the *x* rays began to be used generally extended to eighteen months. The children are now allowed to return to school, wearing a cap, as soon as epilation is complete and no stumps remain in the scalp. For some time after the treatment was commenced, many parents objected to it owing to reports of the evil effects of the *x* rays, but now there is rather an eagerness to obtain the treatment, for which the parents have to pay a nominal sum of 2s. 6d. for each child treated. One of the nurses at the clinic now devotes the whole of each morning to dressing cases of chronic discharge from the ear and nose and cases of impetigo, eczema, and minor skin diseases. This treatment is carried out under the direction of the medical officer, who devotes one half-day a week to the supervision and re-examination of the cases. The Education Committee considers that the beneficial results obtained quite justify the employment of the nurses in this way, as practically all the cases thus treated would otherwise in all probability receive no treatment at all. Among the routine inspection cases were found 142 cases of tuberculosis and 275 of suspected tuberculosis. There were very few advanced cases of phthisis, the great majority being in the early stages, but as such cases are adversely affected by compulsory attendance at the ordinary schools, the provision of open-air school accommodation is regarded as urgent. In addition to the above-named clinic, arrangements have been made for the establishment of a dental clinic.

Canada.

[FROM OUR SPECIAL CORRESPONDENTS.]

INSPECTION OF SCHOOLS IN VICTORIA, B.C.

FROM the report on the medical inspection of school children in Victoria, British Columbia, it is seen that of the 4,157 children examined during the year 1913, 50 per cent. had never been vaccinated. Examination disclosed 488 cases of enlarged tonsils, 406 cases of enlarged cervical glands, 116 cases of adenoids, 246 cases of malnutrition, 59 cases of goitre, 28 of ringworm, 23 of scabies, 2 of hare-lip, 3 of cleft palate, 1 of tuberculosis of the spine, and 1 of paralysis, in addition to a number of cases of defective sight, hearing, and teeth. The report comments upon the large number of backward children and their bad influence on the other children. The need for special classes for such children is very apparent.

MEDICAL HEALTH OFFICERS OF BRITISH COLUMBIA.

The medical health officers of British Columbia held their first annual convention at Vancouver on July 17th and 18th. Those in attendance numbered about thirty. Dr. J. J. Thompson, of North Vancouver, read a paper on the responsibility of public authorities and the general controversy concerning tuberculosis. He emphasized the importance of early notification and of treating problems connected with the spread of tuberculosis in a business-like way. Dr. G. A. B. Hall, of Victoria, in an address on epidemic infantile paralysis, cited instances to show the contagious nature of the disease. He thought that subsequent paralysis could be prevented in many cases if the disease were recognized early enough and the patient given absolute quiet. Dr. W. C. Hepworth, of Steveston, referred to some of the difficulties met with in public health work, and strongly recommended the erection of emergency isolation hospitals in small communities. Dr. T. V. Hunter, of South Vancouver, discussed medical inspection from the standpoint of parents, teacher, and physician, and Dr. McQuarrie delivered an interesting address on milk-borne scarlet fever, referring to the epidemic in New Westminster last year. In the afternoon Dr. F. F. Wesbrook, president of the University of British Columbia, spoke on the importance of greater co-operation among co-ordinate professions. A resolution of appreciation of the work of the Provincial Department of Agriculture in its efforts to eradicate bovine tuberculosis was passed, and the suggestion was made that a permanent health committee should be appointed. This matter was also taken up at a recent meeting of the Grandview Ratepayers' Association at Vancouver, on which occasion a similar resolution was passed. It was resolved also that, in the opinion of the members present, the most satisfactory course for the Government to adopt in reference to tuberculosis would be to provide financial assistance towards the prevention, care, and treatment of such cases, to enforce a more thorough examination of immigrants, and to prevent as far as possible the spread of the disease among Indians.

Hong Kong.

THE PUBLIC HEALTH IN 1913.

THE annual report on the health of the colony of Hong Kong for the year 1913 shows a total population of 489,114, of whom 90,594 reside in the purely agricultural district of the New Territories. The complete sanitary laws of the colony do not extend to this rural district, and the following figures are calculated, therefore, on a population of 398,520.

There has been a great demand for housing accommodation since the Chinese revolution of 1911, and during 1912 no fewer than 335 new dwellings were completed and occupied; the native quarters of the city and of Kowloon are still considerably overcrowded, a condition which was much aggravated by the further influx of from 50,000 to 60,000 Chinese during the renewed political disturbances of July to September, 1913. The rainfall for the year was 83 in., which is slightly above the average of the previous twenty years. The non-Chinese community, which comprises 11,000 whites, 6,130 East Indians, and 4,340 who are classed as mixed and coloured (Malays, Philippines, Japanese, etc.), shows a birth-rate of 15.8 per 1,000 and a death-rate of 10.9 per 1,000, while the Chinese rates were 8.9 per 1,000 (births) and 21.75 per 1,000 (deaths) respectively. Infant mortality is very high among the Chinese, the great majority of the deaths being attributable to tetanus neonatorum and other convulsive diseases.

Malaria.

Malarial fever shows a marked improvement on previous years; the deaths from this cause numbered 290 in 1913, as compared with 432 in 1912 and 338 in 1911. Antimalarial measures have been in progress since 1899, and since that date 11.6 miles of mountain streams have been trained and channelled at a total cost of nearly 300,000 dollars. Every death from malaria and every hospital case is investigated with a view to dealing with the source of infection; brushwood is kept in check in the vicinity of dwellings, the trained nullahs and channels are regularly swept and kept clear of water weeds and algae, pools are oiled, quinine is administered to school children in certain specially malarious districts, and the life-history of the mosquito and its relation to malaria are taught in all the schools. The military returns in regard to malaria show that the ratio per 1,000 among the white troops is the lowest on record—namely, 42.5, while among the native (Indian) troops it was 83.9 per 1,000.

Plague.

The incidence of plague during 1913 was comparatively light, only 408 cases being recorded, but the medical officer of health (Dr. Francis Clark) predicts that the rush of Chinese to the colony during the latter part of the year is likely to precipitate a severe epidemic in 1914, and this prognostication has unhappily been verified, as the present year has already produced a serious epidemic which is still in progress. Dr. Clark explains in this report that the overcrowding consequent on this sudden influx of refugees leads to a rapid increase in the susceptible rat population, owing to the increase in the available food supply for the rats and to the crowding of the houses not only by human beings, but also by their furniture, baggage and other lumber—conditions which afford hiding and breeding places for rats.

The regulations which aim at the gradual extinction of this disease comprise the concreting of the ground surfaces of dwellings and yards, the protection of drain openings and ventilating openings by iron gratings, the prohibition of ceilings and of hollow walls, the provision of metal rubbish-tins for the day's waste and its daily collection from houses, back lanes, etc., the destruction of

rats in infected quarters and in domestic and other buildings, the keeping of cats in dwelling houses, and the systematic house-to-house cleansing of the native quarters. A kerosine emulsion prepared from kerosine and soft soap is used for the destruction of fleas in infected premises, and rat runs are filled up with cement and broken glass wherever found.

Cholera.

The colony experienced a small outbreak of cholera—the first for many years—which originated among the boat population of a fishing village, and is thought to have been spread by the eating of infected fish. In all 116 cases were recorded, extending over a period of three months.

Diphtheria.

Diphtheria was more prevalent than in former years, the total number of cases recorded being 148 (49 Europeans, 75 Chinese, and the remainder other Asiatics): 56 of the Chinese cases, 2 of the European cases, and 2 "other Asiatics" died.

Midwifery.

With a view to a reduction of the mortality attending childbirth, a system of training midwives for work among the poor has been in vogue for some years past, and these women are maintained at the Government expense after completing their training: nine of them attended 2,329 cases of confinement during the year, with only 8 casualties, including 1 case of puerperal fever, 2 of placenta praevia, 2 of eclampsia, 1 of *post-partum* haemorrhage, 1 of cardiac failure, and 1 of hemiplegia.

Special Correspondence.

PARIS.

The Medical Situation in Paris.—Antityphoid Vaccination.

WRITING under date August 28th, our Special Correspondent says:

Medical progress in Paris is almost at a standstill. The societies have ceased to meet, except formally, and of lectures and discussions there are none. Such medical journals as still appear are greatly reduced in size and are entirely devoted to medico-military subjects. All medical men of serviceable age and physical fitness have been called to the colours, and hosts of students have been requisitioned. Many hospitals and laboratories have been almost denuded of their staffs, and it has been necessary in some of the important laboratories to call for voluntary assistance. Each hospital has a large proportion of its beds in readiness for wounded soldiers, and a great number of schools and private houses have been equipped as temporary hospitals. Staffs of medical men have allocated to them certain districts, the temporary hospitals in these districts coming under their care. The Americans resident in Paris have formed a Red Cross Society, and the response to their appeal for subscriptions has been excellent. Besides several houses, they have taken a large wing in the new Lycée Pasteur, and in the latter there are already 200 beds in readiness to receive patients. The British residents are also working strenuously, and although not yet officially under the Red Cross, the British hospital, which is admirably equipped for the reception of cases requiring operative treatment, has received many generous offers. A great drawback to the emergency hospitals in Paris is the lack of trained nurses, the profession of nursing in France not being cultivated to the same degree as in England.

The authorities have issued placards advising the people to be vaccinated against small-pox. This is done gratuitously in the different mairies. Up to the present no cases of small-pox have been reported. Professor Vincent's antityphoid vaccine is being extensively used both among civilians and in the army. The vaccine used here is polyvalent, the different strains of the bacillus being obtained from France, Morocco, and Tunis. Owing to the rapidity of the mobilization, very few soldiers at present on active service have been fully vaccinated against typhoid. Some have received two injections, the first of ¾ c.cm., and the second of 1½ c.cm. It is considered that these two injections give an appreciable immunity to the disease. The efficacy of Vincent's polyvalent vaccine is well demonstrated by the fact that in the garrison of Avignon from 1892 to 1912 there were 1,263 cases of typhoid, necessitating 44,133 days of treatment. In 1913 the garrison was vaccinated, and not a single case was reported during that year.

Correspondence.

THE "CONTROLLED" USE OF NEW TUBERCULIN IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

SIR,—In their paper on this subject Drs. Stockdale and Hodson have given a verdict on the whole adverse to tuberculin as a treatment in pulmonary tuberculosis. Their conclusions seem, however, to be vitiated by the facts, first, that they made no attempt to control the treatment, and, secondly, that they did not predetermine the suitability of the individuals chosen for treatment. A stereotyped method was adopted, and only varied when a definite reaction occurred. But in the treatment of febrile and intermittently febrile cases reactions indicate a false step. Since it was in this class of patient that the treatment did harm, it is possible that the dosage was incorrect. There are certain commonplaces in tuberculin therapy to which most experts would subscribe—namely, that not every individual is suitable, that each case must be treated on its merits, and improves only when the dose and interval are correct, and that each patient may require a different scheme of dosage.

In the febrile cases one would suggest at once that the initial doses were too large. It is also very doubtful whether the use of T.R. is justifiable in any febrile patient, unless no secondary infection is present—an extraordinarily rare occurrence. In the usual type of febrile case the secondary organisms should certainly, in common fairness to the patient, receive attention by appropriate vaccines before T.R. is given. Still better and safer is it to give a sensitized tuberculin (S.B.E.), with which reactions seldom, if ever, occur. Again, in the intermittently febrile cases, when occasional autoinoculations are upsetting all calculations, even greater care is required to adjust dose and interval to the patient. One hundred-thousandth of a milligram may be an excessive dose in many cases, and certainly one fifty-thousandth for the second dose would be liable to do harm. Here also one would be inclined to try S.B.E. rather than to risk reactions with T.R. The question of secondary infection also arises. One must surmise then that in Classes 2 and 3—

2. Intermittently febrile cases—that is, using the term "intermittent" in the sense that after a day or two rise the temperature would fall to normal, and then a further rise would be recorded.
3. Febrile cases.

—the method of treatment was improper. In Class 1 (afebrile phthisis) a favourable verdict is admitted by the authors. It is only in this class that tuberculin given without an exact method of control is likely to succeed.

With all due deference to the authors of the paper, whose root idea is undoubtedly most admirable, I suggest that it would have been better to have sorted out the patients by trial with a few doses of tuberculin to see that they were suitable for the treatment, and then to have discontinued treating half of these, keeping them to act as controls. The resulting statistical table would have included—theoretically at least—only such patients as were proved to be capable of responding in a reasonably satisfactory way to the drug. As it is, we have no indication whatever as to what number of the thirty-one patients who received tuberculin were likely to be favourable subjects. The communication of Drs. Stockdale and Hodson, as it stands, merely demonstrates that if tuberculin is given indiscriminately by a rule-of-thumb method results as good can be obtained without it—a proposition which few will now be found to deny—whilst had a definite procedure for controlling the dose and interval of the vaccine been adopted, together with a more rational method of selecting the cases, the resulting table would have marked

a considerable advance in our knowledge of this difficult subject.—I am, etc.,

Yelverton, July 27th. H. WARREN CROWE.

SIR,—The paper by Drs. Stockdale and Hodson on the above subject is very interesting. Here we have two medical men—indeed, three, for Dr. Batty Shaw was the final judge on the cases—spending at least three months in proving what has been proved often, but what few medical men when using tuberculin seem to remember—that is, that tuberculin is only of use in tuberculosis. They say that in every case they found the *B. tuberculosus*, but they do not say what other organisms were found. In their cases coming under Classes 2 and 3 I fear they were expecting tuberculin to clear up temperature, physical signs, and general ill health due more to other organisms than the tubercle bacillus. If the article is read in this light, then it proves the great usefulness of tuberculin in tuberculosis.

Might I suggest that they begin over again with cases in Classes 2 and 3 and make what I term a "differential" examination of the sputum, prepare a vaccine of the organisms found other than the tubercle bacillus and administer it. If this be done I believe they will be surprised how little of the temperature and physical signs was due to the *B. tuberculosus*, and I also believe they will appreciate the fundamental importance in vaccine-therapy of a correct bacteriological diagnosis. I have found P.T.O. the most useful of the tuberculin preparations in pulmonary work.

That tuberculin does not seem to exert its full specific powers in pulmonary tuberculosis is due, I believe, not to any fault in the tuberculin but to mistakes in our method of using it, and one of these, I submit, lies in our not fully estimating the power of the other bacteria and trying to get rid of them first.—I am, etc.,

Lisburn, July 25th. J. L. RENTOUL, M.B.

Obituary.

HUGO KRONECKER, M.D.,

PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF BERN.

BY the death of Professor Kronecker the scientific world has lost one of the foremost of modern physiologists. He was a younger brother of the famous mathematician Leopold Kronecker, and was born at Liegnitz in 1839. He was therefore 75 at the time of his death.

Kronecker received his preliminary education at the gymnasium of his native town, and afterwards studied medicine at Berlin, Heidelberg, and Pisa. In 1863 he took his doctor's degree at Berlin. He had already shown a marked inclination toward scientific research, and he had worked at physiological problems under Helmholtz and Wundt at Heidelberg. In 1865 he became private assistant to Traube at Berlin, and at the same time worked in the laboratory of physiological chemistry under W. Kühne. In 1868 Kronecker went to Leipzig, where, in 1871, he became assistant to Ludwig, who recognized his fine character and his great ability. At that time the Leipzig Laboratory was an international centre of experimental physiology. Kronecker went there well prepared for the work he had to do by his previous studies under Helmholtz, Wundt, Bunsen, and Kirchhoff, and was thus able to take a leading part in the researches pursued in the laboratory. He could converse in English, French, and Italian as well as he spoke his mother tongue, and this was an attraction to foreign students. In 1872 he qualified as privatdocent, and in 1875 he was appointed professor extraordinary in the University of Leipzig. In 1878 he was appointed head of a department in the physiological laboratory of Berlin, where he was closely associated in his work with du Bois-Reymond.

In 1884 Kronecker was called to the chair of physiology in the University of Bern, where he remained during the rest of his active life. He was sorry to leave Germany, for he was an ardent patriot who served in the wars of 1866 and 1870. At Bern he established an institute fully equipped in accordance with modern requirements, both for teaching and for research. By his special desire the institute was called "Hallerianum" in memory of the famous physiologist Albrecht von Haller, whose statue stands within the precincts of the university. He was one of the initiators of the International Congress of Physiology, which held its first meeting at Basel in September, 1889, under the presidency of Holmgren. Kronecker also took a leading part in founding the Marey Institute in Paris for the designing and control of physiological instruments and methods. He was its president in 1895. Kronecker also co-operated with Mosso in establishing the international research station on Monte Rosa, where he made a special study of mountain sickness. His last publication was a memoir on the cause of that disease, presented to the Royal Academy of Medicine of Brussels on April 25th, 1914.

Under Kronecker's direction the Hallerianum became like the Leipzig Laboratory—an international centre of physiological research. Foreign workers were always sure of a hearty welcome there.

His work, a considerable part of which he published through his pupils, covered nearly the whole domain of physiology. He devoted special attention to the respiration, the heart, the fundamental laws of reflex stimulation, animal heat, the assimilation of albuminous bodies, and other subjects which it is impossible to enumerate.

WE regret to announce the death of Dr. MARK JOSEPH WAKEFIELD of Moseley. Dr. Wakefield, who was in his 56th year, had been ill for a considerable time. He was a member of a well known Durham family and studied medicine at the Newcastle-on-Tyne College of Medicine, and took the degree of M.B. at Durham University in 1884. He was admitted M.R.C.S.Eng. in 1885. He practised for a time at Newcastle-on-Tyne, and some fifteen or sixteen years ago settled in Birmingham. During the illness of the medical officer of Winson Green Prison the Home Secretary appointed him deputy surgeon temporarily; later this appointment was made permanent, and Dr. Wakefield held it for ten or eleven years. Some four years ago his health broke down and he gave up practice. Dr. Wakefield was very popular with his patients, and his fine character endeared him to a large circle of friends.

THE death of Dr. CHARLES JACKSON has caused great regret in the town of King's Lynn, Norfolk, where he had practised for over a quarter of a century. He was born in Westmorland in 1850, and was educated at the Quakers' School, Kendal, and at Glasgow. He took the diplomas of L.R.C.P.Edin. and L.R.F.P.S.Glasg. in 1882. During his residence in King's Lynn he was physician to the West Norfolk and Lynn Hospital, and for twenty-two years was medical officer and public vaccinator for the north district of the Lynn Union. Dr. Jackson took a deep and active interest in all agencies for the social and religious welfare of the district. His hobby was gardening, and he was vice-president of the Lynn Horticultural Society. He died on August 18th, after an illness of several months' duration. The funeral, which took place four days later, was attended by a large number of members of the medical profession and other friends.

Universities and Colleges.

ACADEMIC POSITION OF STUDENTS ON MILITARY SERVICE.

THE Vice-Chancellor of the University of Manchester intimates that special arrangements are being made for the benefit of all students of the university who may be on active service during the war. All reasonable allowance will be made in respect of attendance, and scholarships awarded by the university will be continued to these students on their return. It is understood that many local education authorities have adopted a similar policy as regards their scholarships held at the university. There is every intention of opening the session on October 8th as advertised.

UNIVERSITY OF SHEFFIELD.

THE Council has decided to invite Dr. J. B. Leathes, F.R.S., at present Professor of Pathological Chemistry in the University of Toronto, to accept the Chair of Physiology rendered vacant by the acceptance by Professor J. S. Macdonald of the Chair of Physiology in the University of Liverpool.

UNIVERSITY OF DUBLIN.

THE following degrees were conferred at a meeting of the Senate on August 29th:

M.D.—G. Crane.

M.B., B.Ch., B.A.O.—R. R. G. Atkins, H. G. Browne, J. S. Dockrill, G. H. Elliott, F. S. Gillespie, H. B. Goulding, G. S. McConkey, P. W. McKeag, A. Newton-Brady, R. I. Sullivan, G. E. Tyndall, Dorothy E. Webb.

NATIONAL UNIVERSITY OF IRELAND.

THE following candidates have been approved at the examination indicated:

FINAL M.B., B.CH., B.A.O.—*J. Kennedy, *T. F. Kennedy, *V. O'Hea Cussen, *J. A. Pierse, †J. B. Minch, †M. McKeever, P. J. Corcoran, B. T. Cullen, W. Dixon, J. P. Huban, F. de C. Keogh, A. McGrath, J. V. McNally, J. Magner, O. J. Murphy, P. G. Murphy-O'Connor, T. F. Ryan, M. V. Sexton.

* First-class honours. † Second-class honours.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY (*Both Parts*).—H. Dudley, R. J. Hearn, A. R. Jennings, W. M. Lansdale, R. H. Leigh, L. E. Pimm, R. V. Powell, C. J. B. Way.

MEDICINE.—†D. Aucutt, *J. C. P. Bailey, †P. H. Burton, *C. H. Fischell, †R. J. Hearn, *†W. M. Lansdale, *†R. H. Leigh, *†R. V. Powell, *†C. J. B. Way.

FORENSIC MEDICINE.—H. H. Fairfax, C. H. Fischell, W. M. Lansdale, R. H. Leigh, R. V. Powell, C. J. B. Way.

MIDWIFERY.—C. H. Fischell, W. M. Lansdale, R. H. Leigh, G. D. Newton, R. V. Powell, C. J. B. Way.

* Section I. † Section II.

The diploma of the Society has been granted to Messrs. D. Aucutt, H. Dudley, R. J. Hearn, A. R. Jennings, W. M. Lansdale, R. H. Leigh, G. D. Newton, L. E. Pimm, R. V. Powell, and C. J. B. Way.

Public Health

REPORT OF MEDICAL OFFICER OF HEALTH.

Doncaster Rural District.—The estimated population of the Doncaster Rural District at the middle of 1913 was 41,974. During the ten years 1901–11 the population increased from 23,000 to nearly 38,000. The birth-rate in 1913 was 34.9 per 1,000, and the death-rate was 15.7. The infant mortality-rate was equal to 152 per 1,000 births. In a district which is so rapidly increasing it can only be expected that the question of housing would have to engage the attention of the sanitary authority. In the new colliery districts overcrowding is very general, for the demand for labour is very great; 760 working-class dwellings were erected during 1913, but Dr. Dunne states that it is extremely difficult, if not impossible, to state the number of extra houses needed, because of the great influx of the mining population. Parishes which are rural in character, and which may be situated some distance from a colliery, have miners living in them, so that where the accommodation may be sufficient for the ordinary wants of the population living and employed in that parish the present accommodation is insufficient when there are additions from without. There were 67 cases of typhoid fever notified during the year. The medical officer of health appears to have exercised a great deal of care in dealing with the cases, and is to be congratulated upon his success in removing every patient. It appears that the Rural District Council refunds to medical practitioners the cost of telegrams to the medical officers of health notifying infectious disease, and the practitioners freely avail themselves of this method of notifying cases. The practice must have been of considerable assistance to the medical officer of health.

Medical News.

THE late Dr. Henry O'Neill, of Belfast, left estate valued at £1,076.

QUEEN CHARLOTTE'S HOSPITAL, Marylebone Road, has undertaken to receive for their confinements any women amongst the Belgian refugees.

THE twenty-first annual dinner of the South-West London Medical Society has been postponed indefinitely on account of the war.

OWING to the absence on naval and military duty of a large number of St. Thomas's men, it has been decided to postpone the old students' dinner previously arranged for October 1st. At St. George's Hospital practically all the prize men of the year have taken appointments of one kind and another with the army or navy, so the prize distribution, address by the Master of Christ's College, Cambridge, and the students' dinner have all been postponed. The dinner of past and present students of King's College Hospital, arranged for October 2nd, will not take place this year.

Letters, Notes, and Answers.

☞ Queries, answers, and communications relating to subjects to which special departments of the BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

ANSWERS.

"CUSTOMARY ARRANGEMENTS" WITH SUBSTITUTE.

A CORRESPONDENT asks: What are the "customary arrangements between neighbours" where a practitioner has made an arrangement with a medical neighbour to see to his practice in his absence?

*** It can hardly be said that there are any "customary arrangements." One party is compelled to trust the other, and if the latter proves dishonourable, the former is liable to suffer from his misplaced trust. It is always preferable where possible, to employ a locumtenent, who is bound by ordinary business obligations, which may be enforced in the law courts. None the less, where a practitioner, who had agreed to act for a medical neighbour in his absence, has acted in the manner alleged, his conduct might be brought before the local Division of the British Medical Association.

LETTERS, NOTES, ETC.

THE RESISTING POWERS OF THE SCREW-WORM.

MISS EVELYN A. CONSTABLE, M.B., B.S.Durh., writes: Hosain, aged 8 or 9 years, had been attending the C.M.S. Women's Hospital, Isfahan, Persia, for five months under the care of Dr. Catherine Ironside (by whose kind permission I quote the case), suffering from favus. In spite of treatment the greater part of the skin, as well as the hair follicles, were destroyed, leaving fairly healthy granulations amongst small islands of sloughs. On May 2nd the nurse who dressed the case noticed nothing unusual. On May 3rd the head was swarming with screw-worms (*Chrysomyia macellaria*).

We thought we would see which antiseptic would slay them first. The antiseptics used were carbolic acid (1 in 20), tincture of iodine, hydrogen peroxide, mercury perchloride (1 in 100), absolute alcohol, and formaldehyde (1 in 40). Tincture of iodine alone killed the worms, the three tested being all dead in twenty-five minutes. Six of those which survived in other fluids for twenty-five minutes were put into a mixture of absolute alcohol, corrosive sublimate (1 in 100), and formaldehyde (1 in 40) in a covered test tube. At the end of one and a half hours all were still alive, and two had escaped. At the end of twenty-four hours all at last had died.

These worms evidently have a very tough epidermis, which tincture of iodine alone seems capable of penetrating. The boy's head was treated with tincture of iodine, and no more screw-worms have been found.

"ENCYCLOPAEDIA MEDICA."

MESSRS. W. GREEN AND SON, LTD. (Edinburgh) write: We are at a loss to understand Dr. Jellett's letter, and do not know what else we could have said.

In the announcement of the new edition of the *Encyclopaedia Medica* we enclosed, as Dr. Jellett quotes from the prospectus, "a list of contributors to the first edition with the addition of the names of those who have so far agreed to contribute to the second." Why Dr. Jellett should take any exception to this or should, as he says, find it hard to believe that his name was included in this list we cannot conjecture. Does he for one moment mean to dispute the fact that he was a contributor to the first edition?

The statement is perfectly clear. The list contains: (1) The names of hundreds of specialists who kindly contributed to the first edition and who have either been or are going to be asked to revise the subjects on which they wrote; and (2) in addition to these, the names of new contributors who have kindly agreed to write articles for the second edition. We are anxious to make the work as perfect as possible, and accordingly many new subjects must be dealt with.

If Dr. Jellett will kindly re-read the paragraph, we have no doubt but that he will do us the justice of a public expression that he has been mistaken.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

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OPEN-AIR HOSPITALS IN WAR-TIME.

BY

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BUILDING committees have been in the past anxious to erect a structure which, as they say, should be worthy of the city in which it is placed and give those who subscribe to its cost something to look at and be proud of. Such sentiments have to my knowledge greatly influenced the builders of hospitals and have been put forward as the justification for a good deal of not strictly necessary ornament. During the last twenty years we have been learning the lesson slowly, but it is sinking in deeply, and already is thoroughly accepted by the leaders of the profession, both sanitarians and practitioners, that the usefulness of hospitals is almost in inverse proportion to their architectural merits and that our exaggerated notion of "comfort" is inconsistent with healthy surroundings. Draughts of air, low atmospheric temperature, dampness, are not the disease-bearing agencies they were once supposed to be, while bad ventilation and equable warm temperatures are depressing, debilitating, and retard recovery. Even dampness does no harm where there is a good current of air.

With the elaborate artificial system of ventilation introduced into the Birmingham General Hospital it was possible to maintain the wards and corridors at practically the same temperature day and night, and this was fixed at 60° F. as the recognized sick-room figure, but it was soon found that its very equability was a disadvantage; that those who had to work in these temperatures felt weakened, and within a few months after the building was opened for use the temperature of the corridors, and that of wards at night, was reduced to 55° F., the former figure of 60° being retained for the wards by day. By degrees complaints were heard, not from those who had to work in these temperatures or on their own account, but by and on behalf of the patients, especially the surgical patients and, above all, the children; complaints of delayed convalescence, of debility, and of retarded healing of wounds—results which would have been more seriously felt and less easily borne if it were not that the hospital has in the Jaffray branch a suburban dependency to which stationary cases can be transferred, thus relieving the beds of the parent institution. In spite of these advantages the complaints did not diminish, and the need for fresh air was urgently felt. By many members of the staff the elaborate system of ventilation was regarded as worse than a failure, but as it provided the only means of heating the building it was endured, and other means of remedying the evil were sought. Fortunately the architects had provided balconies—more for ornament than for utility—at the free ends of the wards, and to these balconies, enlarged in some cases by structural alterations, the patients are removed, being accommodated in long wicker chairs; but, even so, only a proportion of the patients can benefit by this treatment. A proposal to build large verandahs to each of the wards of the Jaffray branch, to which access should be given by windows opening down to the ground, was, although supported by the medical staff, rejected by the Committee on the grounds of structural difficulties and expense, and this highly desirable alteration still remains to be made.

It was at the Queen's Hospital that the first attempt was made, although only on a small scale, to treat ordinary hospital patients in an open-air ward. The ward is on the roof of the hospital, and is about half covered in, but quite open to the south. It certainly did not look "comfortable," and seemed open to the objection of getting all the smoke as well as the rain and snow. After it had been in use for some time I visited it with the late Professor Foxwell, who had suggested its creation, and what surprised me most was that patients and nurses seemed to like it, and my fears that it would be regarded as "uncomfortable" received no kind of encouragement from those to whom I spoke. Moreover, I found that they were not surgical cases only, but, in fact, were chiefly medical, and in particular I was shown a case of pneumonia which was doing very well. I climbed down from that visit to the roof converted—not to the advantages of open-air treatment only, for of that I had been long convinced, but of the practicability of carrying it out even in the middle of a smoky city like Birmingham.

During the meeting of the British Medical Association in Liverpool in 1912 I had the pleasure of visiting the Country Hospital for Children, where in a large ward quite open to the estuary of the Dee I found something like 150 children of ages from 2 to 10 or thereabouts. Their cots were placed close together and in three rows parallel with the long axis of the ward and to the open side. Here there was no question of floor space or cubic feet of air. They were in the fresh air, exposed to all the sun that shone on that shore and to all the wind and weather that might befall. These children from the slums of Liverpool were suffering from all sorts of diseases, medical and surgical, and were under the care of Dr. Macalister and Mr. Robert Jones. They were presumably ill, but they did not look it. They had rosy cheeks for the most part, and their appearance testified most strikingly to the vivifying effect of open air. They were as unlike the ordinary inmates of a children's hospital ward as it is possible to imagine.

Why have we been so slow to recognize that fresh air is the best tonic, the best antiseptic? It is cheaper, pleasanter, and undoubtedly more efficient than drugs. The successful treatment of tuberculosis in the open air led the way to the wider adoption of this method for other diseases. It was his observation of the results achieved by Dr. Huggard at Davos, whose advocacy of fresh air, and courage and success in inducing his patients to discard their prejudices in favour of "warmth and comfort," were so remarkable, that inspired Dr. Foxwell with the wish to give the same plan a trial in the treatment of ordinary diseases at the Queen's Hospital. Yet the open-air treatment of consumption has been carried out for only some twenty-five years, although its value had been demonstrated by Mr. George Bodington of Sutton Coldfield, and explained by him in his little book on *The Treatment of Pulmonary Consumption*, published in 1840. Half a century had to pass away before the plan was revived, and this was not the direct result of Bodington's teaching, nor, we must regret to feel, was it due to the efforts or clear-sightedness of his own countrymen. The Warwickshire surgeon might know the truth, but his little lamp soon flickered out and his contribution to the knowledge of his profession was forgotten, although when its value was proved by the work of Walther of Nordrach and others it received the belated honour of being included in the 173rd volume of the New Sydenham Society's reprinted monographs (1901).

The experience of the American Civil War was all in favour of improvised hospitals or tents, but it preceded the enormous advance in surgical treatment due to Listerism, so that surgeons look back on those days with a shudder at results which were so poor even where there was abundance of fresh air and sunlight, owing to the existing ignorance of the causes of wound infection. Yet those who took part in the medical and surgical work of the war had no doubt, and in the report of Surgeon-General Billings, in Circular 4 of the Medical and Surgical History of the War, he says, speaking of hospital construction:

"*The object to be kept in view is to furnish shelter without diminishing that supply of pure air and light which is necessary to health.*"

Other points, such as locality, exposure, plan of construction, modes of heating and ventilation, are only of importance in so far as they secure that object. Wiser words were never written, but it is doubtful whether their meaning and importance have been fully appreciated or allowed due weight when the question of hospital construction has arisen. We have learnt that life in the open air is not only possible but pleasant—that cold air is a tonic, as George Bodington maintained; that warm rooms are debilitating; while a current of air that enters from ventilators or partly opened windows and other narrow openings causes draughts which, when they impinge upon the inmates, give rise to discomfort and complaint, too often resulting in their being stopped up.

It is to be hoped that these principles may be borne in

mind in the course of the arrangements that are being made and will have to be made in the provision for the sick and wounded during the present war. It is quite probable that the accommodation already made will prove insufficient and that large additional space will be needed. In the American Civil War and in the Franco-Prussian War the suitability of wooden buildings was abundantly proved, and with our increased knowledge and confidence in the advantages of simple structures it is to be hoped that no more money will be spent upon structural alterations for hospital use, but that simple erections will be made for which there are many good designs to be seen in the more recently erected sanatoriums for the treatment of consumption, none being better than that recently opened at Little Bromwich, outside Birmingham. Even these, in many respects, may be simplified in accordance with the temporary use to which they will be put.

Open wards dispense with all need for considering methods of heating and ventilation; windows and doors are not required, but it may be desirable in some places to have sliding wooden screens to afford a certain amount of protection in stormy weather. Flooring may be made of asphalt or simply beaten earth covered with a thick layer of pine sawdust, which can be renewed easily with a shovel, and which absorbs all damp to an extraordinary extent. The late Professor George Vivian Poore demonstrated the great value of pine sawdust as an antiseptic absorbent, and its special value for taking up and deodorizing such liquids as urine. He was asked by the South-Western Railway to suggest a simple form of urinal for the use of the men engaged in their works at Basingstoke, and he proposed the provision of a simple trough made by two planks put at an angle, filled with pine sawdust; when he was asked how often the sawdust would have to be renewed, he said, "Practically never." He was in the habit of showing his friends a flannel jelly-bag half full of sawdust, which he and his assistant had used in his room at University College for six months at the time I saw it, as a urinal; the effluent from it in the whole of that time amounted to something less than a pint of a pale fluid which smelt only of turpentine. If these hospitals are put up, as is proposed, in the grounds attached to buildings, or in unoccupied land in their neighbourhood, there ought to be no difficulty about the disposal of faeces, which should be superficially buried in shallow trenches. Soiled dressings should be burnt, and a proper furnace connected with the sterilizing apparatus would be a necessary adjunct to the hospital. The university buildings at Bournebrook, Birmingham, have been transformed at very considerable expense into a hospital of 600 beds, but it is likely that many more will be needed. There is plenty of room there for the erection of such an annexe as I have in mind, and there would be no difficulty in Birmingham in forming a committee to provide the money and equipment and to superintend the provision of all that is needed for such an extension. It is to be hoped that the medical press will support this plan and exert its influence to prevent the unnecessary expenditure of public funds in the costly transformation of originally unsuitable buildings. The campaign in favour of fresh air and sunlight is also that of efficiency and economy; and where, as has been pointed out by high authority, money may in the end be the decisive factor in this great struggle, there can be no justification for wasting it, especially when better results may be obtained by cheaper methods.

MISS FANNY CRESSWELL PARIS, daughter of the late Dr. John Ayrton Paris, formerly President of the Royal College of Physicians, and author of *Pharmacologia*, celebrated her 100th birthday at her residence at Yarmouth, Isle of Wight, on September 16th.

THE anniversary of Pasteur's death on September 28th is to be commemorated by the publication of a study, entitled *Pasteur and After Pasteur*, by Mr. Stephen Paget. This will form the first volume of a new series of "Medical History Manuals" to be issued by Messrs. Black. It will be followed by *Sydenham and Clinical Medicine*, by Sir William Osler; *The Predecessors of Lister*, by Dr. Alexander Miles; *Galen and Roman Medicine*, by Dr. J. M. Comrie; *Medieval Medicine*, by Dr. James J. Walsh; and *The Artist Anatomists of the Cinquecento*, by Dr. E. C. Streeter.

STERILIZATION OF WATER SUPPLIES FOR TROOPS ON ACTIVE SERVICE.

BY PROFESSOR G. SIMS WOODHEAD, M.D.,
LIEUTENANT-COLONEL, R.A.M.C.(T.), SANITARY SERVICE.

SOME years ago, whilst working at the sterilization of the Cambridge water supply, I found that it was not necessary to make a bacteriological examination in order to determine whether the *Bacillus coli* group had been killed by the addition of certain quantities of bleaching powder (chloride of lime) to the water under observation. Working with very dilute solutions of bleaching powder, I found that the amount of "available" chlorine required to be added to the Cambridge water to "sterilize" it was frequently only about 1 part in 7,000,000. In such cases the number of bacteria present was very small and the amount of organic matter very low, and I found, even after the addition of the above small quantity, that if I obtained a blue or a violet-blue reaction with potassium iodide and starch as much as a litre and a half or even two litres of the treated water did not contain a single "living" *Bacillus coli communis*. In some earlier experiments I was able to demonstrate that the typhoid and cholera bacilli were no more resistant to the action of hypochlorous acid than was the *B. coli communis*, and I now realized that water to which bleaching powder had been added, and which at the end of a quarter of an hour gave the above blue reaction, could contain no living members of the *B. coli communis* group, the dysentery bacillus, or any of the pathogenetic organisms mentioned capable of development in bile salt broth or on special media. I suggested, therefore, that this chemical test might be utilized to take the place of a bacteriological examination wherever waters, varying from time to time in their bacterial contents or in the amount of organic matter contained in them, were being treated with bleaching powder as a sterilizing agent; this test taking a few seconds only, against the twenty-four to ninety-six hours required for a bacteriological examination.

Carrying out a further series of experiments, and following the lines laid down, first in this country and then more completely worked out in America, I satisfied myself that if the particulate matter could be removed from a water by means of any of the ordinary filters, it was possible to render even a highly polluted water perfectly safe for drinking purposes by the addition of appropriate amounts of chlorine, and that these appropriate amounts could be determined by means of the iodine and starch test.

Quite recently I have heard from Colonel Horrocks, who has given considerable attention to this question, that instructions have been issued from the War Office that a definite quantity of bleaching powder should be added to any suspicious water after careful filtration through a good rough filter. Moreover, Colonel Horrocks informs me that he has devised a specially large and serviceable filter for the removal of particulate matter from water that is to be treated with this bleaching powder. I believe that by these means he has greatly reduced the risk of typhoid and other infections being conveyed through waterborne bacilli. I realize, of course, the difficulties in the way of getting the test described below carried out in the field; but the importance of keeping the amount of bleaching powder as low as possible (so that there may be no taste of chlorine given to the water)—whilst at the same time resting assured that a sufficient amount of bleaching powder has been added to render the water sterile—is so great that I venture to ask you to publish the following method of testing and sterilizing water for the information of those in charge of the water-cart tanks supplying troops on active service:

ALL WATER EXCEPT THAT FROM PUBLIC TAP WATER POTABLE SUPPLIES MUST BE REGARDED AS DANGEROUS AND UNFIT FOR DRINKING.

Filter through the best rough filter available—for example, army service filter, improvised sand filter, etc.

Pollution in water may be detected and the water rendered safe for drinking by the following method:

Test before Treatment in Bulk.

Instruction I.

Rinse a clean service enamelled iron or earthenware reputed pint mug (1, Fig. 1) with the water to be tested,

leaving a few drops in the vessel. Add the 2 grams of bleaching powder—chloride of lime, chloro-hypochlorite of lime — contained in one of the glass tubes "A" (white label) and make into a thin paste, rubbing it down with a clean stylographic pen, penholder, pencil, or glass or other similar clean rod available. Then add 500 c.cm., or 18 oz. of water (that is, fill to within $\frac{1}{2}$ in. of the lip of the enamelled mug or $\frac{3}{8}$ in. of the lip of an earthenware mug) and mix thoroughly by pouring into a second mug (Fig. 2), and then back into 1. The quantities indicated below of the resulting solution may be used for testing purposes; the remainder is used for sterilizing the water. This solution should contain 0.66 gram of available chlorine.



Fig. 1.



Fig. 2.

Instruction II.

Now fill four service reputed pint mugs to within $\frac{1}{2}$ in. of the top with the water to be tested. Then allow the bleaching powder solution to rise in a pipette graduated to contain 0.15 c.cm. (Fig. 8) to the mark (b); wipe the outside of the pipette and blow the contents into one (Fig. 3) of the four mugs of water to be tested. Add two similar charges of the pipette to a second of these mugs (Fig. 4), three charges to a third (Fig. 5), and four charges

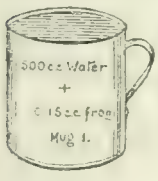


Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.

to a fourth (Fig. 6), in each case mixing thoroughly (as under Instruction I), and allow to stand for fifteen minutes. Then into a clean mug (Fig. 7) crumble one of the small tablets of potassium iodide contained in tube "C" (red label); also after powdering in the corner of an envelope or between a couple of layers of clean paper, one of the compressed starch tablets "B" (blue label)—other forms of soluble or boiled starch may be used if these tablets are not available—and pour into it the water from 3, and



Fig. 8.—Natural size; capacity to b, 0.15 c.cm.

mix by pouring backwards and forwards from one vessel to the other. Add potassium iodide and starch to 4, 5, and 6, treating in the same way. When a blue colour appears in any of these mixtures it is an indication that the chlorine has not all been used up in that mixture: what remains sets iodine free from the potassium iodide, which, acting on the starch, gives a blue colour—that is, more available chlorine than was necessary to carry oxygen to the organic matter and less resistant organisms has been added, and the water treated in bulk as under Instruction III is rendered "safe." To free the water from the *Bacillus coli communis* and from non-spore-bearing pathogenetic waterborne organisms it is not necessary to add more bleaching powder than is indicated as required by the test.

Sterilization of the Water.

Instruction III.

Should No. 3 give a blue, violet, or brown colour (best seen by daylight) the contents of No. 1 (Fig. 1) may be divided into two equal parts, each of which is sufficient to sterilize 110–120 gallons of water. Distribute this amount, pouring equal quantities into each of the four divisions of the service tank when it is about half filled, and when filled allow to stand for twenty minutes. The water may then be used for drinking without filtration or further treatment.

Should No. 3 give no colour but No. 4 become blue, add the whole of the contents of No. 1 to 110–120 gallons, distributing in the same way and rinsing the mug several times so as to wash into the tank the whole of the bleaching powder.

Should No. 4 give no colour but No. 5 become blue, dissolve a second sterilizing powder "A" (2 grams of bleaching powder), and add half of it along with the contents of No. 1 to the 110–120-gallon tank.

Should No. 5 give no colour but No. 6 become blue, add the whole of the contents of the two tubes "A" to 110-120 gallons. In each case allow the water to stand for twenty minutes before issuing it for drinking. Should No. 6 give no colour the water should be regarded as highly polluted, and as palatability is a matter of some importance, it should be boiled. By the addition of more bleaching powder, however, up to 6 or 8 grams per 110-120 gallons it may be rendered innocuous, though in some cases it may be less palatable.

N.B.—1. The great advantage of this method is that it is not necessary to await the result of a bacteriological examination. The amount of bleaching powder required to render the water safe for drinking purposes may be determined in twenty minutes. Where a new or a variable water has to be used, this is a matter of prime importance.

2. Other advantages are that with the exception of the pipette no special apparatus is required, and that as the same solution is used for both testing and sterilizing, any fall in the available chlorine content of the sterilizing powder is equalized by a similar fall in the test solution, and the need for the addition of more sterilizing powder at once indicated.

3. If for any reason the supply of standard sterilizing tubes should fail, it will be found that three times as much fresh, clean, dry, loose bleaching powder (which should contain 33 per cent. of available chlorine) as can be lifted on a sixpenny piece grasped at the edge between the thumb-nail and the tip of the first finger, and used as a spoon, weighs 2 grams, and corresponds to the amount contained in one of the standard sterilizing tubes.

4. A rough test of the condition of the water to which bleaching powder has been added may be made by taking a cupful of water from the tank fifteen minutes after the addition of the sterilizing powder, dissolving in it one each of the tablets "B" and "C" (starch and KI) and mixing thoroughly.

Should no colour appear, add another charge to the tank, and again apply the rough test.

5. A treated water, to be "safe," should at the end of fifteen minutes, always give a blue "reaction" on the addition of the tablets "B" and "C."

This method may also be used for the testing and sterilization of the water supplies of small communities. I hope shortly, as a result of a series of experiments now nearly completed, to publish further information on several important points concerning the action of bleaching powder on spores, the effect of "killing" the chlorine, etc.

In the meantime, I wish to express my thanks to Messrs. Parke, Davis and Co. for their valuable help in working out the details of a really practical method, and for agreeing to supply the testing outfit containing bleaching powder and tablets of potassium iodide and starch; to Sir John Brunner, Bart.; to Messrs. Burroughs and Wellcome; and to the United Alkali Company—all of whom have assisted me with valuable information. Finally, I must place on record my indebtedness to my assistant, Mr. W. A. Mitchell, who has carried out a number of the experiments for me and kept them going when I was occupied with other work, often of a very different kind, that has had to be done during the last few weeks.

AN American Red Cross steamer, carrying 125 nurses and 30 surgeons, sailed from New York about a week ago. Her first call will be at Falmouth.

SINCE the date of publication of the last Nyasaland Protectorate Sleeping Sickness Diary (December 31st, 1913), 20 more cases of the disease have been diagnosed, 15 in the Dowa District, 4 in the Marimba, and 1 in Zomba. This makes the total number of cases discovered in the Protectorate 192. A native boy, diagnosed on May 19th, 1913, is still alive and apparently well. Clearing of the bush round villages is still being carried on, and a small grant of money has been sanctioned for the purpose.

SOME POINTS ON THE EXAMINATION OF RECRUITS OF THE TERRITORIAL FORCE AND THEIR EARLY TRAINING.

BY

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BRADFORD; LIEUTENANT, R.A.M.C.(T.), 6TH WEST YORKS. REGIMENT.

SINCE the mobilization of the Territorial Force some six weeks ago some interesting matters have manifested themselves, both in examining recruits and also during their early training. I have carefully noted certain points, and I think they are worth recording, both from a point of interest and also, perhaps, being of some use to others.

Teeth.

In examination of recruits much stress has been laid upon the condition of the teeth. So far, I have had practically no trouble at all with men's teeth, and after careful observation I can find no relation to exist between bad teeth and gastritis, diarrhoea, or other gastro-intestinal disorders. Men with what would be called bad teeth have on the whole had no difficulty whatever in masticating army rations, and have not complained of indigestion. They have improved physically, and with this improvement their mouths on the whole have shown a marked change in the right direction. I think, then, we should be careful about rejecting recruits, unless the condition of the teeth be very bad.

Hernia and Varicocele.

Hernia and varicocele speak for themselves, and I think, if present, should debar a man from being enlisted until they are permanently corrected by surgical treatment.

Feet.

It is with regard to the feet that some interesting points have been observed. When examining recruits I was at first anxious to reject all those with flat-foot except those suffering from a minor degree of the condition. A great many of these men told me their feet had given them no trouble before; others, who were being re-examined, and who had been at previous camps, told me their feet, after fifteen-mile marches, had only ached slightly, and I had confirmation of this from their officers. On the strength of this we passed them. With graduated marches and early morning physical skill, coupled with good food, these feet have improved to an amazing degree, and most of these men can now perform twelve and fourteen mile marches carrying their full kit without any suspicion of foot trouble.

I have during this six weeks quite convinced myself that physical drill, open-air life, with plain, substantial food, coupled with graduated marches, is one of the best treatments we have for flat-foot, and that flat-foot should not debar a man from enlisting until he be given a fair trial under the above conditions.

What has given more foot trouble than anything else amongst the men of this battalion have been cases of foot deformity, such as hallux valgus, hammer-toe, and any other condition that tends to take any one toe out of the plane of its fellows. Such cases have been very troublesome owing to the rubbing of bony points against the boots, and a number have had to be sent home. These are the cases that should be rejected at first unless they be of a very minor degree.

"*Rheumatism.*"

Another very troublesome symptom has been aching and "rheumatism" in the feet. This has been observed chiefly in men over 25 years of age. This was a very puzzling condition. At first one was inclined to think these men were malingering. A number of them complained also of pain in the back, and I ascertained, after careful inquiry, that some did not sleep at night owing to the pain. After careful examination these cases turned out to be true cases of venereal rheumatism. The majority of them had had gonorrhoea previously, and after well squeezing the penis I was able to obtain slight quantities of discharge, non-purulent, but what I consider to be typical of an old, neglected gonorrhoea. There were also evidences of past trouble in the epididymis in such cases. In all these cases of aching in the feet, in the back, and other fibrous structures, aggravated by living under canvas, gonorrhoeal rheumatism should be thought of and treated. The lesson is to go carefully into the history of gonorrhoea before accepting a recruit past the age of 25 years. If he has had gonorrhoeal rheumatism, he should have a course of gonococcal vaccines, and be completely cured of the complaint before he is accepted. I am quite convinced that much of the rheumatic pain which men get under such conditions can be proved to be genuine gonococcal, and should be treated as such.

Arteries.

In older men, examination of the arteries, liver and urine, especially in old soldiers who have been in India and other places abroad where syphilis and drink have been plentiful, should not be forgotten. I have found that these men cannot stand marches or the work generally. Too often they exert a bad influence on the younger men, and unless absolutely sound they should be rejected from the Territorial Force. I have had more trouble with them as a whole than with all the rest.

Early Training.

A recruit when once he enlists comes under entirely new conditions:

1. He leads a perfectly routine life; he has regular outdoor exercise.
2. He comes under new sanitary conditions; a number of these men are drawn from poorer homes where the sanitary standard is low.
3. He comes under new conditions of personal cleanliness.
4. He comes under new, and in many cases better, conditions of food. Food is plentiful, good, and taken at regular intervals.

These conditions cannot be suddenly forced on any man who is unused to them without giving rise to some constitutional disturbance, and it is while these conditions are new and early that the recruit should be watched. These conditions, coupled with sleeping under canvas, at first swell the list of early morning sick parade. They will complain of a "bad cough," "headache," "inability to sleep," "constipation," "various pains about the body," "tonsillitis," etc.

The whole clue to the prevention and cutting short of these conditions lies in the proper sanitary care of the alimentary canal. Constipation or diarrhoea is often at the bottom of it all, and a good efficient purge, such as pill No. 9, has, in the majority of cases, been all that is necessary. The men often, at first, overeat themselves.

Diarrhoea.

This important symptom should always be investigated, and usually a cause can be found. It may simply result from the change of food and conditions, but it may also exist in an epidemic form. I had several cases of diarrhoea, and the disease once looked like becoming epidemic.

Careful investigation showed that it all originated from the men's mess-tins. The men had been cleaning out their mess-tins with sand and grass. Surface soil at this time of the year is by no means free from Gaertner's bacillus, and the diarrhoea was traced to this cause. Secondly, sand and grass did not efficiently wash out particles of meat and food. As these men take tea, meat, etc., out of this tin at different times of the day, it is easy to see that neglect to clean them thoroughly may be a potent cause of diarrhoea.

Since an abundant supply of boiling water was given them and supervision of the washing of these tins was instituted I now see practically no cases of diarrhoea. "Cramp in the stomach," causing men to fall out during a march, is in the majority of cases due to the use of the water-bottle on the march, and this should be carefully watched. Ice-cream vendors and coster-barrows containing unripe or over-ripe fruit, tripe stalls, and the like should be barred.

Prevention of Sore Feet.

One of the most troublesome of complaints is that of the feet, and the question arises, How can we prevent the occurrence of sore feet?

That much foot trouble can be prevented I am convinced, and I am pleased to say that we have in this battalion been able to reduce it to a minimum by taking the following precautions:

1. Secure properly fitting boots.
2. Properly prepare such boots.
3. Anticipate the trouble in the feet themselves and adopt prophylactic treatment.

The service boots, such as are served out, are not wholly satisfactory. They are roughly tried on at no particular time of the day, and in a hard, rough condition.

The correct time to try on such a pair of boots is at the end of a day's work. If they fit properly at this period, it may be taken that they are correct, as far as size is concerned.

The boots are hard and unyielding. They should be well softened before serving out. I find the best softening agent is crude castor oil. Such boots should be immersed in this material for five or six days before giving them to recruits. The stiffest parts, or the parts of the boot most liable to give rise to sores, are just above the heel, the instep, and about the great toe, and such parts should be thoroughly softened before the boot is given to the recruit.

As before stated, marching, properly graduated, is an excellent treatment for flat-foot, coupled with good food and physical drill. It is really astounding how these cases of extreme flat-foot have recovered themselves under this treatment, and I cannot too strongly emphasize this point. A number of men present the conditions of bromidrosis and hyperidrosis, and these are the feet which easily develop sores.

The routine treatment I have adopted for all is as follows:

The socks are washed every second or third day and thoroughly dried, so preventing the accumulation of stale sweat, which is a powerful irritant to the feet.

The feet are washed daily with soap and cold water, carefully dried, and then rubbed with methylated spirit; they are then dusted over with boracic powder.

Before a march the socks are soaped well and dusted with boracic powder.

These prophylactic measures are simple, and perhaps old, but they have answered the purpose so admirably that I have thought it wise to mention them, for in a battalion of over 1,000 strong sore feet have been the exception.

It would seem that some better designed boot could be possible, and I am hoping soon to suggest a pattern whereby certain parts in the structure of the boot may be altered to avoid chafing over the favourite sites.

Marching and Work.

Lastly, I would issue a word of warning against expecting too much at first in the way of marching and work from men of the Territorial Force newly mobilized. Short and easy marches at first, carrying only a portion of their kit, increased gradually while they are becoming accustomed to their new surroundings, are most important points, but very apt to be overlooked.

Beer in moderation and pipe tobacco are far preferable, in these men, to aërated waters and cigarettes. Regular attention to the bowels and a daily shower-bath after a march are most desirable, and the sanitary squad have done much good in assisting in seeing that these have been carried out, and also in explaining to the men the importance of them.

I have left out of this article the hygiene of tents, occurrence of lice, and other complaints which require special treatment, as such is all laid down. What I have tried to set forth is early and prophylactic treatment of Territorials suddenly coming under new conditions—a state new to them, but old to the regular army—and to suggest a few points which I have found by practical experience have been of great service to me as medical officer to this battalion.

IT is estimated that in the Franco-Prussian war of 1870-71 rifles were responsible for 90 per cent. of the deaths, artillery for 8 per cent., and the bayonet for 2 per cent. In the Russo-Japanese war, thirty-four years later, the rifle killed fewer—82 per cent., and the gun more—16 per cent. But this does not reach anything like the proportion of the present war, when the chief execution so far has been done by artillery.

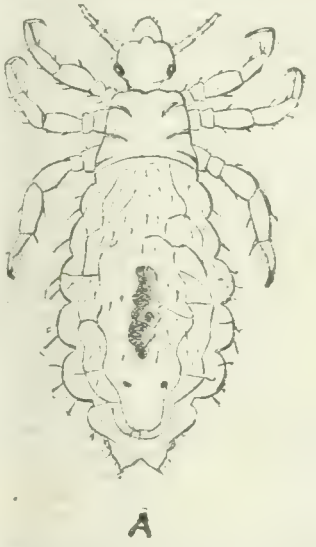
INSECTS AND WAR:

LICE.

By A. E. SHIPLEY, Sc.D., F.R.S.,
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LICE form a small group of insects known as the *Anoplura*, interesting to the entomologist because they are now entirely wingless, though it is believed that their ancestry was winged. They are all parasites on vertebrates. In quite recent books the *Anoplura* are described as "lice or disgusting insects, about which little is known," but lately, owing to researches carried on at Cambridge, we have found out something about their habits. As lice play a large part in the minor discomforts of an army, it is worth while considering for a moment what we know about them.

Recently the group has been split up into a large number of genera, but of these only two have any relation to the human body. I do not propose, in the present article, to consider one of these genera—*Phthirius*—which frequents the hairs about the pubic region of man and is conveyed from one human being to another by personal contact. We will confine our attention to the second genus, *Pediculus*, which contains two species parasitic upon man—(*Pediculus capitis*) the hair-louse, and (*Pediculus vestimenti*) the body-louse. Both of these are extremely difficult to rear in captivity, though in their natural state they abound and multiply to an amazing degree.



Pediculus vestimenti (Nitzsch). A, Magnified 20 times; B, natural size.

Wherever human beings are gathered together in large numbers, with infrequent opportunities of changing their clothes, *P. vestimenti* is sure to spread. It does not arise, as the uncultured think, from dirt, though it flourishes best in dirty surroundings. No *P. vestimenti* occurs that is not the direct product of an egg laid by a mother and fertilized by a father. In considerable collections of men drawn from the lower classes, some unhappy being or other will turn up in the community with lice on him, and these swiftly spread to others in a manner that will be indicated later on in this article.

Like almost all animals lower than the mammals, the male of the body-louse is smaller than the female. Its body attains a length of about 3 mm., and is about 1 mm. broad. The female is about 3.3 mm. long and about 1.4 mm. broad. It is rather bigger than the hair-louse and its antennae are slightly longer. Its colour is said to vary with the host upon which it lives, and Andrew Murray gives a series of gradations between the black louse of the West African and Australian native, the dark and smoky louse of the Hindu, the orange of the Africander and of the Hottentot, the yellowish-brown of the Japanese and Chinese, the dark brown of the North and South American Indians, and the paler brown of the Esquimo, which approaches the light dirty-grey colour of the European parasites.

The latter were the forms dealt with in the recent observations undertaken by Mr. C. Warburton in the Quick Laboratory at Cambridge, at the request of the Local Government Board, the authorities of which were anxious to find out whether the flock used in making cheap bedding was instrumental in distributing vermin. Mr. Warburton at once appreciated the fact that he must know the life of the insect before he could successfully attack the problem put before him. He found at an early

stage that *P. vestimenti* survives longer under adverse conditions than *P. capitis*, the head-louse.

The habitat of the body-louse is that side of the underclothing which is in contact with the body. The louse, which sucks the blood of its host at least twice a day, is when feeding always anchored in the clothes by the claws of one or more of its six legs. Free lice on the skin are rarely found, but the under side of a stripped shirt is often alive with them. After a great many experiments Mr. Warburton succeeded in rearing these delicate insects, but only under certain circumscribed conditions, one of which was their anchorage in some sort of flannel or cloth, and the second was proximity to the human skin. He anchored his specimens on small pieces of cloth which he interned in small test tubes plugged with cotton-wool, which did not let the lice out, but did let in air and the emanations of the human body. For fear of breakage the glass tube was enclosed in an outer metal tube, and the whole were kept both night and day in contact with the body. Two meals a day were necessary to keep the lice alive, and to do this the pieces of cloth, which the lice would never let go of, were placed on the back of the hand, hence the danger of escape was practically *nil*, and once placed upon the skin the lice fed immediately and greedily.

This means of keeping lice alive was but the final result of many experiments which had failed. A single female but recently matured was placed in the test tube, and a male admitted to her on the second day. The two paired on the sixth day and afterwards at frequent intervals. Very soon after pairing an egg was laid, and during the remaining twenty-five days of her life the female laid an average of five eggs every twenty-four hours. The male died on the seventeenth day, and a second male was then introduced, who again paired with the female. The latter, however, died on the thirtieth day, and the second male survived.

The difficulty of keeping the male and female alive was simple compared with the difficulty of rearing the eggs. Very few hatched out. The strands upon which they were laid had been carefully removed and placed in separate tubes, at the same time being subjected to different temperatures. It was not, however, until the eggs were left alone undisturbed in the position where they had been laid and placed under the same conditions that the mother lived in, that 8, and only 8, of the 24 eggs laid on the cloth hatched out after an incubation period of eight days. The remaining 16 eggs were apparently dead. But the tube in which they were was transferred to the waistcoat pocket and subjected to normal temperature of the room at night (on occasions this fell below freezing point), and after an incubation period of upwards of a month 6 more hatched out. Hence it is obvious that, as in the case of many other insects, temperature plays a large part in the rate of propagation, and it becomes clear that the eggs or nits of *P. vestimenti* are capable of hatching out up to a period of at least from thirty-five to forty days after they are laid.

Difficult as it was to keep the adults alive, and more difficult as it was to hatch out the eggs, it was most difficult to rear the larvae. Their small size made them difficult to observe, and, like all young animals, they are intolerant of control, much more apt to wander, and less given to clinging to the cloth than their more sedentary parents. Naturally they want to scatter, spread themselves, and pair.

Like young chickens, the larvae feed immediately on emerging from the egg. They apparently moult three times, at an interval of about four days, and on the eleventh day attain their mature form, though they do not pair until four or five days later.

Mr. Warburton summarizes the life-cycle of the insects, as indicated by his experiments, as follows:—

> Incubation period: Eight days to five weeks.
> From larva to imago: Eleven days.
> Non-functional mature condition: Four days.
> Adult life: Male, three weeks; female, four weeks.

But we must not forget that these figures are based upon laboratory experiments, and that under the normal conditions the rate may be accelerated. From Mr. Warburton's experiments it is perfectly obvious that, unless regularly fed, body-lice very quickly die. Of all the verminous clothing sent to the Quick Laboratory, very little contained *live* vermin. The newly hatched larvae perish in a day and a half unless they can obtain food.

With regard to the head-louse, it is smaller than the body-louse, and is of a cindery-grey colour. The female measures 1.8 mm. in length and 0.7 in breadth. Like the body-louse, it varies its colour somewhat with the colour of the hair on the different branches of the human race. It lives amongst the hair of the head of people who neglect their heads; it is also, but more rarely, found amongst the eyelashes and in the beard. The egg, which has a certain beauty of symmetry, is cemented to the base of the hair, and at the end of six days the larvae emerge, which, after a certain number of moults, become mature on the eighteenth day. The methods adopted by many natives of plastering their hair with coloured clay, or of anointing it with ointments, probably guards against the presence of these parasites. The Spartan youths, who used to oil their long locks before going into battle, may have feared this parasite. I have been told that the German soldiers before going to war shave their heads. If this is so, they would afford no nidus for *P. capitis*, but, if it is the case, the fact has escaped the lens of the photographers and the pens of the artists. The wigs worn in the late seventeenth and at the beginning of the eighteenth centuries undoubtedly owed something to the difficulty of keeping this particular kind of vermin down.

This article, however, attempts to deal more with the troubles of the camp, and *P. capitis* is in war time less important than *P. vestimenti*. The former certainly causes a certain skin trouble, but the latter not only affords constant irritation, but, like most biting insects, from time to time conveys most serious diseases. *P. vestimenti*, undoubtedly, is the carrier of typhus. This was, I believe, first demonstrated in Algeria, but was amply confirmed last year in Ireland, when a serious outbreak of this fever took place, though little was heard of it in England. Possibly, *P. capitis* also conveys typhus, but undoubtedly both convey certain forms of relapsing or recurrent fever. The irritation due to the body louse weakens the host and prevents sleep, besides which there is psychic disgust which causes many officers to fear lice more than they fear bullets. They are the constant accompaniment of all armies, and in the South African war as soon as a regiment halted they stripped to the skin, turned their clothes inside out, and picked the *Anoplura* off. As a private said to me, "We strips and we picks 'em off and places 'em in the sun, and it kind o' breaks the little beggars' 'earts."

In conjunction with the Quick Professor of Biology at Cambridge I have drawn up the following rules. Most of them will not be possible at all times, but some of them may be possible at some time in the campaign. At any rate, by acting on these rules, a relative of mine who took part in the South African war was able to escape the presence of lice on his body, and the general commanding his regiment told me on his return that he was not only the only officer but the only man in the regiment who had so escaped.

RULES.

1. Search your person as often as possible for signs of the presence of lice—that is, their bites. As soon as these are found, lose no time in taking the measures noted under paragraphs 4 and 5.

2. Try not to sleep where others, especially the unclean, have slept before. Consider this in choosing a camping ground.

3. Change your clothing as often as practicable. After clothes have been discarded for a week the lice are usually dead of starvation. Change clothes at night if possible, and place your clothing away from that of others. Jolting of carts in transport aids in spreading the lice, which also become disseminated by crawling about from one kit to another. Infested clothing and blankets, until dealt with, should be kept apart as far as possible.

4. All discarded clothes, as shirts and vests, should be collected and burnt or buried or put under water. Socks are not so important as body clothing, as lice rarely affect the forearm, the hands, or the feet. Cholera belts were in many cases early discarded in the South African war, owing to infestation of lice.

5. If lice are found on the person they may be *readily destroyed by the application of either petrol, paraffin oil, turpentine, xylol, or benzine* to the head in the case of *P. capitis*. The application may be repeated on two more days if the infestation is heavy. Fine combs are useful in detecting and removing vermin from the head. Tobacco extract has been advocated, failing other

available remedies. In the case of *P. vestimenti* the lice can be killed as follows: Underclothes may be scalded, say, once in ten days. Turn coats, waistcoats, trousers, etc., *inside out*, examine beneath the folds at the seams and expose these places to as much heat as can be borne before a fire, against a boiler, or allow a jet of steam from a kettle or boiler to travel especially along the seams. The clothing will soon dry. If available, a hot flat-iron may be used to kill vermin in clothing. Petrol or paraffin will also kill nits and lice in clothing.

6. As far as possible avoid scratching the irritated part.

7. Privates would benefit by instruction in these matters.

8. Apart from the physical discomfort and loss of sleep induced by the attacks of lice, it should be noted that they have been shown to be the carriers of typhus and relapsing fever from infected to healthy persons. Typhus, especially, has played havoc in the past, and has been a dread accompaniment of war.

EIGHTY-SECOND ANNUAL MEETING
OF THE
British Medical Association.

PROCEEDINGS OF SECTIONS.

SECTION OF ANATOMY AND PHYSIOLOGY.

ROBERT W. REID, M.D., President.

CARDIAC FIBRILLATION AND ITS RELATION TO CHLOROFORM ANAESTHESIA.

By J. A. MACWILLIAM, M.D.,
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So long ago as 1887 I advanced the view that many cases of sudden death depending on cardiac failure are due to the sudden occurrence of fibrillation in the ventricles, the function of the cardiac pump being thus destroyed. Evidence was adduced to show the inadequacy of the current view of syncope to account for the facts in many instances of sudden dissolution, by the assumption of a sudden failure of the heart to contract, and the strong probability of the true cause lying, not in an abrupt enfeeblement or paralysis of the contractile power, but in the supervention of the useless and disastrous form of inco-ordinated activity known as "fibrillar contraction" or "fibrillation." In a paper in the BRITISH MEDICAL JOURNAL I urged the probability of this explanation as applying to various conditions in which sudden death occurs.[6] But the gulf between experimental physiology and practical medicine in this branch of study was vastly wider then than it is now, thanks, above all, to the labours of James Mackenzie and his followers. In recent years the view I propounded in 1887 has been adopted by Gibson, Mackenzie, and others, and evidence corroborating it has been brought forward by Hering.[1]

Former Observations.

At the time of my old papers, and for some years afterwards, the central question in regard to chloroform was that of respiratory failure *versus* primary cardiac failure, or rather the possible occurrence of primary cardiac failure, it being admitted that respiratory failure is the usual one when chloroform is steadily pushed to a toxic stage. My conclusion was an emphatic affirmation of the occurrence of primary cardiac failure as a form of chloroform collapse, in opposition to the conclusions of the Hyderabad Commission and other observers. Fibrillation had often been noted in the course of my experiments, especially as a result of the sudden intake of strong chloroform vapour, but I was not at that time satisfied as to its occurring in the absence of at least a temporarily excessive intake of chloroform. There was no evidence to warrant the assumption that such a mode of cardiac failure was an operative one in the administration of chloroform in the ordinary way in healthy animals, meaning by the latter phrase the *continuous* administration of the anaesthetic by the animal being put in a box* with chloroform, and allowed to inhale the vapour until complete anaesthesia is induced.

That with such continuous administration there is immunity from collapse due to fibrillation is a conclusion I wish to reaffirm to-day in view of experience spread over nearly thirty years. But when one comes to review the results of irregular or intermittent administration a very different tale has to be told—a tale of trouble and disaster that in the case of laboratory experimentation has given chloroform a bad reputation as compared with other anaesthetic agents, and has led to its falling into comparative disuse.

Further Evidence.

In the course of the last twenty years we have in this laboratory had entirely conclusive evidence of the liability to cardiac failure of this sort, especially in cats, in what is clearly a condition of light anaesthesia, while the conjunctival reflex may be distinctly present, and a tendency to reflex movements in response to afferent impulses very marked. In a series of sixteen cats, examined a year or two ago in conjunction with Dr. G. Spencer Melvin, intermittent administration of chloroform was employed, and collapse clearly due to fibrillation occurred in nine of the sixteen animals.

It is clear that in the case of the ordinary (healthy) laboratory animals, and especially in the cat, the exclusion of collapse from ventricular fibrillation would render chloroform, when used with reasonable care, a safe anaesthetic.

It is perfectly practicable to readminister chloroform again and again, using due care, without inducing fibrillation, while a sudden readministration or a sudden increase in the strength of the vapour inhaled during the sensitive stage may readily induce collapse from fibrillation. In this respect the use of mixtures of air and chloroform of known strength offers obvious advantages.

In some exceptional instances (cats) so excessively sensitive a cardiac condition may be developed, after lightening of the original anaesthesia, that recommencement of the inhalation of even low percentages of chloroform is apt to be attended by the speedy occurrence of fibrillation.

It may be noted that the hypodermic administration of such drugs as omnopon and chloral, while assisting the development of anaesthesia, do not afford any protection against chloroform fibrillation, if they do not, indeed, make the heart more prone to fibrillate; in any case, they tend towards the prolongation of the stage of insufficient chloroform which is associated with the liability to fibrillation.

Some Relations of Ventricular Fibrillation.

Ventricular fibrillation may occur at two phases of the action of chloroform: (1) In the early stage, this being by far the more common case; or (2) at a very advanced stage of the toxic action of the drug when the heart is greatly enfeebled and dilated. In some kinds of animals fibrillation may occur with great regularity as soon as the chloroform is pushed to a certain extent, weakening and dilating the heart.

Dilatation of the heart is not necessarily protective against the onset of fibrillation. Dilatation depends on diminished contraction—force and tone, while insensitiveness to fibrillation depends solely on a quite distinct condition—depression of excitability—which may or may not be associated with dilatation. Enfeeblement and diminution of tone are certainly often associated with dulling of excitability, but not necessarily so. There are cases of diminished sensibility associated with no sign of dilatation, and, on the other hand, marked proneness to fibrillation with marked dilatation.

The special incidence of chloroform fibrillation on the ventricles as compared with the auricles is noteworthy. The latter commonly preserve their rhythmic action, though they sometimes may fibrillate also.

There are some animals that seem to be specially liable to fibrillation under chloroform. In them we have very often found great resistance to the induction of anaesthesia, a very large amount of chloroform being required; during the induction marked excitability and tendency to struggle, quick irregular pulse, high blood pressure and defective vagus control over the heart. The complex and striking irregularity of the heart beat in cats in the earlier phases of chloroform administration attracted my attention very many years ago, and are mentioned in

* Analyses recently made by Mr. E. S. Edie of the air in the box as regards O and CO_2 at the end of the induction of anaesthesia showed quite trivial differences.

a paper in 1899.[5] These irregularities have recently been carefully studied by Lewis and Levy,[3] and their electrocardiographic features elucidated. It must be noted, however, that all the above-mentioned peculiarities in the behaviour of the animal may be present in a very marked degree without fibrillation occurring, and, on the other hand, an animal may go under the anaesthetic quite readily and quietly, to succumb to fibrillation at a later stage when the anaesthesia has become a light one, and there has been a recommencement or increased administration of chloroform by inhalation, especially (but not necessarily) of strong vapour, or the excitation of afferent impulses by some other cause. The onset of fibrillation is, as a rule, preceded by the development of complex irregularities.

Influence of the Vagus Control.

The relation of tonic vagus control over the heart is very important in this connexion. With normal or increased vagus tone the tendency to irregularity under chloroform is checked and fibrillation prevented.* Sudden diminution or removal of vagus tone, like cessation of (artificial) vagus stimulation, is sometimes associated with the sudden development of fibrillation. In this way variations in the activity of the vagus centre during chloroform administration, under the influence of afferent impulses (for example, operative interference during insufficient anaesthesia), constitute an element of danger in cases where fibrillation is in question. In another way also, under similar conditions, vagus slowing followed by acceleration, causing marked alterations in the blood flow, and usually associated with disturbances of the respiration —temporary arrest followed by rapid exaggerated breathing—has the undesirable effect of interfering with the steady intake of the anaesthetic, and giving effects in some degree resembling those of an intermittent or irregular supply of vapour from without.

It is in such ways that the vagus plays an important part, not in the way of causing a permanent arrest of the heart by reflex inhibition. For the latter view no shred of evidence has been found in our long series of observations; it may be set aside as quite destitute of foundation. Serious depression of cardiac efficiency by continued central stimulation (for example, excitation of the vagus centre by chloroform) has found only very rarely any illustration in our experience; in only one or two cases was much good done by removal of the vagus influence (by section of both vagi). These conclusions apply to animals (cats especially) anaesthetized with chloroform alone, no morphine or other drug being used.

The Acapnia Hypothesis.

The variety of ways in which fibrillation may be provoked under chloroform tempts one to look for some common factor beyond the tolerably obvious condition of increased irritability. The condition of acapnia, depending on an abnormal diminution of the CO_2 of the blood, suggested by Yandell Henderson[2] as a very important factor or the chief factor in chloroform collapse, naturally comes under consideration. But the production of respiratory failure is what he emphasizes, whereas our experience has left no room for doubt that the failure in early chloroform collapse is primarily cardiac. In a series of cats referred to by Henderson there was nothing to show what was happening in the heart at the onset of collapse. We are not able to find anything in the acapnia hypothesis at all adequate to meet the facts observed by us.

Recent Investigations.

The conditions associated with ventricular fibrillation under chloroform have been investigated on an extended scale by Levy[4] in recent years, and with the majority, though not with the whole, of his conclusions as applied to animals our results in this laboratory are in general agreement. The same worker has developed a comparison between the features of early collapse in cats and in man, bringing out a striking similarity in the essential features in both cases.

Experiments on Animals and Anaesthesia in Man.

In attempting to correlate these results of animal experiment with what occurs in the human subject, it must be remembered that the results described above were obtained from animals for the most part healthy, as contrasted with the various morbid conditions present in the human subjects of anaesthesia. On the other hand there is evidence that the proneness of the cardiac muscle to fall into fibrillation is greatly augmented in certain morbid conditions; the influence of disease may tell in one direction or the other, as seen in diseased animals.

The higher nervous organization and mental development of man have often been invoked as considerations in connexion with the action of chloroform, but it is important to note that the fatality of chloroform in the instances under consideration essentially depends on its action on fundamental vital functions of the vascular and respiratory systems, and not on the higher developments of the central nervous system.

Further, it is necessary to bear in mind the extraordinary sensitiveness in this respect—as regards liability to fibrillation under the influence of chloroform—in such an animal as the cat. Unquestionably the susceptibility of the latter is enormously greater than in man, otherwise the death-roll from chloroform would, under certain conditions, be an appalling one, such as would render the use of chloroform prohibitive.

It is to be noted that all the ordinary laboratory animals do not by any means (for example, the rabbit) show the same height of susceptibility as the cat. In the rabbit there may be pretty sudden cardiac failure with enfeeblement and dilatation of the heart, the rhythmic contractions persisting but being very inefficient. Such a form of failure may occur in the cat, but in the light of our evidence it is a rare form in this animal. In view of all the facts one would naturally exercise much caution in applying the results of animal experiments. At the same time there may be a susceptibility to fibrillation in the human heart essentially similar in nature to that present in the cat, though immensely less in degree, and the study of the striking and easily verified phenomena of the cat's heart may afford a clue to the hidden accidents of chloroform anaesthesia in the human heart.

The essential features of fibrillation and the general conditions favouring and determining its occurrence are so strikingly constant in all the warm-blood animals examined that there is no warrant for assuming an exception in man, but, on the contrary, a strong presumption in favour of a broad similarity in the essential nature of its behaviour in man and in mammals and birds.

Further, there is the striking resemblance between the general features antecedent to or associated with early collapse in the cat and in many recorded instances in man —tendency to excitement and struggling, with disturbance of respiration (holding the breath, exaggerated breathing, etc.). There is also a remarkable resemblance between the recorded phenomena of many cases of early collapse seen in man and those observable in the cat.

The conclusion is warranted that ventricular fibrillation is certainly the chief cause of early chloroform collapse in the cat, and is probably a very important cause of early chloroform collapse in man. No other explanation meets the facts so well as regards many such recorded cases in man; indeed, there is no other hypothesis that stands on any secure foundation.

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* This is quite a different matter from the question of vagus influence on fibrillation once it has occurred. Vagus stimulation fails to *arrest* fibrillation.

SOME OBSERVATIONS ON BLOOD PRESSURE.

BY

G. SPENCER MELVIN, M.D., and J. R. MURRAY, M.D.

RECENT advances in methods of estimating blood pressure have given a great impetus to the study of the subject. It would seem desirable, therefore, to review the methods now available. A recognition of the importance of a knowledge of diastolic pressure and of pulse pressure has made it essential to consider as methods of blood-pressure estimation only such as permit of the determination of these pressures.

Of such methods two have been prominently advanced, and one, at all events, has been considerably utilized. The two methods are the maximum oscillation method and the auditory method. An extended study of these two methods has enabled us to appreciate the value and

the defects associated with one or other method, and we propose to bring forward such points as determine in our own minds our adherence to one of the methods. In the application of the oscillation method we have made use of two instruments: (*a*) the Erlanger sphygmomanometer, which yields a graphic record, and (*b*) the Pachon sphygmo-oscillometer, in which the oscillations are examined by visual inspection. As index of systolic pressure we adopted that known as the Recklinghausen-Erlanger index—namely, the pressure corresponding to the point at which, with falling external pressure, there is an appreciable increase in the magnitude of the oscillations. With regard to the estimation of diastolic pressure, we have departed from the index suggested and employed by Erlanger. Prolonged investigation with an experimental schema convinced us that diastolic pressure was to be read at a lower level, and from the results brought forward in that experimental study we decided to adopt as the index of diastolic pressure the pressure corresponding with the point on the record at which, with diminishing external pressure, the oscillations showed an appreciable diminution in magnitude.

The indices of systolic and of diastolic pressures with the auditory method are very definite. Systolic pressure is clearly determined by noting the pressure at which the first sound is heard. Diastolic pressure is as clearly indicated by the pressure at the point at which the sound becomes diminished in intensity and duller in character—at the beginning of the fourth phase as it is called. For the present, we will omit discussion of the controversy that has centred round the acceptance of this as the diastolic index.

Our method of study consisted in the concurrent application of these two methods in a large number of cases, and in the correlation of the results obtained from each. Roughly, two classes of individuals were examined—first, a set of healthy young adults of average age 20.9—a series we have nominated as "normals"; and secondly, a series of old people and of patients manifesting pathological conditions of circulation—a class we have nominated as "pathological."

In the "normal" series we examined 59 cases, and in all were able to make some determination of diastolic index from the tracing obtained by the Erlanger apparatus. In 19 cases, that is, 31 per cent., however, there was a discrepancy amounting to 10 or more millimetres between the oscillation and the auditory readings. Yet the average diastolic pressure of these 59 cases differed by the two methods by only 2.3 mm. Were the Erlanger index of diastolic pressure to be taken—that is, the reading corresponding with the last stage at which the oscillations are maximal—then the averages differed by 12.6 mm., with the oscillation reading higher than the auditory. In such cases as there occurred a marked difference between the oscillation and the auditory readings we accepted the latter, and for these reasons: At the systolic level similar differences frequently obtained, but at this point the pressure estimated by the tactile method confirmed the auditory reading. There is thus a suggestion of unreliability imparted to the oscillation method. The teaching of the experimental schema is decidedly in favour of the auditory indications being the more definite. Again, direct experiment on animals, in which the actual pressures obtaining were accurately determined and correlated with the readings concurrently obtained by the auditory method, proved conclusively the accuracy of the auditory method. Moreover, it is recognized that the oscillation magnitude depends on a complexity of conditions liable to great variation. We are thus led to accept as definite the readings obtained by the auditory method. The actual pressures which we regard as the normal pressures may then be given as follows: Systolic pressure normally amounts to 111.8, diastolic to 65.7, and pulse pressure to 46 mm. This estimate of diastolic pressure is decidedly lower than the values commonly given, and the estimate of pulse pressure correspondingly higher.

The average pulse rate was 80.1 per minute, but we failed to establish any definite relationship between the variations in the pulse rate and diastolic pressure level.

Taking the "pathological" series, there is at once apparent a striking difference. In consideration of the abnormal circulatory conditions prevailing, and the consequent influences affecting the changes in transverse diameter and length of the artery with each pulse beat, there is to be expected an instability of the oscillation indications. So it is found. There is frequently great difficulty in making a reading of diastolic pressure from the tracing. There is frequent and serious discordance between readings thus made and the auditory reading. It may happen that the auditory and oscillation readings agree, but it just as frequently happens that they do not. In the latter case we have noted that the auditory reading may be correlated with a definite change in the tracing—a change other than that acceptable as the diastolic index, which itself, as a rule, then lies at a lower level. Again, we have noted the diastolic level indicated by the auditory method unrepresented in the tracing by any change at all distinctive. Here, as before, we accept the auditory indications. As the cases examined in this series yield a collection of pressure values in many varied conditions, there is little value in assessing averages. What we have done is to compare the ranges of variation of the different pressures with the corresponding ranges in the "normal" series. Thus, in the latter diastolic pressures from 82 to 50 were obtained, while in the "pathological" series, values from 150 to 50 were got. Similarly, the range of variation of pulse pressure was respectively in the normal and the pathological series 73 to 22 and 163 to 26. There is thus a much greater range of variation in the pathological series.

This investigation we made, brought out definitely a point of considerable importance in the application of the auditory method. In examining the "normal" series, we were struck by the remarkably low level of pressure to which the sound persisted. As we indicated earlier, this point is one of great moment. It has been suggested that the auditory index of diastolic pressure is the point at which all trace of the sound is lost—the lower limit of sound—the fifth phase. We early found, however, that between the beginning of the fourth phase—the true index, as we believed, of diastolic pressure—and the end of it there lay a wide and varying range of pressure.

We can select out of our 59 cases 14 in which the average duration of the fourth phase was 38.3 mm. The serious problem was that if we were to accept the lower limit of sound as the indication of diastolic pressure, we should have to assign to that pressure a normal value of 42.2, and to admit such incredible values in individual cases as 10, 14, 20, etc. We felt confirmed, therefore, in our acceptance of the fourth phase as the index of diastolic pressure. Further confirmation was obtained by animal experimentation previously referred to. We ascertained conclusively that the actual diastolic pressure within the artery of the animal was faithfully recorded by the distinct alteration in the sound characterizing the onset of the fourth phase, and that abolition of the sound came much later.

Now, duration of the fourth phase, variously estimated, has never been assigned such high values as we have given. It may be that light is shed on this discrepancy by results we ourselves have obtained in other series of investigations. In children, middle-aged and elderly persons in ordinary health, and in persons with thickened arteries, the fourth phase is extremely short; there is usually no serious or, indeed, appreciable error in taking the abolition of the sound as the diastolic reading, for such abolition almost immediately follows the dulling and weakening which constitutes the true diastolic index. It is in young adults that the danger of grave error becomes manifest. It is a curious fact that the occurrence of a long fourth phase should apparently be restricted, or almost restricted, to this period of life. This fact, we say, may explain the discordance between the results that have been obtained by ourselves and by other observers. Highly trained investigators have put the duration of the fourth phase at only a few millimetres, and have naturally regarded the abolition of the sound as being a sufficiently accurate guide. These observers have probably worked mainly with hospital cases and with middle-aged or old persons. It was only when we examined a series of normal young adults that we became impressed with the great variability and frequently long duration of the fourth phase.

We advance its simplicity, accuracy, and applicability as reasons for the adoption of the auditory method as the most satisfactory method of blood-pressure estimation.

VENTRICULAR FIBRILLATION THE CAUSE OF DEATH UNDER CHLOROFORM.

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THE latest of the Registrar-General's reports (1911) indicates a total estimated mortality of 243 deaths from chloroform and its mixtures in the year; this entails an incidence of two deaths every three days in England and Wales alone. The problem of the prevention of death under chloroform has evidently remained unsolved up to the present moment.

If in considering this matter I carry you back to the researches of John Snow, it is because the problem has remained largely as he left it, and because he made important observations which have become obscured in the swirl of subsequent controversies. His observations fall under two headings:

(*a*) *Clinical;* he concluded definitely that, in man, death under chloroform was signalized by a stoppage of the heart whilst the respirations were yet unimpaired—an instantaneous event occurring without warning. This conclusion is of the first importance, but it has become slurred over and ultimately lost sight of by subsequent writers; and why? Because up to the present moment no experimental observations have ever been made either by Snow or any one else which afford a satisfactory explanation of it.

(*b*) *Experimental;* he found that by administering chloroform vapour to animals in any concentration up to 6 per cent. for a sufficient period of time the respirations were first depressed and then ceased, and the heart failure, which was gradual and never sudden, was a subsequent event to the respiratory failure. He likewise pointed out that in reported cases of death under chloroform in man, in no case had it occurred in this gradual sequence.

Snow's attempt to investigate the clinical condition of death which he recognized, namely—sudden cardiac syncope—forms the least convincing portion of his experimental work, but briefly his conclusions amount to this—that vapours of 8 to 10 per cent. value may cause sudden stoppage of the heart, but vapours of 6 per cent. and under do not do so, and therefore are not responsible for fatalities. I have already pointed out the fallacy of the few experiments which Snow performed with the higher percentages elsewhere, but they need not detain us, for we now know that vapours of 8 to 10 per cent. value are outside the range of percentages available with the ordinary appliances in clinical use,* and we are therefore driven to conclude that Snow never did, as he is generally credited with doing, provide a satisfactory explanation of death occurring in the course of the administration of chloroform. However, the general result of Snow's researches has been that death under chloroform in man has been ascribed to overdosage, although, with the exception of Embley's work, no subsequent evidence has been adduced to make the position any more satisfactory. The strength of vapour which Snow deemed it advisable not to exceed for clinical purposes was 4 per cent., but deaths continued despite mechanical control of the vapour to this limit. Later on Paul Bert and his school narrowed the limit down to 2 per cent., and this percentage was declared sufficient for all purposes. Bert's teaching was strongly insisted upon by a more recent Committee of the British Medical Association, but deaths still continue and multiply; in fact, the more the limitation of chloroform vapour is insisted upon, the more frequent do chloroform fatalities become.

Later physiological research has mainly centred around the mechanism by which life is suppressed in conditions of deliberate overdosage, but little of outstanding scientific value became added to our knowledge until Embley, working on fresh lines, adduced a fact of some apparent importance. He showed that in dogs a primary cardiac failure might occur resulting from vagal inhibition of the heart as a result of the direct excitation of the vagal centres by an excess of chloroform. Embley, I think, overrated the importance of his discovery, owing to the unrestricted use of morphine in addition to chloroform; a very strong vapour is evidently requisite to produce this reaction in non-morphinized dogs—strong enough, in fact to reduce the blood pressure very rapidly, and evidently stronger than anything employed in ordinary clinical routine. Moreover, Embley neglected to study the effect of artificial respiration in relation to recovery of his inhibited hearts, and this is the more important because there exists evidence of a strong tendency towards spontaneous recovery after inhibition. Furthermore, Embley's theory would account for death during the induction period of anaesthesia alone, for the vagal inhibition does not occur in the later stages of anaesthesia, and it is therefore limited in application.

I have briefly indicated to you the unsatisfactory nature of the theories of death by overdosage, but let me for the purpose of argument admit its *possibility*. What is its *probability?* An answer to this question may be found in a consideration of clinical evidences. In a recent publication[1] I have analysed 93 cases of death under chloroform collected by a committee of the late Medical and Chirurgical Society. In 48 per cent. the patients are described by the committee itself as incompletely anaesthetized at the moment of death. A further 14 per cent. I find, on careful investigation of the original reports, afford perfectly definite evidence of light anaesthesia at the moment of death. In a further 25 per cent. there is perfectly definite evidence that the patients were not being overdosed at the moment of death; in the majority of these latter cases the chloroform had been in fact withdrawn when death occurred, and it would tax the ingenuity of Snow's most ardent apologists to attribute death to overdosage in such cases. In a further 6 per cent. overdosage appears to be improbable, and if the remaining 7 per cent. be open to question, yet there is no direct evidence of overdosage in any single one of them. It is incredible, if overdosage were in fact the common cause of death, that its symptoms should not be unmistakably delineated in at least some one of these 93 reports. We may conclude from these clinical evidences that in at least 87 per cent., and possibly in a much larger proportion of cases, death was not conditioned by overdosage with chloroform.

I will now turn very briefly to the subject-matter of the title of this paper—death under chloroform from ventricular fibrillation. The experimental basis of my theory has already been submitted in various publications; briefly, I have demonstrated that in animals lightly anaesthetized with chloroform the heart responds to sufficiently powerful stimulating influences by exhibiting a series of ventricular extra-systoles, which may on occasion, and on occasion only, culminate in ventricular fibrillation and death. Full clinical anaesthesia depresses the ventricles, and they therefore become immune to fibrillation. The requisite stimulation may be supplied through accelerator nervous influences, originating in subconscious emotions, or as a reflex from powerful sensory excitations. The stimulation may otherwise be a "passive stimulation," such as results when the vagi are cut, or when the depressing influence of the chloroform is removed, or, in other words, when the chloroform is "taken off." Again, it may occur when chloroform is suddenly reapplied after taking it off, and this is probably partly a sensory reflex, partly a direct stimulation of the cardiac muscle—an instance of the early excitory action of chloroform.

When animals die from this form of cardiac syncope the event is startlingly sudden; the respirations are not depressed at the time, and are, in fact, generally exaggerated thereafter as a result of cerebral anaemia; they eventually fail entirely, but may show a pronounced tendency to recovery for a considerable time. When ventricular fibrillation is fully established it is generally fatal; death is the rule and recovery the exception.

Here, then, is an array of experimental facts which explains every clinical condition of death at all stages of anaesthesia conforming to the clinical evidence of death by primary cardiac syncope, and likewise conforming to the clinical evidence that death is not conditioned by overdosage. When once these facts are grasped, the theory of death by overdosage perforce assumes a secondary position, and it remains to be demonstrated by clinical evidences that any deaths ever occur in practice from overdosage, my own impression being that few, if any, are so conditioned. Of course, overdosing is common enough in practice, and, admitting that the overdosed patient, with

* It is difficult to obtain a stronger vapour than 4 per cent. from an ordinary open fabric mask.

his heart's action and respiration seriously depressed, may be in a critical condition, yet I cannot conceive any qualified medical man guilty of bringing his patients into such a profoundly overdosed condition and delaying restorative measures so long that recovery becomes impossible. For the safe administration of chloroform it is necessary to assuage the *fear of overdose* which has been fostered by extremists, and which has led to the exercise of an excessive caution in its administration. Under such circumstances there may arise a condition favourable to the onset of ventricular fibrillation, and consequent death. Provided that the vapour is administered in *fully sufficient concentration* and that it is administered *continuously*, I hold that there need be no fear of a fatal termination.

The theory of death by overdose has, in my opinion, been a most deplorable one for humanity; it is, I believe, the most unfortunate theory to which physiological science has ever set the impress of currency. I would urge upon those who still continue to lay exaggerated stress upon the risk of death by overdosage that they assume a grave public responsibility in regard to the perpetuation of chloroform fatalities.

REFERENCE.

[1] *Proc. Roy. Soc. Med.*, 1914, vii, Section of Anaesthetics, p. 57.

THE RÔLE OF CARBOHYDRATE IN NUTRITION.

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A COMPARATIVELY few years ago it was generally accepted that, provided the diet contained a sufficiency of protein, the fundamental consideration was that the caloric intake be adequate. The question of the relative amounts of carbohydrate and fat was believed to be of little moment, especially after the enunciation of the isodynamic law by Rubner, in which it was stated that carbohydrate and fat were mutually replaceable in a definite proportion, the sole limitation being that imposed by the digestive organs.

No doubt it is true that, to a limited extent, fats and carbohydrates are mutually replaceable in isodynamic amounts, but, at the same time, modern work has demonstrated quite conclusively that the metabolism of these substances is very different. Although the method of assessing the value of a diet solely on its caloric value is of use, provided the diet be a good mixed one, it is futile to use this method alone as the criterion of the value of the diet in question, for it deals only with the energy value of the food, and takes no account of the chemical form in which it is supplied. A minimal amount of carbohydrate and fat respectively may be a vital necessity for the processes of cell life, and, in addition, it may be that the energy supplied in the two cases is not equally or as readily available.

There is no doubt that fats, or lipoids generally, play a most important part in the life of the cells; indeed, it may be said that no cell in the body can exist without the presence of lipoid matter in some form or other, but it has yet not been definitely established that the presence of lipoid material in the diet is absolutely essential, although the balance of evidence (Stepp, Mendel and Osborne) favours the view that lipoids cannot be wholly replaced in a dietary by carbohydrate. The possible synthesis of fat from carbohydrate, however, may permit of the amount of preformed lipoid actually required being reduced to a very small fraction.

When we consider carbohydrate we find, in man at least, that still less of the carbohydrate in a diet can be replaced by fat. The organism demands that there be a constant supply of carbohydrate circulating in the body fluids; even in advanced starvation the glucose content of the blood varies but little from the normal.

That carbohydrate cannot be replaced in a diet by an isodynamic amount of fat has been conclusively proved by feeding experiments both in man and animals, in which the variation in the output of the nitrogenous products has been investigated. Landergren and I have both carried out a series of experiments in which the diet throughout was poor in protein, but at one period consisted almost exclusively of carbohydrate, and at another of fat. The results of these experiments are well seen in the following table:

TABLE I.

Total Nitrogen Output in Grams per Diem.

	Carbohydrate.	Fat.
Landergren	8.91 ; 5.15 ; 4.30 : 3.76	4.28 ; 8.86 ; 9.64
Cathcart	6.40 ; 4.77 ; 4.79 ; 4.39	4.83 ; 3.13
(Only two days)	8.12 ; 6.65	5.25 ; 9.01 ; 13.30

It will be noted that on the carbohydrate diet there is a steady fall in the output of total nitrogen, whereas when the diet is changed to an exclusively fat one the output of total nitrogen rapidly rises.

Recently Ringer has published a valuable paper on the metabolism in phloridzin diabetes, in which he has shown quite definitely that the hypothesis first advanced by Landergren to explain the rise in the output of total nitrogen on a fat diet, namely, the increased protein catabolism (which is well marked after phloridzin) is the result of the demand of the organism for sugar—the sugar here being supplied, as Lusk and others have shown, by certain of the amino-acids. This increased protein breakdown cannot be inhibited by the administration of fat.

In conjunction with Mr. Lang, I have again investigated this problem, particularly as to the amount of carbohydrate which is necessary to check this destructive action of the fat—that is, the amount of carbohydrate required to inhibit the increased protein catabolism. Mr. Lang acted as the subject of the experiments, in which given amounts of olive oil, which served as the basal ration, were replaced by approximately isodynamic amounts of sugar. In these experiments no protein was present in the diet, which consisted either of the finest olive oil, or olive oil *plus* pure anhydrous glucose. Unfortunately, owing to the highly objectionable nature of the diet, it was found impossible to carry on the experiments with any degree of accuracy longer than three days. The effect on the output of total nitrogen of the addition of comparatively small amounts of sugar to the basal oil ration are clearly seen from the following table:

TABLE II.

323 Grams Oil.*	310 Grams Oil + 30 Grams Glucose.	297 Grams Oil + 60 Grams Glucose.	279 Grams Oil + 100 Grams Glucose.	257 Grams Oil + 150 Grams Glucose.
10.95	9.41	9.78	7.97	10.18
14.35	11.72	9.31	7.95	9.95
14.18	10.23	8.60	7.12	7.37

* A certain amount of muscular work was done during this experiment.

The addition of the carbohydrate had also a very marked effect on the output of certain of the other nitrogenous products, such as creatin and uric acid.

The very marked influence which a fat diet has on the output of acetone, diacetic acid, and β-oxybutyric acid is, of course, well known, and was excellently demonstrated in these experiments, as is shown, for example, in the following protocol:

TABLE III.

320 Grams Olive Oil Daily.

No.	Total Nitrogen, in Grams.	Total Acetone (Acetone and Diacetic Acid), in Grams.	Acetone per Cent. of Total Acetone.	β-oxybutyric Acid, in Grams.
1	14.78	0.134	28.9	0.411
2	14.96	0.389	17.9	0.895
3	13.51	0.807	11.4	1.295
4	9.51	0.039	—	0.206

* High total nitrogen output, as previous day's diet was very rich in protein (23 grams N.). Lag in nitrogen output also accounts in part for the high nitrogen output on second day.

On the morning of the fourth day a meal, carbohydrate rich but not protein poor, was taken, with the result that there was an immediate fall both in the output of total nitrogen and in the degree of acidosis. In addition to

this, the definite psychical effect of the taking of carbohydrate after the prolonged use of a fat diet was particularly well marked; the subject within an hour or two was bright and cheery, whereas previously he was dull and heavy; at the same time the feeling of physical debility and tiredness disappeared.

There is no doubt, then, that both protein and carbohydrate, and almost certainly fat, are all essential for the physiological functioning of the organism, and that these substances are only replaceable to a limited extent; in isodynamic or any other amount they are not isotamientic—that is, equal sparing. One is apt to overlook the fact that the active material of the body cells, the bioplasm, is a substance of unknown constitution; it is not simply a heterogeneous collection of more or less disintegrated food molecules. Such collections of foodstuffs as we recognize as present in the cell are probably present there as reserves, not as currency, although Hopkins recently has advanced the view that "the integrity of the metabolic life of a liver cell is as much dependent on the coexistence of metaplasmic glycogen, however small in amount, as upon the coexistence of the nuclear material itself." But even this part of the food which is not utilized for structural repair may be divided into securities and currency. The currency is available at any moment, but the securities have to be liquidated—a comparatively slow process—before they can be used. Now, carbohydrate may be regarded as the currency which is readily available, and fat the security, but a security which cannot apparently be so fully liquidated as to take its place as a universal currency.

RECENT EXPERIMENTS BEARING ON THE HISTORY OF SUGAR IN THE ANIMAL BODY.

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THE problem of the history of carbohydrates in the animal body is at present being attacked with renewed vigour, and this, no doubt, largely because of the very considerable improvements which have recently been made in the methods for the estimation of sugar and glycogen in animal tissues.

Much of this recent work has concerned either the consumption of sugar in the muscles or the glycogenic function of the liver. The work bearing on the former of these problems has in general consisted in observing the behaviour of the reducing power of the nutrient fluid perfused through the surviving mammalian heart or of the blood circulating in eviscerated animals—that is to say, animals in which no sugar can become added to the blood from the liver, etc. Although, so far, the results have been of such an inconstant and uncertain nature that no definite conclusions can be drawn from them, this much is clear—namely, that the conditions which control the consumption of sugar in the muscles are extremely complex, and that to study them we must determine, not only the amount of sugar which disappears in a given time from the perfused nutritive fluid, but also the changes which occur in the carbohydrate (glycogen) that is stored in the tissues themselves.

It is, however, more particularly with regard to the controlling function which the liver exercises on the systemic blood sugar that I desire to deal in the present communication. Since the time of Claude Bernard it has commonly been held that the surplus of dextrose absorbed during digestion into the portal blood is retained as glycogen in the liver, to be subsequently given up to the systemic blood as this requires it to make good the losses due to tissue consumption. Although there is nothing to indicate that this view is not in general correct when the conditions are strictly physiological, yet there has accumulated a large amount of evidence which indicates that under abnormal conditions the stored glycogen may, in part at least, become removed from the liver otherwise than as dextrose.

There are several ways by which such a disappearance of glycogen might be demonstrated. The most satisfactory would be by comparisons under various conditions between the total amounts of dextrose discharged from the hepatic veins into the inferior vena cava and of glycogen meanwhile disappearing from the liver. For technical reasons, however, it has so far been impossible to secure data from which such comparisons can be made. We have accordingly to be satisfied with the much less reliable information which is supplied by comparing changes in the percentage of sugar in the blood and the percentage of glycogen in the liver. It is obviously only when there is a very marked lowering of the percentage of glycogen accompanied by no, or practically no, increase in that of the blood sugar that any conclusions can be drawn from such experiments. In hydrozine and in certain stages of phosphorus poisoning such changes have been conclusively shown to occur. In several other conditions—such as in ether anaesthesia in sugar-fed dogs, and possibly in certain animals after removal of the adrenal glands—there is less conclusive evidence that the same process occurs.

The fact that in such conditions as the above glycogen may disappear from the liver without hyperglycaemia developing leads to the suggestion that even when hyperglycaemia does become established, as in the ordinary forms of experimental diabetes, some of the glycogen may also be converted into other substances than dextrose.

To demonstrate this we cannot, however, depend upon comparisons between changes in the percentage amounts of liver glycogen and blood sugar. We must rather seek in the blood issuing from the liver for the presence of such possible derivatives of glycogen. We have been trying to do this partly by histological and partly by biochemical methods; and, as conditions exhibiting an abnormally rapid breakdown of hepatic glycogen, we have chosen puncture of the fourth ventricle, stimulation of the splanchnic nerve, and temporary obstruction of the blood supply to the liver.

The histological observations in this connexion were first of all made by Ishimori working in Hofmeister's laboratory. Both in his and in our own experiments rabbits have been employed, the liver being removed immediately after death by stunning, fixed in alcohol, and stained by glycogen by the admirable carmine method of Best. At the outset it was shown by numerous controls that after feeding with excess of carbohydrates the hepatic lobule was uniformly crowded with glycogen, and that after starvation it contained only a trace, located in the cells immediately adjacent to the central vein, with, perhaps, a narrow fringe at the periphery of the lobule. After a moderate meal of carbohydrates, a picture intermediate between these two extremes was met with—namely, the central and the peripheral portions of the lobule contained glycogen, but the intermediate areas were quite free of it. It was found that ether anaesthesia for over an hour did not disturb these relationships.

When, on the other hand, the liver was taken from fed rabbits, in which, while under anaesthesia, the greater splanchnic nerve had been stimulated off and on for some time, or on which *piqûre* had been performed, a very different picture was obtained, for it was found that the glycogen had become discharged from the lobule in a very irregular manner, some parts being still tightly packed with it and others empty, but in quite a different manner from that observed after partial starvation. The most remarkable fact of all was made evident by examination under the high power -namely, that masses of carmine-stained material were located in the blood vessels, which we have never observed to be the case in the preparations from normal animals.

As far as can be judged from such observations, it would appear as if the glycogen had been extruded from the liver cells, perhaps not actually as glycogen but at least as some colloidal substance (probably a dextrine). This would explain why we are often unable to detect any increase in blood sugar, although glycogen is rapidly disappearing, for the colloidal material would obviously become precipitated along with the proteins, which must be removed before the reducing power can be determined. This colloidal material will not, however, exist as such in the blood for long, for it will very quickly become hydrolyzed by the very powerful diastatic enzyme therein present, so that it is not surprising that Lepine and his co-workers should have found that under certain conditions there is more free sugar (*sucré actuel*) in blood taken from the carotid artery than in that taken simultaneously from the right ventricle. Although

I think it would be rash to draw any final conclusions from these observations, yet I consider that they offer us much encouragement to prosecute this matter further, not only because of their bearing on the present problem, but because they indicate that it is not necessary for a colloidal substance to become broken down before it can pass through a cell membrane.

The biochemical investigations have been undertaken in order to see whether any of the glycogen that disappears becomes transformed to lactic acid. For this purpose it has been necessary to use dogs, the animals being either decerebrated or kept deeply under ether throughout the experiment, and killed while still under anaesthesia. Blood was collected from the hepatic veins through a cannula inserted in the inferior vena cava, and the amount of lactic acid in it determined by the method of von Fürth and Charnass. To serve as a normal control one sample of blood was removed at the start of the observation, after which some condition known to cause hyperglycaemia was established and other samples of blood removed. The conditions investigated have been stimulation of the splanchnic nerve, general asphyxia, and temporary occlusion of the blood supply to the liver. So far, however, the only one of these conditions which has been found to cause lactic acid as well as dextrose to appear in large amounts in the blood is the last mentioned. In a typical experiment it was found, for example, that the normal percentage of dextrose was 0.128, and of lactic acid 0.043; after applying a clamp to the portal vein and hepatic artery for five minutes, the sugar percentage rose to 0.226 and the lactic acid to 0.057, and these values fifteen minutes later were 0.107 and 0.076 respectively.

The local asphyxia produced in the liver cells by cessation of blood supply was therefore followed by an increased discharge of sugar and lactic acid. In the case of the lactic acid invariably, and in the case of the sugar in nearly all of our experiments, the increase was most marked, not in the blood which escaped immediately after the removal of the clamp, but in that collected fifteen minutes later. We may therefore conclude that the local asphyxia of the liver cells causes sugar and lactic acid to be produced in very excessive quantities; and although in this fact alone there is no warrant for concluding that glycogen is the source, yet from numerous other experiments in which the glycogen has been determined we are almost certain that this is the case.

Experiments by Embden and his collaborators have also shown that when the liver is perfused outside the body lactic acid appears in the perfusion fluid, only provided the liver contains glycogen or the perfusion fluid an excess of dextrose.

We may sum up by saying that the products of glycogen breakdown in the liver may comprise, besides dextrose, some colloidal substance (a dextrine) and lactic acid.

THE INFLUENCE OF EXCESSIVE WATER INGESTION ON THE EXCRETION OF CREATIN AND CREATININ.

BY

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IN 1910 Fowler and Hawk published the results of an experiment that seemed to indicate that creatin exists in muscle in such loose combination that it can be removed without the accompanying total catabolism of the muscle tissue. On the addition of 3 litres of water per day to a creatin-free diet given to a human subject creatin appeared in the urine in quantities up to 0.128 gram of creatin nitrogen per day. They also found a diminution of creatinin during the increased water ingestion.

A research was undertaken, of which the primary object was to investigate the accuracy of these findings. Four normal healthy male adults were obtained as the subjects of experiment. They were put upon a fixed creatin-free diet for several days, until nitrogenous equilibrium was obtained. At that point a given quantity of water was drunk each day for three days, and thereafter the diet was continued without the addition of extra water for three more days. The summary of results obtained are recorded in Table I:

TABLE I.

Experiment No.	Non-water Days.		Water Days.		Extra Water Drunk.
	Creatinin. Average per Day.	Creatin.	Creatinin. Average per Day.	Creatin.	
I	1.406	—	1.366	—	3 litres.
II	1.370	—	1.360	—	,,
IIIA	1.605	—	1.533	—	9.6 litres.
IIIB	1.605	—	1.531	—	,,

There is seen to be a constant decrease in the amount of creatinin excreted on the days of increased water ingestion, which appears to confirm the result obtained by Fowler and Hawk.

After these three experiments were completed, however, certain observations made by one of us in another connexion caused it to be believed that the decrease recorded might be due to an error of analysis arising out of the great increase in the volume of the twenty-four hour samples of urine that occurred on the water days. On these days, on account of the dilution of the creatinin, we were forced to depart from the regular routine mode of analysis adopted on the non-water days. We did so in accordance with the suggestions made by Folin in his original description of the colorimetric method of analysis, where he states that, when the creatinin is in great dilution, 20 c.cm. of urine may be taken for analysis instead of 10 c.cm., or, after development of the colour, dilution may be carried only to 250 c.cm., instead of 500 c.cm.

In Experiment III the former method was adopted, and in Experiments I and II. the latter method. On investigation it was found that both of these deviations are productive of error, giving results which show a less amount of creatinin than is actually present. Thus, 10 c.cm. of urine diluted to 500 c.cm. after development of the colour gave a reading of 10.33, indicating 7.8 mg. of creatinin, while 10 c.cm. of the same urine with dilution carried to 250 c.cm. gave a reading of 5.57, indicating 7.25 mg.—that is, the deviation which we adopted on the water days was capable of showing a decrease of creatinin which is quite fictitious. This is in agreement with observations made by Thomson and others (1913). In Experiment III. as the bulk of the urine was increased about threefold, 30 c.cm. of urine was taken instead of 10 c.cm. This deviation is also productive of error, as the following example shows: 10 c.cm. of urine gave a reading of 8, corresponding to 10.1 mg. of creatinin: 10 c.cm. of the same urine *plus* 10 c.cm. of water, carried through exactly the same process, gave a reading of 8.2, corresponding to 9.9 mg., showing again an apparent decrease which is quite unreal.

We concluded, therefore, that the apparent decrease of creatinin got by us on the water days was entirely due to our method of analysis, and that the corresponding result obtained by Fowler and Hawk was most probably due to a like error.

Two further experiments were therefore conducted. In them the urine was from the first diluted to 5.000 c.cm., this uniform dilution and a rigidly uniform process of analysis being adhered to throughout. Table II gives the results:

TABLE II.

Experiment No.	Non-water Days.		Water Days.		Extra Water Drunk.
	Creatinin.	Creatin.	Creatinin.	Creatin.	
IV	1.324	—	1.319	—	3 litres
V	1.335	0.01	1.362	0.01	,,

In Experiment IV the subject was upon an abnormally low protein diet—namely, 0.27 gram per day. This diet was continued for nine days before the extra water was added. During the period there was a continual excretion

of nitrogen in excess of the intake, indicating a loss of protein tissue. The body weight fell from 67.8 to 65.8 kilos. The creatinin excretion decreased from 1.367 to 1.313 grams per day. The figure given—1.324—is the average for the two days immediately preceding the increased water intake. During the three water days the amounts excreted were 1.330, 1.315, 1.313—an average of 1.319 grams per day. Thus, where there was a constant decrease in the excretion of creatinin, the addition of the extra water almost completely arrested the downward tendency.

In Experiment V the subject was upon a diet with sufficient protein—namely, 0.111 gram per day. There was no loss of weight, and the excretion of creatinin was maintained fairly constant, averaging 1.335 grams daily. On the addition of the extra water the average rose to 1.362. We believe, therefore, that the apparent decrease got by us in Experiments I, II, and III are quite fictitious, and that increased water ingestion, in so far as it exercises any influence on the excretion of creatinin, tends to produce a slight increase.

In Experiment V there is a small amount of creatin excreted both on the water and on the non-water days. On no other occasion throughout the course of the research could any creatin be detected. In Experiments III, IV, and V creatin was tested for by the diacetyl qualitative test described by Walpole (1911). Except in V, as above noted, on no occasion was the reaction positive.

We are forced to conclude, therefore, that increased water ingestion, even up to 9.6 litres per day, has no effect in flushing creatin out of the tissues.

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SOME EXPERIMENTAL WORK ON THE ACTION OF ENZYMES.

By E. S. EDIE, M.A., B.Sc.,

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In the last few years experiments by various workers have gone to show that Ehrlich's side-chain theory can be applied to the action of enzymes. According to this, the action of an enzyme takes place in two stages. The first consists in the union of the enzyme with its substrate, and the second is the specific digestive or hydrolytic action of the enzyme, which is finally set free to attack a fresh quantity of substrate. In such a case the first set of side-chains merely serves as a link between the substrate and the specific hydrolytic part of the enzyme molecule.

Following on this conception, it has been shown by Bearn and Cramer, Bayliss, and various Continental workers that a modified form of the enzyme or "zymoid" can be obtained in which the characteristic action of the enzyme is lost, while the power of combining with the substrate remains. This modification is obtained by heating a solution of the enzyme to a moderate extent. Excess of the zymoid solution, if added to a small quantity of the fresh enzyme, will now inhibit the action of the latter, owing to most of the substrate being combined with the zymoid, which has no longer any digestive action. Heating to a higher temperature may destroy all the active chains, in which case excess of boiled enzyme has no inhibitory effect on the fresh enzyme.

A consideration of the general similarity of the action of pepsin and trypsin on protein led me to the idea that both enzymes might unite with protein by combining with the same side-chains, but that the specific digestive side-chains differ by being active in acid and alkaline solution respectively. If this were so, we might expect that pepsin, however, would be able to unite with protein in an alkaline solution, and trypsin would similarly unite with protein in acid solution, neither enzyme being in such cases able to exert any digestive action on the protein. In the former case the pepsin would act similarly to the zymoid of trypsin, excess of pepsin inhibiting the action of trypsin on protein. Excess of trypsin, on the other hand, might be expected to inhibit the digestion of protein by pepsin in acid solution. Experiments have shown that such is the case. If pepsin is mixed with excess of trypsin, its action on protein in acid solution is inhibited, the amount of inhibition being roughly proportional to the amount of trypsin present. For these experiments boiled fibrin was principally used as the substrate.

This inhibition is not simply due to the presence of a considerable amount of protein attached to the trypsin, as it has also been found that the action of pepsin on a solid protein such as fibrin is not affected by the presence of another protein in solution, such as egg albumen or caseinogen. It might be supposed that the best way to test the truth of such a hypothesis would be to try the effect of excess of boiled trypsin, on the supposition that all power of the trypsin to combine with protein is now lost. As has been shown previously, however, the trypsin molecule is comparatively stable, and will digest fibrin or caseinogen, even after having been boiled under suitable conditions. The side-chains by which trypsin unites with fibrin are still more difficult to destroy than those with which the enzyme digests the protein, and I have in some cases observed trypsin to have a strong zymoid action even after being boiled for several hours.

It is of great importance, however, to test such solutions very carefully. In a number of cases I have found that boiled trypsin inhibits the action of fresh trypsin on fibrin, but not on caseinogen. This would seem to show that trypsin unites with fibrin by means of side-chains which are more thermostable than those with which this enzyme unites with caseinogen.

In this connexion it may be pointed out that Poliak found that treatment of trypsin with acid of a certain strength hardly affected the action of the enzyme on gelatine, while it almost destroyed its action on some other proteins. It was found that the power of trypsin to inhibit the digestion of fibrin by pepsin gradually got less the longer the trypsin was boiled, but I have never found it to disappear altogether.

It was not found satisfactory as a rule to test the effect of trypsin on the digestion of caseinogen by pepsin, this protein being but very slowly digested to the stage at which an appreciable amount of change could be conveniently estimated, such as by precipitating unaltered protein, meta-protein and proteoses by means of tannic acid.

In a manner similar to that described, it was found that excess of pepsin acting in an alkaline solution inhibits the action of trypsin on proteins, the inhibition again being proportional to the amount of pepsin present. In the case of the action of trypsin on fibrin the inhibition is again not due to the enzyme attacking the dissolved protein in association with the pepsin before acting on the solid substrate.

It may be said that both enzymes acting in appropriate solution begin to digest fibrin practically immediately, there being no preliminary interval during which any dissolved protein is first broken down into simpler products. While boiled solutions of pepsin varied considerably in their behaviour, I found in some cases that practically all power to inhibit the action of trypsin was destroyed when the pepsin was boiled for half an hour, but different specimens of the enzyme show great variations in their power to resist destruction by heat. It will be seen from these observations that the usual textbook statement that enzymes are destroyed in solution at a temperature of 70° or 80° C. must be modified. If trypsin solutions can be boiled in presence of acid without being destroyed—and in some cases without any appreciable loss of activity—there seems no inherent reason why other enzymes under suitable conditions should not resist considerably higher temperatures than they are generally supposed to withstand.

A NOTE ON A CONGENITAL ANOMALY OF THE DUODENUM ENCOUNTERED DURING OPERATION.

By SIDNEY BOYD, M.S., F.R.C.S.,

Lecturer on Applied Anatomy, University of London, King's College.

In the following case the patient was a middle-aged woman upon whom the performance of a posterior gastro-jejunostomy was contemplated for gastric ulcer. A paramedian epigastric incision had been made in the

abdominal wall. There was no congenital defect in the stomach and pylorus.

On lifting up the transverse colon and mesocolon to secure the most proximal coil of the jejunum no small intestine could be found in the immediate neighbourhood, and the duodeno-jejunal flexure was conspicuously absent from its usual situation or immediate vicinity. It was therefore decided to trace the duodenum distally from the pylorus. The latter having been picked up, the first stage of the duodenum was found to be normal in all respects, and the proximal part of the second stage also began normally and passed down behind the right extremity of the transverse colon.

From this point, however, the duodenum passed to the right and emerged as a coil of jejunum from under cover of the hepatic flexure, thence passing vertically downwards through the right loin lateral to the ascending colon to the right iliac fossa, where it lay on the lateral side of the caecum. It then passed over the pelvic brim into the pelvis, beyond which point it was not traced. There was thus a complete absence of the third and fourth stages of the duodenum and of the duodeno-jejunal flexure, and an abnormal position of the proximal part of the jejunum. The latter had, however, a well-marked mesentery which allowed it to be brought in a U-shaped manner across the ascending colon to be anastomosed with the posterior surface of the stomach, an opening being made in the transverse mesocolon for this purpose in the usual manner.

In view of the frequent performance of the operation of gastro-jejunostomy, congenital anomalies of this type, although uncommon, are of considerable importance. Variations in the exact form of the duodenum and in the position of the duodeno-jejunal flexure are not uncommon, as pointed out by Thomas Dwight.[1] Such gross defects as I have described are, however, far less often encountered, and can probably be explained by defective rotation of the primitive U-shaped intestinal loop upon its mesenteric axis, which normally brings the duodeno-jejunal flexure into its usual position.

REFERENCE.
[1] *Journal of Anatomy and Physiology*, vol. xxxi, p. 516.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN ANOMALOUS CASE OF HETEROPHORIA.

THE following case is a modification of a concomitant internal strabismus, more or less relieved by glasses, and becoming an external squint on fatigue. Occasionally both eyes swing apart momentarily from adduction to abduction and back again. It somewhat resembles three cases published by Maddox and Stirling.[1]

Mr. T., aged 21 years, states that in childhood his right eye deviated outward on fatigue.

When aged 7 years he was ordered by an oculist distant glasses (+ 2.00 D. sph., near glasses, + 2.25 D. sph., with 1.5° prism base in each eye). He wore these irregularly for twelve years, but was never comfortable. On re-examination by an oculist, though seldom replying twice alike to the muscle balance tests, he was ordered six months' rest, and the constant wear of strong prisms base out. In consequence he became prostrate with headaches.

He now, one year later, presents the following features: Vision in the left eye is less acute than in the right (⅔), but with convex glasses (+ 2.00 D. sph., in the right eye, and + 1.50 D. sph., with + 0.50 D. cyl. in the left eye) he reads ⅝ with each eye. The right eye converges slightly, and when covered moves slightly outwards for a distant object and markedly so for a near. On covering the left eye usually both are turned conjointly to the right until the right eye fixates, and on uncovering again both return to their original position. But at times, on covering the left eye, it deviates outwards instead. With the plain red glass in front of the right eye marked homonymous diplopia develops, increasing on looking to the left. The left eye gives no diplopia at all. The Maddox rods give a variety of results, usually homonymous diplopia of 11° in the right eye and 2° in the left. But, strange to say, at times crossed diplopia as much as 8° was obtained with the right eye. And, again, occasionally about 2° right hyperphoria was present. Bar reading and other tests revealed total suppression of the image in the right eye. At all times with glasses on, the deviations were less in all directions.

[1] *The Ophthalmoscope*, vol. xi, No. 2. A. W. Stirling and E. E. Maddox.

The condition is perhaps more truly described as one of convergence excess, with exophoria on fatigue, chiefly implicating the right eye. The occasional sudden transit from convergence to divergence, and the occasional hyperphoria are most probably due to prolonged muscle strain and fatigue.

The most satisfactory treatment of such a case, after careful prescription of lenses, is covering the weak eye—in this instance the right—while doing near work. Six months' rest in this way would still allow of desk work, and might then enable one to decide which movement was chiefly at fault, and an attempt to correct by prisms or operation could be more safely made.

Eastbourne. HORATIO MATTHEWS, M.D.

INTRAPERITONEAL RUPTURE OF THE BLADDER.

DR. NORMAN FLOWER'S note in the JOURNAL of August 29th (p. 398) reminds me of a similar case which I had a few weeks ago, in which transperitoneal drainage of the bladder was intentionally adopted. The patient had unfortunately suffered from the condition for three or four days before entering the infirmary, having apparently been drinking, having himself no knowledge of any injury, and having only complained vaguely of abdominal pain. His condition was, as might be expected, desperate, and no operative procedure of any length could possibly have resulted in anything but his death. I found that the tear was entirely intraperitoneal and just big enough to take a large drainage tube. I hastily put one in and another into the pelvis and did nothing more. He died of exhaustion after five or six days, having survived quite long enough to show that as far as the local condition was concerned the method was satisfactory for a desperate case of that sort. He had no abdominal pain after operation and the abdomen was soft and free from tenderness. There was, of course, considerable sepsis, with sloughing of the edges of the wound.

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Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

GENERAL HOSPITAL, COLOMBO.

TETANY FOLLOWING GASTRECTOMY.

(By R. L. SPITTEL, F.R.C.S.Eng.)

THE following is a case in which tetany developed seven days after the performance of a partial gastrectomy combined with a posterior gastro-jejunostomy. The patient was making a good recovery when a severe form of tetany suddenly supervened and carried him off within twenty-four hours of its onset.

A. M., 25, male, a Moor, was admitted on January 28th, 1914, in a nervous and emaciated condition, complaining of pain in the abdomen, vomiting, haematemesis, and progressive emaciation of six months' duration. He also complained of constipation—evidently from the lack of food—and frequency of micturition. The pain was chiefly located at a point in the linea alba about 2 in. above the umbilicus; it was also present around the umbilicus; it came on about five minutes after meals and persisted for about fifteen, at the end of which time he usually obtained relief by vomiting. Latterly vomiting had been a daily occurrence and followed almost every meal. The vomitus always showed either macroscopic or microscopic evidences of blood. He had an inclination for food, but was afraid to eat. There was pain and tenderness over an area in the epigastrium that would be covered by the palm of the hand. In the face of this history and the absence of findings associated with neighbouring organs and of constitutional disease, the diagnosis of chronic gastric ulceration with rapidly progressing obstruction was not difficult.

Operation.

On January 31st morphine gr. ¼ was administered subcutaneously, and half an hour later laparotomy was

performed. It disclosed an extensive indurated ulceration which occupied the pyloric half of the stomach; the lesser curvature and the anterior surface were particularly involved; the organ was puckered to such an extent as to render its cavity barely pervious to the tip of the little finger. Extensive adhesions connected the stomach to the pancreas and the under surface of the liver. A partial gastrectomy was performed combined with a posterior no-loop gastro-jejunostomy, with a 2¼-in. opening. A drainage tube was inserted down to the field of operation, with a gauze packing around it. There were what looked like two miliary tubercles on the under surface of the liver, but none were apparent lower down the intestines or elsewhere. Owing to the extensive adhesions and the puckering of the gastro-hepatic omentum, the operation was tedious and occupied nearly two hours. At its completion the patient was in a state of profound shock, from which he was revived by saline transfusions, the maintenance of the recumbent position with the foot of the bed raised, and other measures. The adoption of the Fowler position shortly after operations of this nature, followed by severe shock, was, I had learnt from previous experience, a likely means of courting disaster.

Microscopically the ulcer proved to be of the simple chronic variety; there was no evidence of carcinomatous change or of tubercle.

After-History.

On the evening of the operation the patient's condition had considerably improved. On the afternoon following the operation, however, he was delirious, restless, and apprehensive of death; he had also torn away the dressings, and was fingering the wound. (This change for the worse was probably due to an incident that afterwards came to my notice—namely, that he had drunk from a jug of water which the attendant had been careless enough to leave within reach of his hand.) He was quietened by injections of morphine and hyoscine. For the next seven days the patient was making a good recovery, except for a slight discharge from the wound, an occasional rise of temperature in the evening, and slight oedema of the feet. By February 6th he was taking 10 oz. of liquid food in twenty-four hours.

At 4 p.m. on February 7th, however, he complained for the first time of a feeling of weakness and of a drawing sensation in the muscles of the right upper arm and chest, which he could not control; his eyeballs showed a tendency to roll under the drooped upper lids. The next morning his temperature was normal, but the symptoms noted the previous evening were distinctly worse, and in addition new symptoms of a grave character were in evidence. There was well-marked trismus from rigidity of the masseters; rigidity of the neck and abdominal muscles was present; the eyeballs kept rolling up under the lids; there were contractures of the muscles of the upper arm and thigh, but contractures of the fingers and toes, so characteristic of tetany, were conspicuous by their absence. The patient was unable to speak or swallow, and respiration was much embarrassed owing to rigidity of the thoracic muscles. The muscular rigidity and contractures persisted with periods of exacerbation from onset until death, which supervened at noon, about twenty hours after the symptoms of tetany were first noticed. A necropsy was not available.

Remarks.

The features of interest in this case were: The rapidity with which the symptoms of tetany developed and progressed to a fatal issue, uninterrupted by intervals of complete relaxation, as far as I could make out. The onset was marked, not by typical contractures of the fingers ("accoucheur's hands"), so characteristic of tetany, but by contractures of the muscles of the shoulder, chest, and thigh. The third degree of tetany of Trousseau was well manifested, the spasms affecting the muscles of the pharynx, tongue, and larynx, and making speech and deglutition impossible. Had it not been for the characteristic rolling of the eyeballs it would have been difficult to distinguish the symptoms from those of true tetanus (especially as the patient had once torn away the dressings in his delirium), in which disease this phenomenon never, to my knowledge, occurs.

The onset of tetany in this case may have been due to feeding disproportionate to the stomach capacity and distension of that organ (proved by necropsis to be a potent cause of tetany), aided, perhaps, by inadequacy of the outlet I had established; but I had taken the precaution to make a 2½-in. gastro-jejunostomy opening. Mayo Robson's view is that gastric tetany is due to absorption of the stagnant contents of the dilated stomach, poisoning nerve centres and thereby increasing reflex irritation. Nearly all reported cases showed that tetany was relieved promptly by a drainage operation, such as gastro-jejunostomy, pyloroplasty, etc. But in this case it followed such an operation, and so it did in a case recently reported by Rodman,[1] where it developed in a young man on whom a gastro-enterostomy with a 2½-in. opening had been performed, and who was saved from death by very copious lavage of the stomach.

I had no recourse to lavage, but exhibited bromides, chloral, and other sedatives per rectum, and subcutaneously, without effecting any amelioration in the symptoms.

Reviews.

WOMEN'S VOLUNTARY AID DETACHMENTS.

In his *Manual for Women's Voluntary Aid Detachments*[2] Lieutenant-Colonel Gabbett addresses himself to a class of workers whose status is somewhat indeterminate. Their aim is to benefit the Territorial Forces, and though their position in the official arrangements is not well defined, their existence is approved by the authorities, and their help might be, and probably will be, much more utilized in the future. The increased and increasing mobility of modern armies has to a large extent altered the meaning of the term "base," and has so extended its use as to deprive it of much of its original significance. Still, so far as concerns the medical arrangements of all armies, the original idea remains unaltered; it is to get the sick and wounded moved as rapidly as possible from the fighting line to a base hospital sufficiently far in the rear for its patients to be reasonably free from the risk of being made prisoners of war, and equipped and staffed in such fashion that they have every chance of recovery. In the British army, for instance, the sick and wounded, after receiving initial treatment at a field dressing station, are, if not detained in the field ambulance—a purely mobile unit—sent back to a semi-mobile unit known as a "clearing hospital," a few miles in the rear. As soon as they are fit for transport to a considerable distance they are forwarded by ambulance train or otherwise to a stationary or other thoroughly equipped hospital at some temporary or permanent base. In the Territorial Force, however, there is no hospital unit intermediate between the mobile field ambulance and the general or "base" hospital. Presumably the authorities consider that in this country where distances are so short, and towns with well appointed hospitals are so numerous, "clearing" hospitals are superfluous. It is an open question whether this view be well or ill founded, but it is one of the factors that led to the institution of Voluntary Aid Detachments. In the view of their founders these are necessary in order to supplement the work of the field ambulances, furnish and staff improvised clearing hospitals, provide rest stations for convalescents and the slightly injured or ill, and to attend to the seriously sick and wounded during their transport from the front to a general hospital.

So far as the members of women's Voluntary Aid Detachments are concerned, Lieutenant-Colonel Gabbett holds that they should limit their technical duties to providing and working temporary hospitals, acting therein as nurses but being prepared to assist the surgeons at operations, and to do a certain amount of independent first aid work when absolutely required, taking charge of cases of typhoid fever, at all events for a time. He also assumes that all of them will already have been trained in home nursing and first aid. Consequently he limits himself in his manual to a description of the equipment and work of a temporary hospital, and of the fashion in which the members of the detachment should carry out their duties as nurses and surgical assistants, and to

[1] Rodman, *Journal of the American Medical Association*, February 21st, 1914.

[2] *A Manual for Women's Voluntary Aid Detachments.* By Lieutenant-Colonel Gabbett, I.M.S. (ret.). Second edition. 1914. Bristol: John Wright and Son, Ltd. (5×4, pp. 115. 1s. net.)

notes on first aid from the point of view of military surgery, on methods of training women's Voluntary Aid Detachments, and on the sort of equipment with which each member should provide herself with a view to her own comfort when living in improvised quarters. As to the manner in which the author has achieved his task it is possible to express an opinion quite briefly. The booklet is clearly written from end to end, and worth placing in the hands of every member of a woman's Voluntary Aid Detachment, if only for the purpose of convincing her of the greatness of the responsibilities that she and her fellows are called upon to undertake. All statements as to equipment and training are detailed and comprehensive, and those made on the subject of nursing summarize a vast subject with considerable skill.

In regard to the planning of the book, this is excellent so far as it goes, but in a future edition it would be well to include chapters dealing with other duties that these detachments can and should perform; for instance, attending to the needs of convalescents and stragglers, providing hot soup and other suitable food for the wounded on their arrival at railway stations or during detention elsewhere on their way to hospital, as also refreshments for troops conveyed by train, or men on the march. Attention might also be paid in a future edition to the apparent inconsistency of advising that for training purposes the detachments should be divided into three sections, one being a cooking section (p. 100), and yet expressing (p. 20) the opinion that while cooking classes are no doubt useful training, it would be far better to engage professional cooks for the hospital, and reserve the amateur (cooking) skill for emergencies.

Though this view may, perhaps, be perfectly sound it is curious to find it upheld in such a context, for, when all is said and done, it remains somewhat doubtful whether improvised hospitals staffed by amateur nurses can ever be of real value, even if in this country any hospital unit intermediate between the field ambulance and the general hospital be truly required. The more imperfect the tools, the more skilled should be the workers. Still, the number of Voluntary Aid Detachments in existence is very large, and if it be essential that they should include the provision and working of temporary hospitals among their duties, the more thoroughly their members study a book of this order the better for all concerned.

SURGERY.

THERE are not many books on surgery that survive the twenty-fifth anniversary of their first appearance, but there is no indication of any failing vitality in the sixteenth edition of CAIRD and CATHCART'S *Surgical Handbook*.[3] The new edition has been revised throughout and considerable additions have been made, but there have been many excisions also, so that on balance the new edition contains only about forty pages more than the old. The most considerable alterations seem to have been made in the chapters on fractures, on anæsthesia, and on spinal caries. In the first of these the method by massage and early movement introduced by the late Lucas-Championnière is recommended. "The operations on recent fractures," the authors say, "require much surgical skill and a thoroughly reliable technique, otherwise bad functional results, amputations, or even deaths are liable to result. This makes it desirable to find a method which is more widely applicable with safety and yet gives satisfactory functional results. Such we believe to be furnished by Lucas-Championnière's massage and movement treatment." After admitting that the method requires more time and attention than that by immobilization, they say:

> In the suitable cases the results amply justify the trouble taken. The principles involved can be grasped, and the manipulations required can be learnt, by any medical man, and he can have the treatment carried out in most cases by some sensible friend or relation of the patient under his direction. In mining or other industrial centres it ought to be quite possible to have persons suitably trained to carry out the treatment under the local doctor's instructions.

Many of the older diagrams used to illustrate earlier editions have been replaced by new ones. The book retains its position as a thoroughly trustworthy guide, and is still in bulk a real handbook.

Of the *Manual of Minor Surgery and Bandaging*,[4] written originally by Christopher Heath as far back as 1861 and subsequently revised and edited by Bilton Pollard, a fifteenth edition, bearing the name of Mr. MORRISTON DAVIES, has been issued this month. It contains over ninety new illustrations, and the whole of the contents have been brought thoroughly into line with existing knowledge and the most advanced technique. Quite rightly the original title of the work has been preserved, but it can no longer be said to convey a full conception of its nature. In effect, the volume is a compendium of all the technical knowledge that should be possessed by a medical man called upon to perform the kind of work that is entrusted to resident surgical officers in institutions where these are given a fairly free hand in the matter of treating casualties and cases requiring operations of the simpler kind. Moreover, the treatment of different points is in most cases thorough: for instance, despite the fact that the author lays it down as a general principle that fractures of the patella should be treated by operation, a detailed and adequate description of their treatment by other methods is supplied. No doubt most of the contents represent what is already more or less familiar knowledge to men of house-surgeon rank, but in view of its comprehensiveness and precision of statement it is likely to be useful to all those about to take up resident posts, as also to those called upon to do work of a corresponding kind without having had the advantage of holding a responsible position in the surgical wards, and to the many who at the present time are called upon to fill positions involving surgical work after long and perhaps exclusive devotion to other branches of medicine.

The book which Dr. J. G. MUMFORD, Lecturer on Surgery in Harvard University, has published on *The Practice of Surgery*[5] is inscribed to his "friends and associates in the Society of Clinical Surgery," and, as might be divined from this dedication, he has assumed throughout the book that the reader has some preliminary training in surgery. He has deliberately assigned the greater part of his space to what may be called everyday surgery. The first part of the volume is on the abdomen, and the first chapter in it is on appendicitis; this is an example of his plan of treating surgical diseases in what he considers to be "their order of interest importance, and frequency so far as this may be done with due regard to a proper sequence." The second part deals with the female organs of generation, the third with the genito-urinary organs, the fourth with the chest, the fifth with the face and neck, and the sixth with the head and spine. Thereafter follow chapters on minor surgery, on shock and the surgery of the circulation, on tumours, on fractures and dislocations, with a brief chapter on orthopædic surgery and a concluding chapter on amputations. The volume contains a large number of illustrations which are clearly drawn and well selected. Taken as a whole, the book is not only very practical, but very personal, and its value as a contribution to surgical literature rests on these two qualities.

MEDICINAL AND DIETETIC PREPARATIONS.

Hedley's Malted Milk.

WE have received for examination a sample of Hedley's Malted Milk, the wholesale agents for which are Messrs. Sanger's, Ltd. (42A, Hampstead Road, London, N.W.). This preparation is in the form of a dry powder, which makes a milky mixture with water. Our analysis showed the sample to contain: Protein (calculated from nitrogen), 12.4 per cent., fat 13.9 per cent. It possessed a considerable diastatic power, rather more than one-fifth of its weight of dry starch being digested in half an hour at the temperature of the body. It appears to possess the qualities of a nutritious food, easy of assimilation.

[3] *A Surgical Handbook for the Use of Students, Practitioners, House-Surgeons and Dressers.* By F. M. Caird, M.B., F.R.C.S.Edin., and C. W. Cathcart, M.B., F.R.C.S.Eng. and Edin. Sixteenth edition, revised and enlarged. London: C. Griffin and Co., Ltd. 1914. (Fcap. 8vo, pp. 379; 208 figures. 8s. 6d.)

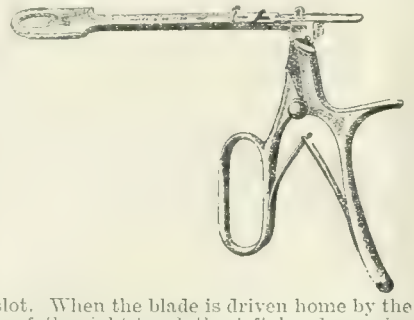
[4] *A Manual of Minor Surgery and Bandaging* (Heath, Pollard) *for the Use of House-Surgeons, Dressers, and Junior Practitioners.* By H. Morriston Davies, M.D., M.C.Cantab., F.R.C.S. Fifteenth edition. London: J. and A. Churchill. 1914. (Cr. 8vo, pp. 475; 239 figures. 7s. 6d. net.)

[5] *The Practice of Surgery.* By J. G. Mumford, M.D. Second edition, thoroughly revised. Philadelphia and London: W. B. Saunders Co. 1914. (Roy. 8vo, pp. 1052; 681 figures. Cloth, 30s. net.)

MEDICAL AND SURGICAL APPLIANCES.

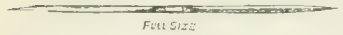
A Tonsillotome.

MESSRS. MAYER AND MELTZER, of 7, Great Portland Street, W., have made to Dr. T. Muirhead Martin's instructions the tonsillotome for the enucleation of tonsils shown in the accompanying illustration. It is, Dr. Martin (London, N.E.) writes, a modification of that of Ballenger of Chicago, but the handle is at right angles to the shaft, and when the blade is driven home the angle becomes obtuse. Again, the length of the shaft is 15 cm., and keeps the handle clear of the patient's face. The shaft is strong and does not bend when pressure is exerted in raising the tonsil forwards. The ring is thin, having an oval opening, the length of which is 22 mm. and the width thereof 20 mm. The edge of the blade is dull, and is received into a shallow roughened slot. When the blade is driven home by the scissors-like pressure of the right hand, the left hand remains free to manipulate the tonsil well into the ring and to steady it, and so protect the anterior faucial pillar as the blade—which cuts immediately behind the upper surface of the ring—enters between that pillar and the tonsil. The whole instrument can be readily and quickly taken to pieces and boiled.



A Note on Central-eyed Needles.

Mr. PERCIVAL P. COLE, F.R.C.S. (London), writes: I have for some time been using needles with a central eye and pointed at both ends. With the aid of a needle holder—an ordinary pair of Spencer Wells's forceps—any fingering of the needle or thread is easily avoided. The movements of supination and pronation are made use of so that the same grip that pulls the needle through serves to reinsert it. The thread or gut is knotted together at the ends and the first stitch is fixed, not by tying, but by passing the needle through the loop. Thereafter, the suture is continued with a double thread, thus permitting the use of a finer suture than would otherwise be safe. The needles are very handy for stitching the pelvic peritoneum in such operations as hysterectomy, where the ordinary needle is withdrawn at every stitch to allow the grip to be shifted. The needles are made straight and curved, the straight being the more generally useful. With the straight needles an ordinary overstitch, a blanket stitch, a *post-mortem* stitch, or a continuous Connell stitch can be readily and quickly inserted. The curved needles cannot be used for any form of overstitch, but serve for the insertion of continuous mattress or *post-mortem* stitches.



Full Size

The straight needles can be obtained from Messrs. Allen and Hanburys, Limited, 43, Wigmore Street, London, W., and from Messrs. A. Browne of Leicester. The former firm will also be in a position shortly to supply the curved needles of this type.

MOTOR CARS FOR MEDICAL MEN.

TESTING A CAR FOR COLONIAL USE.

By H. MASSAC BUIST.

THE Royal Automobile Club has lately completed a test on novel lines of a colonial Napier chassis of nominal 20 h.p. and 19.6 h.p. according to Government rating, the bore measurement of the four-cylinder engine being 89 mm. and the piston travel 187 mm. In the condition in which we travelled—I made one of the daily stages—the machine weighed very little less than two tons. Starting from London, on the way down to Surrey we quitted the main road to plunge through the river Wey, which was 3½ ft. at its deepest where we crossed it on the day in question. This caused no difficulty, either to ignition or carburation, for all these details are admirably contrived to enable these sort of manœuvres to be accomplished as matters of course. Then we proceeded to Hankley Common, which is a series of hillocks clad in gorse to a depth often above the hub caps.

The point of this part of the test was incidentally that it is impossible in the circumstances to foresee the holes and ruts of the way into which you are dropping. After each passage of the car the thick undergrowth springs back again, so that no trace is left behind to serve as a guide for the next journey over the same route; nor was the way flagged. Therefore we drove only by direction and by total mileage, no two journeyings over the route giving the chassis the same series of shocks. That they were shocks may be judged from the fact that a monocle of one of the passengers was shaken out of its gold rim, in addition to which we lost our caps as we bounced about when the wheels fell into ruts and holes. Yet the axles never once cracked against the frame of the car, therefore, though we had plenty of bouncing, we had no jars and sustained no bruises.

Nor did the car go at the work at a crawling pace. On the contrary, it revealed a very ready acceleration, while the brakes came in for good testing when we suddenly found ourselves coming along the edge of a hill and perceived the land disappear in front of us. The machine made a descent down the heather-clad side in cat-like fashion. The chassis was twisted in all manner of ways, but invariably sprang back on the car passing on to more level ground.

After doing fourteen miles of this each morning and afternoon for four consecutive days, the car was driven an additional four miles over a sand route the loose surface of which was sometimes quite 18 in. deep, while the hard under portion was of exceedingly irregular contour. Only when we got on to the high-road again did we realize how refined a vehicle this is. It was a real test of a practical character, which served to reveal the machine as being capable of withstanding the shock of overseas service in districts where roads are conspicuous chiefly by their absence, and that, in addition, the Napier firm, which is making such a speciality of cars for colonial service, has contrived in most ingenious fashion to embody those particular qualities of refinement which are perhaps the most distinctive feature of the first-class British motor carriage for home service.

TYPHOID FEVER IN CAMPS.

THE EXPERIENCES OF THE UNITED STATES DURING THE WAR WITH SPAIN.

IN 1898, in consequence of the outbreak of war with Spain, commonly called the Cuban war, the United States assembled a large force of volunteers under conditions not very dissimilar to those existing in this country to-day. The camps of the volunteers were very severely visited by typhoid fever. The history and causes of this serious outbreak were fully described and discussed in an elaborate report by a board of medical officers (Mayors Reed, Vaughan, and Shakespeare) appointed on August 18th, 1898.

The full text of the report was not issued immediately, but shortly after it reached this country, in 1905, it was subjected to a very careful and detailed examination for this JOURNAL, and it was shown that a study of the facts and discussions in the report rendered the following inferences obvious.[1]

GENERAL CONCLUSIONS.

In military expeditions, and in any encampments which are to be occupied for a prolonged period, it is of first importance at the outset—or rather, beforehand—to appoint a sufficient number of expert officers to be on the look-out for the first cases of typhoid fever which are sure to occur sooner or later, and for the insidious and abortive cases so liable to escape notice.

In the second place, it is of no less importance to give the medical officers every facility for the separation of such cases from the crowded tents, and for the thorough disinfection of their excreta, bodies, clothing, and tentage.

Without such precautions and provisions all encampments occupied for longer than a few weeks will be liable to disastrous typhoid epidemics.

HISTORY OF THE OUTBREAKS.

From the report it appears that about the end of April or beginning of May, 1898, over 100,000 volunteers had

[1] BRITISH MEDICAL JOURNAL, July 13th, 1905, p. 137.

assembled and encamped in their respective States. After two or three weeks, most of the various regiments were drafted to large national encampments on selected sites in Virginia, Florida, Georgia, Pennsylvania, and Alabama.

It was found that "typhoid fever became epidemic in camps located in the Northern as well as those located in the Southern States."[2]

It was computed that more than one-third of these regiments had cases of typhoid amongst them by the time that they arrived at the national camps; whilst 98.11 per cent. of the regiments developed the disease within eight weeks after their arrival.

In the five months, May to September inclusive, among 107,973 officers and men in ninety-two regiments, 20,738—that is, very nearly one-fifth—are reported to have become infected; and, 1,580—that is, 14.63 per 1,000 of the mean strength—died of the disease.

In arriving at these figures the Board took into account the cases recognized as typhoid fever by the army medical officers, and so recorded in army returns, and also a number nearly equal to those recognized, which the Board was satisfied were really typhoid fever, though appearing in the first returns as diarrhoea, malaria, or fever. Detailed examination of the full report leads to the conviction that the numbers of "probable" cases, as estimated by the Board, were approximately correct, and that about half the cases which occurred were either missed or wrongly diagnosed by the regimental surgeons. No discredit attached to them on this account. The Commission testified to the fact that the medical officers both in the volunteer and in the regular service were men of more than ordinary professional ability, but, "owing to the wise rule that all cases of forty-eight hours' sickness should be sent to the division hospital, the regimental officers had the majority of these cases under observation for so short a time that it was impossible in a large percentage of the cases to make a positive diagnosis."

On account of these and other conditions of camp life, abortive and ambulant cases of typhoid were generally overlooked. Consequently these cases, which were distinctly infective, remained in the camp unseparated from their fellows, with no provision for the disinfection of their excreta, clothing, bedding, etc., and many conveyed the infection to a large number of their comrades before the presence of typhoid was even suspected. Numerous instances of this kind were to be found in the regimental records of the report.

The exhaustive inquiry made by the Board into every case reported sick with any germ of intestinal or febrile disease in forty-eight regiments, numbering 55,829 men, revealed the fact that a marked immunity from typhoid fever was enjoyed by those who had been reported as sick from malaria and transient fever, or diarrhoea, as compared with those who had been exempt from such attacks. These facts indicate that a large proportion of those cases recorded as cases of malaria, transient fever, or diarrhoea must have suffered from attacks of typhoid, slight in character, but sufficient to confer immunity. The importance of these observations and conclusions can hardly be overrated. They plainly show the necessity of providing the means for detecting the abortive and ambulant cases of typhoid in camps if epidemic invasion is to be prevented, and of appointing especially experienced officers for this purpose.

CAUSES OF THE EPIDEMIC.

The Board came to the conclusion that "infected water was not an important factor in the spread of the epidemics." The most important conclusions contained in the report were as follows:

Typhoid fever is more likely to become epidemic in camps than in civil life because of the greater difficulty of disposing of the excretions from the human body.

A man infected with typhoid fever may scatter the infection in every latrine in a regiment before the disease is recognized in himself.

Camp pollution was the greatest sin committed by the troops in 1898.

Some commands were unwisely located.

In some instances the space allotted the regiments was inadequate.

Many commands were allowed to remain on one site too long.

Requests for change in location made by medical officers were not always granted.

Superior line officers cannot be held blameless for the insanitary condition of the camps.

Greater authority should be given medical officers in questions relating to the hygiene of camps.

It may be stated in a general way that the number of cases of typhoid fever in the different camps varied with the methods of disposing of the excretions.

The tub system of disposal of faecal matter as practised in the Second Division of the Seventh Army Corps is to be condemned.

The regulation pit system is not a satisfactory method of disposing of faecal matter in permanent camps:

"*In many camps orders were issued requiring each man to cover his faeces as soon as deposited; but we did not inspect the pits of a regiment in which we did not find exposed faecal matter.* Moreover, in our camps in 1898 flies swarmed so numerously that the first droppings of faecal matter were often covered with them before the act of defaecation was completed."

In permanent camps, where water carriage cannot be secured, all faecal matter should be disinfected and then carted away from the camp.

To guard against the contamination of the water supply, troops in the field should be provided with means for the sterilization of water.

Flies undoubtedly served as carriers of the infection.

It is more than likely that men transported infected material on their persons or in their clothing, and thus disseminated the disease.

Typhoid fever, as it developed in the regimental organizations, was characterized by a series of company epidemics, each one having more or less perfectly its own individual characteristics.

It is probable that the infection was disseminated to some extent through the air in the form of dust.

A command badly infected with typhoid fever does not lose the infection by simply changing location.

When a command badly infected with typhoid fever changes its location it carries the specific agent of the disease in the bodies of the men, in their clothing, bedding, and tentage.

Even an ocean voyage does not relieve an infected command of its infection.

After a command becomes badly infected with typhoid fever, change of location, together with thorough disinfection of all clothing, bedding, and tentage, is necessary.

Except in case of the most urgent military necessity one command should not be located upon the site recently vacated by another.

The fact that a command expects to change its location does not justify neglect of proper policing of the ground occupied.

It is desirable that the soldiers' beds should be raised from the ground.

In some of the encampments the tents were too much crowded.

Medical officers should insist that soldiers remove their outer clothing at night when the exigencies of the situation permit.

In military practice typhoid fever is often apparently an intermittent disease.

[Not that the apparent intermissions were afebrile, but that men sick with the disease had periods of improvement so marked that regimental surgeons sometimes returned to duty, probably at the request of the men, those who were suffering from typhoid fever.]

The report was written before the existence of "carriers" of typhoid fever infection was suspected, otherwise the Board might have found in this condition, the reality and relative frequency of which is now so well established, an explanation of the fact that "certain tents were badly infected, and the majority of all their inmates developed the disease, while other tents wholly escaped."

[2] Report, vol. i. p. 659.

MESSRS. METHUEN announce the immediate publication of *Nursing in War Time*, by M. N. Oxford, author of a *Handbook to Nursing*. The new book will be issued at a shilling.

British Medical Journal.

SATURDAY, SEPTEMBER 19TH, 1914.

THE JOURNAL DURING THE WAR.

On the outbreak of war it was announced that it had been found necessary materially to reduce the number of pages in the weekly issues of the Journal and Supplement. The financial and commercial dislocation produced at the outset made it imperative that the British Medical Association should practise careful economy, and though the position in both respects has improved, it is still very far from normal. The effect of the efforts to develop British trade in new markets is not yet felt, and the supply of paper for printing is at present limited, and its price, therefore, materially higher than before the war. How soon the market will be able to adjust itself to the new conditions cannot be foreseen, and prudence dictates husbanding the resources of the Association. We have no doubt that members will approve the policy which circumstances have compelled the officers of the Association to follow. We have, indeed, gratifying evidence that this is the case in the ready response with which the request made to members desirous of addressing the Journal that they should write as succinctly as possible has generally been met. Every effort will be made to minimize any inconvenience to members, and to enable the Journal to render its customary services in the same way and over the same ground though on a smaller scale. In order that this policy may be successfully carried out we would appeal to all members for their support.

It is hoped that no member will be deterred by the necessary diminution in its size from sending communications to the Journal on matters of medical, surgical, or sanitary importance, more especially such as have a practical bearing on the many difficult problems which the profession must face in preserving the health of the forces now on foot, and in restoring the fighting efficiency of the sick and wounded.

We are able to publish this week four articles dealing in a practical way with matters of vital importance. Professor Saundby discusses the value of open-air hospitals in war-time. After referring to the value now known to attach in civil life to the treatment in open-air wards, not only of consumption and tuberculous bone disease, but also of other disorders of which perhaps septic infection is the most apposite example, he quotes from a circular of the late Surgeon-General Billings the definite statement that the object to be kept in view in the construction of military hospitals is "to furnish shelter without diminishing that supply of pure air and light which is necessary to health." Professor Saundby's suggestions seem to be particularly applicable to the extension of hospitals, whether in the grounds of general hospitals which are placing some of their beds at the disposal of the military authorities, or of the general hospitals of the Territorial Force, which in many cases have been established in colleges and schools, or in other buildings not primarily intended for hospitals.

Professor Sims Woodhead describes in detail a rapid method of testing and sterilizing water supplies which he has proved to be reliable in practice. Not only can it be very quickly applied, but it gives, he finds, trustworthy information as to the absence of members of the *B. coli communis* group, and of such pathogenic organisms as those of typhoid fever and cholera. The method seems to be particularly applicable to any suspicious water supply which may have to be utilized in camps or at small stationary hospitals. In the field the difficulties must be great, but, owing to the speed with which the test can be made, not always insuperable. Further, the test indicates a means of rendering even a highly polluted water safe for drinking, and he outlines a method by which this can be done.

The epigram, attributed to Napoleon, to the effect that an army marches on its belly was more telling in the days before railway trains and motor cars, for now we think of army corps being entrained and detrained, and of supplies of food as well as ammunition being brought up by strategic railways. But during the great march of the German hosts through Belgium to Meaux they had little help from railways for the transport of men, and the British army apparently had none during its retreat from Mons. Both operations show how even under the most modern conditions the rate of movement of an army is dependent on the pace of its foot soldiers, and to how great an extent that pace and the cohesion of the units depend upon the feet of the foot soldier. Therefore a particular interest, even a popular interest, attaches to the very practical paper contributed to the Journal this week by Mr. Basil Hughes of Bradford, who is serving as a medical officer with one of the West Yorkshire regiments. It deals with such commonplace subjects as stomach-ache, diarrhoea, and sore feet, which, however, assume epic proportions when the greatness of the issues they influence is remembered. There must be something peculiarly mortifying to a keen soldier in being rendered useless, and worse than useless, by blisters and excoriations due to want of care in the fitting of boots and inattention to the hygiene of the feet. It was one of Mulvany's early experiences to have a boot gall. "Our docthor, who knew our business as well as his own, he sez to me—in the middle of the Tangi Pass it was—'How often have I tould you that a marchin' man is no stronger than his feet—his feet—his feet,' he sez. 'Now to hospital you go,' he sez, 'for three weeks, an expense to your Quane, an' a nuisance to your counthry. Next time,' sez he, 'perhaps you'll put some av the whiskey you pour down your throat, and some av the tallow you put into your hair, into your socks,' sez he. Faith he was a just man." Mr. Hughes gives some practical directions for the care of the feet, and the method he recommends is more cleanly than the old German plan of rubbing the feet with mutton suet, to which 2 per cent. of salicylic acid was sometimes added. It is stated[1] that the modern German military method is to paint the feet with a 5 per cent. solution of chromic acid, and that formalin has been used extensively with excellent results in the French army, the feet being bathed in a 1 per cent. solution.

We are indebted to the Master of Christ's College, Cambridge, for some notes on insects and war, the first of which—on lice—is published this week. Apart from the risk of the conveyance by these insects of typhus and relapsing fevers, the presence

[1] Norman Walker's *Introduction to Dermatology*.

of lice in the clothing is particularly revolting, and not only interferes with sleep and the comfort of the body, but also with comfort of mind. Dr. Shipley gives a set of rules which he has drawn up, in consultation with Dr. Nuttall, Quick Professor of Biology at Cambridge. Happily, though it may be difficult under service conditions for even the most cleanly wholly to prevent infestation, it must usually be possible to free the garments of vermin, for the methods and materials required are comparatively simple and usually available.

THE EFFICIENCY OF OUR ARMY AS A FIGHTING MACHINE.

IN an article published last week attention was drawn to the absolute necessity of taking prompt action to safeguard the health of the Territorial and of the new forces against preventable diseases during this immense campaign. We hope that the medical and sanitary department of our fighting machine may now establish a new reputation in the history British wars. But if this is to come about, the of lessons taught by experience dearly bought in the past must be applied. Sanitary administration in its attempt to prevent such avoidable diseases as typhoid and dysentery, has hitherto invariably broken down in every great war in which the British nations have been engaged. The tens of thousands of our soldiers stricken down by these diseases in the South African war meant even more than that these tens of thousands dropped out of the fighting machine; it meant, in addition, that a large section of the Army Medical Department, and of the hospitals, and the energies of many thousands of men were withdrawn from the real fighting machine to mitigate evils that foresight might have prevented. The chief reason for the breakdown of preventive measures was to be found in the fact that during the early, and in this respect the vitally important, stages of a campaign too little absolute power was given to the medical officers to enable them to carry out with a sufficient staff the absolute essentials of a healthy camp. Military exigencies must not be allowed to dominate medical necessities to the detriment of the value of the army as a fighting machine. Commanding officers have a great responsibility to the country in this matter, and should personally see to it that the medical officers have sufficient authority and means for dealing with the hygiene of camps. It is as essential to act promptly in the field of prevention as it is imperative in another department of professional work to cure by immediate operative interference. The one is to-day recognized to be a truism; the other, unfortunately, is not yet, judging from conditions we have ourselves seen and from opinions that reach us from reliable quarters.

The Army Medical Department is on its trial. Will it come out as triumphantly as did the Japanese Army Medical Department in the Russo-Japanese war, after its reorganization only a few years before the outbreak of that war? We hope so, but cannot feel confident that adequate measures are being taken to ensure this happy result.

As to the reality of the danger, there are no two opinions among experts, but, in order to illustrate the subject by a concrete example, we publish this week (p. 510) a brief analysis of the elaborate report of the special committee appointed to inquire into the causes of the great outbreak of typhoid fever which occurred among the volunteers assembled by the United States military authorities in camps during the Cuban war One-fifth of the volunteers in these camps became infected within five months; it is impossible to suppose that any large proportion of these men were afterwards of any military value, and it is known that 14.63 per 1,000 of the mean strength actually died of the disease. We have quoted textually a number of the conclusions of the commission of inquiry because they seem particularly applicable to the conditions existing to-day in this country where large bodies of volunteers are being enlisted and must be assembled for training. One or two of the commission's conclusions we have ventured to print in italics because they go to the root of the matter, and indicate the means that must be taken to remedy defects in principle which affect the whole organization of the Territorial and the new forces, and the errors in detail which we know exist in some districts.

The responsibility for safeguarding the health of the Territorials and the new troops must be fixed. At present it is not fixed. The War Office, no doubt, recognizes that it has responsibilities at certain stages and in certain directions, but we have, or are shortly to have, somewhere about a million and half men, young or in the prime of life, taken out of civil life and brought under military control. At present many are only nominally under military control, but this stage will soon pass, and the gigantic task the War Office has undertaken must include the organization of an efficient sanitary medical service for the new forces. At present this sanitary medical service does not exist except in embryo. New conditions have arisen and call for new methods. The aid of the local civilian sanitary service is needed, and will, we do not doubt, readily be given, but we hope to see the Local Government Board giving a strong lead.

MEDICAL PROVISION FOR DEPENDANTS OF MEN SERVING WITH THE COLOURS.

THE medical profession throughout Great Britain will read with satisfaction the correspondence printed in the SUPPLEMENT for this week setting out the cordial response of the Government to the offer of the profession to give gratuitous medical attendance to the dependants of men called away from their ordinary employment to do military service for the country, and of the pharmacists to co-operate in this great national work. As Mr. Pease informs the public in his letter to the press, the scheme originated in an offer made by the British Medical Association and the Pharmaceutical Society of Great Britain The Chairman of Council and the Medical Secretary of the Association are issuing, through the Honorary Secretaries of the Divisions, a letter to members of the profession engaged in general practice in Great Britain, and there can be no doubt about the response, for the movement to make this offer was entirely spontaneous and began simultaneously in many widely separated parts of the country. It was evident that careful organization would be necessary if this generous offer was to be utilized to the best advantage and abuses avoided. The Central Committee for the Relief of Distress has set up a special subcommittee, with the Duke of Devonshire as chairman; it contains representatives of the British Medical Association and the Pharmaceutical Society, as well as of the National Insurance Commissioners whose experience it is believed will be helpful in bringing the scheme into operation. The details of the scheme are set out in the letter from Dr. Macdonald and Dr. Cox which is published in the SUPPLEMENT. It will be seen that great care has been taken to make the working of the scheme as simple as possible, and by co-operation with the local committees to obviate abuse. The Executive Committee of the Prince of

Wales's Fund will defray the cost of medicines and appliances supplied in connexion with the scheme, so that it will be available entirely free of cost to those for whose benefit it is intended. Mr. Pease in his letter states that the Government fully recognizes the magnitude of the sacrifice entailed on the two professions and the expenditure of labour involved on the part of their organizations—the British Medical Association and the Pharmaceutical Society.

THE CARE OF THE WOUNDED IN WAR.

To the current number of *Blackwood's Magazine* Major F. A. Symons, M.B., R.A.M.C., contributes an article on the care of the wounded in war, and it will be observed that the arrangements he describes apply to an army which is advancing or stationary. They must immediately become dislocated during a rapid retreat such as that of the British Army from Mons. Taking a division of 18,000 men of all arms as a basis, he says that of this force only about three-fifths will be actually engaged with the enemy, the rest being employed in various non-fighting capacities. Of the 10,000 actually engaged 10 per cent., that is 1,000, must be expected to become casualties. Of that number 20 per cent. will be killed. Of the 800 left to be dealt with, 20 per cent. will be able to walk to the divisional collecting station. There having received what surgical aid they need they will remain till the end of the engagement, when they will return for the remainder of their treatment to their units; 640 are therefore left for admission to hospital; 60 per cent. of the 800 can be carried in the ambulance wagons sitting up; 15 per cent. will require lying-down accommodation; and 5 per cent. will be unfit to be moved from the place where they fell. Each infantry company has two regimental stretcher bearers trained in first aid work, who at the beginning of an action are posted in the rear, under the command of a medical officer. When a soldier is hurt first aid is at once applied by the bearers, and the wounded man is carried to the shelter of a rock, a ditch, or trees that may be near. Each officer and soldier carries in a pocket in the left-hand skirt of the khaki jacket a first field dressing consisting of two bandages and two antiseptic pads in a hermetically sealed cover; one pad is for the aperture of entrance, the other for that of exit. Fractured legs and other serious injuries are treated later when the opportunity occurs, or if the case is very urgent, by means of improvised splints. The wounded having been deposited in their temporary resting places, the bearers continue to advance in the rear of the fighting line. Each of the three brigades in a division is provided with a field ambulance of three sections, each consisting of a bearer and tent subdivision. In action one tent subdivision is usually pushed forward as near the fighting line as seems to be safe, in order to establish a dressing station. From this station the bearer subdivisions, equipped with stretchers and supported by ambulance wagons, set out to search for wounded over a definite part of the fighting zone. In this way the wounded are gathered from an area of perhaps several miles from the regimental aid posts and are conveyed to collecting stations, which consist of groups of ambulance wagons. These wagons, when full, proceed to the dressing station, where, if necessary, wounds are dressed afresh, more elaborate appliances than the first field dressing are used, and urgent minor operations may be performed. The wagons then load up again from the dressing station and proceed to the full tent subdivisions of the field ambulances in the rear, perhaps three miles off, which have tents accommodating 150 wounded and an operating tent. As a field ambulance is essentially a mobile unit which may be required to move forward at any hour with its advancing brigade, the wounded must be taken as rapidly as possible back to the nearest railway. A new mode of evacuating a field ambulance is now being tested for the first time in actual warfare. This is the manner of removing the wounded on the evening of a day of battle from the field ambulances to the clearing hospital of the division. It is established either in tents or suitable buildings and is expected to accommodate 200 patients. Its position is at the nearest rail-head. It has no beds, but is provided with stretchers and a complete equipment of cooking and operating arrangements. What is now being tried is the utilization of the motor lorries of the Army Service Corps which carry the rations for the troops. The clearing hospital, being warned of the hour of departure of the lorries, sends small parties of R.A.M.C. trained orderlies with them. The field ambulances, having also been warned, carry their wounded in their horse wagons to the refilling point, and there load them into the returning empty motor lorries under the care of the clearing hospital staff sent forward. Stretchers and straw are provided, and the lorries can be made nearly as comfortable as a motor ambulance wagon. As these lorries convey food up to a distance of twenty-five miles from the rail-head, it will at once be seen how valuable their speed may be as compared with the old method of horse ambulance transport. From the clearing hospital the wounded are transferred direct to an ambulance train equipped for some 350 cases, and provided with well-appointed berths, a kitchen, food, and a trained nursing staff. It runs between the rail-head and the base, but if the lines of communication are long it may be confined to one section of the line. Stationary hospitals (tented or otherwise), each accommodating 200 cases, are located at suitable places on the line of rail. The base or general hospital is equipped for 520 cases, and possesses a staff of skilled operators, nursing orderlies of the Royal Army Medical Corps, and about forty nursing sisters. Except that it may be under canvas or in improvised buildings, such a hospital is as well appointed as a first-class hospital in England. The patients treated in it either return, cured, to the front or are dispatched in hospital ships to the home hospitals. At certain points along the line of communication there are "advanced dépôts of medical stores," where the various field units can get fresh medical and surgical equipment. The scale of such equipment may be gathered from the fact that an operating tent is provided with a modern operating table, up-to-date utensils, and elaborate sterilizers; and through a hole in the canvas projects a tube carrying acetylene gas from a generator outside, which supplies a great operating lamp. In addition to this organization for treatment, there is a sanitary service, consisting of sanitary sections and squads under skilled sanitary officers of the Royal Army Medical Corps. The value of this modern effort of science to win battles by keeping the fighting men fit, and especially protected against such diseases as enteric fever and cholera, which are more deadly than bullets, cannot be overestimated.

CASUALTIES IN MODERN WAR.

Some idea of the amount of maiming and killing to be expected in the present war may be gained from a recent book by Dr. Octave Laurent, of Brussels, an abstract of which is published in the *Boston Medical and Surgical Journal* of August 20th. Dr. Laurent, writing from experience of the war between Bulgaria and Turkey, says that Bulgaria put into the field in the two wars more than 500,000 men drawn from a population of about 4,300,000. The number killed was 46,000 and of wounded 115,000, giving a total of 161,000, representing one-third of the effective force of the whole army. The proportion of deaths among the wounded was 1 in 4. During July (1913) 150,000 men were killed or wounded on both sides. Taking these figures as a basis of calculation, Dr. Laurent arrived at the estimate that in a war between two first class Powers there would

be not less than 1,500,000 killed and wounded in the course of the first month. The high proportion of the killed to the wounded in the Balkan war is, he thinks, a feature of modern warfare. Shrapnel shells were responsible for more than half the number of deaths, but for less than one-fifth of the wounded. Rifle fire was comparatively ineffective, the wounds made by bullets being small and clean, and healing quickly without complications. This seems to be the general experience of the present war. Another feature which is being repeated is the infrequency of amputation; the percentage in the Balkan war was less than 1 per cent. of all the cases treated in the hospitals. Laurent's statistics show from 82 to 84 per cent. of bullet wounds, from 15 to 17 per cent. of shrapnel wounds, and 1 per cent. of wounds by cold steel. Infection in the course of the projectile was observed in 40 per cent. of cases by shrapnel, and from 10 to 28 per cent. of bullet wounds. The number of wounds cured without any complication was 75 per cent. Shrapnel bullets have a much less penetrative force than rifle bullets, at any rate when the shrapnel does not burst close to the soldier.

LOUVAIN.

THE University of Louvain, which has fallen a sacrifice to the spread of Teutonic culture, was founded in 1425 by Duke John IV of Brabant. In the sixteenth century, when the university was at the height of its fame, it had 6,000 students. One of its most famous teachers, Justus Lipsius (1547–1606), whose statue is one of the few monuments left standing by the Germans, says that if one looked at the town from a neighbouring hill there was hardly a prominent building that was not connected with the university. There were four literary schools known respectively from their insignia as the *paedagogium castri* (fort), *porci* (pig), *lilii* (lily), and *falconis* (falcon). There was also a *Collegium trilingue Buslidianum* founded by Hieronymus Busleiden, who died in 1517; this was specially intended for the teaching of Latin, Greek, and Hebrew. Louvain was in old times, as it is is still—or was till the other day—chiefly celebrated as a school of theology, but for anatomists it had almost a sacred association owing to its connexion with the great name of Andreas Vesalius. The reformer of anatomy was a student in the *paedagogium castri* and also in the *Collegium Buslidianum*, where he gained that knowledge of the ancient tongues which was to prove of such service to him in the scientific controversies of his later life. It was when he was at Louvain that Vesalius secured a human skeleton by climbing the gallows outside the town. He had to convey the bones home secretly, re-entering the town by a different gate from that by which he had gone out, and articulating his stolen treasures in his rooms. He was afterwards spared the work of "resurrection" by the liberality of the burgomaster, who placed abundance of material for dissection and demonstration at his disposal. In 1536 or 1537 he dissected and lectured publicly. He seems, however, not to have been altogether comfortable in the theological atmosphere at Louvain, and some remarks which he made on the seat of the soul excited the suspicions of the heresy hunters. A short history of the early days of the University of Louvain will be found in Hastings Rashdall's *Universities of Europe in the Middle Ages* (vol. ii, part i, Oxford, 1895). The original university was suppressed by the Belgian Government in 1835, but soon afterwards restored as a Catholic institution with four colleges and fully equipped faculties of theology, law, medicine, literature, and science. The total number of students at Louvain in the academic year 1912–13 was 2,855, of whom 324 were foreigners. Among the present medical professors the names of Van Gehuchten the neurologist, Denis the bacteriologist, and E. Masoin the psychiatrist, who is the Dean of the Faculty, are well known. Dr. Noyons, professor of physiology, has recently distinguished himself by his heroic conduct in remaining with his wife among the ruins of Louvain ministering to the wounded—Germans as well as Belgians. The *Times* of September 12th, quoting from a correspondent of the *Nieuwe Rotterdamsche Courant*, says that when the population of Louvain was informed that every inhabitant of the town must leave immediately, in order that the town might be razed to the ground by artillery, Dr. Noyons and his wife decided to remain in order to protect the 150 wounded who could not be removed in time.

POLIOMYELITIS IN LANCASHIRE AND WESTMORLAND.

DURING the summer and autumn of 1913 an epidemic of poliomyelitis occurred in the almost detached part of Lancashire lying to the north-west of the county, and in the neighbouring part of Westmorland. At the end of the year Dr. H. A. Macewen investigated the epidemic on behalf of the Local Government Board, and his report* has recently been published. Between the end of March and the beginning of November there were at least 56 cases of the disease, with 11 deaths; there were 30 cases with 9 deaths in Barrow-in-Furness, with a population of some 65,000. The onset of the disease was often described as resembling that of influenza or a bad cold; headache, vomiting, and drowsiness were not rare, and one case was definitely of the abortive type. After investigating the circumstances of the epidemic, Dr. Macewen comes to conclusions that are for the most part negative. Maps of the affected area are given, and show little evidence of any direct continuity of spread of the poliomyelitis. It is true that the cases mainly arranged themselves into four fairly definite, localized, geographical groups, but there is nothing to show that the disease spread from case to case in its neighbourhood. It was apparent that the milk supply could not be the vehicle of infection, nor could the food; most of the victims at Barrow were children under school age, and it was impossible, apparently, to attribute the epidemic in any way to school infection. As for insect bites, there was no reason to suppose that they could have conveyed the virus of poliomyelitis; on the other hand, house-flies, encouraged by the method employed locally for the disposal of house refuse, were very abundant in Barrow during the time of the epidemic. No similar disorder was noted in the domestic animals or pets. A severe outbreak of so-called influenza, however, did occur in the town during the spring of 1913. Consideration of the question of poliomyelitis-carriers showed a few instances in which the patient, or some person coming in contact with the patient, may have transmitted the infection to others. But against all theories of the personal carriage of infection is the striking fact that there was not a single example of multiple cases in the same house in the whole of the 56 instances of poliomyelitis investigated; yet there were 139 persons, brothers and sisters of the patients, only 7 of them aged 18 and over, living in the houses where cases occurred. It seems difficult to reconcile the supposition that the disease had been spread by direct or indirect personal contact with this fact, unless, indeed, it is assumed that the total number of persons susceptible to the virus of poliomyelitis is very limited indeed.

CRAWFORD'S HISTORY OF THE INDIAN MEDICAL SERVICE.

AMONG other untoward consequences of the present war is the postponement of the issue of Crawford's elaborate and exhaustive history of the Indian Medical Service, which was on the eve of publication by Messrs. Thacker and Co. when the war broke out. Lieutenant-Colonel D. G. Crawford, I.M.S.(ret.), has for many years devoted his

* Reports to the Local Government Board. N.S., No. 98. London, 1914. Price 8d.

special gifts of laborious research and unflagging industry to this work, which records minutely and systematically the growth of the Indian Medical Service from its earliest beginnings in or about the year 1600 to its full development in 1913—from the employment of medical men singly in East Indiamen and factories to the great organization of the present day. The history displays the increase and progress of the service in relation to the gradual extension of British rule in India, and shows how the members of the Indian Medical Service aided in this great consummation, not only by performing invaluable professional work, but also by fulfilling important offices—military, political, literary, and scientific. It is a monumental work, which will be duly reviewed in this Journal as soon as it is published.

We regret to have to announce the death, on September 15th, in his 73rd year, of Sir Henry Greenway Howse, Consulting Surgeon to Guy's Hospital, and President of the Royal College of Surgeons of England in 1901–3.

We have to announce, with sincere regret, the death of Dr. W. H. Gaskell, F.R.S., Lecturer on Physiology in the University of Cambridge. Dr. Gaskell particularly devoted his attention in the early part of his life to the investigation of the visceral nerves, but he afterwards turned his mind to the philosophic discussion of the origin of the vertebrae, on which subject he in 1908 published a work which aroused much attention, and not a little controversy.

The opening of the winter session, 1914–15, of the Middlesex Hospital Medical School will take place as usual on Thursday, October 1st, at 3 p.m., when an address will be given by Dr. C. Hubert Bond and the prizes for the past year will be distributed by Sir John Bland-Sutton in the museum which forms part of the new Institute of Pathology presented by him. Owing to the war no formal invitations will be issued, but all who are interested in the hospital and medical school are cordially invited to be present. The annual dinner has been postponed.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Health of the Territorials and New Forces.

The Prime Minister, in moving, on September 10th, for an additional number of land forces not exceeding 500,000 of all ranks, said that the Secretary of State for War had appealed to the County Associations to help in dealing with the great influx of recruits; the number of training centres had been multiplied and was still being increased. The recruits for whom it was impossible to find accommodation for the time being would receive the sum of 3s. per day. Taking the value of what might be called the board and lodging of a soldier receiving 1s. a day when accommodated in barracks at 2s., it was their hope that the men for whom there was no immediate accommodation would not be worse off than if they were actually in barracks. The country would eventually be able to put into the field enrolled as its regular army something like 1,200,000 men; this was exclusive of the Territorials and the National Reserve and of the magnificent contributions promised from India and the Dominions. He desired to make it clear to those who were showing all over the kingdom their patriotic desire to assist their country in one of the most supreme and momentous crises in the whole of its long history, that they should not be treated either in a niggardly or unaccommodating spirit, but that they were going to be welcomed, and every possible provision made for their comfort and well-being, so that under the best possible conditions they might take their place and play their part in the magnificent army which had never shown itself more worthy of the long centuries of splendid traditions than in the past fortnight. In concluding the debate the Under-Secretary of State for War said that all officers in charge of dépôts ought to realize that they had full power to make all arrangements for the comfort of the troops, and that where arrangements had broken down it was the fault of the local officers, who were not able fully to appreciate the situation and the resources at their disposal.

Sir Ivor Herbert on September 15th asked the Under-Secretary of State for War whether his attention had been drawn to the danger to the public health caused by the condition of some of the Territorial camping grounds; and whether he had any statement to make thereon.—Mr. Tennant said: The War Office have been in constant communication with the Local Government Board as to the precautions necessary in connexion with the aggregation of troops, prisoners and refugees in camps and other places, and on August 31st the Board's medical officer sent a circular letter to the medical officers of health of all sanitary districts, inviting them, if there were troops in their districts, to co operate with the military medical authorities in all sanitary matters connected with the troops. The War Office sent copies of this circular to the General Officers Commanding-in-Chief of all military districts, asking them to do all in their power to maintain thorough sanitary supervision. Inspectors of the Local Government Board are now visiting various districts in which troops are congregated, conferring with the military and civil medical authorities, and reporting to the Board on the arrangements made. There appears to be no evidence at present that the condition of any Territorial camping ground is such as to endanger the public health. If my hon. and gallant friend has such information, perhaps he would communicate it to the War Office. Inspections could thus be made, and we should be glad to make inquiry, and I am assured we shall have the assistance of the Local Government Board in any inquiry we institute.

THE WAR.

PROTECTIVE INOCULATION OF TROOPS.

Letter from Sir William Leishman.

We have received the following important letter from Sir William Leishman:

Sir,—In my letter to you of August 22nd I appealed for the support of the profession in the matter of antityphoid inoculation of the troops and I have abundant evidence of the response, which has been of the greatest assistance to the Army Medical Service.

In some of the letters which have since been published on the subject, both in the medical and the lay press, and also in private communications to myself, there appear, however, some misconceptions which I may take this opportunity of removing.

A considerable number of medical men have offered, in a most generous fashion, to prepare the vaccine, to address the soldiers or to carry out the inoculations in various areas. As far as possible I have replied personally to those who have made such offers, but it may be well to make the actual position more generally known.

1. *Compulsory Inoculation.*

The military authorities have once more definitely pronounced against the inoculation being made compulsory, while renewing their instructions that no effort should be spared to induce the men to come forward.

2. *Preparation of the Vaccine.*

Numerous and most generous offers to prepare vaccine have been received from laboratories and pathologists throughout the kingdom. As mentioned in my earlier letter, the arrangements made by the Vaccine Department of the Royal Army Medical College, with the assistance of the Lister Institute and of Sir Almroth Wright, have assured a supply of vaccine ample for all requirements. If it can be avoided, it is undesirable that vaccines should be used differing, possibly, in constitution and in the method of standardization from that which has proved of such value in the army in recent years.

At the same time, all such offers have been carefully recorded, and we should not hesitate to avail ourselves of them should the need arise.

3. *Distribution of the Vaccine.*

It will be obvious that it is essential from an administrative point of view, and to avoid confusion and overlapping, that all vaccine should be issued from one central place. This has been arranged for, and all vaccine is stored at and issued from the Vaccine Department, Royal Army Medical College, London.

4. *Influencing the Officers and Men.*

All medical officers of the Regular and Territorial Forces were instructed in their duties in this direction within the first few days of mobilization, and were furnished with full information as to the procuring of vaccine and the carrying out of the inoculations. Steps have also been taken through the usual official channels, to keep touch with the progress of inoculation and to see that it is efficiently carried out.

To assist in the work I have myself been directed to visit the various commands, and in the last few weeks have interviewed general officers and the commanding officers of a large number of units, explaining to them the subject, and inviting, in the name of the War Office, the exercise of their personal influence upon the officers and men serving under them. The response has invariably been most cordial, and in most cases has resulted in the prompt inoculation of practically all officers, and in steady progress with the men.

5. *The Carrying Out of the Inoculations.*

This is the duty of the medical officers, and is carried out under the directions of the Assistant Director of Medical Services of the Division. In some instances, however, the local assistance of trained pathologists has been offered and accepted, and I feel sure that such voluntary trained help might be most welcome in other stations where the pressure of routine medical and sanitary work is heavy.

In spite of the absence of compulsory powers, there is good reason to anticipate that the voluntary response will be almost universal.—I am, etc.,

W. B. LEISHMAN,
Colonel, R.A.M.C.

War Office, Sept. 15th.

ORGANIZATION OF ANTITYPHOID INOCULATION.

We are indebted to the senior medical officer of a large camp composed of four battalions of infantry with all their transport, a brigade of the Royal Field Artillery, one ammunition column, Army Service Corps, and the Royal Army Medical Corps, for the following interesting practical account of the method which has been followed in the camp. The details will, we are sure, be of value to other Territorial medical officers.

We started inoculating, he writes, on September 9th and 11th, and by September 13th had done over 1,200 men and officers. The way in which we carry the work out is as follows:

A list of names and regimental numbers of all the men who volunteer for inoculation is prepared on the previous day. The men are advised to take no alcohol for twelve hours before and twenty-four hours after inoculation. The men are paraded, and six of them were admitted into the room at once; a non-commissioned officer, R.A.M.C., is instructed to paint over a small area about one inch below the centre of the left clavicle; the men then sit down on a seat beside a table on which a small sterilizer is kept boiling; three syringes are used; an assistant, not a medical man, puts the syringe and needle into the sterilizer as it is used, and we continue using the same needles until they become blunt; as a rule one needle is good for about fifty or sixty punctures. After inoculation the puncture is sponged and pressed with a small antiseptic pad, and only in very rare cases does any bleeding occur. We find that making the injection in the breast causes much less discomfort and pain to the men; they are all right for duty in about twelve hours, with the exception of a few who may be off duty for two or three days. We give the second dose about ten days afterwards in the right breast. Working in this way, about seventy to eighty can be done in an hour. The points to observe are:

1. Not to let a large number of men watch other men being done.
2. To do officers first.
3. To try and do all the men in one complete unit at the same time.
4. To advise the men to avoid alcohol before and after inoculation for the periods above stated.

It is much better for each medical officer to do his own men as they have more confidence in him as a rule.

THE RESEARCH DEFENCE SOCIETY.

We are informed that the following letter has been sent to the newspapers by the Research Defence Society:

Sir,—On behalf of the Research Defence Society, which represents the general opinion of all who have studied the facts of antityphoid inoculation, we desire to say that the Society very strongly approves of this treatment for all men and women who are likely in the near future to come in contact with typhoid fever. We have accordingly offered the services of this Society to the Royal Army Medical Corps.

We remain, yours faithfully,

LAMINGTON,
President.

F. M. SANDWITH, M.D., F.R.C.P.,
Honorary Treasurer.

STEPHEN PAGET, F.R.C.S.,
Honorary Secretary.

21, Ladbroke Square, W., September 11th, 1914.

SANITATION OF CAMPS.

THE article on the duty of safeguarding the health of the Territorial and new forces has brought us copies of two handbills issued in the West Riding Division of the Territorial Force which will, we have no doubt, be useful to the medical officers of other divisions who may, perhaps, find in them hints for improving any notices they may themselves have prepared. Dr. Kaye, the divisional sanitary officer who has compiled them, is the chief medical officer of the West Riding of Yorkshire.

WEST RIDING DIVISION—TERRITORIAL FORCE.

URGENT NOTICE!

"*A DIRTY CAMP IS A SICKLY CAMP,*"

and

OUR ENEMIES are FLIES and GERMS.

THEY ARE KILLED BY:

Cleanliness wherever men are assembled, for example, tents.
Removal and destruction of refuse and filth.
Overflowing urine tubs and uncovered faeces are specially dangerous.
Protection of food from flies, which means their starvation; better still avoid their creation by the absence of filth to nest in.
All latrines, troughs, and urinals should be freely cleansed and disinfected.

Nature's disinfectants are sunshine, fresh air, and clean earth (and cost nothing).

REMEMBER!

FLY NEVER FOLLOWS FLIES;
FLIES FOLLOW FILTH;
FILTH FOSTERS FEVER.

J. R. KAYE, Lieut.-Col.,
Div. San. Officer.

WEST RIDING DIVISION TERRITORIAL FORCES.

WANTED IMMEDIATELY:

1. Your doing and acting, not thinking only.
2. Your co-operation, not grumbling.
3. Clean bodies, clean hands, feet, and teeth.
4. Clean tent-floors, and a clean camp surface, not polluted with urine or excrement.
5. Clean food, not fly-poisoned.
6. All refuse and filth rendered harmless by fire, burial, or disinfection.
7. Open tents to let in the sunshine and fresh air, and keep away the doctor.

JAS. ROBT. KAYE, Lieut.-Col.,
Div. San. Officer, W.R. Div. T.F.

THE BRITISH RED CROSS SOCIETY.

The Hon. Arthur Stanley has taken over the duties of Chairman of the Executive Committee of the Society.

The British Unit in Brussels.

The British Red Cross unit in Brussels is now free and will be able to resume work on a larger scale. This unit numbers forty, less the two surgeons taken prisoners. Fears having arisen that small-pox would break out in the camp of refugees at Ostend an urgent application came from Belgium for vaccine and 3,000 tubes were sent immediately, with a large consignment of chloroform and iodine, both of which the Belgians need greatly.

Searching for the "Missing."

Already a party has been sent out to scour the country traversed by the British in their retreat. The object has been to discover and bring aid to any British wounded left behind and so to account, to some extent, for the "missing." The party is well supplied with motor-cars. So great does the importance of this work appear to the Society that another party of surgeons, orderlies and nurses, with motor-cars is being sent on a similar errand.

Nature of Wounds.

A large British Red Cross Hospital is being formed at Rouen, and a party of surgeons, nurses, and dressers have landed at Cherbourg *en route* for service there. The civilian surgeons, who are having their first experience of war surgery, write expressing astonishment at the comparatively light effect of the Germans' rifle fire, and, on the other hand, commenting on the disastrous results of shell fire. It is only fair to say that no case has been reported to the Society of British wounded having been ill-treated in any way by the Germans.

British Prisoners at Brussels.

We stated last week (p. 485) that a surgeon of the British Red Cross Society had been permitted to take the names and home addresses of British prisoners passing through Brussels. Inquiries have reached the Journal on behalf of anxious relatives, and it may be well to repeat what was said last week—that the Society forthwith sent letters to the addresses so obtained. If a letter has not been received, it means that the Society has no information in that particular case.

The Servian Red Cross.

No British Red Cross unit has been sent to Servia, as stated in the lay press. Up to the present no request for Red Cross help has come from Servia.

St. John Ambulance Association Nurses.

We are informed that the St. John Ambulance Association (Foreign Service Department, St. John's Gate, Clerkenwell, E.C.) has heard from various nurses in the last few days that the ninety-two nurses belonging to the association, and sent out to Brussels, are all well. Their letters have been severely censored by the German authorities; but they are working very hard and Brussels is quiet. They have no outside news.

THE RECEPTION OF THE WOUNDED.

Considerable numbers of wounded soldiers continue to be received at Southampton and other channel ports. They are drafted forthwith to various hospitals in all parts of the country, every endeavour being made to send them into districts where they will be amongst friends. Thus far there is ample accommodation at the various institutions which have offered to provide beds. It may be said that all offers have been accepted at the terms on which they were made to the Government; accommodation has been in no sense "commandeered."

The London Territorial General Hospitals.

The four general hospitals for which the Territorial Forces scheme provides in London are situate in the suburbs convenient to the medical staffs, and especially the consulting members. Each hospital is to accommodate about 520 cases, and will not be limited to men of the Territorial Force. When the first batches of wounded arrived in this country the London Territorial General Hospitals were still being brought into existence, as (in three cases) considerable adaptations of buildings not erected for the purpose were required. Consequently the voluntary hospitals were relied upon to deal with the first cases.

1st City of London General Hospital.

Lieutenant-Colonel W. A. Atkinson is in command at this hospital, which is still in process of being installed at St. Gabriel's College, a large modern building overlooking Myatt's Fields, a pleasant County Council park. An elementary school adjoining is also being prepared for convalescent cases, and in the grounds temporary administration offices are being erected. The installation of sanitary arrangements is the most considerable work required to render the buildings suitable for their new purpose. The hospital will not be ready for the reception of patients for some time.

2nd City of London General Hospital.

A description of this hospital, which is located at St. Mark's College, Chelsea, and adjoining buildings, was given in the Supplement of September 5th, p. 163. Patients are now being received. They consist of cases of overstrain and injury during the training of troops in this country, and are drawn from many districts outside London. No epidemic or serious cases have been received nor any from the front.

3rd City of London General Hospital.

The Royal Victoria Patriotic School, on the borders of Wandsworth Common, has been allotted to this hospital. The buildings are old and cover a considerable area. Much alteration of windows was needed to secure adequate light and air, and additional sanitary accommodation had to be provided. There is only room for about half the required number of beds in the main building, but accommodation for over 200 cases is being provided in hut hospitals, for which there is ample space in the extensive grounds. Each hut will contain 20 patients, and there will be separate wards for special cases. The huts are still in course of erection, and outbuildings are being adapted for the purposes of an operating theatre, sterilizing room, *post-mortem* room and mortuary. In the main building the school hall, adjoining the entrance, is to serve as a reception ward, from which patients will be drafted to appropriate wards. Electric lifts and additional sanitary and kitchen accommodation have been installed, and all is ready for the reception of patients so far as the main building is concerned. Some cases of sickness amongst Territorials which would have been received at the hospital in the ordinary course have been sent to the Middlesex Hospital pending the completion of the scheme. At any time now, however, the Commanding Officer, Lieutenant-Colonel H. E. B. Bruce-Porter, expects to receive a number of wounded men from the front.

4th City of London General Hospital.

The fourth of the London Territorial General Hospitals is accommodated in a wing of King's College Hospital, Denmark Hill, S.E., and contains at present a few cases of injury and sickness amongst men in training at various military camps in this country.

Norwich.

The Norfolk and Norwich Hospital.

Within a few days after the declaration of war 100 beds within the hospital walls were at the disposal of the Admiralty. The children's ward was cleared, and the Jenny Lind Children's Hospital took over the children then in hospital, and all convalescents whose condition admitted were discharged. The erection of strong marquees with substantial wooden framework and wooden floors was at once commenced and promptly completed, and the beds fully equipped. Sanitary arrangements in convenient proximity to the marquees were provided, and a small auxiliary kitchen fitted up. These marquees were expected to provide about 75 beds but have been found easily to accommodate more. In addition, should necessity arise, the hospital has a call upon additional tents which can promptly be erected, the hospital grounds being fortunately tolerably spacious. In order to secure smooth

working in the event of a sudden call, one of the marquees has been taken into use and has been occupied by Territorials, of whom above 100 have been treated in the hospital. As yet no wounded men have arrived. It was at first thought that the Admiralty might require 250 beds, but as it is now believed that a much smaller number (about 100) would suffice, the beds released have been offered to the War Office. The transit of wounded from the railway station to the hospital has been undertaken and organized by the local Red Cross association.

SOUTHAMPTON.

A hospital ship with 500 wounded from the front arrived at Southampton on Monday night (September 14th). On the following morning a large contingent was removed to Netley, and 27 cases were taken by hospital train to Cosham and in motor ambulance wagons to the Alexandra Hospital. There are some serious cases from shrapnel fire. One invalid succumbed to his wounds within sight of land. On Wednesday morning 23 British and 14 Germans were admitted into the 5th Southern General Territorial Hospital.

EDINBURGH.

Dental Department at Craigleith.

The military hospital at Craigleith, near Edinburgh, has recently been presented with a completely equipped dental department; for this it is indebted to the generosity of Captain Guy, who is Dean of the Edinburgh Dental Hospital School, and Consulting Dental Surgeon to the Royal Infirmary. A large amount of work has already been done in the department in the conservation of the teeth of the men, and it is proving of special service to soldiers who have been debarred from service on account of bad teeth.

Nurses for the Expeditionary Force.

At a meeting, on September 7th, of the managers of the Edinburgh Royal Infirmary, a letter was read from Queen Alexandra, in which her thanks were sent to the matron of the hospital for the response made to the appeal for nurses who had been selected and sent out to the seat of war.

IRELAND.

An Ambulance Train.

The first ambulance train for Ireland has just been completed by the Great Southern and Western Railway. The train is composed of nine bogie coaches—two passenger carriages and seven parcels vans—taken from the main line and altered to suit the requirements of the War Office. The whole train was finished within nine days after the declaration of war. The main part of the train consists of five wards, each fitted with twenty cots in two tiers. These are converted from the 50-ft. parcel vans, and communicate with a pharmacy car in the centre, also altered from a van, and subdivided into a surgery, pharmacy, linen stores, offices for medical officers, etc., and provided with the necessary receptacles for drugs, bandages, nursing utensils, and requirements. The surgery is lined all round and on the floor with zinc, the corners being well rounded to facilitate cleaning. The various compartments are reached from a corridor, wide enough to accommodate a stretcher. There is a dining car for the medical, nursing, and ambulance staff, lavatory and toilet accommodation being added, and seats fitted of a type suitable for the addition of bedding, thus converting this coach into a sleeping car as required. This vehicle communicates with another coach provided with sleeping accommodation at either end for two doctors and two nurses respectively, the central part of the car comprising a mess-room and pantry, with one compartment of the original coach unchanged, giving sleeping accommodation for two attendants. At the other end of the train a side-corridor coach is attached to the end ward car; it is fitted out as a stores car, and has accommodation for six attendants. Steam heating and electric bells are provided throughout the train, the total length of which, including a 30-ft. guard's van at the rear, is 550 ft.

Training in Emergency Nursing.

The Committee of the Richmond, Whitworth and Hardwicke Hospitals some weeks ago admitted twelve ladies to a special course of preliminary training in hospital work. The results promise to be so good that the committee has decided to elect another twelve candidates out of the very numerous applications they have already received.

Boys' Brigade—Dublin Battalion Ambulance Corps.

At a meeting held last week a large number of past and present members gave in their names for immediate enlistment in the Royal Army Medical Corps and the Military Home Hospitals Reserve; those for the R.A.M.C. are to leave Dublin at once for Aldershot. Those for the Military Home Hospitals are awaiting instructions from the St. John Ambulance Brigade.

British Red Cross Society.

The question of the organization of the Red Cross Society in Ireland has been receiving the attention of the Executive Committee of the Red Cross; and it has been decided that the best method is to proceed by counties as in England. It is hoped each county will form a branch of the Red Cross, which will be in direct communication with the head quarters of the Society in London, as in the case of the English and Scottish branches.

NOTES.

THE OVERSEA DOMINIONS.

EVERYWHERE our Oversea Dominions are organizing help for the Mother Country in her time of trial. This is a striking proof of our success as colonizers, an enterprise in which the Germans, notwithstanding the boasts of von Bernhardi and other prophets of Teutonic predominance, have so conspicuously failed. We are requested to state that the High Commissioners of Canada, Australia, and South Africa view with favour the formation of the Colonial Infantry Battalion, which has been authorized by the War Office and is now proceeding at the White City, Shepherd's Bush entrance. The High Commissioners will co-operate as far as possible, and advise all those men who have at present or have had association with the Overseas Dominions and Colonies, and who have not already enlisted elsewhere, to apply for enrolment in this battalion of Colonial Infantry. Applications in person or by writing should be made to Colonel Arthur du Cros, M.P. The committee which is raising this regiment consists of Colonel Arthur du Cros, M.P., Major J. Norton Griffiths, M.P., Colonel A. Hamersley, M.P., and the Hon. Gideon Murray.

Canada.

In the issue of the JOURNAL of September 12th it was stated that the first Canadian division was mobilizing at Valcartier. Now it is stated that the Government has decided to increase the Canadian oversea expeditionary force by two cavalry divisions. These regiments will be in addition to the cavalry squadron organized to accompany the First Army Division.

Sir William Osler and Mr. Donald Armour have undertaken the organization and equipment of a hospital of fifty beds, with power to increase it to 100 or more beds, for the general use of the King's forces. By special permission of Her Majesty, it is to be known as "The Queen's Canadian Military Hospital," and it has been officially recognized by the War Office. The organization of this hospital is the outcome of an arrangement made by the Canadian War Contingent Association (the Hon. G. H. Perley, M.P., president) with the Army Council, through the Queen's Committee of the Order of St. John of Jerusalem, of which his Royal Highness the Duke of Connaught is Grand Prior. The equipment and maintenance for twelve months of a hospital of 100 beds, and the care and supervision of the sick and wounded during convalescence, will, it is estimated, require about £20,000. Subscriptions should be sent to the Honorary Treasurer of the association, Mr. G. C. Cassels, Bank of Montreal, 47, Threadneedle Street, E.C.

Australia.

Australia is providing additional medical units including ambulances and hospitals for nearly 2,000 patients. Many well-known doctors have volunteered.

BOMBAY.

AT an emergency meeting of the Bombay Medical Union held on August 12th, it was, on the motion of

Dr. K. K. Dadachanji, seconded by Dr. F. N. Kapadia, unanimously resolved as follows:

That in the grave emergency confronting our benign Government, the members of the Bombay Medical Union do hereby respectfully offer their professional services, whenever required, either in the military or civil capacity. The Union has no doubt that the whole profession will co-operate in this movement in order to raise a sufficiently large corps of Medical Volunteers.

That a Provisional Bombay Medical Volunteers Register be opened at the Union Rooms to enlist the names of all professional members desiring to join it, and to that end an Urgent Notice be sent to every member of the local profession.

That the Managing Committee of the Bombay Medical Union should for this purpose act as a Special Medical Volunteer Committee with power to add to its numbers, and it should undertake efficient organization of the Volunteers Corps, prepared for any emergency at a short notice.

That the Special Committee should communicate and co-operate with the Committee of the Indian Field Hospital, being raised by our local philanthropists.

In accordance with these decisions the joint honorary secretaries, Dr. D. M. Gagrat and Dr. K. K. Dadachanji issued a reply postcard to medical practitioners in Bombay inviting them to state whether they were willing to place their names on the roll of the provisional Bombay medical volunteers.

Medical Examination of Recruits.

We have received from a medical examiner of recruits for the regular army in the south-east of England the following statement of the results of the examination of 514 applicants:

Number of candidates examined from August 31st to September 12th inclusive	514
Rejected	113
Causes of Rejection:	
1. Defects of vision	23
2. Deficient chest expansion	25
3. Weight below 8 st.	25
4. Rupture	5
5. Hydrocele	2
6. Heart disease	8
7. Otorrhœa or deafness	4
8. Impediment of speech	2
9. Height below 5 ft. 3 in.	6
10. Lateral curvature	2
11. Skin eruption	2
12. Loose internal semilunar cartilage ...	1
13. Age under 18 or over 35	3

Out of 401 passed, 250 had vision right $\frac{6}{6}$, left $\frac{6}{9}$.

The condition of the teeth was not allowed to disqualify so long as nutrition appeared to be good. Similarly, varicocele did not disqualify unless very pronounced.

We are informed that scandalous rumours have recently been in circulation reflecting upon the manner in which some doctors are alleged to have treated the recruits who submit themselves to medical examination. We are confident that these rumours are without foundation, and that medical examiners of recruits who are compelled to reject candidates on medical grounds do so with discreet tactfulness.

Care of the Feet.

The British Red Cross Society has issued a leaflet giving directions for the prevention and treatment of sore feet in troops. There has been already a good deal of invaliding from the expeditionary force from this cause, and unless special care is taken it is to be feared that a still larger proportion of cases of sore feet will occur among the Territorials and the force now newly raised.

Sore Feet.

1. Feet should be washed with soap and water, and very gently dried—not rubbed.
2. Dab with methylated spirit on cotton wool, except where the skin is broken.
3. When dry, dust with powder composed of equal parts of starch and boracic powder or Fuller's earth.
4. Bandage with clean bandage, preferably of domette, not too tight—or else put on clean socks. All dirty socks should be washed and dried before use.
5. Reddened skin or *recent* blisters should be protected by strips of strapping.
6. All corns should be protected by strapping. Open sores require surgical advice, and this should be sought whenever possible, especially if the surrounding redness of the foot is extending.
7. Toenails should be cut short.
8. Hard boots should be well greased—mutton fat is the best. They should be well dusted inside with starch and boracic powder.

Proposed Cholera Corps.

Applications have been received to date from 17 doctors, 42 nurses, and 3 cooks for service with the proposed Cholera Corps offered to the Russian and British Red Cross societies. It is intended, in order to diminish expenses, that units of one doctor and two nurses, or multiples of such units, shall be sent out as required rather than that the corps should be embodied as a whole. We are informed that no reply has been received from either the Russian or the British society to date, although cholera may be expected in Russia at this season.

Further Casualties in the Medical Service.

Army.

Killed.

Fraser, T. P., M.B., West African Medical Staff. (In Cameroon.)

Wounded.

Painton, Captain G. R., R.A.M.C.

Missing.

Rankin, Lieutenant H. C. D., R.A.M.C.

Captain T. W. Browne, R.A.M.C., is reported missing, and not Captain G. H. J. Brown, R.A.M.C., as previously announced.

Prisoner of War.

Information has been received that Major P. H. Collingwood, R.A.M.C., reported missing in the list issued on September 3rd, was alive and well, but a prisoner of war on August 31st.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Memorial Window to a Doctor in Belfast.

At the morning service of Sunday, September 6th, at St. Jude's Church, Belfast, a handsome window, erected by a brother to the memories of the late Dr. William Baird McQuitty, M.A., of his brother, the late Mr. George H. McQuitty, and of his sister, the late Miss E. S. McQuitty, was dedicated by the Lord Bishop of Down (Right Rev. Dr. D'Arcy). All three had been members of the congregation; Mr. G. H. McQuitty had been honorary organist, and his place was often taken by Dr. McQuitty, who amongst his manifold accomplishments was a musician of a high class order. The memorial is in the form of a three-light window; the central figure is that of St. Luke, to the right is the figure of Dorcas, and the left that of David carrying a harp, types of the aims and virtues of the sister and two brothers. The colouring is rich; the general treatment of the ornamental portion is in delicately painted grisaille pattern, based upon examples in the church of St. Serge, Angers, and in Salisbury Cathedral. The bishop referred in glowing terms to the characters of the three whose memory will thus be kept green by the affection of a brother, and spoke of Dr. McQuitty's eminence as a physician and of his high personal qualities.

Dublin Water Supply.

The supply of water in the reservoir at Roundwood is now 13.8 ft. below the level of the sill, the average diminution for the past few weeks being 1½ in. a day, and the average daily consumption 12,396,000 gallons. Every effort is being made to reduce the daily consumption; about forty inspectors are employed with this object, but their efforts have so far not been very successful, and the Waterworks Committee have been obliged to give notice that they can no longer permit the use of Vartry water through hoses for garden purposes or for washing house or shop fronts, and that automatic flushing cisterns must be dispensed with. The committee deny that there is a leakage in the reservoir, as rumour had suggested.

India.

[FROM OUR SPECIAL CORRESPONDENTS.]

Opposition to Antimalarial Campaign.

The difficulties the municipal and sanitary authorities have to face in their efforts to bring about a healthy populace in Bombay are well demonstrated in the campaign against malaria, says the *Advocate of India*. A large number of wells and tanks have been condemned by the Malaria Department of the Bombay Municipality as breeding places for mosquito larvae, and they have been either filled up entirely or else covered over, and many more are about to be dealt with similarly. These are the most elementary precautions advocated by all medical experts, for the wells are prolific breeding grounds for the dreaded *Anopheles stephensi*. But it would not be Bombay if someone did not raise a protest; therefore we learn that discontent has been caused amongst certain of the Indian communities in the city owing to this action, as there are persons amongst Hindu and Parsi communities who hold strong views against using water from the municipal main in connexion with certain religious ceremonies on religious grounds. The malcontents also hold that the action of the municipal authorities is fraught with danger to the populace, as they say they would be forced to go without water in case of sudden breakage to the municipal water main. With a view to giving the grumblers an opportunity of expressing their feelings of resentment, and possibly to obtain redress from the municipality, the Indian Piece Goods Merchants' Association of Bombay has resolved to convene a meeting of the citizens of Bombay, and has appointed a committee to arrange the preliminaries.

Mosquitos in the Nilgiri Hills.

The prevalence of mosquitos in the Nilgiri has been for some time past the cause of complaint of the residents of and visitors to the hills. In Wellington the mosquitos have increased very much recently, and it is stated that the services of an expert have been requisitioned to investigate the matter. In Ootacamund there were no mosquitos years ago, but nowadays complaints have become too frequent. This year in particular, it is said, the mosquitos are increasing. It is stated that the lake in "Ooty" is the breeding place.

Women's Medical Service.

Miss E. C. Houlten, M.B.Lond., of the Tropical School of Medicine, has been appointed a member of the Women's Medical Service of India, with effect from July 1st. Dr. Houlten has been posted to the United Provinces, but will officiate in the Ripon Hospital vice Miss George on leave.

Civil Surgeons in Bengal and Assam.

A scheme has been sanctioned for the amalgamation of the cadres of civil surgeons of Bengal and Assam upon lines designed to safeguard the interests of the officers of both provinces. It has been decided that medical officers belonging to Bengal before the redistribution will not be liable to transfer to Assam; also that Assam officers will not be posted to Bengal until they have put in five years' service in their own province.

The Health of the New Capital.

The Health Officer of Delhi, Major Cook-Young, I.M.S., has just published his annual report. In a preliminary survey of the situation he refers to the passage in the previous year's report wherein he detailed in advance the good results that were hoped for from the prosecution of the vigorous campaign then inaugurated. A study of the succeeding pages leaves no doubt that Major Cook-Young's trust was not misplaced, revealing, as they do, solid progress in several directions. We find that "during the year small-pox was little in evidence." "There was very little cholera; . . . what cases there were were all imported." "The deaths from plague were only five, compared with twenty in the previous year. These cases were all imported, so that Delhi may be said to have been free from the disease during the year." "Only five cases of enteric were reported, with one death." Towards the close of the year came an outbreak of relapsing fever, but it was of a mild nature, and "no deaths were reported from this cause." The decreased mortality at Delhi from small-pox was considerable—111 deaths, against 44 in 1912. The disease was most prevalent in April and May. Of the cases treated in hospital 51 were cured and 4 died. Cholera deaths dropped from 103 in the previous year to 26, the first case being imported from Lucknow. The extremely low mortality from plague—5 deaths, 8 cases treated—is apparently due to the ruthless campaign conducted against rats in the city. That campaign was no doubt successful, because as the report says, "the destruction of rats goes on permanently." Although Delhi escaped lightly as regards small-pox, cholera and plague, there is, of course, a darker side to the picture. From April up to the middle of August the rate of mortality in the city was unduly high, largely owing to the ravages of malaria. Every effort is being made to combat the disease, particular attention being directed to the numerous wells within the city's confines. The danger of open wells in houses and compounds was explained to the people, who were urged to cover their wells with wood or cement, and to provide mosquito-proof wire gauze trap-doors, while a large number of wells were filled in or hermetically sealed. The main difficulty lies in dealing with the wells in houses, the people preferring well water to tap water, it being cooler to drink, a consideration that appeals with some weight to all in the hot weather.

It is when we come to that part of the report dealing with pulmonary diseases that the worst state of Delhi is revealed. Deaths from pneumonia are given as 209, but the real total is known to be very much higher; while phthisis is still more virulent. Major Cook-Young says there is conclusive evidence of the prevalence of tubercle in Delhi, which in certain quarters of the city is very marked. Everything, he points out, is on the side of the disease—the ignorance of the people, their disregard of advice, the congestion in certain areas, and the lack of arrangements for medical assistance. The control of tubercle presents a serious problem demanding immediate attention.

During the year under review, however, notwithstanding all the acknowledged defects, the death-rate dropped by 5.47 per mille, representing 921 lives saved. This is a good augury for the future, and, with plenty of money to spend, further substantial progress may be confidently expected.

The League of Mercy.

His Serene Highness Prince Alexander of Teck has sanctioned the formation of an Indian Branch of the League of Mercy. The Hon. Colonel Sir Henry MacMahon, G.C.V.O., K.C.I.E., C.S.I., is President, the Hon. Sir Henry Burt, K.C.I.E., is Chairman, and Major R. J. Blackham, C.I.E., V.H.S., is the Honorary Secretary of the new branch.

Special Correspondence.

BUDAPEST.

Decision of Hungarian Insurance Companies with regard to Fees for Medical Examinations.—University Statistics in Hungary.—Work of the Red Cross Society in Hungary.

Hungarian doctors have at last triumphed in their protracted struggle with the insurance companies to obtain higher fees for medical examinations. The dispute over these fees, which have not varied for the last eighty years, has raged since last September; and the success of the doctors is testified by the following regulations which have been laid down for their future guidance and protection: (1) The fee for a medical examination and certificate will in future be 10 crowns for all persons insured for a sum not exceeding 5,000 crowns, and 20 crowns for those insured for sums exceeding that amount. No extra fee can be demanded for examination of the urine, which is included in the general examination. (2) The minimum fee for a medical examination and certificate in the case of accidents is 4 crowns (about 4s.) (3) In

cases where a doctor is called upon to examine a candidate living at a distance exceeding 2 kilometres (about 1 mile) he is entitled to claim either the actual means of transit or the corresponding fare. If a carriage be provided, it should be one that is in every way suitable for the rank and position of the doctor, whilst if an equivalent in money be offered it should cover the usual charges for a first-class carriage. (4) Should the prospective policy-holder live at a distance exceeding 2 miles, the doctor is entitled to claim compensation (at the rate of 50 hellers, or 5d. per kilometre) for the loss of time involved in the journey as well as the actual cost of the journey itself. (5) The insurance companies are responsible both for fees and compensation in cases where no examination is made, if this omission be due to no fault of the doctor.

According to the latest official bulletin issued, the total number of students in Hungary during the last session amounted to 13,210. Of this number, 11,908 matriculated at Budapest and the remainder in Kolozsvár. The Budapest students comprised 3,492 students of law, 3,054 of medicine, and 559 students of philosophy: and in this connexion it is interesting to note that the number of medical students in Hungary has increased enormously during the last decade. Whereas in 1903 there were about 1,200, this number had risen six years later to 2,500, and in 1913 it reached 3,054. This great influx of students is giving rise to serious inconvenience in the medical schools, since few of them are capable of accommodating more than 200 or 250 students, and they are now called upon to provide room for more than double that number.

The Hungarian Red Cross Society, whose aim has always been to keep itself in constant readiness to take the field, issued shortly before war broke out a circular in which it was stated that in the event of war Hungary would probably find herself responsible for 100,000 wounded and 250,000 sick soldiers, many of whom would be Hungarian subjects. The circular further stated that it had been estimated that, in addition to those of the military nurses, the services of some 7,000 civilian nurses would be required to meet this sudden demand; and since the number exceeded the total number of trained nurses throughout the whole of Hungary, it was obvious that it could not be recruited from the ranks of the nursing profession alone. Even when the country was at war the work in the general hospitals would have to be carried on as usual, and if, as was quite likely, an epidemic broke out, would become considerably heavier; it was therefore a matter of necessity to obtain the assistance and co-operation of all women who were willing to offer their services as nurses in time of war. The response to this appeal was both prompt and gratifying. In almost every town in Hungary courses of lectures were at once organized, and held in the wards of the local hospitals, and at the conclusion of each course the candidates were examined in the presence of a delegate of the Red Cross Society and other civil and military authorities.

Correspondence.

UNQUALIFIED LOCUMTENENTS.

SIR,—At a meeting of the Executive Committee held to-day the President made a statement in regard to certain correspondence received by the Registrar respecting unqualified locumtenents and kindred matters, and the steps that had been taken in regard thereto.

He read the following letter, which had been sent to the practitioners concerned, which the Committee approved and directed to be entered in the minutes:

> "Sir,—With reference to your letter of , I am directed by the President of the General Medical Council to inform you that, in terms of the enclosed Warning Notice, any registered practitioner who entrusts his professional practice to an unqualified person or who signs medical certificates on such person's behalf, renders himself liable to be summoned before the Council, and after due enquiry to be adjudged guilty of grave professional misconduct.
>
> "The circumstances of the present situation do not, in the President's opinion, afford any excuse for action which the Council has described as 'fraudulent and dangerous to the public health.'
>
> "Means are available whereby the services of registered practitioners can be obtained in substitution of those of practitioners who may be called away from civil practice on military service: and it is the plain duty of the latter to make arrangements for the proper professional treatment of their ordinary patients during their absence.
>
> "I am to add that copies of your letter, and of this reply, will be laid before the Council should occasion arise for a judicial inquiry into the matter.—I am, etc.....Registrar."

—I am, etc., A. J. COCKINGTON.
Acting Registrar.

General Council of Medical Education and Registration of the United Kingdom, 299, Oxford Street, London, W., September 15th.

INFECTION OF CHILDREN WITH THE BOVINE TUBERCLE BACILLUS.

SIR,—My experience of seventeen years' practice in the Straits Settlements goes to support the view of Dr. Lassablière expressed in his letter, which appeared in the BRITISH MEDICAL JOURNAL of July 11th, p. 96. Fully 95 per cent. of Straits-born Chinese babies are fed on condensed milk imported from Europe, and tuberculous peritonitis, bone and joint disease, adenitis, and meningitis are very rare indeed amongst them. This is all the more interesting in view of the fact that in adults of the same race phthisis is one of the greatest causes of mortality. They have not yet realized the danger of contagion from phthisical patients, so that no steps are taken to diminish the risk. A Chinaman suffering from phthisis expectorates freely anywhere in his house, and it is no unusual thing to find one sleeping in a room all the windows of which are tightly closed, and under a thick mosquito curtain, along with one or more children, who are thus placed under the best conditions for infection.

If tuberculous peritonitis, bone and joint disease, adenitis, and meningitis were due to infections with the human tubercle bacillus, it is certain that these diseases would be very common, so that their rarity would point to their being due to the bovine tubercle bacillus, which is presumably destroyed in the process of manufacture of the condensed milk.—I am, etc.,

T. HILL JAMIESON, M.D.,
D.T.M.H.Edin.

Penang, S.S., Aug. 14th.

SECRET REMEDIES AND PHARMACY LAW AMENDMENT.

SIR,—Your article under this heading will fill with dismay if not disgust the minds of those who have been working in this question for many years. The article will befog a mass of practitioners who look to the JOURNAL for enlightenment; it will puzzle the lay reader, it will put heart into the world of quackery, and will encourage the mass of newspapers that from high to low divide among them more than £2,000,000 annually from advertisements to the character of which they are fully alive. The Report, when dealing with the press, suggests "that the extent to which criticism of secret remedies is excluded from the press may probably be judged by any one who will take the trouble to see how much attention is bestowed by the newspapers on your Committee's report." The army of astute rascals amassing wealth by the means now for the first time irrefutably exposed may, it seems probable, be able to cite the JOURNAL as one of those—albeit representative of the medical profession—that does not concern itself seriously with the matter. The Select Committee—very strong by virtue of the distinction of its individual members—has demonstrated the existence of vast evils which it states call for immediate legislation. They state that the present situation is intolerable. They have for the first time since medical legislation was invented put into the hands of the profession a weapon which may enable them to make an end of a system of cunning fraud which, as the Select Committee proves, is the cause of an incalculable amount of preventable suffering, misery, and

death. Into this great work of humanitarianism the profession, who have nothing to gain by it, are bound to throw themselves, and they can rightly demand the most strenuous assistance of the JOURNAL in their efforts.—I am, etc.,

Earlswood Common, Sept. 12th. HENRY SEWILL.

THE TREATMENT OF ACUTE GONORRHOEA IN MAN.

SIR,—Adverting to Dr. Hayes's article on the above (BRITISH MEDICAL JOURNAL, September 12th, p. 469), I suggest that the treatment of gonorrhoea should be adopted as a subject for discussion at the next meeting of the British Medical Association. No disorder more clamorously calls for reconsideration and review of treatment.

Dr. Hayes gives a succinct digest of modern views on gonorrhoea, but a somewhat extended experience has led me to think that the net result of all active treatment may be to do more harm than good. The natural history of the disease shows a tendency to cure. Like Dr. Hayes, I have found urotropine of much value in checking the early inflammatory symptoms, but I fear it renders the disease more chronic. What conceivable microbicidal action has permanganate of potash, 1 in 10,000, in a mucous tract? Saline solution, I suggest, is much better.—I am, etc.,

Dublin, Sept. 12th. J. C. MCWALTER, M.D., F.R.F.P.S.

Universities and Colleges.

UNIVERSITY OF SHEFFIELD.

DR. J. B. LEATHES, F.R.S., has accepted the invitation of the council of the University of Sheffield to become Professor of Physiology in the University.

UNIVERSITY OF BIRMINGHAM.

Special Notice.

AT a special meeting of the Council of the University held on September 4th, the following resolutions were unanimously adopted:

1. That the University will as far as possible continue its work for the benefit of those students who are prevented from undertaking active service in the army or navy, but that the University's advice to members of the staff, students, laboratory and other assistants, and college servants who are of suitable age and physically fit is that they should enlist and serve their country. That students who propose to enlist should consult the Vice-Principal or the Dean of the Faculty of Medicine, and (if minors) should obtain the written consent of their parents or guardians before sending in their applications.
2. That with a view to encouraging enlistment, the University undertakes to allow leave of absence to any of the above-mentioned persons during their naval or military service; that they be reinstated on their return with no loss of position or emoluments consequent on their enforced absence; that the Council pay them (or such other person or persons as they may appoint) such sums as with the pay and allowances they receive from the Government will make up their full salary or wages; and that students shall be entitled to postpone any scholarships or other aids which they may hold, and, where possible, may be allowed to shorten the time of attendance at lectures necessary for a degree, without, however, the remission of any essential requirements in respect of examinations prescribed for their course.

GILBERT BARLING,
Vice-Chancellor.

UNIVERSITY OF EDINBURGH.

German Teachers.

IT is understood that the University authorities have, in consequence of the present state of matters, sent letters to three gentlemen of German nationality who are at present members of the staff giving them an opportunity of resigning their appointments. Only one of these, a lecturer in the department of physiology, is in the medical faculty. This action has called forth some protests in the local press.

UNIVERSITY OF ST. ANDREWS.

AT a meeting of the University Council on September 12th Dr. David Waterston, Professor of Anatomy in King's College (University of London), was appointed to succeed Professor Musgrove in the Bute Chair of Anatomy, United College, St. Andrews.

QUEEN'S UNIVERSITY, BELFAST.

Election of Senators and of Chairman of Convocation.

THE first senate of the University will cease to exist on October 31st, and a new senate has to be elected by various bodies before that date. Convocation has power to elect eight senators holding office for five years; the election was held on September 9th, when four medical men obtained places—Mr. J. Walton Browne, B.A., M.D., M.R.C.S.Eng., Mr. T. Sinclair Kirk, M.B., B.A., Dr. William Calwell, M.A., and Dr. Richard W. Leslie, LL.D. All the other bodies have made their selection, so that the senate is now complete with the exception of the Crown nominees who are always the last, and of certain co-opted members. At the same meeting Dr. John Campbell, F.R.C.S.Eng., M.A., LL.D., was unanimously elected Chairman of Convocation for the next three years. It is gratifying to the profession that the importance of the medical school should be thus recognized by the whole body of graduates.

AN APPEAL TO EXAMINING BODIES.

The Higher Diplomas.

VOLUNTEER writes: I write to suggest that the various examining bodies should postpone all their higher examinations and only hold those necessary for qualification during the war. There must be many, like myself, who have given up our original intentions to go up for such examinations as the F.R.C.S., M.R.C.P., etc., in order that we may give our services to the country, and it seems unfair that those who do not recognize their obvious duty at this time should be allowed to gain any advantage over us. At any rate, the higher examinations might be reserved for those who are over the military age.

Obituary.

CAPTAIN AUGUSTUS SCOTT WILLIAMS is reported as killed in action during the recent fighting in North-Eastern France. Neither the date nor place of his death appears in the return. He was educated at St. Bartholomew's Hospital, took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1905, and, after serving as house-surgeon to the West London Hospital, entered the R.A.M.C. as Lieutenant on January 30th, 1906, becoming Captain on July 30th, 1909. He was recently stationed at the R.A.M.C. College, Millbank, and had seen no previous war service.

LIEUTENANT-COLONEL RAGLAN WYKEHAM BARNES, R.A.M.C. (retired), died at Dorchester on September 6th. He was born on September 29th, 1854, educated at University College, London, and took the diplomas of L.K.Q.C.P.I in 1875, and the membership in 1880, the L.S.A. in 1876, and the L.R.C.S.Edin. in 1878. He entered the Army as surgeon on March 6th, 1880, became Surgeon-Major on March 6th, 1892. Lieutenant-Colonel on March 6th, 1900, and retired on November 17th, 1900. He served in the Nile expedition of 1898, when he was present at the battle of Omdurman, was mentioned in despatches, and received the medal with a clasp. In the South African war in 1899–1900 he served in operations in Cape Colony and Orange River Colony, and was in charge of a general hospital. Since his retirement he had been in charge of troops at Dorchester.

BRIGADE-SURGEON JAMES EDWARD CLARK, R.A.M.C. (retired), died in London on September 9th, aged 77. After becoming M.R.C.S. in 1858, he entered the Army as assistant surgeon on February 1st, 1859, becoming surgeon in 1871, and surgeon-major in March, 1873. He retired with a step of honorary rank on April 18th, 1885. He served in the Egyptian war of 1882, receiving the medal and the Khedive's bronze star given for that campaign.

SURGEON-MAJOR WILLIAM HENRY HAYES, Bengal Medical Service (retired), died at Farnham, Surrey, on September 8th, 1914, aged 80. He was born on November 27th, 1833, took the diploma of M.R.C.S. in 1855, and entered the Indian Medical Service as assistant surgeon on August 4th, 1855. He became surgeon on August 4th, 1867, surgeon-major on July 1st, 1873, and retired on April 16th, 1878. He served in the Indian Mutiny, in Chota Nagpur, and was wounded in a skirmish near Chaibasa, in Sinhbhum district, on January 14th, 1858. After the mutiny he entered civil employment in the Bengal Commission, and in 1863 was appointed Deputy Commissioner (magistrate) of Sinhbhum, a post which he held till his retirement. He was the last survivor of the few medical officers who were thus employed in purely magisterial posts.

WE regret to announce the death of Dr. AUGUSTE ELISÉE CORDÈS, of Geneva, who frequently contributed short notes, mainly on obstetrical subjects, to our columns.

Born at Lyons in 1843, he graduated Doctor of Medicine at Paris in 1869, the subject of his thesis being the treatment of nervous complications in pregnancy with potassium bromide. After working in the ambulances in Paris during the war of 1870 he settled at Geneva in 1871, and when the faculty of medicine was founded in the university of that city in 1874 he was appointed lecturer in obstetrics. In 1886 he gained by competition the post of assistant surgeon in the Obstetrical Clinic. He was one of the general secretaries of the International Congress of Gynaecology and Obstetrics held at Geneva in 1896, took the diploma of M.R.C.P.(Lond.) in 1889, and was a Fellow of the Royal Society of Medicine of London and a member of the British Medical Association. He translated Barnes's lectures on obstetric operations and his treatise on diseases of women.

In the obituary notice of the late Lieutenant-Colonel S. E. Duncan, R.A.M.C., in the Journal of August 29th, it was stated that he served in the South African war during 1900–01. This should have been 1899–1902; Lieutenant-Colonel Duncan served throughout the whole campaign, from its commencement in October, 1899, till peace was made in May, 1902.

Medical News.

The annual prize distribution at St. Mary's Hospital Medical School, previously arranged to take place on October 1st, has been postponed.

Dr. F. M. Sandwith, Gresham Professor of Physic, will give a course of four lectures on heredity, at Gresham College, E.C., on October 6th, 7th, 8th, and 9th, at 6 p.m. on each day.

Dr. A. C. Farquharson, at present serving as Captain R.A.M.C.(T.F.) with the 6th Durham Light Infantry, has been unanimously adopted prospective Liberal candidate for the North Leeds Division.

Dr. Josiah Oldfield, Major R.A.M.C.(T.), commanding the 3rd Reserve East Anglian Field Ambulance, states that there are several vacancies in the ambulance as well as in the service unit. Communications may be addressed to him at the Drill Hall, Walthamstow.

The President of the Pharmaceutical Society of Great Britain will present the Pereira medal on the occasion of the opening of the seventy-third session of the School of Pharmacy on Wednesday, September 30th, at 3 p.m., and the inaugural sessional address will be delivered by Dr. Lauriston E. Shaw.

The Huxley Memorial Lecture on recent advances in science and their bearing on medicine and surgery by Sir Ronald Ross, K.C.B., F.R.S., originally fixed for Thursday, October 1st, has been postponed to Monday, November 2nd. The lecture, which will be delivered in the out-patients' hall of Charing Cross Hospital at 3 p.m., is open to all members of the profession.

Public Health

REPORT OF MEDICAL OFFICER OF HEALTH.

Ramsgate.—The estimated population of the borough of Ramsgate in 1913 was 30,043, the birth-rate based on this population was 18.6 per 1,000, the death-rate 13.9 per 1,000, and the infant mortality rate was equal to 92 per 1,000 births. The medical officer of health, Dr. James Dundas, gives some interesting information with regard to the social conditions of that portion of the population which came under the notice of the health visitor. As regards 260 families, the income was less than 16s. a week in 48 instances, and in 174 instances it was under 25s. a week. The rental paid by 35 families was under 4s. 6d. a week, and by 112 families it was between 5s. 6d. and 7s. 6d. a week. Active measures were taken during 1913 under the by-laws with respect to tents and vans, and they are said to have been effectual in ridding the district of van dwellers and gipsies. Dr. Dundas considers that there is an undoubted demand for single or two roomed dwellings in Ramsgate which is not satisfactorily met. In one particular district there are many six roomed houses designed for occupation by single tenants, but let out in single or two-roomed tenements; in such houses the closet and washing accommodation is invariably too limited, and the equipment of the furnished rooms is too meagre for comfort and decency. The standard of cleanliness of these houses is said to be much below that of the common lodging-houses, and the smell arising from dirty clothes and bodies, so well known to workers in slum districts, constantly assails the nostrils of the visitor. The medical officer of health suggests that these houses should be licensed annually.

Letters, Notes, and Answers.

Telegraphic Address.—The telegraphic address of the EDITOR of the British Medical Journal is *Aitiology, Westrand, London.* The telegraphic address of the British Medical Journal is *Articulate, Westrand, London.*

Telephone (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

Oedematous Fetus.

Dr. John P. Shine (Barnsley) writes: On August 12th I was sent for by a midwife. The head was born; it was remarkably blue, swollen and oedematous. After trying traction without avail I liberated both arms and eventually delivered the fetus (dead for at least two days). The abdomen was swollen four times more than normal, the genitals and legs were extremely oedematous; it weighed about 24 lb. Congenital ascites and general dropsy seems to be a very rare condition.

Treatment of Gunshot Wounds in the Seventeenth Century.

The following "observation" from Scultetus's *Armamentarium Chirurgici*, written in 1672, and translated into English two years later, may be of interest at the present moment. "In the year 1634 Johannes Philippus Schmid, captain of the watch at Ulme, was wounded with a bullet through the shoulder in the battel near Nordlingen; and coming to Ulme fell into the hands of an unskilful chyrurgion, who kept open the orifices of the wound, not with tents but with a seton passed through, which caused so great a pain that a gangreen followed upon the inflammation, to whom coming by chance, I presently removed the seton and applied a cataplasm made of the meal of mallows and rose-water, and keeping his belly open with a lenitive glyster, for revulsion sake, I took away seven ounces of bloud from his left arm, which was bilious and serous; and the next day the gangreen amending, the patient took a potion to purge choler, which gave him ten stools." The ingredients of the potion were syrup of roses, extract of rhubarb, diacarthamum, magistery of tartar, and "burrage water." The slough separated, and the wound healed. "The wonderfull efficacy of this cataplasm, the patient being recovered, thinks he can never enough commend, and ascribeth to it the sole preservation of his arm."

Pneumonia in the Highlands of New South Wales.

Dr. A. G. Cribb (Millthorpe, New South Wales) writes: I think the type of disease described in Sir James Barr's lecture must differ considerably from that met with in this district. It is situated 3,000 ft. above sea level, and about 150 miles in a direct line from the sea coast. It is extraordinarily healthy, but pneumonia is prevalent both in the depth of winter and in the height of summer. Expectoration is very scanty in the first stage, so I have never found it necessary to give calcium chloride. I give liquor ammoniae acetatis with spirits of nitrous ether in full doses to promote expectoration, also quinine every two hours. Directly the disease is localized I apply antiphlogistine to the part affected. This reduces the temperature from 1½° to 2°, eases pain, promotes expectoration, and assists the patient to sleep. I take a measurement from apex to base of the lung behind, also round the chest at the nipple line. I then cut a shape out of an old piece of blanket to fit the lung like a sleeveless waistcoat, being guided by the measurements I have taken. Shoulder tapes and two to meet in front complete the poultice. I find this method of application superior to the directions given by the manufacturers, as one can gauge the heat more accurately after spreading it on the shape before applying to the skin, it is more economical, and if properly fitted, is cleaner and handier. I change the poultice every twelve hours during the acute stage and continue the applications until the temperature has been normal for twenty-four hours. I use the manufactured vaccines in every case, varying the dose from 10 million in children to 100 million in adults. Nothing under 50 million is any use in the adult. I have given an initial dose of 100 million in a very bad case with good results. I have had no fatality at any age during the last five years.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Note.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

An Address

ON

THE EVOLUTION OF TOXAEMIC IRITIS.

Delivered at the Oxford Ophthalmological Congress, July, 1914.

By W. M. BEAUMONT,

formerly surgeon to the bath eye infirmary.

A short time ago I read a paper on iritis at the Royal Society of Medicine, and it is with some hesitation that I return to the subject.[1]

The origin of inflammation, not only of the eye, but also of all parts of the body, is engaging the attention of workers in the field of biology, with the result that the science and art of medicine and surgery are profoundly influenced by modern conceptions.

As practitioners of a speciality which is as much medical as it is surgical, we are daily confronted by problems which enable us to test the value of the new pathology, the acceptance of which fundamentally affects our treatment. We find that an alveolar pocket or a duodenal ulcer may be a central bureau for the distribution of lethal diseases to all parts of the human economy.

The haematogenous theory has led to the etiological dethronement of iritis from the position of an independent disease to the secondary one of a complication. More than ever we did in the past do we now not alone direct our treatment to the local manifestation, but we search the furthest limits and probe the most hidden depths for the *causa causans*.

In the remarks which I have to make I shall confine my attention almost entirely to manifestations of toxaemia as seen in the iris and ciliary body. Not that I minimize the importance of infection of other parts of the eye, but because what I have to say with regard to the iris applies *mutatis mutandis* to the choroid and other structures.

The stress of the poison usually does not spread from the iris to the choroid. This localization conforms with the usual rule in disease of these parts; the immunity of the choroid being due to the fact that although the venae vorticosae collect the blood from the ciliary body and iris there is no exudation of morbid products in the transit through the choroid.

In reviewing iritis, no matter how it may be caused, we cannot fail to be struck by the frequency with which it is associated with arthritis, or at least with arthritic pains. It is noteworthy, too, that the arthritic and iritic symptoms are often so accurately coadjusted that exacerbations in the eye and joint frequently recur synchronously.[2,3] On the other hand, practically never is acute rheumatism coincident with iritis. It is this anomaly which explains, perhaps justifies, the position of doubt taken up by some ophthalmic surgeons for many years, on the question whether iritis is ever rheumatic; a position which is enormously strengthened by the modern theory that acute rheumatism is a disease clinically distinct from what until recently has been called chronic rheumatism.

In acute rheumatism it would seem that the toxins do not find in the iris a suitable nidus.

When doubts about the etiology of iritis were first broached it was shown that many cases of so-called rheumatic iritis occurred in the subjects of gonorrhoeal infection. There was, however, a residuum of cases in which there was no suspicion of gonorrhoea. The next step was the suggestion that none of these residual cases were rheumatic, but that they were initiated by some blood-borne poison from a distant focus, in a manner possibly analogous to the iritis of syphilis and gonorrhoea.

Idiopathic iritis, a diagnosis which I think surgeons were always chary of making, also became suspect. It is a term which implies that the case is not syphilitic, gonorrhoeal, tuberculous, or rheumatic. But it is a name which suggests that the iritis has arisen spontaneously, that is, in the absence of any pre-existing disease. Does this ever occur? Is not iritis always a symptom rather than a disease *sui generis*? If so, then iritis from a toxaemic condition becomes extremely probable. An exhaustive account of the pathogenesis of toxaemia in relation to irido-cyclitis was given by de Schweinitz at the seventeenth International Congress of Medicine last year.[4]

The suggestion that iritis might be due to such a toxaemic infection is, I think, coeval with the doubts regarding rheumatism as a frequent cause of iritis. It was somewhere about the end of the nineteenth century that these views were first expressed, but the repudiation of rheumatism required some audacity, for that disease enabled the physician to give a name to all obscure aches and pains situated in any part of the body. To doubt that such a convenient diathesis caused iritis was then tantamount to a recantation of one's professional creed. But now pathologists and physicians have followed the example of the doubter, and chronic rheumatism has no friends. So rapidly is the bacteriologist supplying the clinician with food for thought that the most omnivorous finds it difficult if not impossible to assimilate the gargantuan feast.

In a discussion initiated by the late John Griffith, at a meeting of the Ophthalmological Society, in 1900, he pointed out how frequently iritis was called rheumatic when in reality it was gonorrhoeal.[5] Gonorrhoeal iritis had of course been recognized since the days of Brodie (1818), but the cases so designated were usually well-marked examples in which gonorrhoea was more or less acutely present. But the prolonged vitality of the gonococcus, and its far-reaching constitutional effects, were not realized. The surmises of Griffith regarding the dormancy of the gonococcus were based upon clinical observation and induction, and they have since been amply supported bacteriologically by Schnitzler, who has shown that pyogenic cocci may remain latent in the human body for thirty-five years, and then become virulent "on some chance disturbance of the normal processes of metabolism."[11] By this discussion at the Ophthalmological Society attention was focussed on the intimate etiology of rheumatic iritis, and as a sequence the status of the term "rheumatic," as applied to iritis, was questioned, for it was found to be too vague, too ill-defined, and too inclusive. Such was the swing of the pendulum, however, that some of us went so far as to doubt whether rheumatism ever caused iritis. For this view support was found in the researches of Bouchard, the founder of the modern teaching regarding rheumatism. In 1881 he claimed for acute rheumatism an etiology essentially distinct from that of the heterogeneous mass of infective arthritides. But although his views received scant attention at the time, it was an epoch when bacteriology was being actively cultivated and the theory of the toxic origin of disease was being evolved. The result of Bouchard's work could not long be overlooked. In 1900 William Hunter[6] drew attention to the importance of pyorrhoea and other types of oral sepsis as sources of systemic infection. This expression, "oral sepsis" was, I believe, first used in the sense in which we now use it in that year. In close sequence we find Arbuthnot Lane canvassing the possibility of toxaemia as a factor of unbridled energy in the causation of abdominal disease, and later he was demonstrating the faith that was in him by operating for intestinal stasis at Guy's Hospital. Coincidentally, Lang was advocating at the Middlesex Hospital and at Moorfields the desirability of treating pyorrhoea when it existed, in cases of irido-cyclitis, choroiditis, scleritis, and other diseases of the eye. In 1902 R. J. Llewellyn maintained that rheumatoid arthritis was the outcome of a gastro-intestinal toxaemia, and others have reiterated this view. To-day throughout the whole domain of medicine and surgery, at home and abroad, toxic states of the blood plasma are credited with an all-pervading influence. Whether the pendulum has swung too far time alone will show.

Opinion took on a new phase when chronic rheumatism was allotted, under the term "fibrositis," an anatomical basis, and thus sharply distinguished from acute articular rheumatism. If chronic rheumatism, with which iritis had hitherto been closely connected, was a totally distinct disease from acute rheumatism, with which iritis was not associated, the position of rheumatic iritis became questionable. Those who had anticipated the new pathology with their doubts about rheumatic iritis were supported in their scepticism. The relationship of fibrositis to iritis, and whether the association exists in all manifestation of the forms, call for immediate investigation. What is fibrositis?

Luff is of opinion that it is toxic in origin, and that is, I take it, the important point for us. The experiments of Rosenow of Chicago[13] respecting interstitial myositis in rabbits will probably throw light upon the subject, but they are not yet complete, and we must wait for further knowledge. Until the exact relationship of rheumatism, fibrositis, myalgia, and all forms of muscular and articular aches and pains are more precisely codified we cannot, I think, dogmatize as to the connexion of iritis with them. Theoretically, as there is fibrous tissue in the iris, there should be fibrositic iritis. Is not every iritis a fibrositis? Rheumatism was a convenient term because it predicated nothing, and its flag waved over a heterogeneous battalion of diseases. That flag now lies trampled in the dust.

Although we have isolated instances in which iritis has been produced experimentally by inoculation of the *Diplococcus rheumaticus* from the cardiac lesions of malignant endocarditis, I am not aware of any indisputable clinical proof that iritis occurs as a result of acute rheumatism. If, then, we still postulate a rheumatic iritis it is associated with the chronic form of rheumatism, as opposed to the acute articular; the former is now accepted as distinct from the latter, inasmuch as the typical anatomical lesions are admittedly capable of production by a variety of organisms, including various strains of streptococci of attenuated virulence. The deduction is obvious that iritis occurring in association with the clinical features of chronic rheumatism should, like the other phenomena, not be classed as rheumatic, but referred to the particular organism responsible.

Present views regarding iritis make it necessary for us as practical surgeons to get behind the veil and to track back the infection to its birthplace. The almost invariable success of our search shows that there are very few cases of iritis not intimately connected with an infection or subinfection. In the dyscrasia of syphilis and in that of gonorrhoea a source of infection is clear and unmistakable. In traumatic iritis, due to a perforating wound, germs obtain direct access to the iris, and even in operating under the strictest asepsis the surgeon's path of incision may become the road of sepsis.

Possibly, too, in sympathetic ophthalmitis toxins are elaborated in the exciting eye, which have a specific affinity for the iris and other structures of the sympathizing eye.

There is an ill-defined type of iritis arising from a dislocated lens in which there is apparently no path of entry for organisms from without. It is noteworthy that the iritis in such cases shows few signs of inflammation, although there are discoloration of the iris and posterior synechiae. Such a low form of infection is probably caused by organisms of attenuated virulence.

In diabetes the marked tendency to the dermic formation of boils and carbuncles of obviously infective nature may possibly explain the source of iritis, but, on the other hand, they may be the coeffects, with the iritis, of a common infection.

Iritis, although credited to malaria, is a rare complication in paludal disease; while that which sometimes follows late in cases of herpes of the fifth nerve would seem to be undoubtedly of infective origin. I have seen iritis in association with adiposis dolorosa, but as the patient suffered at the same time from dental sepsis it was probable that the latter was a factor common to both, inasmuch as adiposis dolorosa is due to an inflammation of the fibrous tissue of the panniculus adiposus.

Except in sympathetic ophthalmia the iris does not appear to be readily accessible to microbic invasion following injuries of distant parts of the body.

There is a side issue with regard to gonorrhoea which I think is of some importance—namely, that not only iritis but also conjunctivitis may be produced endogenously by that disease.[7 8] In these cases of conjunctivitis there is usually evidence of systemic infection, such as metastasis either in joints, tendons, endocardium or in other structures. In the purulent discharge from the eye, however, if we accept the authority of Elschnig, there is absence of the bacteriological certainty of its identity, for although gonorrhoeal it is not gonococcal. The fact that these cases lack the unanswerable proof of gonorrhoeal origin—that is, the presence of the gonococcus—explains their being overlooked. In ophthalmia neonatorum the gonococcus is absent in a certain percentage of cases, and in such it may occasionally happen that the disease has been conveyed endogenously. For although the fetal vascular circulation is not actually continuous with the maternal, yet so intimate is their coaptation that practically they may be considered indivisible, and there is nothing to prevent the gonorrhoeal poison from being carried to the eyes of the embryo transplacentally. Ophthalmia being produced endogenously by gonorrhoea it is probable that other specific infections may similarly initiate conjunctivitis. Garrod has pointed out that dysentery is a cause of muscular rheumatism, and also he says of conjunctivitis, an association which supplies food for thought.[9] Passet and Longard have shown that in inoculated mice staphylococci pass into the conjunctival secretion.[15] In mucopurulent ophthalmia, in which both eyes may be affected, we are apt to assume that the patients have been infected by microbic dust or air-borne germs. Possibly some of these cases are not exogenous.

The diagnosis of toxaemic iritis is obviously surrounded by difficulties, and in pursuing the germ we cannot confine our quest within the borders of our speciality; we have to become general physicians in the fullest interpretation of the term, and wander far afield to seek a focus of infection in oral, naso-pharyngeal, auditory, gastro-intestinal, or genito-urinary regions. We explore the digestive tract from its alveolar gates, through its devious windings, to its nethermost terminals for some breach in the armour.

Much may be learnt from the nature of the joint pains and swellings which are so often present. For, although these symptoms are common to tubercle, syphilis, gonorrhoea, fibrositis, and rheumatoid arthritis, there are considerable differences of material assistance in the diagnosis. The "rheumatism" associated with toxaemic iritis is frequently situated in the big joints of the lower limbs usually of mono- or of oligo-articular site, and in the plantar fasciae, but affection of the latter is rarely so severe as in the worst cases of gonorrhoea, or so prolonged as in tubercle. The iritis which sometimes occurs in the early stage of rheumatoid arthritis may often be diagnosed by the spindle-shaped finger-joints. When writing on this subject in 1908[10] I was unable to hazard an opinion whether the iritis was caused by the rheumatoid arthritis or whether both were independently the offspring of a common parent.

Iritis in toxaemia generally indicates an intense systemic infection, and there are usually present the dull, sallow complexion, constipation, neurasthenia, and lassitude. Given a patient with these symptoms well marked, who is not syphilitic, and the diagnosis may not be difficult. But in other cases we have to contend with the uncertainties which always attend a diagnosis by exclusion.

It is not for those of us whose connexion with toxaemia is chiefly clinical to consider whether the pathological process is an autointoxication, a term which Adami so much objects to, or whether it is better described as a low infection.[11] As practical surgeons we recognize and treat the cause and the results. Lawford has pointed out that at present we have to be satisfied with the general term "toxaemia" as a working hypothesis,[12] but there is every reason to believe that in the near future we shall be able to recognize diverse species. In specific and tuberculous iritis, for instance, we have clinical similarity with pathological dissimilarity. The clinical similarity, however, is not clinical identity, and we can diagnose syphilis from tuberculosis by the ocular symptoms. But at present cases of iritis due to many forms of pyogenic organisms cannot be distinguished one from the other by clinical methods alone. The diagnosis and the treatment of iritis require the harmonious co-ordination of the laboratory and the ward, the mutual collaboration of the bacteriologist and the clinician.

The association of dental disease with iritis is perhaps more generally observed than are other sources of sepsis. The patient may complain of joint aches, myalgic discomforts, and little else besides. On examination of the teeth there is found to be pyorrhoea alveolaris, which we are told has existed for some months or even years. Lang's statistics[13] show that about 64 per cent. of cases of iritis attributed to sepsis, are caused by pyorrhoea. Less frequently we find otitis, sinusitis, or some gastro-intestinal infection. The difficulty in the diagnosis is the connecting link. The iritis is there, the septic focus is there, and we

conclude that the blood vessels are the highway of communication. But clinical investigation gives us little evidence that the stream is toxaemic. We are, too, continually confronted by the difficulty of deciding whether *post hoc* is in conflict with *propter*, or on the same side. The characteristics of the iritis are not pathognomonic. Deposits on the posterior surface of the cornea may or may not be present. The iritis is an anatomical lesion capable of initiation by manifold organisms, but it is an iritis and nothing more. Lacking the nodules of tubercle, and the condylomata of syphilis, it begins insidiously, progresses leisurely, and clears up tardily. If the iris alone be treated relapses will occur, but if the cause be discovered and removed a satisfactory prognosis may confidently be given.

It is, I think, agreed that pyorrhoea alveolaris is the most frequent source of toxaemic iritis, and the reasons would seem to be, first, the great prevalence of pyorrhoea, and, secondly, that the infection in these cases is direct into the circulation, whereas in many other forms of alimentary toxaemia the toxins have to undergo the ordeal of the hepatic furnace. But this prevalence of pyorrhoea may lead us astray if, on finding it present, we at once conclude it to be the cause. It cannot be too insistently brought to mind that a patient with pyorrhoea may also be a sufferer from syphilis or gonorrhoea. There may also be present more than one source of "gastro-intestinal autointoxication," evidences of which may be unexpectedly manifested when the urine and faeces are examined. Whatever organ is discovered at fault it should receive treatment at once, the patient being referred to the proper authority—physician, surgeon, laryngologist, rhinologist, aurist, or dentist—without delay. In the case of pyorrhoea the latter will naturally wish to save as many teeth as possible, but when iritis is already established the bias should be in favour of drastic treatment of the periodontal foci of disease. The slower methods by autogenous vaccines, and by local applications to the alveolar pockets, may suffice before the onset of iritis, but the important point is to stop the auto-intoxication by the most expeditious method; that is, to remove all the affected teeth. The cure of the iritis is of paramount importance, and it is better to lose thirty-two teeth than one eye. Whether the oral sepsis is the cause or the result of intestinal stasis should make no difference in the verdict; the teeth must suffer the penalty for guilt as accessories before or after the event. When dental treatment has been carried out, although immediate cure may not follow, we have at least removed a fruitful source of general ill-health, thereby increasing the power of resistance and simplifying the work which atropine will consummate. In the treatment of iritis the primary cause calls with insistent voice for detailed hygiene. Salicylic acid may have a specific action in acute rheumatism, but in iritis, apart from its anodyne effects, it is probably quite useless. The old formula of mercury and chalk is beneficial, but vaccines have proved disappointing. Occasionally a case seems to respond most satisfactorily, but in many no advantage accrues.

I will not take up time by considering the question of diet, except to remark that we shall see less pyorrhoea, and therefore less iritis, when finely ground flour as an article of food is banished from our homes. Some day perchance it will be illegal to bake or to buy, to sell or to swallow, bread made from flour which bakers call "firsts."

The autointoxication theory of the origin of fibrositis, rheumatoid arthritis, and other diseases involves such a reversal of old teaching, such a change in diagnosis and treatment, that it is not easy to view the subject in all its bearings. As far as the eye is concerned, the iconoclastic conclusion to which we are led is that iritis is an indication of an infective process in some part of the body, and, conversely, that infection or subinfection is an indication that iritis may be threatening. I have called the subject of this address toxaemic iritis in order to intimate the point to which I wished to draw attention, but the infective theory connotes a toxaemic basis for all types of iritis. No iritis is primary; it is invariably secondary, always infective.

In the future statistics should show a decreased incidence of diseases of the eye if it be proved that those rheumatic twinges which have hitherto been accounted for by morning mist or evening chill are early warnings of a chronic septic invasion.

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INSECTS AND WAR:

II.—*THE BED-BUG (Cimex lectularius).*

BY

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In "x" finita tria sunt animalia dira;
Sunt pulices fortes, cimices, culicumque cohortes;
Sed pulices saltu fugeunt, culicesque volatu
Et cimices pravi nequeunt foetore necari.

AMONG the numerous disagreeable features of the bed-bug is the fact that it has at least two scientific names—*Cimex* (under which name it was known to the classical writers) and *Acanthia*. The latter name is favoured by French and some German authorities, but *Cimex* was the name adopted by Linnaeus and is mostly used by British writers, and will be used throughout this article. One cannot do better than take the advice of that wise old entomologist, Dr. David Sharp, and allow the name "*Acanthia* to fall into disuse."

The species which is the best known in England is *C. lectularius*, but there is a second species which is much commoner in warm climates (*C. rotundatus*). As regards carrying disease, this latter species is even more dangerous than its more temperate relative. Other species, which rarely if ever attack man, are found in pigeon-houses and dove-cotes, martins' nests, poultry-houses, and the homes of bats.



Fig. 1.—*Cimex lectularius*, male. × 15. (From Brumpt.)

The common bed-bug seems to have arrived in England about the same time as the cockroach—that is, some four hundred years ago. Apparently it came from the East, and was at first confined to seaports and harbours. It seems to have been first mentioned by play-writers early in the seventeenth century. How the insect got the name of "bug" is unknown. It has been suggested that the old English word "bug," meaning a ghost or phantom which walked by night, has been transferred to *Cimex*. This may be so, but the *Oxford Dictionary* tells us that proof is lacking.

The insect is some 5 mm. in length and about 3 mm. in breadth, and is of a reddish or brownish rusty colour,

fading into black. Its body is extraordinarily flattened so that it can readily pass into chinks or between splits in furniture and boarding, and this it does whenever daylight appears, for the bug loves darkness rather than light. The head is large, and ends in a long piercing, four-jointed proboscis, which forms a tube with four piercing stylets in it. As a rule the proboscis is folded back into a groove, which reaches to the first pair of legs on the under surface of the thorax. The head bears two black eyes and two four-jointed antennae. Each of the six legs is provided with two claws, and all the body is covered with fairly numerous hairs. The abdomen shows seven visible segments and a terminal piece. The bug has no fixed period of the year for breeding, but as long as the temperature is favourable and the food abundant generations will succeed each other without pause, but should the weather turn too cold the insects become numbed and their vitality and power of reproduction are interrupted until warmth returns.

Like the cockroach, the bed-bug is a frequenter of human habitations, but only of such as have reached a certain stage of comfort. It is said to be very rare in the homes of savages, but it is only too common in the poorer quarters of great cities. Its presence does not necessarily indicate neglect or want of cleanliness. It is very apt to get into trunks and luggage generally, and in this way is conveyed even into the best kept homes; it is also very migratory and will pass readily from one house to another, and when an infested dwelling is vacated the insects usually leave it for better company and quarters. Their food supply being withdrawn they make their way along gutters, water-pipes, etc., into adjoining and inhabited houses. *Cimex* is particularly common in ships, especially emigrant ships, and, although unknown to the Indians of North America, it appears to have entered that continent with the *Mayflower*.

One of the most disagreeable features of the bed-bug is that it produces an oily fluid which has a quite intolerable odour; the glands secreting this fluid are situated in various parts of the body. The presence of such glands in free-living, hemipterous insects undoubtedly is a protection—birds will not touch them. One, however, fails to see the use of this property in the bed-bug. At any rate it does not deter cockroaches and ants, as well as other insects, from devouring the *Cimex*. There is a small black ant which is said to clear a house of these pests in a few days, but one cannot always command its services. Another remarkable feature is that the insect has no wings, although in all probability its ancestors possessed these useful appendages. As the American poet says:

> The Lightning-bug has wings of gold,
> The June-bug wings of flame,
> The bed-bug has no wings at all,
> But it gets there all the same.

The power of "getting there" is truly remarkable. Man, their chief victim, has always warred against bugs, yet, like the poor, bugs are always with us. I have heard it stated, when I was living in Southern Italy, that if you submerged the legs of your bed in metal saucers full of water and placed the bed in the centre of the room, the bugs will crawl up the wall, walk along the ceiling and drop on to the bed and on to you. Anyhow, whether this be so or not, there is no doubt that these insects have a certain success in the struggle for life, and only the most systematic and rigorous measures are capable of ridding a dwelling of their presence.

The eggs of the bed-bug are pearly white, oval objects, perhaps 1 mm. in length. At one end there is a small cap surrounded by a projecting rim, and it is by pushing off this cap through the orifice thus opened that the young bug makes its way into the outer world after an incubation period of a week or ten days. There is no metamorphosis, no caterpillar and no chrysalis stages. The young hatch out, in structure miniatures of their parents, but in colour they are yellowish-white and nearly transparent. The young forms feed readily, and feeding takes place between each moult, which are five in number, before the adult imago emerges. This it does about the eleventh or twelfth week after hatching. These time limits depend, however, upon the temperature after hatching, and the rate of growth depends not only upon the temperature but on the amount of food. When bred artificially and under good conditions, the rate of progress can be "speeded up" so that the eggs hatch out in eight days, and every following moult takes place at intervals of eight days, so that the period from egg to adult can be run through in as short a time as seven weeks. Unless fed after each moult, the following moult is indefinitely postponed. Hence it follows that in the preliminary stages they must bite their host five times before the adult form emerges, and this in turn must have a meal before it lays its eggs. These are deposited in batches of from five to fifty in cracks and crevices, into which the insects have retired for concealment.

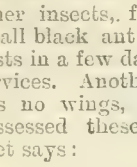


Fig. 2.—Egg of *Cimex lectularius*. Enlarged.

Bugs can, however, live a very long time without a meal. Cases are recorded in which they have been kept alive for more than a year incarcerated in a pill-box. When the pill-box was opened, the bugs appeared to be as thin as paper and almost transparent, but they had managed to produce some offspring. De Geer kept several in a sealed bottle for more than a year, and this power of existing without food may explain the fact that vacated houses occasionally swarm with bugs even when there have been no human beings in the neighbourhood for many months.

The effect of their bite varies in different people. As a rule, the actual bite lasts for two or three minutes before the insect is gorged, and at first it is painless. But very soon the bitten area begins to swell and to become red,

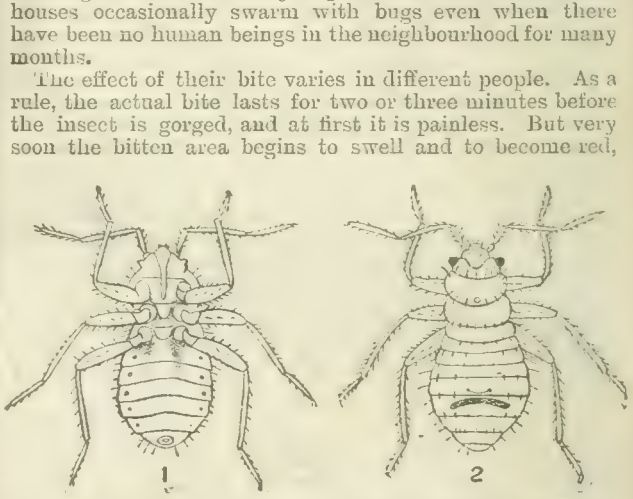


Fig. 3.—Newly hatched young of *Cimex lectularius*. 1, Ventral view; 2, dorsal view. Enlarged.

and at times a regular eruption ensues. The irritation may be allayed by washing with menthol or ammonia. Some people seem immune to the irritation, and I know friends who in the West Indian islands have slept through the attacks of thousands of bugs, and only awoke to their presence when in the morning they found their night clothing and sheets red with their blood, which, in rolling over in their sleep, they had expressed from the bodies of their tormentors.

As a rule, the uncovered parts of the body—the face, the neck, and the hands—are more bitten than the parts which lie under the bedclothes.

The bug has been accused of conveying many diseases—typhus, tuberculosis, plague, and a form of recurrent fever produced by a spirochaete (*Spirochaeta obermeieri*), but a critical examination throws some doubt upon the justice of the accusation, and Professor C. J. Martin writes as follows:

> There is really no evidence to incriminate the bed-bug in the case of either typhus or relapsing fever. It is possible to transmit plague experimentally by means of bugs, but there is no epidemiological reason for supposing this takes place to any extent in nature.
>
> There are two differences in the habits of bugs and those of fleas and lice which may possess epidemiological significance. The first concerns the customary intervals between their meals. Bugs show no disposition to feed for a day or two after a full meal, whereas fleas and lice will suck blood several times during the twenty-four hours. The second is in respect to the time the insects retain a meal and the extent to which it is digested before being excreted. Fleas and lice if constantly fed freely empty their alimentary canals, and the nature of their faeces indicates that the blood has undergone but little digestion.

Both these insects evacuate such undigested or half-digested blood per rectum during the act of feeding, and the remnants of the previous meal are thus deposited in the immediate vicinity of a fresh puncture. It is not unlikely that, should the alimentary canal of the insect be infected with plague bacilli, spirochaetę, or the organism responsible for typhus fever, these may be inoculated by rubbing or scratching. Bugs have not this habit, and in all the cases I have examined their dejections were fully digested, almost free from protein, and consisted mostly of alkaline haematin.

Whether bugs be guilty of these crimes or not, they are the cause of an intense inconvenience and disgust, and should, if possible, be dealt with drastically. At the present time there are rumours that one of our largest camps is infested with these insects, and there seems no doubt that some of the prisoners and refugees to this country have brought their fauna with them, and this fauna is very capable of spreading in concentration camps. The erection of wooden huts, no doubt a pressing necessity, will afford convenient quarters for these pests.

Among the measures which have been most successful in the past has been fumigating houses with hydrocyanic acid gas, but this is a process involving considerable danger, and should only be carried out by competent people under the most rigorous conditions. In all fumigating experiments every crack and cranny of a house should be shut, windows closed, keyholes blocked, and so on. A second method of fumigation is that of burning sulphur. Four ounces of brimstone are placed in a saucer, which in its turn is placed in a larger vessel. This protects the floor of the room from a possible overflow of the burning material. After all apertures have been successfully plugged, four or five hours of the sulphurous fumes are said to be sufficient to kill the bugs, but to ensure success a longer time is needed. This is not only a much less expensive but a much less dangerous operation than using hydrocyanic acid gas. Two pounds of sulphur will suffice for each thousand cubic feet of space, but it is well to leave the building closed for some twenty-four hours after the fumigation. Another more localized method of destroying these pests is the liberal application of benzine, kerosene, or any other petroleum oil. These must be introduced into all crevices or cracks with small brushes or feathers, or injected with syringes. In the same way oil of turpentine or corrosive sublimate has proved effective. Boiling water is also effective when it can be used, and recently in the poorer quarters of London the "flares" which painters use in burning off paint have proved of great use in ridding matchboarding, or wainscoting, or wood for hoarding, of bugs. Passed quickly along, the flame does not burn the wood, but it produces a temperature which is fatal to the bug and to its young, and to its eggs.

THE TREATMENT OF ACUTE GONORRHOEA IN THE MALE.

By W. WYNDHAM POWELL, F.R.C.S.Eng.,
SURGEON TO THE WESTMINSTER GENERAL DISPENSARY.

As one who studied this subject under Janet in Paris, and under the late Dr. Valentine of New York, nearly twenty years ago, and has been since constantly engaged in the irrigation treatment, may I be allowed to offer a few remarks?

The nature of this disease, and the secrecy with which its treatment is surrounded in this country, accounts in a great measure for the haphazard way in which it is treated, and for the unsatisfactory nature of the teaching on the subject. The article by Dr. Hayes in the BRITISH MEDICAL JOURNAL of September 12th, p. 469, and the remarks thereon by Dr. J. C. McWalter in the ensuing number (p. 523), show that opinions are still divided as to whether the active or the expectant treatment is the better in acute gonorrhoea.

The reason is not far to seek. The irrigation treatment, judging by what one sees and hears, is not easy to learn. Faulty technique is probably at the bottom of most failures. The two-way tube or nozzle which is often used is inferior to the one-hole nozzle as recommended by Janet and Valentine. It is essential to flush out the anterior urethra with considerable force if the treatment is to be effective. A hydrostatic pressure of at least 6 ft. is necessary. The urethra must be ballooned out, and, what is also important, rapidly emptied, so that the fluid spurts out with great force. These essentials are obtained by using a nozzle with a bore equal to 8 or 9 of the French scale, and its partial removal from the meatus or the relaxation of the finger and thumb pressure blocking the meatus around the nozzle ensures a rapid emptying of the canal in the moment following its over-distension.

The process, then, consists of a quick filling and partial emptying of the urethra. This ensures a free circulation of powerful currents right up to the compressor urethrae muscle. The over-distension of the elastic urethra and its recoil facilitate the entry of the fluid into the lacunae and ducts of Littre. With the two-way nozzle the distension of the urethra is a sustained one, with probably no circulation of the fluid in the neighbourhood of the bulb of the urethra. Only in hyperacute cases is it necessary to go a little more gently, and also rarely when the spongy body itself has been allowed to become infiltrated. In these cases, even with a 2 per cent. solution of cocaine, the proceeding may be painful.

In the early stage, where only the first 2 or 3 inches of the urethra are involved, the whole anterior urethra should be irrigated with the usual full pressure. A splice of healthy mucous membrane treated with potassium permanganate irrigations offers an almost insuperable barrier to the inward spread of gonorrhoea. This salt is almost a specific in these circumstances. Irritating solutions such as those of silver nitrate, by lowering the vitality of the healthy membrane, favour rather than retard the spread of the disease in acute cases. The same may be said of all irritating hand injections. Permanganate may be used by means of a hand syringe, but the effect is infinitely inferior to that of irrigation.*

A few of the chief points to be kept in mind may be briefly stated:

A strength of from 1 in 5,000 to 1 in 2,000, or even stronger, is used. The temperature of the solution used is 98° F. to 100° F., and the quantity 5 or 6 pints.

For the first three or four days the irrigation is repeated morning and evening with a solution of medium strength, say 1 in 3,000. Then once daily the irrigation is given with a solution of 1 in 2,000. A solution of 1 in 5,000 strength is to be used in very acute and painful cases; 20 drops of a 2 per cent. solution of cocaine may be injected into the urethra and held in for two or three minutes just before irrigating in all sensitive cases. It is astonishing how quickly a painful condition will become painless under this treatment.

Rapid disappearance of the discharge and recovery is the rule. Should, however, a bead of yellow pus persist, endoscopy will show the lacunae of Morgagni to be greatly swollen and their outlet obstructed. This is evidence that treatment was not begun early enough and that the fluid now cannot penetrate them. In other cases which persist, but with less discharge, the superficial glands of Littre will be found more or less extensively involved. This also is found in cases which have been neglected at the beginning. When these conditions exist, in order to hasten recovery and to prevent the organization of infiltrations, the gentle use of Kollman's dilator is indicated, and I can recommend the irrigating dilator. This instrument may be used once or twice a week and very delicately screwed up until just the faintest pressure is felt. It is a powerful machine and requires care in use. The solution mostly used is mercury oxycyanide 1 in 4,000 or stronger. The intraurethral treatment of these affections requires the surgeon to be an expert urethroscopist. An account of the writer's method may be found in the BRITISH MEDICAL JOURNAL, September 26th, 1908, p. 878.

I have purposely not touched on the subject of the drug treatment of gonorrhoea, as being beyond the scope of this article, and the subject of vesical irrigations for posterior or membrano-prostatic urethritis may be left for a future occasion.

* An account of the irrigation treatment of early gonorrhoea may be found in the *Clinical Journal*, June 24th, 1908, p. 170, where also my irrigator is fully illustrated.

THE mixed council of the Armenian patriarchate has decided that couples wishing to get married must first present a medical certificate of health to the proper authority.

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF GYNAECOLOGY AND OBSTETRICS.

F. W. N. HAULTAIN, M.D., F.R.C.P.Edin., President.

DISCUSSION ON THE TREATMENT OF FIBROMYOMATA OF THE UTERUS.

OPENING PAPERS.

I.—ARCHIBALD DONALD, M.A., M.D.Edin.,

Professor of Obstetrics and Gynaecology, Victoria University, Manchester.

(Abridged.)

THE treatment of fibromyomata of the uterus may be considered under the following heads:

1. *Expectant Treatment.*—My view is that this should now be given up in all cases of fibroids causing symptoms, save in exceptional cases. A small intramural tumour in a woman over 46 years, giving rise to only slight troubles, may be left alone, provided the patient is under supervision. Additional experience confirms the view that the climacteric does not always bring relief. The tumours may not disappear, and may not even diminish. Old age may cause complications: An intramural fibroid may become submucous or polypoid; diminishing size may cause incarceration in the true pelvis; degenerations are certainly not uncommon and malignant changes occur.

2. *Palliative treatment* for haemorrhage and other symptoms is not discussed.

3. *Curetting.*—In small tumours this may have a good effect in relieving haemorrhage for a time, but is not to be recommended, as it may have the opposite effect and may cause an intramural fibroid to become submucous by thinning the endometrium and stimulating uterine action. It is true that as a further result the tumour may become polypoidal and a cure may be effected by removal of the polypus, if the fibroid is solitary.

4. *Operative Treatment.*—(*a*) *Vaginal operations* are only advised in exceptional cases, such as for polypi or submucous fibroids bulging into the cavity and felt through a dilated cervix. In sloughing polypi the vaginal route is preferable. The uterus may be separated from the bladder and the anterior wall split up and the tumour removed. In all other cases the abdominal route should be chosen. Vaginal hysterectomy for fibroids should be abandoned. As long as our aseptic methods were uncertain it had a place, but now the method which enables us to see clearly what we are doing should be adopted. (*b*) *Abdominal operations.* Myomectomy should always be performed, if possible, in women of child-bearing age, unless there are numerous fibroids. It is a good plan in some cases to begin by enucleating, as it often makes the subsequent hysterectomy (if it has to be performed) easier.

In performing hysterectomy the choice lies between (1) supravaginal amputation, or subtotal hysterectomy, and (2) total or panhysterectomy. Each operator will choose his own methods. The writer's personal bias is towards the subtotal operation. The risk of the occurrence of cancer in the cervix after this operation does not seem worth considering. As for (3) double oöphorectomy, this should not be practised now. The risks are as great as those involved in the other abdominal operations, and the results are much more uncertain.

In regard to the *mortality* of abdominal hysterectomy, I have taken my own cases since the beginning of 1910 up to the first week of the present month—a period of four and a half years. The operations have been performed in the Royal Infirmary and in St. Mary's Hospital, Manchester, and in two nursing homes. In the nursing home cases I have included the last six months of 1909, as this brings the number to just 100. The results are as follows:

> Infirmary, 101 cases with 3 deaths:
> St. Mary's Hospital, 108 cases with 5 deaths;
> Nursing home, 100 cases with 1 death;

a total of 309 cases with 9 deaths, or a mortality of 2.9 per cent. But I have recorded every case of hysterectomy for fibroid, and in 3 of the fatal cases there were complications, which largely influenced, if they did not entirely cause, the fatal result. In one case the patient suffered from chronic bronchitis with dilated heart, and death occurred from heart failure. In one case the tumour was infected; it occurred in an unmarried woman of 31; several coils of small intestine were firmly adherent to the tumour, and had to be stripped off, with the result that a faecal fistula formed and leaked into the peritoneal cavity. In one case the operation was undertaken as an urgency for acute intestinal obstruction caused by a fibroid. If we deduct these 3 complicated cases, we have 6 deaths in 306 operations, or a mortality of 1.9 per cent. Of the 6 uncomplicated cases, 2 died of cardiac failure, presumably embolism, on the tenth day after operation; 1 died from secondary haemorrhage; 2 died from peritonitis, and 1 died from intestinal obstruction.

It is interesting to note that the results in the private cases were better than in the hospital cases—1 per cent. as against 2.3 per cent., after deducting the complicated cases which all occurred in hospital. This is doubtless partly explained by the fact that hospital patients are drawn from a class that are more poorly fed and housed, and that their ailments are often neglected until the trouble has become very urgent. But I believe there is another explanation to which I shall refer later.

As to the technique of the operation, I shall only draw attention to three points. The first of these is my preference for clamping the broad ligaments and uterine arteries and removing the uterus before applying any ligature. The advantages of this method are that when the uterus and tumour are removed one can see what one is doing much more clearly, and that there is less tension on the sutures and ligatures when they are applied after removal of the tumour. The second point is, that I am not in favour of the continuous suture, as I consider it not so safe as interrupted sutures. If one point of a continuous stitch gives way the whole of the stitching is rendered useless.

The third point—which is more likely to give rise to discussion—refers to the advisability of leaving one or both ovaries. Many operators believe that it is of great importance to leave at least one ovary if possible. My own practice is to remove both with the uterus, unless the patient specially desires that one should be left. In quite a considerable number of cases the ovaries are diseased or degenerated, and if they are left there may be subsequent trouble from cystic degeneration; or the ovary may become adherent to the pelvic scar and cause so much discomfort that a subsequent operation may be necessary. When they are both removed, the result is a clean pelvic floor with a linear scar running from one side of the pelvis to the other.

The chief difficulties in operating are met with in intraligamentous and subperitoneal fibroids, and in cervical fibroids. These difficulties are best overcome by high division of the peritoneal investment of the tumour and careful stripping of it downwards. In some cases a free incision into the capsule, followed by enucleation of the tumour, helps considerably.

In my opinion the symptoms of an artificially induced climacteric are not so severe as is often supposed, and this opinion has been formed as the result of inquiries sent out by one of my house-surgeons to a large number of patients who have had the radical operation. Only a very small number (not more than 3 per cent.) complained of what might be called acute symptoms. One patient complained very bitterly of all sorts of physical and mental disturbances, but it was found, on referring to the notes, that in her case one ovary had been left. The conclusion I have come to is that the severity of the symptoms depends more on the type of patient than on the operation. If a woman is of a highly nervous temperament she may have all sorts of symptoms when neither ovary is removed, while, on the other hand, many patients have practically

no discomfort after the radical operation. The great majority, for about twelve months after the radical operation, have a moderate degree of discomfort from flushes or flatulence, and other minor troubles.

The dangers of the operation apart from complications and accidents are chiefly thrombosis and embolism in patients who are profoundly anaemic after long-continued or profuse haemorrhage. This is the risk that has been most difficult to overcome, but it has yielded to a most scrupulous asepsis. Some years ago it was not uncommon to find swollen legs after hysterectomy. The occurrence was thought to be unavoidable, and fortunately most of the patients recovered. Now and again a patient died suddenly from heart failure, as the result of thrombosis or embolism. These unfortunate accidents became less frequent with the improvement in asepsis and technique. I have not seen a thrombosis of the leg after a hysterectomy for years. Sudden death from cardiac failure unfortunately still occurs, but is now limited to patients who have been blanched by prolonged haemorrhage and whose hearts are feeble and irregular. Such cases are always formidable, but I am convinced that even these may be brought to a successful issue if the strictest precautions are taken. During the last few months I have operated on 5 such cases with a good result, and I think they would have had a very poor chance but for the precautions observed. All of them had weak irregular hearts, in fact all of them had been told that they had heart disease; they were all fat and flabby and very pale.

The precautions I refer to may be summed up as (1) the observance of the aseptic ritual in its most thorough form, and (2) what is known as "team" work in operating. As regards asepsis, I am obliged to confess that I was slower than some others in adopting the modern methods, but that now I am convinced that the elaborate details of gloves, sleeves, masks, tetra-cloths, etc., all have their effect in the smooth recovery which is now the rule after severe operations, and that they are of the utmost importance in operations on very anaemic patients. It may seem late in the day to refer to this point, which some may think was settled years ago, but I am so convinced that it is an essential one for success that I feel bound to emphasize it. Further, we hear of a reaction against the use of gloves in some quarters, and I know personally of one important Continental clinic where they are not used. The advantages of "team" work are obvious. It is of importance that in major operations the surgeon should operate in surroundings with which he is familiar and with assistants who know his ways so that the whole of his attention can be devoted to his work, without the distractions inevitable if he has to keep a supervising eye on all that goes on. It is often a delicate matter to indicate to the doctor who has accompanied the patient that he will not be required to assist, but I think it is best to make a rule and to allow no exceptions—save in cases of urgency where the patient cannot be moved. As regards the assistants I think it is possible to have men who are too good for that post. I believe my best results are obtained with the help of one or two nurses who have been drilled in the strictest aseptic details and who simply do as they are told. They never come in contact with "dirty" cases (in the surgical sense), and their hands are smooth and easily sterilized.

Treatment by X Rays.—I now pass to a subject on which there seems to exist a wide diversity of opinion. I refer to treatment by *x* rays. I may state at once that I hold strong views on the subject and that I am opposed to this treatment for uterine fibroids. The objections may be stated as follows:

1. All who are engaged in gynaecological work know how difficult it sometimes is to be sure that we are dealing with a fibroid and not with some other condition. Mistakes are not uncommon: (*a*) In cases of pelvic inflammation where hard masses are found inseparable from the uterus; (*b*) in cases of solid or tense ovarian tumours, especially if they are adherent to the uterus; (*c*) in cases of ovarian and tubal disease associated with uterine fibroids; (*d*) in sarcomata and adenomyomata of the uterus, where the diagnosis is only made with certainty after the tumour has been removed; (*e*) in carcinomata of the uterus associated with a fibroid, or in large cancerous growths in the pelvic cellular tissues; (*f*) degenerations in fibroid tumours, especially red degeneration and calcareous change. I have analysed 201 of the cases in which I have operated (those at the infirmary and those at the nursing homes), and I find the following complications were present: Ovarian cyst, 13 cases; red degeneration, 12 cases; suppuration in tube or ovary, 6 cases; appendicitis, 4 cases; calcareous degeneration, 5 cases; fibro-cystic tumour of uterus, 2 cases; carcinoma in the fibroid, 2 cases; adenomyoma, 2 cases; necrosed polypus, 1 case; hydroperitoneum, 1 case—that is, we found complications in 44, or in nearly one-fourth of the cases.

2. Sufficient time has not elapsed since the introduction of the *x*-ray treatment for fibroids to enable one to state that there will be no further troubles after the haemorrhage has ceased. But judging from what has happened in many cases after the expectant treatment there is every reason to believe that many of the tumours which seem for the present to have been successfully treated by *x* rays will cause serious trouble in the future. The later degenerative changes are just as likely, if not more likely, to occur after this treatment as after the expectant treatment. Further, if operation has to be undertaken at a later stage there is reason to believe that it will be more difficult after *x*-ray treatment. I have no experience on this point—I am expecting to have it ere long—but I am informed by surgeons that the removal of a thyroid gland which has been treated by *x* rays is a much more formidable operation than in cases where there has been no previous treatment.

The advantages of operative as compared with *x*-ray treatment may be summed up as follows:

1. The mortality of the operation is now very small—in cases suitable for *x*-ray treatment it is under 2 per cent. (3 cases are deducted from the 9 fatal cases as unsuitable for *x*-ray treatment—1 case of acute intestinal obstruction, 1 case of infected fibroid, and 1 case of large calcareous fibroid where death occurred from peritonitis). The mortality following *x*-ray treatment cannot be estimated for many years.

2. The cases in which operation was most dangerous (cases of profound anaemia) a few years ago, may now be undertaken with little risk.

3. The patient after operation is at once and for all relieved of any anxiety concerning the tumour.

I believe the *x*-ray treatment has a place in gynaecology in the treatment of cases of chronic metritis associated with profuse haemorrhage at the menopause. But I believe it should be given up in cases of fibromyomata of the uterus.

II.—KARL GAUSS.

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(Abstract.)

WHEN the subject of myomata comes under discussion in Germany very little is nowadays to be heard of operative treatment. Ray-therapy has become such a matter of course that it might be imagined that no doubts had ever been entertained as to its value; yet only five years ago it attracted hardly any attention, and up to two years ago it was still violently opposed in many quarters.

A statistical summary of all the cases of myoma and metropathy treated by ray-therapy, of which reports had been published prior to January 1st, 1914, is very instructive. I take the following figures from a paper to be published shortly by Johannes of the Freiburg Hospital for Diseases of Women. The cases fall into three groups according to the strength of the dose of radiation employed.

	No. of the Treated Cases.	Cure.	Death.	Recurrence.
Group I (50–175 *x*)	693	72%	0.5%	4%
Group II (175–500 *x*) ...	544	82%	0%	3%
Group III (500–1,500 *x*) ...	158	95%	0%	0%
Total	1,395			

The first group embraces a total of 693 cases, in which total doses of 50 to 175 of Kienböck's *x*-units were applied. The second group includes 544 cases, the dose being from 175 to 500 *x*-units. Finally, Group III includes 158 patients, who were given doses amounting to from 500 to 1,500 *x*-units. Corresponding to the rise of the total doses in the three groups, there is a rise also in the percentage of

cures from 72 to 82 and 95. It can be seen from this that the success attained is greater in proportion to the dose of radiation applied to the surface of the body. The difference does not, however, lie only in the size of the dose employed. There was a difference also in the quality of the rays employed in the three groups. Corresponding to the various stages of the gradual development of the methods, Group I consists almost entirely of cases treated either without a filter or with very thin filters—that is, with very soft rays. Filters were used in all the cases of Group II. but they were not so thick as those employed in Group III.

Moreover, in addition to these differences, the class of patient treated was entirely different in each group. Thus, Group I consists almost entirely of cases which, in consequence of the method not being at that time very reliable, were specially selected. Group II represents cases undertaken when advances in technique had somewhat lowered the qualifications demanded for admission to Roentgen treatment; and Group III embraces, as far as can be gathered from the reports, practically all the cases of myoma and metropathy that presented themselves for treatment; at all events, this was the case so far as the Freiburg clinic is concerned. Consequently the improvement shown in Group III must be due not to the character of the cases, but to improved technique.

Only in Group I were there any deaths—namely, 0.5 per cent.—but the records do not attribute them to the method of treatment.

Among the patients in Group II and Group III there were no deaths. This fact alone justifies a claim that all cases of myoma should be treated by radio-therapy, for the lowest mortality ever claimed for operative methods is from 3 to 5 per cent. The figures for recurrence appear also to have been continuously reduced by the increase in the doses employed and the improvement in the quality of the rays of which they consist. Whilst in Group I the recurrences work out at 4 per cent., and in Group II at 3 per cent., Group III has no cases of recurrence to record.

The evidence of the table given above, compiled from data from a number of different hospitals, and varying greatly in value, is still further corroborated by our own experience in the Freiburg Hospital for Diseases of Women.

The 205 cases of myoma and metropathy which we have already reported in detail[1] have been supplemented by another 195 cases of our own, not including any cases still under treatment, which will shortly be reported in detail in a paper by Momm.[2] We have therefore at our disposal as data 400 cases of our own. The first 205 cases constitute a mass of evidence of very unequal value, as they belong to a time when our methods were still in process of development. In the last 195 cases, on the contrary, as a consequence of the experience already acquired, an almost unvarying technique has been employed. As this second group of our cases fully confirms the good results obtained in the earlier cases, it will probably be admitted that we are in a position to pass final judgement on the method.

In the case of two women among these last 195, we aimed at producing not amenorrhoea but only oligomenorrhoea, and this was obtained. Twenty-four patients ceased to attend before treatment was complete, although nothing calculated to reduce their chances of recovery had taken place. In all the remaining 169 cases the desired amenorrhoea was obtained. As all cases of myoma or metropathy which came to the hospital were treated with Roentgen rays, with a few exceptions which appeared to be necessary for special reasons, our former assertion that nearly all cases of myoma can be cured by Roentgen rays finds renewed confirmation.

Our experiences as to permanency of results are equally satisfactory. Of the patients hitherto summoned for supplementary subsequent examination, we have exact knowledge of their state in 174 cases. There was relapse—that is, a recurrence of the menstruation—only in 3 cases, that is in 1.7 per cent. In all but one of the cases of recurrence the supplementary course of radiation, which is now our routine, was omitted—a mistake we are not likely to repeat.

There is little to say as to our technique. We mark out on the patient a series of about twelve areas on the abdomen and about six on the back, each area being 4 to 6 cm. square. With the focus at a distance of 20 cm. from the skin, each of these areas is treated below an aluminium filter 3 mm. thick. The first series of applications of the rays, consisting on an average of about 400 *x*-units, is followed at an interval of seventeen to twenty days by a second, and so on until the desired amenorrhoea is obtained; on an average this is the case after four series. As a precaution the two so-called supplementary series are then administered at like intervals to prevent recurrences. No injuries have resulted from this technique, which has now been employed by us for years.

Nevertheless, for some few cases radio-therapy appears to be contraindicated. Sanious myomata, submucous myomata that protrude from the uterus, and those myomata which cause serious and acute compression symptoms are better treated by operation. On the other hand, the majority of women suffering from myomata and metropathies who have recourse to a hospital will, however, in the future always be treated by Roentgen therapy.

REFERENCES.

[1] Gauss und Lembcke. *Roentgentiefentherapie.* Berlin, 1912; Urban und Schwarzenberg. [2] Momm, *Strahlentherapie.* 1914.

DISCUSSION.

Dr. HASTINGS TWEEDY (Dublin) said that Dr. Donald had fairly expressed the views of British gynaecologists, and the data put forward by Professor Gauss were not sufficient to justify their abandonment. There were many symptoms other than that of haemorrhage which called for operative treatment. Palliative measures might cause disaster if the diagnosis were mistaken, and who could say that mistakes were impossible or even unlikely? Apart from actual disasters much valuable time might be lost to those who had eventually to submit to operation.

Dr. NIGEL STARK (Glasgow), after allusion to the fact that dangerous degenerations of fibroids were known to occur even after the menopause, said that the operation of choice was a subtotal hysterectomy. This removed the tumour permanently and entirely, and that the risk was small was shown by the result of his last hundred operations, among which the death-rate was only 1 per cent. Professor Gauss's statistics seemed to him to be vitiated by the inclusion of cases of myopathy, which he took to mean cases of chronic metritis with haemorrhage. It was already well known that electrical treatment of various kinds had a favourable effect in inflammatory conditions, and he trusted that it would go forth as the opinion of the Gynaecological Section of the Association that at present the only sure and sound treatment of myomata lay in hysterectomy, more especially the subtotal variety.

Professor MURDOCH CAMERON (Glasgow) expressed himself as being in agreement with the views of Professor Donald. Little had been said as regards diagnosis, but there was an essential point in determining treatment. He had had experience of cases where very eminent men of world-wide fame had proved in error as to the character of growths under observation. Professor Gauss had spoken of reserving certain cases for operation, but these seemed to him to be the very cases that should answer to Dr. Gauss's own methods, as he understood that by *x*-rays the growths entirely disappeared.

Sir JOHN BYERS (Belfast) thought that the right attitude at present was one of scientific scepticism in regard to the methods described by Professor Gauss. As for operative treatment, though a woman with a uterine fibroid should usually have it removed, yet now and again such tumours might subside. But all such cases, even if free from symptoms, should be kept under observation, and if the growth enlarged, immediate operation should be done.

Professor KYNOCH (Dundee) agreed as to the futility of expectant, or medicinal, treatment. In all cases of fibromata causing symptoms he advocated operation. He had entirely given up vaginal hysterectomy except in cases of small interstitial fibroids in multiparous patients. Oöphorectomy still had a limited field of application, as, for example, in small bleeding fibroids in nulliparous patients with enormously thick abdominal walls. His experience of enucleation had led him to give it up in favour of hysterectomy. He practised the subtotal in preference to total hysterectomy unless there was evidence of involvement of the cervix. In the reported cases of malignant disease

occurring later on in the cervix, the condition had been present but unrecognized when the fibroid was removed, or had developed at such a remote period as to prove that it had no connexion with the primary disease. His own results confirmed what Professor Donald had said as to the advantages of the subtotal operation. The occasional occurrence of a cervical leucorrhoea was the only unfavourable sequel he had noted. In patients under 40 he favoured leaving one or both ovaries (unless obviously diseased), and also a small piece of endometrium. The late results of several of his cases showed that the patient's comfort was greatly increased by the occurrence of even slight and irregular menstruation. As regards the *x*-ray treatment, he had visited with an open mind the Freiburg and other Continental clinics where this method was extensively employed. He believed it would have a field of usefulness in certain selected cases, and would not have the short-lived career of the Apostoli treatment. It was important to bear in mind that just as the good results now obtained by operative treatment had only been reached by a perfected technique, so in the same way the good results reported from those clinics had been obtained by a perfected technique developed from a very primitive one. This primitive technique produced most disappointing results, cases having been reported in which uterine haemorrhage had increased, but from what he had seen he believed that with the greatly improved technique, haemorrhage due to uncomplicated interstitial fibroids could be cured and the tumour diminished in size. But all cases before being submitted to the *x*-ray treatment should be most carefully examined in order that the diagnosis might be as correct as possible, and complications excluded. To prove this he demonstrated fresh specimens of fibromata, complicated with carcinoma, sarcoma, and red degeneration, cases where even the most enthusiastic supporter of *x*-ray treatment would advocate operative treatment.

Dr. PURSLOW (Birmingham) stated that his usual practice was to perform supravaginal hysterectomy. As regards total hysterectomy, he asked Dr. Donald's opinion as to its advisability in cases where erosion of the cervix existed; in these, if the cervix were left, the patient still complained. He believed that in some of the worst cases of climacteric symptoms suggestion formed a strong element, owing to the popular view that serious results would follow removal of the ovaries. He had had slight experience of *x*-ray treatment of fibroids, having placed some cases under the radiologist of the Queen's Hospital, Birmingham. In one of these haemorrhage had lessened, and the size of the tumour had distinctly diminished.

Professor B. P. WATSON (Toronto) pointed out that the effects produced by *x*-ray treatment were to a great extent due to the atrophic effect on the ovaries. From this point of view the treatment was in the nature of a harking back to the old operation of oöphorectomy. There was, of course, also some direct action on the tumour, but the results obtained must be principally due to the action on the ovaries. Just as at the natural menopause, so after the menopause induced by Roentgen therapy degenerations of various kinds might occur.

Mr. BECKWITH WHITEHOUSE (Birmingham) fully concurred with the view expressed by Dr. Donald as to removal of the ovaries when it was necessary to sacrifice the whole of the uterus. This was the practice both of Dr. Thomas Wilson and himself. If, however, it was possible to conserve any portion of the uterine endometrium he considered that the ovaries should be left, inasmuch as it seemed probable from experiments performed by him, and recorded in his Hunterian Lecture, that the secretions of the uterus and ovaries acted in conjunction. The ideal method was to conserve both endometrium and ovaries. As regards the *x*-ray treatment, Professor Gauss had stated definitely that the neoplasms disappeared, quite apart from the cessation of haemorrhage.

The PRESIDENT said there could be no doubt that removal by myomectomy or hysterectomy was the correct treatment of fibroids, but he would not go so far as to advise their removal in cases unaccompanied by symptoms. In a young woman who consulted him for sterility, and who had small fibroids without symptoms, he would be disposed to try ordinary dilatation and curetting first before suggesting myomectomy, as pregnancy might occur without dangerous complications. He would also be disposed in a woman of 52, who had only slight symptoms, and who resented operation, to adopt less severe treatment than hysterectomy, so as to tide her over the menopause. In his experience fibromyomata very seldom gave trouble after the menopause; in over 800 cases on which he had operated for fibromyomata, only 12 were after the climacteric, and he knew of many cases of aged women who had fibroids which gave rise to no trouble. He endorsed practically everything Professor Donald had said with regard to the *x*-ray treatment. It merely sterilized the patient in the same way as removal of the ovaries. It was irksome and prolonged, and very slightly influenced the tumour itself. He had a large experience of Apostoli's treatment, which was very successful in many cases, but failed in more.

Professor DONALD, in a brief reply, said he was pleased that *x*-ray treatment had received so little support from the Section, but at the same time regretted that Dr. Gauss was not present in person to uphold his views. With regard to the question of removal of both ovaries, the speaker's practice was based, not on theory, but on practical results.

DISCUSSION ON THE TREATMENT OF CONTRACTED PELVIS IN PREGNANCY AND LABOUR.

OPENING PAPERS.

I.—HENRY JELLETT, M.D.,
Master of the Rotunda Hospital, Dublin.

(Abstract.)

PELVIC contractions may be divided into two main groups—symmetrical contraction and asymmetrical contraction. With the latter of these I do not propose to deal, as time for doing so is not available. There are two main types of symmetrical contraction—simple flat pelvis and generally contracted pelvis. In the former variety the conjugate diameter is principally affected; in the latter variety all the diameters of the pelvis are more or less affected, but still preserve their normal proportions to one another. I have always followed the teaching that divides symmetrical contraction into four degrees, based on the length of the true conjugate. These degrees are not laid down on mere haphazard lines, but are the direct result of what practical working shows to be right.

In the first degree, with a conjugate above 3¼ in. it is usually possible for a full-term child of normal size to be born, provided the uterine contractions are normal in intensity, and that the presentation is normal. In the second degree, with a conjugate between 2¾ and 3¼ in. it is only possible for a living child to be born through the vagina if either the size of the child is below the normal or the size of the pelvis is increased. That is to say, either premature labour must be induced, or pubiotomy or symphysiotomy must be performed. In the third degree, with a conjugate between 2¼ and 2¾ in. it is impossible for a living and viable child to be born through the vagina, and consequently Caesarean section alone is available. In the fourth degree, with a conjugate below 2¼ in., it is impossible for a child, even though considerably reduced in size by some destructive operation, to be born through the vagina, and consequently, whether the child is alive or dead, Caesarean section is necessary. In the second degree and in the third degree Caesarean section can be performed if it is considered advisable, while in any of the first three degrees, if the child is dead perforation or other reducing operation can be performed if necessary.

The treatment of the third and fourth degree of contraction may be regarded as definitely settled. I do not think that in either of these degrees any one will be found to advise any other course than Caesarean section if the child is alive, unless the circumstances of the case are altogether exceptional. The treatment of the first degree is still open to discussion, and the teaching of obstetricians in general varies to a considerable extent. I do not propose, however, to consider it to-day, but rather to devote

the time at my disposal to the consideration of the treatment of the second degree of pelvic contraction.

In this degree four courses are possible: First, the induction of premature labour in order to get a smaller child; secondly, the enlarging of the pelvis by pubiotomy or symphysiotomy at term; thirdly, Caesarean section at term; and, fourthly, craniotomy. It is unnecessary to refer to the last, because I think modern obstetricians are practically universally agreed that perforation is only permissible in the case of a dead child, except under the most exceptional circumstances.

It may be well if I briefly sum up the different advantages and disadvantages of the three remaining lines of treatment. First comes the induction of premature labour. The advantages of this procedure, in my opinion, are not very numerous, and principally consist in the fact that it is comparatively easily carried out, and that it usually results in the birth of a living child. On the other hand, the arguments against it are, first, that it is extremely easy to infect the patient during the process of induction; secondly, that all methods of induction recommended up to the present are uncertain in their action, and sometimes mean repeated manipulation and considerable delay; and, thirdly, that the premature child is very liable to die in consequence of its feeble condition. I am sure there are many who will consider that I am underestimating the advantages and over-estimating the dangers of this procedure, but still I am inclined to state as my deliberate opinion that the induction of premature labour in the second degree of pelvic contraction is not the treatment of choice, although it sometimes may be the treatment of necessity.

The second possible line of treatment is Caesarean section. In favour of this operation are a considerable number of points. In the first place, it is very simple and easily carried out. If it is done early in labour, or at the beginning of labour, or before labour has begun, it is almost free from risk. There is no such thing as vaginal or perineal laceration; recovery is rapid; there are none of the pains and discomforts of a prolonged labour; and the fetal prognosis is usually entirely good. Lastly, it can be performed in subsequent labours, probably as often as is required, provided no abdominal infection occurs. In fact, it only possesses two disadvantages, but these are serious. If we are to get all the benefits of Caesarean section without the dangers, it must be performed either before labour begins or early in the first stage, and, consequently, it is not possible to give the patient an opportunity of delivering herself. The second disadvantage is the result of this—namely, that when once a Caesarean section is done on a patient on account of contracted pelvis, there is no logical reason why it should not have to be done in every subsequent pregnancy. In short, one may say, once a Caesarean section always a Caesarean section. This is a serious disadvantage, first, because it is not always possible to measure a pelvis so very exactly as to be able to say that it falls positively into a certain degree, and, secondly, even if one can measure it so exactly, one is not able to estimate correctly the actual size of the fetal head. Practical experience shows that in the second degree of pelvic contraction or in border-line cases between the first and second degree it may be entirely impossible to deliver through the vagina a living child at one labour, whereas in the next labour, with stronger uterine contractions and greater moulding of the head, it is possible to effect delivery. If, however, a woman is to be delivered by Caesarean section the operation must be done at an early period of labour, so losing all possibility of spontaneous or instrumental delivery.

The third possible line of treatment of these cases is pubiotomy. In favour of this operation are the facts that it is a smaller procedure than is Caesarean section in a favourable case; that its performance can be postponed till the last possible moment, when a positive indication for delivery on behalf of either the mother or the child arises, and that so every opportunity of spontaneous delivery or of delivery by the forceps is afforded; and that it improves directly the prognosis of subsequent labours, because it causes a permanent increase in size of the pelvis. On the other hand, the operation possesses certain disadvantages. In the first place, the antecedent labour is prolonged and painful, and during it the child may possibly die, owing to compression, even though it is most carefully watched. Further, it is always liable to cause laceration of the vagina and possible injuries to surrounding parts, and, consequently, in unfavourable cases it may prove to be a much more difficult operation than is Caesarean section. One has therefore to consider carefully whether the possible risks of a pubiotomy are or are not counterbalanced by its advantages. I am of opinion that the advantages are considerably in excess of the disadvantages. First, because the fact that the operation can be performed late on in labour gives the patient every opportunity of escaping any operation, and, secondly, on account of the extremely beneficial effects of pubiotomy on subsequent labours.

[The speaker then justified his belief by throwing on the screen lantern-slide tables relating to all cases in which pubiotomy had been performed at the Rotunda Hospital either by his predecessor, Dr. Hastings Tweedy, or himself. The first showed in a general way the essential facts of all the cases. The second showed the nature of the different complications occurring during the performance of pubiotomy or subsequently. Only in 4 out of the 19 cases did anything that could be regarded as a serious complication occur, and in all the 19 cases the ultimate recovery was perfectly satisfactory. Two cases demonstrated that failure of union of the bone at the site of incision in no way interfered with locomotion. The third and fourth tables showed the difference between labours occurring previous to the performance of pubiotomy and labours occurring subsequent thereto. It was seen that whereas in 29 labours previous to pubiotomy only 3 children were delivered alive spontaneously, subsequent to pubiotomy 8 children out of 15 labours were delivered alive spontaneously. In one case three Caesarean sections had been performed after pubiotomy, and the first table showed that this patient's conjugate diameter was less than that recognized as the normal minimum for pubiotomy, namely, 7 cm.]

In conclusion, I would like to offer for discussion the following opinions of my own as to the treatment of the second degree of pelvic contraction:

1. Pubiotomy is the operation of choice, unless there are special circumstances in the case or special complications present.

2. Pubiotomy is specially indicated in the young multipara, because, owing to previous labour, the vaginal canal is dilated and lacerations are unlikely to occur, and because of the effect of the operation on subsequent pregnancies.

3. On the other hand, Caesarean section is more suitable in the elderly primipara, because vaginal laceration is more likely to occur, and because it is unnecessary in her to take account of further pregnancies.

4. Premature labour is only indicated under special conditions which render either of the foregoing operations impossible or inadmissible.

5. Craniotomy is only permissible when the child is dead.

I have deliberately refrained from entering into the methods of performing pubiotomy or into any detail regarding it, as what I want to bring before you for discussion is the broad question of the advisability or otherwise of the operation.

II.—Professor FRANK,
Cologne.
(Abstract.)

PROFESSOR FRANK said that a hundred years ago people tried to prohibit by law the operation of symphysiotomy as if it were an attempt to murder. To-day this is the most successful operation in the whole of midwifery, and it ought to be learnt by every accoucheur, because it is simple and not dangerous. In spite of that, this operation is thought to-day more of historical than of scientific importance. Its disuse is nearly universal. People think the operation dangerous, and therefore cannot find any indication for it. This can be understood if one wants to operate by old methods which are dangerous.

1. In regard to the bleeding. Even masters in their business, like von Rusthorn, could not avoid occasional deaths from haemorrhage.

2. In regard to the haematoma, which easily becomes infected, resulting in sepsis.

3. In regard to the tearing of the soft parts, because one did not know the extent of tearing at the site of

operation, and after division of the pelvic bones, the best way of delivery.

Subcutaneous symphysiotomy is up to now the least dangerous operation for both mother and child. The bleeding is prevented, as the clitoris is pulled down from under the arch by means of the left hand. The second danger, the infection, is prevented by the fact that the operation is completely subcutaneous. The outside wound must not be larger than the breadth of the narrow knife used, which is the only instrument employed. When the knife leaves the wound, the operation must be entirely finished. The operation is finished when a jerk is felt and the pelvis gapes for several centimetres. The opening in the skin is sutured immediately with catgut. The third danger, the haematoma, is prevented if the parts at the site of operation are compressed for some time. The fourth danger—the laceration—is prevented, as one does not operate in cases of too great disproportion between the head and the pelvis, and in primiparae one is particularly careful with regard to the position of the legs before and after the incision. I have performed this operation in my clinic 155 times, and among the cases there were 40 primiparae. None died from operation. The two deaths that occurred had nothing to do with the operation. One was infected with gonorrhoea, and died on the eleventh day. The operation wound was healed, but there was a right pyosalpinx with purulent peritonitis. The gonococci were found in the peritoneal effusion. The other case was brought in with severe nephritis, and died eleven days after from uraemia. One can say quite fairly the operation is simple and not dangerous. It is remarkable that haematoma did not occur. Primiparae were not excluded but carefully chosen.

A contraindication is narrowing in the fourth degree, and of unique value is the subcutaneous symphysiotomy as the last resort when after version the head is retained.

Unless the os is fully dilated one should not operate. That is the rule, but, as shown by my statistics, there are several exceptions. It is desirable, if one can, after operation, to leave the birth to Nature, but this is not always possible, if, for instance, pains become less, or if the operation is done as the last resort.

Rise of temperature is no contraindication to the operation if one is anxious to save the child.

Statistics show that the operation has proved excellent. As regards the saving of the child's life, the statistics taken in the case of mothers who have already borne children without this operation, are interesting. Without operation 23 per cent. were live births, with operation 94 per cent.

My conclusions are as follows:

1. In cases with large disproportion, I advise the classical Caesarean section, if one can guarantee asepsis.

2. If the asepsis is doubtful, delivery by the suprasymphyseal route is advocated.

3. In the middle degrees of narrowing the subcutaneous symphysiotomy is to be preferred in multiparae. In primiparae, with narrow soft parts, the suprasymphyseal delivery is to be preferred if there is suspicion of infection. In clean cases in primiparae classical Caesarean section is advised.

4. In primiparae symphysiotomy is to be considered if there is only slight obstruction to delivery.

DISCUSSION.

Dr. HASTINGS TWEEDY (Dublin) said the Master of the Rotunda had put his facts so clearly that he had left no further excuse for scepticism as to the value of pubiotomy. His indications for this operation and also for Caesarean section were altogether admirable. When once the true measurements of the pelvis had been ascertained, treatment became precise and scientific. The obstetrician must make up his mind that in certain instances he would be called on to perform either symphysiotomy or pubiotomy as an easier and less elaborate operation than Caesarean section. The latter would find greatest favour amongst hospital operators.

Professor MURDOCH CAMERON (Glasgow) stated that his line of practice in cases of contracted pelvis might be placed under three heads: (1) Forceps, (2) induction of labour, (3) Caesarean section. Symphysiotomy had no place in his practice, but he did not object to other specialists in that line performing it. He considered induction of labour had a very important place and preferred it to symphysiotomy. In the hands of a general practitioner, where precautions against sepsis were taken, there was little or no danger. He thought that the relative size of the fetal head and the pelvis was the chief point in deciding the method of delivery. As regards Caesarean section, he objected to cases which should be dealt with by this operation being relegated to craniotomy simply because such patients had been examined outside either by a midwife or practitioner. As regards high forceps cases, he took the opportunity of showing his antero-posterior forceps, which were a vast improvement on the ordinary forceps. Along with them he drew attention also to his axis-traction cephalotribe, crochet, blunt hook, and decapitator.

Professor KYNOCH (Dundee) considered that in minor degrees of pelvic contraction their aim should be to obtain spontaneous non-operative delivery. To achieve this the duration of the second stage of labour should not be decided by the hands of the clock, but by observing the progress of the advance of the head, and the effect the labour was having on the condition of mother and child. In cases where spontaneous delivery was improbable, Walcher's position, with or without help by forceps, generally succeeded. Version should be reserved for special cases, such as malpresentations movable at brim. The rate of infantile mortality with high forceps or version was about the same (40 per cent.). Where the first labour had proved difficult, and the child had died, in future pregnancies they had the choice of inducing premature labour, or an operation involving an increase in size of the pelvis. One of the most important problems for the teacher of obstetrics was to decide whether operations involving the widening of the pelvis were to be chosen in preference to other methods. He thought that the induction of premature labour had been too adversely criticized of late. Its failures were in many cases due, not to the method itself, but to its being carried out is a haphazard way, instead of carefully measuring the pelvis, and watching from week to week the relation of size of the child's head to the pelvic inlet, and endeavouring to postpone the operation if possible till the thirty-fourth week of pregnancy. With these precautions the infantile mortality would not be much higher than the general rate of infantile mortality. In this connexion he would emphasize what had been pointed out to him by Professor Herff, of Basle, namely, the value of the ratio of the greatest diameter of the child's head anteriorly, and the spine of the last lumbar vertebra, the so-called "Rücken Kopf Mass." If equal to, or smaller than, the external conjugate, the head would enter the pelvis easily; if 1 cm. larger, Walcher's position would probably suffice; if 3 cm. larger, the head would not pass and Caesarean section would be necessary. If 2 cm. larger, more care was required in the decision between induction, Caesarean section, or pubiotomy. He advocated, when possible, the induction of labour. With aseptic precautions it was safe; its results were fairly certain, and what was of most importance, it could be undertaken by the general practitioner. It was generally admitted that widening the pelvis was only suitable for hospital practice, which therefore must limit its usefulness. A permanent enlargement of the pelvis after pubiotomy was not to be relied upon, as was proved by the too frequent reports of repeated cases on the same patient. There was also the great drawback of a 50 per cent. morbidity owing to lacerations of the surrounding parts. In contrasting Caesarean section with pubiotomy, he strongly advocated section, because it was a straightforward operation, with good prospects for mother and child, and by it they could if necessary prevent subsequent pregnancies. He believed pubiotomy would always be of very limited advantage. He would reserve widening of the pelvis to cases where forceps in Walcher's position just failed to deliver a living child, and where craniotomy would be the only alternative. The most satisfactory method was subcutaneous symphysiotomy as recommended and practised by Professor Frank, the guest of the Section. Craniotomy should be reserved as far as possible for the delivery of dead children.

Sir JOHN BYERS (Belfast) said he would like to draw attention to the preventive aspect of the treatment of contracted pelvis. All women who were pregnant should be seen before labour and carefully examined, and then a decision should be arrived at as to the proper method of treatment. Further, if rickets were got rid of, many cases of contracted pelvis needing treatment would be prevented. He thought that cases needing special obstetric treatment should be sent into maternity hospitals or special hospitals, where the most modern operative means could be scientifically employed.

Dr. OLIPHANT NICHOLSON (Edinburgh) understood by the second degree of pelvic contraction cases where the pelvis had a true conjugate ranging from 3 to 3½ in. There were several alternative methods of treatment. The recognition of a disproportion between the child's head and the pelvis was of much greater importance than the absolute size of the pelvic cavity itself, which measurement, he believed, it was impossible to accurately determine by any of the methods commonly in use. In each case one really wanted to know exactly how the fetal head fitted into the mother's pelvis—a large head, especially if it was lying with the occiput behind, might fit very badly into a pelvis which had a conjugate of even 4 in., and might give rise to an obstructed labour. So one must always ascertain the size and exact position of the fetal head before assuming that pelvic deformity was the cause of difficulty. Cases sent into the Edinburgh Maternity Hospital for craniotomy had sometimes been successfully delivered of living children by the manual internal rotation of the body and head of a fetus lying persistently occipito-posterior. To gauge the relative size of the pelvic brim and fetal head the manipulative method described by Munro Kerr, if carried out under an anaesthetic, gave a good idea whether or not the head would pass readily through the pelvis. In a primipara, when one made an external examination five or six weeks before the full time—as should always be done—and found that the child's head had not entered the brim, one certainly suspected disproportion, for in normal cases the head should be well down in the pelvis. If this condition of relatively large head, or, it might be, relatively small pelvis, was recognized sufficiently early one had the option of performing induction of premature labour, and, in his opinion, this was the right and proper thing to do. It was quite unscientific and wrong under such circumstances to arrange to do a pubiotomy later on. One must fix upon the date of induction by the ease or difficulty with which the head entered the brim, not by the size and shape of the pelvis. If the induction of labour was selected for those cases of disproportion, the general practitioner could perform the operation—if operation it could be called—as easily and as successfully as the specialist. Nowadays, with the use of antiseptics, one could honestly say that, for the mother, a premature labour was as safe as one at full term; one could offer no other alternative which was nearly so safe. The easiest and most natural way of inducing premature labour—except in a primipara, when induction was seldom performed—was simply to pass a finger through the internal os and detach the membranes from the lower uterine segment as far as one could reach. Then the bag of waters was made capable of protruding through the open os, and labour would generally come on. If, after one or two such detachments, uterine action did not commence, it was the speaker's practice to pack ribbon gauze into the lower segment by means of a cannula packer, which was curved like a sound, and in that way lift the membranes still further off the uterine wall. All this could be done without an anaesthetic with the patient lying in the left lateral position—sometimes, indeed, under the guise of a vaginal examination. If Nature would not then start off labour within two days—which was very unusual in his experience—one could always provoke uterine activity by the insertion of a Champetier de Ribes's bag through the cervical canal. There was certainly no more morbidity from this method than might occur after a normal labour at term. One could employ this method in a primipara by the preliminary use of a laminaria tent, or by opening up the cervix with Fenton's dilators till it would admit the end of the gauze packer. As regards the children born prematurely his results in private practice were quite satisfactory, though in hospital the results were rather disappointing. When disproportion between the head and the pelvis was only detected after labour had started, one was obliged to consider either forceps delivery or pubiotomy. A child of normal weight (7 lb.) might be safely born with the forceps through a conjugate of 3¼ in. if the head was lying in a favourable position, and no definite time limit was fixed for the second stage, so that much moulding could occur. Possibly the Walcher position might assist matters. With a conjugate of 3 in., unless the child was very small the pelvis would have to be enlarged by pubiotomy or symphysiotomy if a living child was to be obtained. When a multipara had lost her first child from disproportion, as frequently happened, he advised that the next labour should be induced, and if the child was again lost he would still advise a second induction, even in preference to Caesarean section. He considered that the mother was subjected to a greater risk from pubiotomy, and in addition, her pelvis sustained a definite injury. If pubiotomy was done at all it should be reserved for some of the cases where prolonged moulding and forceps just failed to get a living child through the pelvis. When the head was caught at the brim, and forceps had absolutely failed, craniotomy on the living child, if necessary, was still the best practice, and in certain cases would always be carried out if one considered what was best for the mother.

Dr. JELLETT, in reply, said that much of the criticism which had been made seemed to be that pubiotomy could not be recommended because it was unsuitable to the general practitioner. He wished emphatically to point out that modern midwifery could not be hampered by restricting it to such measures as could be satisfactorily carried out by the general practitioner alone. If such reasoning was applied to the treatment of any gynaecological condition, such as fibromyoma, for instance, what would our present position be? General practitioners were much hampered in their work by insufficient assistance, unsuitable accommodation, and so forth, and consequently it was impossible to expect that they could carry out, no matter how skilled they were themselves, all modern methods of treating contracted pelvis. In his opinion, both the induction of labour and the treatment of contracted pelvis in general should be carried out in a properly equipped hospital, either public or private. Practically all the speakers had referred to the importance of noticing the relation between the head and the pelvis in cases of contraction. It was for this reason that pubiotomy was so valuable, because it applied the test of labour to the head, and one was able to allow the latter to mould for many hours through the pelvis before resorting to operation. In this way operation was frequently altogether avoided. He laid particular stress on the improvement which occurred in labours subsequent to the performance of pubiotomy, as was very clearly to be seen from the tables he laid before the meeting.

RUPTURE OF UTERUS THROUGH THE SCAR OF AN OLD CAESAREAN SECTION.

BY A. TENNYSON SMITH, M.D.Aberd.,
Orpington.

THE following case seems to present points of sufficient interest to merit its being brought before the notice of this Section:

On August 21st, 1908, I received a message to attend a Mrs. ——, aged 21, in her first confinement. I was told she had been in labour for about eight hours. Examination showed an elongated bag of membranes full of prolapsed cord, protruding through the os, which was about one-fourth dilated. There was a very considerable amount of contraction of the pelvis. General condition good. As I felt certain that delivery of a living child was impossible through the natural channel, I had her removed to the Cray Valley Cottage Hospital, where I immediately performed Caesarean section, making the usual high longitudinal incision. The placental site was cut into, and the placenta had to be separated before delivery of the child. The uterine incision was closed by means of two rows of sutures, one including peritoneum and the whole of the muscle down to the submucous layer, the second taking in peritoneum alone and burying the deeper layer. The woman made an uninterrupted recovery, and took her discharge from the hospital before the end of three weeks. The child, a well developed male, did well.

On August 5th, 1913, at 2 p.m., I received an urgent message to go and see the same woman, who was in labour. I found her in almost moribund condition—face drawn, lips pallid, extremities cold, with a pulse so rapid and feeble that it could scarcely be felt. The history I got was that she had been having labour pains, more or less severe, for over a fortnight, but would not allow her people to send for me as she was sure I would again take her into hospital. I was told that she had a severe pain suddenly on the morning of the 5th, when she sent for a midwife, who informed me that when she arrived she thought the patient was going to die suddenly. She gave her brandy, and applied hot-water bottles to keep her going. On examination the abdomen was big, flabby, with no muscle resistance and well filled up with free fluid. The fetus could be distinctly mapped out, and appeared to be just under the parietal wall. The diagnosis was clearly one of ruptured uterus, with severe internal haemorrhage.

It was quite impossible to do anything in her dirty cottage, and I had her removed to Cray Valley Cottage Hospital for operation, where I saw her in consultation with my partner, Dr. C. S. Battiscombe, and gave her a hypodermic injection of morphine gr. ½, and atropine gr. $\frac{1}{150}$. She was desperately ill, but he agreed with me that her only possible chance—and that a small one—was by operation. The anaesthetic (A.C.E.) was given by Dr. Bennion, and during the operation she had a continuous saline injection in both axillae, 3 pints of saline being used. A long incision was made ¾ in. to the right of her old incision scar. On opening the peritoneum a large quantity of blood escaped when the fetus presented itself—a back presentation with breech downwards and to the right, encased in its membranes. The child, which appeared healthy and only recently dead, was removed at once, and the uterus was pulled up into the wound. From that point there was no further haemorrhage. The abdominal cavity was then cleaned up. The placenta was free in the abdominal cavity and almost entirely surrounded by omentum which was adherent to the parietal peritoneum at the site of the old incision. There were no adhesions to uterine peritoneum. All blood and blood clots were removed as quickly and carefully as possible. On examining the uterus it was seen that a rupture 4 or 5 in. long had taken place along the line of the previous incision. The wall on either side of the tear was thinned out almost to a line to which the peritoneum was closely adherent, so that before the tear took place there must have been quite a deep sulcus. Any attempt to closely approximate the edges of the torn uterus by means of sutures being impossible, I decided to do a hysterectomy. The uterine arteries on both sides were ligatured, and the broad ligament clamped and ligatured close up to the uterus. A posterior flap of peritoneum and as little tissue as possible was made, and the uterus removed as near the cervix as possible. The stump was trimmed with scissors, the cervical canal mopped out with iodine, and a purse-string suture of catgut used to close it up. The stump was then covered by means of the flap which was sutured to the peritoneum in front, and the stump of the broad ligament buried on either side. All blood clot was carefully removed and the abdominal cavity swilled out with a hot saline solution, about a pint being left in. The parietal wound was closed by means of through and through sutures, a tube being left in for drainage. The condition of the patient, which was very critical and caused us great anxiety during the earlier part of the operation, improved somewhat during the later stages, and a little pulse could be felt when the patient was returned to bed, the foot of which was tilted up as high as possible. With the addition of a hypodermic of pituitrin given immediately after the operation, and which seemed to improve her condition, the after treatment was as usually followed out. The tube was removed in twenty-four hours and a stitch which had been inserted and left loose was tied. The woman wanted to leave the hospital at the end of ten days and took her discharge at the end of a fortnight. A month later I went to see her and found she was working in the fields.

The interest in this case lies chiefly in the fact that the woman went on for fourteen days of labour pains, and that, although she was not seen till seven hours after her rupture and not operated on for at least one hour and a half later, during which time she had to undergo a journey of five miles to the hospital, she was still able to rally after her operation. It is of interest to note that the placenta lay in the anterior superior segment of the uterus when the first operation was performed in 1908, and had to be separated from the uterus before delivery of the child. So far as I can gather, about 22 cases of similar accident—that is, rupture of the uterus through a previous Caesarean section scar—have been recorded, 4 in this country (2 by Targett[1] and 2 by Munro Kerr[2] of Glasgow), the rest by German and American writers, and in the majority of those the position of the placenta has been described as underlying the incision.

As Caesarean section is by no means an uncommon operation and secondary rupture comparatively rare, it would almost seem that the placental site in those latter cases may be a predisposing cause, the spongy nature of the tissues preventing firm union through the whole thickness of the uterine wall. It was a matter of regret to me, when I saw my patient in her cottage after her rupture, that I had not sterilized her during her first operation. I have come to the conclusion that one is perfectly justified in doing so. It depends, of course, a good deal on the class of patient one is treating, but, as a rule, I consider that efficient sterilization should be secured.

REFERENCES.

[1] *Trans. Lond. Obstet. Soc.*, 1900. [2] *Journal of Obstet. and Gyn.*, 1904.

DISCUSSION.

Dr. RATCLIFT-GAYLARD (Birkenhead) gave details of a case in which Caesarean section had twice previously been performed, which was sent into hospital for uterine haemorrhage at the fifth month. Pelvic contraction was extreme. Her temperature was 100° F. Coeliotomy showed a ragged tear along the line of the old uterine incision, at the junction of the lower and middle thirds. The uterus was moored by adhesions. The rent was repaired with twenty-day catgut, the patient sterilized, and the abdomen closed in tiers. The patient recovered. His personal experience of the security of the uterine scar after Caesarean section was small, but there was no reason to doubt that twenty or thirty-day catgut was quite satisfactory. In the case in question the rupture appeared to have been due to expansion of the uterus limited by strong adhesions.

Other speakers discussed the question of the best suture material for uterine wounds. The meeting largely agreed with Dr. Donald that catgut was the best. Dr. SHANNON (Glasgow) suggested that possibly the rupture took place earlier than the reporter of the case believed.

Dr. TENNYSON SMITH, in reply, stated that catgut was used for suturing the uterine muscle at the time of the first Caesarean section on the case reported. Sepsis as a cause of the rupture could be absolutely excluded. There seemed no doubt that the rupture did take place on the date mentioned. The fetus was unmacerated, and appeared to have very recently died.

FURTHER EXPERIENCES WITH VERATRONE IN THE TREATMENT OF ECLAMPSIA.

By F. W. N. HAULTAIN, M.D., P.R.C.P.Edin.,

Examiner in Midwifery, University of Oxford; Physician, Maternity Hospital, Edinburgh.

A YEAR ago I brought before the Edinburgh Obstetrical Society a short communication on the treatment of eclampsia by means of veratrone, and having had a further satisfactory experience of this drug I again bring it under notice. My new cases are as follows:

CASE I.

Mrs. T., aged 35, primipara, seven months. Complained of headache, blindness, swelling of face and extremities. Urine scanty, solid on boiling. Pulse, 80; blood pressure, 170. 1 c.cm. veratrone injected at 10 p.m. By next morning headache gone. 20 oz. urine passed. Blood pressure, 120; pulse, 64. In spite of complete milk diet the urine continued highly albuminous and tended to diminish in quantity, while the blood pressure continued to rise. When it exceeded 160 headache was always complained of. Veratrone injections were therefore continued, and on every occasion brought down the blood pressure and instantly removed the headache. For over a fortnight this treatment was continued, without any permanent effect on the albuminuria and other symptoms. I therefore induced labour and a living child was born. In all, 7 c.cm. of veratrone were given. The albumin very slowly diminished from the urine, but all other anxious signs rapidly disappeared, except the defective sight, which took over five weeks to be restored.

CASE II.

Mrs. C., 8-para, pregnant seven and a half months. Previous pregnancies normal. Admitted February 12th, having had six fits. Face, arms, and legs markedly oedematous. Blood pressure, 175; pulse, 100. 4 oz. urine drawn off; 12 grains per ounce of albumin, granular casts. 1 c.cm. veratrone injected at 12.30. As the blood pressure continued to rise, and the urine to diminish in amount, I decided to induce labour by the Krause method. This was easily accomplished, and she was delivered of a living child on February 19th. During the pains the blood pressure at times rose to 195. During the puerperium the blood pressure never fell below 150, and the albumin in the urine never fell below 0.05 per ounce, in which condition she left the hospital after three weeks.

CASE III.

Mrs. D., aged 32, 4-para, admitted February 16th, 1914; with first and second child, both dead born, she had fits. In third pregnancy she was carefully dieted, had no fits, and the child was born alive. Since February 13th she had noticed swelling of fingers and face, and commenced to vomit, which continued steadily. On February 15th she had severe headache and dimness of vision. On February 16th she had several (five) convulsive seizures and became unconscious, and in this condition was brought to hospital. Blood pressure, 120; pulse, 70. Her blood pressure rose to 200, when she had another convulsion. 4 oz. urine drawn off; solid on boiling. 1 c.cm. veratrone given at 10 a.m. 11 a.m., blood pressure, 140; pulse, 60. At 5 p.m. the blood pressure rose to 160, when she had another convulsion, and 1 c.cm. veratrone was given. At 6 p.m. blood pressure, 130; pulse, 70; the patient was violently sick. At 6 a.m. 12 oz. urine drawn off. Her blood pressure gradually rose till 12, when 1 c.cm. veratrone was given. At 2 p.m. blood pressure, 110; pulse 55. At 4 p.m. 25 oz. urine drawn off. The patient remained fairly well for the next four days, and passed from 20 to 40 oz. of urine daily; gradually, however, the blood pressure again rose to 180, while the urine diminished in quantity and albumin increased. ½ c.cm. veratrone given at 10 a.m. on February 23rd; 11 o'clock, blood pressure, 140. She now sweated profusely. At 11 o'clock on the 24th blood pressure again rose to 195; ½ c.cm. veratrone given, and labour induced by Krause's method. Labour pains commenced on the 25th, during which the blood pressure rose to 210; 1 c.cm. veratrone given, which reduced blood pressure to 150. Living child born. Blood pressure remained high—150 for the next few days, and she left hospital on March 4th, albumin having disappeared.

CASE IV.

M. C., admitted on January 2nd, 1914. She had noticed much swelling of legs and feet for the last month. On December 30th she had difficulty in seeing and had severe headache, which had lasted till admission. On admission her entire body was swollen; blood pressure, 175; albumin 7 grains per oz. She was put on milk diet for some days, during which time her urine never exceeded 9 oz. in the twenty-four hours, and her blood pressure remained about 160. On January 5th, blood pressure, 180; albumin, 5 grains per oz.; 1 c.cm. veratrone given at 3.15 p.m.; pulse rate, 93. At 3.25, blood pressure, 125; pulse rate, 44. Patient violently sick. At 8 p.m., blood pressure, 110; pulse, 48. She now passed 22 oz. of urine, and her headache had entirely disappeared. January 6th, blood pressure, 160; pulse, 60; no headache; 30 oz. urine. January 7th, blood pressure, 180; headache renewed; 1 c.cm. veratrone at 1.50. At 2.5 a.m., blood pressure, 125; headache gone. January 8th, pains all night; during pains, blood pressure, 180. January 9th, 6 a.m., delivered of twins, alive and healthy. Puerperium uneventful. On dismissal, blood pressure, 130. Urine showed trace of albumin.

CASE V.

Mrs. C., primipara. Shortly after normal labour was seized with convulsions; four fits occurred in the course of two hours; 3 oz. of urine were drawn off, solid on boiling. Blood pressure, 180; pulse, 84. 1 c.cm. veratrone at 7 p.m. 7.30 p.m., blood pressure, 120; pulse, 56. 6 a.m., 20 oz. urine drawn off. No further fits occurred. Albumin rapidly diminished, no trace being found after ten days.

In a general survey of the foregoing cases the outstanding feature is the continuous presence of a raised blood pressure, both in the women in which fits had occurred and in those in which the premonitory symptoms of an imminent convulsion were evident. As this also obtained in all the cases I previously published, one may therefore legitimately reason that a raised blood pressure probably is one of the active factors in the development of convulsions—a contention which is corroborated by the fact that eclamptic convulsions are most prone to occur during labour, when the blood pressure is greatly increased by labour pains.

That a high blood pressure is the only or even the main cause of fits is not for a moment to be contended, as from the cases described it will be noted that, subsequently to the injection of veratrone the blood pressure rose considerably higher than it had previously been, and yet no convulsions occurred. It may be assumed, therefore, that an eclamptic seizure is of a complex nature, initially due to the action on the brain centres of a toxin or a poison, which among other manifestations gives rise to increased blood pressure, which may be considered as a potent factor in the active precipitation of the convulsion. It was with this theory in my mind that I determined to try veratrone, as from a previous use of veratrum viride I had got beneficial results, due I considered to the marked fall in the blood pressure with which its rise was attended.

In this direction the action of veratrone surpassed all expectations. Without exception, after the injection of 1 c.cm. the blood pressure was lowered markedly and rapidly, and almost in every instance with an immediate cessation of fits.

The depressent action is usually only temporary, extending over but a few hours. It is associated with a marked slowing of the pulse rate and increase of the urinary secretions and diaphoresis, and in some instances vomiting, particularly when the pulse rate falls below 55.

Through the kindness of Dr. Cramer, a number of experiments were made on cats, several of which I personally observed. From these the following conclusions were come to:

1. That in small doses it invariably causes marked fall of blood pressure and a slowing of respiration.
2. No effect is produced on either after the vagi have been cut.
3. When the blood pressure has been lowered, adrenalin and pituitrin still cause a marked constriction of the arterioles.

From these facts it may be assumed that veratrone stimulates the afferent fibres of the vagus, so that its effect is produced reflexly through the vasomotor centre and not through the paralysis of the vaso-constrictor nerve endings or the muscular wall of the arterioles. By this means the diaphoresis is secured by the dilatation of the skin arterioles, and the diuresis by the removal of spasm in the renal blood vessels.

It is more than probable, however, that it has a further action as an antidote to the eclamptic toxin, for, as has been shown on subsequent rises of blood pressure, fits seldom occur. This is further supported by the comparative mildness of the action of the drug in eclamptics or pre-eclamptics, when compared with cases of simple increased blood pressure, such as chronic Bright's disease. Here the injection of 1 c.cm. gives rise to extremely anxious symptoms of severe vomiting and syncope, associated with the marked lowering of blood pressure.

In eclamptics, on the other hand, the injection of 1 c.cm. may be repeated frequently without any toxic effects becoming evident. I have now used this drug in the treatment of 17 eclamptic and markedly pre-eclamptic cases, with the inhibition of fits in every instance. One of the cases ended fatally, the woman having been the subject of chronic Bright's disease with oedema for over a year, and had ten fits before the treatment was commenced.

The lines of treatment I have adopted have been the immediate injection of 1 c.cm. veratrone, with the stimulation of diaphoresis by hot packs and, if possible, attempts at free purgation by calomel and jalap. The blood pressure is carefully taken at frequent intervals, and if it rises over 160, ½ c.cm. veratrone at once given. The diet, I need hardly say, is purely milk.

It may be that the good results obtained are the will of Dame Fortune, but they rest on a sufficient physiological therapeutic basis to warrant a continued trial.

DISCUSSION.

Professor KYNOCH (Dundee) recorded two cases where the blood pressure and pulse were rapidly brought down with no recurrence of fits. The treatment was best carried out in hospital on account of the necessity for carefully watching the pulse rate. With the pulse kept constantly under 60 in cases of eclampsia fits would be unlikely to recur. On account of the great depressant action the effect of the veratrone must be most carefully watched, as in treatment by veratrum viride. With those precautions the results of this treatment were worthy of further observation.

Emeritus Professor WM. STEPHENSON (Aberdeen) recorded his experiences with preparations of veratrum viride other than veratrone. He had recommended treatment with this agent for many years, and had been well satisfied with the results. It was necessary for a good effect that the pulse rate should be reduced. Stale preparations would often fail to do this, and it would appear as if veratrone overcame this difficulty.

Dr. JELLETT (Dublin) considered that veratrone should not be considered a treatment, but as an adjunct to a fuller plan of campaign. The plan at the Rotunda Hospital, now in use for several years, had proved eminently satisfactory as statistics and details shortly to be published would show.

SECTION OF MEDICINE.

F. J. SMITH, M.D., F.R.C.P., President.

RAPID RELIEF IN ACUTE LUMBAGO BY MANIPULATION AND ACTIVE MOVEMENT.

By WILLIAM HAIG, M.B., C.M.Edin.,
Crieff.

WHEN we find one authority stating that "lumbago is usually regarded as a manifestation of rheumatism or gout, that it may be due to inflammatory changes in muscles or intermuscular connective tissue, to neuralgic affections of the nerve terminations in the muscles, to actual rupture of muscle fibres at the seat of attachment to the iliac crest, but that, for his own part, he believes it to be a thrombosis of the arterioles and capillaries due to a toxaemia," we may readily agree with his further statement that "in the absence of definite pathological data to go upon we can only theorize." Whitla, with fewer suggestions as to the tissues which may be affected, says: "The invariable absence of a fatal result has prevented any real knowledge being obtained of the actual pathological condition." Osler gives a good description of it; writing of neuralgia or muscular rheumatism, he says: "Lumbago, one of the most common and painful forms, affects the muscles of the loins and their tendinous attachments. It occurs chiefly in working men. It comes on suddenly, and in very severe cases completely incapacitates the patient, who may be unable to turn in bed or to rise from the sitting posture."

The suddenness of onset has made me think that the condition may be, in the first instance at least, a mechanical one, analogous to "crick" in the knee, which (as most of us, I dare say, have experienced) may be so severe that, but for the necessity of moving on and thereby setting in motion again the muscles which have suddenly come into a state of contraction, it would be quite as crippling as an attack of acute lumbago. Again, having heard from medical men of cases of evidently undoubted benefit in other conditions from the manipulation of the osteopath, it occurred to me to wonder whether as a profession we have not hitherto neglected the consideration of the spinal column as a series of individual movable joints. And, being desirous of seeing whether or not there might be some grains of wheat among the osteopathic chaff, I was led to try what amount of movement I could obtain in the various regions of the spinal column, with, in one case, rather remarkable benefit, but that is another story.

And so I come to my method of treatment, which consists of (1) deep thumbing of the lumbar muscles, in process of which a painful area is usually found either in the middle line or to one or other side; (2) fixing the part of the vertebral column below this painful region by firm pressure of the thumb on each side of the spine; and (3) making the patient perform movements of flexion, acute dorsiflexion, lateral flexion, and rotation. The result is cure of the attack of lumbago, inasmuch as the patient is able to at once return to his work, and in no case have I had to repeat the process.

Among the many remedies suggested by authorities on lumbago, remedies so varied as to include purgatives, diuretics, diaphoretics, hot baths, Turkish baths, warm packs, fomentation, hot ironing, iodides, iodine, guaiacum and sulphur, nux vomica in large doses, hypodermics of morphine or cocaine, local applications of A.B.C., counter-irritation by cautery or blisters, electricity with massage, acupuncture and porous plasters, I only find two suggestions as to movements. Romer advocates in traumatic lumbago the stretching of the contracted muscles and rupture of the adhesions by forcible movements executed under chloroform. And Chalmers Watson, in the *Encyclopaedia of Medicine*, says: "To those who cannot readily obtain the requisite amount of active exercise and fresh air desirable it is advisable to recommend the daily performance of two or three studied muscular movements—movements calculated to bring into play those muscles whose function through non-use is being abused." Obviously these writers are referring to chronic cases. My method is, I think, better, inasmuch as it cures the condition in the acute stage, and prevents it from becoming chronic. I mention three cases to illustrate the treatment and its results.

1. N. V., a ploughman on a small farm where his absence brought the work on the harvest field practically to a standstill. Naturally he and his employer were anxious that he should be well as quickly as possible. I found him lying in bed complaining of pain in the back and inability to move, temperature and pulse normal, tongue clean, and evidently in perfect health but for this crippling pain and stiffness in his back. Getting him into a sitting position with his back to the edge of the bed, I sat on a chair, and with my thumbs kneaded the lumbar muscles deeply for a short time; then, fixing the lower part of the spinal column by strong pressure of my thumbs on each side of one of the vertebrae, I made the man (1) bend forward as far as possible, then back as far as possible half a dozen times; (2) sit straight up and fall first to one side and then to the other half a dozen times; (3) still erect, turn his head and shoulders round as far as possible (until he could see with his left eye over his right shoulder and with his right eye over his left shoulder, I told him) half a dozen times in each direction, my thumbs all the while deeply pressed against his spine and my fingers spread out over the buttocks to keep the lower part of the body as rigid as possible. We finished with a few more antero-posterior flexions and extensions. The man returned to his work in the harvest field the same afternoon, and I had no occasion to see him again.

2. A. M., a chauffeur, came to my consulting-room one morning, telling me that while "cranking up" the previous evening he had been suddenly seized with pain in his back, and with difficulty managed to straighten himself sufficiently to walk home. He was now so stiff and sore that it was impossible for him to start up his engine, and he was required for a long journey that day. I made him bare his back, hold up his shirt with a hand over each shoulder, and sit astride a chair, while I knelt on the floor and carried out the operation already described. On finishing, I threw his cap on the floor, told him to pick it up, and asked how he felt. With a delighted smile, he replied, "Thank you, doctor, I am all right now, and able for my work." He went off, and has not required attendance since.

3. The last case I shall refer to is that of J. S., a very stout man, a wood merchant, who the previous day, when going through a wood marking trees for felling, had got thoroughly soaked, and had a long drive home in his wet condition. He was lying in bed, and complained of pain in his back and inability to move, but was otherwise in good health. With my assistance and with evident suffering he got out of bed and sat astride a chair. I carried out my treatment, made him pick up something from the floor, and asked him how he felt. With a surprised look at me through his glasses, he replied, "I am better the noo onywey." I told him to send for me if the pain should return, but no message came and he has remained well.

I mention these three cases as they are typical of what might be called rheumatic as well as traumatic lumbago. I have had many others with equally good results, and I feel sure that any one will have the same good results if he takes the trouble to try the method. It is not easy work, and one's thumb muscles are somewhat painful at the end of it, but the result is well worth the trouble. If you compare these results with a case under the old method, which stands clearly out in my mind because of the loss of time and the expense to a professional man not overburdened with this world's gear,* you will easily see the benefit of this method from the patient's point of view, and, especially if the patient be a panel one, from the doctor's standpoint as well.

THE BABINSKI SIGN IN TRANSIENT FUNCTIONAL DISEASES.

By F. C. EVE, M.D.Cantab., M.R.C.P.Lond.,
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(*Abstract.*)

EVER since Babinski first published his valuable method of deducing from an extensor plantar reflex the existence of organic disease in the pyramidal tract I have watched this sign somewhat closely in general hospital and private work.

This experience revealed only one group of exceptions to the rule that the presence of an extensor plantar reflex in conscious adults indicates organic disease in the upper motor neurons. Conversely I have never found it present during or after hysterical paralysis or fits. The one group of exceptions is that, after fits, coma, or paralysis due to epilepsy, uraemia, or eclampsia, I have

*This man, having stooped to pick up a stud while dressing, was suddenly seized with lumbago, and had to remain in his half-dressed condition for a considerable time before help came; he was treated in bed at home for several weeks by the usual remedies, and ultimately was sent to Bath before he was fit to resume his duties.

learnt to expect to find a Babinski sign present for a few hours or even a day or two. Others have found it present also after coma from alcohol, or anaesthetics, or in saturnine encephalopathy. An excellent article by Dr. Hawthorne (published in the *Practitioner* for September, 1914) states that the sign is also sometimes found after diphtheria and other infections, after some drugs, such as strychnine and hyoscine, and with rheumatoid knees.

Let us now see if any useful deductions can be made from the fact that a transient Babinski sign occurs in various transient toxic functional affections of the nervous system. As an illustration we may take an elderly uraemic patient of mine who developed uraemic hemiplegia, and in whom the autopsy showed no gross disease of the brain. He had a well-marked Babinski sign. Contrast this with a case of hemiplegia due to hysteria. In both cases the hemiplegia is due to functional disease; one shows a Babinski sign, the other does not. Since we know that Babinski's sign is due to some blockage in the pyramidal tract, surely the inference is irresistible that hysterical hemiplegia is due, not to any deficiency in the pyramidal tract, but to loss of function in some higher levels of the brain. The only alternative to this conclusion, so far as I can see, is the highly improbable assumption that Babinski's sign in these multifarious toxic diseases is due to a selective action of their toxins for the pyramidal tract.

Although our inference (that hysterical hemiplegia is peculiar in being due to loss of function in levels of the brain above the pyramidal tract) is in keeping with our general notions of the nature of hysteria, yet I do not know of any evidence which in hysterical paralysis so clearly exculpates the upper motor neurons and so neatly incriminates the higher levels of the brain as does this deduction which I have just submitted to you for your criticism. If any one should reply that my thesis is already in a vague way embodied in our current views of hysteria, I would reply by quoting the definition of hysteria in the opening sentence of the chapter on hysteria in the most recent neurological textbook I have (Judson Bury, 1912, p. 716). He says "hysteria is a psychical disorder which often leads to disturbance of the lower centres of the brain and spinal cord and of the sympathetic system. . . . The exact nature of the cortical disturbance is unknown." My thesis asserts that the lower centres of the brain and cord are entirely unaffected in hysteria, and are as innocent as the peripheral nerves.

For the sake of clearness I have so far only spoken of hysterical or uraemic hemiplegia. But obviously my thesis applies equally to hysterical or uraemic paraplegia and monoplegias, or indeed to any hysterical paralysis of a cerebral type. And, after all, every hysterical paralysis is of the cerebral type, and is never ascribable to loss of function in a peripheral muscle or nerve.

But let us concentrate for a moment on hysterical paraplegia. You may object that paraplegia should, at any rate, be considered a disease of the cord rather than of the brain, and that this, therefore, condemns my thesis that hysterical paralysis is always cerebral in origin and superior in level to the pyramidal tract. But surely this habit of thought is only excusable in dealing with organic lesions, in which case one is correctly averse to explaining a paraplegia by two large symmetrical cerebral lesions when a single small lesion in the cord accounts for the paraplegia. Not so, however, in hysterical paralysis, where experience shows that the brain is just as readily affected symmetrically as unilaterally. So that hysterical paraplegia becomes no obstacle to my thesis if it is regarded as a symmetrical cerebral monoplegia of the legs, which I submit is the proper way to regard it.

Next, to speak of Babinski's sign after fits, hysterical and otherwise. A plausible explanation of Babinski's sign is that it is in some way an effect of lessened inhibitory control normally exerted by the upper motor neuron. If this be so, one may reasonably deduce that the transient Babinski sign after fits, etc., is in the same way an expression of diminished inhibitory control, but due in this instance to temporary exhaustion or poisoning of the upper motor neuron. Now, I have never seen Babinski's sign present after a hysterical fit, but I have learnt to expect to find it after fits due to epilepsy, uraemia, or eclampsia. Hence this sign is a useful guide as to whether or no a fit has been hysterical, provided one can observe this sign before it has passed off. This may be turned to practical account, especially in these days of the Workmen's Compensation Act, as a means of showing whether a fit has been genuine epilepsy or has been hysterical or malingered.

Next, as to the occasional presence of this sign in infantile paralysis. This I can bear witness to, and it shows that the myelitic process is not always confined to the anterior horns in this disease, but sometimes invades the white matter of the cord, or at any rate of the pyramidal tract.

Next, I have often noticed an apparent tendency for the flexor and extensor response to occur simultaneously, leading to a rivalry between the flexor and extensor muscles, and hence to a very equivocal Babinski sign. If I can see the tendon of the big toe pulling, even if the stronger flexors do not allow an upward movement of the big toe, I consider that the response is extensor. The distinction is easier when there is a normal flexor response on the other side with which to compare the equivocal response.

For three years I have been watching a very curious case in which I only obtained a Babinski sign twice. On numerous other occasions the soles were cold or unresponsive. She is a middle-aged, very nervous lady, with a doubtful diagnosis of disseminated sclerosis, characterized by a weakness and ataxy of the legs, tachycardia, and distressing "vasomotor storms" in the chest and abdomen. For years she has had to take small doses of bromide. Can any one tell me if the plantar reflex or Babinski's sign can be abolished by habitual bromide? Or could there be, in addition to the sclerosis, some variable spasm in the vessels of the cord which would account for the coming and going of her Babinski sign? It is suggestive of spasm that nitroglycerine and digitalis gave her great relief.

Finally, in a book on massage, Kellgren (*Technic of Ling's System*, 1890, p. 54) says: "In sclerosed conditions of the crossed pyramidal tract frictional massage given on the internal plantar nerve with a moderate amount of energy will, after a latent period of about half a second's duration, cause involuntary extension of the toes; if given more energetically, involuntary flexion of the hips occurs, accompanied, if the patient be in the half-lying position, by passive flexion of the knee-joint." Cyriax asserts that this sign may be present in organic disease when Babinski's sign is absent.

I record this observation because it is practically the same as Babinski's sign, but it was published eight years earlier. And since books on massage are so rarely read by medical men, the observation might probably escape attention.

To sum up my main thesis: We know from dissections of those dying with organic nervous diseases that Babinski's sign is due to a lesion in the pyramidal tract. Babinski's sign also occurs in certain diseases, such as uraemic hemiplegia, which is too transient to be organic; so that in this disease the hemiplegia must be due to a transient functional paralysis of the pyramidal tract. Yet in *functional* hemiplegia due to *hysteria* Babinski's sign is never present.

It follows, therefore, that hemiplegia in hysteria is due to loss of function, not in the pyramidal tract, but in the neurons at some higher level in the brain. And this reasoning as to hysterical hemiplegia can be extended to other hysterical paralyses.

NOTE.

OVER the paper of Mr. E. P. Cathcart, on The Rôle of Carbohydrates in Nutrition, published at page 503 of our issue for September 19th, should have appeared the word "abstract." A similar notification might, in fact, properly have been introduced into the headings of all communications to the Sections at the Aberdeen Meeting hitherto published, for, with the courteous co-operation of their authors, all have been materially abridged.

ERRATUM.

IN the report of the discussion on anoci-association the word "Plymouth" instead of "London" was accidentally inserted after the name of Mr. C. A. Pannett, of the Royal Free Hospital, when recording his remarks on page 353 of our issue for August 22nd.

A PSYCHOPATHIC annexe to the Los Angeles Hospital in California, with accommodation for one hundred patients, has recently been opened. The cost was £35,000.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ANAESTHETICS IN EYE-WORK.

MR. MAURICE H. WHITING, in his note on this subject in your issue of September 12th, has called attention to the very special and important work of the anaesthetist when called upon to give a general anaesthetic for an ophthalmic case. I look upon this as the most refined and exacting work which he is ever asked to do. I have met with many anaesthetists, specialists and others, who although of good reputation for general surgical cases were nevertheless totally unfitted to give an anaesthetic for an eye case. For this state of affairs the teachers are the most to blame. Students are nearly always taught that the test for anaesthesia is the corneal reflex, consequently nine men out of ten consider it their duty constantly to rub their surgically unclean fingers over the cornea of their patient. It is one of the most annoying things which the ophthalmic surgeon has to put up with. I wonder what the general surgeon would think of a man who professed to be unable to determine the depth of anaesthesia without constantly thrusting his hand into the wound or into the abdomen in, say, an operation for appendicitis. Yet this is exactly similar to what the ophthalmic surgeon is subject to. The eye has to put up with an amount of injury which at least must cause the patient great pain on recovery owing to a large corneal abrasion, and at the worst may give rise to a hypopyon ulcer with loss of vision from anything up to total blindness. If anaesthetists are unable to determine the depth of the anaesthesia without using such a barbarous test they ought never to be allowed to give an anaesthetic at all. The test is always dangerous, always unnecessary, and, to my mind, stamps a man as incompetent if ever he resorts to it. Mr. Whiting, while house-surgeon at Moorfields, has given dozens of anaesthetics for me, and I can fully testify to his ability in this branch of work, and I take the greatest pleasure in being able (though now far removed from London) to say how cordially I agree with all he has said in his communication, which will, I trust, be read and acted upon by every one who is likely to have to give anaesthetics.

H.M.S. *Euryalus*. C. DEVEREUX MARSHALL.

MR. WHITING'S reference, in the JOURNAL of September 12th (p. 471), to the use of chloroform as an anaesthetic in eye-work raises incidentally the whole question of general anaesthesia in ophthalmic surgery.

The question whether chloroform, ether, or a combination of these is the least dangerous may safely be left to the specialists in anaesthetics; at the present time there seems to be a growing tendency in ophthalmology to dispense with general anaesthesia, by whatever agent produced, to a much greater extent than hitherto.

The special conditions of anaesthesia which are desirable in eye surgery are, in nearly all cases, so much more easily and conveniently attainable by local than by general anaesthetics that it may be not without interest to examine closely the residue of cases for which general anaesthesia has until recently been assumed to be necessary.

Such cases may be arranged in three groups:

1. Operations involving the orbital tissues or the back of the eyeball. For example, enucleation of the eyeball, evisceration, exenteration of the orbit, removal of the lacrymal sac, and plastic operations on the lids. Many operators now use only local anaesthesia for these.

2. Cases in which anaesthesia is difficult to produce by "drops" owing to the presence of inflammation or congestion. Under this heading fall operations in acute glaucoma and in cases of inflamed eyes, such as hypopyon ulcer, etc.

3. Cases in which *pain* can be abolished by local anaesthesia, but, owing to youth, old age, insanity, nervousness, or some other cause, the patient cannot be trusted to exercise the necessary control. Here the general anaesthetic is used not so much to prevent pain as to produce a passive patient. The use of sedatives preliminary to operation helps to reduce this class of case to within comparatively small limits.

If, however, a free use is made of the method of injecting anaesthetic solutions subconjunctivally and post-ocularly (intraorbitally) as well as or in place of the usual method of simply dropping such a solution into the conjunctival sac, we find that the only cases requiring a general anaesthetic are those in Group 3, and even here the number will diminish as our skill and experience increases.

To give only one example of the advantages of this method, enucleation of the eyeball, even where it is inflamed and very painful, with chemosed conjunctiva and swollen eyelids so tender that the use of a speculum causes severe pain, needs no assistant, and becomes merely the subject of a few minutes' pleasant chat with the patient.[1]

The decline of general anaesthesia in eye surgery is illustrated by Mr. Whiting's figures. General anaesthesia was used in the hospital to which he refers in 1909 in 803 cases, and in the next four years in 517, 598, 631, and 473 cases respectively. Here we have a sudden drop in 1910, followed by a slow partial recovery, and then a sudden and more decided drop in 1913. An analysis of these figures would be interesting.

Lastly, when general anaesthesia must be used, it is an advantage to use it in addition to adequate local anaesthesia, and to confine the general anaesthetic to its true sphere in ophthalmic surgery—namely, that of providing a passive patient. This disposes of the question of the corneal reflex.

Edinburgh. H. M. TRAQUAIR, M.D., F.R.C.S.E.

SUBLINGUAL MEDICATION.

In the interest primarily of our wounded soldiers, I wish to call the attention of army surgeons to the great and obvious advantages of sublingual medication as compared with hypodermic.

It is safer, cleaner, and quicker, because no preparation is required except washing out the mouth with water. Fifty could thus safely be relieved while one was safely injected. The purification of needles being out of the question, under the circumstances, rules the syringe out of court. The awful possibilities of a tainted needle are apparent. Even after removal to hospital, there are many points in favour of the simpler method. Let any one who doubts this look in a mirror at the larger surface (I estimate it as six inches, covered by the thinnest membrane), and compare it with the limited area for absorption of an ordinary hypodermic injection. A locumtenent who once worked for me, and who had gained experience during the last South African war, told me that to drop a tablet under the tongue of a wounded man, grey with shock and drawn with pain, to hurry on to others, and then to return in a few minutes to find the first patient relieved and anxious to point out others needing help, was a constant gratification and surprise.

As far as I know, the method is not taught in hospitals or mentioned in examination papers. Why? Too simple, perhaps; and yet I know numbers of men who never go a round without a small case of tubes in their vest pocket, and use them daily. At the time I mention—about twenty years ago—when this was first advocated, Messrs. Burroughs and Wellcome, with their unique opportunities, were good enough to make wide inquiries, and reported that, as far as they could ascertain, it was an entirely new and successful mode of administering medicine. If the discovery had only been made abroad and taken up as a means of self-advertisement, how different would have been its fate!

Ross-on-Wye. WILLIAM PAULSON, L.R.C.P.Lond.

A STRAW-CHARCOAL ABSORBENT DRESSING.

A CHEAP, absorbent and aseptic dressing for wounds which have much discharge is one used by the Japanese. I have also used it and proved its value. Make charcoal of straw by burning straw in a fireplace where the air can be excluded. This is done by blocking up the fireplace with a sheet of tin or board, after lighting the straw. After the fire has burnt out, the straw is the same in shape, but black. This put into linen bags is very absorbent and a deodorizer.

London, N. E. F. WILLS.

[1] See also Pooley, *Ophthalmoscope*, August, 1914, p. 461.

Reviews.

TAYLOR'S "MEDICINE."

A BOOK on any subject that has successfully reached its tenth edition has fulfilled so faithfully its early promise and justified so thoroughly its existence that it is beyond the need of commendation. Dr. FREDERICK TAYLOR'S *Practice of Medicine*[1] has achieved this record within a period of somewhat less than a quarter of a century, and it is safe to assert that its popularity has steadily increased since the first issue saw the light in 1890. The tenth edition follows very much on the lines of its predecessors, but the increasing mass of scientific knowledge and technical achievement has necessitated some increase in the dimensions of the present volume. This increase, though difficult to avoid, is a doubtful advantage, and, if progressive, must make future editions unwieldy. One possible way of escape would be to omit the section on diseases of the skin, which in this edition occupies 74 pages. Dermatology has nowadays become so much a specialized department of practice and has accumulated such an extensive literature of its own that its inclusion in a handbook on general medicine seems no more necessary than would be a section on ophthalmology or gynaecology.

There is in this edition a valuable addition to the illustrations with which Dr. Taylor's book is embellished, and reference is made to several new subjects which have within recent years attracted professional attention and marked the continued progress of medicine both as an art and a science. The diseases of the ductless glands, for instance, are grouped in a section of their own; infectious disorders are rearranged so as to harmonize with modern views as to their etiology; and the chapters on cardiac disease are elaborated by a concise account of such rhythmic irregularities as auricular flutter, auricular fibrillation, and heart-block.

As in former editions, the space devoted to the all-important problems of treatment is, in our opinion, inadequate. The majority of men in general practice find need for guidance about most ailments in the direction of their treatment rather than of their symptomatology, etiology, or pathology; while from the point of view of the patient his requirements are best fulfilled by the doctor who knows how to relieve his discomforts and who is able most speedily to restore him to a condition of health such as will fit him for an early return to the duties of his everyday life.

An example, taken at random from Dr. Taylor's book, will illustrate what is meant. Under "Ulcer of the Duodenum" the treatment is summed up as follows: "The duodenal ulcer may be treated in the same way as the gastric ulcer. It is perhaps less amenable, and may sooner call for surgical methods." Now duodenal ulcer is one of those ailments of which the symptoms, with the one exception of haemorrhage, very closely resemble those met with in certain forms of neurasthenic dyspepsia, and it would have been well to give a warning as to the need for judicious observation before surgical methods are resorted to, and of the means to be adopted by medical and dietetic prescriptions to prove the position and to avoid operative interference, if that be possible.

In discussing the treatment of diabetes the author does not refer to the value of limited periods of starvation as a means towards controlling the output of sugar in a patient whose glycosuria proves not to be entirely dependent upon carbohydrate ingestion.

In connexion with the various forms of pancreatic disturbance, which are becoming nowadays more frequently recognized or suspected than formerly, hardly enough stress is laid on the value of gall-bladder drainage as a means of relief or cure. It seems an undoubted fact that cirrhosis of the pancreas is often directly associated with a chronic cholangitis, and the cure of the latter by cholagogue remedies and suitable dieting, or, that failing, by drainage, will, in many instances, save the pancreas from degenerative changes which must ultimately tend towards disability and death. It is highly desirable, from the patient's point of view, that his doctor should be informed of these facts, and be competent to deal with such an illness in the manner best calculated to avoid the end-results.

These gaps are referred to only to emphasize our view that the weak point, from the practical aspect, in this as in so many treatises on such a vast subject as the practice of medicine, lies in the inadequate amount of detailed instruction which is given to that part of the subject which more than any other fulfils the purpose of the title. In every respect otherwise, Dr. Taylor's new edition is admirable, and will commend itself, we feel sure, to an ever-increasing number of readers. The revision has been thorough; the general arrangement of the subject matter leaves nothing to be desired either in the way of convenience or of grouping; and the pleasure of perusal is much facilitated by the easy and graceful style which characterizes all Dr. Taylor's writings.

[1] *The Practice of Medicine.* By F. Taylor, M.D., F.R.C.P. Tenth edition. London: J. and A. Churchill. 1914. (Med. 8vo, pp. 1208; 12 plates, 71 figures. 18s. net.)

EMBRYOLOGY AND ANATOMY.

A Textbook of General Embryology,[2] by Professor KELLICOTT, is a most admirable and thoroughly justifiable addition to the rapidly increasing number of books on embryology in the English language. The book appears to us to be the clearest and most exhaustive account which we have within one volume of the somatic and germinal cell and of the changes which the latter undergoes in the processes of maturation, fertilization, cleavage, and blastula and gastrula formations. These highly interesting phenomena are considered from the widest point of view, and treated with a wealth of illustrations drawn from all branches of the animal kingdom, although naturally the invertebrata are laid under the heaviest contribution. The various means to a common end which Nature so liberally employs in these matters are carefully correlated, and the whole is lightened up by the introduction of suggestive theories as to the meaning of the variations in a manner which makes the book singularly interesting and readable. While the general medical student will find the volume a most useful book of reference, it makes a more direct appeal to students of cytology, biology, protozoology and teratology, and to those engaged in cancer research. A very useful bibliography is given at the end of each chapter, and adds materially to the value of the book, which does distinct credit to American scientific scholarship.

Professor BUCHANAN, in his *Manual of Anatomy*,[3] aims at giving the medical student the essentials of the subject from particularly the very important point of view of the general medical practitioner. He is in consequence enabled to dispense with many unnecessary details which even in the examination room are of doubtful value. Students vary in the way in which they acquire their knowledge. For some a considerable amount of detail seems to facilitate learning and remembering, making for permanency, like the cement between the bricks in a wall; for others, and perhaps these are in the majority, detail has a tendency to obscure the really fundamental facts, and should therefore be kept within strict limits. To such as these latter we think Professor Buchanan's manual is likely to be of distinct help, for it is not more than half the size of the other English textbooks, and yet contains everything that it is necessary to know. Further, its size and character are such that long after his student days the practitioner will find it a ready and satisfactory book of reference. Instructions are given at the end of each section as to the procedure advised in dissection, but, as these are brief to a degree as well as divorced from the description of the parts, we think most students will find it desirable to use a separate practical manual for use in the dissecting room. A similar commentary, we think, applies to the embryological portions, for a student must surely have received instruction in general embryology before he can be expected to follow intelligently the short developmental notes appended to the descriptions of the various viscera. The old anatomical nomenclature has been retained, although the Bâle synonyms are given in an appendix. This feature should make the book popular

[2] *A Textbook of General Embryology.* By Professor W. E. Kellicott. London: Constable and Co., Limited; New York: H. Holt and Co. 1914. (Med. 8vo, pp. 380; 168 figures. 10s. 6d. net.)

[3] *Manual of Anatomy, Systematic and Practical, including Embryology.* By A. M. Buchanan, M.A., M.D., C.M., F.R.F.P.S.Glasg. Second impression. University Series. London: Baillière, Tindall, and Cox. 1914. (Demy 8vo, pp. 1568; 631 figures. 21s. net.)

with many, for there is a lot of life in the old names yet, and we are not at all sure that the more recent have come to stay. The book is excellently printed and illustrated, and has the further advantage of having come from one source, and so escapes the confusion of style and method which is not infrequently apparent in more composite works.

The *Intervertebral Foramen*,[4] by Mr. HAROLD SWANBERG, is a topographical study of the anatomy and contents of the first thoracic intervertebral foramen in the cat as they can be demonstrated by serial microscopical sections. The idea is good, but as we conceive that the justification for a record of minute relationships must be their value in practical application, we cannot but feel that the research should have been undertaken on the human subject, difficult though it might be to obtain the necessary material in a sufficiently fresh condition. The work is illustrated by a number of excellent photomicrographs, but, unfortunately, in the copy under review pages 60–64, and plates 6 and 9, are missing. The author finds that the roots of the spinal nerve, and the spinal nerve itself, are closely surrounded and protected by loose fatty tissue, but that as we approach its primary divisions this is replaced by dense fibrous tissue, which can be shown to have an attachment to the adjacent transverse processes; in this tissue in the neighbourhood of the anterior primary division the rami communicantes of the sympathetic are to be seen. The nerve as it passes through the foramen lies very near to the transverse process of the upper vertebra. At a rough estimate the size of the foramen is three times that of the nerve, so that there is little likelihood of pressure upon the nerve unless much absorption of the intervertebral disc or adjacent body of the vertebra has occurred. The author claims that the book is unique, and to some extent it is; but we imagine he will find many imitators in the future, for serial sections afford undoubtedly the best opportunities for obtaining a knowledge of those minute intimate relationships which are so helpful to the clinician.

SALVARSAN TREATMENT OF SYPHILIS.

THE book by Drs. STOPFORD-TAYLOR and R. W. MACKENNA on *The Salvarsan Treatment of Syphilis in Private Practice*[5] is based on their experience of some 400 cases. Like most other workers in this field, they prefer intravenous injection, and use a full dose of 0.6 gram on each occasion. They report no untoward results, and attribute this absence to careful preparation of the patient before injection and careful watching afterwards. In this connexion, however, must be mentioned a recent work by Schindler,[6] who claims equally good results from intramuscular injection of an oily suspension of salvarsan (Yoha). This author points out that most of the fatalities due to salvarsan have occurred after intravenous injection, and argues that they are due to paralysis of the blood vessels by the direct action of arsenic. Intramuscular injection, in which the absorption of the drug is more gradual, is much less liable to cause this effect. In their preface Messrs. Taylor and MacKenna refer to the unique efficacy of salvarsan in controlling syphilis. Against this optimistic view are the facts that mercury is now universally employed in addition to salvarsan, that Professor Ehrlich has been engaged in making new preparations containing copper, that the French chemists are manufacturing new arsenical preparations which shall be free from the danger of salvarsan, that preparations of antimony made on similar lines are being produced, and that new compounds of mercury, such as merlusan, are being introduced. In fact, it should now be fully recognized that salvarsan, although it removes syphilitic lesions, cannot certainly be depended on to cure the disease, and has toxic properties, the ultimate effect of which yet remains to be ascertained. The authors consider that this danger has been exaggerated, and that the noxious effects are due to overdoses, bad technique and administration in unsuitable cases. It is, however, we believe, now admitted that death after injection of salvarsan may be due to the direct action of arsenic. In his analysis of 274 cases of death after salvarsan, Mentberger attributed thirty-one to this direct action. Ehrlich himself in a letter to this JOURNAL (May 9th, 1914) admitted that an oxidation product of salvarsan was one factor in the fatal cases. The authors attribute the freedom from relapses in their cases to thorough treatment with mercury in addition to salvarsan. This, however, points to the efficacy of mercury rather than to that of salvarsan. We are glad to note that the authors hold that microscopical and biological methods of diagnosis should never be allowed to replace clinical investigation. The book contains some useful information regarding the technique of salvarsan treatment, but takes rather a one-sided view of the subject.

GONORRHOEA AND ITS COMPLICATIONS.

DR. LUYS'S book on gonorrhoea is perhaps the most comprehensive work on this subject which has appeared since Finger's classical treatise. Mr. FOERSTER is therefore to be congratulated upon the production of an English translation, although his statement that "for a number of years no book has been published in the English language on this subject" is hardly correct. The title of the translation is *A Textbook on Gonorrhoea and its Complications*,[7] and as Dr. Luys is a well known advocate of the urethroscope and has done excellent work in this department, it is not surprising to find that much attention is given to urethroscopy. Dr. Luys is evidently an optimist, for he says in his preface that "there is no inflammation of the urethra which cannot be cured completely by appropriate treatment," and that "urethroscopy alone enables us to diagnose the local lesions with accuracy and to apply the sovereign remedy correctly." This statement is somewhat discounted by his remark that urethroscopy is not a "universal panacea for inflamed urethras." With the last sentence we are in entire agreement, and would add that the urethroscope, when used indiscriminately, is a source of danger to the patient. In fact, Dr. Luys warns us against its use in recent or acute inflammations. It is true that in expert hands the instrument is a valuable aid to diagnosis, but it by no means follows that the lesions thus detected can always be cured. Of the various forms of urethroscope Dr. Luys prefers his own, in which direct illumination is supplied by a small lamp on a holder running in a groove in the endoscopic tube. With this instrument applications can be made to the urethra without withdrawing the lamp. In acute gonorrhoea he favours urethro-vesical irrigation in most cases, but advises a large syringe when there is spasm of the sphincter. In chronic gonorrhoea the treatment recommended comprises urethro-vesical irrigations or injections, massage of the prostate, seminal vesicles and Cowper's glands, dilatation by metal sounds, dilatations with Oberlander's four-bladed dilators, combined irrigation and dilatation with Kollman's instrument, and especially urethroscopic treatment, which Luys rightly considers to be far better than instillation of silver nitrate by Guyon's syringe. Other methods mentioned are ionization and electrolysis of the urethral mucous membrane, treatment by thermo-electric bougies, etc. Bier's passive congestive treatment is recommended in cases of gonorrhoeal endometritis. Luys is not much impressed by vaccine treatment. Mention is made of complement fixation in gonorrhoea. A good account is given of the pathology of gonorrhoea and its complications, and Luys thinks that general gonococcal infection often has its origin in seminal vesiculitis. The book is clearly and concisely written and is profusely illustrated, the coloured plates of urethroscopic images being especially good. The English translation has been excellently done by Mr. Foerster, and the book affords one of the best expositions of the subject in the English language.

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[4] *The Intervertebral Foramen. An Atlas and Histologic Description of an Intervertebral Foramen and its Adjacent Parts.* By H. Swanberg, Member of the American Association for the Advancement of Science. With an Introductory Note by Professor H. E. Santee. Chicago: Scientific Publishing Co. 1914. (Med. 8vo, pp. 101; 16 plates. 3.00 dols.)

[5] *The Salvarsan Treatment of Syphilis in Private Practice. With Some Account of the Modern Method of Diagnosis.* By G. Stopford-Taylor, M.D., M.R.C.S., and R. W. MacKenna, M.A., M.D., B.Ch. London: W. Heinemann (Rebman, Limited). 1914. (Demy 8vo, pp. 90; 18 figures. 5s. net.)

[6] BRITISH MEDICAL JOURNAL, July 11th, 1914, p. 87.

A Textbook on Gonorrhoea and its Complications. By Georges Luys. Translated and edited by Arthur Foerster, M.R.C.S., L.R.C.P.Lond. London: Baillière, Tindall, and Cox. 1915. (Roy. 8vo, pp. 404; 200 figures, 3 plates. 15s. net.)

SPECTRUM ANALYSIS IN BIOLOGY AND MEDICINE.

THE late Dr. C. A. MACMUNN covered a vast amount of ground in the difficult subject of the spectrum analysis of the pigments that colour both animal and vegetable tissues. It is to him more than to any other worker that we owe most of our knowledge of these complex and varied colouring matters, and a posthumous work,[8] edited by Dr. J. H. MILROY, has recently appeared in which an account of his activities in this field is given. Dr. MacMunn was devoted to scientific research, but could find time for it only in the brief intervals of leisure snatched from a busy and fully occupied professional life, and he had no adequate library or laboratory facilities to help him. The work begins with a general account of the spectroscope and the chromatology of plants and animals. Special chapters on chlorophyll, haemoglobin, the histohaematins, and myohaematin follow, and an account of the spectrophotometer employed for quantitative spectrum analysis. The last three chapters deal with fluorescence and phosphorescence, biliary and urinary pigments, and the pigments of invertebrates generally. The book forms stimulating and interesting reading, for its author was a versatile man of wide views, and thoroughly at home in the complications of the apparatus employed by the worker in spectrum analysis. It exhibits a certain incompleteness that is accounted for by the fact that its talented author did not live to see it through the press, yet it is really a valuable contribution to scientific literature. The subject is one that appeals to many besides medical men; the volume is excellently got up and illustrated, and should be in the hands of all who are interested in the study of either pigments or spectroscopy.

NOTES ON BOOKS.

MEDICAL officers of health and students of preventive medicine have of course long been alive to the importance of a knowledge of the methods of constructing and interpreting life tables, while the Insurance Act has made it desirable for other medical men to possess some familiarity with the principles involved in the preparation of morbidity tables. The publication of Messrs. ELDERTON and FIPPARD'S *Construction of Mortality and Sickness Tables*[9] is therefore opportune. The authors have brought within the compass of 120 small pages a great deal of information and have avoided the introduction of any mathematical formulae which, in this branch of statistics, are apt to be of a kind particularly unpalatable to the ordinary reader. Any one who takes the trouble to read this book through should have no difficulty in following the actuarial discussions provoked by the Insurance Act, or, indeed, the reports of life assurance valuations. On the other hand, the medical officer of health who seeks a guide in the actual work of constructing a life table will not find this book sufficient, and must still refer to such sources of information as the papers of Hayward, Newsholme, and Stevenson in the *Journal of Hygiene*. We think the primer will be of use to many readers and serve as a good introduction to more technical works.

The health and comfort of the infant has been Miss WILENA HITCHING'S first consideration in compiling her book on *Baby-Clothing*,[10] and she has succeeded in designing a layette which should meet the requirements not only of the baby itself but of the most fastidious and exacting mother. Her patterns have the crowning merit of simplicity; and even the least expert of needlewomen should find little difficulty in following her clear and explicit instructions. A large packet of well-cut paper patterns accompanies the volume, which is illustrated with numerous diagrams, and contains a short introduction by Sir James Crichton-Browne.

[8] *Spectrum Analysis Applied to Biology and Medicine.* By the late C. A. MacMunn, M.A., M.D. With a Preface by Professor F. W. Gamble. London: Longmans, Green, and Co. 1914. (Demy 8vo, pp. 125; 21 figures. 5s. net.)

[9] *The Construction of Mortality and Sickness Tables: A Primer.* By W. Palin Elderton and Richard C. Fippard. London: A. and C. Black. 1914. (Cr. 8vo, pp. 126. 2s. 6d. net.)

[10] *Baby-Clothing on Healthful, Economical, and Original Lines.* By Wilena Hitching. London and Edinburgh: W. and R. Chambers, Ltd. 1914. (Cr. 8vo, pp. 135; 26 diagrams, 10 patterns; illustrated. 2s. 6d. net.)

MOTOR AMBULANCES IN WAR SERVICE.

By H. MASSAC BUIST.

ALIKE at home and abroad there has arisen a sudden demand for motor ambulances for service with the British forces. The call has come so suddenly that the first method of procedure has been to improvise a number of motor ambulances by adapting various types of pleasure car chassis to the needs of the field, sometimes with the happiest results, at others with anything but a successful issue. The widespread nature of the need was sufficiently illustrated quite early in the war, when some of the wounded from the *Amphion* were taken from the dock to the hospital in the neighbourhood of Chatham in a lorry on a London General Omnibus chassis, a thing by no means suitable for ambulance work of any sort, despite the fact that in this country we have roads that foreigners tell us have surfaces of the billiard table variety. At the other extreme, one has seen examples of light car chassis transformed into ambulances, in which connexion it can only be said that those who have to travel on stretchers in them are to be pitied. Fortunately, whatever may have been left to desire in the necessarily hurried arrangements made at the very outset of war, there are sound grounds for believing that considerable discretion is being displayed in the further orders that are being placed for motor ambulances. Nevertheless, there may continue to be improvised from privately owned vehicles, or what not, various sorts of motor ambulances; therefore, in face of the fact that medical men all over the country may be called on at any time to advise in this capacity, it may be as well to draw attention to one or two points learned already as the result of the war, and to give a few general hints on the principles of constructing ambulances on motor chassis.

POINTS TO BE NOTED.

Among vehicles I have noticed that have gone to the front are sundry ambulances for the Australian contingent. One of these impressed me as being on chassis of too small and weak a character, comparatively ill-sprung, while at the other extreme there is what I consider to be the most intelligent improvisation of a motor ambulance that the campaign has so far afforded. An undertaker had a grey hearse on a Rolls-Royce chassis, so arranged that the back opened to take the coffin in and out. With a minimum of change in the interior arrangements, this has been made into a most perfect ambulance, and is deservedly the pride of the Australian outfit.

We have to remember that, important as it is that cars used for ambulance work at home should be well sprung, since they have to carry men suffering from all sorts of wounds, the issue of life or death from which may depend entirely on the amount of oscillation experienced, that point becomes of double importance on the Continent, where the average of roads to be traversed were, even before they were cut up by supply traffic, of very indifferent surface when compared with our own. It has therefore been recognized on all hands that smoothness of suspension is a very important factor. A mistake has been made in some examples that have come under my notice, however, through ensuring what is a plangent suspension by the use of various auxiliary devices called shock absorbers. Ideal suspension does not consist in supplying a plangent vehicle, because when indifferent road surfaces are traversed that plunges vastly too much.

What is wanted is a suspension that depends as little on auxiliary action as possible, and which itself has a certain amount of stability or stiffness. Therefore, if there is any choice of chassis that are being taken from among vehicles offered or commandeered, it is as well to look for springs having comparatively long leaves, for as broad a track and as long a wheel base as possible, and for large wheel diameter. If the springs prove particularly good, the size of the wheels matters the less. Thus, many large and powerful chassis have proportionately small wheels to give a low centre of gravity; but such wheels will be furnished with very deep section tyres. These, in combination with the springs, will give the necessary softness of action. A point particularly to be looked for in the chassis, especially in face of the fact that the number of really powerful ones available of a refined character will generally be found

comparatively few, is that the wheel base should be proportionately long.

OVERHANG TO BE AVOIDED.

The importance of avoiding overhang has been brought to mind from observing various old-fashioned chassis of short wheel base and of comparatively small size, say, the 16–20 h.p. size of three or four years ago—and limousine motor cars, also a little out-dated, wherein the rear part of the body projects a considerable distance behind the back axle. This is eminently undesirable for ambulance work, because the stretcher is being accommodated in that part of the vehicle which makes the maximum movement in response to the road shocks to which the machine is subjected in the course of travel. This is incidentally one grave disadvantage attending the system of transforming ordinary touring cars with Cape-cart hoods, as they are called, into ambulances by cutting out the back panel in hinged fashion. To overcome this by fitting extremely plangent springs, possibly supplemented by shock absorbers, may do reasonably well so long as the machine has to travel over the very best of our highways at a comparatively slow speed. Even so, however, when the stretcher is thus accommodated so that its mid-length about corresponds with the back axle, an unnecessary amount of side-swaying is occasioned when turnings are negotiated. Therefore, despite the good intentions that have promoted many endeavours in this connexion, all such practices should, if possible, be avoided, and the whole length of the stretcher accommodated forward of the back axle—that is to say, anywhere between the two axles, so that there is no overhang of any sort whereby all shocks, whether lateral or in a vertical direction, are reduced to the minimum.

In orders that have been placed for new vehicles, the authorities have shown an apt appreciation of these points by selecting chassis the springs of which are good as originally designed. It is as grave a fault to have a spring that is too plangent as one that is too stiff. Incidentally, medical men whose opinion is asked about ambulances for foreign service would do well to remember that at least an extra leaf to each spring is needed to achieve equivalent effects of suspension on the Continent to what will be obtained in this country without the use of such extra leaf; in other words, springs must be stiffer.

BRITISH RED CROSS SOCIETY'S SCHEME.

The British Red Cross Society asked *Cooper's Vehicle Journal*, the recognized organ of the coach-building industry, to design a temporary ambulance body for fitting to various sorts of chassis. The working drawings were issued by that journal in August, and may be recommended to the notice of medical men who desire that the approved design should be followed. One of the difficulties was to scheme the body so that it could be built quickly and cheaply, as well as to enable a common scheme to be suitable for fitting to any substantial touring car chassis that might be requisitioned. Nothing would have been easier than to fall into the error of building a top-heavy ambulance. This, however, has been skilfully avoided by providing the body with a well covered by substantial floor-boards which can be hinged back so as to leave an open space along both sides on which men are able to travel in a sitting position. All that is necessary to apply this standard form of ambulance body to various sorts of chassis is the insertion of suitably cut packing pieces.

In my humble judgement, the weak point of the design is that a rather long tail is rendered inevitable by its application to most chassis, for room has necessarily to be provided for stretchers of about 8 ft. in length, slipped in from the back, which is consequently left open save for a waterproofed storm curtain. By reason of adopting this mode of construction the ambulance body is cross-braced at the front. Whatever adaptation of existing body work is made, care should be taken always to ensure that the necessary reinforcement by cross-bracing should be employed to make up for cutting open the back to form doors or hinged flaps. Extended eaves provide ventilation, which can further be furnished at option at the front and sides, which are merely covered over with waterproofed material, such as unbleached calico treated with boiled linseed oil, quite a cheap, yet eminently a satisfactory and durable job.

The coach-making industry of the country has entered fully into the spirit of the hour. A very considerable number of members of the industry, as well as of motor manufacturers, offered to construct ambulance bodies for the British Red Cross Society free of charge, and the work was put in hand some time ago.

POSSIBILITIES OF LENGTHENING CHASSIS FRAMES.

As previously pointed out, this matter of overhang is really the weak point of nearly all motor ambulances, save those that are constructed on chassis of exceptionally long wheel base. Most of these ambulances are needed quickly. But if a few weeks are provided for the work of adaptation, and only a small chassis or one of comparatively short wheel base is available among either commandeered machines, second-hand or privately owned ones given for the cause, very useful work may be done at comparatively small cost by submitting the chassis to the treatment of such firms as make a practice of adapting old chassis. At a comparatively cheap cost these concerns can lengthen the frame in a manner which would nevertheless be quite a substantial job. This question of carrying the stretcher between the axles, and of therefore having comparatively a long wheel base, is of even greater importance to ensure the maximum comfort than any mere manipulation of springs and spring gear.

SPHERE OF THE LIGHT CAR AMBULANCE.

In a large number of cases it is not necessary for the patient to be at full length, therefore it is not necessary always to have an overhang. This point comes out particularly when considering the many quite interesting schemes that have been brought forward for equipping light car chassis as ambulances. It is always best to secure those with comparatively long wheel base. Some light cars as standardized have come out really quite well under this head. Not much, however, has been done in this direction, and that little is almost entirely intended for home service, where, indeed, it is much more suitable than abroad, for these light car ambulances are primarily and essentially suitable for carrying men in a seated position. They usually have a flap, however, that can be let down into the form of a stretcher, quite two-thirds of which, and in some cases nearly three-quarters, then projects behind the back axle; but to mention this fact is alone sufficient to indicate the unsatisfactory nature of attempted adaptations of this sort.

A much more clever idea on a comparatively small car, and one which for that matter could be adapted to light car chassis, is one I have seen fitted to the smallest Fiat ambulance. In this the necessary length for two stretchers, with scarcely any portion projecting behind the line of the back axle, is ingeniously obtained by having them superposed and at the side of the driver, behind whom sits the attendant, who is therefore beside the heads of his patients as the vehicle travels forward. Like most of the ambulance schemes brought forward, this has canvas side curtains and hood, so that the vehicle can be used either as a wholly open, partially closed, or entirely closed ambulance, according to the condition of the weather.

For the most part, however, the fact that the light car chassis makes quite a good tradesman's delivery van, and that the exterior lines of a delivery van and of an ambulance body may bear a considerable likeness one to another, must not be taken as affording any indication of the suitability of the light car chassis to ambulance work. There is a vast difference between transporting mere goods and human beings who have been injured in battle, generally after experiencing days, if not weeks, of overstrain, often with the most irregular feeding, so that the system is not in the most favourable condition to withstand shocks in any case. The light car chassis should therefore be used only when it is a question of taking that or of having to give up all idea of providing a motor ambulance chassis. These vehicles are extremely valuable accessories to saving life, especially in cases where time is of the utmost moment, therefore a certain amount of evil can be put up with to ensure that end, when it may be a case of improvised motor ambulance of too small a chassis or none at all.

Adapting Motor Car Bodies.

There have been sundry examples of adapting covered motor car bodies of middle and large sized chassis to motor ambulances carrying three and sometimes four stretchers. In all cases such instances, however, if the chassis is not a powerful one the body projects considerably behind the back axle line. Owing to the accommodation for the driver's seat, the forward part of the stretcher is only 2 ft. to 2½ ft. in front of the back wheel. When adapting a totally enclosed limousine body, this difficulty does not occur, because two stretchers can be carried, one above the other, quite along beside the driver, as in the case of adapting the small car type of chassis previously described.

It is possible to adapt the ordinary limousine bodies, wherein the drivers' seats are quite separate and are exposed at the sides, by cutting away the seat beside the driver, enclosing the two sides in front by putting up a glass window, and thereby moving forward the two superposed stretchers, care being had to cross-brace the body specially to accommodate the redistribution of load and stresses. This method is infinitely preferable to using the ordinary interior of the limousine or covered coachwork for the stretchers, even though in this, as in most cases we have been considering, we are to assume that sufficient sense is displayed to place the head of the patient in that position which will bring head and body as near as possible between the axles, so that if there is any overhang at all behind the back axle it will be from the waist line downwards.

This method, of course, has to be used in those cases in which ordinary four-seated touring cars with Cape-cart hoods are transformed into ambulances by making the back panel of the body collapsible to afford the necessary length for the stretcher. The patient's head, therefore, lies practically against the back of the front seats. A slight and simple extension of the ordinary rainproof motor car hood to take the place of the back panel when collapsed is easily effected.

The Emergency Ambulance Scheme of the British Red Cross Society.

It may be as well for medical men to be reminded that the British Red Cross Society is engaged in organizing an extensive emergency service of motor ambulances, all offers in connexion with which should be addressed to Department 8 of the Society at 83, Pall Mall, S.W. The work is being further aided by the Imperial Motor Transport Council; while members of the Royal Automobile Club and of the Automobile Association have come forward in the most generous fashion with offers of vehicles. Any motor owners who discuss with medical men the question of lending cars for this work should be made clearly to understand that the Society only wants vehicles which are unconditionally offered for the whole period during which emergency motor ambulance service may be rendered necessary by the war. The motor owner must therefore be prepared for anything that is considered necessary to be done to his chassis, no matter how that may mutilate it from the point of view of the vehicle as a privately owned motor carriage. Of course, when cars are no longer needed they will be returned to their respective owners, while those owners may further be assured that during use every effort will be made to ensure that the cars will not be abused in any way, but will be submitted only to such legitimate wear and tear as is essential in carrying out the good purpose which can be the sole aim in lending them. The Society is, of course, not responsible in any way for deterioration, or even for the total loss of the car. Loss, however, is extremely improbable in view of the fact that the vehicles are needed only for service in this country. Motorists desirous of offering their cars may communicate direct with the Honorary Secretary, Imperial Transport Council, 173, Fleet Street, London, which, as already stated, is working in co-operation with the Society.

Though the members of the Automobile Association have already lent over 19,000 motor cars and motor cycles for war services, the names of other volunteers are still being taken, so that this organization itself may assist the Imperial Motor Council and the Red Cross Society by classifying the cars that it raises. It is therefore well to note that the make, horse power, date of manufacture, type of body, and seating capacity should be mentioned, as well as whether the owner or his motor man drives the vehicle, the owner's telephone number, and his telegraphic address. Red Cross work under this head embraces the conveyance of officials to various dépôts, attending ports and railway stations to convey wounded on arrivial to hospitals, and removing wounded from London to various convalescent centres. Of course cars with motor ambulance bodies for lying-down patients are in greatest demand. To assist members willing to have their vehicles so converted, the association itself has a variety of designs and estimates to enable such conversion to be achieved with the most moderate outlay, with, nevertheless, quite satisfactory results. Of course, comfortable landaulette, limousine, or cabriolet cars are also needed in numbers for carrying patients who are able to sit up.

A last point worth noting on this subject concerns the Scottish Branch of the British Red Cross Society, which has sanctioned an appeal made by the *Motor World* to open a fund the proceeds of which are being devoted to defraying the expenses of the motor transport work of this branch. Vehicles that have been offered to the Society are being converted into ambulances and all other necessary work carried out to provide a really adequate supply of motor ambulances. Mr. Robert J. Smith, Secretary of the Scottish Automobile Club, has been appointed convener of the Transport Committee. Individual subscriptions, limited to £1, may be sent to the fund being raised by the *Motor World*, 73, Dunlop Street, Glasgow, which has raised several hundred pounds in the course of the first ten days during which the appeal has been made. This is therefore a note for medical men in Scotland who may be asked what those can do to assist motor ambulance work who nevertheless have not cars to give or lend.

SCIENCE NOTES.

In a communication published in the *Röntgen Society's Journal* for July Mr. Lawrence Bragg points out that not only does the analysis of x rays by crystals yield interesting results, but also the analysis of crystals by x rays. In using various crystals as diffraction gratings in the path of an x-ray beam, many types of spectra have been found, and in almost all cases it has been possible to assign them to corresponding peculiarities of crystal structure. As an instance of the connexion between the character of the spectra and the crystal structure, he refers more particularly to the case of the diamond. The octahedron face—denoted by crystallographers as the index (111)—of this cubic crystal yields a set of spectra which are peculiar in that, while the first, third, fourth, and fifth orders are well marked, the second is missing. If we look at the diamond structure we see that the planes parallel to the face are arranged in pairs in such a way that the distance between the planes of a pair is one-quarter that between successive pairs. In yielding the first spectrum the two planes of a pair do not act exactly in concert, but they do so sufficiently to give a good reflection. In yielding the second spectrum, however, the waves from two planes of a pair fit together crest to trough, and exactly annul each other, thus destroying entirely this reflection. For the third, fourth, and fifth spectra again the reflection is good. It is thus possible to find from the peculiarities of the spectra this paired arrangement of (111) planes, and so arrive at the structure of the diamond. Among other crystals whose structure has been found in this way are the rock-salt series, the calcite series, aragonite, zinc-blende, pyrites, galena, fluor, cuprite, and zincite. In the case of rock-salt structure, when x rays are reflected from a (111) face, the spectra are peculiar in that the first is weaker than the second, instead of the first, second, and third decreasing regularly in intensity as is normal, and this peculiarity is to be traced to the alternate arrangement of the planes of Na and Cl parallel to that face.

Messrs. Longmans, Green, and Co. will issue shortly a new part of *Quain's Anatomy* (eleventh edition, edited by Sir Edward Schäfer, Dr. Johnson Symington, and Dr. T. H. Bryce). This is the second part, vol. ii, and will deal with splanchnology, the author being Dr. Johnson Symington. There are 349 illustrations, many of which are in colour.

British Medical Association.

The Treasurer would especially appeal to those who have not yet paid their Annual Subscription for the current year to forward £2 2s. without further delay. Cheques should be made payable to the British Medical Association.

EDWIN RAYNER,
Treasurer.

British Medical Journal.

SATURDAY, SEPTEMBER 26TH, 1914.

EXCESSIVE PRESCRIBING UNDER THE INSURANCE ACTS.

THE Memorandum of the Insurance Commissioners to Insurance Committees on the Supply of Drugs and Appliances, which appears on page 180 of the SUPPLEMENT, should receive the earnest attention of every practitioner who is under agreement to give medical attendance to insured persons. It contains certain specific indications as to articles which are not to be ordered as drugs or appliances, which will, we believe, be welcomed by both doctors and pharmacists, and in addition deals with the general question of over-prescribing in a way which demands the serious consideration of all concerned.

The Memorandum is, however, as important because of what it implies as because of what it actually says. It has always been apparent to those who have studied the question that the panel system as it now exists must stand or fall by the success or otherwise of the method of providing drugs and appliances. If pharmacists as a body found they could not profitably continue the present system, the alternative would probably be the establishment of State dispensaries, and this would give a great impetus to the movement for employment of salaried whole-time medical practitioners. Under the present system, in which the 9s. allowed for medical attendance and drugs is divided into a medical fund and a drug fund, the demands on the latter are to a considerable extent within the control of the medical profession. By carelessness or extravagance on the part of doctors the drug fund can be made bankrupt, and the pharmacist can under his present agreement with an Insurance Committee be compelled to accept only a portion of the money for which he has worked, and part of which is actually out-of-pocket expenses. It is obvious that pharmacists are not likely to stand such a loss for long, though in any given area they might for a time consent to have their bills discounted; the Scottish panel chemists are reported[1] to have threatened to cancel their agreements with Insurance Committees unless, amongst other things, they are secured against the discounting of their bills and guaranteed the prompt and full payment of their accounts and the abolition of the "floating sixpence." It is only when this dependence of the pharmacist on the carefulness of the panel doctor is fully realized that the great importance of the circular now under consideration can be estimated. In several places it is hinted, not obscurely, that if the present machinery for the control of the cost of drugs and appliances is not effective, some other device will have to be found, and it is an open secret that the Commissioners have been hard pressed to abolish the distinction between the medical fund and the drug fund, and throw the cost of the drugs on the whole 9s., guaranteeing the pharmacist the payment of his bills in full. If this were done, and the cost of drugs in any area exceeded 2s. per head, the doctors would be penalized for this excess, and not the pharmacists as at present. The circular of the Commissioners is evidently intended to foreshadow some such change as this if the present machinery, which the Insurance, Panel, and Pharmaceutical Committees are urged to utilize to the utmost, is found to be inadequate.

The check on excessive prescribing which at present exists lies practically entirely in the hands of the Panel Committees, who are entitled, after examination of the prescriptions, to recommend Insurance Committees to surcharge those practitioners proved to have been extravagant. To make these surcharges is, of course, an unpleasant task from which many Panel Committees have up to the present shrunk, but the existing method of financing the drug fund can only be preserved if this duty is carried out consistently and fearlessly. The circular points out to the Insurance Committees that it is sometimes a very difficult thing to ascertain whether any given instance is one of excessive prescribing, and the Committees are reminded that on this they must be guided by the advice of their expert advisers—namely, the Panel Committees. The Commissioners evidently realize that a high cost of drugs in any area may be due not to careless prescribing but to excessive sickness, and that this latter may be the reason why some areas have exceeded the rate of 2s. a head per insured person for drugs and appliances, while in others not only have the chemists been paid in full, but the doctors have secured the "floating sixpence." But excessive sickness will not explain the differences which the Commissioners state have been found to exist in the cost of prescribing as between individual practitioners on the same panel.

The causes of the differing demands on the drug fund are complex. We have little doubt that some of the excess is due to the inexperience in prescription writing of many practitioners, at any rate in England and Wales where they have mainly been accustomed to dispense their own medicines. Whatever the reasons for it, the continuance of widely spread excessive demands on the drug fund would have such serious and far-reaching results that the advice given by the Commissioners to the Insurance, Panel, and Pharmaceutical Committees to keep up a continuous check on the prescriptions and chemists' accounts is sound and timely. Such a continuous check will not only act as a deterrent on careless members of the profession, but will enable the profession in any area to satisfy itself whether any excess in the cost of drugs and appliances is due to extravagant prescribing or to a genuinely high rate of sickness which would justify the high cost.

An allusion is made in paragraph 6 of the circular to a point which is already receiving close attention at the hands of the medical profession—namely, the question whether the tariff of charges at present in force is suitable. Investigations which the Association has already carried out seem to prove that there are many points at which the tariff could usefully be revised, and that many of the charges

[1] *National Insurance Gazette*, September 19th, 1914.

could not be justified on a purely commercial basis. It is, however, difficult to insist on the adoption of a scale of charges which would be quite proper if the payment of all accounts could be guaranteed, at a time when pharmacists in many parts of the country are having to submit to the discounting of their bills by considerable percentages. If the Panel Committees give this matter the attention it deserves and use with judgement and determination the machinery which the Regulations provide for the checking of over-prescribing in every insurance area, we believe that the average cost of drugs and appliances in a normal year would be found to be well under 2s. a head, without any detriment to the insured persons. An irresistible case could then be made out for a revision of the tariff on a strictly commercial basis. We sincerely trust that members of the profession, and particularly members of Panel Committees, will give the circular of the Commissioners and these comments their most careful consideration. The result of action taken on the lines of the Memorandum would inevitably be either that the cost of medicines and appliances would fall below the 2s. limit, or the Panel Committee would be able to demonstrate that the financial provision which has been made under the Insurance Act for drugs and appliances is inadequate. In view, however, of the experience of a considerable number of areas which have shown that the cost can, apparently without any detriment to the insured population, be kept below 2s. and even below 1s. 6d., the conclusion that the 2s. is insufficient can only be reached after each Panel Committee has carried out the checks which are provided in the Regulations.

PROPRIETARY MEDICINES AND THE LAW.

IMMEDIATELY upon the publication of the Report of the Select Committee on Patent Medicines, its findings and recommendations were reproduced in full, and in a subsequent issue we directed the attention of our readers to the "obsolete and chaotic" condition of the statute law in regard to the sale of drugs and poisons as revealed by that report and to the urgent necessity for "radical review and drastic amendment" of our pharmacy legislation. We briefly referred to some of the principles which have been regarded as underlying the restriction by law of the sale of medicines—proprietary, patent, and other—and we did not underestimate the formidable nature of the opposition with which huge vested interests would be ready to confront the pathway of the reformer.

The British Medical Association may congratulate itself on a striking success. But for its persistent efforts, continued through many years, it is exceedingly unlikely that the Select Committee would ever have been appointed. The statements with regard to the quack medicine trade made by the Association and in the BRITISH MEDICAL JOURNAL have been fully borne out, and a most important part of the inquiry and report of the Committee followed the line indicated by the articles on secret remedies published in the BRITISH MEDICAL JOURNAL, and subsequently collected into the two volumes, *Secret Remedies* and *More Secret Remedies*, published by the Association, many issues of which were quickly exhausted.

A comparison of British law with that of our allies on the Continent made by the Committee is illuminated by a striking instance: The Committee states of the American Macaura, who is alleged to have made £60,000 by his recent campaign in England, on behalf of an alleged vibratory cure for innumerable ailments, that "for the same procedure in Paris he has just been sentenced to three years' imprisonment and a fine of £120."

The Committee is convinced that the proprietors of the better-class newspapers would welcome a drastic suppression of suggestive or improper advertisements, but as regards "advertisements of swindlers like Macaura, the 'eye quacks,' the 'deaf quacks,' the cancer curers, the consumption curers, the electric belt makers, the curers of rupture without operation, or 'fakirs' generally," it finds that most newspaper proprietors do not regard it as incumbent upon them to inquire into the good faith of those who puff their wares, and, indeed, believes that the valuable consideration received in some cases leads to newspaper proprietors excluding from their columns criticisms or discussions of secret remedies. On this point the Committee says: "When the British Medical Association, for example, issued their volume, entitled *Secret Remedies*, containing analyses, costs, etc., of a large number of proprietary medicines, not only was the volume not noticed editorially by most papers, but even an advertisement of it was declined by many journals, some of them of the highest class." The Committee prognosticated that in obedience to the same tenderness towards advertising quackery its own findings would not be likely to enjoy what is commonly known as a good press. Even apart from any such motive, we fear that the preoccupation of journalism by the war will preclude that publicity which the labours of the Committee in the public interest alike merit and demand. In commenting further upon analyses in *Secret Remedies* issued by the British Medical Association, the Committee says that "it is asserted by expert analysts representing the proprietary medicine trade that no known methods of analysis will enable the composition of many secret remedies to be accurately determined. Consequently, it was claimed, the analyses published in *Secret Remedies* are incorrect in many cases. In one or two instances the makers informed us in confidence of ingredients which the British Medical Association analyst or the Government Chemist had failed to identify. Where there is an undiscovered ingredient, the maker claimed special virtues for it, which he would possibly not do, as one witness suggested, if it were named." The Committee goes on to state that "a large proportion of drugs consists of inorganic substances, or compounds of inorganic with organic substances. Practically all of these are recognizable, and so far as concerns the inorganic substances themselves, determinable—that is, not only the substance recognized but also its quantity determined—by competent analysis. A further group consists of manufactured compounds, and these are practically all recognizable by analysis, even in somewhat complex mixtures. There remains a group of vegetable extracts, of which dandelion and gentian are familiar examples. But even simple vegetable extracts are really highly complex bodies, and the exact composition of these is still unknown to chemistry. Unless one of these, therefore, possesses a marked smell or taste, or if, possessing such, its smell or taste is masked by the greater smell or taste of some other similar substance, it cannot in many cases be specifically identified. The difficulty of identification, moreover, increases rapidly in proportion to the number of such extracts in a mixture, and when a large number, say eight or ten, are mixed together, even separate detection is impossible, and accurate

determination out of the question. What is relied upon, however, in vegetable extracts for medicinal effect is often an alkaloid or mineral constituent, and these can be accurately discovered and determined. Further, sub-groups of this group possess in common an active principle which can be recognized, and which serves to identify the substances of the particular sub-group. For example, emodin is said to be the active principle of rhubarb and half a dozen other vegetable extracts."

The Committee draws from these considerations the general conclusion that "any maker of a secret remedy, by mixing together, whether with or without scientific or therapeutical knowledge, a number of vegetable extracts, can truthfully state that the composition of his remedy cannot be discovered by analysis. A mixture of tinctures, infusions, decoctions, or extracts of such familiar yet complex bodies as treacle, honey, aloes, cinnamon, liquorice, linseed, coltsfoot, cubebs, pepper, horehound, ginger, gentian, dandelion, rhubarb, saffron, etc., may defy all chemical, microscopic, spectroscopic, olfactory, or physiological analysis. While a mixture, therefore, may have a therapeutical value, it may also be made to defy the analytical exposure of a fraudulent claim of therapeutical value. There are thus distinct limits to analysis, but in practice these limits are narrower than would appear, for in a large majority of cases the essential nature of the principal constituents of any medicine can be detected with almost perfect certainty, and determined with reasonable accuracy, given skill, time, and a sufficient quantity of material."

Even where scientific analysis has done its best, it is undoubtedly the case that many organic compounds, especially the admixture of vegetable extracts, defy identification and isolation by the chemist, and it is not always possible to assert with accuracy the precise constituents of some much vaunted specific; moreover, these secret remedies have a knack of changing their names while maintaining their composition, or of changing their composition while maintaining their names. Thus the Committee states that "Acetanilide is sold as 'antikamnia,' 'ammonol,' 'antitoxine,' and 'phenalgin.'" The Committee goes on to state: "'Powell's Balsam of Aniseed' was repeatedly proved in courts of law to contain morphine. It now contains none. The same is true of 'Mrs. Winslow's Soothing Syrup.' The formula of 'Pond's Arthriticus' was said to be altered by the addition of potassium bromide and salicylic acid. The powders in one packet of 'Steedman's Powders' varied in weight from 1.9 to 4.5 grains. Sir Joseph Beecham informed us that 'Beecham's Cough Pills' at one time contained morphia, as that was considered to be a necessary medicinal ingredient; that when the law compelled the word 'Poison' to be put on the wrapper of preparations containing morphia, the morphia was taken out of the pills; then so small a quantity was put in again that it was 'comparatively innocuous or perfectly innocuous,' and therefore did not need to be labelled poison. That is, a potent drug was put in this remedy, taken out, and put in again, without regard to its medicinal effect, but solely because of the legal conditions under which it could or could not be sold."

It will probably be a revelation to many members of the public, though not to our readers, that several of the much advertised medicated wines are as rich in alcohol as are port and sherry. The Committee states that "the recommended dose of 'Wincarnis' equals one wineglassful of whisky per day." The Committee is satisfied that "there can be no doubt that many persons acquire the 'drink habit' by taking these wines and preparations, either knowing that they are alcoholic—since they can be purchased and consumed without giving rise to the charge of 'drinking'—or in ignorance that they are highly intoxicating liquors." Some years ago a Parliamentary Committee, considering legislation in regard to inebriety, secured an enlargement of its reference in order to report upon the nature and composition of the much-vaunted secret remedies for inebriety and drug addiction. The Committee, however, instead of exhausting its extended reference, appears to have been exhausted by it, and to have given up the attempt to handle this very delicate question in any effective way. That such remedies should have been patronized and puffed by some whose smug propriety would be scandalized by the mere suggestion of transgression of the canons of orthodoxy, bears testimony to the fact that the fascination of the unknown lies at the bottom of the success of the empiric.

Sir Henry Norman's Committee very properly dilates upon the folly and danger incident to the treatment of symptoms rather than of causes, and gives a short list of examples of "Fraudulent Claims" to cure diseases such as Bright's disease, cancer, syphilis, and consumption. One of the Committee's recommendations is that the advertisement and sale of medicines purporting to cure such diseases should be prohibited.

We would urge all those who at the proper psychological moment are ready to bring the necessary pressure to bear upon the appropriate Government departments with whom the initiation of such legislation will rest, to study attentively the valuable report of the Committee on Patent Medicines * and the conclusions at which it has arrived as the result of some two years' study of the question and the examination of witnesses, representatives of all the rival interests concerned.

A SANITARY ORGANIZATION IN BEING.

In an article published on September 12th, briefly discussing the steps which could be taken to guard the health of the Territorial and new forces, we commented on the circular of the medical officer of the Local Government Board, which did not seem to us specially well calculated to have the effect so ardently desired by all who are acquainted with the history of our previous warlike operations. A week later we again dwelt on the great need for prompt concerted action to safeguard the health of the many thousands of the Territorial Force who have been mobilized and the very large number of recruits who are enlisting in the regular army. Already, according to the recent statement of the Under-Secretary of State for War in the House of Commons, there are 200,000 men being drilled—100,000 at Aldershot, where, as we have been able to note, careful precautions are being taken under the direction of experienced officers of the Royal Army Medical Corps, and another 100,000 distributed in ten camps in various parts of the country. Very shortly these numbers will be doubled or trebled. The importance of the subject compels us to deal with it once more and to state in more detail the measures which we believe to be necessary.

So far as the regular army is concerned the services of the Royal Army Medical Corps suffice to provide

* Report from the Select Committee on Patent Medicines. London, Wyman and Sons; Edinburgh, H. M. Stationery Office; Dublin, E. Ponsonby. 1914. 5d.

the advice to commanding officers which is needed for the army which has gone abroad. The same to a very considerable degree may be said of the sanitary staff of the Territorial Force employed on foreign service. This is the best that can be done. The Royal Army Medical Corps is well trained in hygiene and will make the best of conditions which exist, wherever they may be serving. The sanitary officers of the divisions of the Territorial Force are for the most part experienced medical officers of health and will without doubt be able to render most valuable service. We stated, however, that when the military sanitary service (Territorial Force) was instituted the original idea was that the sanitary officers whose services would be available on mobilization would each be able to advise and direct in his own locality. This expectation has not been realized. Only exceptionally would the sanitary officers have the local knowledge required for the divisions which to a large extent would be operating outside the areas known to them. What is undoubtedly wanted is an organization which would make the local knowledge of medical officers of health available for military purposes.

Upon investigation of the sanitary conditions in London, we have ascertained that a very complete organization exists for the supervision of the health of the troops and of the localities occupied by them. This organization, we gather, is headed by the late medical officer for the county of London, who has the willing assistance of the medical officers of health of the various metropolitan boroughs, each of whom is responsible for the supervision of the general sanitary arrangements for the troops within the area with which he is familiar in ordinary times. We understand that these medical officers are in immediate communication with the commanding officers of the various bodies of troops scattered in each area, and communicate to these officers any suggestions or recommendations which their sanitary training tells them to be necessary. In addition, according to the information at our disposal, they report at regular intervals to the head quarters of the district upon matters which come to their notice from time to time. With regard to the nature of their investigations and of the duties they have accepted, it would appear that they inquire into the accommodation provided, the supply of food, its cooking, and the feeding arrangements generally, and as to latrines, urinals, means of ablution, and the removal of refuse.

The duty of giving effect to the recommendations of the medical officers serving in any capacity with military forces should be impressed on commanding officers. The duty is clearly laid down in the King's Regulations for the army; and, as regards the Territorial Forces, the paragraph in the Regulations is as follows, that: "Medical officers are charged with advising general and other officers commanding, who will incur grave responsibility if such advice is neglected without adequate reason." We believe that commanding officers are, as a rule, very ready to remedy defects brought to their notice; and every soldier, whatever his rank, from the private upwards, must be taught his individual obligation in sanitary matters. But in a large organization like an army individuals cannot think and act independently for themselves; they must be told what to do and how to do it, and constant vigilance must be exercised by officers of all grades and branches of the service to see that there are no breaches of discipline in this respect. But a special responsibility rests on medical officers, and in the existing crisis it is shared by the medical officers of the civilian public health service.

It seems to us that the sanitary organization which we learn exists in London for safeguarding the health of the Territorial and new forces within the area meets the requirements of the present situation. It is one which we may hope to see extended in principle throughout the whole country. While saying this we quite recognize that the conditions in London are special, and particularly favourable to the success of such a co-ordinated scheme. The civil sanitary service is highly organized, and its officers have had long experience in dealing with large agglomerations of population, and adequate staff and machinery for meeting the difficulties by which such agglomerations must always be attended. In rural districts it may not be easy to establish with the necessary speed a system for safeguarding the health of large bodies of recruits. It has been suggested to us by an eminent member of the public health service that the counties should be the units for the organization of an efficient working scheme of co-operation between the existing civil public health officers and the home military forces. In some instances, we understand, lord-lieutenants have felt it incumbent on them, as the local representatives of the Crown, to take up the task of guiding into useful channels the boundless good-will displayed by people of all ranks and callings in this day of trial. The organization of efficient sanitary control of recruiting centres and camps of training will, we trust, not fail to command their attention.

ENGLISH UNIVERSITIES AND LOUVAIN.

For the time Louvain has virtually ceased to exist as a university. It is a noble testimony to the solidarity of letters—at least as far as places of learning outside the sphere of German culture are concerned—that the great universities of England have come to the help of their afflicted Belgian sister. It was announced in the *Times* of September 12th that a committee of ladies and gentlemen connected with the University of Oxford had been formed, with the approval of the Belgian Minister, for the purpose of offering hospitality to professors of the University of Louvain and their families. The committee consists of the Vice-Chancellor (Dean of Christ Church), the Principal of Brasenose College, Sir William Osler, Mrs W. Max Müller, and Miss Price. Through the American Minister at the Hague the Professors of Oxford University have offered a home for the winter to the young children of the professors of Louvain. Cambridge for its part has offered itself as a temporary substitute for their *alma mater* to the students of the wrecked university. It has placed at the disposal of the teachers and students who are in an academic sense left homeless, the use of its libraries, laboratories and teaching equipment, so that the continuity of their work may be maintained. In fact it has invited the University of Louvain to migrate to Cambridge and there carry on its own separate studies granting its own degrees, and generally continuing its activities as if its own buildings had not been destroyed. Efforts are being made to arrange hospitality, in the way of living accommodation and so forth, by the individual colleges and by private persons. The academic staff of University College, University of London, are prepared to receive as guests about seventy members of French and Belgian universities, whether professors, teachers, or students, men or women, who may be driven to take refuge in this country. Special arrangements will be made for students of these two nationalities to continue their work in London.

A FAMOUS LOUVAIN STUDENT.

ANDREAS VESALIUS, the most famous of the many famous students and teachers of Louvain, was born at Brussels on the last day of 1514. It had been arranged that an official celebration of the quatercentenary of his birth should be held in the city of Brussels in December next, and a committee, appointed by the University and presided over by the Burgomaster, had decided that one part of the commemoration should be the publication of a *Liber Memorialis*. The first part of this, extending to about two hundred pages small quarto, was to be devoted to the iconography of Vesalius. His features have been reproduced by a great number of painters, sculptors, and medallionists—several of them illustrious artists. As in the case of other celebrities—notably Shakespeare and Queen Mary of Scots—the portraits differ so greatly that they can hardly be accepted as representing the same person. In the Basel portrait, for instance, the great anatomist is represented with fair hair; in the one at Munich with black hair; in that at Glasgow with dark-brown locks, while in the Padua portrait the hair is red. There is one portrait of Vesalius which is generally regarded as authentic; it forms the frontispiece of his great work *De Humani Corporis Fabrica*, published in 1543. In the *Liber Memorialis* all the portraits and likenesses that could be obtained from Louvain, Brussels, Basel, Padua, Amsterdam, Munich, Florence, Glasgow, London, Paris, Oxford, Vienna, Marseilles and other universities and museums, are reproduced in phototype. Each portrait is accompanied by a note giving all information about it and critically studying its origin and history. The author is Mr. M. H. Spielmann, of London, the well-known art critic who has made a special study of the portraits of Shakespeare. The second part of the book is devoted to the biography of Vesalius; all the legends that have gathered about his name are related and their sources critically examined. M. Paul Faider, professor at the Athénée of Mons, has translated the introduction written by Vesalius himself for his book; Professor Desmarez, archivist to the city of Brussels, has made researches on the authentic documents possessed by the library, in which he has found interesting information regarding the youth of Vesalius and the part played by him at the Court of Charles V, to whom he was physician-in-chief, and whom he accompanied on some of his campaigns. Professors Paul Héger, H. Leboucq, and A. Brachet have dealt with the scientific work of Vesalius. The *Liber Memorialis* will thus constitute a magnificent homage to the memory and work of the Luther of anatomy. According to the *Journal Médicale de Bruxelles* of July 23rd, it was then in the press, and was to be published in December. But how much has happened since then! *Inter arma silent leges*, and still more is this the case in regard to literature. We fear it is not likely that the *Liber Memorialis*, even if it has escaped destruction at the hands of the modern apostles of culture, will see the light at the appointed time.

PASTEUR AND HIS GERMAN HONOURS.

A NUMBER of German professors, out of hatred for this country, are giving up honorary degrees received from British universities, though there seems to be some difference of opinion among these great exemplars of culture as to the propriety of this particular way of expressing patriotic indignation. This recalls the fact that Pasteur, who was the son of one of Napoleon's veterans, resigned a German honorary degree in January, 1871, when the Paris Museum of Natural History, which till then had been respected by "all parties and all powers, national or foreign," was bombarded by the Prussians. In 1868 the University of Bonn had conferred on Pasteur the degree of Doctor of Medicine on the ground that "by his very penetrating experiments he had much contributed to the knowledge of the generation of micro-organisms, and had happily advanced the progress of the science of fermentations." He was very proud of this degree till the act of vandalism directed against the museum stirred him to fierce indignation, not only as a patriot, but as a man of science. On January 18th, 1871, he wrote to the Rector of the University, and after recalling his former sentiments he went on: "Now the sight of that parchment is odious to me, and I feel offended at seeing my name, with the qualification of *Virum clarissimum* that you have given it, placed under a name which is henceforth an object of execration to my country—that of *Rex Guilelmus*. While highly asseverating my profound respect for you, Sir, and for the celebrated professors who have affixed their signatures to the decision of the members of your Order, I am called upon by my conscience to ask you to efface my name from the archives of your Faculty, and to take back that diploma, as a sign of the indignation inspired in a French scientist by the barbarity and hypocrisy of him who, in order to satisfy his criminal pride, persists in the massacre of two great nations." Pasteur's protest ended with these words: "Written at Arbois (Jura) on January 18th, 1871, after reading the mark of infamy inscribed on the forehead of your King by the illustrious director of the Museum of Natural History, M. Chevreul." "This letter will not have much weight with a people whose principles differ so totally from those that inspire us," said Pasteur (quoted in his *Life* by Vallery-Radot), "but it will at least echo the indignation of French scientists." The reply was so characteristic that we think it interesting to quote at the present time: "Sir, the undersigned, now Principal of the Faculty of Medicine of Bonn, is requested to answer the insult which you have dared to offer to the German nation in the sacred person of its august Emperor, King Wilhelm of Prussia, by sending you the expression of its *entire contempt*.—Dr. Maurice Naumann. P.S.—Desiring to keep its papers *free from taint*, the Faculty herewith returns your screed." In acknowledging this courteous communication, Pasteur said: "I have the honour of informing you, Mr. Principal, that there are times when the expression of contempt in a Prussian mouth is equivalent for a true Frenchman to that of *Virum clarissimum* which you once publicly conferred upon me." After invoking in favour of Alsace-Lorraine, Truth, Justice, and the laws of humanity, Pasteur added in a postscript: "And now, Mr. Principal, after reading over both your letter and mine, I sorrow in my heart to think that men who like yourself and myself have spent a lifetime in the pursuit of truth and progress, should address each other in such a fashion, founded on my part on such actions. This is but one of the results of the character your Emperor has given to this war. You speak to me of *taint*. Mr. Principal, taint will rest, you may be assured, until far-distant ages, on the memory of those who began the bombardment of Paris when capitulation by famine was inevitable, and who continued this act of savagery after it had become evident to all men that it would not advance by one hour the surrender of the heroic city." These words remain as true as they were when they were written. The temper and manners of the German professor and the brutality of the German soldier have not been softened by nearly half a century of further culture.

QUACKS AND THE WAR.

THE war seems to have stimulated quack medicine vendors to make special efforts to attract public attention by way of advertisement. An attempt is made to give a warlike tinge to the customary nonsensical claims, and the testimonials seem to be doubly prized if they have a military air. It might have been thought that at this great crisis in our history newspaper proprietors would have been chary of devoting columns to blazoning forth the impossible claims of some panacea of the same class, if not of the

same name, as those exploded with a pungency which a mere journalist can only envy and admire, by the Select Committee on Patent Medicines. But advertisements these times are hard to come by, and what is a newspaper manager to do if butcher, baker, and candlestick maker, and even Edwin and Angelina fail him? Paper is dear, editions many, and the moratorium is not an unmixed blessing. But even the harassed manager ought to draw the line somewhere, and we venture to suggest that he should draw it on the hither side of advertisements which may injure not merely the individual soldier, but the army of which he is a member. To advise a soldier to doctor himself is something worse than commercial recklessness, and when it comes to recommending him to drug himself for diarrhœa it is much worse, for typhoid fever, dysentery, and other diseases which first manifest themselves by this symptom are the scourges of armies. Any man so affected should be encouraged to go at once to his medical officer and not privately to take some sedative that will merely suppress the symptom for a time, during which the infection may be disseminated among his comrades. Men who at this time, for the sake of a few sovereigns in hand, spread such pernicious doctrine broadcast should realize that an appeal made later to the benevolent public for a fund to treat and nurse sick soldiers who have been rendered useless to their country by disease will not undo the mischief or redress the balance against them.

AN AMBULANCE COLLEGE.

A large gathering held at the Polytechnic, Regent Street, on September 9th, for the purpose of making a presentation to Mr. James Cantlie, ended in the foundation of a new institute. Dr. George Cathcart said that he had been approached by a number of those attending classes at the Polytechnic in regard to the presentation to Mr. James Cantlie of a suitable testimonial in acknowledgement of the enormous amount he had done, and was still doing, in connexion with ambulance work. He had been the embodiment of ambulance work in this country for well-nigh forty years. He had raised by his own initiative and exertions the Volunteer Medical Staff Corps, which had afterwards developed into the magnificent ambulance department possessed by the Territorial army. Both in connexion with the St. John Ambulance Association and with Red Cross work as a whole his exertions had been titanic. Dr. Cathcart was followed by Mr. T. H. Stanley, who, after further allusion to Mr. Cantlie's work and his capacity for infecting others with his own enthusiasm, said that their appreciation of his labours on behalf of the sick and suffering could not be better shown than by falling in with his wishes that any testimonial presented him should take the form of the foundation of an institution that he had at heart. The character of the proposed new institution was subsequently explained by Mr. James Cantlie himself. From what he said, the plan would appear to be that the new institution shall be a school or college for the study and teaching of ambulance work in its more scientific phases; that it shall be possessed of working models of every kind of appliance used in ambulance and first-aid work, both in war operations and in civil life; that it shall hold classes of instruction for medical men in ambulance work, drill, and the improvisation of appliances, as also classes for the officers of Voluntary Aid Detachments, and place its resources at the disposition of those who wish to study the general subject thoroughly; that it shall issue a diploma representing really advanced knowledge, crediting those already holding certificates in first-aid work from other bodies with a certain number of marks at the examinations to be held for the diploma. Apart from its educational work, the college will serve as the head quarters of a new body bearing the name Humanitarian Corps; the aim of this body will be to afford first aid not merely to those suffering from street accidents, or bullets of an enemy, but to any and every one standing in need of instantaneous help, whether physical or moral. On conclusion of Mr. Cantlie's address it was unanimously resolved that the testimonial to him, in recognition of his lifelong devotion to ambulance work, should take the form of a sum of money towards the foundation of the College of Ambulance and the Humanitarian Corps to render "First Aid to the Needy." Before the gathering separated Mr. Cantlie stated that Mr. Boyton, M.P. for Marylebone, had generously placed Nos. 3 and 4, Vere Street, at the disposal of the institution, free of rent for twelve months. The secretary of the new institution is Mrs. Colin Macdonald.

A TROPICAL INSTITUTE OF MICROBIOLOGY.

An institute of microbiology has recently been established in New Caledonia. It is intended for research work on the prophylaxis of infectious and parasitic diseases, endemic or epidemic, which might attack the colony. Among the duties specified by the Governor in the regulations for its working are the preparation of small-pox vaccine, of the antiplague vaccine, and of antimurin, and other viruses for the destruction of rats and mice. The institute will also study the special prophylaxis of leprosy, and supply such serums as may be needed in medical practice. It will also make all analyses connected with the health of the troops asked for by the military authorities.

We have on several previous occasions mentioned that the Library of the British Medical Association did not possess a set of the *Transactions* of the Seventeenth International Congress of Medicine held in London last year. In response to these notifications several volumes were presented, and the Librarian now has pleasure in acknowledging the gift from Dr. John Patrick of Glasgow of the records of the Section of Medicine, vols. i and ii complete. The Library has now received nine volumes in all—namely, those dealing with Sections VI, VII, VIIa, part ii, XIII and XXIII, and the General volume. The Librarian will be grateful for any of the remaining volumes.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Separation Allowances to Soldiers and Sailors.—On September 17th the Prime Minister announced that with regard to separation allowances for the army it had been decided for the period of the war to adopt a scale based on a minimum, inclusive of compulsory allotment, of 12s. 6d. a week with consequential increases. He said that the new scale would compare with the old as follows:

Wife, 12s. 6d., as compared to the present scale of 11s. 1d.

Wife with one child, 15s., as compared to the present scale of 12s. 10d.

Wife with two children, 17s. 6d., as compared to the present scale of 14s. 7d.

Wife with three children, 20s., as compared to the present scale of 16s. 4d.

Wife with four children, 22s., as compared to the present scale of 17s. 6d.

The London allowance of 3s. 6d. remained unaltered subject to the present condition.

The machinery of the Old Age Pensions Committees would be utilized for the purpose. The scale would apply to all men, Territorials and new recruits, directly they were embodied and separated from their wives. It had been decided to grant separation allowances to wives and children of men serving in the navy, conditional on the minimum allotment being made. The allowances would be paid weekly through the post-office, and would date from October 1st, but, owing to administrative difficulties, it might not be possible to make payments on the new scale until October 12th. The Prime Minister promised that the details of the scheme would be announced as soon as possible.

A Parliamentary White Paper issued on September 22nd gives particulars of the new separation allowances for the dependants of seamen, marines, and reservists. No separation allowance will be paid unless the seaman makes an allotment of 20s. a month to his wife out of his pay. Subject to this proviso the following scale has been approved:

In the case of an ordinary seaman the wife will receive 6s. per week, with 2s. a week for the first child, 2s. for the second child, and 1s. each for other children. Motherless children will receive 3s. a week each. This is the scale for privates, corporals, and sergeants. In Class II, colour-sergeants' wives will get 7s. a week. In Class III, the wives of quartermaster-sergeants and staff sergeants will receive 8s., while in Class IV the wives of warrant officers will receive 9s. The allowances for children are the same in all cases. The term "children" includes boys under 14 and girls under 16. Families now residing within the London postal area will receive an additional allowance of 3s. 6d. a week.

Hospital Accommodation. — Sir Charles Henry asked whether, in order that the accommodation of hospitals and infirmaries might be available as far as possible for the reception of civilian patients, the War Office, before sending wounded soldiers to these hospitals and infirmaries, would avail themselves of those hospitals which had been specially equipped and were ready for the reception of the military patients.—The Under-Secretary of State for War said that the War Office was making every effort to prevent military exigencies from interfering with the needs and comfort of the civil population. No institutions under the control of the Local Government Board had been utilized for the accommodation of military patients, and none would be used to the detriment of the poor of the districts. Beds in civil hospitals used for the sick and wounded from overseas had been voluntarily placed at the disposal of the War Office by the authorities of the hospitals, and no demand had been made for the use of beds which might possibly be required for the civilian population. The War Office was availing itself of specially equipped hospitals provided by the generosity of private individuals; altogether about 12,000 beds had been offered.

New Camps for Recruits.—On September 17th, Sir Ivor Herbert, immediately before the adjournment of the House, asked for some statement to relieve the public anxiety with regard to the treatment of recruits. Briefly stated the complaints were, he said, that there was no proper feeding, no accommodation, leading to overcrowding, no sufficient sanitary arrangements, no means of washing, no clothing, and no other necessaries. Finally, as there was no pay, a man had no means to provide these things for himself. Mr. Arthur Henderson associated himself with Sir Ivor Herbert in the complaint, and while making the fullest allowance for the strain which had been placed on the War Office, he asked that the organization should be such that great groups of men should not be placed at Aldershot, and there exposed to inconvenience and annoyance to themselves, and to the pain of having to carry in their memories the sufferings imposed upon those left at home.—Mr. Tennant said that the War Office had opened ten large new camps at Salisbury, Ottery St. Mary, Tring, Shoreham, Shorncliffe, Lulworth, Wool, Wareham, Bulford, and Grantham. All were equipped with tents and a blanket was served out to each man. It was hoped soon to give another, and in the winter possibly three. The ten camps would accommodate approximately 100,000 men, and there were 100,000 at Aldershot. Most of the tents were now supplied with boards below and others had waterproof sheets. There was, he said, no difficulty about food; there was a plentiful supply of the best food.

Hutting for Troops.—In reply to Mr. C. Bathurst, who asked whether huts were being constructed for the use of troops now under canvas in Great Britain, the Under-Secretary for War said that hutting for some 490,000 men in addition to many Territorial troops had been ordered. The numbers required for the Territorials would depend upon the possibilities in each place of utilizing available public buildings. The first lot of huts at Belton Park would be ready for occupation by September 25th; it was unlikely that all would be ready before the end of November.

THE WAR.

MEDICAL ADMINISTRATION IN THE TERRITORIALS.

BACTERIOLOGICAL DIAGNOSIS: ANTITYPHOID INOCULATION.

IT is one of the merits of the scheme of the Territorial Medical Service that medical men engaged in all departments of practice hold commissions in it. The system, no doubt, has certain drawbacks, but it has compensating advantages, and by making judicious use of the special aptitudes and training of the various officers much good may be done. We understand that the principal medical officers of some of the larger bodies in which the Territorial Forces are assembled have found it advisable to make arrangements to take advantage of special knowledge possessed by regimental medical officers for the advantage of the whole command. We know of at least one instance in which the principal medical officer has found among the officers in his command juniors trained in modern methods of bacteriological diagnosis, and has seen the wisdom of arranging that their services should be available in the diagnosis of doubtful cases occurring in any unit in the force. The importance and value of such specialist assistance are well recognized in civil life, and they are, if possible, even more important under military conditions. It is very satisfactory to know that the situation has been grasped at an early stage by senior Territorial medical officers, whose responsibilities for the health of these troops are so serious.

With regard to typhoid inoculation, we understand that in some instances a similar system has been introduced, and special inoculators have been selected from among the medical officers available in the command. In other instances this has not been found necessary, or indeed, for reasons indicated by a correspondent in our last issue (p. 517), always desirable.

It appears from the statements of Ministers in the House of Commons, and from the letter of Sir William Leishman, published last week, that it has been finally decided not to make antityphoid inoculation compulsory in the British forces; but from the information which reaches us it is to be gathered that the men generally understand the value of the protection the process confers and are readily taking advantage of the offer made to them. In some commands we understand that over 90 per cent. have already been inoculated or are awaiting their turn, and Sir William Leishman, indeed, anticipates that the voluntary response will be almost universal. This has been brought about through the influence of regimental medical officers, helped by the example set by the other regimental officers.

THE HOSPITALS AND THE WAR.

A NOTE ON THE CONDITION OF THE WOUNDED FROM THE FRONT AT THE 2ND EASTERN GENERAL HOSPITAL (BRIGHTON).

OF the 300 cases admitted on September 1st from France about 250 were of a surgical nature. The men, the great majority of whom were wounded at the battle of Mons, had come down to Rouen by road, and were there transferred to boat, which took them to Southampton; they had been brought on by train from the latter place. In spite of this rather trying journey, most of them were in very good condition when they arrived.

Of the medical cases very few were serious. Most of them were quite simple, the patients suffering from such affections as "rheumatism," bronchitis, pleurisy, or diarrhœa. Of the cases of "rheumatism," the greater number were in the feet, and occurred in reservists. Probably the heavy marching undergone by men unaccustomed to it, in combination with the dampness of the ground over which they passed, is accountable for this. There is also the probability that in many of these cases there was a gonorrhœal element.

Among the surgical cases wounds were most numerous. Those sent on to Brighton were the least serious, the very severely wounded men being detained at Netley or some hospital close to the port of landing. The wounds were

much more commonly caused by shrapnel or shell than by rifle bullets. Many more occurred in the legs than in other parts of the body.

In those examples in which the embedded bullet was causing no symptoms, the patient was not operated on, but if symptoms were being caused, such as pain, swelling, suppurating sinuses, etc., operation was undertaken for their removal. Before operation *x* rays were used to locate the bullet exactly, and usually this made its ready removal possible. In some cases, however, even after the location by means of *x* rays, operation failed to find the piece of lead, an experience which has unfortunately happened to most surgeons.

The following are some typical examples of bullet wounds:

Shrapnel Wound of the Thigh.—It was decided to remove the piece of shrapnel left in the thigh because it was causing a good deal of boggy indurated swelling in the upper part of the front of the thigh. A good-sized round bullet was seen in an *x*-ray plate, close to the great trochanter. This was cut down on, but after a careful exploration the bullet could not be found. The man was very muscular and the bullet was deeply seated. Probably the incision into the indurated swelling (there was no pus) will relieve the condition, and nothing further will require to be done.

Bullet Wound of Lung.—This patient was shot in the back, the bullet passing right through the lung, and remaining in the front part of the chest, just over the ribs. Haemorrhage from the lung occurred just after the wound was received. When the patient was admitted his condition was as follows: His general tone was good, appetite healthy, but his temperature kept at about 100° F. There was a piece of shrapnel to be felt on the third rib in front; it was contained in a small superficial suppurating cavity. There was also a large empyema in the left pleura. The bullet was extracted, and the superficial abscess drained. A little later it is intended to treat the empyema by drainage and resection of rib.

Wound of Lower Part of Thigh: Secondary Haemorrhage.—This patient was hit by a bullet which passed right through the lower part of his thigh. All went well till about a fortnight later, when he had been in the hospital four days. After some slight exertion blood poured very freely and rapidly from the wound of exit. This was temporarily stopped by pressure on the main artery. The wound was opened up and, with a good deal of difficulty, the bleeding end of the vessel (the anastomotica magna) found and tied. This is the only case, so far, of secondary haemorrhage.

Bullet Wound of both Upper Jaws.—This man was hit by a rifle bullet, which passed through one cheek and upper jaw and then through the other upper jaw and cheek. When admitted he had two large foul ulcerating cavities in the mouth, one in each upper jaw. Several teeth were extracted, and his mouth kept clean with peroxide lotion. He is rapidly getting well. Several small pieces of dead bone have come away.

Fracture of Larynx.—A man fell 60 ft. over a cliff, bruised himself all over, but broke no bones. His neck swelled very considerably, and he had respiratory trouble. The swelling was caused by surgical emphysema. With simple treatment he is improving considerably.

Acute Mastoiditis: Meningitis: Death.—The man was admitted with a temperature of 103° F. and rheumatic pains in the wrist and ankles, and he was at first supposed to be suffering from acute rheumatic fever. He was found to be suffering from discharge from one ear. As the ear symptoms increased, the mastoid was explored and cleared; the lateral sinus was opened, but found quite patent. He died quite shortly afterwards with signs of meningitis.

Up to the present the operations performed are as follows: 2 for appendicitis; 2 for removal of cartilage of knee; 12 for extraction of bullets, in all of which, except one, the bullet was found; 1 for radical cure of hernia; 1 for pyelitis—20 in all. Several cases are still waiting, many of them for removal of bullets, several of varicose veins.

It is surprising how few of the bullet wounds were septic. Most of them had either quite healed or were well on the way to it, before admission.

The general impression given from a survey of the whole cases is that a very large proportion, about 30 per cent., were really quite trivial cases, which required no treatment, and which need never have been sent to this hospital at all, had any means existed by which they could have been sent straight to their own homes on furlough, before rejoining their regiments.

MANCHESTER AND SALFORD.

No fewer than fourteen members of the staff of the Manchester Royal Infirmary have either been called up or have volunteered for active service in the war, and, though some difficulty was experienced at first in filling their places, the board has been able to take advantage of the fact that the infirmary is a large medical school, and a number of senior men have been obtained to undertake the duties of the absentees. The offer of the board to set aside 50 beds immediately, to be increased to 200 if necessary, for the treatment of wounded soldiers and sailors, has been gladly accepted by the army and navy authorities. The first contingent of wounded from the front, numbering 125 men, arrived in Manchester last Sunday. They had crossed from France to Southampton by the hospital ship *Asturia*, and were met at London Road Station by a numerous staff of doctors and nurses, who supplied them with tea, soda water, and light refreshments. A number of Red Cross vans, police ambulances, and motor cars were in waiting, and they were all quickly removed to the Whitworth Street Military Hospital.

At the Salford Royal Hospital the vacancies caused by members of the staff who have volunteered for active service have been filled up, and the ordinary work of the hospital is now going on as usual. The board offered to provide from 60 to 100 beds for the wounded, and this has been accepted, while a further number of beds is kept in reserve to be used if necessary.

From both hospitals a considerable number of nurses have been accepted for service. Fifteen of the infirmary nurses were sent to military hospitals soon after war was declared, and since then two others have gone to Chatham and two to hospital ships, while five who went to the front were last heard from at Rouen. Several others are still awaiting orders. From the Salford Hospital four nurses volunteered, and two of them are now at the front, while two are on duty at the Whitworth Street Military Hospital. The boards of both hospitals have recently received a letter from Queen Alexandra thanking the matrons for the response made to the appeal for nurses, and expressing grateful appreciation of the prompt and untiring trouble taken in selecting them and sending them out with the shortest possible delay to the seat of war.

CHARING CROSS.

Considerable numbers of sick and wounded soldiers have been sent this week to various hospitals throughout the country. Charing Cross Hospital now flies the Red Cross flag, and a banner across the street appeals for "Quiet for the Wounded." Here 16 lying-down cases and 20 ambulant cases have been received, and more are expected shortly. Most of the 36 cases are serious, and include some sufferers from rheumatism and pleurisy—an indication of the severity of recent weather conditions at the front. Certain wards at Charing Cross Hospital which have been unused for some years are being thoroughly renovated, and will soon provide beds for 250.

THE BRITISH RED CROSS SOCIETY.

The Society's Organization.

THE British Red Cross Society has moved from Devonshire House to new quarters adjoining the Royal Automobile Club at 83, Pall Mall, S.W. Several floors have been placed at the disposal of the Society, and the extensive accommodation greatly facilitates the work, which is proceeding quite smoothly. The Society is meeting all requirements, and grants of stores have been made to 26 hospitals in Great Britain in which sick and wounded soldiers have been already received. The stores are now very large; up to the middle of September 15,000 pieces of bedding, etc., and over 62,000 garments had been received. Although these numbers may appear large, stocks are becoming rapidly depleted. Sir Alfred Keogh, the Society's Chief Commissioner in France, has telegraphed from Rouen making an urgent appeal for shirts, pyjamas, sheets, pillow-slips, mackintosh sheets, slippers and socks.

Although not connected directly with the work of the Red Cross Society, it may be noted here that the Queen, at the request of Lord Kitchener, has made an appeal to women to supply 300,000 belts, knitted or woven, and 300,000 pairs of socks early in November. The articles or gifts of money should be sent to the Lady-in-Waiting to Her Majesty, and addressed to Devonshire House, London, which the Duke of Devonshire has placed at the disposal of the Queen for the purpose of these gifts. Written instructions can be obtained from the Lady-in-Waiting at Devonshire House.

Search for the "Missing."

The British Red Cross unit at Boulogne is doing admirable work, and has covered nearly the whole of the ground traversed by the British in their retreat towards Paris. This unit has been reinforced by a large number of orderlies and nurses: it employs many motor cars, by means of which practically all the travelling is done. The Society already has 30 motor ambulances on the Continent and hopes to send out 50 more almost directly. With a fleet of 80 vehicles much service can be rendered. In connexion with the work of searching for the "missing," the Society has the advantage of the services of the yacht *Miranda*, lent by Lord Leith of Fyvie.

Hospital at Rouen.

A hospital of from 300 to 500 beds is being established at Rouen and all the personnel has been sent out. The commandant of the hospital is Surgeon-General Kenny, the chief surgeon is Mr. Percy Sargent of St. Thomas's Hospital, the radiographer is Dr. Gouldesborough, and the matron is Mrs. Ludlow, R.R.C., who is well known as the matron of the British hospital camp at Ladysmith.

Rest Stations and Base Hospital.

Rest stations are being established on the lines of communication. The British Red Cross base hospital at Netley will be ready to receive patients at the beginning of October. The commandant is Colonel Sir Warren Crooke Lawless, K.C.B.; the senior surgeon, Mr. Cuthbert Wallace, of St. Thomas's Hospital; and the senior physician, Dr. Miller, of the London Hospital. In connexion with this hospital Lord Brassey has very generously placed the *Sunbeam* at the disposal of the Society.

The Professional Staff.

The Society (Sir Frederick Treves informed a representative of the JOURNAL) is much impressed with the generosity and self-sacrifice of the medical profession in its desire to be of use in the campaign. Many practitioners have given up important appointments and have left lucrative practices in order to help in the care of the sick and wounded. The oldest volunteer who has presented himself at the Society's offices was a hale and vigorous old gentleman of 71, who said he was prepared to work anywhere. Many of the younger surgeons, when they found there was no prospect of immediate employment, enlisted. No women have been sent out (added Sir Frederick) except fully trained hospital nurses. Statements in the lay press that there is a shortage of nurses for Red Cross work are absolutely unfounded, and the proposal that domestic servants out of work should be rapidly trained to nurse the sick is ridiculous. The Society has on its list at this moment 1,500 fully trained hospital nurses.

British Hospital for the French Red Cross.

A hospital unit composed of four women doctors and eight English trained nurses left for Paris on September 15th. It was organized with the approval of the French Red Cross Society, and has had placed at its disposition the Claridge Hotel in Paris. The initial expenditure was provided by private subscription, but all maintenance expenses are to be met by the French War Office. The intention is to provide 80 beds, and to supplement the work of the English staff by a few male orderlies. The surgeon in charge is Dr. Louisa Garrett Anderson, the other members of the staff being Drs. Louisa Woodcock, Flora Murray, and Hazel Cuthbert.

THE DISPOSAL OF SEWAGE IN THE FIELD.

As a result of the collaboration between Mr. James Menzies and Dr. Myer Coplans, Beit Memorial Fellow, working at the Lister Institute, on the problem of the effective disposal of sewage in the field by means of a self-supporting system of destructive distillation, an apparatus has been devised whereby the gases and oils evolved, together with the residual charcoal, are utilized as fuel for the maintenance of the process, which is thus rendered entirely independent of extraneous fuel supply; all problems of fuel transport are thus automatically eliminated. The ammoniacal liquor evolved, which contains organic bases of marked bactericidal and insecticidal value—as tested against flies and *B. typhosus* in the presence of faeces—would seem capable of replacing the coal-tar disinfectants hitherto used in camp sanitation, more particularly for the purpose of maintaining hygienic conditions in field and camp latrines.

The practicability of the apparatus has recently been demonstrated to military and naval representatives in a series of tests conducted on a large scale at Wimbledon Sewage Works, and, as an outcome, the War Office has sanctioned the immediate construction of a suitable apparatus capable of dealing with the needs of 12,000 men in camp.

NOTES.

THE OVERSEAS DOMINIONS.

Canada.

As was briefly stated in the JOURNAL of September 12th, the Toronto Academy of Medicine, at a special meeting held on August 27th, unanimously decided to undertake without charge the medical care of needy dependants of the volunteers. A sum of £200 has been voted from the funds to the Toronto Patriotic Fund to provide for the dependants of those who have gone to the front. A committee of past presidents will arrange to look after the practices of the professional members who have left with their regiments.

From the *Journal of the American Medical Association* we learn that there are about 350 medical officers in the Canadian Militia. Many of these will probably be called on for active duty in the field. Dr. Wallace A. Scott will be in charge of the Army Medical Service of the Toronto branch of the first Canadian contingent. Dr. Irving Howard Cameron, professor of surgery in the University of Toronto, has offered his services to the British Government in connexion with base hospital work.

SORE FEET.

Major J. B. SIMPSON, R.A.M.C.(T.) (attached 5th Seaforths), writes from Golspie, on September 21st, as follows:

Mr. Basil Hughes's thoroughly practical article ("Examination of Recruits of the Territorial Force and their Early Training") in the BRITISH MEDICAL JOURNAL of September 19th, p. 496, deserves to be widely read by all regimental medical officers at present on service. The question of the prevention of sore feet is of extreme importance.

Might I venture to suggest a method for hardening the feet adopted by deer-stalkers and shepherds in the Highlands—that is, take a hot saturated solution of alum in a basin or pail, soak the feet in this for ten minutes, preferably at night? Next morning smear the socks with soft soap. The alum bath need not be repeated more than once or twice. The result is a foot which does not blister readily.

Of course, the provision of properly fitting boots is a *sine qua non*. In some Territorial regiments no service boots are supplied, or at least they have not been supplied up to date. Many men mobilized in August were wearing not their ordinary working boots, but either their "Sunday" boots or new boots; shod in this way, blisters and sore toes were inevitable.

If some of the money which is at present being spent in preparing and equipping private houses as hospitals—we have already, I believe, ample hospital provision without private houses—was given to county Territorial Associations to form a fund for the provision of suitable boots for our Territorials during the coming winter, I am sure a great service would thereby be rendered to the country.

VACANCIES FOR MEDICAL OFFICERS.

Lieutenant-Colonel W. CAMPBELL HYSLOP (Secretary) writes under date September 22nd: In accordance with the orders of the Secretary of State for War, it has been decided to raise reserve units of the Territorial Force. Consequently there are vacancies for a number of medical officers in the Royal Army Medical Corps units of the 1st London Division. These are the 1st, 2nd, and 3rd Field Ambulances, and a sanitary company. Gentlemen who desire commissions should apply by letter, in the first instance, to the Secretary of the City of London Territorial Force Association, Friars House, New Broad Street, E.C.

Dr. JOSIAH OLDFIELD, Major, R.A.M.C.(T.), commanding the 3rd Reserve East Anglian Field Ambulance, states that there are still vacancies for medical men who want R.A.M.C.(T.) commissions, both in the service unit and the field ambulances. He will be glad to receive at the Drill Hall, Walthamstow, applica-

tions from medical men wishing for a commission in the Reserve unit of the 3rd East Anglian Field Ambulance.

NATIONAL VOLUNTEER RESERVE.

We have received the following communication, dated September 22nd:

Sir,—The above Volunteer Reserve has been formed to enable men to be trained as soldiers who through business or family ties are absolutely unable to join the regular forces of the Crown, and it is hoped at no very distant date that the Army Council will recognize this new force as a military organization for home defence. In the meantime it is proposed to proceed with drill, etc.

It is, of course, obvious that to be efficient the force must consist of men who are physically fit and who have passed a medical examination.

The members will give their time and energies for the good of the country, and it is only right that they should not be put to expense as well; indeed, many, of course, will be working men earning small salaries. I am therefore writing to you to ask if any patriotic medical men in London and suburbs who will undertake to examine, free of charge, recruits for the National Volunteer Reserve, will kindly send their names, with qualifications and addresses, to me at Trafalgar House, Waterloo Place, W., in order that a printed list may be given to each candidate for enrolment.—I am, etc.,

ARTHUR TODD-WHITE.
Medical Referee, National Volunteer Reserve Committee.

FURTHER CASUALTIES IN THE MEDICAL SERVICE.

ARMY.

Killed.

Armstrong, Lieutenant A. K., R.A.M.C.
Forrest, Captain Frank, R.A.M.C.
Scatchard, Captain T., R.A.M.C.

Captain Forrest was reported on September 20th as killed in action during the previous week, presumably in the battle of the Aisne. He was educated at Owens College, Manchester, took the diplomas of M.R.C.S. and L.R.C.P. Lond. in 1904, and, after serving as assistant house-surgeon of the North Staffordshire Royal Infirmary and Eye Hospital, entered the army as lieutenant on January 30th, 1906, becoming captain on July 30th, 1909. He had no previous war service.

Wounded.

Dalton, Lieutenant-Colonel Charles, R.A.M.C.
Wyler, Lieutenant E. J., R.A.M.C.

Lieutenant-Colonel Dalton was educated at the Carmichael College, Dublin, took the diplomas of L.R.C.S.I. and L.R.C.P.I. in 1888, and entered the army as surgeon on January 31st, 1891, becoming major on January 31st, 1903, and lieutenant-colonel on May 7th, 1913. His station, previous to going to the front, was Dublin, where he held the post of deputy assistant director of medical services. He has a very long list of war service, namely: Burma, 1893, in the Kachin Hills, medal with clasp; North-West Frontier of India, 1897–8, on the Malakand, and action at Landakai, medal with clasp; Sierra Leone, 1898–9, the Karene expedition, mentioned in dispatches, medal with clasp; and South Africa, 1899–1900, as special service officer. Here he took part in the operations in Natal in 1899, in the relief of Ladysmith, including the operations of January 17th to 24th, 1900, being severely wounded on January 23rd; in the Orange Free State from February to May, 1900, including the actions at Houtnek (Thoba Mountain), Vet River, and Zand River; and in Cape Colony. He was mentioned in dispatches, and received the Queen's medal with three clasps. He also holds the Albert medal and the Royal Humane Society's medal for saving life.

Captain Leckie, R.A.M.C., previously reported wounded, is now reported wounded and missing.

Officers Reported as Prisoners of War.

Beaman, Captain W. K., R.A.M.C.
Berry, Captain H. M. J., R.A.M.C.
Butler, Lieutenant P. P., R.A.M.C.
Davy, Captain P. C. T., R.A.M.C.
Egan, Captain W., R.A.M.C.
Fry, Major W. B., R.A.M.C.
Furness, Major J. C., R.A.M.C.
Hamilton, Captain E. S. B., R.A.M.C.
Hattersley, Lieutenant S. M., R.A.M.C.
Lander, Lieutenant J. L., R.A.M.C.
Lynch, Captain J. P., R.A.M.C.
Mitchell, Captain W., R.A.M.C.
Priestly, Captain H. E., R.A.M.C.
Routh, Lieutenant L. M., R.A.M.C.
Sutcliff, Captain A. A., R.A.M.C.
Vidal, Captain A. C., R.A.M.C.
Williams, Captain A. S., R.A.M.C. (previously reported killed).

Captain Hamilton before the war was in practice in Manchester.

Missing.

Danks, Lieutenant W. S., R.A.M.C.
Kempthorne, Captain G. A., R.A.M.C.
Middleton, Captain E. M., R.A.M.C.
Thompson, Captain W. I., R.A.M.C.

Officers Reported Missing who have now Reported Themselves.

Dwyer, Captain P., R.A.M.C.
Irvine, Major F. S., R.A.M.C.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

LUNACY IN IRELAND.

ACCORDING to the sixty-third annual report of the inspectors of lunatics in the district criminal and private lunatic asylums of Ireland, just issued, there were 25,009 insane in establishments on January 1st, 1914. There was a total increase of 170 during the year, the corresponding increase for the previous year having been 184. The increase for 1913 was 100 less than the average increases for the last ten years. Since 1880 an increase of 12,027 has taken place in the total, but there has been a decrease in the number of pauper lunatics in workhouses of 1,019. These figures do not, of course, include all the insane in the country, as a number reside in their own homes or with relatives, or are wandering at large. The number of the latter classes in the last census amounted to approximately 14 per cent. of the total. The report further states that the order of the provinces of Ireland as regards the prevalence of mental disease is found to be—Leinster, Munster, Connaught, Ulster; and the proportion of the population in these provinces under 20 years of age as follows: Leinster 37.4 per cent., Munster 39.5, Ulster 39.6, and Connaught 41.4. The order, therefore, differs from what might have been expected only as between Ulster and Connaught. Continuing, the report says: It appears clear that the tendency to mental abnormality is becoming less amongst the young, which must mean a reduction in the number of congenital cases. The number of insane and idiots in the earlier twenty-five years of adult life, though increasing as compared with the general population at the same age, is growing at a rate slightly slower than the general increase of mental abnormality at all ages, and actually forms a steadily diminishing percentage of the insane. The number in the later twenty years of adult life shows a comparative increase, in fact the highest of all, and forms a less rapidly growing percentage of the total insane; while the number of senile cases shows a comparative growth somewhat above the average, and the proportion of the mentally affected at that age has considerably more than doubled in the fifty years under review. All this at least strongly supports the suggestion of the influence of the former larger population, and, it may be, of a legacy of mental weakness dating from the sufferings of the awful famine years. It holds out a hope that as time goes on, and these influences exhaust themselves, there may be seen, if not a diminution in the numbers of the insane, an arrest, or at least a greatly lessened velocity of increase.

APPOINTMENT OF RELIEVING OFFICER.

In the King's Bench Division recently an application was made on behalf of the Local Government Board for a conditional order for a writ of mandamus, addressed to the guardians of the Killbala Union, County Mayo, directing them to appoint a relieving officer in accordance with the instructions already issued by the Local Government Board.

It appeared that on June 14th, 1914, the guardians appointed a Mr. Thomas Loughney as relieving officer. The Local Government Board directed its inspector to inquire into and report as to the fitness or otherwise of that gentleman. The result of the inquiry was a suggestion that Mr. Loughney should be given two months on probation. At the end of that time he was granted another month of probation, but the Local Government Board eventually refused to sanction the appointment and directed the guardians to re-advertise. This they at first refused to do, but afterwards they advertised, and promptly re-elected Mr. Loughney, the voting being 13 to 6. A long and animated correspondence ensued between the guardians and the Local Government Board. Counsel asked that a special note should be inserted in the order, making the thirteen members of the board of guardians who had voted for the resolution responsible for the costs. The Lord Chief Justice granted the conditional order.

THE BABIES OF THE SOLDIERS AND SAILORS.

The executive committee of the Belfast branch of the Women's National Health Association of Ireland decided unanimously, at its meeting on September 12th, to give permission to Lady Byers (President) and Mrs. Robert Campbell (Secretary), of the Infantile Mortality Section, to open a special department at the Babies' Club, Divis

Street, Belfast, to look after the babies and children of the wives residing in Belfast of the soldiers and sailors at the war, in connexion with the Belfast branch of the Soldiers' and Sailors' Families Association. Work began on September 16th, when a number of soldiers' wives brought their infants to the club. The object is to allow any of the soldiers' or sailors' wives—who are specially recommended by the local branch of the Soldiers' and Sailors' Families Association, or any of the other charitable agencies—to bring their children for advice.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

EASTERN MEDICAL SCIENCE.

AT the annual general meeting of the Anjuman-i-Tibbia, Delhi, an institution for teaching Indian methods of medical treatment, the Chief Commissioner made a short speech in which he declared that he always regarded it a pleasure to attend such meetings, particularly one convened in connexion with the Madrassa-i-Tibbia. Personally he differed from those who did not consider it worth while to devote their attention to the indigenous system of medicine when they fully believed in the efficiency of the European methods of treatment. He was prepared to say that no system could claim perfection. The West owed a great deal in its advance in medical science to the medical skill of the East, and there was every reason for the advocates of the Eastern medical science to make steady efforts for the revival of their system and to combine with the Western science in the cause of humanity. There was nothing final, even in the most advanced European systems, and changes were of frequent occurrence. He was much interested in the cause of the Madrassa-i-Tibbia and in the efforts of its promoters who were strenuously endeavouring to raise it to the status of a college. Such endeavours were the only means to secure the revival of their past medical science, but he would point out that in their progress towards revival the promoters and students of the Eastern medical science would fully realize what they had to learn from the advanced Western system in anatomy, surgery, bacteriology, etc. But he hoped that steady application to real work and perseverance in undertakings like the one initiated by Haziqul Mulk, who had devoted an enormous amount of time and labour to the cause of the regeneration of the indigenous medical science of India, might achieve the object in view, and that the proposed college might take a prominent place among those institutions which stand for the relief of human suffering.

Correspondence.

NUTRITION AND MEAT EXTRACTS.

SIR,—In Mr. Sohn's book on *Nutrition* (p. 79), recently reviewed in the BRITISH MEDICAL JOURNAL, I am given credit for an economical dietary to which I cannot properly lay claim. It is one of four such dietaries issued by the Women's National Health Association of Ireland, and may be had on application to the Literature Secretary, Viceregal Lodge, Dublin. A footnote to the printed sheet containing this dietary says that it was drawn up and cooked by Miss Angela Mahalm, to whom therefore the credit is due. It is possible, however, that Mr. Sohn may have got his information second-hand. He gives as one of the items 15½ lb. "Standard" flour, whereas the original gives 15½ lb. flour.

In another part of the same book (pp. 116 and 117) reference is made to investigations carried out in my laboratory on the nutritive effects of beef extracts. The results of these were published, first as a "preliminary communication," in the *Proceedings* of the British Association, 1910, and later as a complete paper in the BRITISH MEDICAL JOURNAL, September 16th, 1911. Mr. Sohn's criticism refers to the former only, and he does not seem to know of the latter, as he speaks of three experiments with dogs, whereas in the full paper the details of four more are given; two with dogs and two with human subjects.

In these investigations I was assisted by several colleagues, and the conclusions drawn from our results are given in the following quotations. The first is taken from the preliminary communication mentioned and reads:

> The general conclusions seem to be that the beef extract used has both a direct and an indirect nutritive value, apart from any effect it may have as a vascular stimulant. The former leads to relatively large increase of weight in proportion to the amount of foodstuff given. The latter is manifested by a fuller utilisation of the other food constituents to which the extract is added, and is in accordance with Pavlov's observations, to the effect that meat extracts promote an increased flow of active digestive juices.

The second is taken from the article in the BRITISH MEDICAL JOURNAL already mentioned. The conclusions are stated as follows:

> 1. The addition to the diet of the beef extracts used (commercial and self-made) led to an increase of body weight both in the case of animals and man.
> 2. Accompanying this increase there was a retention of a considerable proportion of the nitrogen given in the extracts.
> 3. The extracts also caused a reduction in the output of nitrogen in the faeces, this no doubt being due to a better digestion and absorption of food of the ordinary diet.
> 4. The extracts may therefore be accredited with both a direct and an indirect nutritive value.
> 5. During the feeding with the extracts there was also a retention of water in the body.

These conclusions, I venture to say, will appear moderate and unstrained to any one who studies our data. Nothing has happened since they were published to nullify or weaken them. On the contrary, a great deal has been discovered which supports and corroborates them.

Mr. Sohn goes on to offer two explanations for the increase of weight, which we do not consider the most important effect. The first is somewhat involved, and is not physiologically sound. It is, that "Since the biscuit was apparently properly digested by the animal when it had no meat extract, an increase in weight out of all proportion with the augmentation of ingested material means that metabolism is retarded."* The other suggests that the increase in weight is due to retention of inorganic salts, the salts in turn necessitating a retention of water.

We state that there is a retention of water, but, since animal tissues contain 75 to 80 per cent. of water, there can be no increase of weight, except as stored up fat, without such retention. We also show in one of the protocols in the full paper the effect of adding daily, 5 grams of inorganic salts obtained from commercial meat extract, to the diet. This amount is five times that contained in the ordinary quantity of meat extract we used, yet it produced but a slight increase of weight—nothing equal to the effect of the whole extract. Further, in all our experiments sixteen to eighteen hours elapsed each day between the last feeding and the weighing next morning. In this period all but a trace of the inorganic salts was excreted. This slight trace probably accounts for a small part of the increase in weight, but it is certainly not the main cause; nor is the increase in itself the most important result.

We are now familiar with the fact that traces of certain substances (vitamines) produce nutritive effects out of all proportion to their fuel value. It is not improbable that the nutritive effects of meat extracts pointed out by us may prove to be due to one or more of these substances of a thermostable nature. Eykman has shown that in muscle there is a vitamine which cures polyneuritis.—I am, etc.,

Dublin, Sept. 19th. W. H. THOMPSON.

INDIAN SANITATION.

SIR,—In your issue of September 12th (p. 477) an able review of my paper on "The Position of Sanitation in the Administration of India" practically accepts my arguments, with one exception. In the interest of sanitary advance in the tropics generally, and of India in particular, I should like to encompass the conversion of your reviewer; and this I have every reason to hope for, as his conception

* There are numerous mistakes in the physiology of the book which have been generously overlooked by your reviewer. But even its chemistry is not free from them. I shall only mention two. On page 23 nucleo-proteins are said to be free from purin bases, whereas the presence of these bodies is the characteristic feature of their composition. On page 28 inosite is described as a sugar and a carbohydrate; it is neither.—W. H. T.

is founded upon a misapprehension. He suggests that I have referred to sanitation as a "different profession" to that dealing with the cure of disease. I have, however, nowhere made such a suggestion. The duties connected with the health of the individual and of the community, respectively, are undertaken by markedly specialized branches of the medical profession. Their co-operation in certain aspects of their work is desirable. But this co-operation is not of a nature to demand that the administrative care of sanitation (in India extending over an area of 1,093,000 square miles, possessed of a population of 244 millions) shall be in the hands of that branch of the medical profession which is specialized for cure, and it is in this sense that I treat the question in my paper.

It will be remembered that in 1911 the Government of India attempted, on the death of Lieutenant-Colonel Leslie, C.I.E., to get rid for the future of their separate and independent Sanitary Commissioner; but, on failing to persuade the Secretary of State for India to that effect, they secured the compromise of subordinating that officer in all administrative functions to the Director-General, Indian Medical Service—an officer selected direct from the rank of Lieutenant-Colonel for promotion to that of Surgeon-General for ability in curative medicine. Although this retrograde step was contrary to a ruling on the same subject by the Secretary of State when Lieutenant-Colonel Leslie was first appointed, as well as to existing conditions in the chief local Governments, in accordance with orders issued by the Government of India, and to precedents extending back to 1863, the Government of India defended their action by asserting that it was impossible to divorce the sanitary from the medical service in India. It is to their policy in this respect that the Hon. Mr. Sarma referred when he stated the prevalent opinion in India was that "the Medical and Sanitary Departments must be divorced from each other." That opinion professional journals would have heard more of, were it not that officers on the active list of the Indian Medical Service specially interested in sanitation are, for reasons which require no explanation, dumb on this subject.

Were the policy now pursued by the Government of India adopted in Great Britain, the Medical Officer of the Local Government Board of England would not be a specialist in sanitation, but would be selected from the physicians of our hospitals, and that selection would be confined to a limited number, by the vested rights of hospitals, to those of a single county, say, Middlesex.[1] Dr. Newsholme as a technical assistant (staff officer) would then be required to submit his administrative policy for the approval of this physician, before he dare submit it for sanction of the Local Government Board. If he wished research to be pursued in sanitary interests in a direction that appealed to him, all action would be subject to approval and sanction by the physician!

In a paper kindly read for me by Mr. Cantlie at the recent Aberdeen meeting[2] I advocated earlier specialization by medical students for the position of whole-time sanitarians serving in the tropics. In its resolution on the subject, that view was rejected by the Tropical Section of the meeting, although I venture to prophesy, in the light of present-day sanitary evolution in the tropics, it will prevail ten years hence: but what is of importance in this connexion is that this Section unanimously approved of my suggested type scheme for public health administration in our tropical possessions, requiring that under a "Ministry of Public Health and Economics" the heads of the medical and sanitary departments should control their respective charges, and, in the matter of research, arrange for co-operation—without subordinating either officer to the other. It will therefore be seen that, if I claim that the whole-time sanitarian in the tropics should not be trammelled in making recommendations to the Government, or other authority, paying him, by the overlordship of the curative branch of medicine, I have no desire to claim the "strange doctrine" that the sanitarian is a creation apart from the profession which begat him. In short, I agree with your reviewer that, under a Ministry of Health, the services destined for the cure and the prevention of disease should constitute "two phases"; but, whilst arranging for cordial co-operation, I would, for administrative purposes, emphasize that word *two* from top to bottom of both departments concerned.—I am, etc.,

W. G. KING,
Colonel, I.M.S. (ret.).

Hatch End, Sept. 16th.

[1] The officers in the Bengal establishment are alone eligible for the appointment of Director-General of the Indian Medical Service.

[2] BRITISH MEDICAL JOURNAL, August 8th, 1914, p. 303.

LICE.

SIR,—With reference to Dr. Shipley's article on lice, in the JOURNAL of September 19th, will you appeal to medical officers of health who have troops in their districts to offer to disinfect blankets for the troops. The military are very diffident about asking for civilian help but will accept it when offered. The York authorities have been "stoving" blankets for ten days. The fear of lice keeps many men from enlisting.—I am, etc.,

FREDERIC P. HEARDER.

Whixley, Nr. York, Sept. 23rd.

Medico-Legal.

GERMAN PATENTS AND TRADE MARKS.

MR. W. TEMPLE FRANKS, Comptroller-General of Patents, has been sitting with Sir Cornelius Dalton, his predecessor in that office, to consider applications to avoid or suspend German patents under the legislation passed since the outbreak of the war.

Early in the proceedings the Comptroller said that the general principle by which the court would be guided was that, unless it were proved to be in the public interest, it would not recommend the Board of Trade to transfer to other businesses device trade marks which were known to be associated with foreign firms. Those cases, in his opinion, were not contemplated by the Act. The object was not to confiscate any one's property, but to enable business in this country to go on, which would not be always possible without the suspension of patents or trade marks. Although we might wish to supplant the Germans, no civilized country had at present gone so far as to take bank balances.

Among the applications heard on September 17th was one from Messrs. Burroughs, Wellcome and Co. for the transfer to them of the patent of Messrs. Meister, Lucius, and Bruning, of Frankfort, for the manufacture and sale of salvarsan in this country. Counsel in support of the application said that it was necessary in the interests of the community that there should be a supply of this drug in this country, and that as it was unobtainable from Germany it should be manufactured here. The applicants desired the transfer of the licence for the total period of the patent, as otherwise they might not see their way to set up the machinery necessary for manufacturing the drug. Evidence was given by a representative of the applicants to the effect that the firm was capable of carrying out the manufacture of salvarsan. In cross-examination, he said, it would be possible to sell at the same price as now, but that he could not say whether the firm would be able to pay a royalty to the German firm, as he had not gone fully into the particulars of manufacture. Evidence was given on behalf of Messrs. Meister, Lucius, and Bruning, by their manager in this country, Mr. E. H. Scholl, who said that he was a British-born subject, and that the salvarsan he was now selling was manufactured at Ellesmere Port, Cheshire. He believed the firm could supply all the drug that was necessary. The Comptroller stated that the court would report to the Board of Trade, which would give its decision in due course.

Messrs. Burroughs, Wellcome and Co. also made an application on September 18th for an order enabling them to supply hexamethylenetetramine by the title and trade mark "Urotropine." Counsel on behalf of Mr. August Zimmerman, a naturalized British subject trading in this country, opposed the application, on the ground that his client had a stock of the original drug, which, in ordinary circumstances, would meet the demand for six months. Counsel for the applicants said that his clients desired to keep the name of the article alive, and after the war would resume their former relations with the producer. They also agreed to take a supply from Messrs. Zimmerman at the usual prices as long as that firm was in a position to supply them, and on this understanding the application was postponed for three months.

On September 22nd an application by Messrs. Charles Zimmerman, of St. Mary-at-Hill, E.C., that an exclusive licence should be given to them to manufacture and sell the disinfectant "Lysol," the trade mark of which was held by Messrs. Schulke and Mayr of Hamburg, led to a long argument, in the course of which counsel for the applicants said that Messrs. Zimmerman was an absolutely English firm. Several firms of chemists asked that the right to manufacture and sell "Lysol" should be extended to them equally with Messrs. Zimmerman. The court stated that it would make a recommendation to the Board of Trade.

THE Paris Académie des Sciences has awarded the La Caze prize of £400 to Professor Gley of the Collège de France for his works on physiology.

Obituary.

WALTER HOLBROOK GASKELL, M.D., F.R.S.,

HON. LL.D.EDIN. AND McGILL,

FELLOW OF TRINITY HALL AND UNIVERSITY LECTURER IN PHYSIOLOGY, CAMBRIDGE.

THE death of Walter Holbrook Gaskell, which took place, after a very brief illness, on September 7th at his home near Cambridge, marks the close of a distinguished career. He was born at Naples on November 1st, 1847, the son of Mr. John Dakin Gaskell, barrister, and Anne his wife. He received his early education at Sir Roger Cholmeley's School, Highgate, and entered Trinity College, Cambridge, in 1865. In 1870 he proceeded to University College to study medicine, and took his M.D. degree in 1878.

When in the early Seventies Michael Foster, then praelector of physiology at Trinity College, began his great work for the biological school at Cambridge, he gathered about himself a small group of brilliant workers. Of these Gaskell was one of the very few survivors. In those days the science school was small, and to get his men Foster was compelled to recruit from other studies. Balfour had no intention of pursuing science till he came under Foster's influence. Lea was a classical scholar, and Gaskell a mathematician—he was a wrangler in 1869.



WALTER HOLBROOK GASKELL.
(Photograph by Elliott and Fry.)

At Foster's advice, Gaskell went to Leipzig in 1874, to Ludwig's Laboratory, with the intention of working at problems connected with the sympathetic nervous system, and from that time until his death he was in the main occupied with the meaning of this system and with problems, such as the function of the cardiac nerves, which arose from its study. The years 1874 to 1889 were years of crowded and amazingly successful work. To appreciate the extent to which Gaskell then made our knowledge of the relations of nerve fibre, nerve cell and muscle fibre, it is necessary briefly to glance at views prevalent at the time. Physiologists were then obsessed (no other word is strong enough) with the belief that the nerve cell was the sole cause of muscular movement; the tone and the beat of the heart, and the contraction of the muscle fibres of arteries were supposed to be caused by nervous impulses sent out by the nerve cells of peripheral ganglia. It is hardly necessary to point out how opposed this is to modern clinical teaching, and the change of view is due to Gaskell.

He was able to prove by experiments, which are a model of neatness and finality, that the muscle fibre, instead of being merely the passive agent of the nerve cell, is itself endowed with the property of rhythmical contraction. The contraction wave which sweeps over the cardiac muscle from the great veins to the aorta progresses continously from muscle fibre to muscle fibre, and suffers a retardation in slowly conducting tissue at the junction of auricles and ventricles which provides the necessary pause between the systole of the auricle and that of the ventricle. Our knowledge of the function of the cardiac nerves, which before this time was obscured by the conflict between Weber's discovery of the inhibitory influence of the vagus and Schiff's later discovery that stimulation of this nerve is sometimes followed by augmented beats, was brought by Gaskell practically to the point at which it now stands. Some of his results are even now only finding their place. Within the last few years it has been found possible to dissociate experimentally the excitation process and the contraction process of muscle; indeed, the complete electro-cardiagram has been obtained from the quiescent heart. Thirty years earlier Gaskell showed the electrical event to be independent of contraction when he found that stimulation of the vagus and the sympathetic would evoke a normal electrical response from the quiescent heart. The fundamental significance of this fact was pointed out by him in a passage too long to quote.

The work of this period was made the subject of the Croonian Lecture of 1881, and the pathology of the heart must for all time find its assured basis in this great classic. In 1882 Gaskell took up the study of the sympathetic nervous system in general, the starting-point being an investigation of the anatomy and histology of the cardiac nerves. Various small papers appeared in the *Journal of Physiology*, leading up to the great paper of 1886—great in every sense of the word, for surely no problem ever received more ample breadth of treatment. The facts of anatomy, of histology, and of function were brought into relationship, and the framework of our knowledge of the sympathetic system was put together once and for all. It was as definite and conclusive an achievement as was Pflüger's analysis of the phenomena of electrotonus.

An attempt on similar lines to unravel the underlying scheme of the cranial nerves—a problem which had tasked the skill of such masters as Huxley, Gegenbauer, and Balfour—led him in 1889 to formulate a theory of the origin of the central nervous system of vertebrates, according to which the central canal is the lumen of a primitive gut. This theory has not won general acceptance, but it led to much fruitful work on the nervous system and other organs, especially of the lamprey and of *Limulus*.

About this time Gaskell, at the request of the Hyderabad Commission, undertook the investigation of the action of chloroform. The work, which was done in conjunction with Dr. L. E. Shore, is memorable owing to the bold experimental method adopted. In order to discriminate between the effects produced on the respiratory centre and on the heart, cross-circulation experiments were made, the brain of one dog being fed by the carotid arteries of another. In this way, by limiting the action of the drug to the heart, it was conclusively proved that chloroform produces a fall of blood pressure by acting on the heart, and not on the vasomotor centre.

Gaskell's character was of the simplest. He was a good straight fighter when he had to fight, and a most faithful friend. One of the most approachable of men, he had the faculty in a supreme degree of acquiring a sympathetic knowledge of men younger than himself. It is no exaggeration to say that every physiologist who has worked in the laboratory at Cambridge since its start has

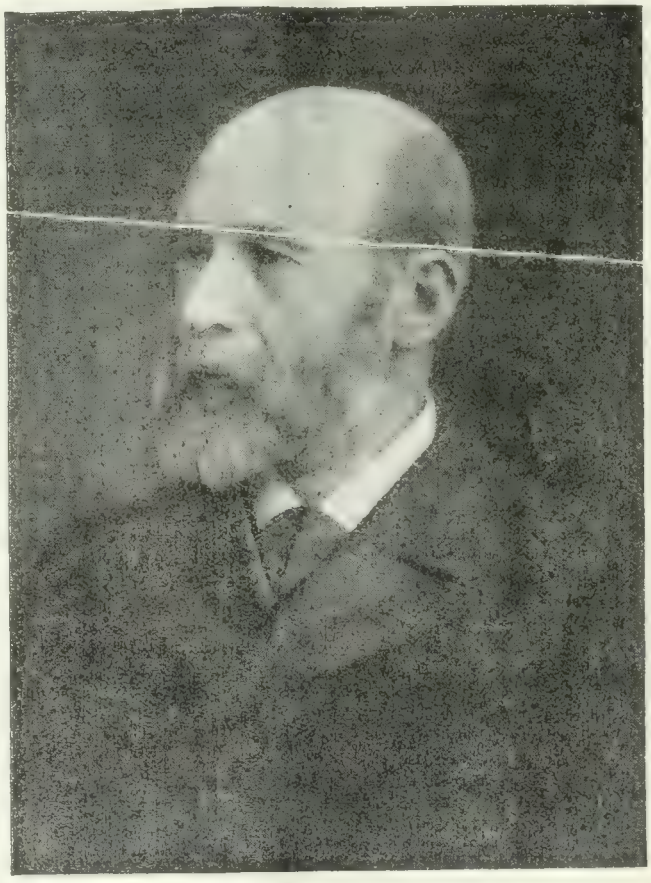
been his personal friend. Dr. Gaskell was an honorary LL.D. of Edinburgh and McGill Universities, and Marshall Hall prizeman. He was awarded a medal by the Royal Society, and the Baly medal. He served on the Moseley Commission and on the Vivisection Commission.

SIR HENRY GREENWAY HOWSE, M.S., F.R.C.S.,

CONSULTING SURGEON TO GUY'S HOSPITAL.

FEW men have left so many evidences of their work in a quiet way than Sir Henry Greenway Howse, whose death was briefly mentioned in our last issue.

A mere record of what he did to improve surgical methods, to advance surgical practice, to promote the efficiency of the medical school at Guy's, to serve the College of Surgeons, the University of London, and the higher education of women, would alone make a list of formidable length. That his work and his worth were not more widely known was due to his natural dislike of publicity. He was content to apply the results of his investigations for the benefit of those he had undertaken to teach and to help.



SIR HENRY GREENWAY HOWSE
(Photograph by Lafayette.)

Howse was born at Lyncombe Hall, Bath, on December 21st, 1841, the second son of Henry Edward and Isabella Howse. He entered Guy's after two years' apprenticeship under Mr. Workman, of Reading, when about 20 years old. After a successful career at the London University, where, as well as at his own school, he gained many distinctions, he was admitted M.R.C.S. in 1865; three years later he became a Fellow of the College and also Master in Surgery at the University, where he divided the only distinction with one who was later to share with him the honour of introducing Lister's antiseptic methods into London—the late Mr. Marcus Beck. While preparing for these higher examinations he visited Paris, where he spent some time studying operative surgery. In 1868 he made, in association, we believe, with Marcus Beck, the memorable visit to Lister's clinic. Returning to London, he was appointed demonstrator of anatomy in his old school.

In 1870 he was appointed assistant surgeon on the retirement of Mr. John Hilton, and five years later he became a full surgeon when Mr. John Birkett retired. This position he resigned in March, 1902, his appointment having been extended three months beyond the retiring age of 60, to enable the hospital to secure his services as their representative at an important public meeting.

Howse thus, it will be seen, served the hospital and school for some thirty-four years. On his retirement he was placed on the consulting staff.

In the medical school he lectured on anatomy for some years, his colleague being first Arthur Durham, and later Davies-Colley. When he became lecturer on surgery he had again for many years the same junior colleague, with whom a long and lasting friendship existed, only broken by death in 1902.

The services he rendered to Guy's Hospital and to its Medical School were such as few could have given. The paucity of subjects for dissection led him, when demonstrator of anatomy, to introduce a method for the preservation of the bodies. This enabled the school to start in October with an ample supply. The method was published in the *Guy's Hospital Reports*, and was, we believe, widely adopted. As a lecturer on anatomy he was accurate and painstaking, and by admirable diagrams and blackboard notes cleared up many difficulties. His own knowledge had been gained by abundant dissections, and by several years' service as a demonstrator. He was not a brilliant lecturer on surgery; indeed, in no sense could this epithet be applied to him. He would have been the last to lay claim to such a description. He was essentially a teacher and set himself to help the students where the books were particularly wanting. In surgery his classifications were valuable and his directions as to treatment sound and wise, and while giving full credit to the work of others, he was able, by drawing from a large experience, to lay down methods of his own derived from a long practice of antiseptic surgery.

In addition to his lectures he instituted a voluntary course of morbid histology somewhere about 1867 or 1868, cutting all the sections himself with a razor. We believe this was the first course of its kind to be established in London, and existed many years before it became a compulsory part of the curriculum. This is only one example of his many efforts to improve the knowledge of the student without waiting for the action of authorities.

As a clinical teacher Howse attracted in his day all the best men. He was exact, taught by asking questions, answering himself when no reply was forthcoming. A generation of students owed much of their sound knowledge to his excellent teaching. It was to Howse the student went to see the triumphs and learn the methods of Listerism, and he never tired in giving instruction.

In all the relations between the hospital and the school Howse was a trusted adviser. In the building of the resident college, in all financial concerns, in all committees, he took a leading part. To mark their appreciation of his services, rendered throughout with unflagging interest and unfailing courtesy, the governors of the hospital and his colleagues presented him with his portrait. This shows Howse in a characteristic attitude, clad in the presidential robes of the College of Surgeons. It is an admirable work, executed by Lance Calkin, and hangs in the entrance hall to the Governors' Court Room at Guy's Hospital.

On his appointment in 1870, Howse at once began to apply Lister's methods, and as for five years he shared the whole of the work with Davies-Colley, the opportunities for testing the value of the new surgery, even if injuries alone be considered, were unlimited. The effect was immediate. Those who can recall the state of the wards in the Seventies—the frequent deaths from septic infection, the delayed union, the erysipelas—well know what a change can be wrought by the work of one man. So confident had Howse become that within four years he did not hesitate to amputate the thigh and return the patient to the erysipelas ward. When he became full surgeon his wards were soon purged of septic

infection. While others lost cases from this cause, it was extremely rare to find such a complication arising in any case operated upon by Howse. He was admirably supported by his colleague Davies-Colley, who himself made many cautious advances. He affixed to the old operating table—a relic of Astley Cooper's time—a support to hold the receptacle from which the carbolic lotion dripped upon the wound, and used the putty dressing and the carbolic gauze. Then followed the hand spray, and later the steam spray. Howse was one of the last, if not the very last, to abandon this Listerian apparatus, with which he had obtained so many triumphs. Gradually he advanced in the application of antiseptic surgery to new fields, more particularly to diseases of joints. In the excision of the knee his success became widely known. When others were losing their cases from sepsis, and others amputating, Howse secured almost uniform success. In 1874 the writer of this brief and all too imperfect sketch had the advantage of serving as his clerk, and later as dresser. It was common to have as many as four, and even six, cases of excision of the knee under our care at one time. Howse superintended the dressing of every case, and must have spent the greater part of the five years of his assistant surgeoncy in the hospital. Failure in recovery was very rare indeed, and the large proportion of the knee cases had excellent and useful limbs. Had he published the results of this operation even in 1880, Howse must have taken a premier position amongst the surgeons of Europe at that time. No one could show so splendid a series of cases, not only from the point of view of mortality, but of usefulness of the limb. His work in this field of surgery was not given to the profession till 1893, when—with the help and at the urgent desire of one of his old dressers, Dr. Newton Pitt—he published a paper in the *Guy's Hospital Reports*. By that time success had become general, his methods had become well known, and the place of excision of the knee for tuberculous disease had become established.

Gastrostomy was another operation to which he gave attention, and he soon placed it upon a successful basis. The mortality was somewhere about 90 per cent., partly due, as he says in the article in *Heath's Dictionary*, to the exhausted condition of the patients as well as to faulty technique. The modification Howse introduced consisted in securing adhesion of the stomach to the abdominal walls before opening the viscus. Writing in 1886 he said that the operation was then only attended by a very small mortality, and even this was due to the late period at which the operation was done. In this operation use was made for the first time of the rectus muscle as a sphincter, as will be found set forth in the article referred to. His success in this operation attracted many visitors, and inspired more than one article on the subject and at least one book. The method of operating in two stages has had a wide application. The only article Howse wrote on this subject was the brief account in *Heath's Dictionary of Surgery*.

Another great advance in surgical practice—the excision of varicose veins—must be set down to his credit. His paper on this subject was published in the *Guy's Hospital Reports* for 1877. The first operation, an excision of a large varix from the leg, was performed on December 4th, 1873, and was successful. It was not till September 10th, 1874, that he succeeded in persuading a second patient to submit to operation. This was for varicocele. His colleague, Mr. Davies-Colley, had been more successful, and recorded some cases in the same reports for 1875. To appreciate the importance of this procedure Howse's account must be read wherein he refers to the dangers attending the then existing methods. So far as the surgery at Guy's is concerned, it was Davies-Colley who first operated for varicocele. Annandale's first operation was performed on November 7th, 1874.

These three examples fairly well illustrate the progressive nature of his work. He never rested content with the progress he had made, and was constantly breaking new ground under the security of Listerian methods.

In his breast operations he invariably cleared the axilla, while widely removing the skin with the whole gland. This was his practice in 1874, and before that, and the success was uniformly good. This is worth recording when one recalls the protest made by Mitchell Banks of Liverpool. Howse was the first to record a successful operation for intussusception in an adult, and this leads one to refer to the marked success he obtained in ovariotomy, and later in other abdominal operations. He had satisfied himself as early as 1873 that trephining could safely be undertaken without setting up meningitis as a direct result of the operation. This led to his operating with benefit in many doubtful head injuries.

His surgery at the Evelina Hospital for Children was again of a high and progressive order. His excisions here did well, and young as were the children—all under 10—one cannot recall an example in which the growth of the bones was impaired from epiphyseal injury. He was for many years associated in his work at this hospital with Morrant Baker; and here it may be mentioned that another exponent of Listerism, Sir Thomas Smith, was a close friend.

Though Howse did not write any treatise on surgery, he contributed several articles to *Heath's Dictionary*, and wrote many papers in the *Guy's Hospital Reports*, of which he was for many years co-editor with Dr. Frederick Taylor. Many valuable papers by him will be found in the *Transactions* of the Pathological and other societies. If he did not publish his successes, nevertheless the value of his work became known, and many visitors resorted to Guy's Hospital to see his practice. To all he gave freely and generously of what he possessed. He never claimed to have made great advances, putting everything down to the accurate carrying out of Lister's directions. In many ways Howse made additions to Lister's work, and it was the personal supervision of the dressing of the cases that determined his almost uniform success.

Howse was a man who made few intimate friends, and yet was always courteous and ready to give friendly advice, and pleased whenever it lay in his power to do another a good turn. His holiday for many years was spent in Alpine climbing, chiefly with his two colleagues, Frederick Taylor and Savage. In this pastime he was an adept, and accomplished many difficult passes without guides. He had a strong mechanical bent, worked a lathe, did turning in metal, and when he retired took charge of his own electric installation.

For twenty-two years he took an active part in the work of the College of Surgeons. He was appointed examiner in anatomy and physiology under the old system in 1883. In the same year he was appointed examiner in the same subjects for the Fellowship—a position he held till 1887. With the establishment of the Conjoint Board in 1884 he became an examiner in anatomy. These appointments came to an end in 1887, when he passed to the Court of Examiners, of which he remained a member until 1897. He was a member of the Council from 1889 to 1905, Vice-President 1897 to 1900, and President from 1901 to 1903. At the coronation of Edward VII he received the honour of knighthood.

Sir Henry Howse, though of a quiet disposition, was a man of exceptionally strong character. He thought out every question for himself, and gave his own opinion without in any way attempting to influence the views of others by manner or persuasion. He had the faculty of seeing all sides of a question, and was able to examine calmly and give full value to the opinions of others even where much controversial warmth existed. These exceptional qualities, coupled with a wide knowledge of the various questions connected with the management of a medical school, made him a most valuable member of committees. Howse was always listened to, for he never spoke without knowledge of the subject—a knowlege the outcome of personal investigation. In this respect his services were of special value to the council of the College and to his own medical school, and always to the London University, in the work of which he took a keen interest for many years. He was examiner in anatomy and later in surgery, served on the Committee of Convocation for many years, associating with those endeavouring to broaden the basis of the university, and, lastly, was for some years on the senate. He also became secretary to the University Dining Club, in the hope of promoting a closer personal association between members of the various faculties. Those with whom he worked in these more public capacities recognized the worth of Howse's opinions equally with those

more closely associated with him. When he was elected President of the College, and later honoured by his King, it was generally allowed that no man ever sought such distinction less or deserved it more. Sir Henry married, in 1881, Miss Marshall, daughter of the Rev. T. Lethbridge Marshall, and leaves two daughters and one son.

Soon after the conclusion of his term of office as member of Council of the Royal College of Surgeons of England he retired to the neighbourhood of Sevenoaks, and seldom visited London. Of late he suffered from a return of a painful sciatica and became very much crippled. An aggravated form of this trouble, causing many weeks of suffering borne with philosophical resignation, gradually exhausted his strength, and he died on September 15th.

We are indebted to Dr. FREDERICK TAYLOR for the following tribute to the memory of his friend:

When I entered at Guy's Hospital, Henry Greenway Howse was already a distinguished student. He had obtained the second prize for general proficiency in his first year, and the first prize for the same in his second year. In his third year he also gained the first prize, and at the London University First M.B. Examination took the exhibition and gold medal for physiology, histology, and comparative anatomy, and honours in anatomy. At the Final M.B. Examination two years later he obtained the gold medal in midwifery, with marks qualifying for the scholarship, and honours in medicine; and in the following year at the examination for the Bachelor of Surgery he obtained the scholarship and gold medal. A year later he took the degree of M.S. Having held the usual hospital appointments, including that of house-surgeon, he was appointed demonstrator of anatomy in October, 1868, and gave demonstrations on the use of the microscope in the succeeding summer session. Howse threw himself wholeheartedly into everything with which he was associated. In the three years he spent as a demonstrator of anatomy he devoted himself to the question of the preservation of the subjects for dissection, and, after making numerous experiments, he perfected the method of thoroughly injecting the bodies with glycerine containing a small quantity of arsenic, the glycerine infiltrating the tissues from the arteries, and thus preserving the whole for an almost unlimited time. I was a demonstrator at the time the method was introduced, and can vouch for the extraordinary difference which the dissecting-room presented from its malodorous state previously. It was characteristic of Howse that the method was not introduced into the room until he had thoroughly proved its efficacy by testing it for months upon separate portions of a subject. For several years he was editor of the *Guy's Hospital Reports*, and there again he made his mark, introducing order into the financial business at a time when the scientific aspects of the publication had been allowed to overshadow the commercial. I was for some years his colleague in the editorship, and know well the immense trouble he took to develop this work in every detail. In his early days also he contributed liberally to its pages, though not so much after he became full surgeon; but he broke silence in 1893 with his valuable paper on "The results of 130 cases of excision of the knee." It is to be regretted that he did not give to the profession something more of his experience in his later years. As a member of the medical school he fulfilled his duties most thoroughly; a most useful member of committees and councils, giving the most careful consideration to every matter before him, and exhibiting great judgement in his decisions, upon which his colleagues could almost absolutely depend. As to his merits as a surgeon I am, perhaps, not in such a position to judge as my surgical colleagues; but there is no doubt that he was an exceedingly able surgeon—cautious, deliberate, even slow, but not wanting in boldness where that was necessary. If I remember rightly, when he had been appointed assistant surgeon, his first operation in the theatre—and a theatre *was* a theatre then—was an amputation at the hip-joint; this he carried out most successfully—of course, under the eyes of many of his seniors. It is to his lasting credit that he was one of the first surgeons in London to obtain first-hand knowledge of Lister's methods and to apply them in his practice. He went himself to Edinburgh and saw the method adopted there, and at once brought it into use in his wards at Guy's Hospital. With it he had extraordinary success in excisions of the knee and of other joints, of which operation he was one of the staunchest advocates. In connexion with the germ theory of disease, the following is interesting: At an early meeting of the Clinical Society he made the observation that he was convinced, from his experience of cases of tetanus, that it was in some way dependent upon the soiling of wounds with London mud. The suggestion was received with a smile, but we know now that the inference was practically correct. I need hardly say what a pleasure it was to his friends and colleagues when he was elected President of the College of Surgeons, and when subsequently he received the honour of knighthood. For a number of years Howse's recreation during holiday times was mountain climbing, and I had the pleasure of accompanying him in many of these excursions in Switzerland. He was one of the early climbers to go without guides, and was naturally reproached with the unwisdom of such a course. But I can testify that there was nothing reckless or careless about his proceedings. He neglected nothing in his preparations, took every precaution against failure, and had the valuable faculty of recognizing when Nature was too strong for him, and failure had to be admitted.

I know that he always had it in his mind to retire into the country at a suitable time after giving up his active service on the hospital staff, but when that time arrived he had not completed his Presidency of the College of Surgeons. He had first practised in St. Thomas's Street, near Guy's Hospital; in 1887 he moved to 59, Brook Street, and since the termination of his presidency he had lived at Cudham in Kent, keeping, for a short time only, consulting-rooms in Grosvenor Street.

Mr. C. H. GOLDING-BIRD writes:

The present generation of Guy's men can, I think, hardly estimate how much they owe to the late Sir Henry Greenway Howse, whose recent death we all deeply deplore. He was not only a great teacher and surgeon, but a pioneer to whom the hospital owes the introduction from Edinburgh, in the early Seventies, of Listerism as it then was.

Howse in all that he did was Teutonic in his minute accuracy; and I remember as a student being much impressed by the precise exactitude of his methods and teaching in the dissecting-room; and subsequently by the way in which he started and maintained the first histological class. Those were the days before microtomes—at least as we know them now—and every specimen was hand-cut by himself and mounted in glycerine, requiring an attention to detail in manipulation, to be successful, that only his patient instruction ever enabled the raw student to master. Every one in his class received his personal attention, and each man felt he must work with a master who was himself so assiduous.

The same characteristics were exhibited in his work in the wards, and he was afraid of trying nothing that might help to banish sepsis in its many forms and the curse of all surgical cases. Early antisepsis failing to make much impression on old and chronic ulcers, for instance, he exercised his ingenuity—albeit without success—upon them; and I well recollect his employing dried earth in one case as a purifying application, and in another his attempts to stay suppuration by a dressing of peptones, conceiving, as he explained, that if he could feed the granulations they would not waste their energy in the loss of such valuable protoplasmic matter as pus. To men of these times such experiments read as childish, but, in our then state of pathological and physiological knowledge, nothing, however unlikely or empirical, was unworthy of a trial; and Howse, at least, had always a sound reason to give for what he attempted.

In the wards he will always be remembered by his great work on the resection of joints. The introduction of the spray gave a power over local sepsis that opened up a new realm to surgery, and to it Howse adhered for long after others had abandoned it. By its aid serous cavities could be opened with comparative impunity, and so he did not hesitate to tackle the hitherto almost fatal practice of operation upon joints. His records in the Guy's *Reports* show what extensive and valuable work he did in this direction, and his Tuesday and Friday operations were

largely attended, and not by Guy's men only, for his repute in this then experimental branch of surgery was widespread. His success—especially in cases of tuberculous knees in children—made a great impression on those whose hitherto experience had been of the purely temporary relief afforded by Scott's dressing and the back splint, and he quickly had followers without as well as within the walls of Guy's.

Quiet almost to reticence, his manner totally changed when teaching or when answering the inquiries of the student; his face would then brighten with the light of the enthusiast and his speech would become energetic and rapid, and his remarks were always to the point and conveyed in a phraseology almost as dogmatic as it was convincing.

As a counsellor in the affairs of the hospital and its school his advice was of the greatest value, for he never spoke without purpose, and his great experience in academic matters and his profound knowledge of students requirements guided every meeting in a sound direction. To this aspect of his character Guy's owes a great debt of gratitude to Sir Henry Howse.

Beyond his annual summer holiday, which was for the most part spent in mountaineering, I cannot bring to mind his ever having any relaxation. Bank holidays or other reasonable excuses for a slight slackening in official duties were unknown to him, and even on Sunday mornings Howse was most likely to be found in the wards of Guy's; and a visit of an evening to his rooms would generally find him immersed in some subject with a view to subsequent teaching.

He was no great writer, but a great thinker, researcher, and teacher, and I have no hesitation in asserting that the standard to which the school at Guy's has reached is largely owing to the strict attention to duty and to the surrender of all private calls to academic and professional requirements that he inculcated—an example followed to the letter at the present time.

The memory of Sir Henry Greenway Howse will ever keep green among Guy's men.

RICHARD VERNON, M.D.,

AUDLEY, STAFFORDSHIRE.

THE oldest practitioner in North Staffordshire, and one of the oldest in the country, has been removed by the death of Dr. Richard Vernon of Audley and of Audlem, who was born in 1817, and died on September 15th, in his 98th year.

Dr. Vernon received his medical education at Birmingham and at the University of Glasgow, and graduated M.D.Glasg. in 1846 and C.M. in 1856. Except for a brief period at Filey in Yorkshire, the whole of his professional work had been done in and around Audley, where he settled some sixty-eight years ago. He was a man of strong will and vigorous personality, and in spite of his slight build had an abounding physical energy. His rounds used to be performed for the most part on horseback, but in his prime he would frequently walk twenty or even thirty miles in the day. Indeed, within the last two years he has been known to walk back from his birthplace at Audlem, where he had considerable property, to his home at Audley, twelve miles away.

For over forty years he worked almost incessantly, with scarcely an interval for holidays; and during this time he was probably the best known and most notable figure in the district. Since his retirement a quarter of a century ago he had become quite an institution in the village, his erect carriage and quaint, old-fashioned professional garb attracting attention and respect wherever he went. The son of a farmer and the owner of several farms himself, his greatest interests outside of his work were always agricultural.

Dr. Vernon lost his wife several years ago, and leaves two children, a son and a daughter, the former, Dr. J. Vernon, J.P., having succeeded him in the practice when he retired. Amid many tokens of affection and respect from friends and tenants, his remains were laid to rest at Audlem on September 19th. J. F. B.

WE regret to record the death, on September 16th, after a very short illness, of Dr. George Gresswell of Louth. He, the fifth member of a large family of brothers and sisters, of whom nine survive, received his general education at the Grammar School of the town in which the later part of his life was spent, and went up to Oxford as the winner of an open exhibition at Christ Church. There he graduated B.A. with honours in physical science in 1880, and a year or two later went to South Africa as lecturer in this subject in one of the constituent colleges of the University of Capetown. After a few years' tenure of this office he returned to England and commenced the study of medicine, working in turns at several medical schools, including the Westminster, St. Bartholomew's, and St. Thomas's. It was with the first named that he was longest connected. He entered it as winner of a scholarship in classics and mathematics, and later on served as demonstrator in the physiological department. He was also resident medical officer at Ockley Sanatorium. Meantime he had become a Licentiate of the royal colleges at Edinburgh, and in 1893 proceeded to the M.A. both of the University of Oxford and of Capetown. Subsequently he settled down in practice at Grimsby, but about 1902 joined his brother, Dr. Albert Gresswell, at Louth. It was not their first partnership, for the two brothers had as young men written conjointly a book entitled the *Wonderland of Evolution*. While still in South Africa, and before he joined the medical profession, Dr. George Gresswell published an essay containing a considerable number of interesting facts on the subject of snake poisoning in South Africa, and some ten years later issued several books dealing with the disorders of animals. One of them, entitled the *Veterinary Pharmacopoeia and a Manual of Comparative Therapy*, reached a second edition in 1903. He was also, in 1909, the joint author of *Health, Morals, and Longevity*, and early in the current year of the *Vital Balance*. A man of cultivated mind, wide experience, and lovable character, Dr. George Gresswell will be much missed.

ON August 24th Dr. CHARLES A. HILL, of Liverpool, died at his residence in Hoylake, after a long and distressing illness borne with characteristic fortitude. Dr. Hill spent all his professional life in Liverpool. He was educated at Rugby School, Trinity College, Cambridge, and St. George's Hospital, and devoted himself during the earlier years of his career to laboratory work under Sir Rubert Boyce. One of his first appointments was that of assistant bacteriologist to the Royal Commission on Sewage Disposal, and, although later his interests became chiefly clinical, he continued his laboratory studies as bacteriologist to the Northern Hospital, where his services were much valued by his colleagues. Through his appointment as physician to the Hospital for Diseases of the Chest, his name became chiefly associated with the subject of tuberculosis, and the soundness of his opinion on this condition was widely recognized. Charles Hill's interests, however, extended beyond his professional work. For many years he was a member of the City Council, and he did valuable service as a member of the Port Sanitary and Hospitals Committee and the Water Committee. He took an active part in the political life of the city as a Conservative. As a Freemason he held high offices in the district. Although in failing health during the last year, he assiduously attended to his duties in spite of the protests of his friends, and refused to admit an exhaustion of strength which was only too evident to them. His chief recreation was climbing. He was an active member of the Wayfarers' Club of Liverpool and of the Yorkshire Ramblers' Club, and his imperturbable temperament and fine physique made him an ideal companion on a climbing expedition. He was a past-president of the Wayfarers' Club, and none of his friends will miss him more than those who in the Lake country and in Wales and on the Yorkshire moors enjoyed the privilege of his companionship. Much sympathy is felt by his many friends for his widow and young family.

SURGEON-MAJOR ALEXANDER CHARLES MACLEOD, Madras Medical Service (retired), died on August 20th. He took the diploma of M.R.C.S. in 1840, and those of M.R.C.P.Lond. and L.K.Q.C.P.Irel. in 1861, and the F.R.C.S.Eng. in 1865. Entering the Indian Medical Service as assistant surgeon on March 8th, 1841, he became surgeon on October 26th, 1859, and surgeon-major on March 8th, 1861, retiring on February 26th,

1874. He served in the Mutiny campaign of 1857–8, and spent his whole service in military employment. For many years he had been the senior officer on the Madras retired list; the next man now on the list, Surgeon-Major W. H. Harris, was twelve years his junior. There is, however, one man senior to him still on the Bengal list—the centenarian, H. B. Hinton.

Universities and Colleges.

UNIVERSITY OF GLASGOW.

DR. WALTER JAMES DILLING, Lecturer in Pharmacology at the University of Aberdeen, has been appointed to the newly established "Robert Pollok" Lectureship in Materia Medica and Pharmacology at the University of Glasgow. Dr. Dilling was formerly Professor Kobert's assistant at Rostock; and he revised Dr. Mitchell Bruce's *Materia Medica and Therapeutics*, ninth edition, 1912. He is the author of many memoirs on pharmacological subjects.

AN APPEAL TO EXAMINING BODIES.

The Higher Diplomas.

ANOTHER VOLUNTEER writes: One of your correspondents suggests that the higher examinations be stopped for the time being, or allowed only to those over military age. May I remind him that the reasons for a man being at home at the present time may be many and various? If for some reason he is not at the front, that should not debar him from proceeding with his examinations. Whilst on the subject of examinations, I should like to ask why the authorities of the University of London cannot follow the example set by the Conjoint Board, and hold a special final examination, say, in January. For this special examination, and indeed for future examinations, I would suggest that the university adapt itself to circumstances a little more. Why should it be necessary to enter and deposit a fee a whole month in advance? Many candidates do not know where they will be a month hence. The whole procedure with regard to the M.B., B.S., is unwieldy. Surely if one examining body can accept fees three days only in advance, and take the provincial candidates first, another can.

Medical News.

SEVEN fresh cases of plague and seven deaths were reported at Hong Kong in the fortnight ending September 19th.

THE session of the South-West London Medical Society will be opened on October 14th, when Dr. Arthur Whitfield will give a lantern demonstration on lichen planus.

THE West London Medico-Chirurgical Society is to hold the opening meeting of its thirty-third session at 8.30 p.m. on October 2nd. Its rooms are at the West London Hospital.

IT has been decided to cancel the old students' dinner of St. Bartholomew's Medical School, which was arranged for October 1st. The medical school will reopen as usual for the winter session on October 1st. The same observation applies also to the London Hospital.

THE next session of the North-East London Clinical Society will commence on October 1st, at 4 p.m., at the Prince of Wales's General Hospital, Tottenham.

DURING the past few weeks our contemporary the *Nursing Times* has devoted most of its space to notes on war topics. Though written mainly from the point of view of nurses, a good deal of the information published has been of general interest.

IT is stated that Dr. August Bier, Professor of Surgery in the University of Berlin, is Surgeon-in-Chief of the German army, and that Baron von Eiselsberg, Professor of Surgery in the University of Vienna, holds the same office in the Austrian army.

THE Medical Committee of the Queen's Hospital for Children, Hackney Road, has found it necessary to cancel the arrangements that had been made for the usual course of post-graduate lectures to take place during the ensuing three months, owing to uncertainty whether many members of the staff will be able to keep their engagements to lecture in present circumstances.

MESSRS. NEALE AND WILKINSON, 32, St. Mary Axe, London, and 60, Hanover Street, Liverpool, are prepared to receive and forward free of all charge, packages for soldiers on active service. They must contain no wine, spirits, or matches, or any article of a perishable nature likely to cause damage to other packages, and must weigh not less than 11 lb., and not more than 56 lb. Further particulars, if required, can be obtained on application to either of the addresses named.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

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2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

THE Royal Sanitary Institute, 90, Buckingham Palace Road, is compiling a list of members and associates willing to help in carrying on sanitary administration, and of assisting local authorities whose staffs may have been depleted owing to the war.

DR. A. J. MANASSEH (Friends' Hospital, Brumana, near Beyrout, Syria) writes: With reference to fresh air and pneumonia I read with much interest the letters of Drs. A. Stevenson and John Bain (BRITISH MEDICAL JOURNAL, June 13th, p. 1336). They will be interested to know that although I did not mention the unlimited supply of fresh air enjoyed by every one of my cases of pneumonia, I agree fully with their remarks on this subject. I always made it a first and strong point to attend to the due ventilation of the sick-room. On several occasions I refused to go in and see the patient unless I had all the windows and the door opened. In some cases the hygienic and sanitary arrangements were far from satisfactory, but I arranged for the patient to occupy the best ventilated corner of the large common room which was sometimes shared by a whole family, an even temperature being maintained by means of either an open wood or charcoal fire.

A CLINICAL TEST FOR THE ESTIMATION OF GLUCOSE.

MR. G. C. PARNELL writes: I am much obliged to Dr. Barker Smith for his remarks in your issue of August 1st upon my paper of July 4th, 1914, "A Clinical Test for the Estimation of Glucose." So far as I am concerned, it is of no importance if the investigation of glucose in urine by coloured glasses, after caramelization of glucose by liquor potassae, had been previously made and published, although had I known of such I might have been deterred from submitting my article. My aim is simply to obtain in a practical and portable form a means of estimating the percentage of glucose at the bedside or in the consulting-room, and I hope no objection will be raised on the ground that a pocket case containing a few coloured microscopic slides is needed. With regard to the phrase "thoroughly boiled," to which exception has been taken, the meaning was obvious, although it might have been better to have substituted "boiling from ten to fifteen seconds." My consulting-room carpet unfortunately bears much evidence of this mistake, but who ever boiled a sample of urine with liquor potassae "*for over a minute*" when using Moore's test? When I mentioned the exact sizes of the test tubes it was only to emphasize the importance of careful details as against haphazard methods. Since writing the article I have found that four glasses are sufficient for all estimations, and if the colour produced at the first boiling is deeper than the 3 per cent. glass, it is better to make another analysis with urine diluted than trust to the difference of the tints of the 3 per cent. and 4 per cent. glasses, as they are not of sufficiently definite contrast to give an accurate reading. I take the opportunity of thanking the many who have written to me privately upon the subject.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

THE SURGICAL TREATMENT OF NEPHROPTOSIS BY OCCLUSION OF THE PERINEPHRIC FASCIAL SAC (CAPSULAR OCCLUSION).

BY

C. B. LOCKWOOD, F.R.C.S.Eng.,

CONSULTING SURGEON TO ST. BARTHOLOMEW'S HOSPITAL, ETC.

DURING the recent discussion on nephropexy and its results[1] the speakers laid special stress upon fixation by suturing, and no other method of curing a loose kidney seems to have been contemplated by any of them. "A successful operation was one which efficiently and permanently anchored the kidneys *in their normal position*, and was free from unpleasant sequelae such as pain, weakness of the scar, persistent sinus," etc. But a movable organ like the kidney is not in its normal position when it has been immovably fixed to the abdominal wall, and it is certain that a large proportion of the kidneys which have been fixed regain their mobility.

In 9 out of 14 St. Bartholomew's Hospital cases* seen by Mr. Blakeway the kidney had become loose again. But the following suggests that even 9 out of 14 was not a large enough proportion.

On clinical grounds, a woman, aged 59 and moderately fat, was supposed to have a stone in the right ureter. A skiagram showed the stone at about the level of the umbilicus, which strengthened the belief that it was in the ureter. Then Mr. Reid made a new and admirable skiagram, in which is seen the outline of the kidney, its hilum and ureter, and the stone in the upper part of the pelvis of the ureter. But this skiagram also revealed the fact, hitherto unsuspected, that the whole of the kidney was below the level of the twelfth rib. When I performed nephrolithotomy the kidney was well below the twelfth rib and not easy to secure, because it slipped about so freely. So that scientific *x*-ray investigation might show that the percentage of kidneys which become loose again after they have been fixed high up has been underestimated.

It would be interesting if an *x*-ray investigation of cases of nephropexy could be carried out so as to give scientific evidence of the position of the kidneys, and also whether they had begun to move again.

Dr. Harrison Orton took an *x*-ray photograph of a patient upon whom, eleven years before, I had performed nephropexy on both sides for Dietl's crises. The photograph was taken with the patient lying upon her abdomen, and shows both kidneys "in correct position," but the question of movement of the kidneys was not raised, because I was not then aware that after nephropexy the kidney might remain high up, but nevertheless move again with respiration.

The St. George's cases when seen gave no better results than the St. Bartholomew's ones; out of 8 cases of nephropexy the kidney had remained "absolutely fixed" in one.[2]

Mr. Mills,[3] who examined 30 Birmingham cases of nephropexy, and who gives such a clear and judicial account of them, says significantly "that most of these kidneys that are fixed high up still move normally in respiration." Incidentally, speaking of low fixation, he says, "A kidney fixed in this position is rarely associated with a cure of the symptoms." I infer that in some of those in which the kidney was high up and moved, a cure of the symptoms had ensued.

Sometimes the kidney may regain its mobility although more than one attempt has been made to fix it. Two attempts had been made to fix the right kidney of a nurse, but in the end it was still loose, slipped about in the abdomen, and entered a ventral hernia. The kidney, too, had probably been damaged, for separation showed that it secreted only a quarter as much urine as the left, and that of poor quality. I found a small kidney with the remains of some silk sutures at its lower end. The kidney was removed, the gap in the abdominal wall closed, and a cure ensued. It would be instructive to separate the urine in most cases of nephropexy. I surmise that the kidney which had had sutures put into it would not always function properly.

Although so many nephropexies have failed to immobilize the kidney, yet there is evidence that fixation is well within the range of surgery. But there is also evidence that the fixation may inflict grave injury upon the kidney. I have already mentioned a case in which two attempts had left the kidney small and inadequate, and two other cases of injury have fallen within my own experience. The right kidney of a woman had been partially decapsulated and sutured to the abdominal wall.† The pain and discomfort persisted and the patient became a chronic invalid. I found the kidney firmly fixed to the posterior abdominal wall, and partially embedded in inflamed tissues, much engorged, and its cortex inflamed. It was removed, and the pain cured. I took this step most reluctantly. The loss of a kidney is a severe penalty to pay for a nephropexy which had been a mechanical success but a clinical failure. The inflamed condition of the kidney seemed at the time to preclude any other course. An operation which relieved the symptoms without any risk to the integrity of the kidney would have been much better. On consideration it seems possible that the kidney might have been set loose, and an attempt made to perform the operation which I am about to describe.

The third case was that of a married woman who came under my care for an injury. After a sharp attack of appendicitis the appendix was removed. A year afterwards nephropexy was performed for right nephroptosis. For a year the result was all that could be desired. Then the kidney was loose again, with an aggravation of the former symptoms. The kidney was explored with the view of fixing it again, but had been damaged so much by the first attempt that it had to be excised. Mr. Ernest Shaw reported that "the kidney weighed 3 oz.; surface red, torn, and rough in parts. Lining of pelvis ecchymosed (?) from trauma at operation . . . apparently slight chronic interstitial nephritis."

It is probable that some kidneys loosen after nephropexy because their true capsule is too delicate and their tissues too soft to hold sutures, rather than from want of a firm fixation to the twelfth rib, arcuate ligament, diaphragm, or contiguous parts. Once, in attempting nephropexy, I encountered this condition of the kidney. On another occasion after a stone had been removed from a loose kidney it was so soft that sutures would not hold. Attempts to fix kidneys such as these are not only likely to fail, but must be fraught with danger to the integrity of the organ.

But can it be physiologically correct to immobilize a mobile organ? One would surmise that the movements of the kidneys are beneficial in promoting the secretion and flow of the urine, the circulation of blood and of the lymph. It is not to be supposed that the movements of the kidney are a mere accident. Presumably they fulfil some useful purpose. The mobility which kidneys regain after they have been fixed is a significant fact: on reflection that is what might be expected to happen when an attempt is made to immobilize organs which are naturally mobile.

It is probable that the continuous movements of the diaphragm loosen the kidneys after nephropexy, and the general movements and joltings of the body would assist. Mr. Mills found that most of the kidneys which had been fixed high up still moved normally with respiration, and that those fixed low down did not move on inspiration. Clearly the latter would be much less influenced by the movements of the diaphragm. Mr. Mills says that fixation low down is rarely associated with a cure of the symptoms.[4]

When the kidney moves with respiration it moves within the perinephric sheath or capsule. I am indebted to the admirable essay of Wilson and Howell[5] for a clear and correct account of this structure, and one which accords with my own dissections and operations. Briefly, the perinephric fascia is a sac containing the kidney. "It forms a complete investment for the kidney except at its hilum and lower pole." At the lower pole the

* Two of the 64 St. Bartholomew's operations were done by me after the method described by the late Stanmore Bishop, and which I found unsatisfactory. (Mobile Kidney, with a Description of an Operation for Anterior Nephropexy, *British Gynaecological Journal*, 1907.)

† I was told after the method described by Sir W. Watson Cheyne. (Movable Kidney, with Details of an Operation for Fixing the Kidney, *Lancet*, April 24th, 1909, p. 1155 et seq.)

perinephric sheath is, those authors say,[6] continued downwards and inwards, as a funnel-shaped prolongation, which was just exterior to the sacro-iliac joint. "Here there is a weakness in the perinephric sheath, and it is down this channel that the kidney prolapses, and, guided by the direction of the funnel, the organ soon assumes a position with its long axis directed downwards and slightly inwards." The lower part of the perinephric sac may contain fat, and if that departs the sac becomes too big for the kidney. It is generally believed that loss of weight may loosen the kidney and that the trouble may cease when the sufferer gets fat again.

The perinephric sheath does not move because it is continuous with the diaphragmatic fascia, the crus of the diaphragm, and is attached to the vertebral bodies. At its upper and inner part, where some of it passes behind the suprarenal body, the perinephric fascia is thick and strong. Here it is reinforced by a strong fibrous band, the true "suspensory ligament" of Wilson and Howell. To perform nephrectomy the kidney has to be withdrawn from its perinephric fascial sheath. In those who are strong and athletic the kidney is firmly upheld by the perinephric fascia. When performing nephrolithotomy on a muscular young man the left kidney was in a thick and tough fascial sheath, and when it had been freed from that it was still strongly held there—the twelfth rib had to be excised for the removal of the stone.

My own observations confirm the accounts given by Wilson and Howell, except that I do not think the downward prolongation is as constant as they imply.

The perinephric sheath is also held firm by its continuity with the transversalis fascia, with the sheaths of the quadratus lumborum and psoas muscles, and by its attachments to the vertebral column.[7]

The perinephric fascia supports the kidney and restrains its movements during respiration and during the movements of the body. Although the average weight of the kidney is only five or six ounces, nevertheless this small weight is not to be ignored. When the kidney is loose in its sheath it can be felt moving about according to the position of the body. Standing up it falls towards the pelvis; lying on one side it falls to the other.

So the perinephric fascia not only restrains the movements of the kidneys during ordinary respiration but also during respiratory efforts and during joltings and shakings of the body. When the kidney becomes loose the perinephric fascia does not yield at its attachments. Its sac becomes too capacious, and then the kidney begins to have a wide range of movement within it.

This was clearly seen during an operation which I performed in December, 1896. A woman aged 42 suffered from intermittent hydronephrosis. The right kidney was loose, with a considerable range of movement. It felt enlarged, and was very tender. Inasmuch as the woman looked ill, and had become thinner, Mr. A. W. Lemarchand felt suspicious lest the kidney had a growth in it. The kidney was exposed by an incision through the right semilunar line. The hepatic flexure of the colon was at the iliac crest. The right lobe of the liver was 2 in. below the costal margin. The kidney was normal, but moved about freely within the perinephric fascia. It was easily pushed up, and kept in a high position by two silk sutures, which closed the opening which had been made in the perinephric fascia, and which also fastened it to the abdominal wall. My note says that those sutures seemed to fix the kidney, but clearly they did not fix the kidney, but only prevented it from falling again, its former receptacle having been obliterated. It was still a movable organ, but not a loose one. During this operation I found the liver much in the way; the incision would not have been made through the semilunar line had there not been reason to suspect a growth in the kidney.

Mr. A. W. Lemarchand reports that after this operation the symptoms disappeared, and the patient was well in June, 1902, five and a half years after the operation.

Later (December, 1906), after exploring the left kidney, which was very loose, the usual fixation was made by stripping its capsule and fastening it to the diaphragm and arcuate ligament. In addition, two stout silk sutures were inserted through the perinephric capsule at the lower end of the kidney and fastened to the abdominal wall. After this the kidney was 2 in. above the iliac crest and very strongly held. I now think the sutures which held the perinephric sheath would have sufficed. That would have obviated the risk of damaging the kidney by stripping its true capsule.

After these experiences, I began to treat loose kidneys by occluding the loose and too capacious perinephric sac or bag.

The Operation Recommended.

The steps of the operation have been as follows: The patient is placed in the usual position for nephrotomy with a sandbag or an inflatable air cushion between the table and the flank. An oblique incision is made about an inch below the twelfth rib, not quite parallel to it, but more in the direction of the fibres of the external oblique. The incision begins behind at the outer border of the erector spinae, and is carried forward for four or five inches. The length of the incision depends upon the thickness of the abdominal wall. The muscles are split in the direction of their fibres. No nerves are divided, and the bleeding is trifling. The fascia transversalis having been opened the kidney is sought for. I have found this step, usually a troublesome one, made quite easy by rolling the patient over until the wound faces the table. Then the finger is passed over the kidney to separate the perinephric fascia from the colon and peritoneum, and the perinephric fascia is taken between the finger and thumb at the lower end of the kidney, which is squeezed upwards within its sac. When the kidney has gone up as high as is judged necessary, the perinephric fascia is clamped at its lower end with pressure forceps, and ligatures of No. 2 or 3 twisted silk are passed round it with a curved needle. I have passed two and sometimes three of these silk sutures about half an inch apart. The ends of these ligatures are left long and used to fix the perinephric fascia to the abdominal wall. Before applying the pressure forceps the perinephric fascia is felt between the finger and thumb to make sure that the ureter is not being taken in. When the perinephric fascia has been ligatured the lower end of the kidney is at about the level of the twelfth rib and moving a little with respiration.

Unless it is necessary to explore the kidney it is better not to open the sac of the perinephric fascia. A case has been mentioned of a rather stout, elderly woman in which a stone was situated in the hilum of a loose and prolapsed kidney. The perinephric fascial sac had to be opened for the extrusion of the kidney. The opening was rather troublesome to close, especially as the perinephric fascia was thin and loose and had much fat about it. On the other hand, no difficulty whatever was met with in closing the opening after removing a stone from the pelvis of the kidney of a young woman with well developed muscles and firm tissues. Three chromic gut sutures were used to close the hole in the perinephric fascia and to obliterate the lower part of its sac. The kidney, which had been unusually loose, was then supported with its lower end just below the level of the twelfth rib, and four years afterwards was judged on clinical grounds to have remained there. During the four years the patient had led a very active life, her chief amusement being lawn tennis. I regret to have been unable to get an *x*-ray photograph taken.

The operation is completed by bringing the abdominal muscles together with chromic gut sutures, and suturing the skin with silkworm gut.

This operation hardly takes more than half an hour, and is followed by very little shock, pain, or vomiting, and in these respects contrasts favourably with the operations which I have done to fix the kidney. The patients have hardly suffered more than they would have done after radical cure of hernia. After the operation I follow my usual routine after abdominal operations—namely, three weeks in bed, three weeks on a couch, six weeks' gentle exercise.

Although I have not been able to learn that a similar operation has been performed by others, yet it is difficult to suppose that a proceeding which seems to fulfil the pathological conditions so well can have been overlooked.

Surgeons have, doubtless, been deterred from dealing with the perinephric capsule by the emphatic condemnation which has been meted out to that course. For instance, Sir Henry Morris in his admirable work[8] writes:

> In one particular, however, all operators are now agreed, namely, that the original plan of Hahn, and every modification

of it, whereby only the perinephric tissue—the fibro-fatty investment of the kidney—is shortened and fastened to the parietes, is useless or at any rate uncertain, and therefore unsatisfactory.

But Hahn,[9] in the two operation cases which he described, did certainly not aim at the occlusion of the perinephric fascial sac. As I read his account, it appears that, after the kidney had been approached through an oblique lumbar incision, the "capsula adiposa" was pulled backwards into the wound and fastened there with six or eight catgut sutures, and the wound packed with carbolic gauze. It is difficult to see how this proceeding could adequately and permanently diminish the size of the too capacious perinephric capsule, and it is not surprising that it was abandoned.

Nephropexy has been sparingly performed in London hospitals—on an average, ten per annum in each of four large London hospitals (St. Bartholomew's, St. Thomas's, Guy's, St. George's)—because it is looked upon as a serious operation, which for a time makes the patient very ill, which may not cure the symptoms, and which may damage the kidney and weaken the abdominal wall.

Occlusion of the perinephric fascial sac is not a severe operation, does not injure the kidney in the least, and, as the abdominal wall is split and brought together again, it is not likely to be followed by ventral hernia.

I now give some of the results of the few operations which I have done.

Four years ago I performed nephrolithotomy upon a young married woman. Her right kidney, besides having a stone in its pelvis, descended below the level of the umbilicus and slipped about very freely, so that after the abdomen had been entered as far as the peritoneum by splitting the muscles in the flank it was exceedingly difficult to secure. After the removal of the stone the perinephric fascial sac was occluded with three chromic gut sutures. Four years after this operation the right kidney could not be felt, although in the meantime the patient had been leading a rather strenuous life—lawn-tennis being her chief amusement. So, then, occlusion of the perinephric fascial sac suffices to keep the kidney up.

A neurasthenic patient who was operated upon more than a year ago has been seen. The right kidney cannot now be felt. The patient says that she has had great benefit from the operation. "The backache and dragging are gone, and I can now walk about again and ride in trains and buses." In addition to the pain of backache this patient had symptoms pointing to intermittent hydronephrosis. She had had other operations done before, and says she suffered much less from the kidney operation than from any of them.

Another patient with backache, dragging, and symptoms pointing to intermittent hydronephrosis has been entirely freed from these symptoms, but only three months have elapsed since the operation.

A children's nurse, aged 38, was operated upon in April, 1909. I have been unable to see her, but in December, 1913, she wrote: "I am most grateful to be able to write you that I have now no trouble whatever from the kidney which was operated on. I rapidly recovered my strength, went back to my usual work, and have gone on ever since without a rest." Before the operation she had had severe crises with pain, vomiting, and blood in the urine. The presence of a calculus was suspected, but none could be found, although the kidney was explored.

As regards intermittent hydronephrosis, a remark made by Wilson and Howell[10] is to be noted. "The portion of the ureter (about two inches) within the perinephric sheath is free to follow the kidney in all its movements, and thus a kink may be produced at its point of exit from the perinephric sheath," which does not yield. Mr. Alfred Johnson[11] has conclusively shown the truth of this.

So occlusion of the perinephric fascial sac in cases of nephroptosis cures the symptoms caused by the dragging upon the renal plexus, the obstruction of the renal veins, and the kinking of the ureter. A kidney which had been loose and prolapsed had, owing to kinking of the ureter, become a thin-walled cyst, distended with urine, and it had to be removed.

Calculi seem rather common in loose and prolapsed kidneys. I have met with this association in 5 cases of nephrolithotomy. It is, however, difficult to know whether the presence of the stone causes the looseness of the kidney or whether the looseness of the kidney causes the stone. I suspect the latter is usually the case, but clearly it is desirable, after removing a stone from a loose kidney, to complete the operation by occlusion of the perinephric fascial sheath.

There are grounds for suspecting that loose kidneys are more liable to infection, either through the blood stream or by way of the ureter. Clinical histories are not very reliable, but I have removed a tuberculous kidney which had been loose for many years. Ascending colon bacillus pyelonephritis was severe and persistent in the case of a female with nephroptosis on the right side. The left kidney was in normal position, and did not suffer. Such considerations as these suggest a wider field for the treatment of nephroptosis by an operation which seems to be efficacious, is not severe, and does not endanger the kidney.

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THE USE OF AN APERIENT BEFORE X-RAY EXAMINATION OF THE INTESTINE IN CHRONIC CONSTIPATION.

BY

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IT does not appear to be certainly known to radiographers whether or not the presence of faecal accumulations in the last portions of the large gut influences the rate of passage of the mixture of bismuth and food in any constant manner.

If there be such an influence, it would seem that the gut should always be emptied by an aperient before an *x*-ray examination is made, in order to obtain comparable results in different cases. Some writers advise an aperient, whilst others do not mention it. Search in those books and journals to which we have had access has not afforded any definite evidence on the point; as it seems to be of some moment we have, therefore, at the suggestion of Dr. Spriggs, endeavoured to investigate it.

Four adult men, who had all suffered for many years from chronic constipation, for which there did not appear to be any cause in the nature of mechanical obstruction, were observed, the same procedure being employed in all.

Two series of photographs were taken in each case; the first series was not preceded by an aperient; in the second the bowel was emptied by a dose of castor oil on the night before the bismuth meals. Observations were made immediately at 4, 6, 12, 24, 36, and 48 hours after the bismuth breakfast, and at other times when necessary.

The following is a summary of the findings in the 4 cases:

1. The first case was one of delay in the stomach and colon. In the first series of skiagrams, before which no purgative was taken, the stomach emptied in about nine hours, and the transverse colon, which was reached in seven hours, not till 100 hours.

In the second series (after castor oil) the stomach emptied about one hour earlier, but the delay in the colon was not appreciably affected.

2. The second case was one of spastic constipation of the descending colon, the passage through the stomach and small intestine being normal. The stomach was emptied in four and a half hours and the caecum reached in four hours. The stasis in the large bowel was especially marked in the caecum.

On comparing the two series of skiagrams, it was found that the bismuth passed rather more rapidly in the first series than in the second one (after castor oil).

3. In the third case also the delay was in the large intestine, but here we found that the second series (after castor oil) showed a slightly more rapid passage of the bismuth.

4. The fourth case was one of moderate delay in the caecum, but the total time which the bismuth took to traverse the entire bowel was not abnormally long; the caecum was not quite emptied in thirty hours, while the bismuth had entirely left the rectum in forty-eight hours.

In this instance there was practically no difference to be noted between the two series of skiagrams.

Conclusion.

So far as the evidence in these cases goes, the conclusion may be drawn that, in cases of chronic constipation, the variations between the rates of passage of the bismuth along the intestine were but small, whether the bowel had been emptied by a preliminary aperient or not; at the most the differences were not greater than can be said to be within the normal limits.

Further, where differences were noted in the two series, they were not constant, being in one case in the direction of greater rapidity after an aperient, in another of less, and in a third varying at different times in the same patient.

It is, however, undoubtedly wise in most cases to give a purge before making an *x*-ray examination, on account, first, of the greater clearness of the skiagrams obtained when the intestine is empty; and secondly, of the discomfort which the patient, deprived of his usual aids to defaecation, may experience in the two or three days occupied by the *x*-ray observations, during which, of course, no aperient must be given.

The result of these trials appears to show, nevertheless, that in cases in which time does not permit of a preliminary purge, or in which it is undesirable for any other reason to give it, the conclusions reached may be accepted without the fear that they have been materially vitiated by the omission.

INSECTS AND WAR:

III.—*FLEAS.*

By A. E. SHIPLEY, Sc.D., F.R.S.,
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> Marke but this flea, and marke in this,
> How little that which deny'st me is;
> It sucked me first, and now sucks thee,
> And in this flea our two bloods mingled bee.
> Dr. DONNE.

THE fact, now fully established, that the bubonic plague is conveyed to man from infected rats or from infected men by fleas has taken that wingless insect out of the category of those animals which it is indelicate to discuss.

No doubt, as Mr. Dombey says, "Nature is on the whole a very respectable institution"; but there were times when she presented herself in a form not to be talked about, and until a few years ago the flea was such a form. Hence few but specialists have any clear idea either of the structure or of the life-history or of the habits—save one—of the flea.

Fleas are temporarily parasitic on many mammals and birds, but some mammals and some birds are much freer

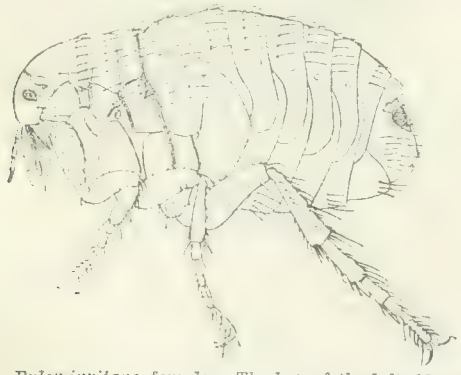


Fig. 1.—*Pulex irritans*, female. The legs of the left side only are shown. (After a drawing by A. Dampf.) Enlarged.

from fleas than others. As the flea is only on its host for part of the time, it has to put in the rest of its existence in some other place, and this in the case of the human flea is usually the floor, and in the case of bird-fleas the nest; from these habitats they can easily regain their hosts when they retire to rest. But large numbers of ruminants—deer, cattle, antelopes, goats, wild boars—sleep in different places each night, and to this is probably due the fact that, with the exception of two rare species, one taken in Northern China and the other in Transcaucasia, the ruminants have furnished descriptive science with no fleas. Both of these ruminant fleas are allied to the burrowing fleas or "chigoes."

I know I shall not be believed when I say that the same is true of monkeys, but I do this on the undoubted authority of Mr. Harold Russell, who has recently published a charming little monograph on these lively little creatures. Monkeys in nature are cleanly in their habits, and although in confinement occasionally a human flea attacks them, and although occasionally a chigo bores into the toes of a gorilla or chimpanzee, "speaking generally, it may be said that no fleas have been found truly parasitic on monkeys." Whatever the monkeys are looking for, it is not fleas. What they seek and find is in effect little scabs of scurf, which are made palatable to their taste by a certain sour sweat.

As a rule, each host has its own species; but though for the most part *Pulex irritans* is confined to man, it is occasionally found on cats and dogs, whilst conversely the cat and dog fleas (*Ctenocephalus felis* and *Ct. canis*) may attack man. The bite of the flea is accompanied by the injection of the secretions of the so-called salivary glands of the insect, and this secretion retards the coagulation of the victim's blood and stimulates irritation.

It is only a few years ago that the spread of plague was associated first with rats, and then with rat-fleas; and it became at once of enormous importance to know which of the very numerous species of rat-flea would attack human beings. The Hon. Charles Rothschild, who has accumulated a most splendid collection of preserved fleas in the museum at Tring, had some years ago differentiated from an undifferentiated assemblage of fleas a species first collected in Egypt, but now known to be the commonest rat-flea in all tropical and subtropical countries. This species (*Xenopsylla cheopis*)—and to a lesser extent *Ceratophyllus fasciatus*—unfortunately readily bites man, and if they should last have fed upon a plague-infected rat, their bites will communicate bubonic plague to human beings. Plague—the old English "Black Death"—is a very real peril in armies operating in Asia and in certain parts of Africa.

Just as some fleas attack one species of mammal or bird and avoid closely allied species, so the human flea has its favourites and its aversions. There is a Turkish proverb which says "An Englishman will burn a bed to catch a flea," and those who suffer severely from flea-bites would certainly do so; but there are persons even a flea will not bite. Mr. Russell has reminded us in his Preface of the distinguished French lady who remarked, "Quant à moi ce n'est pas la morsure, c'est la promenade!"

There are one or two structural features in a flea which are peculiar, the most remarkable being that, unlike other insects, it is much taller than it is broad. As a rule insects, such as a cockroach, the bed-bug, or a stag-beetle, are like skates—broader than they are thick; but the flea has a laterally compressed shape, like a mackerel or herring. Then the three segments or rings which come after the head are not fused into a solid cuirass as they are in the fly or the bee, but are movable one on the other. It is usual in insects for the first joint of the leg to be pressed up against and fused with the segments of the body that bear them, but in the flea not only is this joint quite free, but the body-segment gives off a projection which stretches out to bear the leg. Thus the legs seem, unless carefully studied, to have an extra joint and to be of unusual length. They certainly possess unusual powers of jumping. As Gascoigne, a sixteenth century poet (1540–78), writes, "The hungry fleas which frisk so fresh." The male, as is so often the case amongst the invertebrata, is much smaller than the female. The latter lays at a time from one to five minute, sticky, white eggs, one-fortieth of an inch long by one-sixtieth broad. They are not laid on the host, but in crevices



Fig. 2.—Larva of *Pulex irritans*. *Cf.* frontal horn; *d*, antenna. Enlarged.

between boards on the floor, or at the bottom of a dog kennel or bird's nest. Mr. Butler recalls the case of a gentleman who collected on four successive mornings 62, 78, 67, and 77 cat-fleas' eggs from the cloth his cat had slept upon. Altogether 280 eggs in four nights! The date of hatching varies very much with the temperature. *Pulex irritans* takes half as long again—six weeks instead of four—to become an adult imago in winter as in summer, but in India the dog-flea will complete its cycle in a fortnight.

When it emerges the larva is seen to be a whitish segmented little grub without any limbs, but with plenty of bristles which help it to move about; this it does very actively. There are two small antennae and a pair of powerful jaws, for the larva does not take liquid food, but eats any scraps of solid organic matter which it comes across; dead flies and gnats are readily devoured. The larva casts its skin several times, though exactly how often it moults seems still uncertain.

After about twelve days of larval existence it spins itself a little cocoon in some sheltered crevice, and turns into a whitish inert chrysalis or pupa. During its pupal existence it takes, of course, no food, but it grows gradually darker, and after undergoing a tremendous internal change, breaking down its tissues and building up new ones, the chrysalis case cracks and the adult flea jumps out into the world.



Fig. 3.—Pupa of flea. (After Westwood.)

There are many superstitions about fleas. March 1st is in some way connected with them, and in the south of England the house doors are in some places closed on that day under the belief that this will render the building immune for the following twelve months. The most successful insecticide is said to be prepared from *Pyrethrum*, which is grown in the near East in large quantities for this purpose. Wormwood (*Artemisia*) is also recommended.

> While wormwood hath seed, get a handfull or twaine,
> To save against March, to make flea to refraine:
> When chambere is swept and wormwood is strowne,
> No flea for his life dare abide to be known.
>
> TUSSER.

The author of *A Thousand Notable Things* suggests the following plan, but, so far, I have not met any one who has tried it: "If you mark where your right foot doth stand at the first time that you do hear the cuckow, and then grave or take up the earth under the same: wheresoever the same is sprinkled about, there will no fleas breed. I know it hath proved true."

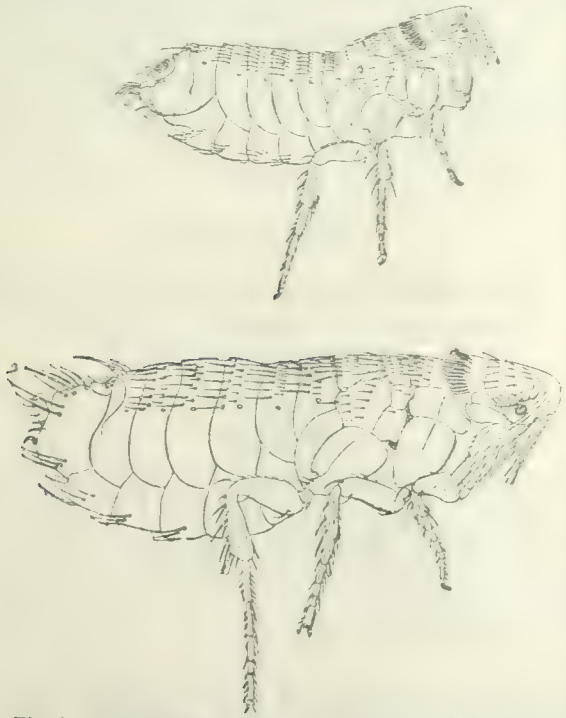


Fig. 4.—*Ceratophyllus gallinulae*. Male (above) and female (below). Drawn to scale and both highly magnified. These specimens taken from a grouse are of the same genus as one of the plague-conveying fleas.

Plastering a floor with cow-dung, which is a common practice in South Africa, is said to be a very efficacious means of keeping down fleas.

But we must, in the long run, treat fleas seriously. Although the *Pulex irritans* is a very common insect, the greatest living authority on fleas tells me it has never been accurately drawn. We have Blake's "ghost of a flea," but what did Blake know of entomology? In distinguishing one flea from another—fleas which may attack man and fleas which have hitherto declined to do so—every hair, every bristle counts (Fig. 4). Hence I illustrate this article with accurate outlines of certain fleas found on the grouse, and for whose accuracy I can vouch. As I have said above, a certain rat-flea (*Xenopsylla cheopis*) and another (*Ceratophyllus fasciatus*) undoubtedly conveyed the bacillus of plague from rats and other Murinae to man and vice versa. The *Bacillus pestis* is unlikely to establish itself in the present war, but *quien sabe?* The Black Death of 1349–51 was conveyed by fleas, and so was Pepys's plague of 1665. Plague—flea-borne, we must remember—is still endemic in places as near Europe as Tripoli, and in numerous centres in Asia. Not a disease altogether to be neglected, but still not a very threatening one in Europe in the twentieth century.

BACILLI AND BULLETS.

AN ADDRESS TO THE OFFICERS AND MEN IN THE CAMPS AT CHURN.*

BY SIR WILLIAM OSLER,
REGIUS PROFESSOR OF MEDICINE, OXFORD.

I HAVE been asked to say a few words on the question of health in war time, that you may realize its importance. Formerly an army marched on its belly; now it marches on its brain. Only by utilizing existing knowledge, in all grades from commander-in-chief to private, is the maximum of success available. To put the largest number of the enemy out of action with a minimum of loss to his own men is the aim of every general. While in one way modern war merges the individual in a great machine, on the other hand the intelligent action of the unit has never been so important a factor in making the machine work smoothly and efficiently. After all, it is the man behind the gun who wins the victory.

What I wish to urge is a true knowledge of your foes, not simply of the bullets, but of the much more important enemy—the bacilli. In the wars of the world they have been as Saul and David—the one slaying thousands, the other tens of thousands. I can never see a group of recruits marching to the dépôt without mentally asking what percentage of these fine fellows will die legitimate and honourable deaths from wounds, what percentage will perish miserably from neglect of ordinary sanitary precautions? It is bitter enough to lose thousands of the best of our young men in a hideous war, but it adds terribly to the tragedy to think that more than one-half of the losses may be due to preventable disease. Typhus fever, malaria, cholera, enteric, and dysentery have won more victories than powder and shot. Some of the diseases I mention need no longer be dreaded. Typhus, and malaria, which one hundred years ago routed a great English army in the Walcheren expedition against Antwerp, are no longer formidable foes. But enough remain, as we found by sad experience in South Africa. Of the 22,000 lives lost in that war—can you believe it?—the bullets accounted for only 8,000, the bacilli for 14,000! In the long arduous campaign before us more men will go into the field than ever before in the history of the Empire. Before it is too late, let us take every possible precaution to guard against a repetition of such disasters. I am here to warn you soldiers against enemies more subtle, more dangerous, and more fatal than the Germans—enemies against which no successful battle can be fought without your intelligent co-operation. So far the world has only seen one great war waged

* Copies of this address in pamphlet form can be obtained from the Oxford University Press, London, Edinburgh, Glasgow, New York, Toronto, Melbourne, and Bombay, price one penny net.

with the weapons of science against these foes. Our allies, the Japanese, went into the Russian campaign prepared as fully against bacilli as against bullets, with the result that the percentage of deaths from disease was the lowest that has ever been attained in a great war. Which lesson shall we learn? Which example shall we follow—Japan, or South Africa with its sad memories?

We are not likely to have to fight three of the greatest former scourges—typhus, malaria, and cholera—though the possibility of the last has to be considered. But there remain dysentery, pneumonia, and enteric, against two of which we should be able to bring to bear successfully resources of modern science.

Dysentery, an inflammation of the large bowel, has been for centuries one of the most terrible of camp diseases, killing thousands, and, in its prolonged damage to health, one of the most fatal of foes to armies. So far as we know, it is conveyed by water, and only by carrying out strictly, under all circumstances, the directions about boiling water can it be prevented. It is a disease which, even under the best of circumstances, cannot always be prevented; but with care the incidence should be reduced to a minimum, and there should never again be widespread outbreaks in the camps themselves.

Pneumonia is a much more difficult disease to prevent. Many of us, unfortunately, carry the germ with us. In these bright days all goes well in a holiday camp like this; but when the cold and the rain come, and the long marches, the resisting forces of the body are lowered, the enemy, always on the watch, overpowers the guards, rushes the defences, and attacks the lungs. Be careful not to neglect coughs and colds. A man in good condition should be able to withstand the wettings and exposures that lower the system, but in a winter campaign pneumonia causes a large amount of sickness, and is one of the serious enemies of the soldier.

Above all others one disease has proved most fatal in modern warefare—enteric or typhoid fever. Over and over again it has killed thousands before they ever reached the fighting line. The United States troops had a terrible experience in the Spanish-American war. In six months, between June and November inclusive, among 107,973 officers and men in ninety-two volunteer regiments, 20,738—practically one-fifth of the entire number—had typhoid fever, and 1,580 died. Fortunately, in this country typhoid fever is not prevalent in the districts in which camps are placed. The danger is chiefly from persons who have already had the disease, and who carry the germs in their intestines, harmless messmates in them, but capable of infecting barracks or camps. You can easily understand how flies lighting on the discharges of such typhoid carriers could convey the germs far and wide. It was in this way probably, and by dust, that the bacilli were so fatal in South Africa. Take to heart these figures: There were 57,684 cases of typhoid fever, of which 19,454 were invalided, and 8,022 died. More died from the bacilli of this disease than from the bullets of the Boers. Do let this terrible record impress upon you the importance of carrying out with religious care the sanitary regulations.

One great advance in connexion with typhoid fever has been made of late years, and of this I am come specially to ask you to take advantage. An attack of an infectious disease so alters the body that it is no longer susceptible to another attack of the same disease; once a person has had scarlet fever, small-pox, or chicken-pox, he is not likely to have a second attack. He is immune, or has what is called immunity. When you expose a solution of sugar to the air, or if you add to it a pinch of yeast, a process goes on which we call fermentation, accompanied by a growth of little germs of the yeast in the fluid, and by an increase in temperature (in fact the solution has a fever), and the composition of the fluid alters, so much so, that you can inoculate it afterwards again and again with the same germ, but no further change takes place. Now this is what happens to us when bacilli make a successful entry into our bodies. They overcome the forces that naturally protect the system, and grow just as the yeast does in the sugar solution; but the body puts up a strong fight, all sorts of antibodies are formed in the blood, and if recovery takes place, the patient afterwards has immunity, for a time at least, from subsequent attacks. The body has mobilized its forces, and is safe for a few years at least against that disease. It was an Englishman, Jenner, in 1798, who found that it was possible to confer this immunity by giving a person a mild attack of a disease, or of one very like it. Against small-pox all of you have been vaccinated—a harmless, safe, and effective measure. Let me give you a war illustration. General Wood, of the United States Army, told me that, when he was at Santiago, reports came that in villages not far distant small-pox was raging and the people without help of any kind. He called for volunteers, all men who showed scars of satisfactory vaccination. Groups of these soldiers went into the villages, took care of the small-pox patients, cleaned up the houses, stayed there until the epidemic was over, and not one of them took the disease. Had not those men been vaccinated, at least 99 per cent. of them would have taken small-pox. Now, what I wish to ask you is to take advantage of the knowledge that the human body can be protected by vaccination against typhoid fever. Discovered through the researches of Sir Almroth Wright, this measure has been introduced successfully into our own regular army, into the armies of France, the United States, Japan, and Germany. I told you a few minutes ago about the appalling incidence of typhoid fever in the volunteer troops in America during the Spanish-American war. That resulted largely from the wide prevalence of the disease in country districts, so that the camps became infected; and we did not then know the importance of the fly as a carrier, and other points of great moment. But in the regular army in the United States, in which inoculation has been practised now for several years, the number of cases has fallen from 3.53 per thousand men to practically nil. In a strength of 90,646 there were in 1913 only three cases of typhoid fever. In France the enteric rate among the unvaccinated was 168.44 per thousand, and among the vaccinated 0.18 per thousand. In India, where the disease has been very prevalent, the success of the measure has been remarkable. In the United States, and in France, and in some other countries this vaccination against the disease is compulsory. It is not a serious procedure; you may feel badly for twenty-four hours, and the site of inoculation will be tender, but I hope I have said enough to convince you that, in the interests of the cause, you should gladly put up with this temporary inconvenience. If the lessons of past experience count, any expeditionary force on the Continent has much more to fear from the bacillus of typhoid fever than from bullets and bayonets. Think again of South Africa with its 57,000 cases of typhoid fever! With a million of men in the field, their efficiency will be increased one-third if we can prevent enteric. It can be prevented, *it must be prevented*; but, meanwhile, the decision is in your hands, and I know it will be in favour of your King and country.

A CASE OF RUPTURED ECTOPIC GESTATION COMPLICATED BY SPLENO-MEDULLARY LEUKAEMIA.

BY LIONEL E. SUTCLIFFE, M.B., CH.B. SHEFFIELD,
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THE combination present in the following case of spleno-medullary leukaemia with pyrexia of such a marked character and for so prolonged a period, together with the fact that it was complicated with ruptured ectopic gestation, that there was shrinkage of the spleen coincident with the haemorrhage, and that it enlarged markedly and rapidly during the reactionary stage, are features of great interest.

S. A., aged 21, was admitted to the Lowestoft Hospital at 5 p.m. on January 10th. On January 8th, at 1.30 a.m., she had been seized with acute abdominal pain accompanied by vomiting. Three weeks previously she had menstruated normally, and had never missed a period since her marriage, twelve months earlier. The abdomen was distended, motionless, and universally tender. Rigidity was most marked on the right side, and the patient localized her most acute pain in the right iliac fossa. The temperature was 101.4° F., and the pulse 135.

Vaginal examination elicited the fact that there was a large, soft, fluctuant mass in the pouch of Douglas. The diagnosis of ruptured ectopic gestation was made, and the patient operated upon at 7 p.m. The abdomen was full of blood and clots; the ruptured gestation sac, which was in the right broad ligament, was removed, the stump ligatured, and the abdomen closed after being cleansed.

The temperature rose on the following day to 102.6° F., at which point it remained practically stationary until the sixth day after operation, when it rose to 103.2° F.; it remained almost constantly at 103° F. or 103.2° F. for six days—that is, to the twelfth day after operation. It fell steadily during the next two days to 101° F. as maximum, at which it remained practically stationary until the eighteenth day after operation, when it rose gradually during the day to a maximum of 103° F. once more in the evening.

This date marked a new era in the disease. Nothing could be found to account for this pyrexia; there was no suppuration in the wound, no pain or tenderness in the abdomen, no complication in the heart or lungs, and nothing abnormal to be felt in the abdomen. There was slight albuminuria. There was, however, one positive fact—namely, that in spite of her general improvement, apart from the raised temperature, the patient showed extreme blanching; she said, however, that she was usually very pale. On January 28th, when the further sudden rise of temperature occurred, the spleen was found to be easily palpable. The blood examined that day was found to contain large quantities of myelocytes, nucleated red cells (both megaloblasts and normoblasts), mast cells, and polymorphonuclear leucocytes in every condition. The temperature fell in the course of two days to 100° F., between which and 99° F. it oscillated for a fortnight more. The spleen continued steadily to enlarge until it reached to a finger-breadth below the umbilical level and extended considerably into the right hypochondrium.

One additional feature throws some light on the condition of the blood. On the tenth day after operation the stitches were removed, and it was seen that there had been no attempt at healing. The edges of the wound were scraped and it was again united by sutures, but once more failed to heal. After being dressed with lotio rubra and after further scraping, it was again sutured.

It seems certain that for some considerable time the patient had been the subject of this form of leukaemia—she had experienced fits of giddiness and breathlessness on going about, and had recently consulted a medical man for obstinate epistaxis.

It appears, therefore, I suggest, that the spleen was enlarged previously to the occurrence of the abdominal catastrophe, that it shrank with the progress of the haemorrhage, and with the onset of the reaction therefrom it again began to enlarge.

I find Sir William Osler quotes several cases which have come under his notice in which this occurred in the presence of a severe haemorrhage. The woman has now made a complete recovery, the spleen and blood both having become normal.

I am indebted to Dr. Bell, senior surgeon to the Lowestoft Hospital, under whose care the patient was admitted for operation, for permission to publish this case.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SUBLINGUAL MEDICATION.

SIR,—I heartily endorse what Dr. William Paulson says (p. 541), as to the simplicity, cleanliness, and efficacy of sublingual medication, and have for many years used it daily in my practice. In 1885 I was returning to medical duties in Japan after furlough. The passage was exceedingly rough, I was weak from effects of malaria and dysentery, and so sick that I could take no kind of food, while brandy returned immediately. Happening to notice, however, that when a few drops of brandy rested under the tongue some internal glow was felt, I began to use that well-known remedy in this way with the best effects. I cannot remember having seen any notice of this method in print, but from that time I have used the ordinary subcutaneous tabloids in everyday practice, and have never known any inconvenience arise from placing them under the tongue. The results are very quick and sure, and I but rarely resort to hypodermic injections now. For this purpose the tablets might be made more palatable with advantage, but that is a small matter.

Stoke-on-Trent. HENRY FAULDS, L.R.F.P. and S.

TREATMENT OF ACUTE GONORRHOEA IN THE MALE.

I HAVE read with interest the articles on this subject lately appearing in the BRITISH MEDICAL JOURNAL.

Thirty years ago, working in Canada with surgeons of that country, I adopted their method for acute cases seen early—that is to say, I ordered the usual rest, diet, diluents, etc., but began injections of a 2-grain solution of zinc sulphate on the first or earliest possible day of the disease, with instruction to the patient "to inject always after passing urine, and never to inject unless urine had just been passed." The patient was given the usual syringe in a bottle, the cork (rubber) of which makes the handle of the syringe, and told to always carry it and always use it immediately after passing urine. With this treatment the discharge usually ceases about the fourth day. The patient should continue the injections as directed for three or four days after its disappearance, and then gradually lessen the number; there should be complete cure in from eight to ten days. Latterly I have used zinc permanganate instead of sulphate, and have given also hexamethylenetetramine (which I prefer to cystopurin) by the mouth. The results have been the same.

Mevagissey, Cornwall. C. W. MONRO GRIER.

EIGHTY-SECOND ANNUAL MEETING OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF DISEASES OF CHILDREN.

Dr. JOHN THOMSON, President.

A DISCUSSION ON THE THYMUS GLAND IN ITS CLINICAL ASPECTS.

OPENING PAPERS.

I.—A. E. GARROD, D.M., M.A., F.R.C.P., F.R.S.,

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DURING active adult life the vital processes are in a condition of more or less stable equilibrium, and, unless disease intervene, the regulator mechanisms are so accurately balanced that there is little disturbance of the normal standards from year to year.

In childhood different conditions prevail. This is a period of active growth and development. The regulator mechanisms are not yet balanced; income is in excess of expenditure, and, as puberty is approached, the organism takes upon itself new functions in the interest of the race rather than of the individual.

We are learning how large a part is played in the regulation of the vital processes by internal secretions of glands, such as the thyroid, pituitary, and adrenals; and it is a reasonable hypothesis that the special features of childhood are due, at least in part, to the functional activities of certain glands of which the influence passes into abeyance when childhood is past. It is probable that the pineal is such a gland, but the glandular organ of childhood *par excellence* is the thymus, the clinical aspects of which, as yet so shadowy and ill-defined, form the subject of discussion to-day.

It is now generally conceded that the thymus is a gland of internal secretion, despite the resemblance in its structure to that of the lymphatic organs, and its enlargement in association with these in the victims of status lymphaticus. But the methods which have thrown so much light upon the functions of the thyroid have, in the case of the thymus, yielded far less definite results.

The more recent experiments upon removal of the thymus in young animals carried out by Basch,[1] Klose and Vogt,[2] and Matti[3] have yielded results sufficiently uniform to carry conviction. This is doubtless due to improvements of technique, which allow of more complete removal, and to the early age at which the operation was performed, for it must be remembered that in dogs and rodents the period of childhood, the interval between birth and puberty, is far shorter than in man.

In puppies experimented upon a period of latency of several weeks was followed by a stage of adiposity, and later by cachexia and wasting, and eventually by death in coma. Growth was arrested and the animals developed a cretinoid condition. But the most striking and characteristic effect of thymectomy is the supervention of changes in the bones so like those of human rickets as to be practically indistinguishable therefrom. Lastly, changes occur in other glands of internal secretion, such as increase of the adrenal medulla and enlargement of the thyroid, pancreas, and testes.

Of recent years the operation of thymectomy has been repeatedly performed upon children for the relief of dyspnoea, but although the mortality has been high, the effects observed in animals have not been seen. In a single case, recorded by König,[4] severe rickets followed the operation, which was, however, limited to removal of the left lobe of the thymus. Complete thymectomy, followed by recovery, has been recorded in children of 6 and 9 months, but it is unlikely that the removal was so complete as in the animal experiments.

Of the converse effects of over-activity, or perverted activity, of the thymus we know almost nothing. Svehla's[5] observation of a depressor action of thymus extracts loses all importance from the fact that such depressor action is common to extracts of most animal organs and tissues. Attempts to counteract the effects of thymectomy in animals by thymus feeding have seemed only to aggravate the symptoms, but reference may be made to some suggestive experiments by E. E. Hewer[6] upon the effect of thymus feeding upon the activity of the reproductive organs in rats.

Tumours of the thymus produce pressure symptoms but no characteristic signs, and other gross diseases of the gland, such as syphilitic and tuberculous lesions, are equally devoid of clinical interest.

It may be that, at some future time, the thymus may be shown to play a much more prominent part in connexion with diseases of children than it is yet known to do, and it is a tempting hypothesis that derangements of the functions of this gland have an important share in the causation of rickets.[7] We know that in young animals thymectomy induces the rachitic changes in bones, but the converse evidence, that in human rickets the functions of the thymus are impaired, is not as yet forthcoming. Again, it is suggested that a form of cretinoid idiocy in children may be due to thymic defect. Thus Klose[8] describes the case of a twin boy whose twin brother had died suddenly with asphyxia, whose epiphyses were thickened and his bones bent. He was fat and idiotic, and an operation performed when he was 5 years old revealed complete absence of the thymus.

I do not propose to discuss the interesting question of the correlation of the thymus with other glands of internal secretion and especially with the genital glands; for the remainder of the time at my disposal must be devoted to the association of hyperplasia of the thymus with sudden death in children and in adults.

The subject is usually discussed under three heads—namely, thymic death, the sudden death of infants apparently healthy, apart from any antecedent signs of pressure upon the trachea; secondly, thymic asthma, a condition which may assume a more or less chronic form, or may manifest itself in paroxysms of stridulous dyspnoea; and thirdly, the condition known as status thymico-lymphaticus or status lymphaticus.

It is an undoubted fact that many infants who die suddenly possess unduly large thymus glands, but it is difficult to assert with confidence that the gland is of abnormal size, save in cases in which its size is such that no doubt is possible.

The limits of normality are somewhat wide, and very competent observers have arrived at estimates of the average weight of the thymus in a child of some 2 years which differ as widely as from 9 to 10 grams to 25 or 30 grams. Moreover, when the question of pressure is under consideration it is obvious that the form of the gland, whether it be of the flat or plump variety, has to be taken into count.

Those who have seen thymus deaths of infants describe a sudden throwing back of the head, a gasping breath, rolling up of the eyes, dilatation of the pupils and pallor or cyanosis. Other symptoms are swelling of the tongue, clenching of the hands and extension of the legs.

I imagine that thymic asthma must be a rare phenomenon. I cannot recall having seen a case in which the diagnosis was made and confirmed, and some colleagues with wider experience of sick children tell me that they can say the same. In most instances the symptoms suggest pressure upon the trachea, and cases are recorded in which the tracheas have shown signs of compression *post mortem*, and some in which the compression has been seen with the bronchoscope during life. However, it should be mentioned that some modern anatomists hold that the trachea of a normal infant is of oval shape.

Caution is needed in making the diagnosis of thymic asthma, and in some cases such a diagnosis made during life is shown to be incorrect *post mortem*. What is thought to be an enlarged thymus may prove to be an abscess around mediastinal glands, as in a case which Thursfield has described. Nor must it be forgotten that stridulous dyspnoea in infants has several causes, such as enlargement of bronchial or tracheal glands, retropharyngeal abscess, membranous laryngitis, laryngeal spasm, and the abnormality of the larynx causing congenital stridor, which you, Mr. President, have taught us to recognize. Lastly, there is evidence that not a few cases of supposed thymic death have actually been due to suffocative bronchopneumonia.

Around the question whether thymic asthma and thymic death in infants are due to pressure of the enlarged gland upon the trachea, blood vessels or nerves, there has centred no little controversy. The advocates of the pressure theory may claim that their opponents have no alternative explanation to offer which rests upon physiological or other experimental evidence; but, on the other hand, sudden deaths in status lymphaticus, whatever the mechanism of their causation be, certainly cannot be ascribed to a mechanical cause.

Undoubtedly, the upper thoracic orifice of an infant is very small, and we may readily suppose that a large thymus may exert considerable pressure upon the surrounding structures. Tumours of the gland undoubtedly exert such pressure. On the other hand, the beneficial effect of removal of the thymus in some cases of thymic asthma are not so conclusive as they appear at first sight, for they may be equally well explained upon a theory of hypersecretion.

It is difficult to doubt that, in some cases at least, thymic asthma is due to pressure, but in others the stridor appears to be due to laryngeal spasm rather than to narrowing of the trachea. However, when we attempt so to extend the pressure theory as to explain thymic death, apart from obvious dyspnoea, by pressure upon blood vessels and nerves we venture upon less firm ground.

The publication of Paltauf's well-known paper,[9] in 1889-90, opened a new chapter in the study of thymic deaths, and placed the subject upon a broader basis. Although others before him had suggested similar ideas, the credit is rightly assigned to Paltauf of having brought the subject of status lymphaticus into the field of practical medicine and surgery. He presented the picture of a general constitutional state which predisposes to sudden death from causes apparently inadequate, and in which hyperplasia of the thymus is no longer the dominant feature, but only one of a group of deviations from the normal. Nowadays the name "status lymphaticus" is widely used—to the medical man a name of dread, to the layman a term of mystery. Hardly a week passes in which it is not heard in coroners' courts, in connexion with deaths under anaesthetics, or after slight injuries or shocks.

It is not necessary to dwell here upon the details of the classical description, the pale pasty skin—no constant feature, by the way—the hyperplasia of the lymphatic structures of naso-pharynx and alimentary canal, the

somewhat enlarged spleen and thymus gland. Later observers have added fresh items to the list, some of which are of great importance, but the fundamental features remain unchanged.

Doubt has been thrown upon the very existence of status lymphaticus as a definite morbid state. In children it is often difficult to determine whether the diagnosis be justifiable in a particular case, for thymus and lymphatic structures alike are naturally conspicuous in children, and the latter readily become enlarged in response to various infections. He who seeks to be convinced should study cases of adults and older children, upon which Paltauf's description was chiefly based. The features which might be normal in a child are obviously abnormal when met with in an adult.

The liability of so many young people to sudden death from slight causes is obviously a matter of urgent practical importance, and few problems can make a stronger appeal to the clinical worker than that of the diagnosis of status lymphaticus, with reasonable certainty, during life.

It is obvious that not a few of the factors which go to make up the clinical picture are such as cannot be detected in the living patient. Such are the general enlargement of the intestinal follicles, the unduly small aorta, and the diminution of the chromaffin tissue, which may be the most important of all. Of the accessible signs, special stress may be laid upon the hyperplasia of the lymphatic tissues at the root of the tongue, which may be seen with the laryngoscope, and which is regarded by good observers as specially characteristic. Enlargement of the tonsils and adenoid vegetations are so common apart from status lymphaticus as to have little diagnostic value, and the same is true of slight enlargement of the lymphatic glands in the neck, axilla, and groins. But these conditions may help to strengthen a diagnosis based upon other signs. An increase of lymphocytes in the blood is of similar service, and if it can be shown that the thymus is abnormally large this affords evidence of considerable value.

The minor signs, which are described in detail by Wiesel,[10] and are discussed by Emerson[11] in a recent paper, are such as afford comparatively little help in children, however much they may facilitate the diagnosis in adult cases. Some, it is true, are of the nature of congenital malformations, but others are concerned with secondary sexual characters, such as scantiness of hair in various situations, feminine distribution of the pubic hair in males; and vice versa, feminine contours in the male, and genital hypoplasia—such anomalies, indeed, as we are learning to connect with lesions of glands of internal secretion.

The detection of thymic hyperplasia is no easy matter, especially in its minor degrees. Only when greatly enlarged will the gland present as a palpable tumour above the manubrium sterni. Percussion may reveal a much more extensive dullness than the normal triangle of which the base connects the sterno-clavicular joints, and of which the apex reaches downwards to the level of the third costal cartilages. Probably the most valuable indicator of hyperplasia is the thymic shadow thrown by the x rays, which rests upon the shadow of the heart. Mr. R. E. Humphry[12] regards as an additional sign, valuable in diagnosis, a lowering of the upper limit of the superficial cardiac dullness, in the absence of emphysema or other changes in the lungs which may account for it.

Careful descriptions of fatal cases, such as that given by Mr. Bellamy Gardner[13] a few years ago, of the death of a boy under an anaesthetic, should help materially towards the solution of the difficult problem of the reason why individuals with status lymphaticus are so liable to die suddenly.

In many cases death is so rapid and unexpected that time for observation is lacking. Often no medical man is present, and in the anaesthetic cases he is so fully occupied in the attempt to restore life that he has neither time nor equanimity for minute observation of the sequence of events.

It would appear that in some cases, such as have recently been recorded by Dr. Emrys Roberts,[14] breathing ceases whereas the heart continues to beat, but in others it seems clear that arrest of the heart beat is the initial event.

Wiesel, who first observed the reduction of chromaffin tissue in status lymphaticus, inclines to the view that a sudden fall of blood pressure, due to adrenalin defect, is the fatal condition. In cases with marked hyperplasia of the thymus, but no other signs, the loss of substance of the adrenal medulla is not observed, and Wiesel suggests that subdivision is needed into cases of status thymicus, thymo-lymphaticus and lymphaticus. He has also shown that status lymphaticus is usually present in Addison's disease, and not only in the primary, non-tuberculous cases. It may be that the condition of the adrenal medulla renders it an easy prey to the tubercle bacillus.

In exophthalmic goitre, too, status lymphaticus appears to play a part. That the thymus is often large is well-known, and an associated lymphatic state may explain the sudden deaths of patients with Graves's disease during and apart from the administration of anaesthetics.

The drift of opinion at the present day is towards regarding the abnormal constitutional state as a widespread defect of the organs of internal secretion, and there is much to be said for this view, but whereas some hold that the condition is inborn, others believe that it is also capable of being acquired. That status lymphaticus may be inherited some family histories show clearly.

In the cases in which the lymphatic structures are widely involved the enlargement of the thymus appears to be mainly due to increase of its leucocytic elements, and Wiesel makes the interesting suggestion that the hyperplasia of the lymphatic structures may represent an attempt to protect the weakened tissues from the infective agents to which they so readily fall victims.

The treatment of diseases of the thymus has hitherto been almost entirely directed to the relief of pressure caused by the enlarged gland. It is to be hoped that some who take part in the discussion will be able to speak of the methods and results of thymectomy and of the effects of irradiation by the x rays upon the enlarged gland. That the size of the thymus can be readily reduced by irradiation appears to be beyond doubt, and caution has been enjoined in exposing the thorax of a young infant to the x rays on this account. It is difficult to suppose that any treatment can be of avail for status lymphaticus as such, but if the fatalities which it entails are due to failure of internal secretions we may hope to do something to reduce its fatalities by the administration of adrenalin, pituitrin, or the active principles of other secretions. Perhaps some who are present will be able to relate experience of their use in threatened death under anaesthetics.

I am very conscious of the shortcomings of the sketch which I have attempted to give of the clinical aspects of the thymus gland. Although my time is exhausted, it has not been possible even to touch on many points, such as the rôle of the thymus in connexion with myasthenia gravis.

The whole subject is obscure, and paucity of facts does not always conduce to brevity of statement.

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II.—ALEX. MACLENNAN, M.B., C.M.,

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THE TECHNIQUE OF THYMECTOMY, WITH REPORT OF EIGHT CASES.

SEVERAL facts as to thymectomy seem now clear:

1. As to the operation. Although when the gland is normal in size the removal of the thymus is a comparatively trivial operation easily and rapidly performed, yet when the gland is so enlarged as to occupy a considerable section of the anterior mediastinum, to cover part of the heart, and to overlap the pleurae, its successful removal becomes an operation of great difficulty and, indeed, often of impossibility. If the operation were persisted in its mortality might, indeed, exceed that of the disease.

2. As to the cases where the operation is advisable

considerable diversity of opinion still exists, because of the vagueness of our knowledge of the maladies known or supposed to be connected with the thymus. It has consequently not been possible to fix the indications for thymectomy with precision. But I may here remark that symptoms may be caused by a thymus normal in size.

In August, 1908, I described in the *Glasgow Medical Journal* an experimental investigation into the function of the thymus gland, and arrived at the following, among other, conclusions:

1. The gland is not essential to life or health.
2. The function of the gland is temporary.
3. The association between it and the thyroid is close, each tending to atrophy on the removal of the other.
4. In certain cases of exophthalmic goitre it was advised that the thymus should be removed before the thyroid.
5. The action of the enlarged thymus is not mechanical but physiological.

This investigation was begun in 1898, but the thymectomies about to be reported were mostly carried out in 1908. My search through the literature of the subject at the latter date failed to disclose the report of a case where the entire thymus had been removed in the human subject. At that date only incomplete removal or displacement of the gland (thymopexy) had been carried out by anyone. As a result of my experimental research several thymectomies were performed for a number of diseased conditions in children, and the technique employed by me was in large measure a result of the investigation I had carried on in removing the glands of animals. Indeed, without it, and in the absence of all records of the experience of others, the operation would not have been attempted at all. Chloroform was the anaesthetic used, and in only one case were difficulties experienced with the patient on this account. The steps of the operation for the removal of the thymus when normal in size or only moderately enlarged, are the following:

1. A short incision is made through the skin and subcutaneous tissue of the suprasternal fossa after the skin has been drawn downwards over the sternum; the incision should extend about 1 in., and have its lower end placed just over the upper part of the sternum.

2. The deep fascia, the sterno-hyoids, and the sterno-thyroids are raked apart by a pair of blunt, double-hooked retractors.

3. The cervical horns of the thymus will then appear under the sterno-thyroids. The loose capsule of the gland should be cleared from that part of the gland exposed. The left lobe should be picked up with dissecting forceps (sharp-pointed should not be used) and drawn out from beneath the sternum; a second pair of forceps grips the gland lower down as it becomes exposed, and by a hand-over-hand movement the left lobe is withdrawn from the capsule. It is occasionally necessary to free the capsule by a blunt-pointed instrument.

4. The right lobe is removed by the same manœuvre. It is my experience that when the left lobe is removed first there is more likelihood of the gland being got out entire.

The left pleura may be opened during the removal of the corresponding lobe, but the puncture of one cavity does not interfere unduly with the respiration.

Haemorrhage should not be troublesome, and indeed it is seldom that any vessels require ligation. Any large vessels appearing during the extraction of the gland should be ligatured at once while on the stretch and should not be allowed to retract within the thorax.

The operation is therefore an intracapsular enucleation.

5. Immediately the extirpation is completed the deep structures are sutured with fine catgut; before the last suture is tied the thorax should be compressed so as to expel as much air from the pleura or mediastinum as possible.

6. The skin is united by a few silkworm sutures.

7. A small pad of sterile gauze is then sealed in by rubber adhesive plaster.

Such, then, is the ordinary operation, which is trivial and safe, entailing practically no risks and causing no morbidity; the after-treatment is nil, so far as the wound is concerned. After the operation the patient should be put upon a mixture containing strophanthus and atropine, and the nurses or guardians be told to watch the child carefully for any recurrence of spasms. If a recurrence of the "fits" takes place, the patient should immediately be placed in the upright position. The neck should be free from clothing; bandages are of course absolutely contraindicated.

Unfortunately every case is not so easily and safely managed. In some the gland is either too large or too adherent for removal by this method. Those who have conducted or been present at necropsies of cases dying of "status lymphaticus" may have observed that sometimes the association of the thymus with the great vessels and the serous coverings of the heart and lungs has been close so that it was difficult to strip the gland free from these structures without injuring them. In such cases better access to the gland is only possible if part of the sternum be divided or removed; the upper part of the sternum may be safely excised.*

If, in cases where the simple plan fails, the surgeon be not prepared for section of the sternum an incomplete extirpation results, and such an operation is bad practice. As there is no certain sign whereby such a condition of the thymus as has been mentioned can be diagnosed before operation the procedure should not be undertaken unless its completion is intended, and obviously a thymectomy ought not to be undertaken in the case of an outdoor patient. The cases operated upon may be briefly reported. All were carried out among out-patients by the method described without section of the sternum. The results were not favourable, so the operation was abandoned.

1. A. R., male, aged 16 months, was brought to the dispensary on account of crowing respiration, called "false croup." The thymus was removed entire (weight not noted) in January, 1908. The child gave trouble during the operation, and required artificial respiration, inflation of the lungs, etc. Three or four days after the operation the crowing ceased and it has never returned. The child, now 7½ years of age, was seen last month. During these years he had been in perfect health with the exception of the usual children's complaints. There was no sign of rickets; the spleen was not enlarged, nor was there any evidence of glandular enlargement. The scar was visible, having stretched with the general growth; it was quite movable.

2. D. M., male, aged 6 years, was brought to the dispensary on account of tibial curvature, shortness of stature, thickening of the joint ends of the bones, etc. The case was considered one of achondroplasia, though not a marked case. The child's mother was also stunted in appearance but not markedly so. The thymus was removed entire in March, 1908; it weighed 131 grains; microscopic examination did not reveal any abnormality. Recovery was uninterrupted but no effect followed the thymectomy. The child was frequently at the dispensary during the succeeding years on account of suppurating cervical glands, etc. Last month he was 4 ft. 1 in. in height. The legs were short and the arms long, reaching to within 1½ to 2½ in. from the upper edge of the patellae. His intelligence was normal. *X*-ray plates of the humerus and the leg bones did not show any special abnormality other than the curvature with expansion of the ends.

3. J. F., male, aged 10 months, attended the dispensary of the Western Infirmary on account of cyanosis and "fits," which were marked by the infant becoming black in the face and stiff, with more or less complete loss of consciousness. The diagnosis arrived at was that the child presented the condition of status lymphaticus. The child was still being breast-fed; during the examination he had a slight fit. In March, 1908, the thymus was removed entire, its weight being 105 grains; microscopic examination showed normal histology. The anaesthetic was well borne though he became slightly dusky; the child was not upset by the operation. After it the fits continued as before, there being no effect from the removal of the gland. About one week later the child died in one of its seizures. No *post-mortem* examination was allowed. The wound did not show any sign of sepsis.

4. M. K., female, aged 1 month, was brought to the dispensary on account of having "kinks" since birth. The condition was one of laryngismus stridulus. On March 31st an attempt was made to remove the thymus. The left lobe could not be found. Part of the right lobe only was removed, it weighed 21 grains. On April 5th the child had a "temper" fit, and did not come out of it. On the 6th a *post-mortem* examination was made. The wound was healthy; there was no haematoma. The thymus left was removed: it weighed 96 grains, and was spread out in the lower anterior mediastinum. It was only accessible after removal of a large part of the sternum. The gland was adherent to the innominate vein, and was very red and turgid. The left heart was normal, the right flabby. There was neither stenosis nor flattening of the trachea. The thyroid was normal.

5. W. M., male, aged 7 months, was brought to the dispensary on account of his having "kinks." On October 3rd, 1908, an attempt to remove the thymus was made; 23½ grains were removed from the left lobe, which was all that could be induced to come from the thorax; microscopic examination demonstrated a normal structure. On the 13th the fits were distinctly less in number and severity. On November 26th they were on the increase, and on December 1st the child died while in one of them. On December 2nd a *post-mortem* examination was made. The remaining thymus weighed 218 grains; it extended over both pleurae and pericardium, being somewhat adherent to the great vessels. The thyroid was normal, so were the lungs. The left heart was hypertrophied; the right

*In a recent case of attempted excision of a cancer of the gullet I removed part of the involuted thymus (which sections showed to consist principally of fat). The sternum had been removed by disarticulating the clavicles and dividing the costal cartilages of the first ribs. The left pleura was accidentally opened. No objectionable symptoms followed the operation.

was thin, pale, and flabby. The spleen was enlarged; the bowels were distended. The head of the pancreas was hard and dense. The adenoid tissue was increased about the glottis.

6. A. H., male, aged 15 months, was brought to the dispensary on account of crowing respirations of three months' duration. During an attack he became almost unconscious; cyanosis was not present, but the child became rather white about the lips. About twenty to forty fits occurred daily; he was never a day without one. On February 16th, 1909, 90 grains of a very firm thymus were removed. Ten days later the fits were reported more frequent and severe. On March 2nd a well marked tetany was present. The child was lost sight of, but on inquiry was found to have died shortly after being last seen at the clinic.

7. J. E., male, aged 10 months, had 61 grains of the thymus removed on account of the failure of medical treatment to alleviate "kinks." The child recovered, but has not been traced. The left pleura was opened during the extraction.

8. Another case of well marked laryngismus stridulus was operated upon with success, but all notes of the case have disappeared.

The following cases might be referred to shortly:

B. B., female, aged 12 months, was brought to the dispensary on account of "spasm of the windpipe," or "false croup," since birth. The child if "crossed," and if allowed to cry much, became cyanosed and semi-conscious. No operation was done. Six months later she took measles and whooping-cough; the spasms ceased from this time. When 3 years of age the child died with symptoms of tuberculous meningitis.

Another similar case was examined with the intratracheal speculum; the trachea was neither stenosed nor flattened. The patient died next day in a "kink."

From these cases, though few in number, the bad results of incomplete removal of the gland are very apparent. Further, the impossibility of removing the whole gland in some cases without a big and risky operation is demonstrated. No case died on account of the operation, though 4 of the 8 did in spite of it.

Since these operations were done many cases suggesting a thymic origin have been seen by me, but in none has it been deemed necessary to operate.

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APPENDICITIS AND STATUS LYMPHATICUS.

The constitutional condition known as status lymphaticus and characterized by a persistent or enlarged thymus gland and hyperplasia of the lymphoid tissue throughout the body is of supreme interest to surgeons in that it predisposes to sudden death during anaesthesia, particularly chloroform anaesthesia. That the subjects of status lymphaticus may show a peculiar susceptibility to fulminant acute infections has been suggested by McNeil and McGowan[1] as a result of their observations on cases of fulminant pneumonia occurring in an industrial school. Dautt[2] also has noted the association of status lymphaticus with rapidly fatal diphtheria in young children, and Emerson,[4] in a series of necropsies on adult males, was struck by the frequency of milder degrees of status lymphaticus associated with death from various infective conditions.

In fulminant abdominal infections it has been customary to regard the rapidly fatal issue as being due to a peculiar virulence in the invading bacteria, and less regard has been had to a possible constitutional susceptibility in the host. I would submit that an acute infective abdominal condition supervening in a subject of status lymphaticus entails two special risks—first, that of an abnormally low resistance to the infection, and secondly, the liability to sudden death under the anaesthetic should surgical intervention be required. The following three fatal cases of acute abdominal disease met with in the Edinburgh Royal Infirmary, which I had the opportunity to investigate *post mortem*, illustrate, I believe, the reality of the risks referred to. The first case was under my own care, the remaining two under that of two other members of the surgical staff, to whom my thanks are due for permission to use their notes.

Case I.

Janet H., aged 7, had been in good health except for occasional incontinence of urine, for which she had received medical treatment. On November 17th, 1913, she went to bed at 9 p.m. apparently in the best of health, having eaten a good supper. At 1 a.m. on November 18th she was wakened with acute pain in the lower part of the abdomen, and vomited. Heat was applied, but as the pain continued the doctor was sent for. At 4 a.m. the doctor found her looking ill and suffering acute abdominal pain. Her temperature was 100° F., pulse 100, and there was marked tenderness and rigidity in the lower part of the abdomen. Diagnosing appendicitis, he made arrangements for her immediate removal to hospital.

State on Admission.—The patient was admitted to the Edinburgh Royal Infirmary at 6 a.m. on November 18th. It was noted that she was a stout, well-nourished child, particularly well developed for her age. Her face was pale and drawn, and she was evidently in acute pain; temperature 100.5°, pulse 120. The abdomen was tender and rigid all over, but especially so in the right lower quadrant.

Progress.—Operation was decided on, and was carried out at 7 a.m.—that is, six hours after the onset of the first symptoms. On opening the peritoneum under ethyl chloride and ether some very slightly turbid serous fluid escaped, some of which was kept for microscopic examination. The appendix was found slightly swollen and much congested, and in its middle third there was a purplish area covered with recent lymph. It was removed, and the abdomen was closed without drainage. On slitting open the appendix the mucosa was seen to be swollen and oedematous, and a small ulcer was found at the point where the lymph and purplish discoloration was seen from the outside. There was no gangrene or perforation.

Result.—On examining a film of the peritoneal fluid the grave nature of the case was at once realized, for it was seen that the fluid was swarming with diplococci, and there was little if any cellular reaction. It was obvious that the child could only last for a matter of hours. In spite of saline infusions and stimulants the pulse rose rapidly, and by 2 p.m. the child appeared moribund, being of an ashen hue and semi-conscious. She never rallied, and died shortly after midnight, that is, within twenty-four hours of the onset of symptoms.

Post mortem it was again noted that the child was plump and unusually well developed for 7 years. The abdomen contained turbid serous fluid and flakes of lymph; films of the fluid showed few cells and swarms of diplococci. On culture the organism was somewhat difficult to identify. One film from the peritoneal fluid showed the diplococcus was encapsuled. Injection into a mouse was negative. The organism was probably the pneumococcus. There was general enlargement of the mesenteric lymph glands. The thymus was very large, extending down in front of the pericardium and measuring 4 in. by 2½ in. The tonsils were large, there were marked adenoids, the lymphatic tissue at the base of the tongue stood out prominently. The lymph follicles in the pyloric end of the stomach and first part of the duodenum were of remarkable size and in the ileum the Peyer's patches and solitary glands were enlarged. The Malpighian corpuscles in the spleen stood out from the pulp, which was semi-diffluent. The lungs were acutely congested, and the kidneys and liver showed cloudy swelling.

Case II.

Marion S., aged 13, a boarder in an orphan school, was suddenly seized with abdominal pain at 8 a.m. on January 30th, 1914. She vomited several times after the onset of pain, which continued severe in spite of hot applications. She was seen by a doctor at 8.30 a.m., and again two hours later in consultation with a surgeon. Appendicitis was diagnosed, and she was admitted to the Edinburgh Royal Infirmary at 2.30 p.m.

State on Admission.—It was noted that she was a pale, plump, and unusually well-developed girl for her age. She looked ill, evidently suffering severe pain, temperature 100° F., pulse 118. There was rigidity and tenderness over both lower quadrants of the abdomen, particularly over the right.

Progress.—An operation was undertaken at 4 p.m., eight hours after the onset of symptoms. On opening the peritoneum under ether anaesthesia some slightly turbid serous fluid escaped and the appendix presented at once. It was congested and distended in its distal two-thirds beyond a constriction in the proximal third. There was no evidence of gangrene, however, and no perforation. The appendix was removed and, more as a precaution than because it was deemed necessary, a pelvic drain was inserted. From the findings at operation it was thought that the progress of the case would be altogether favourable. The child became progressively worse, however, the pulse rate rising steadily, the temperature keeping over 100°, and she gradually sank and died with all the signs of profound septic poisoning thirty-four hours after the operation and forty-two hours after the onset of symptoms.

Necropsy.—A well nourished and remarkably well developed child for her age. There was a generalized plastic peritonitis and in the pelvis a small amount of sero-purulent fluid but no abscess anywhere. The mesenteric glands were all enlarged and stood out prominently, the lymph follicles in the pyloric end of the stomach and first part of the duodenum were very prominent, as also were the Peyer's patches and solitary glands at the lower end of the ileum. The liver showed well marked cloudy swelling. The spleen was enlarged and soft and on section the pulp was diffluent, and the Malpighian corpuscles were large and swollen. The kidneys showed marked cloudy swelling. The thymus gland was abnormally large, 3½ in. in length by 2½ in. in breadth, and extended downwards over the pericardium. The right side of the heart was slightly dilated, and the cardiac muscle soft and friable. The bronchial glands were enlarged, the lungs acutely congested. Tonsils were large and the lymph papillae at the base of the tongue stood out clearly. Films from the peritoneal exudate showed numerous Gram-positive cocci in short chains and cultures gave pure growth of streptococcus.

These two cases illustrate a type of acute appendicular disease fortunately rare, where early operation with removal of the inflamed appendix, before gross changes had occurred, failed to influence to any degree the progress of the infection. Either the bacteria in each case must have been of greatly exalted virulence or the resistance of the patient must have been abnormally low. Of the virulence of the organism it is impossible to judge, as experimental injection into animals gives no reliable index. The one feature common to both cases was that both children were the subjects of status lymphaticus, and I believe that the lowered resistance to infection associated with this morbid diathesis was the most potent factor in determining the fulminant nature of the disease in each case.

The third case illustrates the other risk associated with the development of an acute abdominal condition in a subject of status lymphaticus.

CASE III.

Peter F., aged 13, was admitted to the Edinburgh Royal Infirmary on November 8th, 1913, suffering from pain in the lower part of the abdomen and vomiting. The pain had commenced two days previously, and though never very severe, had continued with slight intermissions until his removal to hospital, when it had to some extent subsided. The child had vomited on several occasions on both days previous to admission.

State on Examination.—He was seen to be a well nourished and well developed boy and was not looking seriously ill; pulse 68, temperature 98.4° F. The abdomen was not distended, moved with respiration, and there was very little rigidity in any part, but very definite pain and tenderness in the right iliac region.

Progress.—On opening the peritoneum under chloroform, followed by "open ether," through a gridiron incision some clear serous fluid escaped, and a slightly congested and swollen appendix was removed. The lymphatic glands in the ileo-caecal angle were seen to be considerably enlarged, and from one of them an adhesion extended across the last coil of ileum, slightly constricting it. This adhesion was divided and the abdominal wound was closed without drainage. As the skin suture was being inserted the boy stopped breathing. No anaesthetic was being given at the time, as the ether had been stopped two minutes before. The boy had a nasty grey colour, but the heart continued beating for a few minutes after the respirations had ceased. The head was lowered, artificial respiration carried out, and stimulants administered hypodermically, but without avail. Cardiac massage through an abdominal incision was also fruitless.

Post mortem there were found all the evidences of a pronounced case of status lymphaticus. The thymus was very large, measuring 4 in. vertically and 2½ in. transversely. The tonsils were large, the lymphoid tissue at the base of the tongue greatly increased in amount. In the stomach the lymph follicles stood out prominently, as also in the first part of the duodenum. There was a chronic duodenal ulcer on the anterior wall ½ in. from the pylorus and the scar of a healed ulcer on the posterior wall just opposite. The mesenteric glands were all enlarged, the Peyer's patches and solitary follicles in the ileum very prominent, and the Malpighian corpuscles in the spleen were of abnormal size. The other organs appeared healthy.

This case illustrated the immediate risk which operation under general anaesthesia entails in such cases, and especially one of the dangers associated with the use of chloroform in acute abdominal cases in children. Although during the greater part of the anaesthesia ether had been used, the chloroform given to induce anaesthesia cannot, in determining the cause of the fatal issue, be exculpated in the light of experience with other cases.

CONCLUSIONS.

1. The subjects of status lymphaticus would appear to have abnormally low resistance to acute abdominal infections.

2. Chloroform should never be used to induce anaesthesia in acute abdominal infections in children.

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(*Abridged.*)

ASSOCIATION OF FULMINANT PNEUMONIA AND SCROFULA WITH STATUS LYMPHATICUS.

IT need not be asserted that all cases of sudden death in young children are cases of status lymphaticus: but it is probable that the majority are. In Paltauf's 127 cases of sudden death out of 225 autopsies on children aged from 0 to 4 years, the thymus was stated to be enlarged in every one of them (the weight was not given), and the important observation was also made that capillary bronchitis or commencing bronchopneumonia was also present in every case. We may, therefore, describe these cases of sudden death in infants as cases of fulminant bronchitis and bronchopneumonia associated with thymo-lymphatic hyperplasia. Paltauf himself refused to describe these as cases of status lymphaticus, and he is followed in this excision by very many subsequent writers—Hart, Kolisko, Wiesel. I would submit, however, that not only are these cases of sudden death in infants examples of fulminant bronchitis, fulminant gastro-enteritis or bronchopneumonia, but that their fulminant character is due to the presence of abnormal constitution one of the marks of which is thymo-lymphatic hyperplasia. Lately I had the opportunity of examining tissues from 13 infants who had died suddenly (11 of them being found dead in bed). The lungs were examined microscopically in 8, and all showed unmistakable signs of bronchitis and commencing bronchopneumonia. There was also evidence of thymo-lymphatic hyperplasia in a large proportion of the cases.

Fulminant Bronchopneumonia.

Cases of fulminant pneumonia in older children are comparatively rare. In certain industrial schools throughout Great Britain cases of acutely fatal illness, accompanied by others non-fatal but of similar clinical type, have occurred from time to time, and one such outbreak was investigated by Dr. J. P. McGowan and myself. It is reported at length in a Blue Book published by the Scottish Office, but our conclusions may be briefly indicated. All the cases were examples of peculiar distorted pneumonia, assuming three clinical types—fulminant in the acutely fatal group; irregular, and apparently lobular in a non-fatal group labelled "pneumonia" because of the presence of physical signs of consolidation of the lung; and latent or abortive in a third large group, in which the physical signs of pneumonia were absent but in which the clinical symptoms closely resembled those of the other two groups. In the group of fatal cases not only did the *post-mortem* examinations show that pneumonia, commencing or established, was present, and that the pneumonia was pneumococcal (by bacteriological tests); they also showed in most of the cases the classical marks of status lymphaticus. We concluded that the fulminant pneumonias owed their rapidly fatal character to the coexistence of this condition, and that the irregular features of the non-fatal pneumonias were likewise due to its presence but in lesser degree. A few notes of these remarkable cases of acutely fatal illness may be given.

J. M., aged 14 years, was found dead in bed on the morning of June 18th, 1901, with froth and blood about the mouth and nostrils. He went to bed the night before apparently well. From the fact that this case of sudden death occurred among other cases of fulminant pneumonia, there seems little doubt that it was also a case of fulminant pneumonia, death occurring during sleep, as in the group of little infants already referred to. Another case of the same kind occurred in this school, and in the records of other industrial schools subject to these outbreaks of illness a few more cases of boys found dead in bed are recorded. Apart from these institutions, I have not been able to find records of similar cases in medical literature.

The following case is of the more usual type of acutely fatal illness in these schools:

J. W., aged 11½ years, seemed a strong healthy boy, and was of good colour. On April 29th, 1913, he rose at 6 a.m., feeling quite well. At 7.40 a.m. he complained of headache and vomited; but, on getting some bread and butter, recovered and joined his companions at play. Shortly after 9 a.m., headache and nausea returned, and, on being put to bed, his temperature was 102° F. He vomited "some yellow and green stuff." He was in a half-stupid condition, and, though he answered questions, he did so slowly and with effort; he seemed as if he wanted to sleep. This sleepy condition gradually deepened into unconsciousness, and he died at 11 a.m., only three hours after the first onset of his symptoms.

The *post-mortem* examination may be summarized as follows: Lungs: Intense congestion, but no definite palpable consolidation; yet microscopically, marked bronchiolitis and pulmonary catarrh and congestion, and in one area definite pulmonary consolidation. Extreme hyperplasia of the lymphoid tissues at the base of the tongue, stomach, duodenum, and lower end of ileum. Thymus, not enlarged (weight 11 grams). Pneumococci were cultivated from the lungs. Bacteriological examination of the brain and cerebro-spinal fluid showed in this case, as in others similar in which this examination was made, an absence of the specific organisms of acute meningitis.

From the medical record of the school in which this case occurred it appeared that between 1900 and 1911 there occurred 20 cases of fulminant fatal pneumonia, 51 of irregular pneumonia, and 175 of abortive pneumonia. These illnesses took place in outbreaks or epidemics. No evidence was obtained of their being contagious. Our explanation of the problem presented by these outbreaks was twofold: First, that the boys of this school had acquired through some unhealthy condition of environment the morbid constitution, status lymphaticus. Secondly, that when attacked by pneumonia—and they were probably predisposed to it—they took the disease in these irregular distorted forms, a few succumbing quickly to the fulminant type.

The interest of these fulminant institutional pneumonias is that they seem to reproduce in boys long past the age of infancy the peculiar features of fulminant bronchopneumonia in infants: the rapidity of the fatal issue—in a few deaths occurring during the night, as in infants—the pathological character of a bronchopneumonia peculiarly common and characteristic in infants and young children, and the association of thymo-lymphatic hyperplasia.

Scrofula and Status Lymphaticus.

The term "scrofula" or "struma," as applied to a peculiar type of tuberculous infection, was almost submerged for a number of years following the discovery of the tubercle bacillus, but has lately received attention as denoting a separate clinical entity.

The condition of scrofula may be summarized as follows: It is a constitutional disorder, incident to childhood, and manifests itself in one, several, or all of the following characters: Glandular swellings of the neck (nearly always tuberculous); tuberculous disease of bones and joints; peculiar eruptions of the skin (the tuberculides); obstinate and relapsing catarrhs of the eyes, nose, mouth, throat, lungs, and intestines; weeping eczema of the skin and scalp. There is generally a definite configuration or habit of body, characterized by stunted growth of the trunk and limbs producing a relatively large size of head; a fair amount of superficial fat; overgrowth of the hair as seen in the thickly pencilled eyebrows, the long eyelashes, and the increase of the downy hair (lanugo) on the general skin surface, but especially on the cheeks and between the shoulder-blades.

Modern writers (Escherich, Moro, Heubner, Cornet) have revived the old doctrines of a morbid constitution or diathesis in connexion with scrofula. And under various terms this constitutional soil on which scrofulous lesions grow is that of status lymphaticus as defined by Paltauf. Escherich has also noted that in scrofula the local cutaneous reactions to tuberculin are unusually severe. This is an important observation, and has been confirmed by other writers. It means that in scrofula the local reactions to tuberculin artificially applied, and also the reactions of the tissues at the various tuberculous foci, are abnormally intense.

This intensity is illustrated by the following case of scrofulodermia:

The patient was a little girl, aged 2 years and 3 months. The skin of the scalp, face, legs, and lower part of abdomen was covered with pustules and the livid scars of pustules—a tuberculide of unusually severe character. There was severe blepharitis, conjunctivitis, and keratitis of both eyes, with extreme photophobia; profuse rhinorrhoea; an angry catarrh of the mucous membrane of the mouth, the lips being deeply fissured by raw sores. There was tuberculous dactylitis of the left median finger, but no other evident tuberculous lesion.

The cutaneous tuberculin reaction, both to human and bovine tuberculin, was of acutely necrotic character, the whole thickness of skin rapidly sloughing through.

We have just seen that both in ancient and modern writings upon scrofula great importance is attributed to the part played by status lymphaticus. But status lymphaticus as described by Paltauf is extremely difficult to recognize during life, and, in fact, can only be established by a *post-mortem* examination. Now scrofula, although often a serious and prolonged disease, is not often a fatal one, and therefore the *post-mortem* evidence which is essential to prove the association of status lymphaticus with scrofula is lacking; and this connexion, which is so frequently alleged by writers on scrofula, is too often a mere statement unsupported by evidence. I wish to submit some observations which I hope will be considered to supply this necessary evidence.

In the industrial school already mentioned, the cutaneous tuberculin reaction, tested on every boy, was found positive in 59 per cent. That is perhaps not a remarkable percentage, but what was notable was the unusual severity of the reactions. We have seen that Escherich and others have remarked upon the severity of the tuberculin reactions in scrofula. Now in the five boys showing the highest degree of reaction, two showed large masses of swollen glands in the neck and the scars of old sinuses, two showed chronic blepharitis and conjunctivitis of strumous or scrofulous type, while the fifth showed nothing more than a chronic nasal discharge and a slightly injected conjunctiva. But, in addition, chronic inflammatory conditions of the conjunctiva and chronic nasal discharge were very prevalent throughout the school. That is to say, scrofula of a mild type was prevalent. Finally, in the bodies of the boys dying of fulminant pneumonia, the anatomical marks of status lymphaticus were clearly shown. In this school, therefore, there seems to be direct evidence of this often stated connexion between scrofula and the morbid constitution, status lymphaticus. There was clinical evidence of scrofula, there was *post-mortem* evidence of status lymphaticus, and there was experimental evidence by the cutaneous test of intense tuberculin reactions.

This one school, therefore, furnished examples of abnormal reactions of the body to the two common bacterial infections of pneumonia and tuberculosis. In both cases the abnormal character of the reaction was in the direction of increased intensity: or if a current phrase may be used, there was hypersensitiveness of reaction.

The further remarkable circumstance that these abnormal intensified types of illness were both epidemic and endemic in their character need not be dwelt upon. It does not seem to affect the main point that in childhood and infancy fulminant types of pneumonia, and fulminant types of tuberculosis (scrofula), whether sporadic or endemic, are associated with, and seem to depend upon, the presence of the abnormal constitution, status lymphaticus.

Fulminant Types of Other Illnesses.

It seems probable that fulminant types of other bacterial infection may be explained in the same way. Thus McGowan and I found an enlarged thymus in a case of fulminant or toxic scarlet fever, the patient, a boy aged 10 years, dying in twenty-four hours from the onset of symptoms. Dauf, in a series of cases of rapidly fatal diphtheria, has noted on *post-mortem* examination a high degree of status lymphaticus. The same association of conditions may very well be found in fulminant types of measles, small-pox, and other bacterial infections. But the subject has a wider scope than that of bacterial infections, and seems to include the abnormal reactions that follow the parenteral introduction into the body of a great variety of non-bacterial protein substances. The violent reactions produced in certain individuals by insect stings, pollen grains, various food substances, animal serums, and known as anaphylactic phenomena, are connected in some way with this same mysterious perversion of the constitution, status lymphaticus. The evidence of that is that in some of the rare fatal cases of clinical anaphylaxis, the condition of status lymphaticus has been found on *post-mortem* examination.

[Dr. McNeil devoted the remainder of his paper to a consideration of the probable nature of "status lymphaticus."]

DISCUSSION.

Dr. Hugh Thursfield (London) said that after careful consideration of the results of thymectomy for thymic asthma tabulated by Parker and others, he had been driven to conclude that they contraindicated operation. The mortality was high. From an experience of his own the speaker was inclined to attribute thymic dyspnoea rather to coexistence of enlargement of the neck glands than to the enlargement of the thymus. Furthermore, thymectomy had quite often failed to relieve the dyspnoea. In diagnosis he attached importance to careful percussion over the manubrium, and to a history of sudden pallor.

Dr. D. B. Lees (London) thought that what was most urgently required was a careful histological examination

of the cardiac muscular fibre, such as had been carried out in the rheumatic heart by Dr. Carey Coombs of Bristol. In every case of sudden death, both in adults and in children, a minute and detailed examination of the cardiac muscular fibre by the most recent methods was imperatively necessary. The frequency of occurrence of these distressing cases of sudden death in young children after operations might, he thought, be materially diminished if the precise size of the left ventricle and the amount of dullness over the uppermost part of the sternum were carefully determined by accurate percussion. The interesting cases of appendicitis which had been mentioned as indicating that one cause of death in the "status lymphaticus" was a toxaemic infection led him to draw attention to the very important observations of Drs. Poynton and Paine, who experimentally had obtained ulceration of the appendix by intravenous injection of a culture of a diplococcus obtained from a case of tonsillitis. They had also obtained a pure culture of a diplococcus by allowing slowly to drain an appendix removed by operation.

Dr. FREDERICK LANGMEAD said that he was sceptical as to the presence of any abnormal condition in a very large proportion of the cases which had been recorded as examples of status lymphaticus. His scepticism arose in great part from the frequency with which he had found all the phenomena from which a diagnosis of status lymphaticus was usually made, in children who had died suddenly for sufficient reasons—such as accidents. If observations were made on the amount of lymphatic tissue and on the size of the thymus in a sufficient number of cases of accountable deaths in children previously in good health and taking an ample diet almost to the moment of death, it would be found, he thought, that the amount of lymphatic tissue, which led so often to the diagnosis of lymphatism, was really the normal. He did not refer, of course, to those rare instances in which the thymus was of quite unusual size, perhaps equalling in dimensions the heart. It would be well, perhaps, to mark time, awaiting a fuller knowledge of the normal lymphatic tissue before multiplying the recorded instances of this condition. The matter had become a very serious and important one, because the term was being used daily to explain unexpected deaths, and was also playing a considerable part in medico-legal work. Adopting this attitude, he could not but look with critical eyes on the observations of some of those who had taken part in the discussion. The cases which Dr. McNeil had described were those of children who had died from a very fatal form of bronchopneumonia. It might be that the state of the lymphatic tissue which he found was the normal one, for death had occurred for quite sufficient reason. It was well known that epidemic pneumonia was a fulminating and very fatal disease. The frequency with which Dr. McNeil had found evidence of lymphatism among the children of the school which he had investigated was itself either an indication that it was a very common condition, and scarcely to be avoided in deciding upon operations or other procedures, or that such evidences were not signs of an abnormal condition. The same argument might be applied to the cases of fatal appendicitis described by Mr. Wilkie. It was going too far to say because an unusual amount of lymphatic tissue was found *post mortem* that therein lay the explanation of the virulence of the infection, or the rapidity with which the patients succumbed to it. In those cases also death occurred rapidly in patients previously well, and it might be that the lymphatic tissue seen *post mortem* was nearer the normal amount than one usually had an opportunity of finding. If the pathological diagnosis of lymphatism were accepted too readily, the real but less obvious cause of death in many fatal cases might be overlooked.

Dr. LEONARD FINDLAY (Glasgow) thought it too soon to say that disease of the thymus gland was responsible for spontaneous rickets. Nordmann held that so long as the thymectomized animals received a sufficiency of exercise and a suitable diet, no osseous changes resulted, and the speaker had been successful in inducing changes in the bones identical, both macroscopically and microscopically, with those found in human rickets simply by depriving animals of exercise. It should be remembered, too, that in human rickets the thymus gland was usually found hypertrophied, and in the speaker's own experimental animals the average weight of the thymus was 6.05 grams in comparison with 6.5 grams in the control animals. Again, it had been shown from metabolism experiments that in thymectomy there was, as in rickets, an increased calcium output. This, however, occurred through the urine, as in starvation and diabetes; whereas in rickets less calcium than normal was excreted by the urine, but an excess by the faeces.

SECTION OF MEDICINE.

F. J. SMITH, M.D., F.R.C.P., President.

DISCUSSION ON HEADACHE, ITS CAUSES AND TREATMENT.

OPENING PAPER.

By HARRY CAMPBELL, M.D., F.R.C.P.Lond.

THE term "headache" is used somewhat vaguely to indicate pain, for the most part diffused, felt somewhere in the region of the brain-case (cranium).* There is some difficulty in defining the lower boundary of the headache area. Are we to make it correspond to the shell of bone immediately underlying the basal dura, or shall the entire thickness of basal bone, with the contained ethmoidal, sphenoidal, and auditory cavities be embraced in the headache area? (Figs. 1 and 2.) If the frontal sinuses are to be included in it, why not, it may be asked, these other cavities? To me it seems they ought to be included. I shall accordingly define headache as pain felt anywhere in the region within or above the cranial base, including the cavities contained within the latter. This region I shall speak of as the "cephalic region," and the structures which it comprises as the "cephalic structures."

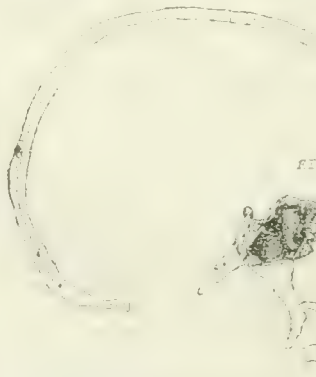


Fig. 1.—Shows the close relation of the frontal, ethmoidal, and sphenoidal sinuses to the cerebral membranes. The ethmoidal sinuses are diagrammatically represented.

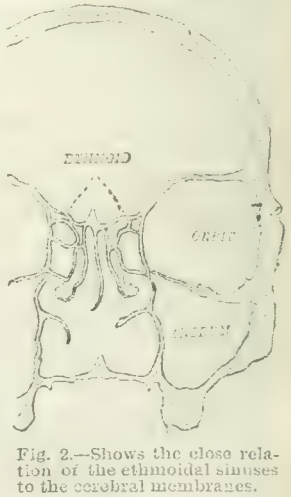


Fig. 2.—Shows the close relation of the ethmoidal sinuses to the cerebral membranes.

The cephalic structures comprise:

(*a*) The cranial contents, consisting of the brain, its membranes, and the intracranial vessels and nerves at the base of the brain.

(*b*) The bony brain-case, with its contained cavities—frontal, ethmoidal, sphenoidal, auditory.

(*c*) The soft structures enveloping the cranial vault,† and that part of the occipital base which is posterior to the foramen magnum—that is, the pericranium, the frontalis, occipitalis,

* In modern anatomical language the term "cranium" signifies the brain-case, the term "skull" signifying the cranium together with the facial bones.

† By "cranial vault" I understand the roof and lateral walls of the cranium.

and the intervening "cranial aponeurosis" (roughly corresponding to the vertex); the temporal muscles and their fasciae, the thick mass of muscles and fasciae in the occipital region; and, finally, the skin and subcutaneous tissues constituting the frontal and the hairy scalp.

All these tissues, save the brain tissue proper, are supplied with sensory nerves, and, with this exception, are therefore all endowed with sensibility; but while the brain tissue is insensitive, the fact that sympathetic nerves accompany the arteries of the brain suggests that these vessels are capable of being painfully affected.

It is noteworthy that the dura mater, which is richly supplied with nerves, gives off extensive processes (falx cerebri, etc.), into the cranial cavity, and also that the pia penetrates into the brain in the form of the vela interposita and choroid plexuses. Hence deep-seated intracranial disease (for example, tumour) may give rise to headache by directly implicating the meninges.

The Varieties of Cephalic Sensibility.

The sensitive cephalic structures are endowed with the same kind of sensibility as similar structures—serous membranes, bone, muscle, aponeurosis, skin, and subcutaneous tissues—in other regions. As in the case of bone in general, the cranium is insensitive to the trephine.

The pain of headache may affect any or all of the sensitive cephalic structures, though it is rarely possible to locate it definitely in any one of them. It may display all the variations of quality characterizing pain felt elsewhere. Headache does not, however, always consist of pain pure and simple. It is often associated with other morbid sensations—dysaesthesiae, as we may call them—so intimately, indeed, that it may not be possible for the patient to say how much of what he calls his head *ache* is genuine pain and how much is dysaesthesia.

The cephalic dysaesthesiae occur quite commonly independently of actual headache, and may cause as much distress as or even greater distress than it. Their favourite seat is the vertex. As in the case of headache, it is only exceptionally that the dysaesthesia can be referred to any definite cephalic structure.

Sensations of Pressure.—These are very common. They probably pertain to the pressure sensibility of the scalp and the underlying tissues. Most frequently a feeling of weight on the vertex is complained of; or there may be a sensation as of a cord or "iron band" round the head, or as if "the head were encased in a tight-fitting cap."

Heaviness of the Head.—The entire head may feel heavy, the patient complaining, for example, that he feels "top-heavy." This is probably in the main a muscular sensation. Less frequently the head feels unduly light—"as light as a cork," as one patient put it. Possibly there may be a vestibular element in this sensation.

Sensations of Heat.—Sensations of heat (for example, burning, scalding), doubtless in the main cutaneous, are quite common.

Sensations of Cold.—These are less common.

Pruritus.—Sensations of "crawling," "creeping," in the scalp, or "itching," occur independently of any disease of the scalp or external irritation. They are manifestly cutaneous sensations. They are sometimes so severe as to make the patient feel he could "tear his head to pieces." These violent forms are most frequently observed in patients who are much run down in health.

Sensations of Numbness.—This sensation, and those of "pins and needles," are mainly cutaneous and quite common in their occurrence.

Sensations of Bursting.—It is not uncommon for a patient to complain of a bursting sensation, "as if the head were going to burst." Doubtless this is very largely an extracranial sensation due to vascular turgescence.

Giddiness and Allied Sensations.—Headache is often associated with giddiness, not only with definite vertigo, which is a vestibular sensation, but with allied sensations of a less definite character expressed by such terms as "dizziness," "mental confusion," "bewilderment," a feeling as if the sufferer were "going out of his mind." It is not at present possible to make a satisfactory classification of these morbid sensations, nor to say to what structures they more particularly pertain. Probably many of them contain a vestibular element.

Tenderness of the Scalp.—This is so frequent an accompaniment of headache as to require some mention in this place. It occasionally happens that a local tenderness of the scalp marks the site of an intracranial lesion—for example, tumour—but much more frequently it is either a transient reflex phenomenon similar to that observed on the body wall in visceral disease, or the result of effusion into the extracranial tissues (as happens in "rheumatic" headache). In either case it may recur independently of headache. It is very common in women at the climacteric, when the tenderness is often extreme, the patient complaining, for example, that "the slightest contact of the hairpin causes pain," that "the head feels as if it had been bruised," or as "if the hair had been pulled out."

The Cortical Centres of Cephalic Sensibility.

The cephalic structures are represented, as regards their sensibility, in a limited portion of the cerebral cortex, situated at the inferior extremity of the posterior central gyrus (Fig. 3). All the cephalic sensations, normal and morbid (except the vestibular), rise into being in connexion with this centre, on one or other side. The vestibular centre has not yet been located with certainty. One would expect it to be in close association with the auditory centre.



Fig. 3.—The shaded area marks the region of the centre for cephalic sensibility.

Why Headache is so Common.

Of all the pains from which man suffers, the *dolor capitis* is the most common, the next most common being, perhaps, *dolor dorsi* of women. How are we to explain this so frequent painful excitation of the cephalic sensory centres? There are, I suggest, four main reasons for it.

1. Certain of the cephalic structures are exposed with unusual frequency to painful stimuli. Thus, among the poor, *Pediculi capitis* are a common cause of headache. In women the mere weight of the hair, or wearing it in a way which leads to undue traction upon the scalp, may help to cause headache. A heavy hard-rimmed hat, by compressing the nerves of the scalp against the rigid cranium, may have the same effect. Then, again, the scalp and the underlying muscles and fasciae—notably the large fibro-muscular mass in the occipital region—are frequently the seat of effusions which may give rise to soreness and pain. In this connexion the structure of the cranial aponeurosis occupying the crown of the head is of interest. This dense membrane, closely adherent to the overlying hairy scalp, is pierced by minute apertures, traversed by nerve filaments, and these are thus subjected to considerable pressure when local effusion takes place. It is noteworthy that the vertex—the region, that is, of the cranial aponeurosis—is the seat *par excellence* of morbid cephalic sensations, such as those of pressure, burning, coldness, irritation, and that it is in this region that tenderness is most frequently and most severely experienced. As regards the cranium, the frontal and basal sinuses and the middle ear, lined as they are with mucous membrane continuous with that of the nose and throat, are peculiarly liable to catarrh, and such catarrh is a common cause of headache. Concerning the intracranial structures, though they do not display any special liability to painful affections, disease of them helps to increase the frequency of headache.

2. That portion of the trigeminal area which lies below the cephalic area, including as it does the eyes, teeth, nasal passages, and maxillary antra, is in neo-civilized man peculiarly apt to be subjected to painful stimulation as the result of eye-strain, dental disease, and naso-antral affections. Now, the sensory centres, both subcortical and cortical, pertaining to this area are contiguous with the corresponding centres of cephalic sensibility—those, that is, which are responsible for headache. Indeed, the latter are chiefly constituted of trigeminal centres. Hence the cortical irritation which among the neo-civilized is so frequently started by eye-strain, dental and nasal disease,

is apt to spread to the continuous cephalic sensory centres, and thus to set up headache.

3. Not only is headache liable to be set up by irritation in the extracephalic region just referred to, but also by irritation in more remote parts of the body. Thus, Head has shown that disease of the thoracico-abdominal viscera receiving sensory branches from the vagus is apt to give rise to referred tenderness and pain in what he terms the "dorsal area of the head," owing, it is supposed, to the existence of a peculiarly close connexion between the centres of the vagi and the fifth nerves. This dorsal area (Fig. 4) is bounded on either side by a line which, starting from the nose, follows the lower line of the bony orbit to the upper part of the insertion of the ear, thence dipping down in a curved line to the occipital protuberance. It is subdivided into the fronto-nasal, fronto-temporal, temporal, vertical, parietal, and occipital areas (see diagram).

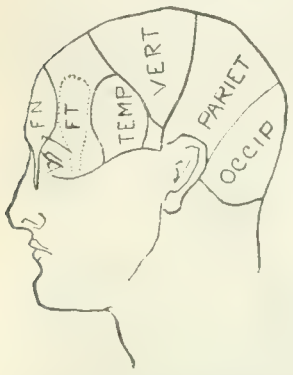


Fig. 4.—Diagram showing Head's "dorsal area of the head," mapped out into sub-areas. F N = fronto-nasal. F T = fronto-temporal.

Affections of the thoracico-abdominal viscera may, it is well known, cause reflex tenderness and pain in correlated areas of the body wall. Now, when the tenderness and pain in any of these areas reach a certain intensity, similar tenderness and pain tend to appear in a correlated portion of the dorsal area of the head, the relation, broadly speaking, being such that the higher the area in the trunk, the more forward is the correlated area on the head (H. Head). Thus, the upper thoracic areas are associated with areas over the nose and forehead; the seventh, eighth, and ninth thoracic with the temporal, vertical, and parietal regions respectively, and the tenth thoracic with the occipital region. One of the most frequent of these associations is that between the seventh thoracic and the temporal area. Thus, disease of the upper part of the stomach, the base of the lung, or the mitral valve, tends to give rise to pain and tenderness not only in the seventh thoracic area on the trunk, but in the temporal area also.*

4. Lastly, in explanation of the frequency of headache, account has to be taken of the close connexion between the centres, subcortical and cortical, of cephalic sensibility and of the special senses—sight, hearing, and smell. Not only is this shown by a variety of clinical facts, it is further suggested by phylogenetic considerations. It has to be remembered that the special senses have evolved from common sensibility. Thus, the retina and organs of Corti may be regarded as systems of "glorified touch spots" which have become differentiated from the sensory organs of the neighbouring body surface. We should therefore expect the visual and auditory centres to be closely connected with the sensory centres pertaining to the skin of the head, especially with the cutaneous areas in which the eyes and ears are situated. The same argument applies to the olfactory centres.

These considerations help to explain why bright lights, loud noises, and powerful odours are apt to set up headache. The violent commotion started in the special sense centres tends to spread to the closely connected centres of cephalic sensibility. Both clinical and phylogenetic evidence points to a similar close connexion between the higher psychic centres and the centres of cephalic sensibility. Hence the tendency for psychic processes to affect cephalic sensibility, and hence the occasional occurrence of headache as a result of intellectual effort.

THE CLASSIFICATION OF HEADACHES.

Some physicians have attempted the impossible task of making a clinical classification of headaches—that is, one founded upon their symptomatology. The symptoms of each supposed variety are set forth with great nicety, and from them the reader is supposed to be able to diagnose each case of headache that comes before him, and to prescribe the appropriate treatment for it. It is, however, only exceptionally (as in migraine) that headache constitutes the obtrusive symptom of a well-defined and easily recognizable symptom-complex. Far better is it to regard headache as a symptom, and to base our classification of headaches upon causation. Having discovered the causative factors we must then endeavour to remove them. I say causative *factors* because in headache, as in other disorders, we often find many causes at work, and we may sometimes be able to effect a cure by removing any one of them.

The following classification, though not conforming to the strict requirements of logic, will be found a convenient one for practical purposes:

1. Organic disease of the cephalic structures—for example, meningitis, "rheumatic" effusion into the scalp.
2. External irritation of the cephalic structures—for example, pediculi, traction on the hair.
3. Irritation in areas other than the cephalic—for example, eye-strain.
4. Circulatory disturbances in the cephalic structures, and morbid states of the blood, causing functional headache.
5. Causes not included under the previous headings—for example, mental causes, physical exercise, atmospheric conditions.

1. The first class includes meningitis, intracranial tumour, gumma, disease of the various cranial sinuses, and of the middle and internal ear, rheumatic effusion into the extracranial soft tissues. I shall limit my remarks to two forms of organic headache—the syphilitic and the rheumatic or "nodular" headache.

The syphilitic headache. Inasmuch as syphilitic headache may herald a serious outbreak of incurable cerebral syphilis (for example, hemiplegia), it demands prompt treatment. Perhaps the best plan in most of these cases is to administer a full dose of salvarsan (or neo-salvarsan) intravenously. Short of this potassium iodide should be given in drachm doses four times daily, together with mercury.

Rheumatic or "nodular headache" has of recent years attracted a good deal of attention on the Continent, where it is regarded as quite a common form of headache. It occurs most frequently in middle-aged or elderly women, and is liable to be brought on by a chill, as by sitting in a draught after washing the hair. The pain is continuous, and may last for years. It is apt to get worse at night, and to be aggravated by the recumbent posture. Cold applications tend to increase, warm applications to relieve it. Careful palpation discloses within the subcutaneous tissues of the scalp and neck, in the substance of the cervical, occipital, and temporal muscles, or along the tendinous insertions into the occiput of the cervico-occipital muscles, circumscribed indurations, very tender to the touch. These consist of nodules varying in size from a millet seed to a bean. Along the tendinous insertion of the occipital muscles they usually form flattened masses. The nodules within the muscles are most easily felt when the latter are relaxed.

The treatment of this form of headache is general and local. The digestive system should be carefully attended to; alcohol should be avoided; the hair should not be washed, but cleansed by means of spirituous lotions, and care should be taken to avoid chills. Among drugs, potassium iodide, sodium salicylate, and potassium bromide are the best. Local treatment is all-important. It consists of massage of the head and neck, preceded by a two hours' application of hot poultices. Each manipulation lasts from fifteen to twenty-five minutes, and the entire course from one to three months. The first eight to ten manipulations generally cause considerable pain, and make the headache worse, so that it may be necessary at this time to give anodynes such as codeine and antipyrin. Improvement begins from the third to the sixth week. The manipulations should be carried out daily until decided improvement occurs, when they should be limited to alternate days, and should be persevered with until all the indurations have disappeared. Some practice is needed in order to acquire the necessary skill in manipulation. The patient assumes the sitting posture, resting the chin on both hands so as to steady the head. The operator begins by making downward strokes with the palms of the hands

* It is probable that reflex headache may be occasionally set up by irritation in still more remote regions—for example, from uterine and ovarian disease.

along the sides and back of the neck (effleurage). The underlying muscles are then vigorously kneaded with both hands (pétrissage), the deep muscles being as far as possible plucked up from their supports in the process. The indurations — subcutaneous, intramuscular, and intratendinous—are then individually kneaded for about half a minute, by means of three or four finger-tips closely approximated, the movement adopted being a circular one from the shoulder-joint. Then follows a repetition of the effleurage. The same routine is gone through in the case of the scalp, and the sitting is terminated by a general effleurage of the entire head.

2. External irritation of the cephalic structures. Reference has already been made to the influence of pediculi, undue traction upon the hair, and the wearing of unsuitable headgear in causing headache.

3. Irritation in areas other than the cephalic causing reflex headache. Headache may be reflexly induced by irritation of any part of the extracephalic region. The most important sources of reflex headache are to be sought for in the eyes, the teeth, the nasal cavities, the maxillary antra, the throat, and in the thoracic and abdominal viscera. I invite discussion on these sources of headache, merely remarking in this connexion upon the importance, in cases of headache from eye-strain, of securing the fullest possible correction of any error of refraction that may exist, and of insisting, where this is necessary, that the patient shall wear glasses for distance as well as for near work.

4. Circulatory disturbances in the cephalic structures causing functional headache. Such disturbances occurring as the result of heart disease, violent exercise, exercise involving stooping such as gardening, or of wearing tight collars or corsets, may cause headache. It is probable that vasomotor disturbances of the cephalic circulation enter largely into the pathological mechanism of some headaches.

Morbid blood states causing functional headaches. Functional headaches thus arising—haemic headaches as we may term them—constitute much the largest class of headaches. Indeed, functional headache rarely occurs when the blood is in a healthy state.

In this connexion we must bear in mind that the blood-plasma is the most complex fluid in nature, and may thus depart from the normal in an infinite variety of ways. In the present state of our knowledge, it is only in a limited number of cases that we are able to indicate the exact nature of the defect.

As to the manner in which morbid blood states induce functional headache we are still largely ignorant. What, for example, is the mechanism of the toxic headache which occurs during the first week of enteric fever? The mechanism of these haemic headaches doubtless differs in different cases. The morbid blood may set up headache (*a*) by its direct effect upon the cephalic structures, by producing local vasomotor disturbances,* or conceivably, by augmenting the irritability of the cephalic sensory centres; or (*b*) indirectly, by acting upon structures outside the cephalic area—for example, by heightening the irritability of the retina, by weakening the mechanism of accommodation and thus predisposing to eye-strain, or by causing disturbance in the dental area.

It is impossible to do more than touch very briefly on the morbid blood states which give rise to functional "haemic" headache. They include the toxaemias of the infectious fevers, uraemia, the toxaemias produced by drugs, alcohol, and tobacco, deficient coagulability of the blood, anaemia, plethora, and the condition I shall term "alimentary toxaemia." I shall only be able to discuss, and that very briefly, the last four of these.

But first a word on the subject of blood pressure in its relation to headache. Arterial blood pressure is chiefly interesting in this connexion in so far as it indicates an abnormal state of the blood. High arterial pressure is often associated with headache. It generally indicates a toxaemia which we should seek to diagnose and to correct. Low blood pressure occurring as a result of a morbid blood state is sometimes a feature of intractable headache. In some of these cases digitalis has seemed to me to do good. Adrenalin might be helpful in some.

* Sir Lauder Brunton has attributed the pain of migraine—unmistakably of haemic origin—to the violent hammering of the blood against a localized constriction of a cranial artery—for example, the temporal.

Deficient coagulability of the blood. Dr. George W. Ross has described a headache which is associated with this condition. "The subjects of this form of headache are usually of the lymphatic type. The expression is heavy and listless. The face is full and the eyes are often puffy. Some anaemia is the rule. . . The whole bearing exhibits mental and physical lassitude."[1] For this "lymphatic type of headache" he recommends 15 grains of calcium lactate, m ½ of tincture of capsicum, to 1 oz. of chloroform water, before meals. The patient is not allowed to eat oysters, crabs, strawberries, which seem to contain lymphagogic agents.

Anaemia. Headache is a common accompaniment of anaemia in its many forms. It is probable that the headache thus arising is due as much to an associated toxaemia as to an impoverished state of the blood. The so-called anaemic headache has, according to my experience, no special clinical features beyond its tendency to be neuralgic in character.

Plethora, such as is met with in stout, overfed, middle-aged and elderly people, and in amenorrhoeic women at the climacteric. The blood mass is not necessarily increased in these cases, but there is an increased quantity of blood in the superficial vessels of the head and neck, and the patient is apt to complain of flushings, buzzings, and giddiness. Among the overfed of this class the face often assumes a blue tint (as the result, I believe, of contraction of the venules), the eyes tend to bulge, and the patient pants from want of breath. This type of person is a familiar figure in our large hotels. The phenomena just referred to are the expression not of a superabundance of blood (which may or may not exist), but of some defect as regards the *constitution* of the blood. The treatment consists in reducing the diet, insisting on a due amount of exercise, and in administering mercurials and salines.

Alimentary toxaemia. By this term we may conveniently connote blood poisoning from defective digestion in stomach, liver, or bowel (including, as this does, the toxaemia of gout, biliousness, and constipation). This is of all causes of headache the most common. It is often brought on by obscure forms of hepatic and intestinal indigestion, and it is probable that migraine and many of the headaches associated with menstrual disturbance arise in this way. Hence the importance of attending to the digestive system in all sufferers from headache. The diet needs careful regulation. For most the golden rule applies—to eat simple food, in moderate quantity, and to chew it thoroughly, especially the farinaceous portion of it. We must not bind ourselves to any one system of diet, but consider each case on its own merits, our object being to secure normal digestion in stomach, liver, and bowel. If we succeed in this, it matters little what kinds of food we permit. Sometimes, especially in migraine, good may be effected by curtailing the animal food, especially butcher's meat; but in most cases the better plan is to reduce the carbohydrate input, especially starch and sugar.

Some are obsessed with an altogether groundless fear as regards the influence of animal food on the human organism. The endeavour to subsist on a dietary which shall not necessitate the taking of life is a commendable ideal, and one, perhaps, which man may one day realize—approximately, at least; but the view that man is by nature a purely vegetable feeder and that animal food has necessarily an injurious effect upon him is wholly fallacious. The fact is, as I have elsewhere sought to show, man owes his present exalted position in the animal scale to his carnivorism. This truth may not be palatable to the sentimentalists, but it is one which must be fairly and squarely faced. It was the search after animal food which led man's arboreal ancestors to change an arboreal for a terrestrial life, and it was, I am convinced, the conditions entailed by a hunting career which brought about the evolution of the human. For observe the curious situation of the pre-human anthropoid when he took to hunting—assuredly one of the most eventful and dramatic in the whole history of organic evolution. Here was a being lacking the stereotyped equipment for slaughter, instinctive and anatomical, of the carnivora, but gifted with an intelligence surpassing that of any other creature, and endowed with prehensile hands capable of giving effect to that intelligence. It was a situation in which intelligence counted in the life-struggle as it had never counted

before, and it inevitably led to the evolution of man. This agile, intelligent, hand-endowed percursor of man was compelled to rely upon his *intelligence* in hunting his prey; for blind instinct he had to substitute strategy; for natural weapons, weapons made by hand. Once the pre-human ape started on his career of intelligent, as against instinctive, hunter, he began a struggle in which it was inevitable that a higher and ever higher grade of intelligence should continue to evolve, until sufficient mental capacity had been attained to render its possessor supreme as a primitive hunter—a grade of intelligence little short, I imagine, of that of the Australian aboriginal.

I venture to submit that we as physicians will get far more help by studying man's diet from the standpoint of evolution than from laboratory experiments—certainly as regards the main truths, useful as such experiments doubtless are. Such a study shows us that the diet of neo-civilized man differs from that of early man mainly as regards sugar and soft starchy foods. Primitive man consumed an abundance of animal food; his supply of sugar was limited to wild honey, his starchy food to what he could obtain from the uncultivated animal kingdom; and observe that before the discovery of cookery all this had to be masticated laboriously. Hence it was that primitive man consumed comparatively little starch, and such as he did consume was so thoroughly masticated that it was to a large extent predigested in the mouth. In the case of neo-civilized man, on the other hand, not only is sugar abundantly consumed, but the stomach (especially during the first years of life) is literally deluged with undigested starch.

Such considerations surely suggest that, as regards the diet of our neo-civilized patients, we have more to apprehend from an excess of starch and sugar than from excess of animal food.

CAUSES NOT INCLUDED UNDER THE PREVIOUS HEADINGS.

Mental.—Hard thinking may cause headache, but the headache of intellectual workers is more frequently due to eye-strain. Strong emotion, such as anger, worry, and suspense, is a powerful exciting cause.

Atmospheric Conditions.—Thundery weather is a well-known cause of headache; also the stuffy atmosphere of ill-ventilated rooms.

REFERENCE.
[1] *Lancet*, January 20th, 1906.

DISCUSSION.

Dr. C. O. HAWTHORNE (London) thought it a somewhat speculative proceeding to use such terms as toxaemic and rheumatic headache or headache due to high blood pressure. It was, of course, well known that patients with high sphygmomanometer records, or with disturbances of the digestive functions, might have headache, but was there sufficient warrant for saying that in the one case this is due to excessive pressure in the intracranial arteries, in the other to poisons absorbed from the alimentary canal? The same thing might be said of the term "rheumatic headache," which suggested, without warrant so far as the speaker knew, that the headache depended on the same agency as that which produced rheumatic fever. On the practical side he thought Dr. Campbell's survey might have emphasized more strongly the necessity for an ophthalmoscopic examination in all cases of headache. There could be no doubt that headache might be the one and only symptom of serious intracranial disease, and it was not always the case that the headache was very severe or persistent. Now and again a child was found to have post-neuritic optic atrophy and the only history was of headache, with or without vomiting and often limited to the early hours of the morning. Whether the underlying cause were tumour or some other form of intracranial disease, the early diagnosis in such cases obviously depended on the use of the ophthalmoscope. Another form of examination to be remembered in cases of persistent headache of obscure causation was examination of the cerebro-spinal fluid. A headache quite unaccompanied by any other evidence of disease might in this way be shown conclusively to be due to specific disease. The examination of the fundus oculi, of the cerebro-spinal fluid, and of the state of the refraction ought be kept in the forefront in the investigation of cases of headache.

Dr. PEGLER (London), speaking as a rhinologist, said that some headaches were certainly of nasal origin, but in their form and locality they possessed no special characteristics. When headache accompanied nasal lesions the patients were probably predisposed towards headaches, since the same lesions might at times be found without any accompanying headache whatever. The nasal lesions commonly associated with headache fell into three groups—non-inflammatory, chronic inflammatory, and acute inflammatory causes. Combinations of these sometimes occurred, and a thickened or deflected septum might complicate any one of them. Cases in the first group were due to pressure somewhere within the nasal chambers of some one more or less rigid body against another, the richly innervated nasal mucous membrane intervening. The pressure of a septal spine against a middle or inferior turbinate was a case in point. Such causes of headache gained increased importance from the fact that quite often they could not be detected until careful search by expert means had been made. The commoner lesions in the second group were conditions such as masses of polypi. The primary effects were stagnations of secretions, accompanied at times by toxic absorption. Should pus be imprisoned in a nasal cavity, headache was liable to be especially severe, but was relieved as soon as drainage was re-established even though the suppuration continued. The third group of lesions was formed of rhinitis in various forms, and was typified by acute coryza. Dry forms of rhinitis, however, were also liable to occasion headache, which could usually be dissipated by free lavage. Other occasional causes were the formation of fibrous adhesions across fossae, these by their traction inducing headache, which disappeared when the bands were destroyed. The speaker then discussed the nervous mechanism of nasal headache and its diagnosis, which, he said, could not be established from the character of the situation of the pain, for this, owing to anatomical misreferences, might be experienced in any part of the head. The commonest location was across the brow, below the hair line. In one particular case, a highly intelligent schoolmistress described to the author three kinds of headache, each with a separate location. She was astigmatic and asthenopic, but could get no benefit from the lenses prescribed for her, nor from a long spell of rest until partial resection of an inferior turbinal, following some time after an adenoid operation, had been carried out. All three forms of headache then entirely ceased. In degree a nasal headache might be anything from an occasional dull pressing pain to a fulminating seizure radiating along all the branches of the fifth nerve. The extreme forms of headache were sometimes accompanied by photophobia and cardiac depression, and were generally due to the first class of causes. A sense of compression or tightness at the root of the nose as a starting-point of the headache often served as a useful guide to latent pressure as a cause; in some cases there was slight swelling with a bluish tint of the skin over the painful spot. Unilateral distribution of the pain was very common in nasal headache, but absence of the classical signs of megrim should serve to prevent a wrong diagnosis of the latter disorder being made. The final diagnosis in any kind of nasal headache must often depend on the results of treatment; this treatment was merely that ordinarily required for the concurrent nasal ailment found to exist, the pain vanishing as soon as this had been removed. In exceptional cases the headache only gradually disappeared after surgical treatment of its underlying nasal cause, and in these the speaker had often found a course of bromides very helpful.

Dr. FRANK EVE (Hull) said the experimental method was too seldom applicable in clinical medicine, but in connexion with the question of headaches was often possible. For instance, one of the regular sequelae of tuberculin injections was a headache lasting perhaps a day, and might also be either relieved by lumbar puncture or induced thereby, unless the patient were kept in bed for a day. It was important not to mistake neuritis for headache, for in this event the patient would not be cured. A case in point was a youngish man who had been infected six months previously with syphilis and for a few

months had had agonizing "headaches." He had been treated by several physicians with mercury and salvarsan, etc. The latter produced some temporary relief, but nevertheless the headaches continued for months. On examination the speaker noted that the trunk of the great occipital was tender and that there were areas of anaesthesia over its distribution. Two or three applications of salicylic ionization produced a rapid and permanent cure of the "headache." In such cases a precise diagnosis was not only essential but equivalent to a cure.

The PRESIDENT, speaking of syphilitic headaches, said that in his opinion the inunction of mercurial ointment was still the most satisfactory treatment, when combined with moderate doses—say, 20 grains three times a day—of potassium iodide.

Dr. CAMPBELL, in his reply, agreed with Dr. Hawthorne as to the necessity of examining the cerebro-spinal fluid in all cases of headache in which there was a suspicion of syphilis; but he pointed out that in cerebral syphilis the cerebro-spinal fluid obtained by lumbar puncture might give no evidence of syphilis. This had been shown by careful investigations made at the London Hospital. As regards errors of refraction, he insisted upon the importance of providing the sufferer from headache with the best possible correction, both for near work and for distance.

ACUTE ATROPHY OF THE THYROID GLAND.

By F. C. EVE, M.D.Cantab., M.R.C.P.Lond.,
Hull.

(*Abridged.*)

THE case of exophthalmic goitre I am about to describe showed complete disappearance of a rather large goitre during the two days preceding death. That is to say, no trace of it could be detected by the eye or fingers. A *post-mortem* dissection was unfortunately out of the question. I cannot find a record of a similar occurrence, though, of course, it is well known that an exophthalmic goitre is subject to fluctuations in size.

The patient was a woman, aged 40, whom I had treated for Graves's disease for five years, and who had suffered from it for six and a half years. Her illness ran the usual course for a few years, with a conspicuous goitre about 4 in. in width, but subject to variations in size.

Looking back on her long illness, one is chiefly impressed by the remarkable instability and variability in the action of her organs. The bowels varied from attacks of diarrhoea to constipation; the blood pressure from about normal to 240 mm., when its measurement became painful and caused petechial escape of blood from the tissues of the forearm. The pulse varied from 100 to 200. The weight was never constant, the catamenia irregular, the eyes varied much in their protrusion, and were often normal for long periods. Her headaches, sleep, strength, and the darkness of her complexion were all very variable.

In the fourth year of her illness she had influenza, the fever of which was succeeded by an alarming and exhausting week or two of high fever. Some people seem to term this thyroid fever, as it seems due rather to poisons and hypersecretions from an angry gland than to bacteria. Thereafter every spring an attack of influenza or tonsillitis brought her near to death by this subsequent sustained thyroid fever.

Her last illness started with frank follicular tonsillitis, followed by her usual thyroid fever, with erythema nodosum on the arms and legs on the twelfth day. On the fifteenth day the thyroid was first noted as having become very small, and diarrhoea had started. On the sixteenth day the thyroid was scarcely palpable, and only half the 160 heart beats were reaching the wrist. The seventeenth day was her last, and no trace of the thyroid gland could be seen or felt before or after death. Her rapid breathing, chest pain, and rusty sputum showed that a few hours of pneumonia had been the final cause of death.

In a patient of 40, with six years of Graves's disease, one would expect the thyroid to contain a good deal of secretion, but the atrophy was so complete that I was compelled to think that there had also been a rapid and extensive cytolysis of the secreting cells, analogous to that occurring in acute yellow atrophy of the liver.

It is important to get information on this point, because we have in normal horse serum an agent which is very potent to arrest such uncontrolled cytolysis, as I showed very clearly by some cases published in the BRITISH MEDICAL JOURNAL in October, 1910. It may be found advisable to inject horse serum in the hope of checking this alarming atrophy of the thyroid, or possibly even the thyroid fever. I did try it in 1911 in a child moribund with acute yellow atrophy, but I saw the child too late to give any remedy a chance. I see that horse serum is now recommended in this disease, but I do not know with what success.

In 1913, in a very young child with acute febrile lymphadenoma, the enlarged subclavicular glands started to atrophy rapidly, and, as the child's general condition was getting worse, I thought it advisable to try to put the brake on the acuteness of the cytolytic process by injections of horse serum. However, the enlarged glands wasted almost entirely away, and after a week or two the child died. Possibly to inject the serum locally would be better. These instances show that acute atrophy of pathologically hypertrophied tissues may be of the gravest import, and (probably) that an attempt to arrest the process should be attempted by horse serum, unless better means be known.*

A medical friend allows me to quote another case illustrating thyroid atrophy preceding death. It was a woman who had Graves's disease for five years but was able to do her house work. Then she had an attack of diarrhoea, fever and loss of flesh, and her goitre entirely vanished. Within two months she was dead.

Another case, which I saw once only in consultation, was a big elderly woman who had had a large simple goitre for several years, with stertor as the only symptom. After six months of dyspepsia, she started with persistent obscure fever and general wasting of remarkable rapidity. Her goitre showed rapid atrophy during the week preceding death.

The histology of these changes requires working out, but clearly it renders the goitre from the *post-mortem* room very likely to be misleading from the histological point of view. So that thyroids removed *in vivo* by the surgeon should alone be relied upon to give a reliable picture of the true state of a goitre.

A CASE OF ANAEMIA WITH ENLARGEMENT OF THE SPLEEN: SPLENECTOMY: CURE.

By J. SOUTTAR MCKENDRICK, M.D., F.R.F.P.S.G.,
Assistant Physician to Glasgow Western Infirmary.

(*Abstract.*)

THE treatment by splenectomy of cases of anaemia associated with splenomegaly until recent times has been comparatively rare. This has depended on two factors: (1) The imperfect knowledge of the function of the spleen, and (2) the danger attending the surgical technique.

Regarding the first factor, the researches of Noel Paton, Goodall, Gulland, and Fowler have shown us that the spleen may be removed without causing death to the animal, either at the time or afterwards. They have shown that whatever function the spleen may have, the lymphatic glands and haemolymph glands may take up this function.

Regarding the second factor, the death-rate from splenectomy in the human subject until recently has been very high. Sepsis, shock, and profuse haemorrhage have been the chief causes of death.

Mr. Spanton tells us that from 1866 to 1875 the death-rate after splenectomy reached 75 per cent. From 1886 to 1895 it fell to 16 per cent., and in the most recent series of cases reported by Giffen from the Mayo clinic it fell to 7.4 per cent.

The operation must not be delayed too long, for in Banti's disease, where the liver is cirrhosed and ascites occurs, the mortality from splenectomy may be higher.

In certain blood diseases the spleen becomes enlarged. The enlargement may be primary, such as is probably the case in splenic anaemia; or secondary, in general infections, toxaemic states, rickets, syphilis, etc. Many

* *Coagulose*, a new and stable preparation of horse serum in powder form (Parke, Davis and Co.), may prove worthy of trial.

such anaemic conditions with splenomegaly have wholly recovered after splenectomy.

S. R., aged 8, was admitted to the Western Infirmary on July 26th, 1912, complaining of great weakness, breathlessness, and loss of appetite.

History of Present Illness.—Up till four years ago her health had always been good. At that time she had frequent attacks of diarrhoea, and following this she gradually became more and more anaemic. During the last year the anaemia deepened despite all usual medical treatment. About six months ago she developed haemorrhagic patches in the skin, and her eyesight was not so good. She at no time had haematemesis or melaena.

Family History.—Nothing noteworthy.

Present Condition.—Intense pallor of skin and mucous membranes. Some icteric tinge of skin and conjunctivae. Haemorrhagic patches on chest and arms. Some evidences of haemorrhagic retinitis. Heart not enlarged, but functional v.s. murmur over pulmonic area. Blood pressure 92 mm. Hg (systolic). Lungs normal. Digestive system: Furred tongue; teeth not good. Liver palpable below the costal margin. Spleen enlarged, passing downwards almost to the umbilicus. No ascites. No enlargement of the stomach. Nothing else noteworthy in the abdomen. No enlargement of lymphatic glands. Urine: No bile or other abnormality.

Blood:

Red cells	2,550,000
White cells	7,800
Haemoglobin	25 per cent.
Colour index	0.5
Polymorphs	56 per cent.
Small lymphocytes	36 ,,
Large lymphocytes	2 ,,
Large mononuclears	3.6 ,,
Mast cells	1 ,,
Eosinophiles	1.4 ,,

Anisocytosis, poikilocytosis, ghost cells, slight polychromatophilia, a few normoblasts, one questionable megaloblast. Wassermann reaction negative.

On August 16th a portion of the ninth rib was excised and bone marrow examined by Dr. Shaw Dunn. This showed a somewhat hyperplastic condition of the blood-forming tissues.

Dr. Alex. MacLennan removed the spleen on August 28th. The spleen was non-adherent. It was of firm consistence, weighing about twice its normal weight, and the lymph nodes were slightly enlarged and prominent. The main departure histologically from the normal splenic appearance was the presence of normoblasts and myelocytes and the unusual number of polymorphs and eosinophile leucocytes. Bacteriological examination for organisms was made with negative results.

On August 29th, the day after operation, the blood had altered materially from the last examination. There was a large increase in red and white blood corpuscles, a very marked polymorphonuclear leucocytosis, and a rush of nucleated red cells (normoblasts).

Red cells	4,650,000
White cells	34,800
Haemoglobin	35 per cent.
Colour index	0.38
Polymorphs	94 per cent.
Lymphocytes	5.6 ,,
Eosinophiles	0.4 ,,
Nucleated red cells	1,800 per c.mm.

Digestive leucocytosis experiments were performed, and were found to react normally. The red cells gradually increased to normal, at one time there being a polycythaemia, while the white cells steadily fell to 9,000. The haemoglobin did not increase so rapidly as was expected. As there was some oral sepsis, a few teeth were extracted.

On November 15th the blood examination was:

Red cells	4,890,000
White cells	12,000
Haemoglobin	75 per cent.
Colour index	0.8
Polymorphs	62 per cent.
Lymphocytes	27 ,,
Large mononuclears	5 ,,
Myelocytes	6 ,,

No nucleated red cells.

The patient left the hospital well. On April 26th, 1914, Dr. Hastings, of Skye, writes: "S. R. has grown and is in good condition. She has a good colour, with no trace of anaemia, and is in fact a normal healthy child of her age, not in the least like the poor anaemic child she was. You may safely describe the case as being a complete success so far."

[The author went on to make remarks on the immediate effect of splenectomy in this case, and laid especial emphasis on the importance of examining the bone marrow in the cases of severe anaemia with splenomegaly, before splenectomy is advised, in case there is an aplastic instead of a hyperplastic condition of the bone marrow.

He then discussed the differential diagnosis between cases of splenic anaemia (so-called) and cases of pseudo-leukaemia infantum (von Jaksch), myelogenous leukaemia, pernicious anaemia, and acholuric jaundice with splenomegaly.]

The treatment of cases of anaemia with splenomegaly by splenectomy is still in its infancy, as far as one can gather from the general literature. A new classification of these obscure cases is wanted. Fresh pathological investigation into the causation is needed, and, above all, a further knowledge of the true function of the spleen is required.

THE URINARY DIASTASE TEST IN A CASE OF RUPTURED DUODENUM.

By Arthur H. Lister, M.D.,
Physician to the Aberdeen Royal Infirmary.

(*Abstract.*)

Laurence Humphry's recent communication,[1] with his reference to Dudley Corbett's paper,[2] disposes of the necessity for any preface to the following note:

A healthy man, aged 25, was riding, when his horse reared and fell backwards, crushing the rider. He was sent into my ward on April 17th, but as signs of an intra-abdominal injury were present I asked Professor Marnoch to see him immediately. He was operated on forthwith.

Some free blood-stained fluid was present in the abdominal cavity, and there were subperitoneal haemorrhages in the mesenteries and omentum. There were no haemorrhages in the lesser sac. There was a large retroperitoneal haematoma at the back of the abdominal cavity. This was opened, a semifluid blood clot was removed and a drainage tube was inserted connecting the haematoma with the surface, otherwise the abdomen was closed.

On removal of the dressings, faecal matter was found to have escaped through the tube; vomiting was troublesome, and it was noticed by the house-surgeon that the matter which was vomited was similar in character to that which escaped from the tube. The patient died on April 22nd.

On the 23rd the *post-mortem* examination revealed a transverse rupture of the duodenum close to its junction with the jejunum. At the inner end of the drainage tube was a collection of faecal matter, with retroperitoneal cellulitis. The pancreas was normal, and there was no evidence of any disease of the kidneys.

On April 21st I examined the diastase reaction of the urine on the chance of finding some abnormality in its amount which might point to a lesion of the pancreas. Instead of finding any increase, I found that the diastase, when tested for in the ordinary way as described by Corbett (loc. cit.), was practically absent, though there was a faintly redder violet tinge in the tube containing 0.6 c.cm. as compared with the blue colour in the lower tubes of the series. The control used was a urine showing a normal coefficient ($d = 10$).

The fact which appears to me to justify the publication of this case is that I know of the report of no other in which the diastase test has been applied where the pancreatic secretions have been short-circuited. The case is not complete, as it is conceivable, though improbable, that the pancreas was not secreting. This could have been determined by taking the diastase reaction of the fluid discharged from the drainage tube, but the patient died so soon after I had obtained my results that I did not get the opportunity of making this estimation.

Apart from this possible fallacy, the almost complete absence of diastase from the urine would suggest that the usual source of urinary diastase in healthy conditions of the pancreas is the amylopsin of the pancreatic juice absorbed from some part of the bowel lower than the duodenum. That the ptyalin of the saliva has any definite share in producing it would seem improbable. It is commonly held that ptyalin is destroyed in the stomach,[3] and were it to be absorbed in any large quantity from the stomach wall one might have expected to have found it in the urine of this patient, but no stress can be laid upon this point as vomiting was frequent.

The fact that normally diastase passes apparently with ease into the circulation and on through the renal epithelium, makes its almost complete absence from ascitic fluid, at any rate in some cases, a matter of interest.

A case of ascites in my ward whose peritoneal sac has been tapped some eighty times, to the extent of about

1½ gallons at intervals of about ten days to three weeks, for nearly three years, shows a normal diastase content in her urine ($d = 10$). The ascitic fluid, which at first was clear, is now milky and contains only a very small quantity of diastase ($d = 1.6$ approximately). Dr. Edie, lecturer on biochemistry, Aberdeen University, from a careful analysis is inclined to consider the fluid pseudochylous in its character.

An absence of diastase from chyliform ascitic fluid has been commonly noted.[4] Whether by examining the reaction of fluids removed from the serous cavities any difference may be generally found in the diastase content of inflammatory exudates as distinguished from that of transudates, is still, I believe, a matter for investigation. In view of the considerable quantity of diastase normally present in the blood one would expect to find a higher diastase coefficient in inflammatory effusions, but I have no sufficient facts bearing on the matter to justify any statement.

I have to express my gratitude to Professor Marnoch and to his house-surgeon, Dr. Brand, for the information which they gave me regarding the first case noted.

References.

[1] The Urinary Diastase Test and Loewi's Reaction in Pancreatic Lesions. British Medical Journal, June 6th, 1914, p. 1229. [2] *Quarterly Journal of Medicine*, April, 1913, p. 351. [3] Schäfer's *Textbook of Physiology*, vol. i. p. 330. [4] *Quarterly Journal of Medicine*, vol. iii. p. 301, and vol. iv. p. 153, on Chylous and Pseudochylous Ascites. By R. L. Mackenzie Wallace and H. A. Scholberg.

Reports

on

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

GENERAL INFIRMARY, LEEDS.

A CASE ILLUSTRATING THE SURGERY OF THE PUERPERAL UTERUS: HYSTERECTOMY FOR MYOMA SUPPURATING AFTER LABOUR.

(By John Benjamin Hellier, M.D.Lond., Honorary Obstetric Physician to the General Infirmary at Leeds; Professor of Obstetrics, Leeds University, etc.)

Mrs. C. W., a Jewess, was admitted into the Leeds Infirmary on December 8th, 1913, with acute abdominal symptoms, five weeks after her first confinement.

Previous History.—She had been married seven years without becoming pregnant, but had always had good health. Menstruation had been scanty, with rather long irregular intervals, and there had been no reason to suspect any uterine growth. In the early part of 1913 she became pregnant. She had some slight haemorrhage in early pregnancy which lasted two weeks and then ceased, after which the pregnancy ran a normal course. She was confined in the Leeds Maternity Hospital on November 2nd. Before labour external palpation suggested a transverse lie, but at the time of labour the breech presented, and delivery was easy and uncomplicated. After delivery the presence of a moderate-sized myoma in the corpus uteri was easily recognized. She was discharged on November 20th without having developed any morbid symptom.

On December 5th she was admitted to this infirmary at the request of Dr. Umanski of Leeds, who had been called to see her, and had found her with abdominal pain and tenderness, distension, vomiting, and high temperature. On admission a uterine tumour could be felt corresponding to the size and position of a four and a half months pregnancy but lying more to the right than the left of the middle line. It was rather tender. The patient was a well-developed woman, not looking very ill, and the principal organs outside the pelvis were normal. There was no vaginal discharge, no indication of any tissue retained in the uterus, and no sign of cellulitis or phlebitis. There seemed to be no general peritonitis. The diagnosis of infected myoma was at once considered, but it seemed best to observe the case further lest any other complication were developing. Two days after admission the vomiting had ceased, and the patient seemed much better. On the evening of December 10th she had a severe rigor, the temperature reaching 105.8° F. Next day she seemed better, but on December 12th she had a second rigor. Again she seemed to be improving, but on the 17th a third rigor occurred. It was then determined to explore the abdomen, and this was done on December 18th. There was no general peritonitis, but the uterus presented a round fluctuating swelling in the anterior wall. There were no adhesions and no affection of the tubes. It was very easy to draw the uterus upwards and perform supravaginal hysterectomy, the cervix being long and thin. The appendages were removed on both sides with a good length of the ovarian vessels. The patient bore the operation very well, and the wound healed without any suppuration.

There was some herpes on the lips and face before operation, and on the 23rd there was a slight attack of facial erysipelas, spreading in butterfly shape over the nose, cheeks, and forehead. The patient was transferred to the isolation wards, but the erysipelas rapidly subsided. It produced very little disturbance of temperature and had no effect at all upon the abdominal incision.



A, Abscess cavity; B, central necrotic myoma; C, cervix; D, uterine cavity; E, abscess cavity.

On January 2nd, 1914, she was transferred to our semi-convalescent hospital, five miles distant in the country, whence she was discharged cured on January 24th.

Report on Parts Removed.

The uterus after removal measured 5½ in. in length and 5 in. in breadth. The uterine cavity lay posteriorly, and the anterior uterine wall was occupied by an interstitial tumour situated well above the cervix. Well marked fluctuation was perceptible in the tumour, and an exploring syringe withdrew pus. From this no bacterial growth was obtained on cultivation. The specimen was hardened in formalin for two or three days and then a sagittal section was made. The appearance of the specimen on section is represented in the accompanying drawing. The stretched-out uterine cavity is seen lying behind with a greatly thinned posterior wall. The endometrium is normal and the uterine cavity empty. The anterior uterine wall is occupied by a spherical cavity 4½ in. in diameter. Lying loose in this cavity, and occupying not more than about half the space, is a necrotic myoma, dirty greenish-red in colour, but showing the usual fibrous structure of a myoma. The rest of the space was occupied by dirty-looking pus with offensive odour. Anteriorly the

wall of the abscess cavity is very much thinned and in parts does not exceed 1 millimetre in thickness. The tubes and ovaries appeared to be normal.

Histological Appearances.—A section through the wall of the abscess cavity shows a narrow lining of necrotic tissue, much infiltrated by pus in its inner layers. Outside this is a fairly broad zone of fibrous tissue characterized by the presence of many inflammatory cells, polymorphs, lymphocytes, and especially plasma cells. A few tissue mast cells are also seen. Here and there amongst the fibrous tissue one can detect small islets of unstriped muscle, more or less completely necrosed. Outside this again is the muscular wall of the uterus, which is the seat of well-marked interstitial fibrosis and plasma cell infiltration. A few polymorphs and an occasional lymphocyte are also present. The inflammatory cells tend to occur in small clumps in the midst of the fibrous tissue, while tissue mast cells, which are present in considerable numbers, tend to be more uniformly distributed. The myometrium in this situation contains numerous wide, thin-walled blood vessels, the contents of which include many leucocytes. There is no evidence of tumour in the wall of the abscess cavity at any part; the sloughing process appears to have implicated the growth in its entirety.

A section through the solid central slough shows the typical structure of a fibromyoma uteri. The superficial portion is completely necrosed and is slightly invaded by pus cells, but in the deeper parts some nuclear staining still persists.

Sections stained with Pappenheim's pyronin-methyl-green mixture fail to show the presence of organisms, either in the pus or in the wall of the abscess cavity.

REMARKS.

This was a typical case for surgical intervention in uterine infection following delivery. The lesion was strictly limited to the uterus, and though it was causing severe symptoms there were no visceral lesions outside the uterus. There was no peritonitis. The disease was easily and completely removable, and the cellular tissue and the vessels were not involved.

When one sees cases of pelvic infection lasting for weeks after labour, the temptation to treat them by removing the uterus and infected appendages is very strong, but if the mischief has spread beyond these parts, and if the pelvic veins and lymphatics are widely involved the result is doubtful. In acute purulent general peritonitis the results of surgical treatment are very disappointing. I have tried the ligature of ovarian veins for thrombosis with very little success.

I never saw a more marked case of uterine abscess than the present. It seems clear that the hysterectomy saved her life.

I am indebted to Dr. M. J. Stewart, clinical pathologist to the infirmary, for his report on the tumour; to my house-surgeon, Mr. J. B. Wilman, M.R.C.S., L.R.C.P., for his careful observation of the case, and to Miss Ethel Wright for her excellent drawing.

DR. KENRICK S. WISE, Government Medical Officer, British Guiana, has been appointed a member of the Executive Council of British Guiana.

THE *Journal of the American Medical Association* for August 22nd contains statistics of medical colleges, students and graduates in the United States for the year ending June 30th, 1914. The total number of students was 16,502, being 513 less than in 1913. Of these, 794 were in the homœopathic colleges, and 270 in the eclectic colleges. There were 3,594 medical graduates, 387 less than in 1913, and 889 less than the number who graduated in 1912. This is the lowest number of medical graduates in the States since 1890. The total number of medical colleges is now 101, of which 10 are homœopathic and 4 eclectic. Of these 101 colleges, 84 now require one or more years of work in a college of liberal arts for admission, and several others have announced the higher requirement to take effect in 1915. Of the 3,594 medical graduates in 1914, 807, or 22.5 per cent., were also graduates of colleges of liberal arts, as compared with 19 per cent. last year. Women students constituted 3.8 per cent. of all students, and of all graduates 3.4 per cent. were women.

Reviews.

PHYSIOLOGY.

THE fifth edition of HOWELL'S *Physiology*[1] has been issued two years after the fourth. The continued popularity of this textbook is well deserved, for Professor Howell is a master of the art of exposition, and keeps the representation of his subject fresh and up to date. In this edition, in particular, he has incorporated some of the new and far-reaching results obtained in regard to the details of intermediary metabolism in the body, such as the indication that the animal body, under certain conditions, may obtain some of its necessary nitrogen for the synthesis of protein from inorganic sources. The specific function of the different proteins in growth and in maintenance is another field of investigation of fundamental importance which he touches upon. The author still upholds the mechanical view that the aqueous humour filters into the eye through the vessels in the ciliary processes, in place of the more reasonable hypothesis that the cells of the ciliary processes, by their secretory activity, regulate the intraocular tension. In regard to blood platelets, he says: "It has been shown that they are formed elements and not simply precipitates from the plasma." This is far too strong a statement, for in the light of Buckmaster's careful work on this subject the evidence seems to be all the other way. On page 433 Professor Howell has added a curve, taken from a recent paper by Miss Fitzgerald, showing the relationship between the altitude and the percentage of haemoglobin in the blood—a relationship worked out by her in the lofty regions of California. On page 525 he includes a coloured diagram, taken from a paper by Mall, showing the course of the superficial and deep fibres of the bulbo-spiral and sino-spiral systems of the musculature of the heart; and on page 530 a photograph, from a model constructed by Miss De Witt, of the auriculo-ventricular bundle and its ramifications in the interior of the ventricles. On page 794 we note a well-considered and balanced judgement concerning bacterial action in the gastro-intestinal tract. Professor Howell concludes "that while the presence of the bacteria confers no positive benefit, the organism has adapted itself under usual conditions to neutralize their injurious action."

In treating of the function of the interstitial cells in the testis, Professor Howell cites recent experiments of Steinach, who in very young animals transplanted the testes from their normal to other regions. Such animals developed normally, showed all the usual secondary sexual characters, and manifested full sexual desire and potency at the proper period. When the transplanted glands were examined it was found that the sexual elements were lacking, but the interstitial cells were increased in amount. These cells are called by Steinach the "puberty glands." In regard to alcohol, the author takes the well-reasoned view that while it may act as a true foodstuff, its expensiveness and dangers prevent us from regarding it as a practical food. On account of its ready absorption and palatableness, it may form a useful substitute for the solid, non-nitrogenous foodstuffs in sickness. Benedict and Török have obtained results upon diabetic patients which indicate that in this condition alcohol, used as a food, diminishes the production of acetone bodies, and protects the protein.

The author cites the suggestion of Rubner that the power to grow possessed by the cells of the young organism depends upon some special mechanisms of a chemical nature—that is, probably certain special chemical complexes which are responsible for the growth tendency. The thymus and pituitary glands form apparently an internal secretion which stimulates growth, mainly that of the skeleton. Young growing dogs, according to Aron, if given a diet insufficient to maintain their weight, still grow, since the skeleton increases in size at the expense of the other tissues, particularly of the muscular tissues. In the medusa, when unfed, Stechard reports, a regenerating tissue may grow rapidly by feeding on the old body tissues. The same tendency finds an illustration in

[1] *A Textbook of Physiology, for Medical Students and Physicians.* By Wm. H. Howell, Ph.D., M.D., Sc.D., LL.D. Fifth edition, thoroughly revised. Philadelphia and London: W. B. Saunders Co. 1913. (Med. 8vo, pp. 1020; 306 figures. 18s. net.)

malignant growths, and we must look in future to the discovery of the growth complexes and the obtaining of some control over them. Rubner suggests that the growth complexes are given up to the reproduction cells; the individual organism after reaching puberty is thus depleted of the power of growth, and sentence of death becomes inevitable.

DIETETICS.

Dr. Tibbles, the author of *Dietetics; or, Food in Health and Disease*,[2] has had a good deal of experience in writing upon allied subjects, and in the present volume he has produced a useful and comprehensive manual which deserves to be widely read by the medical profession. He complains of the general neglect shown to this subject by the medical profession and urges the need for a professor of dietetics. We believe, however, that this subject is taught now in most medical schools and forms a part of the course of therapeutics, but undoubtedly the arrangement of the course is left more or less to the discretion of individual teachers. We doubt whether there is sufficient material to justify a complete course, and still more whether there is time in the already overcrowded curriculum for more lectures than those already allotted to the subject of therapeutics. Undoubtedly a great change has taken place during the past thirty or forty years in the attention given to the dieting of patients in hospitals, and although the improvement may be slow it is certain that the necessity for arranging suitable dietaries is becoming widely recognized, and the public by their attitude upon this question are creating a demand for an adequate knowledge of the subject, which the profession must be prepared to supply. Those who desire to fill up the gaps in the knowledge they acquired before graduation can find no better guide than the book before us, which gives not only a fair and lucid summary of the scientific principles upon which the science of dietetics is based, but discusses, under the heading of various diseases, the appropriate regimen for each. We especially commend the tables on food values, the want of which has been a frequent subject of complaint with us. The attitude taken by the author on the question of the quantity of food, especially as to protein, is judicious. In his description of various dietaries we think it better that milk diet should consist of milk only, and that the kind of diet the author calls "milk" should be called "low." In his account of gall stones he seems to have overlooked the more recent work of Aschoff and Bacmeister, and we fail to notice any reference to the generally accepted relation of infection of the gall bladder by the typhoid bacillus to the formation of gall stones; the practical value of this observation is obvious. Further, we doubt the propriety of including pentosuria and lactosuria under the heading of diabetes mellitus, but it is possible that this was not the author's intention. The description of Dr. Pavy's theory is not to our mind quite satisfactory, and the date given to Rollo, who was the first to introduce meat diet in the treatment of diabetes, as 1830, is a mistake, as his book was published in 1797.

The genial little book containing the *Lectures on Dietetics*[3] Professor Max Einhorn has been in the habit of delivering to the New York Post-Graduate Medical School contains comparatively little in a systematic form, but there are useful tables of articles of food giving their constituents in protein, fat and carbohydrates and caloric value. The lecturer has omitted to give any table of alcoholic drinks, although he apparently has no objection to the use of alcohol in various forms, in several instances permitting it by name, so that his readers would find it an assistance to have such a table for their guidance. Although the style is easy to follow, it seems to us that occasionally he is speaking in a foreign tongue, and so expresses himself ambiguously; thus on page 20 he says, "The way foods should represent each other is by their calorific value except that we cannot eliminate protein"—a sentence which apparently means that the various kinds of food may more or less replace one another according to their calorific value, but that neither carbohydrate nor fat can take the place of protein. On page 32 he says, "Connective tissue is one of the substances that are absorbed in the stomach"—a statement that completely puzzles us, as it is certainly not true in its obvious meaning. Nor do we understand the story on page 39 about the lady who took half an hour to drink a glass of milk and in consequence suffered from headaches. Professor Einhorn is tolerant with regard to habits. The American habit of two large meals, morning and evening, and a small mid-day meal, is all right, but he approves equally of the German plan of eating six times a day. He says: "Do not try to do better than others; go along with them and you will be all right"—a very comfortable doctrine, but one which is hardly satisfactory to those who are looking for guidance, and he admits that the German plan tends to corpulency. He refers to the possibility of being able to go without solid food so long as abundant liquids are allowed, but he nowhere mentions the fasting methods of which such remarkable accounts reach us from the United States. He talks about "Graves of Great Britain," meaning the late Dr. Graves, of Dublin, but Ireland, even under the Act of Union, has not been thought to be part of Great Britain; further, he misrepresents Dr. Graves in suggesting that his practice of feeding fevers applied to typhoid fever, as at that time the fever prevalent in Dublin was maculated typhus. Nor did Graves introduce the use of milk diet in fever, for he recommended almost every kind of liquid except milk, and, rightly or wrongly, Murchison credited Sir William Gairdner with the introduction of milk. Professor Einhorn's dietaries, like so many constructed by Germans, are unsuitable to English palates. For example, on p. 115 he suggests a meal of "four scrambled eggs with 120 grams of ham," without any bread or bread substitute or vegetables; and on p. 126 he prescribes the following meal: "Three fried eggs with bacon or fried fish with hard boiled eggs or a portion of cold meat 5 oz." He devotes a chapter to reprinting the regimens of Ebstein-Banting, Oertel, Schroth and others, and in the last chapter he describes his method of duodenal feeding, illustrating it by several figures. Without pretending to cover a great deal of ground these lectures convey much useful information.

THE THYMO-THYROID APPARATUS.

Dr. Launoy is convinced that there is a close connexion between the thyroid and parathyroid glands on the one hand and the thymus on the other. He groups them together under the title "The Thymo-Thyroid Apparatus," and has collected in a recent volume[4] a large amount of information about them from the literature of the subject, besides adding accounts of his own experimental researches. From the embryological point of view, the three all arise from the epithelium of the branchial clefts in mammals, or, to speak more precisely, from the epithelium of the branchial intestine. The parathyroids are organs indispensable to life, while the thyroid gland is not; the removal of the thymus from young animals slowly causes death. Both thymus and parathyroids seem to be involved in the production of tetany and in the regulation of calcium metabolism, which is upset by the acid intoxication that follows their removal. Launoy observes that the thyroids and parathyroids have diverse functions, and cannot replace each other in the animal economy. He argues also that while thyroidectomy undoubtedly leads to myxoedema, there is nothing to prove that exophthalmic goitre is the result of hyperactivity of the thyroid gland. He finds that practically all mammals develop tetany after parathyroidectomy, and that this tetany is generally fatal. As for the thymus, he states that its removal determines a slowly fatal cachexia thymopriva in young mammals. The functions of the thymus are still obscure, and he suggests that it may be the seat of synthesis of the nucleins; it begins to undergo involution at puberty, and is found to be enlarged in four-fifths of the patients with exophthalmic goitre. The author naturally raises a great

[2] *Dietetics; or, Food in Health and Disease.* By W. Tibbles, LL.D., M.D.(Hon. Causâ) Chicago, L.R.C.P.Edin., M.R.C.S.Eng., L.S.A.Lond. London: Baillière, Tindall, and Cox. 1914. (Demy 8vo, pp. 634. 12s. 6d. net).

[3] *Lectures on Dietetics.* By M. Einhorn, M.D. London: H. K. Lewis. 1914. (Post 8vo, pp. 156; 4 figures. 4s. net.)

[4] *Thyroïdes, parathyroïdes, thymus: anatomie, physiologie, pathologie; déductions thérapeutiques.* Par L. Launoy, Docteur ès-sciences Naturelles, etc. Paris: J. B. Baillière et Fils. 1914. (Roy. 8vo, pp. 421; 50 figures. Fr. 14.)

many more questions than he is able to answer, as is to be expected in any book dealing with ductless glands. He writes clearly, and deals fairly with the authors he quotes. His volume should be read by all medical men and physiologists who are interested in the subject with which it deals.

THE GENTLE ART OF GROWING OLD.

THE attainment of longevity is only desirable so long as sound health is maintained in the process. Long-drawn-out years of invalidism carry but little pleasure to the patient and none at all to those about him. In too many cases the fault is with the patient himself. He has not taken the trouble to learn how to grow old and maintain health at the same time. By many people, and especially by those who have denied themselves nothing during the vigorous years of middle age, the necessity for modifying indulgence as they grow older is ignored. The increasing girth is made the subject of mild jokes, and comes to be regarded as due to advancing years and therefore inevitable. The ever-ready motor car is always at hand, and the brisk walk of twenty minutes to the office or the station, as the case may be, is entirely omitted from the daily round. As years advance health becomes gradually impaired, and in the vast majority of cases imperfect metabolism is the cause. The body is overloaded with material and insufficiently exercised to get rid of the surplus. Many octogenarians have offered advice founded on personal experience, and the well-known work of Sir HERMANN WEBER has reached its fourth edition,[5] showing the means by which healthy life may be prolonged. Self-indulgence must give place to hygienic rule. Regulated exercise, moderation in bodily enjoyments, the counteraction of evil hereditary tendencies, cleanliness, and general mental control must each and all be observed, but many difficulties present themselves in the endeavour to live the strictly hygienic life. Himself a living example of the possibility of maintaining sound health into the ninth decade, Sir Hermann Weber is able to place these various considerations in their true perspective, and the latest edition of his work will be found to contain reference to the newest as well as to the most ancient views on the subject.

THE VISCOSITY OF LIQUIDS.

AMONG the monographs on inorganic and physical chemistry published by Longmans is one on the *Viscosity of Liquids*,[6] by A. E. DUNSTAN and F. B. THOLE—a subject of no small interest to biological chemists. The authors say: "Whereas the viscosity of a molecular solution is defined completely by the concentration and the temperature, that of a colloid presents an entirely different problem." There must be taken into account: (1) Solvate solution—the viscosity increases with the amount of dispersion medium taken up by the disperse phase. (2) Electric charge—ionized particles which move in the electric field impart to the system a materially greater viscosity than uncharged particles. (3) Previous thermal treatment—a gelatine solution which has been repeatedly warmed and cooled has, at first, a lower viscosity. (4) Previous mechanical treatment—a decrease in the viscosity of gelatine solutions can be produced by repeatedly forcing them through the viscometer. (5) Inoculation with small quantities of more viscous colloids. (6) Time—hydrated colloids yield different viscosity readings according to the age of the solution and the viscosity with which the temperature is being altered. (7) Addition of electrolytes and non-electrolytes.

Relatively enormous changes of viscosity occur within very narrow limits of temperature and concentration; a gelatine solution may, by merely altering these variables, or even by mere ageing, pass through all values of viscosity from that of water to that of a solid. Soap solutions can attain the viscosities of solids at concentrations less than 1 per cent.

If it is desired to follow quantitatively the alterations of dispersity or of solvate formation, such as coagulation, peptonization, gelatinization, and so on, any physico-chemical property of the system may be used as an indication of such changes. In practice that property will be chosen which shows the largest possible variation with small changes in the colloidal condition and lends itself to convenient measurement. These requirements are eminently fulfilled by viscosity.

In the case of aqueous soap solutions, the viscosity, on the addition of electrolytes such as caustic soda, first falls and then increases rapidly as the electrolytic concentration rises.

The initial diminution of viscosity may be due to the abstraction of water from the disperse phase, with a consequent diminution in the bulk of the latter; the rapid increase in viscosity above a certain electrolytic concentration is due probably to the formation of colloidal aggregates, the size of which may increase with increasing concentration.

These quotations will be enough to show the interest of this little monograph to those engaged in problems of biological chemistry.

NOTES ON BOOKS.

IN *Some Minute Animal Parasites*[7] Drs. FANTHAM and PORTER have accomplished a difficult task with a considerable measure of success. Their book does not claim to be a treatise on the pathogenic protozoa of man and animals: it gives a popular but, above all, scientifically accurate account of their principal protozoal diseases, which will form attractive reading both to the student and the lay public interested in tropical diseases. Full justice is done to the more important protozoal diseases of man; while "tsetse-fly" disease and "red-water" in cattle, coccidiosis in domestic poultry and game birds, fish and bee disease, and many other protozoal diseases of the lower animals are considered in detail. Apart from the direct effect of disease-producing protozoa on the human race itself, it is necessary, as the authors point out, to consider the question from the point of view of food supply and transport. Red-water fever in the United States, for example, costs that country over £8,000,000 annually, due to deaths of cattle from piroplasmosis. Such facts should bring home even to the most sceptical the enormous economic importance of these questions, which so profoundly affect the health and prosperity of mankind.

The astrologer no longer inspires awe; he is a jest; and it was not worth while to devote to his "science" a solemn course of FitzPatrick lectures before the Royal College of Physicians of London. Yet Dr. MERCIER did this last year, and has now published them in a volume entitled *Astrology in Medicine*.[8] If it is intended to be taken as a joke, as may be concluded from a chapter on saints and signs added to the lectures, it is too laboured. The book, we fear, is an addition to library lumber.

MEDICAL AND SURGICAL APPLIANCES.

Urethral and Urethro-Vesical Irrigations.

MR. FREDERICK H. PICKIN, M.R.C.S., L.R.C.P. (Westminster), writes: When attempted with obsolete implements, urethral irrigation is liable, in spite of a liberal supply of mackintosh sheeting, to make a great deal of mess. With the improvement made possible by the apparatus about to be described, the surgeon can practise irrigation in his consulting room without spilling a drop of lotion, and can dispense with the use of mackintoshes and gloves; all that is required is a small towel spread across the patient's thighs. The apparatus consists of a metal pipe (similar to that sometimes used for irrigating wounds) with a thumb-push stopcock (E) for turning on and off, and regulating the flow of the irrigating fluid. The pipe, to which the rubber tube from the reservoir of the irrigator is connected at F, terminates in a small double channel (B), to the backflow of which a piece of tubing is attached (C) by a simple metal push joint. This tubing passes back to a receptacle through a ring (D), which conducts it under the thumb-push in such a manner that it can be readily compressed between the anterior edge of the push and the

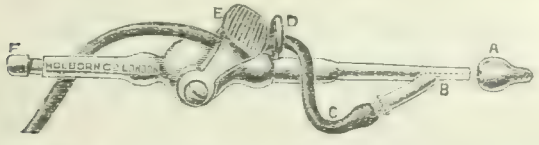
[5] *On Means for the Prolongation of Life.* By Sir H. Weber, M.D., F.R.C.P. Fourth enlarged edition. Founded on a lecture delivered before the Royal College of Physicians on December 3rd, 1903. London: John Bale, Sons, and Danielsson, Ltd. 1914. (Demy 8vo, pp. 241. 4s. 6d. net.)

[6] *The Viscosity of Liquids.* By A. E. Dunstan, D.Sc.Lond., and F. B. Thole, B.Sc.Lond. Monographs on Inorganic and Physical Chemistry, edited by A. Findlay, D.Sc. London: Longmans, Green and Co. 1914. (Med. 8vo, pp. 98; 62 tables; 12 figures. 3s. net.)

[7] *Some Minute Animal Parasites, or Unseen Foes in the Animal World.* By H. B. Fantham, D.Sc.Lond., B.A.Cantab., A.R.C.S., F.Z.S., and Annie Porter, D.Sc.Lond., F.L.S. London: Methuen and Co., Ltd. 1914. (Cr. 8vo, pp. 330; 56 figures. 5s. net.)

[8] *Astrology in Medicine.* By Charles Arthur Mercier, M.D. London: Macmillan and Co. 1914. (Cr. 8vo; pp. 100; 4 figures. 2s. net.)

upper surface of the pipe. A detachable metal urethra nozzle (A) caps the double-channelled end of the pipe. The patient, having emptied his bladder, reclines on a couch, comfortably propped by a back rest, his clothing is slipped down to the knees, and a small towel is placed in position. A urethral anaesthetic injection is given if the irrigation is likely to be at all painful or the patient nervous or resistant. The irrigator stand should be at the foot of the couch, and while the anaesthetic is being held in the urethra by the patient the reservoir is filled with the lotion selected, which should be quite warm. Air is expelled from the tubing and the reservoir raised to the required height. A receptacle is then placed on the couch between the patient's legs, the most convenient being a glass female urinal with a handle. The patient now allows the anaesthetic fluid to escape into a beaker, or on to the towel, and the surgeon takes the penis (with prepuce drawn back) firmly between the index finger and thumb of the left hand just behind the corona glandis, and lifts the irrigating pipe in the right hand, dropping at the same time the end of the outflow tubing into the receptacle. The urethral nozzle is now applied to fit the meatus, and kept accurately in position by pushing forward the glans with the left finger and thumb. The irrigating fluid is slowly turned on by a movement of the right thumb. If the anterior urethra alone is to be irrigated, this is all that is done (the position of the thumb push during anterior irrigation is shown in the illustration), since the lotion now runs into the urethra as far as the compressor urethrae and back through the outflow to the receptacle. The fluid can be felt rippling along the urethra by the fingers of the left hand. There can be no danger of creating



too great a pressure within the urethra (an important point in acute cases), because the outflow channel is constructed to be larger than the inflow. When, after thoroughly cleansing the anterior, it is desired to irrigate the posterior urethra, the thumb push is advanced still further, so as to nip the outflow tubing and to block it. The lotion is thus made to enter the bladder, until the patient feels that he has taken in as much as he can comfortably hold, when the stream is turned off completely. The pressure of fluid in the urethra is simultaneously relieved by the back flow (the tubing being unblocked when the thumb push is reversed), so that there is no spurting of lotion when the nozzle is removed from the meatus. The patient is now told to pass the contents of his bladder into a glass vessel. During the whole process of irrigation by this method there should not be any spilling or spurting of lotion at all. Should the pressure in the urethra become inconveniently great or painful, it can be instantly relieved by a movement of the thumb push to release the outflow tubing and convert the proceeding into an anterior irrigation. With experience the lotion can be easily made to enter the bladder, and I have been able to irrigate, without losing a drop, patients who have been most difficult to deal with by any other method. The apparatus can be easily kept clean and ready for use. The only part that touches the patient—the nozzle—can be boiled or washed and kept in spirit. It is useful to keep a set of these nozzles varying in size and shape. The outflow tubing can be detached and boiled or kept in lotion. The double channelled end can be unscrewed from the rest of the pipe and be boiled or immersed in spirit. The whole apparatus works smoothly. An anterior irrigation can be converted into a posterior without stopping the process to change a nozzle or turn a tap, a manœuvre that disturbs the patient and encourages spasm. Since working with this apparatus I have ceased to bemoan the absence of a third hand.

The Commission authorized by the New York State Legislature to make a scientific investigation into the causes of bovine tuberculosis and its economic and health effects on the State has been appointed by the Governor. Among the members of the Commission are Dr. Theobald Smith, Director of the Division of Animal Pathology in the Rockefeller Institute, New York; Dr. Hermann M. Biggs, Commissioner of Health, New York; Dr. Linsly P. Williams, Deputy Commissioner of Health, New York; and Dr. Henry L. K. Shaw, Professor of Children's Diseases in Albany Medical College.

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

Care of the Wounded in Antiquity.

Historians give us accounts of battles, varying almost in every detail, but agreeing generally in this: that they say nothing of what became of the wounded. This is probably because there is little or nothing to tell. Some provision there was even in the earliest times, as may be gathered from Homer. In the Trojan war there was a special class of men skilled in removing arrows and in dressing wounds, and who knew means of stopping bleeding and relieving pain. Some knowledge of the surgery of the battlefield appears to have been possessed by nearly all the leaders, above all by Machaon and Podalirius, who may be assumed to have derived it from their father Aesculapius. Homer describes the cunning leech as being "worth many other men." The blind old bard himself described the wounds inflicted by his heroes with evident relish. De Quincey says he had a knowledge of wounds that would have made him fit for the post of house-surgeon at a London hospital, and a learned German, Fröhlich, has persuaded himself that Homer was actually an army surgeon. That the Spartans had a medical military service is shown by the fact that among the laws ascribed to Lycurgus is one ordering surgeons to retire to the rear of the right wing during a battle. Xenophon says that the surgeons with the Spartan army shared the same tent with priests, the minstrels, and any volunteers who might accompany the expedition. According to the same authority the Ten Thousand had at least eight surgeons with them. But it does not appear that there were ambulances; the wounded were carried on the backs of their comrades. In the *Cyropaedia* Xenophon tells us that Cyrus, who is drawn as the ideal ruler, not only provided his army with the most skilful surgeons he could find, but ordered them to look after the wounded of the enemy as well as his own. E. T. Withington, in his *Medical History from the Earliest Times* (London, 1894), thinks this must not be accepted as representing anything that actually existed in the sixth century before the Christian era, but at any rate it would seem to be the first germ of the great philanthropic idea which in our own day has blossomed into the Red Cross movement. One of the oldest authentic records of Greek military medicine, according to Withington, belongs to the period of the Persian wars about B.C. 450. This is an inscription found at Darli in Cyprus, which states that when the men of Idalion went to repel an inroad of Persians and Kitians, Onasilos and his brothers went with them and tended the wounded free of charge. Their services were, however, generously rewarded afterwards. The story of the death of Epaminondas at Mantineia when the arrow was extracted from his chest shows that in 362 B.C. there were surgeons in the Theban army. Philip of Macedon and Alexander the Great both had doctors, and a detailed account is given by Quintus Curtius of the extraction of an arrow from Alexander's chest by the surgeon Critobulus. A Hippocratic writer advises the young surgeon to seek opportunities of following a military expedition, and refers to works specially devoted to army surgery. Diocles invented the graphiscus, a spoonlike instrument for extracting embedded weapons, afterwards much used by the Romans.

The Egyptians had paid medical officers to look after their troops in war. Ptolemy Philometer, who defeated Alexander Balas, the pretender to the throne of Syria (B.C. 146), was thrown from his horse and died while in the hands of the surgeons, who apparently tried to trephine: Ptolemaeus in caput graviter vulneratus, inter curationem, dum ossa medici terebrare contendunt, exspiravit.

The Romans had a regular medical service with their armies, as is shown by many inscriptions. In his essay entitled Was the Roman Army provided with Medical Officers?[1] Sir James Simpson collected a number of passages from ancient writers showing that the Roman army as far back at least as the third century A.D. had physicians and surgeons serving in it. Vegetius who wrote a treatise, *De Re Militari*, towards the end of the fourth century, devotes a chapter to the care of the health of an army and refers to the care of sick soldiers by

[1] *Archaeological Essays.* Edited by John Stuart, LL.D. Edinburgh. MDCCCLXII. Vol. II.

medical art (*artc medicorum*). Before him Galen had said that the doctors employed in the German wars and having the opportunity of dissecting the bodies of the barbarians did not learn more than cooks know from handling dead animals. Each cohort, consisting of 1,000 to 1.500 men, was provided with four surgeons (*medicus militum* and *medicus cohortis*). The Pretorians had in addition *clinici*, or pure physicians. There was also the *medicus legionis*, an important rank, as each legion consisted of ten cohorts of about 6,500 men. The surgeons ranked with the standard bearers and trumpeters, among the non-commissioned officers, and they wore the ordinary dress and arms of the legionaries. With the standing army came the stationary camps with *medici castrenses* and a *valetudinarium* or military hospital; the first definite mention of such a hospital is by Hyginus Gromaticus in his treatise *De Castrometatione*, written in the second century. When more than three legions were in the camp there were additional hospitals. This system was continued during the Byzantine Empire with the addition of *deputati*, who rode immediately behind the fighting line with drinks and dressings and picked up the wounded, and the *nosocomi*, or male nurses, attached to the military hospitals. The Roman navy was also provided with surgeons, and the epitaphs of several *medici* of triremes still survive. According to Henry Brackenbury,[2] sometime professor of military history at Woolwich, the Emperor Aurelian, who flourished in the third century, issued instructions to his soldiers to aid the sick and wounded of his own army and that of the enemy.

Care of the Wounded in the Middle Ages.

In the twelfth century Saladin had a regular medical staff with his army, which even comprised apothecaries. He also allowed the Knights Hospitallers to minister to the wounded Crusaders in the conquered city of Jerusalem without interference. In the earliest Middle Ages the wounded soldier was looked after first by women and afterwards by surgeons, who either formed part of the general levy or were attached to the person of the king or some great noble. Withington says the English were the first of Western nations to originate something like an army medical service, but this is not quite accurate, for Luchaire in Lavisse's great *Histoire de France*, speaking of the great marshalling of the military forces of France by Louis VI against the Emperor of Germany, says that provision was made for the care of the wounded. This is shown by a passage in a record dated 1124 to the following effect: *Provisum est etiam ut ubicumque exercitus, apto tamen loco, certamen inirent, et carri et carrete aquam et vinum fessis et sauciatis deferentes instar castellorum in corona locarentur, ut a labore bellico a vulneribus defitientes, inibi potando ac ligaturas restringendo fortiores, indurati ad palmam optinendam concertarent.* Which may be translated as follows:

> Measures were also taken that wherever the armies joined battle (provided that the place was convenient for the purpose) carts and wagons carrying water and wine for the tired and wounded soldiers should be stationed in the fighting line after the fashion of small forts, so that those who left the fray on account of their wounds might renew their strength there by drinking and by loosening their armour, and so refreshed should continue to fight for victory.

It may be supposed that these "forts" served the purpose of field hospitals, although there is no distinct mention of surgeons or of medical treatment.

The first trace of a military medical service in the English army is found at the beginning of the fourteenth century, when Edward I took the field against Scotland. In his campaign he was attended by seven medical men. They included a king's physician and two juniors (*valetti*), a king's surgeon and two assistants (*socii*), and a simple surgeon. The king's physician and surgeon each received a knight's pay, 2s. a day; the others, who ranked as esquires got half that sum. The chief surgeon got compensation for three horses killed in Scotland on the king's service. He would therefore seem to have been kept busy. The Welshmen who fought at Crécy were accompanied by a surgeon of their own race; from this it may, perhaps, be inferred that there were other surgeons with the army. Mr. D'Arcy Power thinks it possible that John of Arderne, who was acquainted with the Black Prince, was present at that battle. Nicholas Colnet, physician, and Thomas Morstede, surgeon, went with Henry V to Agincourt. Both were attended by three mounted archers and Morstede had besides twelve assistants.

In 1563 William Clowes was a surgeon in the army commanded by Ambrose, Earl of Warwick, and he afterwards served in the English fleet against the Armada in 1588.[3] John Woodall, who was born in 1569, served abroad, and appears to have been the first to recommend lime juice in the treatment of scurvy. He was the author of *The Surgion's Mate*, published in 1617, and of a companion treatise, the *Viaticum*, which appeared in 1628. These two books were long the textbooks of naval surgeons. Richard Wiseman served as a surgeon on the King's side in the Civil War. He was for many months attached to the troops under the command of the Prince of Wales, afterwards Charles II; later he was sergeant surgeon to the King.

First Ambulances.

The first mention of ambulances seems to be in Hirstius's *Be Bello Africano*, where he says that after the battle fought near Ruspina, Labienus ordered his wounded to be carried in wagons (*plostris*) to Adrumentum. But the credit for the establishment of field hospitals and ambulances on any considerable scale seems to be due to Isabella the Catholic of Spain. During the war of Granada (1483-87) the queen caused a number of large tents, known as "the Queen's Hospitals," to be always reserved for the sick and wounded, and furnished them with the requisite attendants and medicines at her own charge. Speaking of the siege of Alora in 1484, the Spanish historian, Hernando Del Pulgar, writes:

> For the care of the sick and wounded the queen sent always to the camp six large tents and their furniture, together with physicians, surgeons, medicines and attendants, and commanded that they should charge nothing, for she would pay for all. These tents were called the Queen's Hospital.

On the surrender of Malaga, 1487, the Spanish army, on its entry, was followed by the Queen's Hospital in 400 wagons ("ambulancias"). At the siege of Baza, two years later, an eye-witness, Peter Martyr, wrote to the Archbishop of Milan as follows:

> Four huge hospital tents, the careful provision of queenly piety, are a sight worth seeing. They are intended not only for the wounded, but for those labouring under any disease. The physicians, apothecaries, surgeons, and other attendants are as numerous, the order, diligence and supply of all things needful as complete as in your suburban Infirmary of the Holy Spirit, or the great Milan Hospital itself. Every sickness and casualty is met and provided for by the royal bounty, except where Nature's appointed day is at hand.[4]

The queen herself frequently visited the wounded, and when her courtiers hinted that this was contrary to Castilian etiquette, she is said to have replied:

> Let me go to them, for they have no mothers here, and it will soothe them in their pain and weakness to find that they are not uncared for.

Pedro Bosca, in an oration delivered at Rome on November 1st, 1487, before the senate of Cardinals in celebration of the victory gained at Malabar, says:

> The Queen's Hospital comprised nearly 400 waggons with awnings, and the wounded were nursed not by the highly improper persons who usually follow armies, but by most respectable matrons selected for the work.[5]

Military Hospitals in the Seventeenth Century.

The French army, which during the period of Richelieu's power rose from 12,000 men in 1621 to 150,000 in 1638, was without military hospitals. The first was established in 1639. Before that each company had a surgeon attached to it, and medical help was sometimes given by the priests who ministered to the spiritual needs of the soldiers. Disabled soldiers were quartered in monasteries, but the habits of military life did not tend to make them edifying inmates, and the monks were always glad to get rid of them as soon as they could. In the reign of Louis XIV Louvois tried to establish a regular military medical service, but without success. Disease raged in the army, and the condition of the sick and wounded was to the last

[2] Two articles reprinted from the *Standard* of January 7th and 27th, 1868, in a collection entitled *Help for Sick and Wounded*. London, 1870, p. 424.

[3] D'Arcy Power: *The Evolution of the Surgeon in London*. London: 1912.

[4] W. H. Prescott: *History of the Reign of Ferdinand and Isabella*.

[5] Quoted by Withington, op. cit.

degree wretched. In 1667 an inspector reported that he found sixteen men in four beds in huts so full of straw that it was dangerous to make a fire, and with muddy floors constantly damp. Apparently the attempt to establish hospitals in 1639 had not been followed up, for Louvois made another effort, which was also a failure. A report made in 1689 on the hospitals of Mont Royal and Sarrelouis stated that the soldiers were lying on straw closely packed together; at Strassburg they lay three in a bed. The surgeons are described as ignorant and negligent, doing nothing but cut off legs and arms without endeavouring to save them. Generally all the wounded died of haemorrhage or sepsis.[6] It would have been better for them if they had been dispatched in the summary fashion described by Ambroise Paré in his account of the campaign in Turin in 1537, in which he accompanied Monsieur de Montejan, Colonel-General of the Infantry, whose surgeon he was at the time. He says:

> Being come into the city I entered into a stable thinking to lodge my own and my man's horse and found four dead soldiers and three propped against the wall, their features all changed and they neither saw, heard nor spake, and their clothes were still smouldering where the gunpowder had burnt them. As I was looking at them with pity there came an old soldier who asked me if there were any way to cure them. I said No. And then he went up to them and cut their throats gently (*tout doucement*) and without ill will towards them. Seeing this great cruelty I told him he was a villain; he answered he prayed God when he should be in such a plight he might find someone to do the same for him that he should not linger in misery.

If disabled soldiers were thus treated by their own side, it may be conjectured that as a rule the wounded and sick of the enemy were left to their fate. The dawn of a better state of things came in the eighteenth century.

Beginning of Neutralization of Hospitals.

In the Austrian War of Succession a treaty was concluded to regard the hospitals as sacred from attack. In 1743 the Duc de Noailles and Lord Stair agreed that the hospitals, the wounded, and the military surgeons should be treated as neutrals. In the seven years' war Louis XV and Frederick II agreed to consider all the medical staff as neutrals, and as such exempt from capture. In 1759 a similar arrangement was made between the Marquis de Barail, commanding in Flanders, and the English general, Henry Seymour Conway. The idea of neutralization of the wounded and those who tended them was making progress, when the French Revolution rudely checked its growth. The Convention decreed the immediate execution of prisoners, whether wounded or not. In 1800 Moreau and the Austrian General Kray, however, agreed to take equal care of all wounded in their hands, whether friends or foes. These were but isolated displays of humanity. The work of Florence Nightingale in the Crimea was a powerful stimulus to the organization of help for the sick and wounded.

The Founder of the Red Cross.

But unity of international action was still lacking. It was not till some years after the middle of the nineteenth century that the Red Cross organization had its birth. The founder was Henri Dunant, a remarkable man whose name has been almost forgotten. In the last edition of the *Encyclopaedia Britannica* he is dismissed in one line, in which he is wrongly described as a physician, and in the only mention of him in a leading London newspaper that we have seen since the outbreak of the present war his name was twice misspelt "Durrant." It may not be amiss, therefore, to give some account of a man who was one of the greatest benefactors of his fellow creatures in modern times. Henri Dunant was born at Geneva on May 8th, 1828, of a family belonging to the magistracy of the Swiss Republic. He was the son of a member of the representative council, and received a very careful education, which included a training in philanthropy, from his mother, *née* de Colladon. Her ancestors had been members of the nobility of the Berry before the Reformation, on the outbreak of which they left Bourges. One of Dunant's brothers was a distinguished doctor, long professor of hygiene in the University of Geneva, and organizer and general secretary of the International Congress of Hygiene held at Geneva in 1882. Dunant was greatly influenced by Florence Nightingale, Elizabeth Fry, and Harriet Beecher Stowe. With his mind full of the work of Florence Nightingale he visited the battlefield of Solferino, where he witnessed the sufferings of the wounded lying whole days on the ground. With the help of some women he organized a service of help in the little town of Castiglione, himself giving aid to the soldiers and dressing the wounds without regard to nationality. He was known as "Le Monsieur en Blanc" (the "Man in White") on account of his summer attire. These scenes of horror gave rise in his mind to the idea of volunteers trained in the work of stretcher drill and having a knowledge of first aid organized on a permanent basis, well disciplined and being, like the hospitals and their material, completely neutral. He thought that this result might be easily attained if nations by a special convention were to adopt a common symbol which should designate the character and function of such workers. In 1859 each nation indeed had for its field hospitals a special flag, but the colours were almost always unknown to the enemy, so that the ambulances were constantly fired on, the wounded taken prisoners and the surgeons arrested or killed at the very moment when they were looking after the wounded. This was the origin of a distinctive flag for ambulances and hospitals—the white flag with the red cross. The form of the flag was intended to be a compliment to Dunant's native country; it is the converse of the Swiss flag, which is a white cross on a red ground.

Four days after Solferino Dunant went to Borghetto, and spoke to MacMahon of the lamentable state of the wounded, begging permission to use the Austrian surgeons who had been taken prisoners by the French. The marshal advised him to go to Cavriana to see the Emperor, who received him favourably, and on July 1st the following order was published:

> The physicians and surgeons of the Austrian army who have been made prisoners while dressing the wounded shall be restored to liberty without condition on their request. Those who have ministered to the wounded at Solferino gathered in the ambulances of Castiglione will be allowed to go back first to Austria.

From that time Napoleon III interested himself in Dunant's scheme, and declared his adhesion to the principle of the neutralization of the wounded, of the ambulances, and their personnel. The Emperor himself suggested that inhabitants of the country who should give aid to the wounded should be treated as neutrals. On his return to Geneva, Dunant wrote his *Souvenir de Solférino*, which brought him the enthusiastic approval of many distinguished men, and was at once translated into nearly every European language. He did not, however, escape detraction or jealousy, but he was not discouraged and persevered with the work. One of his keenest critics was Marshal Randon, who in the true spirit of the old soldiers who resented the interference of Florence Nightingale, exclaimed, "Why should these civilians mix themselves up with what does not concern them?" On the other hand he had the approval of MacMahon, Canrobert, and other soldiers. His book also interested the King of Prussia, whose attention was called to it by Queen Augusta; Princess Louis of Hesse (Princess Alice); the Crown Prince, afterwards the Emperor Frederick; Von Roon, then Prussian Minister for War; Oscar II, King of Sweden, and many other influential persons. Dunant spared no pains to secure support for his scheme. He went about from one country to another trying to enlist the active sympathies of those in power, and gained for himself the name of the new Peter the Hermit. A conference took place at Geneva on October 26th, 27th, 28th, and 29th, 1863, at which the following States were represented: Austria, Baden, Bavaria, Spain, France, Great Britain, Hanover, Hesse Darmstadt, Italy, Holland, Prussia, Russia, Saxony, Sweden and Norway, Switzerland, Wurtemburg. Besides these, Denmark, Mecklenburg-Schwerin, and Portugal sent official intimations that they would accept the conclusions of the conference.

Before continuing the record of the development of the Red Cross, it will be well to tell briefly the story of the rest of the life of its founder. His disregard of his own interests led to the loss of his fortune in 1867. For twenty-five years he lived in poverty and obscurity. The Nobel Peace Prize was most deservedly awarded to him in 1901, and this, we may hope, enabled him to pass the remainder of his days in comfort. He died towards the end of 1910 at Heiden, Appenzell, on the shores of Lake Constance, where he had lived for many years.

(To be continued.)

[6] Lavisse: Op. cit.

British Medical Journal.

SATURDAY, OCTOBER 3RD, 1914.

BACILLI AND BULLETS.

"In the wars of the world they—bullets and bacilli—have been as Saul and David—the one slaying thousands, and the other tens of thousands." One could wish that these words of Sir William Osler to the officers and men in camp at Churn could be placarded in every camp. His appeal was to the men themselves—not to their self-interest, but to their patriotism. The efficiency of the army in the field "will be increased," he said, "one-third if we can prevent enteric. It can be prevented, it must be prevented; but meanwhile the decision is in your hands, and I know it will be in favour of your King and country." This last sentence followed directly on an appeal to his hearers to take advantage of the immunity to typhoid fever conferred by inoculation with antityphoid vaccine. Antityphoid vaccination is not compulsory in the British army; but though not compulsory, the British regular is so convinced of its value, that the special Army Council Committee on the subject found its statistical labours brought to an end by the circumstance that in all the test units they were studying a very large majority, and in some every man, had submitted to inoculation. We published a few weeks ago a letter signed by a number of the leading pathologists and men of science in this country, strongly urging that the example of the United States and France should be followed in this country, and antityphoid inoculation in the army made compulsory. Sir Almroth Wright, the originator of this method of immunization, published this week in the *Times* an article on the case for compulsion, in which, after stating the beneficial results of antityphoid immunization, he said: "It is not from the soldier that opposition to compulsion is to be feared. He has by entering the army shown that he desires to be put under orders. And all he asks is that he shall be put to use in the most effective way without being called upon to decide things that are outside his competence. If opposition comes—and we are told 'it is impossible but that offences will come'—it will come from that kind of person who, by his personal aversion to the principle of compulsion in anything, has brought down upon us, as our Nemesis, this European war." If inoculation were compulsory the work of the medical service of the army in all its branches would be very greatly simplified, and the amount of labour now expended in preaching the doctrine of prophylactic immunization would be saved and directed into other channels where it could be very usefully employed. Meanwhile it is satisfactory to know that the special department of the War Office charged with this matter has already issued on demand over 500,000 doses of vaccine, and that the daily requisitions average over 15,000 doses. Some regiments and units, we understand, have already 70 per cent. of their strength inoculated. Unfortunately Sir Almroth Wright states, and our own information confirms his statement, that many drafts and regiments have been leaving for the front with only a very small proportion of inoculated in their ranks. This has, we believe, in most instances been due to the fact that military considerations would not permit of the men being spared for inoculation while they were under orders to be ready to move at a few hours' notice.

We have received many communications from distinguished members of the civil public health service expressing their approval of the views expressed in the editorial articles recently published in this JOURNAL. They all feel the urgent need for an effective system of co-operation between the civil public health service and the medical staff of the Territorial Forces; and one correspondent urges that medical inspectors directly representing the Local Government Board should co-operate with both. The organization of a medical and sanitary service for the new recruits is a question that seems as yet hardly to have been faced. If, very shortly, we are to have a million recruits in training, it will be necessary to have between 4,000 and 5,000 medical officers. There are plenty of medical volunteers, and from our correspondence we know that more will at once be obtained if the War Office asks for them, but all will need to be trained in the special work required of military medical officers, not merely in the details of keeping returns which are necessarily complicated, but also in the very special kind of sanitary administration essential when large bodies of men are brought together in camps of exercise and training. The medical recruits stand in a totally different position from those enlisted in other departments of the army, because their services will be even more necessary and important during the period of training than afterwards, whereas other recruits cannot be expected to be of military value for months. "I can never," said Sir William Osler, "see a group of recruits marching to the dépôt without mentally asking what percentage of these fine fellows will die legitimate and honourable deaths from wounds, what percentage will perish miserably from neglect of ordinary sanitary precautions? It is bitter enough to lose thousands of the best of our young men in a hideous war, but it adds terribly to the tragedy to think that more than one-half of the losses may be due to preventable disease." As Mr. Lynn Thomas, speaking from his experience in South Africa, says in a letter published elsewhere, "Healthy camps depend upon early—it cannot be too early—and prompt sanitary operations." What we have constantly to keep in mind is that disease will not wait to take its toll until the men are in the field; if the sanitation of camps of training and exercise is not at once taken in hand the toll will begin to be exacted after a few months.

THE NEW RECRUITS AND THEIR TRAINING.

THE farm hand, miner, and fisherman have bodies inured to toil, hardened to stand the weather and exposure to cold, but they have not perhaps the quickness of nervous response in picking up the art of war possessed by the city recruit, who has been educated on the playing fields or in the street, and bred to the acuteness of business life. The latter may make the better soldier in the shorter period, if he can gain nerve power to endure the strain of war, for his body can be tuned up far more easily than can the slower nervous system of the other be made quick. In the training of the citizen's body the superfluous fat and tissue fluid go, and the muscles and sinews

become developed. His body becomes hardened, the heart and respiratory muscles develop to meet the demand made on them during severe exercise, when the pulmonary ventilation, the oxygen use, and the output of the heart in a given time increase ten and even fifteen times. The athlete's heart develops to meet the strain made upon it.

The trainer at first must go slowly with the city recruit. He must not push him to the point of exhaustion, for this results in a deficiency of oxygen in the tissues, consequent production of excess of acid, and actual destruction of muscle tissue and exhaustion of nervous energy. He must push to that degree of oxygen want and acid production which stimulates the blood formation, and the development of the respiratory and skeletal muscles. The enormous benefits which result from hard exercise are due to the vast increase in metabolism, with its concomitant increased circulatory, respiratory and cutaneous activity, the natural massaging of the belly organs, and complete utilization of foodstuffs, which limit bacterial decomposition in the bowel and prevent that chronic poisoning by bacterial toxins so common in the overfed, overwarmed, sedentary city worker. Nothing could be better for the nation than the daily drill in physical exercises which the war has led many to take up. May the habit once started continue, and be organized as a national discipline in peace!

Let it be noted that there is no purpose in developing muscles in the recruit which will not be used in the art of war. There is nothing to be gained by mere size and beefiness in the infantry. Frederick the Great's 7 ft. Irishman (secured by the expenditure of a small fortune) is not worth buying, even at the same figure as the medium size wiry man. What are wanted are brains to take cover and fight with skill and patience, and the power of endurance against cold, strength to stand periods of irregular feeding and broken sleep, and, above all, the power to march. The tall man needs more calories in his daily diet; the transport train must be bigger for an army of tall men. A man of 5 ft. 3 in. can shelter in a trench better, shoot as well while offering a smaller mark, and keep himself warm in a smaller space than the big man.

The record breakers in long distance walking races are generally lean light weights. Economy in muscular work is gained by perfect nervous co-ordination of muscular movement, practice making perfect; this means that the work comes to be done on less food. A sore heel, and consequent limp, at once show themselves in uneconomical work and the expenditure of many more calories in the performance of a day's march. The soldier thus handicapped is the first to fall out; the supplies of his bodily engine exhausted, he becomes a run down piece of mechanism. The trained man, hardened, carrying only the minimum but adequate quantity of fat (the natural garment of the body), sweats much less, and requires less water to drink—a most important matter in considering the prevention of disease under war conditions. The new recruit must be allowed more drink *per diem* in the first days of his pilgrimage. In hot weather such as our troops faced at Mons, before they had become war hardened, the water lost from their bodies was great, and the danger of heat-stroke was imminent unless this were made good. Tunics and shirts were opened, sleeves and trousers rolled up, to allow the escape of body heat. The men carried some 55 lb. (haversacks, war ration, rifle, three bandoliers of ammunition, trenching tool), and finally, in the exigencies of the march, discarded overcoats and other of their impedimenta, at the moment less important.

The work of the Army Medical Advisory Board has been of very great value in arranging on the best physiological principles the clothing and distribution of the weight carried, and in raising the war ration by a thousand calories. The soldier was partly starved on the old ration and lost weight continuously during severe marches. With the new value of 5,000 calories he keeps his weight after the initial and proper loss of some body fat and water. Of enormous importance, too, is the sterilization of water by chlorine by the simple method of adding bleaching powder to the water-cart a few hours before the water is used.[1] The day of the filter candle would seem to be over.

Weathering the recruit blunts his cutaneous sensibility, hardens his skin, and tones up the involuntary muscle. Exposure to cold and wet will do him little harm if he be well fed and not over-exhausted. Officers must realize that it is essential to keep up the recruit's immunity by the maintenance of his vigorous health and by keeping down massive infection. The innate power of the human race to resist cold and wet is enormous, and on good feeding and adequate rest depend over 90 per cent. of an army's fitness when on active service. For winter campaigning pure flannel garments are incomparably better than cotton. So much so-called flannel is adulterated nowadays with cotton that it is necessary to insist on pure flannel.

THE AFTERMATH OF SCLERECTOMY.

During the past five years there has been a veritable furore for the operation of sclerectomy or sclerotomy for the relief of glaucoma. Herbert introduced sclerotomy and Lagrange sclerectomy. Lagrange's method was modified by Freeland Fergus, who used a trephine, and again by Elliot, who improved the combined sclerostocyclodialysis advocated by the Glasgow surgeon. Elliot, by his enthusiasm and his vast command of material, has done more than any other ophthalmologist to popularize the operation, which is now often called "the Elliot operation." Holth of Christiania used a punch instead of a trephine, obtaining a similar result in a different way. The fact that a second edition of Elliot's book on sclero-corneal trephining has appeared within a year after the first is proof of the great interest taken in the newer operations for glaucoma. At the present time some form of sclerostomy is being performed by the majority of ophthalmic surgeons all over the world, and Elliot himself has published statistics of over 1,000 cases of trephining.

Yet no definite pronouncement upon the question can yet be made. Certain basal facts may be said to have crystallized out. It is pretty generally admitted that sclerectomy is better that sclerotomy. The majority of surgeons are trephining, or punching, or performing the Lagrange operations, though Herbert's operations are performed by some. It would appear that, provided a piece of sclera be removed, whether by trephine, punch, or scissors, the ultimate result is the same. But—and this is the most important fact of all—though the newer operations were introduced because they were safer and more satisfactory than iridectomy, yet to-day most surgeons add a supplementary iridectomy. In other words, the new operation is more serious than iridectomy, because it

[1] See Professor Sims Woodhead's paper in the JOURNAL of September 19th, p. 494.

is iridectomy and something more. If, therefore, sclerostomy is to supersede simple iridectomy in all cases, as Elliot would wish, it must be proved beyond doubt that the final results obtained by the new operation are decidedly better than the old.

At the Oxford Ophthalmological Congress[1] last July, a paper was read by J. Jameson Evans and T. Harrison Butler upon the results of their glaucoma operations during the past seven years. They stated that they were astonished to find when they came to make up their statistics that iridectomy headed the list as the most successful operation. Each of these surgeons came to this conclusion independently. In this paper only 160 cases were summarized, and a larger number is necessary before passing final judgement. In the discussion which followed the paper, several speakers narrated cases of "late infection." The operation had been a success for months or even years, then destructive iridocyclitis set in, or panophthalmitis developed. One speaker described a case of sympathetic ophthalmitis which had followed one of his trephining operations. Several cases of late infection have been published in Germany and elsewhere, and at the Aberdeen meeting of the British Medical Association Mr. Hill Griffith of Manchester recounted a melancholy example, and mentioned that thirty instances of this complication were on record. Several others were added to the list by the speakers who discussed the paper.[2] It is therefore obvious that every patient who has a filtering scar runs a risk of losing his eye from septic infection, and a slight one of losing the second as well from sympathetic ophthalmitis. There are other complications met with, one of which is delayed reformation of the anterior chamber, which may remain empty for a fortnight. In other cases permanent shallowness of the chamber has been noted. Dislocation of the lens may follow trephining, and post-operative iritis is said by Elliot to be common.

We have said enough to indicate that the claims made for sclerostomy cannot be admitted without question. The newer operations are valuable in many cases of glaucoma, but it would appear that they will not entirely displace simple iridectomy. It will be the work of the next decade to decide which cases are most suitable for fistulization and which should be reserved for iridectomy. We advise our readers who contemplate performing sclerectomy to study Colonel Elliot's book,[3] but to remember that it is the work of an enthusiast.

DRUGS WITH GERMAN NAMES.

WE have received letters from several correspondents which show that the question of the prescription of drugs manufactured in Germany is exercising their minds, and we propose to deal with the matter more fully in a subsequent issue. Meanwhile we may observe that it has to be regarded from several points of view. In the first place, when the drug is a body of definite chemical composition which can without any great difficulty be produced in a pure state, there may be no reason why the use of the German trade name should be continued in prescriptions. Acetyl salicylic acid is an example in point. It appears under that name in the French, German, Swiss, Spanish, and Italian pharmacopoeias. Advance copies of the new *British Pharmacopoeia* were made accessible for the inspection of the public on October 1st at the offices of the General Medical Council in London, Edinburgh, and Dublin, and we find that, as was to be anticipated, "acidum acetylsalicylicum (acetyl salicylic acid)" appears there, and the characters of the substance and the tests it must fulfil are duly set out. The new *British Pharmacopoeia* will come into force at the end of this year. Meanwhile all that the prescriber has to consider in the interests of his patients is that the drug should be chemically pure, and if he thinks it necessary to use a particular brand he will find in our advertisement columns evidence that British chemists supply brands which they guarantee to fulfil this condition. With regard to hexamethylenetetramine, special brands of which are known by the trade mark names of urotropine, cystogen, metramine, and vesalvine, and by other names which do not seem to be registered, it is in the United States, German, and Japanese pharmacopoeias under the name of hexamethylenamina, and it appears in the new issue of the *British Pharmacopoeia* under the name of "hexamina (hexamine)" with instructions as to the characters and tests which the product must fulfil. As reported last week, the trade mark "urotropine" was the subject of an application to the court appointed by the Board of Trade. A decision was postponed for three months, the applicants undertaking to draw their supply of the drug from the agents of the owners of the German trade mark so long as the stock in this country lasted. The Comptroller-General of Patents laid it down that the court would not recommend the Board of Trade to transfer to other businesses device trade marks found to be associated with foreign firms unless it were proved to be in the public interest. The object of the Board of Trade was, he said, to enable business in this country to go on, which would not always be possible without the suspension of patents or trade marks. With regard to disinfectants, we believe that as a rule British made preparations equally effective as those of German manufacture can be found. In fact the moral appears to be that the matter lies very largely in the hands of the profession itself, if individual members will take the trouble to analyse their reasons for certain preferences which have led them to prescribe drugs under trade mark names. With regard to certain other drugs, of which salvarsan may be taken as an example, the position is somewhat different, inasmuch as their manufacture involves difficult chemical processes which hitherto, we believe, have only been carried out by the patentees. The decision of the Board with respect to this particular drug has not been made public; its action in respect to it will be watched with much interest.

BERMONDSEY BOARD OF GUARDIANS AND MEDICAL ATTENDANCE ON PAUPERS.

THE Bermondsey Guardians are advertising for a whole-time district medical officer whose duties will be to attend the sick poor either at their homes or in the parish institutions under the direction of the medical superintendent of the infirmary. It is well that intending applicants for this post should realize that this is the first-fruits of a scheme for turning the district Poor Law medical service of Bermondsey into a whole-time service, of which the Camberwell Division has expressed the opinion that it is against the interests of the pauper patients and detrimental to those of medical practitioners. The main duties of the officer appointed will apparently be those of the ordinary Poor Law district medical officer. These officers, as is well known, have throughout the country the advantage of a superannuation scheme and of security of tenure. But, so far as we can ascertain, the Bermondsey officer will technically be an assistant to the medical superintendent, and will thus have no security of tenure. The value of the superannuation scheme will, therefore, be very much less to him than it is to the ordinary district medical officer. Applicants for the post—especially married men, to whom the preference is to be given—

[1] *Ophthalmoscope*, August, 1914.
[2] BRITISH MEDICAL JOURNAL, August 29th, p. 389.
[3] *Sclero-corneal Trephining*. Second edition. By R. H. Elliot, Lieutenant-Colonel, I.M.S. 1914.

should make careful inquiries on the points above-mentioned, and if the answers are not satisfactory, should seriously consider whether it is worth their while to take a post which is subject to these disabilities, especially in view of the fact that the scheme has only been sanctioned by the Local Government Board for five years.

AN IMPORTANT PUBLIC HEALTH APPOINTMENT.

We congratulate the West Hartlepool Town Council upon the decision at which it has arrived to pay a salary of £500 per annum to the whole-time medical officer of health it intends to appoint. His duties will include not only the public health work of the county borough, but also the school work and the work under the Tuberculosis Order. No one who appreciates the onerous and responsible nature of the duties thus to be assigned to the medical officer would for a moment regard the intended salary as excessive, but the Town Council has at least, on full consideration of the circumstances, fallen into line with the recommendation of the Local Government Board that the salary for whole-time medical officers of health should be not less than £500. A statement of the main facts in connexion with this appointment was published in the Journal of August 8th last (page 311), the Hartlepools Division and the Association having rightly taken exception to the salary of £400 then proposed by the Town Council to be paid for the combined duties, the minimum remuneration recognized by the Association for the appointment of tuberculosis medical officer being £500. As we have frequently pointed out, the need for adequate remuneration for medical officers of health is based primarily upon the importance of securing efficient service, and it is obvious that an inadequate salary cannot possibly attract practitioners of experience and standing in the profession. We are confident that much advantage to the public health of West Hartlepool will result from the present decision of its Town Council. The amended advertisement of the post will be found on page 33 of this issue.

THE BRITISH PHARMACOPOEIA, 1914.

Copies of the new issue of the *British Pharmacopoeia*, 1914, were placed for the inspection of the public at the offices of the Council in London, Edinburgh, and Dublin on October 1st, but the statutory notices of publication will not be inserted in the official gazettes until December 31st, 1914, so that until that date the new issue will not become official. It has been edited by Professor Tirard, M.D., F.R.C.P., of King's College, University of London, and Professor H. G. Greenish, F.I.C., of the Pharmaceutical Society, to whom in the preface acknowledgement is made for their skilful and assiduous services. In the preparation of the new issue constant use has been made of important practical researches carried on by British pharmacists at the request, in many instances, of the Pharmacopoeia Committee of the General Medical Council, the Pharmacopoeia Conference, or the Committee of Reference in Pharmacy. The last named committee has presented to the Council a series of important reports and recommendations, which have been published from time to time, and have evoked expert criticisms; these have been freely used in the preparation of the present issue. In the new edition the metric system of weights and measures has been employed for all pharmaceutical and analytical computations. It has also been employed for the specification of doses in the expectation that in the near future the system will be generally adopted by British prescribers; as a transitional provision, however, doses have also been expressed in terms of the imperial measure. The preface recommends that the symbols for drachm and ounce which are commonly used for both solids and fluids indifferently should be abandoned, since they are, it is said, apt to be misread. It is not, of course, possible in this issue to attempt any general examination of the changes introduced, but we hope to deal with the matter fully at as early a date as possible.

AN ANTIVIVISECTIONIST FINED.

According to the *Daily News and Leader* of September 30th Miss Beatrice Ethel Kidd, the secretary of the British Union for the Total Abolition of Vivisection, was on September 29th fined £5 and £10 10s. costs by the Bow Street magistrate "for publishing and dispersing a book entitled *Facts about Vivisection, 1913*, purporting to be a report of the inspector under the Vivisection Act for 1912, and to have been issued by the Home Office—on which the name and address of the printers were not printed." It was stated that the book contained statements which were in flat contradiction to the terms of the official report. Miss Kidd said that a Mrs. Phillips, one of the union's subscribers, had the book printed at her own expense in Manchester, and forwarded about 200 copies for distribution. The magistrate consented to state a case on the legal point raised as to whether the printers were the only persons liable under the Act.

REVISION OF MEDICAL BENEFIT REGULATIONS.

We have received as we go to press a copy of a memorandum to Insurance Committees on the revision of terms and conditions for medical service for 1915 (Memo. 201, I.C.), and a copy of the draft regulations proposed to be made by the National Health Insurance Joint Committee. The two alterations which, as indicated in the memorandum, it is proposed to make have to do with the introduction of uniform medical certificates, and with giving the Commissioners power to make further alterations in the regulations before the expiration of 1915. The Commissioners consider it desirable to take this power in view of the fact that the war has stood in the way of a full consideration of further changes which might prove to be desirable. In any case they notify that it is highly improbable that any changes which it may be proposed to make will take effect sooner than June 30th, 1915. We intend to discuss the bearings of the memorandum and new regulations in our next issue.

The opening meeting of the Medical Society of London for the session 1914–15 will be held on Monday evening, October 12th, when Sir John Bland-Sutton will deliver his introductory address. At the next following meeting of the society, on October 26th, a discussion on the operative treatment of tumours of the caecum and colon will be held, and on November 9th Mr. E. E. Austen, of the Natural History Department of the British Museum, will speak on the house-fly especially in relation to human health. The Lettsomian lectures will be delivered before the society in February and March by Mr. Arthur E. Barker, and the annual oration will be given on May 17th, 1915, by Sir William Osler.

The museum demonstrations at the Royal College of Surgeons of England, intended for advanced students and medical practitioners, will be resumed on Friday, October 16th, when, at 5 p.m., Professor Keith will show specimens illustrating gunshot injuries of the head—ancient and modern; on the following Fridays, at the same hour, Professor Keith will demonstrate specimens illustrating gunshot injuries of the limbs and of the thorax and abdomen. Mr. Shattock will show specimens illustrating carcinoma, tuberculosis, and repair on Mondays, October 19th, 26th, and November 2nd, at 5 p.m. On Wednesdays, October 21st and 28th, Mr. Colyer will demonstrate specimens of injuries to the jaws and teeth of animals and of dento-alveolar abscess and dental cyst.

THE WAR.

PREVENTION OF DISEASE IN WAR.

HEALTHY CAMPS.

WE have received the following letter from Mr. J. Lynn Thomas, C.B., who was Senior Surgeon to the Welsh Hospital in South Africa during the Boer war:

The Need for Early and Continuous Vigilance.

Sir,—The medical profession has only just emerged from dreary darkness into brilliant light in the domain of surgical treatment of acute intestinal accidents, such as perforations. Light came when the grim reality that early and prompt operations formed the foundations of orthodoxy in treatment. We are convinced that the same axiom must be made the bedrock upon which healthy camps are to be maintained—namely, early and prompt sanitary operations with ever-watchful vigilant treatment during the quiescent periods between battles.

May I therefore be allowed to offer my sympathetic congratulations to the BRITISH MEDICAL JOURNAL upon its action in so pointedly drawing attention to the dangers our military forces at home must run if there be any failure in sanitation? I am personally keenly interested in the matter of promptness of action in placing camps under good sanitary conditions, for I had the experience of being at Bloemfontein in May, 1900, when enteric fever was rampant, and later on had to mourn the loss of friends and members of our staff, one of whom fell a victim to typhoid complications before she could receive the signal honour of R.R.C. (Royal Red Cross) in recognition of her brilliant services.

I saw the effects of good and of downright bad sanitary organization in camps in South Africa, and at the same time learnt from our officer commanding (now Sir Alfred Keogh) lessons which to me were invaluable, and have never been forgotten. I hope the JOURNAL will peg away at the subject until the country can feel confident that the responsible authorities fully realize that free expenditure of money on proper sanitation at the very beginning is a vital principle governing the prevention of camp diseases. I have seen recently conditions of camp sanitation which have made me shudder at the prospect they hold out of outbreaks of disease, and on the other hand I have been more than pleased by the spirit of progress which permeates sanitary officers in the Royal Army Medical Corps camps, where every detail of sanitation was as perfect as existing sanitary knowledge could make it.

I may compare this spirit of progress in the Army Medical Department with another equally striking, which once came under my notice in civil work. Some years ago, when Dr. Charles Mayo, at Rochester, Minn., was getting ready to do an amputation at the hip-joint, I asked him, when he told me that he was going to use Wyeth's method for controlling haemorrhage, if he had ever tried a method we had found very useful; after explaining it to him, I was called away to see Dr. William Mayo. Later on in the day I learnt that Dr. Charles Mayo had done the operation by the—to him—new method, and afterwards, in commenting upon its simplicity, he expressed surprise that it had not been invented before. The other day, with a friend, I visited a Royal Army Medical Corps camp at ——, and under the guidance of Major ——, in command, we were shown some simple and extremely ingenious devices by which the camp was kept as clean as a new pin. While visiting the latrines (late in the afternoon), where the predominating smell was cresol, Major —— pointed out that the real trouble in dealing with excreta in the pails was the quantity of paper used; my friend told the major that in his cottage in the country he had been in the habit for some years of putting a lighted match to burn the paper, and one was there and then thrown in; the result was greeted with the exclamation, "Excellent! Why did you not tell us that before? I will get matches put here with instructions what they are for!"

There is no fear of sluggishness and inactivity when one meets such examples in the Army Medical Department.

One of the most dangerous defects in military sanitary administration in this country to-day is lack of appreciation of the principle that the enforcement of early, prompt and adequate sanitary operations is the essential for the preservation of health and for the prevention of avoidable diseases in camps. Since I started practice it has, in another department, taken a very long time before we were awakened to the same fact that early and prompt operations are the foundations of salvation in cases of intestinal perforations; even now one sometimes comes across ignorance on this subject, and those of us who find the old-fashioned methods of treatment adopted consider it culpable negligence. We must bear in mind that the lack of appreciation of this great principle involves as a rule in surgery only the risk to a few individuals, but in sanitation of camps it involves risk of life to thousands.

I would venture to record a couple of illustrations which I have found to be fairly common when dealing with the embryo soldier; they touch the root of some of the evils arising from ignorance. Half a dozen men were watched as they went to a latrine; each one urinated against the screen! When asked why they did not use the trench, they replied they thought that that was for something else: civilian habit of urinating against something. Another lot were asked why they did not cover their faeces in the trenches, and replied that they thought that to be the business of somebody else allocated for the purpose. Notices and shovels in latrines indicating what to do would undoubtedly be of some value with regard to the disposal of urine and faeces.

In conclusion I would once more repeat my insistent appeal to commanding officers, who are mostly laymen or fighting soldiers, always to realize and remember that healthy camps depend upon early—it cannot be too early—and prompt sanitary operations with constant and ever-watchful vigilance during the periods which exist between fighting.—Yours, etc.,

J. LYNN THOMAS, Major (Ret.),
R.A.M.C. (T.).

September 28th, 1914.

FIXED CAMPS AND SANITATION.

UNDER this heading a letter from Dr. Christopher Childs was published in the *Times* last week in which he discusses, with reference to the Territorial Forces, the measures needed for the prevention of the infection liable to arise from imperfect camp sanitation, from contaminated soil or food, or tents and tent fittings, or through direct convection from man to man and from tent to tent. He points out that typhoid invasion of camps sets in slowly and that it is almost certain that the Territorial Forces have in the past escaped these epidemics owing to the fact that they have not been aggregated together in camps for a longer time than a few weeks. He illustrates the risk attending more prolonged residence in camps by referring to the report of the special commission appointed to inquire into the outbreaks in the camps of the United States during the Cuban war. An article giving the general conclusions of this commission was published in the JOURNAL of September 19th, page 510, but Dr. Childs is able to speak with special authority on it because, as Professor Victor Vaughan, the surviving member of the commission, wrote in his "Letter of Transmittal" to the Surgeon-General of the United States Army, Dr. Childs, during the summer of 1904, went "over the greater part of the manuscript and made many wise suggestions." "If," Professor Victor Vaughan added, "governments ever learn that military campaigns should be conducted in accord with hygienic rules and that the commanding officer who needlessly and ignorantly sacrifices his men to disease is as unworthy of his position as one who makes a like sacrifice in the face of the enemy, it will be through the labours of such men as Dr. Childs."

Dr. Childs in his letter points out that the facts recorded in the report should forewarn us to take more than the usual precautions for the prevention of possible typhoid outbreaks in our Territorial camps, if they are to be occupied for long, and indicate that all possible paths of infection should be safeguarded. "If it be true," he

continues, "that infection from man to man is one of the chief causes of the epidemics in camp life, it is obvious that the most important measure for prevention is the detection of 'typhoid carriers'—that is, incubating or abortive cases—their separation from crowded tents, and isolation, and the disinfection of soil, tent, tent-fittings, etc., which may have been polluted by their excreta (faecal or urinary). In active service—away from the base—such detection may often be difficult and belated, but for encampments in our own country, with bacteriological laboratories and experts at hand, the diagnosis ought to be easy and prompt."

In this last sentence Dr. Childs deals with a matter which, as was stated last week, is already engaging the anxious consideration of some of the senior officers of the Territorial Forces. As was then mentioned, in at least one division the services of junior medical officers with special knowledge of bacteriological diagnosis have been made available by the principal medical officer in the diagnosis of doubtful cases occurring in any unit in the command. We have no doubt that medical officers of health for counties and boroughs would willingly place any laboratory facilities that might be required for carrying out such bacteriological investigations at the disposal of the military authorities, and from the circular of the medical officer to the Local Government Board it would appear that that Board would approve the use of local civil infectious hospitals for the isolation of cases of typhoid fever and other infectious diseases.

INSECTS AND WAR—LICE.

Dr. Shipley wrote in our issue of September 19th (p. 498): "I have been told that the German soldiers, before going to war, shave their heads. If this is so, they would afford no nidus for *P. capitis*, but, if it be the case, the fact has escaped the lens of the photographers and the pens of the artists."

Dr. Shipley has forwarded us a photograph taken from the *Daily Graphic* of September 25th, which, by the



permission of Newspaper Illustrations, Limited, we are able to reproduce. The photograph shows that the information given to the Master of Christ's was correct and that his statement with regard to the photographers, though at the date he wrote probably correct, was premature.

ANTITYPHOID INOCULATION.

The Report of the War Office Antityphoid Committee.

It may be useful at the present moment to recall the results of the elaborate inquiry carried out by the special Antityphoid Committee appointed by the Army Council in 1904 "to investigate practical prophylactic and therapeutic value of current methods of immunization against enteric fever." The inquiry carried out by the committee, which was presided over by Dr. C. J. Martin, was very thorough, and owing partly to this and partly to other causes, its report was not concluded until the end of 1912.

The inquiry included both laboratory experiments and statistical inquiry into the results of typhoid immunization in the army. For the latter purpose special medical officers were attached to regiments with instructions to follow out the history of the command in relation to typhoid fever over a period of several years. By this means the histories, as regards typhoid fever, of 19,314 soldiers, whose average period of service abroad was twenty months, were carefully followed, and every precaution possible was taken to verify the diagnosis bacteriologically. Of this number 10,378 were inoculated and 8,936 not inoculated. The case incidence of typhoid fever among the inoculated was 5.39 per mille, and among the non-inoculated 30.4 per mille.

There was no reason to suppose that this difference was to be attributed to a want of homogeneity between the two groups. The age distribution among inoculated and non-inoculated was approximately the same. They were intermingled, and lived under identical conditions. The experience of the inoculating officers lent no support to the view that soldiers who, from their character and habits, might presumably be more likely to incur the risk of infection, presented themselves for inoculation in smaller numbers than their more careful comrades. In the opinion of the committee the substantial difference in the incidence could only be attributed to inoculation.

The statistical study was brought to an end in 1909 for a very interesting reason. Military authorities had then become more sympathetic towards inoculation and the soldiers themselves more and more convinced of its efficacy in limiting the risks of infection. Consequently increasing numbers presented themselves for inoculation, with the result that in many units a very large majority of men were inoculated, and but few were left as uninoculated controls; indeed, in the case of some of the test units the figures showed 100 per cent. inoculated; such units, of course, became useless for any comparative statistical test of the protective value of inoculation. It should be stated that this investigation was not open to the objection made to the inquiry of the United States commission, for very special care was taken in the diagnosis of enteric fever by the medical officers of each unit. Examples of paratyphoid were discriminated, and the committee was able to show that no case of enteric fever occurring in the various groups could have been overlooked, since every developed case of continued fever was specially investigated by all the modern methods available. The "probable error" of the figures was worked out by Colonel R. G. S. Simpson, C.M.G., R.A.M.C., who concluded from his examination of the figures and the smallness of the probable errors that the difference in the incidence of enteric fever in the few groups was, in statistical language, "significant."

The committee summed this part of its report in the following sentence: "Expressing the ratio of one group-incidence to another gives the result of one case in an inoculated man to 5.6 cases among non-inoculated men, or, to put this mass of figures into still plainer language, they show that typhoid fever was between five and six times as common in the non-inoculated as in the inoculated."

The chief recommendation of the committee was that "every measure which may be considered practicable should be employed to extend the practice of antityphoid inoculation in the army. In the opinion of the committee its universal application is desirable."

With regard to the details of inoculation the committee came to the conclusion that the minimum degree of local inconvenience was caused when the dose was given either in the upper arm at the level of the insertion of the deltoid or in the infraclavicular region, but we believe that evidence since accumulated shows that the latter region is to be preferred. Considerable personal variation was observed in respect to the general or systemic reaction; in about 25 per cent. of the men there was none, or at least no complaint was made, and the temperature was found to remain either consistently normal or to rise less than 1° for a few hours on the

evening of the inoculation. Improvements in the methods of preparing the vaccine have resulted in a diminution of both general and local reactions, although there is a great difference in the degree to which different individuals react to the same dose in spite of indentity of age, condition, and procedure. The committee found some reason to believe that an unusually severe reaction indicates an unusual susceptibility to typhoid fever. Precautions in addition to careful attention to sterilization, to which the committee considered special attention should be given in order to avoid the more severe type of reaction, were:

1. That the inoculation should be made in the afternoon and not in the morning, as then the time at which the symptoms, both local and general, may be expected to reach their maximum, namely, four to six hours after the inoculation, will be about the customary time for the men to go to bed, "which is certainly the best place for them if they are feverish or suffering pain at the site of inoculation."

2. A man should be warned to avoid undue muscular fatigue on the day he is inoculated; he should not, for instance, play football.

3. Exposure to the sun, especially in the tropics, should be avoided.

4. It was observed that the drinking of alcohol within twenty-four hours following inoculation was followed sometimes instantaneously by marked exacerbation of the local reaction. Further, it was found as a general rule that teetotalers had extremely mild reactions, while the regular beer drinkers, even such as were quite moderate in this respect, had reactions of a distinctly more severe type.

When these precautions were observed, it was found that in nine cases out of ten the symptoms, both local and general, were trivial, and in twenty-four to forty-eight hours the inoculated man was quite himself again, except perhaps for a slight tenderness at the site of inoculation which might last for a day or two longer. Arrangements, the committee added, should always be made for the men to be excused by their commanding officer from drill and heavy fatigues for one or two days after inoculation, but it was very exceptional for a man to be incapable of resuming his full work after forty-eight hours.

Organization of Antityphoid Inoculation.

Major W. A. Gibb, R.A.M.C.(T.), writes: The question of the inoculation of the troops is at present engaging the attention of a good many regimental medical officers. The procedure, though simple enough, becomes exceedingly tedious, especially when performed a great many times at one period by one man. This applies to units which are isolated when the regimental medical officer has to perform all the inoculations himself. The following is the procedure I have found easy and satisfactory: The medical officer can use any syringe. The best is the ordinary glass syringe with ordinary needles at about 3s. a dozen. The sterilizer is set going, and the syringe (it is, of course, kept going all the time) and needles are boiled. Orderlies can be used as follows: The first paints the arm at selected spot. (I find 1½ in. above the bend of the elbow to the outer side is a very good spot.) The man passes on to the surgeon, who makes the required injection, is then sent to another orderly, who either repaints the arm with iodine or puts a small antiseptic dressing with a small piece of strapping to secure it; after that the man passes to a table, when another orderly takes down regiment, regimental number, rank, and name, date of inoculation, and whether first or second dose.

By this means a considerable number of men can be done single-handed in a comparatively short time.

The points to remember are:

1. A fresh needle must be used for each injection.
2. A good light is essential.
3. Not to inoculate men in front of each other.
4. They must be told to avoid alcohol.

When going into the country to do small numbers of men, and where the billets are not convenient, it is a good plan to have boiling water put into the large water bottles. These being covered with felt, the water retains the heat for some time, and, on being poured into the sterilizer, it is a very easy matter to get this going quickly.

Dr. William Boyd (Professor of Pathology, Winnipeg University), Lieutenant 3rd North Midland Field Ambulance, R.A.M.C.(T.), writes: In the course of the last few weeks several papers have appeared in the Journal dealing with the question of typhoid inoculation, with special reference to the organization requisite for carrying out a large number of injections. From these one gathers that the average number of men one medical officer can deal with in the course of an hour varies from 25 to 60 or 70. On this basis it is evident that if a large body of troops, such as a Division, have to be inoculated, the consumption of time must be very great.

As in certain circumstances it may be necessary to inoculate large numbers of men in as short a time as possible, the method which has been adopted for inoculating the North Midland Division of the Territorial Force may be of interest.

The inoculations, which were carried out under the direction of Colonel Clark, Assistant Director of Medical Services, were performed in a marquee, the internal arrangements of which were as follows:

Two orderlies were posted at the entrance, with a bowl of tincture of iodine on a small table between them. They applied a dab of iodine to the arms of the men as they passed. A narrow table ran between the poles, on which were placed the sterilizer, vaccine, spare needles, etc. At the exit were two tables at which sat four clerks, who took the names of men as they passed out. The inoculators were four in number, two standing at each side of the central table. Each inoculator had an orderly who held a tube of vaccine at a convenient angle. Finally, an orderly was posted at each side of the tent, in order to insure that each inoculator had a constant supply of patients. Immediately outside the tent was a non-commissioned officer, who saw that each man removed his coat, rolled up the sleeve of the arm to be inoculated, and carried the coat on the other arm.

The men entered the tent in fours, two passing down each side. It was found that each inoculator could easily dispose of 250 men in an hour, so that the rate of inoculation was 1,000 men an hour. Further, one officer, who was sent back to Staffordshire for the purpose, in one day inoculated 840 men in three widely separated towns.

These figures are considerably in excess of those in recently-published papers, and the reason is probably twofold. In the first place, the subdivision of labour insures that a steady and rapid stream of men passes through the tent; very much depends on the orderlies, whose duty it is to direct the traffic. In the second place, the question of sterilization is one of great practical importance. The ideal theoretical method is to sterilize both syringe and needle between each inoculation. Even if a series of syringes and needles be available, however, the consumption of time will be very greatly increased. The same is true for the method of drawing hot oil through the needle. In addition, the oil is liable to become over-heated and to sputter over the table and the operator's hands. The simplest method is to pass the needle through a flame and then through cold sterile water. It is questionable, however, if any additional sterilization is really necessary. The syringe and needle are thoroughly boiled, and the needle only passes through iodinized skin. We have performed over 16,000 inoculations, with various sequelae, which will be discussed in a later paper, but there has not been a single case of septic arm. There are times when academic must give way to practical considerations, and this is one of them.

Lecture by Professor McWeeney.

Last week the fourth of a series of lectures under the auspices of the Dublin branch of the St. John Ambulance Association was delivered in the theatre of the Royal Dublin Society, and there was as usual a large audience. Professor E. J. McWeeney, who was the lecturer, chose for his subject prevention of diseases in war time. He said that the chief diseases that had to be guarded against in war time were wound infections, such as suppuration, blood poisoning, erysipelas, gangrene, and tetanus, and such diseases as typhoid, dysentery, diarrhœa, and cholera, which owed their spread to the unhealthy conditions under which men on active service lived. With regard to the latter group the lecturer pointed out that during the South African war there were over 58,000 cases of typhoid fever,

of whom 1,900 were invalided, and 8,000 died—more than were killed by the enemy's bullets. He emphasized the importance of keeping "germ carriers" out of the army. The common fly was a dangerous enemy as a breeder of typhoid. He strongly recommended every soldier and every nurse before going to the front to undergo anti-typhoid vaccination. For that purpose he offered the Government the resources of his own laboratory.

UNIVERSITIES AND THE WAR.

ADDRESS BY THE VICE-CHANCELLOR OF THE UNIVERSITY OF LONDON.

THE OFFICERS' TRAINING CORPS.

THE address at the opening of the session at King's College, London, was given by the Vice-Chancellor, Sir Wilmot Herringham, M.D., on September 30th. Principal Burrows presided over a large assembly.

Sir Wilmot Herringham spoke on the universities' duty to the country during the war. Their first duty, he said, was to carry on the education of the country. Of all the products that made up a nation's wealth none were so valuable, so expensive to produce, or so difficult to replace as educated men. If possible, the supply should not even be lessened because of the war. As employers, the universities should facilitate enlistment and treat employees who enlisted as well as possible, having regard to the fact that no institution lost more heavily by the war than a university. The loss to King's College in respect of fees from students would not be less than £20,000. He had ventured to pledge the university that no student who had volunteered—the number was well over a thousand—should be prejudiced in his university education by so doing, but of course, by law, the university could not excuse students from courses of instruction and examination. Strong as he felt the call of the country to be, he advised students within measurable distance of their final examinations—say six months—to finish their course before offering their services in the army. Meanwhile, they could be working in the Officers' Training Corps, and in view of the threatened shortage of officers he urged every student who possibly could to enroll in the corps. The country had extreme need of the brain and hand of every one of her sons at the present time. Defeat meant not only loss of Empire, crippling of trade and industrial misery, but the break-up of all the best and highest in civilization and progress. The Allies were fighting for the rights of weak peoples, for national faith, and the humane conduct of war, and the enemy maintained the opposite of all these. The German race was a great one, whose industry, accuracy and love of learning were a lesson to the world, but it had been going through the greatest of all temptations—the accession of riches and power—and its philosophers had destroyed every ideal except that of power. Above all nations, the English-speaking race on both sides of the Atlantic had fought and died for humanity, for justice, and for freedom—ideals which embodied all progress, all history, and all life—and could they do less than follow in the path their fathers trod, and give all they had, even their lives? (Applause.)

The Principal, in thanking Sir Wilmot Herringham, also emphasized the need for officers, and recommended students to enroll in the Officers' Training Corps. The proceedings concluded with the singing of the National Anthem.

THE UNIVERSITY SPIRIT.

PROTEST BY A NEUTRAL.

PROFESSOR L. M. BOSSI, Director of the Gynaecological Institute of the University of Genoa, has sent the following letter to the *Corpus Academicum* of the University of Leipzig and has furnished a copy of it to Emeritus Professor Sir Alexander R. Simpson, formerly Professor of Midwifery in the University of Edinburgh, who has been good enough to forward it to us for publication.

Professor Bossi, in his covering letter to Sir Alexander Simpson, says:

"Our science, which has for its object the physical and psychical maintenance and amelioration of the human race, cannot remain indifferent to the terrible tragedy that is now being enacted.

"I believe it to be our duty to protest against the erection of brutal force into a system of domination predestined to the physical and moral ruin of the peoples.

"The letter which I have sent to the professors of Leipzig represents, I am convinced, the sentiments of the majority of my colleagues in Italy."

Esteemed Colleagues of the University of Leipzig,

I received a copy of the special number of the *Leipziger Neuesten Nachrichten*, accompanied by a letter which invites me to communicate to the university students and to the press of my country the contents of that journal with respect to the responsibility for this ruthless war.

Then I read to-day the official notice that the Ministers of Public Instruction of the various German States have "by common agreement" forbidden the German universities to admit from this time forward as students Russians, Serbs, and Japanese.

Thus, while on the one hand German university authorities rely on the principle of the internationalism of science for the defence of their own political position, they commit an act of university reprisals in striking opposition to that principle.

The contrast of these two actions at the expense of the prestige of science and of the dignity of its cultivators is too evident to require any further comment; but it obliges me to break the silence which I had imposed on myself and to open my mind to you with loyalty and frankness, as I hold that to be now a duty imposed on me by my position as a university professor.

Science has no confines; its country is the world.

If this principle had been present to your mind, my esteemed colleagues of the University of Leipzig, I am sure that you would have avoided any attempt to implicate your colleagues of the Italian universities in a conflict of brute force, from which science and its cultivators ought to remain entirely aloof, in order to preserve, in the midst of the present unexpected return to barbarism, at least one patrimony of mankind pure and unspotted—that of the intellect.

But, since you have attempted to invade this field also, it is my bounden duty to reply to you that while we were such admirers of your advances in the immense fields of the positive sciences and of your scientific method as to recognize almost at a glance a true and peculiar hegemony of your nation, we cannot admire, much less approve, the horrible fact that has to-day come unexpectedly to light—emerging in all its terrific concrete reality—of the premeditated concentration of great part of the scientific and intellectual energies of your nation to bring about the triumph in the world of the dominion of brute force.

In our academies we shall teach our studious youth the great benefits that all mankind have derived from the experimental method of science which, initiated in Italy, received its largest development and reached its highest prestige in Germany. They will learn that the Latin peoples have owed much to the applications of disciplined German method in all spheres of life and in all branches of human knowledge. They will learn that the Latin genius has been largely assisted in its positive manifestations by the practical methodicalness of Germany; that Germany has contributed perhaps more than other nations to the application and the diffusion of Italian scientific initiative (a fact which I also am personally bound to affirm), and that for this we ought to retain gratitude.

But faithful always to the great principle that the prosperity and happiness of the peoples can be founded only upon human brotherhood, we shall not be able to approve:

1. The incitements to the use and abuse of violence and of brute force, which your Chancellor gave in full Reichstag with a cynicism which revolted the consciences—in your opinion perhaps too sentimental—of us Latins.

2. That for years peace is preached, while human slaughter is being prepared instead, and while even the hospitality of many European centres is being sterilized by the preparation there of arms and of nuclei of men ready for treachery.

3. That—an example almost unique in the modern history of the peoples—international treaties are trampled on, and such neutral states as Luxemburg and Belgium are invaded: unarmed peoples, destined by the law of nations exclusively to peace and to labour, being attacked unexpectedly and with unheard-of and (as the facts will demonstrate inexorably) premeditated violence.

4. That villages and also cities, of such neutral States, are burned and destroyed, without any respect either to the rights of property or to patrimony sacred to art and to civilization.

5. That open and tranquil cities are bombarded at night, without any respect to the inviolability of the asylums of the infirm.

6. That unarmed citizens are slain, solely because bound by affection to their native land.

It is a civilization wholly different from this that we feel it to be our duty to teach in our universities and to our studious youth, who from the very fact of our absolute neutrality, imposed by our people, and approved by their present Government, will learn that Italy desires the restoration of a civilization of scientific and social progress founded not on the dominion of violence, but of human solidarity in the brotherhood of the nations.

(Signed) Professor L. M. Bossi,
of the Royal University of Genoa.

Genoa, September 10th, 1914.

MOTOR AMBULANCES IN WAR SERVICE.

Colonel P. Broome Giles (County Director, City of London Branch of the British Red Cross Society) writes: I have read with great interest Mr. Massac Buist's remarks and agree with the trend of his deductions, and sincerely trust that the present idea of covering a chassis with a "Red Cross" edifice and calling the production a "motor ambulance" will cease.

I have recently tried practically a number of these productions, and consider the bodies made by Messrs. Salmon and Sons, of London Road, Newport Pagnell, by far the most satisfactory, as they possess the essential requirements of ambulances. This firm turn out two separate bodies: (*a*) For long chassis, (*b*) for short chassis. (*a*) Accommodates either 4 lying down, or 2 lying down and 6 sitting, or 12 sitting; (*b*) accommodates either 4 lying down, or 2 lying down and 4 sitting, or 8 sitting. The methods of altering the interior to meet the varied accommodations are most simple.

An important feature of either (*a*) or (*b*) is a door in the front between the driver and the attendant and a gangway between the tiers of stretchers, which enables the attendant to render assistance, when required, during transit, and when loading and unloading. This obviates the awkward method in other ambulances of the stretcher bearers having to climb into the ambulance to "load home" or release the stretchers, and, further, permits assistance being rendered to the sick without having to stop the ambulance and enter from the rear. Another advantage is that the ventilation is ample, and there is plenty of room between the upper tier of stretchers and the roof, which is not found generally. The price of (*a*) and (*b*), complete with four army stretchers, is respectively from £40 and £30.

Stretchers should all be of the regulation army pattern and so interchangeable. It is a terrible thing to find, in transporting wounded men, that the ambulance will not take the regulation army stretcher, and to have to submit a wounded man to the pain of changing him on to another stretcher simply because some one in his ignorance had built his "edifice" too narrow for the army regulation stretcher.

Those interested in motor ambulances can see (*a*) and (*b*) in practical use in Regents Park on Saturday, October 3rd, at 4.45 p.m., when I have a drill for recently joined City of London Red Cross men, or the ambulance can be viewed at Messrs. Salmon's, St. Martin's Lane, Long Acre.

RECEPTION OF THE WOUNDED.

The following official statement was issued by the Press Bureau on September 26th:

Official Statement.

It may be of interest to the public to know how the sick and wounded of the Expeditionary Force are being received and distributed after their arrival in this country.

All the hospital ships proceed to Southampton, where there is a special staff for the reception and distribution of the sick and wounded officers and men who are being sent home on them. The arrangements are under the control of a surgeon-general, who holds the appointment of a deputy director of medical services. He has at his command twelve ambulance trains specially constructed for the conveyance of 4 officers and 96 men lying down, or for a considerably greater number of patients sitting up. Twice weekly telegrams are received by him from all the larger military and Territorial Force general hospitals stating the number of beds vacant in each. With this information before him he arranges convoys of sick and wounded on arrival, and dispatches them to their destination in one or more of the ambulance trains.

Already the sick and wounded from overseas have been comfortably placed under treatment in most of the large military or Territorial Force hospitals centres. At the railway stations of these localities arrangements are made by the military authorities for conveying sick and wounded in motor or other ambulance vehicles from the railway stations to the hospitals. Voluntary Aid Detachments have already done useful work in connexion with this stage of the movements of the sick and wounded, and it is expected that the scope for utilizing voluntary aid in this direction will be extended as its value becomes better known.

As the military hospitals get filled up arrangements have been made for transferring sick and wounded from them to various hospitals arranged by voluntary effort. Many schemes have been submitted to the War Office, through the British Red Cross Association, in accordance with Field Service Regulations. At present the opportunity of using private hospitals to any great extent has not arisen, as there are still several thousand beds vacant in the military and Territorial Force hospitals. There is no doubt, however, that in time private hospitals will be of much use as an overflow, and also when it is necessary to set free a sufficient number of beds for future requirements in the larger military hospitals.

Convalescent Homes.

When sick and wounded are sufficiently convalescent to be granted sick furlough, advantage is being taken of the many offers of accommodation for them in convalescent homes in different parts of the country; and, in order to prevent overlapping and to facilitate the means of placing men on sick furlough, so far as possible in their own counties, a Central Registry of Convalescent Homes has been formed by a joint committee of the British Red Cross Society and the Soldiers' and Sailors' Help Society. This Central Registry acts as a clearing house. Only convalescents who would be given sick furlough to their own homes, if they so desired, are being sent to convalescent homes. Convalescents who require continued hospital treatment will be sent either to the special home in connexion with the hospital from which they are transferred (under the supervision of the medical officer of the hospital) or to one or other of the private hospitals already referred to. In order to enable a convalescent to be placed on sick furlough in a convalescent home, all that he has to do is to inform the medical officer who is in charge of him where and what county or neighbourhood he would like to proceed to. These particulars are entered on a form and sent to the Central Registry. The address of the nearest railway station to the convalescent home in the neighbourhood is entered on the form, and it is immediately returned to the medical officer of the hospital. Whenever the convalescent is ready to leave on sick furlough the medical officer sends word to the convalescent home, stating the hour of the man's arrival at the railway station, where arrangements are made to meet and take him over. This arrangement has been working very well, and already over 100 convalescents have been received in various convalescent homes.

It may also be of interest to know that in all the hospitals arrangements are made for replenishing any deficiencies in the men's kits, and for giving them any additional clothing which it may be desirable for them to take with them when they go on sick furlough. The hospitals are, for this purpose, receiving many generous gifts of pyjama suits and other articles of clothing. At the end of their sick furlough the men are required to rejoin the dépôts of their regiments, in order to be refitted, until arrangements are made for their rejoining their units, either in this country or abroad. They are provided with railway warrants to enable them to go to convalescent homes and to rejoin at their dépôts. Arrangements have also been made that they shall receive their pay both while they are in hospital and while they are convalescent.

Convalescent Home in Petrograd.

In Petrograd a British convalescent nursing home for wounded Russian soldiers was opened on September 24th. According to the correspondent of the *Daily Telegraph*

the cost has been entirely provided by donations and monthly subscriptions from the British community. The home contains fifty beds, and is under the superintendence of an English matron and a committee of British residents.

British Hospital for Antwerp.

The Women's National Service League has sent a fully equipped hospital to Antwerp to co-operate with the Belgian Red Cross. The medical officers are: Drs. Florence Stoney, Hanson, Rose Turner, Emily Morris, Joan Watts, and Mabel Ramsay. The unit includes twelve fully trained nurses, cooks, orderlies, and electricians in charge of the *x*-ray apparatus. The hospital has had the active co-operation of the St. John Ambulance Association, and is equipped for 130 beds.

BRITISH RED CROSS SOCIETY.

CONDITIONS IN PARIS.

Visit of Sir Frederick Treves.

Sir Frederick Treves, who has just returned from Paris, gave a representative of the Journal an account of his visit to the hospitals there which are receiving British wounded. The military general hospital, taking from 500 to 600 cases, is at the Trianon Palace Hotel, Versailles. The building is excellently suited for the purpose, is very well equipped, and is admirably administered under the charge of Colonel Smith, R.A.M.C. The large rooms on the ground floor—dining-room, drawing-room and reading-room—make magnificent wards and are filled with private soldiers. Amongst these are seventeen wounded German soldiers, who are very well pleased with their present lot. All the patients expressed themselves as very comfortable. As is already known, there is unfortunately a great deal of tetanus and "gas gangrene."* In the grounds of the hospital are two marquees for medical cases, but the patients are few, because the health of the troops at the front is excellent.

The second hospital is the American, situate at the Lycée Pasteur, at Neuilly. This is a new building which has not yet been used as a lycée: the structure, indeed, is not yet completed. It makes a most admirable hospital; the gymnasium takes 68 beds, the class-rooms take from 6 to 8 beds each; the operating theatre is a large chemical laboratory, and is as well suited for that purpose as if it had been designed for it. The surgical store-room is the chemical lecture theatre, fortunately not yet provided with seats. The number of beds is or will be about 300. On the day of Sir Frederick's visit there were 270 patients, of whom 162 were British. The Americans have reason to be proud of this hospital, which Sir Frederick has no hesitation in saying is the best of its type in Paris. The staff consists of 15 doctors, 75 fully trained nurses, and a personnel making a total of 180.

The third hospital is at the Astoria Hotel, which has been taken over by the British Red Cross Society. It will accommodate 300 cases, and is being gradually equipped. There are 65 patients at present, all except 3 being British. The other hospitals are at Claridge's Hotel, the Majestic Hotel, two large private houses, the Lycée Bouffon, and other smaller institutions.

Sir Frederick Treves said the great difficulty in the medical aspect of the war is the question of transport. The French are straining every nerve to deal with this problem, but considering the restricted number of railway lines, and the vast amount of ammunition, food and supplies that have to be sent to the front every day, the allotment of trains for the carrying of the wounded is necessarily limited, and unavoidable delays must arise in the passage of these trains from the front to Paris. More ambulance trains are being provided, but they will not be immune from the risk of being delayed at sidings. The great need in this campaign is for motor ambulances; the American hospital has 20, and in this fleet of cars rests largely the secret of its success. The British Red Cross Society is putting 200 motor ambulances into France at the earliest possible moment. The number may seem large, but 500 would not be too many. By means of these cars the wounded may be brought direct from the field ambulances to the base; the roads in France are good, and the obstacles in the way of motor ambulances few. The motor ambulance can come down from the front in a little over two hours, whereas a train may take ten or even twenty hours to accomplish the same journey. People in England could do no greater service to our wounded troops than by providing motor ambulances. It must be remembered that the whole question of transport of the wounded in war has been entirely modified by the introduction of motor cars, and when the history of this war comes to be written, Sir Frederick Treves is sure that the best work of the British Red Cross Society will be found to have consisted in the provision of an ample supply of motor ambulances.

Stores for Sick and Wounded.

Up to the present the society has provided garments, medical stores, and comforts for the wounded, to sixty-one recognized military hospitals in Great Britain, and the hospital ships for the Indian army have also been provided with a quantity of garments. The hospital ships running between France and England have received all the stores they have applied for, and they will receive regular weekly consignments. The number of garments now in the stores or on the way to France represents hospital kit for about 8,000 men, but Sir Alfred Keogh is still calling for unlimited supplies, and, having regard to this and the fact that many cases of sickness may soon be expected, the stores are to be increased at once to provide for at least 16,000 to 20,000 men.

Hospital Accommodation.

The total number of beds in the auxiliary home hospitals accepted by the War Office is 4,978. The constructional work at the Netley Red Cross Hospital is rapidly progressing.

A Hospital Unit for Paris.

During this week a large unit, consisting of 10 surgeons, 10 dressers, 30 nurses, and 40 orderlies, is being sent to Paris.

Scottish Red Cross Hospital.

A British Red Cross Hospital has been organized in Scotland, and the intention is to establish 100 beds at Rouen. The staff is drawn from Glasgow, Edinburgh, and Aberdeen, and the senior officer is, we understand, Mr. J. W. Struthers, Surgeon to the Royal Infirmary, Edinburgh; Dr. Burton of Glasgow is another member of the staff. An advance party left Glasgow on Wednesday to establish at once fifty beds. It included nurses and dressers; among the latter are Lieutenant Haig Ferguson, B.A., a final year man in medicine in Edinburgh, and the son of Dr. Haig Ferguson (assistant gynaecologist to the Royal Infirmary, Edinburgh), and Mr. Rhodes, who will be specially employed in *x*-ray work.

Dublin Branch.

Last week the Earl of Meath presided over a large and representative meeting in the lecture theatre of the Royal Dublin Society for the purpose of inaugurating a branch of the British Red Cross Society for the county of Dublin. A guard of honour from various troops of the Dublin Boy Scouts was drawn up on either side of the entrance to Leinster House, and lines of scouts were also stationed at the sides of the grand staircase and in the corridors. The Chairman said the British Red Cross Society was founded in 1905 by Queen Alexandra, and was now working in co-operation with the St. John Ambulance Association. This Red Cross Society was established for the purpose of furnishing aid to the sick and wounded in time of war, and it was the only organization of its kind that was recognized by the Geneva Convention. The British Red Cross Society desired that its organization should work through counties and cities, acting directly in connexion with head quarters in London. Mr. E. A. Ridsdale, Deputy Chairman of the Central Executive Committee of the British Red Cross Society, who was cordially welcomed, said that the work of the Red Cross Society might be divided into three heads,

* This is probably the acute spreading traumatic gangrene due to *B. aërogenes capsulatus* acting either alone or in association with *B. oedematis maligni*.

two of them military and one civil. The civil side was to educate the people to render first aid to the injured, and to render assistance to suffering humanity in many other ways. When war broke out it became the duty of the society to organize the supply of hospital garments and supplies of those little necessaries and luxuries which made all the difference to a sick man between comfort and discomfort. Another side of the work was to send out doctors and orderlies to the scene of the war. A very important part of the work was the formation of Voluntary Aid Detachments. Over 50,000 persons had been enrolled in these detachments in England and Scotland. Early in the present war the society sent out to Belgium 10 surgeons, 20 nurses, and 10 dressers; unfortunately, the very day they got to Brussels it was seized by the Germans, and they were shut up there. Their services had been used by the Germans in attending to the wounded, and some of the staff had been able to take the names and addresses of British soldiers and send information to their relatives at home. He wished it to be widely known that the Red Cross did not know nationality or party. Its members acted purely from the humanitarian point of view, attending to the wounded of the enemy as well as they would to the wounded of their own side. The society was at present setting up a hospital with 300 beds at Rouen, and also an auxiliary hospital with 500 beds at Netley. It had undertaken also a most useful task in endeavouring to ascertain the fate of the many thousands of missing soldiers. Dr. Lumsden, on behalf of the St. John Ambulance Association, said that it would gladly co-operate with the Red Cross Society in the work. It had eight ambulance divisions, numbering 384 trained ambulance men, eleven nursing divisions 187 strong, making a total of 571 now ready for service. Within one week after the outbreak of war 130 members were sent out and were now serving abroad. The association proposed to place its whole organization at the service of the Red Cross Committee, to be used in whatever way was thought right. The meeting concluded with the appointment of both Executive and General Committees.

ST. JOHN AMBULANCE BRIGADE.

Surgeons for Red Cross Work.

The Association of St. John of Jerusalem is continuing to send out surgeons to tend the sick and wounded at or near the seat of war. Applications from those who are willing to serve may be forwarded to Mr. H. T. Watson or to Mr. Edmund Owen, Chief Surgeon to the Brigade, at St. John's Gate, Clerkenwell, London, E.C.

THE LISTER INSTITUTE.

At the outbreak of hostilities the following letter was addressed by the Lister Institute to the Director-General, Army Medical Department:

Sir,—I am instructed by the governing body of this institute to inform you that, with an earnest desire at the present time to assist the Army Medical Department, they offer to you at the cost price of labour and material the whole of their stock in hand of typhoid vaccine, antitetanus and antidysentery serums, and to add that they will continue on the same terms to manufacture to the utmost of their capacity whatever further quantities of the same medicines your Department requires.

I am also desired to inform you that the governing body will be pleased to facilitate the performance of any further service on the part of members of its staff which they are willing to offer and capable of carrying out. On behalf of my colleagues I beg to inform you that we are anxious to help in whatever manner we can. We do not wish to embarrass your department with proposals at the present moment, but should it so happen that you have needs which we can satisfy, collectively or individually, we shall regard it an honour to be called upon.

There is also a number of medically qualified gentlemen who are or have been research workers at the Institute, who have expressed a desire to place their services at your disposal together with our own.

A list of these gentlemen, as well as of our staff, giving particulars as to age, capabilities, etc., is being prepared and will be forwarded in the next few days.—I have the honour to be, Sir, your obedient servant,

Charles J. Martin, Director.

August 12th.

The Director-General informed the Director that the patriotic offer of himself and his colleagues and others working at the Lister Institute was greatly appreciated, and that he would gladly take advantage of it should a suitable occasion to do so arise.

Since then we understand that the Institute has furnished the Army Medical Department with large supplies of antitetanic serum for prophylactic purposes and upwards of 200,000 doses of antityphoid vaccine.

Six voluntary workers have received commissions in the R.A.M.C. and one in the infantry.

We now understand that the War Office has decided to despatch a motor field laboratory for use at the seat of war, and that Dr. Sydney Rowland, assistant in the Director's laboratory, has been appointed the bacteriologist in charge. Dr. Rowland has received a temporary commission in the R.A.M.C., and leaves immediately.

FURTHER CASUALTIES IN THE MEDICAL SERVICES.

Royal Navy.

Killed.

Hopps, Surgeon H. J., R.N., H.M.S. *Aboukir.*
Turnbull, Surgeon A. E., R.N.V.R., H.M.S. *Cressy.*

Army.

Killed.

Dalton, Lieutenant-Colonel C., R.A.M.C. (previously reported wounded).
Hopkins, Lieutenant H. L., R.A.M.C.
Huggan, Lieutenant J. L., R.A.M.C.
O'Connell, Lieutenant J. F., R.A.M.C.
Ranken, Captain H. S., R.A.M.C.

Wounded.

Edmunds, Captain C. T., R.A.M.C. (previously reported missing, now reported wounded).
Fisher, Lieutenant R., R.A.M.C.

Prisoners of War.

Brown, Lieutenant A. J., R.A.M.C. (previously reported missing).
Brunskill, Major J. H., R.A.M.C. (previously reported missing).
Hills, Lieutenant H. W., R.A.M.C. (previously reported missing).
Williams, Captain, R.A.M.C. (reported by private sources as wounded and a prisoner at Brunswick).

Missing.

Field, Captain S., R.A.M.C.
Holden, Captain C. W., R.A.M.C. (previously reported wounded).
Leahy, Captain M. P., R.A.M.C.
Stevenson, Captain G. H., R.A.M.C.

Reported Missing, now Rejoined.

Bell, Lieutenant J. H., R.A.M.C.
Hildreth, Captain H. C., R.A.M.C.
Tulloch, Lieutenant F. L., R.A.M.C.
Walker, Lieutenant E. R., R.A.M.C. (wounded).

The three British cruisers which were sunk by torpedos by a German submarine on September 20th carried between them seven medical officers: The *Aboukir*, Fleet Surgeon O. Rees and Surgeon H. J. Hopps; the *Cressy*, Staff Surgeon E. C. Sawdy, Surgeon A. E. Turnbull, R.N.V.R., and temporary Surgeon G. N. Martin; the *Hogue*, Staff Surgeon Percival T. Nicholls and Surgeon L. C. D. Irvine, R.N.V.R. Of these seven officers, two—Surgeons H. J. Hopps and A. E. Turnbull—were lost.

Surgeon Hugh James Hopps took the M.B., Ch.B. at Edinburgh in 1911, and entered the navy on October 3rd, 1913, joining his ship in August, 1914.

Of Surgeon Alfred E. Turnbull, our Edinburgh correspondent gives some particulars elsewhere.

The casualty lists of September 24th and 25th announced the deaths of no fewer than four medical officers killed in the battle of the Aisne—Captain T. Scatchard and Lieutenants J. L. Huggan and A. K. Armstrong, killed in action; while Lieutenant-Colonel C. Dalton, who was reported as wounded in the casualty list of September 20th, died of his wounds. A full note of the services of Lieutenant-Colonel C. Dalton was given last week (p. 556).

Captain Thomas Scatchard was the youngest son of Dr. Scatchard, of Boston Spa, Yorkshire. He was educated at Leeds, and took the L.S.A. in 1902. After serving as house-physician of the Leeds Infirmary and House-Surgeon of the Beckett Hospital, Barnsley, he entered the army as lieutenant on July 31st, 1905, becoming captain on January 31st, 1909. He was recently stationed at Aldershot.

Lieutenant James Laidlaw Huggan took the M.B. and Ch.B. at Edinburgh in 1911, and got his commission as lieutenant on July 26th, 1912. He was recently stationed in London.

Lieutenant Arthur Keith Armstrong took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1907, and received a temporary commission as lieutenant so recently as August, 1914. He was honorary medical officer of Monmouth Hospital.

To the death of Lieutenant J. L. Huggan our Edinburgh correspondent refers elsewhere.

Two more officers of the R.A.M.C. were reported as killed in the casualty lists published on September 27th—Lieutenants H. L. Hopkins and J. F. O'Connell.

Lieutenant John Forbes O'Connell was educated at St. Mary's Hospital, where he filled the post of house-physician. He graduated M.B., B.S.Lond., in 1912, and entered the army on July 24th, 1913. He was recently stationed at Aldershot.

A notice of the brilliant career of Lieutenant Hopkins is published elsewhere.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

WALES.

A Welsh Army Corps.

The response of Wales to the call to arms was immediate. The mobilization proclamation at once brought out a strong force of Territorials, which within a few weeks provided a full division complete in all departments, including the proper proportion of ambulances, and furnished also detachments for many scattered posts, camps, and forts. At an early stage a movement was set on foot to fit out a Welsh Hospital for sick and wounded. Then for the time there was perhaps a feeling that all that was necessary had been done, but Lord Kitchener's appeal, reinforced by stirring speeches by Mr. Lloyd George to his countrymen in London and Cardiff, brought thousands of recruits to the new army, so that on Tuesday last Glamorganshire alone had given 24,000, and Monmouthshire, which for the purpose of raising the Welsh Army Corps, as for so many others, is to be reckoned part of Wales, 12,000.

This new movement, in which Mr. Lloyd George has the support of Welsh peers and bishops and men of all parties, will need thorough and practical organization, and many questions are arising as to the best way of adapting existing plans to the new conditions.

Among other questions that will arise is the establishment of a medical service for the new army corps, and one of the first matters that has come up in this connexion is the destination of the Welsh Hospital. It is under the command of Mr. William Sheen, Surgeon to the Cardiff Infirmary, who has, it is understood, nearly completed his staff. The intention has been that the hospital should be established at Netley, and it is understood that steps have already been taken to carry this plan out. It is now asked, however, whether, in view of the new circumstances, it would not be better to retain the hospital in Wales to serve as a base hospital for the new division or divisions of the Welsh Army Corps. The declared policy of the War Office has been, as far as possible, to send the sick and wounded to hospitals in the districts in which their families and friends reside, and it is urged that to put the hospital at Netley would not be in consonance with this policy.

Lieutenant-Colonel H. Jones Roberts, T.D., commanding the 6th Carnarvonshire and Anglesey Battalion, and now in charge of the reserve battalion which is being formed, has been appointed to command details of the Welsh Division. This command has previously been held by a major-general, and the honour thus conferred on Colonel Jones Roberts is a very high one. Colonel Jones Roberts has always been an active worker on behalf of the British Medical Association, and at the present time is Honorary Secretary of the North Wales Branch. Members will unite in congratulating Colonel Jones Roberts upon this recognition of his ability and military experience.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Fatalities among Recent Edinburgh Graduates.

The accidental death from drowning of Mr. L. C. Peel Ritchie, Ch.M., M.D., F.R.C.S.E., in Granton Harbour, has cast a gloom over these circles in Edinburgh in which the unfortunate surgeon was well known and amongst the members of the profession by whom his father, the distinguished physician Dr. Peel Ritchie, was greatly respected. A short obituary notice appears in this number (vide p. 607). The war also has been exacting a heavy toll from the list of recent graduates of the University of Edinburgh. Surgeon Hugh James Hopps, who graduated M.B., Ch.B., in 1911, and who was a Fifeshire man, has, it is feared, gone down in the *Aboukir*. James Laidlaw Huggan, who graduated in the same year (1911), and who was a lieutenant in the R.A.M.C., has been killed at the front. Dr. Huggan was a Scottish International Rugby football player, having received his cap last March. Among the list of the missing in connexion with the sinking of H.M.S. *Cressy* is the name of Alfred Edward Turnbull, son of Mr. Phipps Turnbull of Edinburgh. He graduated M.B., Ch.B. at Edinburgh University in 1907, and was surgeon in the Royal Naval Volunteer Reserve. Mr. Turnbull served as residential gynaecologist, as clinical assistant in the university surgical wards, and as resident house-surgeon in the Royal Infirmary of Edinburgh. He was also a Fellow of the Edinburgh Obstetrical Society, and made three contributions to the literature of obstetrics which were published in this Journal in 1909, 1911, and 1912, as well as one to the society's annual volume of *Transactions* for 1911. Mr. Turnbull was in practice at Faringdon, Berks, when the war broke out.

Canada.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Canadian Army Medical Corps.

To-day Canada is justly proud of her Army Medical Corps. The work of preparation has been continued steadily during a period of peace, and now that the time has come for action, a large body of efficient men is ready, eager to relieve some of the horrors of the battlefield. It is difficult to obtain details concerning the part which is being taken by the medical profession in connexion with the present war, but there are over 700 officers ready for service, and doctors from every part of the country are now at Valcartier preparing to leave with the Canadian contingent. It is the intention that a base hospital shall accompany the troops, probably in charge of Dr. F. G. Finley, of Montreal, with Dr. R. P. Campbell as chief surgeon. Dr. C. B. Keenan, of Montreal, who served in the South African war as surgeon to Strathcona's Horse, accompanied the Princess Patricia's Light Infantry in the capacity of regimental surgeon. Dr. Murray MacLaren, of St. John, New Brunswick, will accompany the Canadian troops.

Antityphoid Inoculation.

A paper was read by Dr. S. J. S. Pierce, Pathologist to the Winnipeg General Hospital, at the recent meeting of the Manitoba Medical Association, in which some interesting facts were given concerning the results of inoculation against typhoid in the General Hospital at Winnipeg. The treatment was commenced in 1909, but at that date it was restricted to members of the laboratory staff. In 1911 routine inoculation of the nursing staff was begun. The results of the work of Richardson and Spooner in the Massachusetts General Hospital, and of Major Russell in the United States Army were then known, and the value of the procedure had been established. Statistics showed that before the treatment was commenced an average of seven cases of typhoid occurred each year amongst the members of the staff of the Winnipeg General Hospital, usually amongst the nurses in their first and second years of training, or amongst the medical orderlies. The vaccine employed is prepared in the hospital laboratory, and is from a stock strain, which has been used there for the past eight years. Subcultures are made on agar slants, and a growth of from twelve to twenty-four hours is emulsified in normal saline solution. Commercial formalin is added to the extent of one-thousandth part of the emulsion used, and at the end of twenty-four hours the mixture, having been tested and found to be sterile, is hermetically sealed and allowed to ripen for three weeks or longer. The stock vaccine is diluted with normal saline so that 1 c.cm. contains two thousand million bacteria. Three subcutaneous injections are administered, consisting of 0.25, 0.5, and

1 c.cm., at intervals of ten days. No ill effects have been observed from the employment of such large doses. The individuals vaccinated for the most part have been young women serving as nurses in the hospital. The results have been most encouraging. Since June, 1911, the number of persons inoculated has been 445, and in no instance has fever been contracted. One doubtful case did occur, but the diagnosis was not complete.

An epidemic of typhoid fever broke out last December in several towns on the banks of the Richelieu River in the province of Quebec. In most cases the fever was not of a severe type, and the infection is attributed to the river water which was used for drinking. It is reported that more than 2,000 cases occurred in the district, and in the town of St. John's alone 500 cases. Water purification plants have been installed at various places, and to prevent further spread of infection Dr. E. P. Benoit of Montreal was instructed to go to St. John's and to vaccinate against typhoid. Eighty persons were vaccinated—each person was carefully examined beforehand, and only those who were considered to be healthy were treated. The vaccine used was prepared in the laboratories of the Bureau of Hygiene, Paris, and was obtained from Professor Chantemesse. Four injections of this vaccine are necessary, given at intervals of eight days. The results have been entirely satisfactory. In no case were any ill effects noticeable and, in several instances, the person vaccinated escaped, while all the other members of the family fell ill with fever. Two persons, who had evidently already contracted the disease, had a slight attack of fever in spite of having been inoculated once; although one injection was not sufficient to prevent the illness, it did not aggravate the disease in any way.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

CIVIL MEDICAL ADMINISTRATION IN BENGAL.

A PRESS *communiqué*, dated Simla, August 27th, published in the *Pioneer Mail* of September 4th, 1914, states that the Secretary of State for India has at last sanctioned the new arrangements for civil medical administration in Bengal, necessitated by the changes in civil government announced at the Delhi Durbar in December, 1911. These changes are sanctioned with effect from April 1st, 1912, the date when the new provinces were constituted, and are four in number. First, the Inspector-General of Civil Hospitals in Bengal, who hitherto ranked as Colonel, becomes a Surgeon-General, like the administrative officers of Madras and Bombay. Secondly, the appointment of an officer of the Indian Medical Service as Personal Assistant to the Surgeon-General, Bengal. Thirdly, the appointment of an Inspector-General of Civil Hospitals with the rank of Colonel, for the new province of Bihar and Orissa. Fourthly, the appointment of an Inspector-General of Hospitals to the small province of Assam, this officer also undertaking the duties of Inspector-General of Prisons and of Sanitary Commissioner.

The net effect of these changes is that the number of Surgeon-Generals in the Bengal Medical Service is increased from two to three, the Bengal Inspector-General, who formerly ranked as Colonel, becoming Surgeon-General. The Inspector-Generalship of Bihar and Orissa is a new appointment. The Inspector-General in Assam takes the place of the Inspector-General in the abolished province of Eastern Bengal and Assam. As a matter of fact, the Government of India had appointed an Inspector-General in Bihar and Orissa from April 1st, 1912, but he could not be formally promoted to the rank of Colonel until sanction was received from England.

AMBULANCE FIELD DAY.

The first Ambulance Field Day in India was recently organized at Simla under the Assistant Commissioner of the St. John Ambulance Brigade. The general idea of the scheme was that a Northern Brigade with its head quarters at Simla was operating against a Southern Brigade with its head quarters at Subathu. The two forces had met at Jutogh, and the Northern Brigade had driven the Southern Brigade back on Subathu. Both forces sustained heavy losses, and the St. John Ambulance Brigade was called out to take over the sick and wounded and relieve the regular medical services, who were required to accompany the Northern Brigade marching on Subathu. The Simla Corps of the St. John Ambulance Brigade paraded under the command of Ambulance Officer P. H. Marshall, and the Nursing Sisters of the Simla Nursing Division under the command of Lady Superintendent the Hon. Mrs. Spence. The number of casualties in the engagement between the Northern and Southern Brigades was given as eighty-four. Of these there were twenty able to walk, fifty fit for transport sitting up, ten fit for transport lying down, and two unfit for removal. In addition to the twelve wounded, the Southern Brigade left behind two medical cases—namely, (*a*) a case of rheumatic fever, and (*b*) a case of small-pox. The twenty fit to walk and the fifty fit for transport sitting up were sent to Simla in rickshaws, 100 of which had been commandeered for the purpose. No form of transport for lying down cases was available. The St. John Ambulance therefore had 14 severe cases to deal with, and the personnel, in less than an hour improvised from scanty material and three empty rooms, a general ward, an operation theatre, and an isolation ward. The sick and wounded were dressed and actually put to bed, and those requiring it were ready for operation in forty-five minutes.

The inspecting officer was Colonel Hehir, Deputy Director of Medical Services, Army Head Quarters, who inspected the whole of the preliminaries and the wards, and discussed each patient in detail. At the close of the proceedings Colonel Hehir congratulated all concerned on the success of the first Indian ambulance field day, and expressed his high opinion of the remarkable degree of efficiency attained, and the great usefulness of the brigade to the Government of India in the case of war or national emergency.

DIABETES IN MADRAS.

The Madras Government has for some time been impressed by the serious prevalence of diabetes among the educated classes of the presidency and the need for a close scientific investigation into the causation and prevention, and possibly the cure, of the disease. While the possibility of initiating the inquiry was under consideration, the Government received from an Indian gentleman, who prefers to remain anonymous, a generous offer of a sum, not exceeding Rs. 50,000, to be expended in aid of such an investigation. Government therefore placed themselves in communication with the advisory board of the Beit Memorial Fellowships for Medical Research with a view to secure a competent investigator, and they have been promised the services of Dr. S. W. Patterson, a holder of a Beit Memorial Fellowship. Dr. Patterson will accordingly carry out in this presidency an investigation into the causation of diabetes to extend over a period of three years, and during that period he will draw £800 per annum.

THE HEALTH OF BOMBAY.

The improvement in the health of the city of Bombay, one of the compensating features of the hot weather season, has been steadily maintained throughout the past year, during which period plague mortality has dwindled down just on 400 deaths a week to 58. There has been a substantial drop also in the total mortality, which declined from 651 to 606, the present death-rate being 32.17, as against 35.46 in the corresponding period of last year. The present state of the public health may therefore be considered satisfactory, and to compare favourably with the mean death-rate for the past five years. There is one slightly disquieting feature, which illustrates the danger to which the city is exposed from infection brought from the mofussil. The returns record six fatal cases of cholera, no fewer than five of which were imported from Poona, Satara, and Nasik districts. The danger of an outbreak of this malady at this time of the year is not so great as during the first few weeks after the advent of the rains, but the presence of the disease at any time is always a disturbing factor.

DR. JOHN FLETCHER LITTLE, formerly a member of the London County Council, left estate of the gross value of £19,904, of which £17,697 is net personalty.

Correspondence.

THE NEW "BRITISH PHARMACOPOEIA."

SIR,—The new issue of the *British Pharmacopoeia* (1914) will, as has been already announced in your columns, be published on December 31st, 1914. Inquiries have reached me from more than one source with regard to the extent to which the Medical Council will permit the use of the contents of the *British Pharmacopoeia* in medical, pharmaceutical, and kindred works which are about to appear, or may hereafter be published. I am accordingly instructed, on behalf of the Council, to say that the Council wholly reserve their copyright in the new work; and that substantial extracts from it must on no account be published without the Council's express sanction. At the same time, no objection will be taken to such reasonable reference to the facts and figures therein set forth as may be properly made for purposes of criticism, review, and summary, or of study and research, but no information of any kind derived from the new issue may be published in book form before December 31st, 1914.

Advance copies of the *British Pharmacopoeia*, 1914, are now accessible at this office, and at 54, George Square, Edinburgh, and 35, Dawson Street, Dublin, for the inspection of the public, from 10 a.m. to 4 p.m. daily (Saturdays 1 p.m.), in order to give to manufacturers, pharmacists, and others interested an opportunity of ascertaining the changes that are about to be made in official requirements, and of making the necessary arrangements to meet them. Every person who takes advantage of this opportunity will be expected to observe the conditions above indicated, and will be required to sign an undertaking to that effect.

I shall be obliged if you will insert this letter in your next issue.—I am, etc.,

A. J. COCKINGTON,
Acting Registrar.

General Council of Medical Education and Registration of the United Kingdom,
299, Oxford Street, London, W.,
September 30th.

P.S.—The Medical Council Act, 1862, provides that:

The exclusive right of publishing, printing, and selling the said *Pharmacopoeia* shall vest in the said General Council.

The Copyright Act, 1911, may also be quoted in this connexion:

2 (1) Copyright in a work shall be deemed to be infringed by any person who, without the consent of the owner of the copyright, does anything the sole right to do which is by this Act conferred on the owner of the copyright; provided that the following acts shall not constitute an infringement of copyright:

(i) Any fair dealing with any work for the purposes of private study, research, criticism, review, or newspaper summary.

THE ACTION OF CHLOROFORM.

SIR,—In the obituary notice of Dr. Gaskell, in the BRITISH MEDICAL JOURNAL of September 26th, it is stated that "Gaskell, at the request of the Hyderabad Commission, undertook the investigation of the action of chloroform." This statement is somewhat misleading. Gaskell undertook to complete the work of the Hyderabad Commission on Chloroform at my request. The Commission had proved that the uncomplicated action of chloroform is to cause lowering of the blood pressure, with first unconsciousness, then anaesthesia, then stoppage of the respiration, and finally stoppage of the heart; and that any variation in this sequence of events is due entirely to the method of administration. The object of the Commission was therefore attained, since we had ascertained that the fall of blood pressure under chloroform is in itself harmless, and therefore could not be produced by weakening of the heart. To look after the breathing properly is, as Syme had always contended, all that is necessary clinically to ensure safety in anaesthesia. It was left to Gaskell to determine a purely physiological point—What is the exact cause of the fall of the blood pressure when chloroform is effectively given? In order to settle this question cross-circulation experiments were made by him and Dr. Shore with the intention of limiting the action of the anaesthetic to the heart alone. Before these experiments were made Gaskell wrote and informed me he had discovered that—

ligature of the two vertebrals and the two carotids does not entirely cut off all circulation from the brain region. After the ligature of these four vessels we have found, somewhat to our surprise, that a collateral circulation is set up, apparently through the vessels of the spinal cord, which is sufficient to keep alive the functions of the medulla oblongata. If chloroform be given to such an animal its respiration ceases remarkably quickly, before indeed the blood pressure has fallen to any great extent. Here when there can be only a small amount of blood containing chloroform reaching the respiratory centre, that centre is in such a condition as to be paralysed very quickly when the chloroform reaches it.

It is obvious from this statement that the cross-circulation experiments were foredoomed to failure, and that the essential condition—namely, to limit the action of the drug to the heart—could not be accomplished. They were finally demolished by Gaskell himself in the test cross-circulation experiment which he performed for my benefit on July 7th, 1894. In this experiment chloroform was administered to the "fed"—the animal whose heart was supposed to be isolated from its brain. The blood pressure fell in the usual way, and the normal sequence of events occurred. Dr. Gaskell was careful to explain to me that this was exactly what had happened in all his cross-circulation experiments, and he hoped I was now convinced that chloroform produces the fall of blood pressure by acting on the heart. I was convinced the anaesthetic had had access to the animal's brain, and begged him to make a *post-mortem* examination. Accordingly the aorta was injected, and he wrote next day to say that it was found that the ligature of the left subclavian artery was not properly secured, "so that the injection was able to pass both into the vertebral—that is, into the brain—and into the arm on that side. I have very little doubt that some blood must have passed along that vertebral," and chloroform also.

In the face of these facts it is manifestly unfair of the writer of the obituary notice to say, of Gaskell's cross-circulation experiments: "In this way, by limiting the action of the drug to the heart, it was conclusively proved that chloroform produces a fall of blood pressure by acting on the heart." On Gaskell's own showing, the action of chloroform was never limited to the heart in any of his cross-circulation experiments; consequently they proved nothing.

The matter has been finally disposed of by Mr. Lockhart Mummery's experiments with chloroform. In them the animals were beheaded under an anaesthetic and pithed. The heart was kept beating by artificial respiration and was practically the only organ left for the chloroform to act upon, so that it may be truly said that in Mr. Mummery's marvellous experiments the action of chloroform was limited to the heart alone. It was found impossible to stop the heart with chloroform given in the ordinary dose. When the air was completely saturated with heated chloroform the heart stopped, but it could always be revived, showing that it was not poisoned with chloroform, but was stopped either mechanically or by deprivation of oxygen. Mr. Lockhart Mummery's experiments completed the work of the Hyderabad Commission; they completed the proof that the fall of the blood pressure under chloroform is vasomotor and therefore in the first instance protective, and is not due to the action of the drug on the heart.—I am, etc.,

Hove, Sept. 28th. E. LAWRIE.

Universities and Colleges.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on September 24th, the President, Sir Thomas Barlow, Bart., K.C.V.O., being in the chair.

The War.

A report, dated August 14th, was received from the Committee of Management. The report referred to the decision to hold an additional Final Examination commencing on September 8th, and to the special conditions which applied to the candidates entering for the examination. The Committee of Management also recommended the Royal Colleges to adopt the following temporary regulations, namely:

1. That time spent as assistant on active service in one of His Majesty's ships or in a naval or military hospital, or any hospital utilized by the naval and military authorities not exceeding six months be allowed to count for the equivalent period of medical and surgical hospital practice and for three months each

of the required period of medical clinical clerkship and surgical dressership, provided that a satisfactory certificate is produced from the Principal Medical Officer under whom the assistant serves.

2. That medical clinical clerkships and surgical dresserships served before second examination in anatomy and physiology has been passed, be recognized.

The report was adopted.

Licences Granted.

Licences to practise physic were granted to 122 candidates who had passed the required examinations.

Harveian Commemoration.

The College resolved not to hold the usual dinner this year on the evening of the Harveian Commemoration (Monday, October 19th), but that the Oration should be delivered as announced.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on September 24th.

British Expeditionary Force.

The Secretary reported that Sir Anthony A. Bowlby and Mr. G. H. Makins had left England to join the staff of the Principal Medical Officer of the British Expeditionary Force in France as consulting surgeons.

The late Sir Henry Howse.

The following resolution was adopted by the Council:

That the Council hereby express their deep regret at the death of Sir Henry Greenway Howse, and their sincere sympathy with Lady Howse and the members of the family in the loss which they have sustained. The Council remember with gratitude the many services rendered by Sir Henry Howse to the College as its President, the active part he took in the business of the Council, and his long service as an examiner. They also record their appreciation of the prominent part taken by him in the advance of modern surgery, and his simple-minded devotion to the interests of the profession in which he held so distinguished a position.

Issue of Diplomas.

Diplomas of Membership were granted to 122 candidates found qualified at the recent examinations.

The War.

On the recommendation of the Committee of Management the Council adopted the resolutions with regard to the curriculum printed above in the proceedings of the Royal College of Physicians.

University of Liverpool.

Sir Frederic Eve was appointed to represent the College on the Council of the University of Liverpool.

CONJOINT BOARD IN ENGLAND.

THE Royal College of Physicians and the Royal College of Surgeons, at their meetings on September 24th, conferred diplomas of L.R.C.P. and M.R.C.S. upon the following candidates:

H. L. Addison, C. L. Balkwill, L. W. Barlow, S. Batchelor, T. B. Batchelor, J. D. Batt, L. W. Batten, K. B. Bellwood, G. A. Berkeley-Cole, K. Biggs, W. M. Binning, Z. M. Bishara, W. H. Blakemore, Marjorie A. Blandy, W. H. Boyd, J. J. Brown, O. D. Brownfield, F. B. Bull, B. Burnside, L. J. Cameron, G. D'R. Carr, E. Catford, P. R. Chevreau, G. F. Clifton, J. S. Cocks, W. T. Collier, W. J. Cook, L. P. Costobadie, R. I. Dacre, J. H. Dancy, T. W. David, P. V. Davies, M. de Costa, E. R. Dermer, M. Dia, S. O. Dolau, A. J. D'Souza, H. Dunkerley, J. A. Durante, M. K. El Kholy, R. F. Fagan, F. E. Feilden, H. D. Field, R. O. Fisher, J. E. Foley, E. D. Fountain, H. R. Friedlander, C. de W. Gibb, G. F. P. Gibbons, E. H. H. Granger, G. L. Grant, A. R. Green, S. L. Green, E. R. G. Greville, E. F. Guy, Norah Hamill, E. E. Herga, A. E. Huxtable, L. M. Ingle, R. W. P. Jackson, C. E. Jenkins, Rosalie Jobson, S. W. M. Jones, S. H. Keys, G. P. Kidd, N. S. Koch, G. C. Kusumbeker, F. C. Lapage, R. A. Leembruggen, A. B. Le Mesurier, K. W. Lewis, J. A. Liley, A. H. Little, I. H. Lloyd-Williams, E. R. Lovell, H. D. McCall, F. O. MacGibbon, R. MacGill, Helen M. M. Mackay, A. S. L. Malcolm, Edith M. Martland, C. J. D. May, H. L. Messenger, V. R. Mirajkar, L. W. Mortimer, A. R. Muir, W. D. Newcomb, G. M. Oakden, G. W. Parry, H. R. Parsloe, Margaret R. Paterson, J. E. Pearce, C. H. G. Penny, M. G. Pettigrew, L. R. Pickett, Emma C. Pillman, J. Pinder, J. A. Pridham, G. D. Read, F. T. Rees, H. C. C. Rennie, A. St. Johnston, E. A. L. Sansom, W. G. Shakespeare, J. P. Shaw, R. H. Simpson, B. H. Singh, H. Smith, C. S. Staddon, E. C. W. Starling, F. Sykes, L. H. Terry, G. R. S. Thomas, P. Thornton, N. Tribe, G. S. Trower, B. M. Tuke, J. L. Walker, E. Watson-Williams, G. C. Wells-Cole, L. H. W. Williams, M. U. Wilson.

ST. BARTHOLOMEW'S MEDICAL SCHOOL.

THE entrance scholarships in arts, value £100, has been divided equally between Mr. J. T. Long, the Coopers' Company's School, and Mr. D. Spurway, Bridgnorth Grammar School; and the Jeaffreson exhibition, value £50, has been awarded to Mr. A. B. Bernard, Dulwich College.

AN APPEAL TO EXAMINING BODIES.

The Higher Diplomas.

VOLUNTEER writes: In reply to "Another Volunteer," I should like to say that the reason for my first letter was the present shortage of medical officers, especially for the new Territorial units now being formed, coupled with the knowledge of at least one case in which an otherwise eligible man was holding back in order to go up for a higher examination. While admitting that the "reasons may be many and various" for staying at home, and acknowledging the magnificent response made by the younger members of the medical profession at the beginning of the war, the fact remains that most of the men now coming forward appear to be married men, many of whom are giving up their practices to do so. As most of the men who go up for such examinations as the F.R.C.S., M.R.C.P., and M.D. are young, unmarried, and at present not engaged in practice, I appealed to the examining bodies not to encourage them to stay at home. I do not include examinations for the M.B., which practically count as qualifying examination. Men are wanted, and wanted at once, as medical officers.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

A COUNCIL meeting was held on September 10th, at 34, Copthall Avenue, Surgeon-General Evatt being in the chair. The Honorary Secretary reported that the attempt of the Isle of Wight guardians to vary the Poor Law Orders by authorizing individual guardians to issue medical orders in cases of urgency had not succeeded, and the matter seemed to be in abeyance. The Council's report on the Poor Law Institutions Order, 1913, had been widely circulated, and had met with general approval.

Whole-time Appointments.—A letter was read from Dr. Clatworthy, Honorary Secretary of the Camberwell Division of the British Medical Association, stating that that Division strongly disapproved of the changes made by the Bermondsey guardians in the administration of outdoor medical relief. It thought that the guardians' latest schemes "are against the interest of the pauper patients of Bermondsey, and throughout Great Britain, and detrimental to the interests of medical practitioners." The Honorary Secretary reported that the Bethnal Green guardians had approached the Local Government Board for permission to follow the example of the Bermondsey guardians, and appoint whole-time infirmary medical officers in the place of the present district medical officers. The Council expressed its strong disapproval of the scheme, and decided that the association should oppose the action of the Bethnal Green guardians.

Burnley.—From Burnley it was reported that the local profession had decided to come to a temporary agreement with the guardians, and to support their arrangements for medical outdoor relief in the union during the war.

Temporary Appointment Negatived.—A letter was read from Dr. Todd of Wonston thanking the association for assistance given him in his dispute with the Winchester guardians, who had attempted to make his appointment a temporary one, when it should have been permanent, as he resided within his district. From a report in a local newspaper it appeared that at a recent meeting of the board the following letter was read from the Local Government Board:

I am directed to acknowledge the receipt of your letter of the 18th ultimo, relative to the proposal of the guardians to re-appoint Dr. Todd for a further period of three years. The Board have given consideration to this proposal, and are of opinion that the guardians should now proceed to make a permanent appointment, as contemplated by the regulations.

Insurance Act.—Dr. Major Greenwood was unanimously nominated again to represent the interests of Poor Law medical officers on the Insurance Act Committee of the British Medical Association.

The War.—A discussion followed on the effect of the war on the work of Poor Law medical officers. It was recognized that their work had already been increased, and that it would continue to increase. It was unanimously agreed that it was the duty of all Poor Law medical officers to do their utmost to assist members of the service who had volunteered, or been called upon for the military or naval service of the country. They might act as deputies in their absence, so that their offices might be reserved for them on their return. Some boards of guardians had taken charge of German prisoners. Exception was taken to attendance being given to these as part of the medical officer's duty. As the Treasury was going to pay the net expenses of these prisoners, an extra payment to the medical officer, if called upon, should be

reckoned among these expenses. The Council expressed the unanimous opinion that it would be very unjust to include such work in the ordinary duties of Poor Law medical officers.

REPORT OF MEDICAL OFFICER OF HEALTH.

Bootle.—Based on an estimated population at the middle of 1913 of 72,186 the birth-rate of the county borough of Bootle was 30.0 per 1,000 and the death-rate standardized for age and sex distribution was 18.4 per thousand. The infant mortality rate was 145 per 1,000 births, this rate varying from 106 in one ward to 205 in another. There is employed in Bootle a lady sanitary inspector, who appears to be doing very excellent work, but the medical officer of health, Dr. W. Allen Daley, considers that it would be a great advantage if there could be established in the borough a dépôt for the distribution of humanized or specially prepared dried milk and if a "school for mothers" or an "infant welfare centre" could be instituted. An epidemic of measles began in the autumn of 1912 in which year there were 62 deaths from the disease which continued in epidemic form until the summer of 1913; in the latter year there were 33 deaths. The disease spread from one school to another, but the incidence was never very great in more than one or two schools at the same time. Exclusion of individual children was carried out, and in most schools this was found sufficient to cope with the epidemic. It is interesting to record that among the 343 cases occurring among school children all recovered but one. Dr. Daley considers that to control measles effectually it is necessary to have an early knowledge of the existence of the cases; provision for isolation of all cases: means for nursing cases complicated by pneumonia; and to educate the public as to the seriousness of the disease and the danger of purposely exposing infants to infection in order to "get the measles over."

Medico-Legal.

LECTURER CHARGED WITH MANSLAUGHTER.

The *Times* reports that at Brentford, on September 28th, Orlando Edgar Miller, a teacher and lecturer at Bechstein Hall on "higher thought" and Christian Science, was committed for trial on a charge of the manslaughter of Miss Kate Addison Scott at the Miller Institute, Isleworth, in June last. The prosecution stated that Miss Scott was admitted to the Miller Institute on June 2nd, and died five days later. The prisoner, who was not a medical man, submitted her to treatment by drugs. Medical evidence was given that death was caused by paralysis of the stomach set up by the administration of hyoscine, and that Miss Scott's life could have been saved had a medical man been called in in time.

A report of the inquest on Miss Scott was published in the Journal of July 18th, page 156.

Obituary.

LIONEL CHARLES PEEL RITCHIE, Ch.M., M.D., F.R.C.S.E.,

ASSISTANT SURGEON, ROYAL INFIRMARY, EDINBURGH.

Mr. L. C. Peel Ritchie, whose accidental death from drowning in Granton Harbour on September 24th came as a great grief to his many friends, was the younger son of the late Dr. Peel Ritchie, the well-known physician in Edinburgh. The accident occurred in the afternoon when Mr. Peel Ritchie was on his steam launch. It is conjectured that he may have slipped and fallen overboard, possibly striking his head as he fell. He took the degrees of M.B., Ch.B. at Edinburgh University in 1900, proceeded Ch.M. in 1905 and M.D. in 1907, and he was made a Fellow of the Royal College of Surgeons in 1904. For some years he acted as surgeon to the Western Dispensary, Edinburgh, and not long ago he was appointed assistant surgeon to the Royal Infirmary. Mr. Peel Ritchie was unmarried.

Mr. David Wallace, C.M.G., writes: Mr. Peel Ritchie's record as a student, and in the various junior hospital appointments which he held, pointed to the probability of a distinguished career. After study in Germany and in Vienna he returned to Edinburgh, and at once began the work best suited to equip himself as a surgeon. He was imbued with the idea that it was through the medium of clinical pathology that modern surgery would develop, and to this branch he chiefly devoted himself. He was extremely neat with his hands, and interested in the preparation and mounting of naked-eye specimens, and at many meetings of the Edinburgh Medico-Chirurgical Society and the Edinburgh Branch of the British Medical Association his work was greatly admired. An original method of mounting specimens gained considerable repute, and was adopted by others. He worked for a time at opsonins, and in connexion with this he studied the vaccine treatment of disease, and especially differentiated bovine from human tubercle. He was one of the first to emphasize the importance of bovine or human tuberculin being used in cases in which one or other of these was the source of infection. Perhaps for his pioneer work in this particular branch he got less credit than he deserved. Mr. Peel Ritchie was a loyal colleague, and unsparing of himself in working for the seniors with whom he was associated. The profession is the poorer by his loss, and those who were his intimates mourn the early passing of a sincere friend who, while retiring and shy by disposition, was unsparing in his endeavours to do his duty, and was at all times to be relied on to support a friend in need.

HERBERT LESLIE HOPKINS, M.D.Lond.,

LIEUTENANT, R.A.M.C.; KILLED IN ACTION.

Lieutenant Herbert Leslie Hopkins, M.D.Lond., R.A.M.C., reported as killed on September 19th whilst serving with the Expeditionary Force in France, was assistant county medical officer of health for West Suffolk. Lieutenant Hopkins received permission from the county council on August 10th to volunteer for active service, and joined the forces at Devonport on August 15th, receiving the appointment of bacteriologist and pathologist to the Military Hospital there. On August 26th he sailed for France.

Dr. Hopkins was born on August 23rd, 1887. He was a student at Guy's Hospital, where he joined in 1905, having obtained an entrance scholarship in arts. During his student career he was a student demonstrator in physics, anatomy, microscopic pathology, and bacteriology, and pathological assistant to the surgical registrar. He took the degrees of M.B., B.S. of the University of London in November, 1911, and the diplomas of M.R.C.S. and L.R.C.P.Lond. in the same year. After devoting some time to special study in various departments at his medical school, he was appointed house-physician to the Derbyshire Royal Infirmary in February, 1912. A year later he was appointed house-physician to the City of London Hospital for Diseases of the Chest, which appointment he held until he commenced his work in West Suffolk in September, 1913. In July, 1914, he passed the examination for the degree of M.D. in State medicine in the University of London, being the only candidate in this very difficult examination. This achievement was specially praiseworthy, considering the amount of hard work which he was undertaking at the time in the county.

Dr. Bygott, County Medical Officer of Health for West Suffolk writes: By the death of Lieutenant Hopkins, the medical profession, especially the sanitary branch of it, has lost one of its ablest junior officers. Dr. Hopkins was a man of high attainments, a sound physician, capable surgeon, and good bacteriologist; there was, in fact, no branch of medical work in which he did not excel. During the year he worked with me I formed the highest opinion of his capabilities, and had his life been spared I feel sure there is no height in his profession to which he might not have attained. Dr. Hopkins was an all-round athlete. He was also an able musician, and his kindly disposition and pleasant manners made him a general favourite both in official and social life. Able, energetic, conscientious, and very thorough in his work, his death is a calamity to his colleagues and to the council he so loyally served. At the first call he offered for service at the front and freely gave himself for his country. The sacrifice of this young life, bright in fulfilment, and still more brilliant in promise, will be deplored by all, and the deepest sympathy felt for his family in this great sorrow

Dr. Charles Steele, who died at his residence in Clifton on September 20th, aged 76, was a native of Macclesfield, and was the son of the Rev. John Steele. He received his medical education at the Bristol Medical School and the Bristol Royal Infirmary. He took the diploma of M.R.C.S.Eng. in 1860, and that of L.R.C.P.Lond.

in 1861. He became F.R.C.S.Eng. in 1869, and graduated M.D.Durh. in 1880. He was for many years a member of the surgical staff of the Bristol Royal Infirmary, and at the time of his retirement was senior surgeon as well as consulting surgeon to the Bristol Hospital for Sick Children. He was at one time lecturer on physiology in the Bristol Medical School. Dr. Steele retired from practice six years ago. The funeral, which took place on September 24th, was attended by a large number of friends, including many members of his own profession.

SURGEON-GENERAL SIR ANNESLEY CHARLES CASTRIOT DE RENZY, K.C.B., Bengal Medical Service (retired), died at Ealing on September 24th. He was born on April 7th, 1828, the son of Dr. Thomas de Renzy, of Carnew, county Wicklow. He was educated at Trinity College, Dublin, where he graduated B.A. He took the M.R.C.S. in 1851, and entered the I.M.S. as assistant surgeon on July 29th in that year. He became surgeon on March 12th, 1864, and in 1868 was appointed sanitary commissioner of the Punjab, being the first to fill that post. On July 29th, 1871, he became surgeon-major; on November 12th, 1877, was promoted to deputy surgeon-general, and retired on December 9th, 1882. He served in Burma in 1852–54 with the Bengal Artillery, was present at the actions of Martaban, Prome, and Rangoon, and received the medal with clasp. At the outbreak of the Indian Mutiny of 1857–58 he was at Nasirabad in Rajputana, whence he escaped alone to Beawar, and served afterwards in the siege of Lucknow (medal with clasp). He served also on the north-east frontier of India, in the Naga campaign of 1879–80, when he was mentioned in dispatches, received the medal, and was given the C.B. (1881). On January 14th, 1882, a good service pension was conferred upon him; and on June 27th, 1902, nearly twenty years after his retirement, he was made a K.C.B. He was the author of various reports on sanitary subjects. After his retirement he filled for many years the office of chairman of the Jokai Tea Company, which presented him with his portrait in oils. His funeral, which at his own request was strictly private, took place at Golder's Green on September 26th.

CAPTAIN HENRY SHERWOOD RANKEN, who on September 25th died at Braisne in France of wounds received on September 21st, was the son of the Reverend Henry Ranken, minister of the parish of Irvine, Ayrshire, and was born in 1883. He was educated at the University of Glasgow, and graduated M.B., Ch.B. in 1905; he was afterwards house-physician and house-surgeon to the Western Infirmary, Glasgow, and assistant medical officer to the Brook Fever Hospital, London. He entered the Royal Army Medical Corps in 1909, was employed with the Egyptian Army, and was a member of the Sudan Sleeping Sickness Commission. In conjunction with Mr. H. G. Plimmer and Captain W. B. Fry he contributed reports on the experimental treatment of trypanosomiasis to the *Proceedings* of the Royal Society (1910-11). Captain Ranken became a member of the Royal College of Physicians of London in 1910, and his death deprives the corps of a very promising officer.

Medical News.

THE session of the Hunterian Society will be opened on October 14th, when Sir Dyce Duckworth will give the first Hunterian Society's lecture on "the patient and the disease," at 9 p.m.

MAJOR W. H. G. H. BEST, R.A.M.C. (Special Reserve), Principal Medical Officer, Southern Provinces, Nigeria, has been appointed an official member of the Legislative Council of the Colony of Nigeria.

THE first graduation ceremony of the University of Western Australia, the youngest university in the world, took place at Perth on July 29th. The university was born into the world of learning in 1913.

THE Research Defence Society has issued a popular leaflet, explaining the great value of antityphoid vaccination. It has also arranged for the treatment to be given, to anybody desiring it, at the society's office (21, Ladbroke Square, London, W. Telephone, 975 Park). Supplies of the leaflet can be had on application to the honorary secretary.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

LOUVAIN AND CAMBRIDGE.

DR. CLIPPINGDALE (London, W.) writes: I have been much interested in the recent articles on the University of Louvain. It seems fitting that the University of Cambridge should offer hospitality to the professors of the University of Louvain, seeing that it was at Louvain that Caius published at least three of his works. Another Catholic physician who fled to Louvain during the Reformation in England was Dr. John Clement, one of the medical men sent by Henry VIII to attend Cardinal Wolsey, when the Cardinal lay sick (and in disgrace) at Esher (see Cavendish's *Life of Wolsey*).

THE OSRAM LAMP.

SOME prejudice appears to have been excited against the Osram lamp on the supposed ground that it is a German product. It is true that the metal filament electric lamp, of which the Osram is one of the most conspicuous representatives, is an Austro-German invention; but if we are to dismiss the concrete result of every idea that has emanated from a Teutonic brain, we shall quickly find ourselves in an absurd position. As it happens, however, the Osram lamp is now practically from first to last produced by British hands and under British direction, and for their enterprise in acquiring the patents for the United Kingdom, and establishing what was, it is said, the first metal filament industry in this country, the makers of the lamp deserve the thanks of reflecting patriots rather than otherwise. In order to prove that the Osram lamp is a home product, the General Electric Company (Limited) threw open to representatives of the Press last week their large Osram factory at Brook Green, Hammersmith, where nearly sixteen hundred hands are employed, and lamps are turned out to the number of seven millions annually. Every delicate and intricate detail was demonstrated, and it was stated that 96 per cent. of the processes incidental to Osram lamp production, including the manufacture of the glass, are carried out in this country, and that provision for the remaining 4 per cent., hitherto carried out in Holland, is being established here. It was interesting to see the lamp actually growing under the hand, from the production of the tungsten metal in the laboratory to the last test of the finished product. The shaping of the glass, the fixing of the supports and the exhaust stems; the adjustment of the hooked carriers, made, we believe, of molybdenum, which hold in place the all but invisible filament, and the winding and sealing of the filament itself—an alloy of osmium and tungsten—called for the nicest manipulation; but of all the processes none was more fascinating to watch than the making of the tungsten wire. The particles of tungsten metal were first compressed by mechanical means into a bar, which was softened by a battery of blowpipes until the metal was capable of being drawn through a hole, one-thousandth of an inch in diameter, drilled in a diamond. In lamp production the machinery seems even more wonderful than the product.

DILATING THE PUPIL.

DR. LILIAS M. BLACKETT (C.M.S. Zenana Hospital, Multan Cantonments, Punjab) writes: In the BRITISH MEDICAL JOURNAL for April 4th, 1914, p. 800, I noticed the record by Dr. Prasad of Delhi, of a case of atropine poisoning in ophthalmic practice, which is remarked upon as unusual. Possibly the following case is of interest as adding another to the number: A healthy English boy, aged 4 years, was to be treated for internal strabismus. I instilled two drops of a 1 per cent. solution of homatropine and cocaine alkaloids in ol. ricini, into one eye only, and left the child till the pupil should be ready for examination. Almost immediately the mother sent a nurse hurrying to fetch me, and I found the child flushed and distressed, "feeling bad." The pulse had quickened and the temperature had risen slightly—to 99.4°. The flush was very marked on the face and forehead, and sweating was present; it was less marked on the abdomen. The symptoms lasted for about ten minutes and then subsided.

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TETANUS:

ITS PREVENTION AND TREATMENT BY MEANS OF ANTITETANIC SERUM.

BY

ALFRED MacCONKEY, M.B., B.C.Cantab., D.P.H.,

BACTERIOLOGIST IN CHARGE OF SERUM LABORATORIES, LISTER INSTITUTE OF PREVENTIVE MEDICINE.

Tetanus cannot be said to be of frequent occurrence under ordinary conditions of life in time of peace, but the outbreak of war is often followed by a comparatively large increase in the number of cases of this disease.

These notes, the fruit of work in a serum laboratory and of a slight cultivation of the literature, were gathered together some months ago without any idea of their appearing in their present form, and I now publish them with the object of calling the attention of those who have not specially studied the question to the value of tetanus antitoxin, which is inestimable when the serum is used properly as a prophylactic. It is to be hoped that at the present time systematic use will be made of this remedy, so that one, at any rate, of the hazards run by those who are offering their all on the battlefield in defence of their country may be reduced to a minimum.

Historical.

Tetanus, or lockjaw, is a malady common to man and many animals. It was recognized in ancient times, and it has long been known that it was likely to follow the soiling of wounds with earth, dust, and similar material. About the middle of the nineteenth century the impression gained ground that it was due to the production of a poison in the wound, and in 1884 Carle and Rattone reported that they had conveyed the disease by means of pus from a case of tetanus.

In 1885 Nicolaier produced tetanus in mice, guinea-pigs, and rabbits by inoculating them with garden soil, and the pus from the wounds carried on the infection from animal to animal. In the local lesion Nicolaier found a bacillus with a spore at the end, but he did not succeed in obtaining a pure culture.

In 1886 Rosenbach found a similar bacillus in a case of human tetanus, but he also was unsuccessful in his attempts to isolate it. Knut Faber (1889) separated the toxin from mixed cultures by means of filtration through porcelain. Kitasato in 1889 was the first who succeeded in securing a pure culture of this bacillus and in proving that it alone was the causal agent of the disease.

Distribution of the Bacillus.

The *Bacillus tetani* is widely distributed in nature, being found in the soil of most cultivated areas, in the streets of cities, and in fact in any place where there is faecal contamination. v. Lingelsheim recalls the examination by Bossano of samples of dust from thirty-eight towns, only twelve of which were found free from tetanus bacilli. Nicolaier found it in twelve out of eighteen samples of earth in the neighbourhood of Göttingen.

Chonkévitch (1911) demonstrated its presence in the intestinal contents of two horses out of eighteen, but Lukas (1914) was more successful, as he isolated it from the faeces of sixteen out of seventeen horses. Joseph (1910) examined the excreta of cattle, and came to the conclusion that the *Bacillus tetani* must be considered a normal inhabitant of the intestine of these animals. Römer (1909) also found it frequently in the faeces of adult cattle, but it was not usually present in animals under 2 years of age. Further, tetanus antitoxin was found in the blood of the older animals in more than 50 per cent. of the cases examined. Dolly (1910) found tetanus bacilli frequently in the wads of blank cartridges, and Graser (1910) reports a like result. Rabinowitsch (1907) found the spores of this bacillus in the water in which strawberries sold in Berlin had been washed. It is said to have been found in the mud of the Dead Sea.

This wide distribution of the organism emphasizes the necessity for extreme care in cleansing all wounds, but especially those which have come in contact with street dust, road sweepings, the soil of cultivated fields, garden earth, manure, etc.

Balnson (cited by Anders and Morgan) stated that during the American Civil War he was put with other prisoners into a shelter that had been used for horses, and that all the wounded placed there who did not die as a direct result of their wounds developed tetanus, and all of them died.

Cultivation of the Bacillus.

Under the usual conditions of artificial cultivation in pure culture, the tetanus bacillus will not grow in the presence of oxygen, and therefore it is termed an "anaërobic" organism. But if some nutrient medium be inoculated with the *Bacillus tetani*, and also with some oxygen-loving organism such as the *Bacillus subtilis* (hay bacillus), the absence of oxygen is not so necessary, as the *B. subtilis* will use up the oxygen and produce conditions in which the *B. tetani* can grow. Further, Tarozzi and others have shown that if pieces of animal tissue be placed in a liquid culture medium the bacillus will grow alone in the presence of oxygen, the dead tissue acting as a reducing agent.

In nature we get a combination of these two methods of producing conditions suitable for growth; in the earth we have organic materials to act as reducing agents and the aërobic organisms to use up oxygen; in contused and dirtied wounds we have the dead tissues and the pyogenic cocci to act in a similar manner.

Production of Tetanus Toxin.

Tetanus toxin is prepared by growing the tetanus bacillus in nutrient bouillon, of neutral or slightly alkaline reaction, which may or may not contain some reducing agent such as glucose, sodium sulphindigotate, etc. Special flasks filled with such a broth are inoculated with the tetanus bacillus, hydrogen gas is passed through the liquid and the flasks are placed at 37° C. for eight to ten days, when the bouillon is filtered through porcelain to remove the bacilli and spores. The filtrate forms the tetanus toxin. The toxicity of such a filtrate varies very much. A mouse of 15 grams weight might be killed in three to four days by $\frac{1}{50000}$ c.cm., or it might be necessary to inject $\frac{1}{10}$ c.cm. or even more. The susceptibility of different species of animals to this toxin varies very markedly; thus it is stated that if a certain quantity of toxin will just kill 1 gram of mouse the same quantity will kill—

6 grams of guinea-pig	1/600 gram of cat
12 ,, of horse	1/1000 ,, of goose
1/2 gram of goat	1/4000 ,, of pigeon
1/150 ,, of rabbit	1/30000 ,, of hen

from which it is evident that the horse is one of the most susceptible of animals.

Production of Tetanus Antitoxin.

In 1890 Behring and Kitasato showed that animals could be immunized against the tetanus bacillus and its toxin, and that then their blood had acquired a new property, so that when it was injected in suitable quantity into other animals these were protected against doses of tetanus which otherwise would be invariably fatal. This new property, they thought, was due to the development in the blood of immunized animals of a substance which, as it neutralized the toxin, they called "antitoxin." When the fluid part of the blood has been separated from the solids it is found that the antitoxin is contained in the plasma or serum. Horses are the animals most frequently used in the production of tetanus antitoxin for therapeutic purposes. As they are so highly susceptible to the toxin the utmost care is required during the process of immunization to avoid the occurrence of accidents. Therefore, at the beginning of the immunization the toxin is not given in the pure state, but only after having been modified by chemicals or by being mixed with antitoxin. Sometimes the toxin and the antitoxin are not mixed, but are given simultaneously in separate parts of the body or the antitoxin is given a few hours before the toxin. Whichever method is used at the commencement, the object is always the same, namely, to produce a basal immunity so that after a time the animal will bear without ill effect the inoculation of pure toxin. Therefore, as the injections are repeated the amount of modifying agent is gradually decreased until only toxin is given. When the establishment of a basal immunity has been demonstrated the

doses are increased more rapidly, and finally 200 c.cm., 400 c.cm., or 1,000 c.cm. of pure toxin are injected at one time. The inoculations are usually given subcutaneously or intramuscularly (though some use the intravenous route) at intervals of five to ten days. After the final dose a rest of one to three weeks is given before the animal is bled, when on an average 8 litres of blood are withdrawn. If considered desirable another bleeding may be taken at the end of a week, and followed by a third, fourth, or fifth at intervals of seven or eight days. The animal then has a rest of three weeks or more before being reimmunized. During a bleeding, as well as during all subsequent processes, every precaution is taken to prevent contamination. When the plasma or serum has been obtained separate from the corpuscles and clot, a small amount of preservative is added, and it is put away in a cool dark place for a time.

As soon as possible after a bleeding the serum is tested to ascertain whether it contains enough antitoxin to render it fit for therapeutic use. This standardization is carried out according to the American method introduced by Rosenau and Anderson (1908), a description of which has been published in *Bulletin* No. 43 of the United States Public Health and Marine Hospital Service and in the *Journal of Hygiene*, January, 1914.*

When required for use the serum is filtered through porcelain and distributed into small bottles. Before being sent out for therapeutic use antitetanic serum is tested—

1. *For absence of toxicity* by animal experiment, 10 c.cm. of serum being injected subcutaneously into each of two guinea-pigs of 250 grams weight. The animals must remain well.
2. *For sterility* by cultural experiment aërobically and anaërobically. The media inoculated with the serum must not show any growth.
3. *For non-excess of preservative*, 0.5 c.cm. of serum being injected subcutaneously into a mouse of 15 grams weight. The animal must not show more than temporary symptoms of intoxication.

From the time the serum is first obtained its antitoxin content begins to diminish. This diminution takes place most rapidly at first; later the serum appears to reach a condition of comparatively stable equilibrium, when the deterioration proceeds much more slowly. To compensate for this unavoidable loss there is usually put into each bottle an amount of antitoxin in excess of the quantity stated to be present, sufficient to make it probable that the bottle will, at the end of two years, contain the amount of antitoxin stated on the label, provided it is stored in a dark cool place—preferably in an ice-chest.

Prophylactic Use of Tetanus Antitoxin.

Tetanus antitoxin may be used (1) prophylactically, (2) curatively.

As a prophylactic tetanus antitoxin yields excellent results.

Animal experiment has proved:

That if a fatal dose of tetanus toxin be mixed together with a suitable amount of tetanus antitoxin, the mixture can be injected into animals without giving rise to any ill effect whatever.

That the effect of a fatal dose of toxin can be completely inhibited by the injection of antitoxin twenty-four hours previously.

That a fatal result can be prevented by injecting a suitable dose of serum within a short time of the injection of the toxin.

From these results it would naturally be expected that tetanus antitoxin would furnish good results when used as a prophylactic. Such has been the case.

Vaillard (1912, p. 224) refers to the practice of eight veterinary surgeons from 1898 to 1906. In that period they inoculated 13,124 animals after operations or accidental wounds, and not a single case of tetanus occurred among them. During the same time two veterinary surgeons alone saw 139 cases of tetanus among animals which did not receive the treatment. If the figures of Nocard and Labat are added, we get 16,917 animals which had a prophylactic injection, and among them one single horse had tetanus—in this case the antitoxin was given five days after the wound, and the attack was very benign.

Huguier (1909) used to give two injections of 10 c.cm. each of antitetanic serum, but for some years has been content to give one, and, although he operated in conditions under which infection was most possible, he has not had one case of tetanus among horses thus treated prophylactically.

Dieudonné (1909) records 1,009 operations for castration or hernia, with no case of tetanus, although only a single injection of serum was given. During the same period he observed 87 cases of tetanus among horses operated on or wounded which had not had a prophylactic injection.

Parker Hitchens (1910) has proved experimentally that a dose of 300 U.S.A. units of tetanus antitoxin will protect a horse against an infection fatal to the control animals.

Mohler and Eichhorn (1911) found experimentally that as regards an infection fatal to the control—

300 U.S.A. units given 48 hours after infection = no symptoms of tetanus.
500 U.S.A. units given 72 hours after infection = no symptoms of tetanus.
700 U.S.A. units given 96 hours after infection = no symptoms of tetanus.

Whereas—

250 U.S.A. units given 48 hours after infection = local tetanus. Recovery.
400 U.S.A. units given 96 hours after infection = local tetanus. Recovery.

They conclude "that 500 U.S.A. units is a sufficient dose of antitoxin for use as a prophylactic, even in cases where the infection has occurred four days prior to the injection of antitoxin."

The experience of veterinary surgeons is therefore all in favour of the value of the prophylactic use of antitetanic serum. The results of its use for a similar purpose in the human subject are scarcely less decisive.

Vaillard (1912) cites the experience of Biron and Pied. These surgeons did not use serum from 1895 to 1902, and had during those years 11 cases of tetanus, which were all fatal. In 1903 they began to use serum systematically in every case in which there was a chance of infection with tetanus. From 1903 to 1910 there was not a single case of tetanus in their practice, but during this period they received into their wards 4 cases of tetanus from outside; 3 cases of tetanus were taken into other wards of the same hospital, and there were 2 deaths from tetanus in the town. Vaillard refers also to cases of tetanus following wounds received during the celebrations on July 4th (Independence Day) in America. In 1903 there were 415 cases of tetanus. Then the prophylactic treatment was strongly urged and began to be made use of.

In 1904 there were	... ...	105 cases.
In 1905 ,, ,,	... ...	104 ,,
In 1906 ,, ,,	... ...	89 ,,
In 1907 ,, ,,	... ...	73 ,,

These figures suggest that, as the years passed and the beneficial results were recognized, more and more attention was devoted to prophylactic serum treatment.

Confirmatory evidence has also been brought forward by Brandenstein (1908); Bockenheimer (1909); Solieri (1910), thirty-five cases with one death; Graser (1910), no case of tetanus in eight years among patients treated prophylactically; Simon (1913, p. 236), citing Liell's analysis of 350 cases of July 4th wounds and tetanus, shows a mortality of 98 per cent.; only seven recovered and of these five had prophylactic treatment. In 1907 the editor of the *Journal of the American Medical Association* summed up the case as follows:

> A fairly careful scrutiny of the American literature for the past five years has not brought to light a single report of the development of tetanus in a person who received a timely prophylactic dose of tetanus antitoxin.

We thus see that the inestimable value of tetanus antitoxin when properly used as a prophylactic is beyond question.

In connexion with the words "properly used" in the previous sentence it is important to remember that antitetanic serum is an antitoxic and not a bactericidal serum. It has no power to inhibit the growth of the bacillus. All antitoxin can do is to neutralize the toxin produced. A certain amount (x) of serum can neutralize a certain amount (y) of toxin and no more. Any further

* The Lister Institute serum is thus standardized.

toxin produced can exercise its deleterious effect uninfluenced by the serum. Thus if an animal has been infected by tetanus and has received a prophylactic dose of serum it is protected against the toxin produced until the neutralizing power of the serum has been exhausted. When that stage is reached, then, as Vaillard puts it, if more toxin is elaborated one of three things must happen, either:

1. More antitoxin must be given; or
2. The animal must produce its own antitoxin; or
3. The animal must become intoxicated.

Further (cf. Tarozzi *supra*), the tetanus bacillus can multiply and produce toxin in blood clots, or in necrotic tissue, especially in the depths of a wound; and as there is some evidence suggesting that a sharp fall may occur in the antitoxin content of the blood about one week after an injection of antitoxin, it is advisable to repeat the injections weekly as long as there is any necrotic tissue in a wound. Again, there may be necrotic tissue in a wound several days old, or a large amount of dirt may be ground into the tissue—for example, run-over cases—and it may be decided to operate and thoroughly clean up such a wound. In this case it is advisable to give a prophylactic dose of antitoxin intramuscularly some hours before the operation, as acute tetanus has occurred within twenty-four hours of such operation, and has in all probability been due to the rapid absorption, by the fresh tissues laid bare by the operation, of a large dose of tetanus toxin which had been elaborated in the necrotic tissue, or was present in the dirt with which the wound was soiled.

Dose.

The amount of serum which should be given at each injection depends entirely upon the number of units in each cubic centimetre of the serum. We have seen above that for the horse, which is the animal most susceptible to tetanus poison, the Americans have experimentally demonstrated the dose to be 300 to 500 U.S.A. units; but in the case of man we have no such evidence. v. Behring recommends 10 to 20 units. These units are German units, and one of them is equal to about 40 U.S.A. units. The dose would then be 400 to 800 U.S.A. units.

Vaillard mentions 10 c.cm. as the dose for superficial easily-cleaned wounds, not grossly soiled; 10 c.cm. of the tetanus antitoxin sold by the Pasteur Institute usually contains from 500 to 1.000 U.S.A. units.

Tizzoni considers that 200,000 of his own units is an ordinary prophylactic dose. I have only examined one sample of Tizzoni's serum.[1] The bottle contained 5 c.cm. = 200.000 units Tizzoni = 125 units U.S.A.

Park and Williams (p. 243) say: "It is the custom at many dispensaries in New York City and elsewhere to immunize all Fourth of July wounds by injecting 1,000 units. None of these have ever developed tetanus."

From this last statement we would conclude that 1.000 U.S.A. units is an ample prophylactic dose, as it has always prevented tetanus, and that it is quite possible a smaller dose would answer the purpose. This apparently has been found to be the case by von Behring, Vaillard, and Tizzoni.

Where there is plenty of serum at the disposal of the surgeon there is no need to take thought about the size of the dose, and the ample dose of 1,000 to 1,500 units may be given with the knowledge that it is better to give too much than too little. But when, as may easily happen during war, there is only a limited amount of serum available, then the question of the smallest protective dose becomes important. This may be put down as about 500 U.S.A. units for a simple uncomplicated case, and as the amount of soiling of the wound and contusion of the tissues increases so should the amount of antitoxin be increased.

The interval of time between the infliction of the injury and the injection of serum also has to be taken into consideration when fixing the dose. Dönitz (1897) showed experimentally in rabbits that if an hour were allowed to elapse between the injection of the toxin and that of the serum it required forty times the neutralizing dose (*in vitro*) of serum to save the life of the animal. Studying the same question recently on guinea-pigs I found that while $\frac{1}{10}$ U.S.A. unit of antitoxin neutralized 100 minimal lethal doses (M.L.D.) of tetanus toxin *in vitro* it required 1 unit of antitoxin to neutralize 1 M.L.D. when given subcutaneously and simultaneously but in different parts of the body, but 3 units did not save life when given four hours after the toxin. When the serum was given twenty-four hours after 1 M.L.D. of toxin it required 2.000 units of antitoxin to save life, though even this amount did not prevent the onset of the disease. In these animals 1 M.L.D. almost always caused the appearance of slight signs of tetanus at the end of twenty-four hours after the injection of toxin.

It is obvious, then, that the earlier the prophylactic dose is given the more certain will be its effect in preventing tetanus, the smaller within limits will be the dose, and the smaller the cost of treatment. This last item may seem insignificant, and it is so when it is only a question of the prophylactic use of antitoxin; but it will be found to loom large in the picture when it is necessary to consider the value of tetanus antitoxin from a curative point of view.

Curative Use.

"Premonitory" Symptoms.—In all diseases the earlier the treatment is commenced the greater the chances of a favourable result. If we could recognize tetanus in a stage as early as we can diphtheria, it would no doubt be possible to obtain just as good results from serum treatment. But tetanus, unlike diphtheria, has no characteristic lesion which appears early in the attack and gives an indication of the nature of the disease. As it has been aptly put by Dr. C. J. Martin, the diagnostic membrane in diphtheria corresponds to the dirt or other foreign body carrying the infection of tetanus, and so, just as we give diphtheria antitoxin when we see such a membrane, so ought we to give tetanus antitoxin when we see any such infecting material in a wound. When the symptoms of tetanus are distinct it means usually that the disease has made very considerable headway, and has reached that stage which in diphtheria would be looked upon by some as beyond the reach of the beneficial influence of antitoxin.

This explains to some extent the uncertain results which follow the use of antitoxin as a curative agent, and it also raises the question whether there are any "premonitory" symptoms the presence of which might rouse a suspicion that a case was one of commencing tetanus. A study of some of the literature of tetanus has shown that commencing tetanus has been mistaken for "colds," muscular rheumatism, stiff neck, sore throat, influenza, mumps, etc., and it has even been suggested that many cases which have been diagnosed and treated successfully as cases of the above diseases have in reality been slight attacks of tetanus. With the object of directing attention to what may prove to be "premonitory symptoms," K. Evler (1910) relates 13 cases of tetanus with 2 deaths, which came under his personal observation, he himself being one of them. He describes these "premonitory" symptoms as being very varied and changeable.

A day or so after the infection there may be general restlessness, changing suddenly to a desire to rest.

Sleeplessness with distressing dreams, and it may be nightly delirium.

Difficulty in micturition due to spasm of the sphincter vesicae, which may last from a few minutes to half an hour.

Temporary giddiness, violent headache, excessive yawning.

The facial appearance changes and the patient looks anxious, though there is no risus sardonicus yet.

There may be trembling of the tongue which is put out to one side.

There is often a profuse sweating, and darting pains in various parts may occur.

The patient may have a feeling of chilliness, and there may be some swelling, without redness locally, of the injured member and throbbing of its arteries notwithstanding that the limb is raised.

Slight jerking may follow pressure on the flexor tendons, and these muscles may be noticed to be in a condition of increased irritability.†

[1] Cf. *Journ of Hygiene*, January, 1914.

† This condition of increased irritability of the flexor muscles has been noticed to occur in horses quite early in an attack of tetanus.

If symptoms such as these are present with a history of possible infection with the tetanus bacillus Evler considers that the administration of serum is justified. The later symptoms include:

Increased flow of saliva.
Reflex cramps of œsophagus.
Ocular symptoms; for example, nystagmus, strabismus.
Ear trouble, and spasmodic cough.
Tremors and clonic spasms which are not painful and which may not attract attention.
Pain persisting after muscular contraction induced by effort.
Swollen and reddened lymphatics, enlarged glands and tenderness in the infected region.

Evler infected himself during an operation and early symptoms developed within twenty-four hours. He presented nearly all of the symptoms mentioned. Serotherapy was commenced on the fifth day. Nutrient enemata became necessary on the seventeenth and eighteenth days, but on the nineteenth the teeth could be opened a little and recovery then progressed satisfactorily.

Evler's paper directed my attention to these "premonitory" symptoms, and since reading it I have carefully read through a considerable number of cases of tetanus described in the literature, and I have found that practically all the symptoms mentioned by Evler have been noticed as being present early in the disease. All have not been observed in the same patient, but usually the one or two present have been sufficiently prominent to force themselves upon the notice of the physician, and, if he had read Evler's paper, to remind him that such a disease as tetanus might be before him.

If tetanus be studied from the standpoint of these "premonitory" symptoms, there is reason to hope that as our knowledge of them increases so will our power of combating the disease be increased by our intervention earlier in an attack.

Curative Value.

The results following the use of antitoxin as a curative agent have been up to the present for the most part unsatisfactory. The reasons given to account for this are that the disease is usually diagnosed only when it has made considerable progress, and that the toxin is absorbed and travels along paths where it is beyond the influence of antitoxin.

In most cases the tetanus bacilli remain and multiply at the site of infection, and the toxin there produced is absorbed and carried to the central nervous system. As regards the path by which it travels, numerous observers have corroborated the findings of Meyer and Ransom that tetanus toxin is chiefly absorbed from the infected wound along the motor nerves of that region, and passes by direct extension into and through the spinal cord, but it may also pass into the circulation. It is also thought that in the nerves the toxin passes along the axis cylinder. Some observers, however, do not agree entirely with these conclusions.

Cernovodeanu and Henri (1907) have stated that if the vessels and muscles of a limb be tied while the nerves remain intact, a large amount of tetanus toxin may be injected without the production of tetanus, and they therefore conclude that, while some toxin is absorbed by the nerves, the larger part passes along the lymphatics and blood vessels.

Field (cited by Park and Williams) is of opinion that the toxin does not pass along the axis cylinder but along the lymphatics of the nerves.

Permin (1912-1913), from a critical analysis of the literature and from the results of a large number of experiments performed by himself, concludes that part of the toxin is taken up by the peripheral muscle nerves of the site of infection and passes along the axis cylinder to the spinal cord, and part passes into the lymph and blood and gaining the general circulation may pass directly to the ganglion cells of the cord or indirectly by means of the peripheral nerves.

There is, then, no unanimity of opinion as to the special road taken by the toxin, but what we know is that somehow the toxin passes along the nerves comparatively rapidly, but the amount found in the cerebro-spinal fluid is not great—on several occasions 1 to 2 c.cm. of this fluid have contained a fatal dose for a mouse but not more toxin than this.

The holding of the opinion that the toxin is absorbed by the nerve endings and passes along the axis cylinder—that is, in a situation which is beyond the reach of antitoxin in the blood—renders the curative treatment of declared tetanus practically hopeless, in the opinion of many clinicians. Antitoxin does not appear to penetrate readily into the substance of the peripheral nerves or of the central nervous system, and therefore all it can do is to neutralize only the toxin which has not been absorbed, or which is in the blood stream. (After huge doses of antitoxin, given intravenously, only traces of it can be found in the cerebro-spinal fluid.) So a cure can result from the employment of antitoxin only so long as a fatal dose of toxin has not been absorbed. Many cases are on record, and many experiments which seem to confirm this view.* The experiments of McClintock and Hutchings (1913) will serve to illustrate this point. They took sheep with long tails and inserted into the tip of the tail a splinter of wood which had been infected with tetanus spores free from toxin. The first symptoms of tetanus occurred six to eight days later, when the tail was at once amputated, 20 cm. being removed, and 4,500 U.S.A. units of tetanus antitoxin were given intravenously and repeated daily. Every animal but one died and the symptoms did not seem to be influenced by the serum. The amount of toxin in the blood, as proved by animal experiment, was at its maximum between the fifth and seventh day—2 c.cm. of blood containing a fatal dose for a guinea-pig of 350 grams weight. No toxin was found in 2 c.cm. of the blood twenty-four hours after the injection of serum.

From these results it has been concluded that as amputation of the tail had no effect upon the progress of the disease, and as there was toxin in 2 c.cm. of the blood before but not twenty-four hours after the commencement of serum treatment, therefore by the time that the first signs of tetanus appeared a fatal dose of toxin either had been absorbed and fixed, or if not completely fixed was in a situation where the antitoxin could not reach it to prevent complete fixation. This being the case, all that can be expected from serum treatment is the prevention of further absorption of toxin by blocking all the paths leading from the infected area—the nerve routes by injection into the nerves of the region affected and the vascular route by large injections into a vein—and all this merely in the hope that a fatal dose of toxin has not already been absorbed.

It is not certain, however, that these views are correct. They may be based on a false premiss, namely, that antitoxin must penetrate into the cell before it can neutralize the toxin attached to the cell.

But the recent work of Kraus and Amiradzibi (1910) suggests that, contrary to the usual acceptation, a toxin must pass out of a poisoned cell before it can be neutralized by its antitoxin, as the latter cannot penetrate into the cell; and further, that the rate of diffusion of the toxin out of the cell is accelerated by the presence of antitoxin in the surrounding fluid.

Moreover, von Graff and Menschikoff (1912) have shown experimentally that it is possible to extract tetanus toxin from liver cells by means of antitoxin. They allowed the cells to remain in contact with a solution of toxin during one hour at 37° C. Then they removed the cells and washed them free from surrounding toxin. Some of these washed cells were injected into mice and caused tetanus. The remainder were soaked in a solution of tetanus antitoxin for one hour at 37° C., and then removed from the serum, washed free from surrounding antitoxin and injected into mice, which remained quite well. Control experiments showed that while toxin could pass into the cell and be so firmly fixed that several washings would not remove it, serum, on the other hand, could not pass into the cell in any demonstrable quantity. It is justifiable, therefore, to presume that the toxin was extracted from the cells by the surrounding antitoxin, and that it is advisable to have as high a concentration of antitoxin as possible in the fluids surrounding poisoned cells.

This view of the action of the antitoxin gives more encouragement to the physician to persevere vigorously with serum treatment. It emphasizes the advisability of employing very large doses of serum so as to saturate

* Note.—For a most excellent review of the literature of this subject, cf. Permin, 1913.

the system with antitoxin, and thus not only neutralize any toxin which may be passing from the focus of infection into the blood, but also to extract toxin from cells into which it has already passed.

Such treatment, suggested by the results of experimental research, is practically identical with that employed by many physicians to-day as the outcome of years of bedside observation.

Ernest E. Irons (1912) analysed the 252 cases collected by Anders and Morgan* and classified them. The incubation periods of the fatal and non-fatal cases showed practically the same relation. His figures are:

			Mortality.
Total number of cases	252	...	71%
Cases treated without serum ...	142	...	77%
Cases treated with serum... ...	112	...	63%
Cases treated with small amounts of serum	71	112	70.4%
Cases treated with large amounts (100 c.cm. or more) of serum ...	41		51.0%

If we compare the mortality of all the cases treated with serum with that of the cases treated without we must allow that the use of serum brings little if any advantage. But if we compare the mortality in cases treated *with large amounts of serum* with the mortality of the cases treated *without serum*, then the beneficial results following such use of serum become manifest.

W. H. Park (1910) says that when a large intravenous dose is given within a few hours of the onset of the symptoms the effect is marked. More than 50 per cent. of the patients so treated recovered, "some of whom I feel perfectly sure would have died without the serum." At the first sign of actual tetanus 10,000 to 20,000 U.S.A. units should be given intravenously, and followed every twelve hours by further injections. The later injections may be given subcutaneously if the intravenous route becomes difficult. Torres (1912), after an experience of 110 cases of acute tetanus in eight years with a mortality of 32.7 per cent., gives an intravenous injection of 120 c.cm. of serum as the rule. He repeats it twice, or even oftener, in the first twenty-four hours if necessary, and then gives 100 c.cm. daily if the symptoms are still present.

Penna (1913) also gives injections of 100 c.cm. intravenously once or twice in the twenty-four hours, and keeps it up for several days *even though the patient may be improving*.

Van der Bogert (1913) cites:

1. Strock (1907) who treated his cases of tetanus during six years with small doses of serum and had a mortality of 100 per cent. Then he treated 5 cases with very large doses and the mortality was 20 per cent.

2. The 3 cases of Young (1912) which appeared hopeless, but recovered—a boy had 150,000 U.S.A. units, a man had 220,000 U.S.A. units, and a girl of 14 years had 587,000 U.S.A. units.

Many other similar records could be quoted, if space permitted, to show that among those who not infrequently meet with cases of tetanus the tendency of late years has been to use much larger doses of antitoxin than formerly, and that the use of these large doses seems to be followed by more uniformly beneficial results than were observed in former years when only small doses were employed.

Modes of Administration.

Besides the size of the dose the mode of administration of the serum has an influence upon the result. Serum may be given—

1. Intracerebrally.
2. Subarachnoidally.
3. Intraneurally.
4. Intravenously.
5. Intramuscularly.
6. Subcutaneously.

1. Intracerebral injections have given very good results in animals and in several cases in man also, but the risk of permanent injury to the nervous system has prevented this method coming into general use. Ballance (1914), however, suggests that the introduction of serum into the lateral ventricle might be used in tetanus, as he thinks that with reasonable care the operation as a whole is free from danger.

3. Intraneural injections were strongly recommended by Rogers (1905), but they are not free from risk, and are seldom used.

4, 5, and 6. As regards the intravenous, intramuscular, and subcutaneous route the final result is the same in all three. The only difference is in the time taken for the antitoxin to be absorbed and distributed throughout the body. In the case of the intravenous method it is a question of a few minutes; of the intramuscular, of a few hours; while after subcutaneous injections it is one to two days before the maximum concentration of antitoxin in the blood is reached. There remains the subarachnoidal route to consider.

Descos and Barthélemy (1902) experimentally showed that intraspinal injections gave the best result.

Von Graff (1912) carried out a number of experiments in the Serotherapeutic Institute in Vienna, and came to the conclusion that this route was the most effective, and that next to it came the intravenous.

Permin (loc. cit.) considers that intraspinal are just as good as intraneural, and are better than intravenous, inoculations.

W. H. Park (1914, personal communication) has treated 6 successive cases of tetanus by intraspinal injections, and all have recovered.

Hofman (1907) states that of 13 cases which had serum beneath the skin, 53.8 per cent. died, whereas of 16 cases which had serum subdurally only 12.5 per cent. died, and these 16 cases included a number of extremely severe cases with brief incubation periods. He recommends that the intraspinal injections should be given every two to three days and the subcutaneous daily. Graser (1910) also advises serum by intralumbar injection every two to three days and daily beneath the skin. Gobiet (1904), Neugebauer (1905), Jerie (1908), and Buffagni (1910) and others speak of the good effect of intraspinal injections of antitoxin, and Buffagni says:

> 1. After the first injection one observes an increase in the symptoms, reaching a maximum in forty-five hours, and then passing off and giving place to improvement.
> 2. The organization of the patient reacts to each injection of tetanus antitoxin by a rise in temperature of 1.5° to 2°C., which passes off in ten to twelve hours.
> 3. After each injection more or less distinct improvement of all conditions occurs, and especially of the tetanic attacks.†

The method of procedure in the serum treatment of a case of tetanus would then be somewhat as follows:

1. The injection beneath the arachnoid, or in very severe cases even (Ballance, 1914) into the lateral ventricle, of as large a dose of antitoxin as may be conveniently given—for example, 3,000 to 8,000 U.S.A. units.
2. The injection into a vein of a large dose—9,000 to 16,000 U.S.A. units—with the object of flooding the system with antitoxin as soon as possible.
3. The injection of antitoxin intramuscularly, and
4. The repeated injection of antitoxin subcutaneously—both with a view of keeping up the concentration in the blood.

Clinical experience both in man and horse has shown that it is absolutely necessary to continue the injections, even though improvement has apparently set in, as otherwise the symptoms are very liable to return—in some cases with greater intensity than at first.

"Idiopathic" Tetanus.

The absence of any history of injury sometimes makes the diagnosis of tetanus at first very difficult. In the past such cases were classed as rheumatic or idiopathic tetanus, but we know now that for tetanus to declare itself the tetanus bacillus must somehow have gained entry into the body.

It has been shown experimentally that tetanus spores free from toxin or foreign material may be injected into animals without causing tetanus, and that they can become disseminated in the body and remain latent for a time. Then if suitable conditions arise, such as the formation of a necrotic area in the tissues, such latent spores may germinate and give rise to tetanus.

Canfora (1907) infected animals subcutaneously with tetanus bacilli and found that they spread all over the body. He also injected toxin-free tetanus spores and found them in the blood, twelve hours later. They may remain in the blood for ten to fifteen days, during

* *Journ. Amer. Med. Association*, July 29th, 1905, p. 314.

† These observations of Buffagni are very like those made by some physicians with regard to intraspinal injections of antimeningococcic serum.

which time very slight injuries are sufficient to set up tetanus. Later, the spores became localized in the liver, spleen, lungs, kidneys, lymph glands, and marrow, where they may remain latent for some months.

Semple (1911) came to the conclusion that an injection of a solution of quinine might cause enough destruction of tissue to produce conditions favourable for the germination of spores.

It behoves us, therefore, to bear tetanus in mind, even though there be no history of injury, whenever we meet with symptoms similar to the premonitory symptoms mentioned by Evler and found to be present in so many cases of this disease.

Preservatives in Serum.

Most serums have a small amount of preservative (phenol, trikresol, chloroform) added to them, and when doses such as 120 c.cm. are given at one time the presence of preservatives requires consideration and raises the question as to how much preservative can be given without ill effect.

Baccelli (1911), who strongly recommends that tetanus should be treated with subcutaneous injections of carbolic acid, states that not less than 1 gram should be given daily; J. H. Haberlin (1913) in a case of hydrophobia gave 22½ grains of phenol subcutaneously in twelve hours without any evidence, either locally or generally, of any deleterious effects; Natoli (1899) injected 5.25 grams of phenol subcutaneously in eighteen days; and Ascoli (1898) gave 75 c.cm. of a 3 per cent. solution without any subsequent toxic symptoms.

The probability of ill effects being due to the preservatives in serum when administered intrathecally has been fully discussed and negatived by Flexner in the case of automeningococcic serum. It may, then, be safely assumed that the amount of phenol put into serum is not likely to have any serious consequences.

Conclusions.

Tetanus may be cured by the administration of antitoxin, provided that the serum treatment is begun early in the attack and is pursued vigorously and continuously. Unfortunately in the present state of our knowledge a diagnosis is as a rule made only when the disease is in a stage so advanced as to make the results of treatment uncertain, even though very large doses of antitoxin are used. These large doses are costly, and place the serum treatment of tetanus practically out of the reach of those with shallow purses—unless, of course, the serum be provided by the State. But in the prophylactic use of serum there is within the reach of every one a means of checking the disease. It has been proved beyond the shadow of a doubt that, wherever the prophylactic use of antitoxin has been carried out systematically, tetanus may be said to have disappeared. Tetanus should therefore be looked upon as a preventable disease, and, when one realizes this, there flashes across the mind the memorable question, "If preventable, why not prevented?"

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INSECTS AND WAR:

IV.—*THE FLOUR MOTH IN SOLDIERS' BISCUITS.*

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Where moth . . . doth corrupt.—MATT. vi, 19.

It is not only insects which destroy the continuity of the soldiers' integument which play a part in war. It has been well said that an army marches on its stomach, and the admirable commissariat arrangements which have been so distinct a feature of the British Expeditionary Force during the present war are the result of much patient care and attention during times of peace. Every one knows that recruits are frequently rejected for some defect in their teeth. A soldier, indeed, requires strong teeth, for his farinaceous food in the field is largely supplied to him in the form of biscuits—not that "moist and jovial sort of viand," as Charles Dickens described the Captain biscuit, but hard tack which challenges the stoutest molars.

During the summer of 1913 the authorities of the British Museum at South Kensington arranged a very interesting but somewhat gruesome exhibit in the Central Hall. The exhibit consisted mainly of army biscuits covered by horrible webs or unwholesome looking skeins of silky

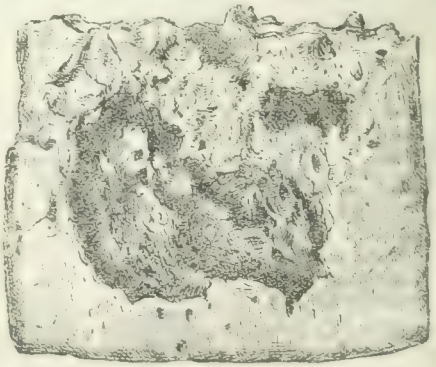


Fig. 1.—*Ephestia kühniella*. Moth-infested biscuit.

threads, eaten through and through by the larva of a small moth. Together with these were certain long metallic coils and other apparatus used in investigating certain phases of the life-history of the moth and the manufacture of the biscuit. The exhibit illustrates an article[1] which had recently appeared on the baking of army biscuits, by

Mr. Durrant and Lieutenant-Colonel Beveridge, on the "biscuit moth" (*Ephestia kühniella*), a member of the family Pyralidae, and records their efforts to arrive at a means of checking a very serious pest to service stores.

The biscuit moth, *E. kühniella*, was described two years before its larva had been noted damaging flour at Halle. There has always been a certain amount of international courtesy in attributing the *provenance* of insect pests to other countries, and when *E. kühniella* began, about ten years later, to attract attention in England it was believed to have been introduced from the United States via the Mediterranean ports in American meal. The American origin was, however, denied by Professor Riley, who, in a letter to Miss Ormerod, states, "I think I can safely say that this species does not occur in the United States." At the moment of writing these words Professor Riley was in the act of packing up to leave Washington for Paris. Possibly he was excited, certainly he was inaccurate, for the species was then known to occur in Alabama, North Carolina, and other States. In fact to-day it is recorded throughout Central America and the Southern States and in many more temperate regions of the New World.

The moth itself is rather insignificant, small, of a slaty-grey colour. The eggs, rather irregular ovoids, are laid on the biscuits, into which the issuing larvae bore. These latter are soft, and like most creatures which live in the dark, whitish but with a tinge of pink; the head, however, is brown and hardened. The larva is constantly spinning silken webs or tissues, which in the most untidy way envelop the biscuit, and finally entombs itself in a whitish silken coccon, and herein it ultimately turns into a chrysalis or pupa.



Fig. 2.—*Ephestia kühniella*. × 2.

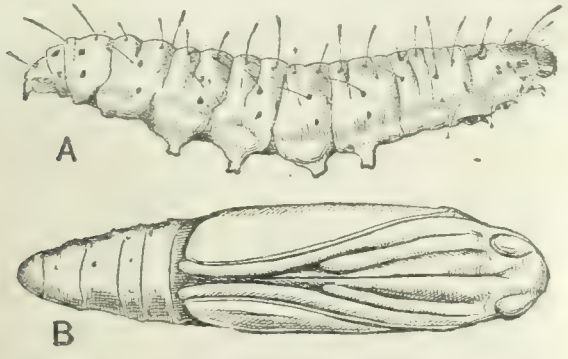


Fig. 3.—*Ephestia kühniella*. A, Larva; B, pupa. Greatly magnified.

Another Pyralid moth—*Corcyra cephalonica*—makes similar unpleasant webs all over biscuits, rice, or almost any farinaceous food, but, since its larvae are unable to live unless there be a certain degree of moisture in the biscuit, it is less injurious to baked food than the *Ephestia*, for whose larvae nothing can be too dry. *Corcyra* seems originally to be a pest of rice, and to have been introduced into Europe with Rangoon rice, but it readily alters its diet in new surroundings, and will live on almost any starchy stuff.

The problem that Lieutenant-Colonel W. W. O. Beveridge and Mr. J. H. Durrant, of the British Museum, set out to solve was at what stage in the manufacture of the army biscuits were they infested, and whether any steps could be taken to avoid or minimize such infestation.

First, as to infestation. Biscuit must become infested either (1) at home before packing, (2) during transit, or (3) in the country where stored. The biscuits are packed in tins, hermetically sealed, and enclosed in wooden cases to prevent injury; it was therefore obvious that if insects could be found within intact tins it would be demonstrated at once that infestment must have taken place in the factories, and not subsequently. With a view to determine the origin of infestation sample tins were withdrawn from stocks at various stations abroad, and inspected at Woolwich by experts, and tins which, after careful examination, had been pronounced intact, were found to contain

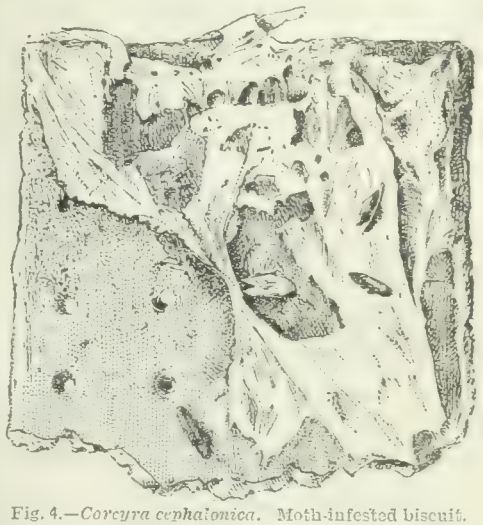


Fig. 4.—*Corcyra cephalonica*. Moth-infested biscuit.

Ephestia kühniella and *Corcyra cephalonica* in various stages of development, thus proving conclusively that infestation had taken place in the factories before the tins were soldered, and indicating that preventive or remedial measures must be undertaken within the factories themselves.

It is obvious either that the heat acquired by biscuit in the process of baking is insufficient to destroy ova present in the moist dough, or that moths and beetles deposit their ova in or on the biscuits after baking, and during the process of cooling and of packing in the tins. Cooling before packing is necessary, to allow the moisture in the centre of the biscuit to become evenly distributed throughout, and it is during the time occupied in cooling and packing that the biscuit is exposed to the greatest risk of infestation; any risk occasioned by subsequent injury to the case must be quite exceptional, and is probably negligible.

By a series of most ingenious experiments, the two investigators were able to determine the temperature in the centre of the biscuits during the various stages of its baking and cooling. Army biscuits are made from dough which contains about 25 per cent. of water. When stamped out they are placed in rows on the moving floor of an oven and are submitted to a high temperature for twenty minutes whilst they travel over a space of 40 ft. The dough at first contains 25 per cent. of water, but during baking this is reduced to about 10 per cent., and the moisture now collects in the centre of the mass of the biscuit in consequence of the external hardening or "caramelization" as it is called. The holes which are pricked in so many biscuits of course assist this process.

Too little attention has been paid to the internal temperature of edibles which are being cooked. Very few people, for instance, have any conception of what is going on in the centre of a joint of meat whilst it is being roasted or boiled. After two hours' boiling the temperature in the centre of a large ham has only risen to 35° C.; after six hours' boiling to 65° C., and it is only after ten hours' continuous boiling that 85° C. is reached. I have, I am sorry to say, no conception as to how long a ham ought to be boiled, but it is obvious that to be really effective against such parasites as *Trichinella*, the cooking of pork and ham should be more prolonged and thorough than seems to be customary. But this is another story.

However, to return to our biscuits. The Colonel and Mr. Durrant devised an ingenious instrument which determined the temperature of the centre of the army biscuits. When the tip of their recording apparatus lay within the moist area of the baking biscuit, the temperature registered was only a little over 100° C., but when the tip of the instrument rested on the hard "caramelized" portion much higher temperatures were observed, even as high as 125° C. Colonel Beveridge and Mr. Durrant were thus able to

establish the fact that the temperatures of the biscuit were such during baking as to rule out the idea that the ova, which do not survive a temperature of 69° C. for twelve minutes, were deposited in the biscuit before cooking.

After the baking is completed the biscuits are always cooled, and it is at this period that they are most exposed to risk of infestation by *Ephestia kühniella*. This is an insect of great nuisance in flour mills. So persistent and numerous are they at times that they clog the rollers with their cocoons, and sometimes completely stop them. The webbing of the elevators in the mills gets covered with them and their silky skeins, and also stops working. They mat together the flour and meal with their silken excreta, and so uniform is the temperature of the mill, and so favourable to the life of the insect, that they complete their life cycle in this country in two months, and in the warmer parts of America even more rapidly. In well heated mills the proceeding is continuous, so that six generations at least may be produced each year.

The only method of getting rid of this pest is a complete and thorough fumigation of the premises with carbon bisulphide. But, as this substance is not only poisonous but inflammable, it is well to get a chemist to undertake the proceeding, and also to notify the insurance company. Fumigation by sulphur ruins the flour. Another remedial measure is that of turning the steam from the engines on to all the infected machinery and walls.

That this destruction of the biscuit is a matter of considerable importance is shown by the fact that biscuit rations exported to the colonies in hermetically-sealed tins have become quite unfit for consumption, and this has been noted in places as far distant from each other as Gibraltar and Malta, the Sudan, Mauritius, Ceylon, and South Africa. But it is also an old trouble, as shown by the following quotation from the diary of Sergeant Daniel Nicol, of the 92nd Gordon Highlanders, which he kept during the expedition to Egypt in 1801:

> Some vessels were dispatched to Macri Bay for bullocks and others to Smyrna and Aleppo for bread which was furnished us by the Turks, a kind of hard dry husk. We were glad to get this, as we were then put on full rations, and our biscuits were bad and full of worms; many of our men could only eat them in the dark.[2]

With regard to the actual baking of the biscuit, Colonel Beveridge and Mr. Durrant suggest that the temperature conditions during the process of cooling should be made as unfavourable as possible for the moths by introducing screened cool air which can be forced in at one end and sucked out at the other. Could such a scheme be adopted it would be difficult, if not impossible, for the moths to lay their eggs, and the biscuit would thus be more rapidly cooled. In any case it should not be difficult to ensure that the cooling takes place in some chamber which is practically free from these destructive moths.

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THE Ohio State Board of Administration has, we learn from *Science*, established a psychological bureau for the study and care of juvenile delinquents. The chief of the bureau, Dr. Thomas H. Haines, Professor of Psychology in the Ohio State University, has a staff of eight assistants, including three psychologists, a diagnostician, and a bacteriologist.

THE Belgian News Fund has arranged to publish weekly a small newspaper, entitled *L'Echo de Belgique* (*De Stem uit België*), the object of which is to supply information primarily to the Belgian refugees of current events, both here and in their own country. Owing to the war, many thousands of Belgians have lost all trace of their families and friends, and a special feature will be the free insertion of notices asking for information of their whereabouts and welfare. The paper is printed in French and Flemish and published at 43, Palace Street, S.W., and 69, Lombard Street, and it is hoped that Belgians resident in this country and other sympathizers will assist the publication by subscribing 5s., which will entitle them to free copies weekly until the end of the year. Copies of the paper will be distributed gratis to the refugees at the various places where they are being accommodated. *L'Echo de Belgique* is published with the authorization of the Belgian Minister, Count de Lalaing, and it is issued for a philanthropic purpose and not as a commercial enterprise.

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF DERMATOLOGY AND SYPHILOLOGY.

ALFRED EDDOWES, M.D., President.

DISCUSSION ON THE TREATMENT OF SYPHILIS.*

OPENING PAPERS.

I.—J. E. R. McDONAGH, F.R.C.S.

(Abstract.)

UNTIL we know the cause of a disease its treatment must be empirical. Knowing the cause of a disease, we cannot gauge the effects of the treatment until a sufficient number of years has elapsed to enable us to do so from clinical experience, since no tests can be sufficiently relied upon to take the place of clinical experience.

Most of you are no doubt aware that, in my opinion, the *Spirochaeta pallida* is not the actual cause of syphilis. It is merely the adult male of a complicated life-cycle. There is also a female, and spores result from the fertilization of the female cell by the *Spirochaeta pallida*. The adult sexual bodies are the main cause of the symptoms, while the spore is the cause of the disease.

Before describing to you the way in which I now treat syphilis, and giving you the reasons why such and such a course is adopted, it would be as well to make a few generalizations the knowledge of which is important, and which must be understood before treatment is prescribed.

It must be remembered that the tendency of all protozoal diseases, the symptoms of which are dependent upon the completion of a life-cycle by the organism causing infection, is towards spontaneous cure, as, the longer the parasite is in the host, the less able is it to complete its cycle and the less influence treatment has upon it.

Although treatment may do much to prevent the organism from completing its life-cycle, the host does more, and one may say, in effect, that treatment is only able to prevent the parasite from completing its cycles provided it is prescribed sufficiently early in the onset of the infection.

Salvarsan will kill the spores in the earliest stages of the disease, while it is without effect in the late stages. In the late stages the symptoms vanish, not from destruction of the spores, but from the destruction of the ripe gametes to which the spores give rise. Therefore it behoves us, more than ever before, to diagnose a recent infection as soon as possible, and without delay to give treatment which will be sufficient to cure the case.

Excision of the primary sore, when possible, is, in my opinion, essential, and a clinical observation in support of this view is the fact that many primary sores which become phagedaenic are not followed by further evidences of syphilis, or, in those which are followed by symptoms, their onset is frequently delayed for months.

Owing to the fact that salvarsan is the most potent antisyphilitic drug we at present possess, the remarks I have to make about the treatment of syphilis can be curtailed if they are made to centre around this drug. In discussing the action of salvarsan, reference will be made to the preparation which is now supplied, since it is considerably feebler in its action than the drug which was first used.

The majority of the cases of primary syphilis to which one injection was given over four years ago are now both clinically and serologically sound.

The majority of the cases of primary syphilis to which two injections of salvarsan were given when the drug

* This discussion took place in the combined Sections of Dermatology and Syphilology and of Naval and Military Medicine and Surgery.

came upon the market—that is three and a half years ago—have developed symptoms since. Of those which were already in the stage of general infection, nearly all showed recurrence within a year, and many within three months.

It is only since the rule has been followed of giving as many injections as are necessary to procure a negative Wassermann reaction in the blood taken between the seventeenth and forty-eighth hour after the last injection, and to prescribe a year's treatment with mercury, that the fewest recurrences have been observed. Probably, in a few more years, many of those cases which have not so far recurred will develop symptoms, but, until our knowledge increases, this procedure appears to me to be the best.

In the primary stage, provided sufficient injections of salvarsan are given to procure a negative Wassermann reaction in the blood withdrawn within the limits above specified, and that the treatment is further augmented by twenty-four intramuscular injections of mercury, given in three courses of eight weekly, within the twelve months, in the light of our present knowledge a cure is possible. In the secondary stage a cure may possibly be obtained, and it is wiser to continue the mercury for another year.

Success for the same treatment in the latent stage of the disease and in the stage of early recurrence is improbable, while in the stage of late recurrences, gummata, nervous syphilis, etc., a cure is impossible—that is, broadly speaking, since spontaneous cure may occur in any stage.

In the primary stage three to five injections, and in the secondary stage six to nine injections are required. It is best to give the five and nine injections respectively, as the Wassermann reaction is apt to be contradictory. In late cases, even fifteen or more injections of salvarsan may fail to procure a negative Wassermann reaction, and supposing a negative Wassermann reaction be obtained, it is not long before it becomes positive again.

In late cases, it appears wiser to give two or three injections of salvarsan to heal the symptoms, and to augment it with a course or two of mercury and iodides, meanwhile informing the patient that he should place himself under treatment again the moment the symptoms reappear. Such a patient may go for years without a recurrence, and, should symptoms reappear, they will probably do so in the site of the previous recurrence.

It is universally agreed that the best way to give salvarsan is intravenously, and it is my opinion that the requisite number of injections should follow upon one another at intervals of not longer than seven days. I usually prefer to give the injections every four days.

A most important point to remember in salvarsan treatment is that if too few injections are given to a patient with infectious symptoms, should the symptoms recur, they will simulate those for which the drug was prescribed. Several cases have been seen of patients who had condylomata, for instance, which disappeared under two injections of salvarsan, returning within three months with condylomata again, in spite of the fact that mercury was given as well. After insufficient salvarsan treatment, symptoms recur before the mercury, which has been prescribed afterwards, usually in the form of pills, has had time to exert its action. Insufficient salvarsan treatment in the early stages of syphilis will do more harm than good, as it gives the patient a false sense of security, and renders him for a longer period a danger to the community. I have seen six cases within the last year of patients who had had two injections of salvarsan infecting others, when they themselves thought, and had been told, that they were cured. Another reason why I prefer to give several injections together is because the organisms reach the nervous system very early in the disease, because the onset of nervous symptoms is largely dependent upon the treatment that has gone before, and because the only way in which nervous lesions can be prevented from occurring is by sterilizing the whole body, which can best be achieved by several injections given quickly after one another.

Although it is generally held that nervous diseases are on the decrease, I am quite of the opposite opinion, and I feel very strongly that, owing to the spasmodic and insufficient manner in which salvarsan is prescribed, tabes and general paralysis of the insane will in a few years' time increase, even more rapidly than is the case to-day, and that they will appear more quickly after the infection than hitherto. A still further reason why I prefer to give a series of several injections of salvarsan is because by so doing I have seen healthy children born to syphilitic mothers.

To women who are syphilitic I give, as soon after they have conceived as possible, six intravenous injections of neo-salvarsan, and I continue the treatment with mercury till as near the time the child is to be born as possible.

I can sum up my method of treating syphilis in a few words.

In the primary stage, I give five injections of neo-salvarsan and mercury for a year. I prefer neo-salvarsan to salvarsan, because, although injection for injection the former may not be quite so strong, it is less toxic, the injections can be given with safety every four days, and it can be administered to out-patients. For over two and a half years, giving more than 4,000 injections, I have treated practically every case as an out-patient, and many of them have travelled home by train immediately afterwards, without having suffered a single bad effect. For the first dose I give Dose III, for the second Dose III, for third Dose III, for the fourth Dose IV, and for the fifth Dose V, if it is to be the last injection.

In secondary syphilis I give nine injections and mercury for two years. Under these circumstances I give Dose IV for the fifth injection, Dose V for the sixth, and either Dose V or Dose VI for the seventh, eighth, and ninth. Cases of recurrent syphilis I treat individually. Broadly speaking, if the patient is going to marry, or if the recurrence has set in within two years of the infection, or if the previous treatment has been obviously inadequate, I treat the case as one of secondary syphilis.

If I am consulted by a patient who has been well treated, and if after a thorough examination nothing abnormal is discovered, I do not advise treatment because his Wassermann reaction is positive, since a positive reaction under such conditions often means that the protective mechanism is at its best, and therefore scarcely likely to be improved by treatment.

In the tertiary stage I give sufficient treatment to cure the symptoms.

Congenital syphilis is, on the whole, best treated with mercury only. Salvarsan, even when combined with mercury, is practically useless in cases of syphilis congenita tarda. The treatment of syphilitic diseases of the central nervous system must be again individual. Early cases of pure arterial disease, such as hemiplegia and transverse myelitis, should receive the same treatment as a case of secondary syphilis.

Cases of meningeal syphilis are best treated with two intrathecal injections of salvarsanized serum, and then they should receive the same treatment as a case of secondary syphilis. As any treatment may make a case of tabes worse, the position should be pointed out to the patient and treatment advised according to the symptoms. If the symptoms are such as to make the patient's life a misery, whether the case is one of active tabes or post-tabetic, eight to eleven intrathecal injections of salvarsanized serum should be prescribed.

The risk of making the patient worse is minimized if several injections are given.

Intrathecal injections must be used with caution in cases of general paralysis of the insane, and without much hope of success.

For the very early stages of syphilis, combined arsenical and mercurial treatment will cure many cases, but not all. For the few left uncured, and for all the cases of late syphilis, a cure has yet to be discovered.

II.—Brevet Colonel T. W. Gibbard, R.A.M.C., and Major L. W. Harrison, R.A.M.C.,

Rochester Row Military Hospital.

The second opening paper was read on behalf of himself and Major L. W. Harrison by Brevet Colonel T. W. Gibbard. It consisted of a detailed account of their long experience in the treatment of syphilis by modern methods at the Military Hospital, Rochester Row, and was supplemented by a series of elaborate tables showing the character of all the cases treated, the details of the treatment, and the results. The authors pointed out that when mercury and potassium iodide were the only

remedies used the wards of Rochester Row and other military hospitals were full of syphilis, and that many deemed to have been effectively treated subsequently relapsed. Taking the statistics of Rochester Row, for instance, there were in pre-salvarsan days 315 clinical relapses out of 371 cases, while the salvarsan statistics presented by the authors showed that out of 285 cases which had been treated by salvarsan and mercury only 9 had relapsed. They saw no reason to regard the use of salvarsan as dangerous, for among cases that had been treated in the British army by salvarsan only one fatality had occurred, the total number of injections used being nearly 4,000. Furthermore, the authors had met with no eye trouble nor lesion of the cranial nerves which had not proved amenable to further salvarsan treatment. It was still an open question what was the best method of using the drug and in what amounts it should be given. Whatever the system employed the immediate results were good, but to be certain as to the permanent value of the system the cases must be kept under observation for a very long time. Their own experience led them to agree with other workers that to combine salvarsan and mercury treatment was the wisest course. Salvarsan might be used alone, but if so it would have to be given for a very long period, first intravenously and then intramuscularly. This would prove a very costly undertaking, and consequently, on grounds of economy if for no other reason, it was preferable to combine mercury and salvarsan treatment. They believed that they had obtained their best methods by a three-period course: (1) One injection of salvarsan followed by five of mercury; (2) one injection of salvarsan followed by five of mercury; (3) one injection of salvarsan. But their general practice had been to give two salvarsan injections and nine mercurial injections, the former at either end of a nine weeks' period, the latter weekly during it.

DISCUSSION.

Dr. J. Goodwin Tomkinson (Glasgow) said he was distinctly in favour of combined treatment by salvarsan and intramuscular mercurial injections, but there was yet much observation and experiment necessary to form anything like definite opinion as to the desirable amount and duration of treatment. Meantime he was convinced that a prolonged course of mercurial injections—after salvarsan with mercurial injections in the intervals had ceased—was desirable in the interests of the patient irrespective of the Wassermann reaction. While salvarsan was indubitably a highly valuable addition to the means of combating syphilis, it had also served to establish the value of mercury as an antisyphilitic.

Dr. Crawford Treasure (Cardiff) said the remarks of Mr. McDonagh would indicate a pessimistic view of the treatment of syphilis; it would seem doubtful whether any case of syphilis could be definitely pronounced to be cured. The Wassermann reaction seemed to be regarded as inconclusive; even the examination of the cerebro-spinal fluid was not conclusive; cases of nervous diseases arose even after negative reactions had been demonstrated. The field to be covered was so large that it was impossible to deal with every point, but some questions arose out of the discussion. Among them were: The comparative value of salvarsan *versus* neo-salvarsan; the value of soluble as against insoluble mercurial preparations; the comparative value of injections *versus* inunction. He emphasized the importance of immediate examination of doubtful sores, and mentioned a series of cases in which it had been possible to demonstrate the spirochaete even before induration of the primary sore had occurred, and referred to the immediate result of treatment by salvarsan.

Dr. Nixon (Bristol) said there was great danger in disregarding the personal idiosyncrasy to salvarsan. The average workhouse patient, for instance, was much more susceptible to its toxic effects than a healthy working man. The dosage and the interval between doses of salvarsan must be judged separately for every individual case. Like other speakers, he considered combined treatment with salvarsan and mercury superior to that by salvarsan alone. He had been interested to find how rapidly the news spread in the lock wards of the workhouse infirmary in which he worked. Syphilitics, not only of the prostitute class, showed little reluctance to seek admission to these wards. There was, however, a danger that it was the rapidity of the cure that chiefly appealed to them, and they might be indisposed to continue under observation or under further mercurial treatment. In private practice the subsequent use of mercury was, he found, not as a rule left in his hands. The patients came to him for their intravenous injections of salvarsan, but the mercurial treatment was carried out under their own doctors.

Dr. Henry MacCormac (London) thought every one who saw syphilis realized that the difficulty in altering the Wassermann reaction in old-standing cases was considerable. But this was a feature not only of syphilis but also of any chronic bacterial infection, such as *B. coli* infection or chronic staphylococcal lesions—for example, sycosis. The anti substances seemed to lose their effect, or the micro-organisms became accustomed to them. In his own practice he now gave three injections of salvarsan, and followed it up by two years of mercurial treatment. This was at least being on the safe side; with over 1,000 injections he had had no death or cranial nerve symptoms. He believed strongly in the Wassermann reaction both for diagnosis and as a guide to treatment. His experience of this test now extended over five years, but lately he had found that the formula of Desmoulière was more delicate than any other antigen; if anything, it was perhaps too delicate. Salvarsan was, perhaps, most useful in rendering an infective patient incapable of giving disease to others. This was of importance in large towns, where so many took meals in public restaurants.

Dr. J. C. McWalter (Dublin), after allusion to the enthusiasm with which early statements regarding salvarsan had been received, and indicating that the attitude taken up towards it had been unscientific, and expressing an opinion that the drug had caused many deaths, said that in carrying out the treatment of a case of syphilis it was best to remember that it was not proved that syphilis was solely due to the *Spirochaeta pallida*; that treatment should be carried on with several spirillicides, in small doses, for a long time, and that the only antisyphilitics were mercury, arsenic, and antimony.

Dr. Nixon (Bristol) said that Mr. McDonagh's investigations of the Wassermann reaction were particularly welcome at the present time. In subjecting to careful chemical and physical analysis the substances hidden under the names of antigen, complement, antibody, and so forth, a prospect of enlightenment was opened up. These mere words should be recognized as doing nothing but carrying our ignorance a stage further under a cloak of apparently increased knowledge. At first hearing, and without opportunity for consideration, one point seemed to stand out in Mr. McDonagh's paper which recalled the work of Nierenstein on atoxyl and trypanosomiasis—that is, the extreme importance of the NH_2 group in these problems of immunity, protection, and treatment. For while Mr. McDonagh regarded the presence of the amino-acid molecule as all-important in the production of protective bodies, so Nierenstein came to the conclusion that the NH_2 group served as an anchoring group between the serum and the arsenic of the atoxyl.

DISCUSSION ON THE NEED OF GREATER METHOD IN THE TREATMENT OF LUPUS.

OPENING PAPER.

By Norman Walker, M.D., F.R.C.P.Edin.,
Physician for Diseases of the Skin, Royal Infirmary, Edinburgh.

In one of the earlier programmes of this meeting the title of this paper appeared as "The need for *some* method in our dealings," etc. I wrote my friend the Editor, and pointed out the printer's error, saying that I was not prepared to admit we had *none*. But I must confess that this look back on my past has been a most useful occupation and a most humbling experience. It is just over

twenty-two years since I was appointed assistant physician for diseases of the skin to the Royal Infirmary. During fourteen and a half of these years I was assistant to my friend Dr. Allan Jamieson, and therefore not directly responsible for all the cases. But I saw all or nearly all of them, and our relations have always been so intimate, that any suggestions of mine for more method would almost certainly have been accepted; and so, with Dr. Allan Jamieson's consent, I shoulder the responsibility for the lot, and deal with all his cases as well as my own. From 1906 to 1912 I was in sole charge; since 1912 Dr. F. Gardiner has been my colleague, and he has given me leave to use the cases which have come under his care during that period for statistical purposes.

In the whole period, then, of twenty-two years six months—for, for a special purpose, I have brought the figures down nearly to the present date—1,054 cases of lupus have presented themselves for treatment. The figures have been very carefully sifted by my secretary, Miss Rae, and there are no duplicates included in that appalling list—1,054 cases—and I wish I could think that 100 of them had been cured. Now and again I come accidentally across a cure; the majority of cases disappear from our ken. Some persevere and attend regularly; far more come up at intervals of months or years, attend for a few weeks, or only once or twice, and then vanish for another period, to reappear with the disease more extensive than before: many we never see again.

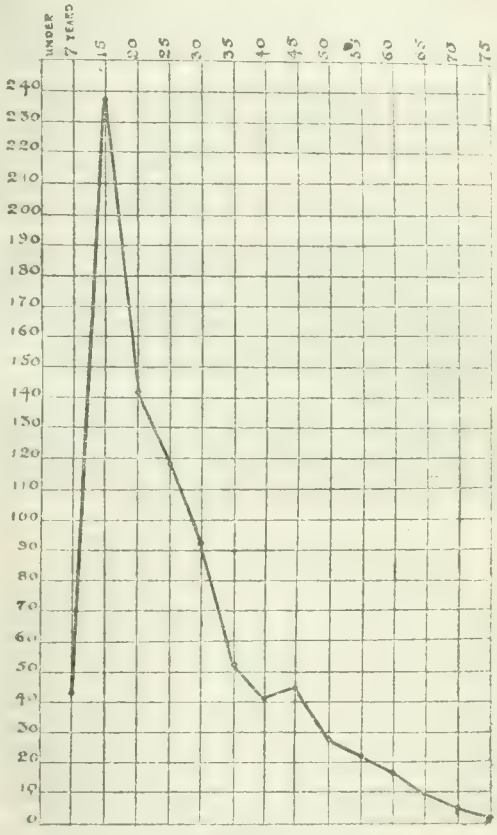
It is a very unfortunate thing that lupus gives rise to so little discomfort, and so patients go on neglecting it for years. One day a woman came to my department, and, in answer to an inquiry as to the duration of the disease, said she thought it had lasted from thirty-five to forty years. She had lived all her life in Edinburgh, she had had several children, one side of her face and neck was extensively affected, but she did not think it of sufficient importance to mention to the doctor who attended her in her confinements, and he made no reference to it.

Here is the cast from a girl who lived in Edinburgh's seaside ward—Portobello. She had had the disease sixteen years, she had never consulted a doctor, and she only came to the infirmary because she was going to be married, and hoped she might be cured before that event took place. I took her into my ward, treated her for ten weeks. She attended the out-patient department once subsequently in 1908, and she has not been since. Here is a list of the duration of the disease in elderly patients since 1907.

Table showing the Duration of the Disease in all the Cases over 50 which have attended the Skin Department since 1907.

	Age.	Duration.		Age.	Duration.
1907.			1910.		
Mrs. Ellen M. ...	52	8 or 9 years	Mrs. Donella G.	50	1 year
Mrs. W.	55	3 years	Robert M. ...	57	41 years
1908.			Elizabeth A. ...	56	—
Mrs. Ellen F. ...	52	18 months	1911.		
Mrs. Mary C. ...	68	9 years	Henry B. ...	58	50 years
Patrick O'B. ...	62	50 ,,	Mrs. Ellen L. ...	64	10 ,,
Wm. S.	54	47 ,,	1912.		
Mrs. Catn. L. ...	64	—	Mrs. Agnes S. ...	58	—
Mrs. Jane B. ...	62	4 weeks	Alex. C.	62	Since a boy
Mr. D.	56	25 years	1913.		
Jane C.	53	51 ,,	Rebecca B. ...	54	20 years
1909.			Mrs. Lizzie P. ..	54	12 ,,
James L. ...	55	50 ,,	1914.		
Robina W. ...	52	20 ,,	Mrs. C.	58	--
Francis F. ...	50	43 ,,	Mrs. McK. ...	55	20 years +
David P.... ...	53	40 years +			

I have gone through my private case records and my three dermatologist colleagues in Edinburgh have kindly done the same. Of course, only Dr. Jamieson and my own cover the whole period. These figures are undoubtedly open to the fallacy that the same cases have been under the notice of more than one of us, which the hospital figures are not, and they are open to the further fallacy that private cases come from greater distances than hospital ones do, but, taking the figures as they stand, they arrest attention. Mere numbers convey very



Age incidence in lupus.

little of the relative incidence of the disease in the poor and the well-to-do—there are fewer of the latter. But when one takes large groups of figures and compares the incidence of tubercle the contrast is striking. Roughly, I may say that, while the hospital cases number 30,000, the private ones approach 20,000 and the figures show a percentage of 3.3 of tuberculosis in hospital and of 1.4 in private.

[As an interesting contrast I submit these percentages of lupus erythematosus: Hospital cases, 0.92 per cent.; private, 1.8.]

And the results are still more striking. Most of the private cases remain under supervision till they recover, which most of them do. This is not the result of any difference in treatment. I honestly believe that, while they attend, hospital cases are treated at least as efficiently as private cases. In most hospitals there are means of treatment not always available in private. And yet the private cases usually recover. In my judgement this is due to two things: the better hygienic conditions under which such patients live, and—and this is, I believe, the more important factor—the better understanding of the better classes as to what lupus is and their greater concern regarding blemishes on their children's faces. True, they usually have fewer of them.

It is not that tuberculosis does not attack the well-to-do. Operations for tuberculous glands are more numerous relatively in the hospital class, but it must be remembered that many a child in the better classes escapes operation as the result of a prolonged sojourn in the country or at the seaside.

A great many cases of lupus are secondary to tuberculous glands, and not only to those which spontaneously rupture and discharge. Quite a number of cases develop in the scars of what seemed at the time of discharge from hospital to have been perfectly successful operations. In patients under proper supervision in intelligent families these cases do not occur. The little red spot in the scar

is immediately recognized as something requiring attention and is seen to at once and destroyed. But among the poor it is neglected; it causes no pain, it does not look very different from the scar on which it is seated, and its progress is so slow, and to-day is such an inconvenient day to go to hospital. And so it goes on, and the patient gets used to it, and the rest of the family get used to it, and it spreads and spreads unless, happy accident, impetigo develops on the top of it and advice is sought.

Take the other common source of lupus—tuberculosis of the nasal mucous membrane. A nasal discharge is a cold in the nose to the working classes; very little heed is paid to it. The discharge waxes and wanes, and, as we all well know, it is often not until there is very marked infection, and even destruction, of the skin and cartilages that advice is sought.

The knowledge of the importance of adenoids and tonsils is now so widespread among the better classes that there are very few indeed who cannot show one or more receipts for laryngologist's fees. I say one or more because again the question of after-supervision comes in, and the mother, knowing what is involved, will not be satisfied till all trace of trouble is removed.

I have referred to the rarity of lupus in scars in the better classes, and how very rarely do we see lupus of the point of the nose in such children now. Only one of my private cases which could by any stretch of terms be called "recent" had the disease in this situation.

Methods of Treatment Employed.

It is clear that the number of cases which have been under my care have at least provided me with ample material for the testing of the various methods of treatment, and of several of these I desire to say a few words.

I have recently found myself resorting to scraping more frequently than I did ten or fifteen years ago. I think scraping would be more popular if it were universally recognized that though you *cannot cure lupus by scraping* you can take it a long way towards cure. If scraping is followed up by other treatment it is of great value in suitable cases, especially in those where there is a combination of lupus and scrofuloderma.

Some years ago I published a short note on uranium in lupus. The results—I used the oxide—did not bear out their earlier promise, and for many years the treatment was in abeyance. Recently I have used the powdered nitrate after scraping or other destructive means. It has an excellent caustic effect, and the results are good—sometimes very good. It dries the discharge and no doubt exercises some radio-active effect. I have found it useful as a packing in tuberculous sinuses.

There are cases of superficial uncomplicated cases of lupus in which Unna's salicylic creosote plaster is very hard to beat. I venture to suggest that all who use it do not get the full good of it because they stop its use too early. I go on with it as long as I can persuade the patient to continue or until the surface which it has ulcerated heals under its continued use.

Then I am a great believer in Brooke's ointment, or rather in Jamieson's modification of it. I thought at one time that the benefit might be due simply to the massage of the part, but experiments in this direction convinced me that it was not; pure carbolic acid, Hutchinson's favourite acid nitrate of mercury, or trichloracetic acid, patiently and perseveringly used, will work wonders; arsenious acid I have not used much of late, it is so very painful. My experience is that none of the analgesics recommended for use with it are very efficacious, and in consequence I fear that it does not always get fair play.

For many years I used *x* rays extensively and with great benefit; there can be no two opinions about the benefit produced in many cases; I will go further and say in the majority of cases in which they are used. But—and it is a terrible but—the occurrence of case after case of carcinoma compels one to consider the question of *x* rays very carefully. I admit that, in common I suppose with everyone else, I formerly used the *x* rays with a freedom I should never dream of using now; I admit that carcinoma occurs in cases of lupus which never saw an *x*-ray tube; I admit that is arguable, and I have myself argued that the explanation of the development of cancer is that the rays cause the crowding into one year of events which would otherwise have taken many years. I admit everything, but I cannot get away from the conviction that the *x*-ray treatment is lamentably often followed by carcinoma. Of the cases under consideration, 22 have to my knowledge developed carcinoma, and at least 6 have died of it. Five of the cases never had any *x*-ray treatment; most of the others had prolonged—sometimes very prolonged—courses of rays.

I am not prepared to say that we should abandon the treatment, but the occurrence of the complication should be a very powerful stimulant to us in our search for other methods not attended with this risk. Its occurrence is further support for the argument, which I hope to develop later, of the necessity of close and constant supervision of the cases. The earliest developments are very easily and satisfactorily treated if treated promptly, but lupus carcinoma soon gets beyond reach. I may just say, in passing, that, after several failures with the more conventional surgical procedures, I have abandoned them in favour of erasure and caustics.

My experience with the Finsen treatment is limited to the use of the old London Hospital and the Finsen-Reyn lamp. I am not sure that the former really deserved its early relegation to the scrap heap. I have cases which were greatly benefited by its use, and it had the great advantage over the Finsen-Reyn that it did not require so much and such expert attention. I found the necessity of an expert nurse a great drawback to the use of the Finsen-Reyn lamp, and in my department it is almost entirely supplanted by the Kromayer mercury vapour lamp. I should just like shortly to relate my experience of this. I have had it in use for about three years, and at first it was used almost exclusively in cases of alopecia areata and lupus erythematosus. It was tried in one or two cases of lupus, but with such disappointing results that I abandoned its use in that disease until last autumn, when my attention was again directed to its value by my friend Dr. Stainer, who was using it extensively at St. Thomas's. I began again with, I suppose, more faith, and I find myself using it much more and with distinctly encouraging results.

Tuberculin Locally.—I do not think that we sufficiently recognize the benefits of this. As an aid to diagnosis in a doubtful case its value is very great, but it is with its therapeutic effect that I am dealing now. A 5 per cent. ointment of old tuberculin produces in forty-eight hours a very marked local reaction, followed by sloughing and ulceration of the nodules. We are in the habit of taking advantage of this ulceration to make various applications to the raw surface, to one of which, uranium nitrate, I have already referred. But perhaps the most striking effect of this treatment is the relaxation of contraction which it induces. I may illustrate this by the case of a young man whose left elbow was fixed at a right angle, and who after two courses of this treatment did a round of golf in 77.

Tuberculin Injections.—It was my fortune to be closely associated with the early use of old tuberculin when, in the winter 1890-91, I was "voluntär assistent" to Professor Pick in Prag. The experience is one I shall never forget. What we regard to-day as enormous doses were administered, and administered often. As you all know, the treatment was soon almost but not entirely abandoned, and it is interesting to recall here in Scotland that McCall Anderson from the very outset used doses far less than were customary, and that he never abandoned its use. The doses he administered were $\frac{1}{200}$ of those then commonly used. Some years ago I began to use T.R. in doses of $\frac{1}{10000}$ to $\frac{1}{1000}$ mg. at intervals of three or four weeks. Though the improvement was neither striking nor rapid it was there, and we still continue the method. Later we resumed the use of old tuberculin in small doses (0.0005 up to 0.015) at intervals of a month. The usual local reaction along with a rise of temperature to 100° or 101° was usually produced, and some of the cases did well. But with the improvement there was not infrequently simultaneous extension at the edges, and though many of the patients were greatly delighted with the improvement one felt that all was not satisfactory. About a year ago we began to use the intensive method. Beginning with a dose of $\frac{1}{10000}$ mg. of T.R. the dose was doubled every third day until a dose of about $\frac{1}{100}$ mg. was reached. Then 0.0005 P.T.O. was substituted, and the dose steadily increased.

If there was any rise of temperature the dose was either not increased or was diminished for a dose or two. I shall show you later a patient who has been treated by this method, along with a cast of her condition when the treatment commenced, and I think you will agree that the improvement (in four months) is very satisfactory.

The time at my disposal will not permit of my referring to many other methods of treatment which we have tried.

There are many—too many—remedies for lupus; there is one necessary ingredient in every method, and that is perseverance. This is the great lesson which Finsen taught; no method will succeed without it; I almost believe that almost any method will succeed if it is really persevered with.

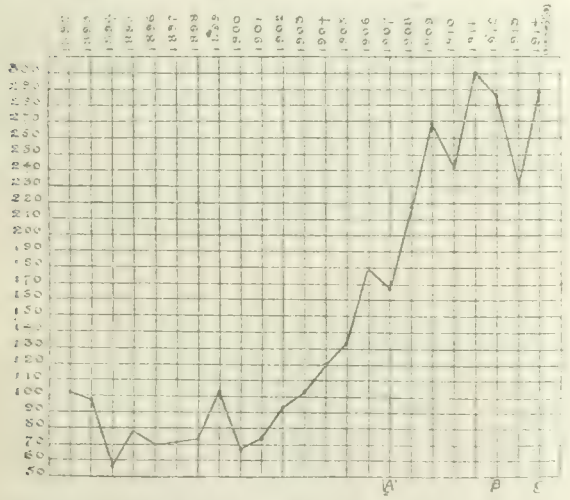
And now, for the purposes of my suggestions, I here interpolate some references to my experience with ringworm and favus.

In the twenty-two years I am dealing with, we have had 3,426 cases of ringworm and 482 of favus.

Tinea. Year.	No. of Cases.	*Favus.* Year.	No. of Cases.
1892	101	1892	8
1893	99	1893	19
1894	56	1894	13
1895	78	1895	21
1896	70	1896	15
1897	71	1897	19
1898	72	1898	6
1899	104	1899	14
1900	68	1900	18
1901	73	1901	7
1902	93	1902	25
1903	103	1903	17
1904	120	1904	14
1905	134	1905	25
1906	180	1906	26
1907	169	1907	40
1908	218	1908	49
1909	269	1909	34
1910	242	1910	25
1911	300	1911	26
1912	256	1912	40
1913	231	1913	9
1914	289	1914	12
(Six months)		(Six months)	
	3,426		482

We knew we made rather a speciality of favus in Edinburgh, but we did not realize we were quite so bad as the figures show, and the worst is that the numbers were not diminishing. It was 1902 before the figures touched 20; we had 40 new cases in 1912.

There are many points of interest in the ringworm figures. They remained round about 100 annually till 1902, since which date they have steadily increased: they reached 200 in 1908, 300 in 1911, and we have had 382 cases in the first six months of 1914. Medical inspection of schools began in 1907, and we increased by 100 in



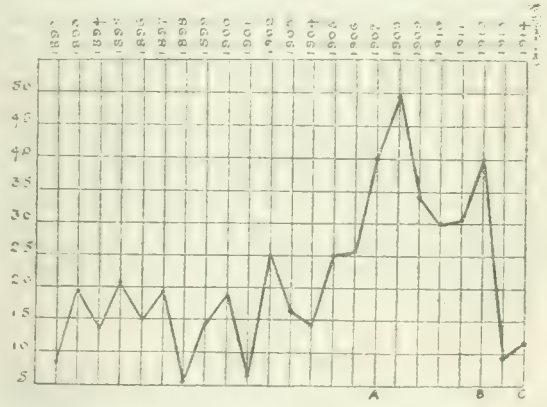
Tinea. A, Medical inspection begun; B, skin school opened; C, x-ray forms distributed.

two years. In January 1912, a favus and ringworm school was opened. For months before an animated correspondence had filled the columns of our evening papers. Lurid pictures were drawn of the danger to the community of this aggregation of cases, and it was said that medical students—the school was placed for convenience near the infirmary—would be driven from Edinburgh by fear of infection. A great deal of attention was directed to ringworm, and we have never got below 300 cases since. The enormous rise this year is due to the placing of x-ray treatment on an organized basis.

I asked my secretary to make a close study of all the attendances of the ringworm cases for one year. In 1903 (the year quite accidentally chosen) there were 140 cases of tinea capitis. Of these, 38 attended once, 14 twice, 12 three times, 56 irregularly, and 20 regularly. Of these last, 10 were cured and the others were carried on to the next year, or did not return, presumably because they were cured.

Though our position with regard to children from outside Edinburgh remains as it was, matters are now very different for the Edinburgh children. By arrangement with the school board some method has been introduced. Nurses in the board's employment supervise all our cases and see to their treatment. They see that the cases come on the days fixed for their x-ray treatment, they see to their regular attendance afterwards, and they do nearly all the necessary book-keeping. Truants are hunted up, and though the plan has enormously increased the work of the skin and electrical departments the satisfaction of having got a real grip of the situation is very great.

In the chart of the incidence of favus we see a hopeful promise. Owing to the greater gravity of the disease we



Favus. A, Medical inspection begun; B, skin school opened; C, x-ray forms distributed.

devoted ourselves at first mainly to it. One sees in the chart the reflection of all those events to which I have referred, but in addition the abrupt fall—the result of the methodical treatment which is my theme.

And now we come back to lupus.

We stand to-day on the threshold of a new era. On the first of this month lupus became a notifiable disease in Scotland; in the date of issuing the order England was six months ahead of us. I give notice to our friends south of the Tweed that we shall endeavour to catch them up and to enter on a friendly rivalry as to who shall make most use of this new weapon that has been put into our hands. There will, I hope, be a sort of dossier of every case of lupus; we shall, I trust, be able to persuade—if necessary, to compel—regular attendance. I am not afraid to confess that I am socialistic enough to contemplate the foundation of farm colonies where the adults can work, and of replicas of Berck-sur-Mer, where the children will be collected and treated *de die in diem* until they are on the road to become useful citizens. I would follow them up in their after career and inspect them annually, or more frequently if necessary; I would apply the same principles to tuberculous gland cases, especially those on which any operation had been done; and I anticipate that in forty or fifty years lupus will be as rare as leprosy. We can learn a useful lesson from Hansen's successful management of that disease in Norway. If cases were being properly treated at home they were allowed to remain there, and we should copy that example. But we must treat them more perseveringly than we do. Not one of us is in a position to cast stones at our brethren in this matter. I have felt ashamed many times as I perused my records for the purposes of this paper that I had not been

more insistent in—it is a Scotticism—wearying on my patients the importance of perseverance. We think we shall frighten them away if we tell them of the months, perhaps years, of treatment before them; they go away with the impression that a few weeks of diligent treatment will suffice, and when these weeks run into months they weary, and all the treatment is wasted. They do not go at once to another doctor—it would be all right if they did; a year or two elapses before they do; the disease has considerably spread, and his task is greater than ours was.

I expect the effect of notification will be a repetition of our experience with ringworm and favus. We shall have an increase at once. Later, when we are able to organize treatment on efficient lines, there will be a further increase, and then I hope and expect a steady diminution.

I have a word or two to say in conclusion on the subject of notification. They are words of warning.

I have here the circular issued by one medical officer of health which contains these words: "Notification of cases should be strictly limited to those which are beyond all doubt of a tuberculous nature, and which imply some possible danger to persons with whom the patient may be brought in contact." I do not think any of us would go the length of saying that every case of lupus is a public danger. I will even say that in many cases the danger is so slight as to be negligible, but I do not think it is fair to put on the practitioner the responsibility of saying: This case of lupus is dangerous and that one is not; this one I will notify and that I will not. We want to get a hold of these cases to cure them, and the earlier we get them the better the chance of cure. I hope that this is the only circular of the kind which has been issued.

[In connexion with his paper the author showed four patients; two of them—very extensive cases—had been cured after years of persevering treatment; both had developed carcinoma, which had been successfully treated; one of them had been treated on one side of her face by *x* rays and on the other entirely by the old London Hospital lamp, and the result of this was a very smooth, presentable scar. The other two cases were under treatment with tuberculin, and both showed very marked improvement.]

DISCUSSION.

Dr. J. GOODWIN TOMKINSON (Glasgow) said that to obtain anything like satisfactory results from the treatment of lupus vulgaris required not only perseverance on the part of the physician, but the recognition by the patient that he was suffering from an eminently rebellious affection, and consequently must assiduously co-operate by regular attendance for treatment. While deferring to Dr. Norman Walker's long experience, the speaker personally was strongly opposed to scraping in lupus vulgaris, particularly near orifices where lamentable cicatricial contractions might follow the use of the sharp spoon. He could, however, unreservedly support Dr. Walker in his high opinion of the value of Unna's No. 81 salicylic acid and creosote plaster. This he habitually used in conjunction with mild cauterization by carbolic acid, etc., and carefully regulated small doses of *x* rays. In some 270 cases so treated in the Western Infirmary, Glasgow, he had no case of epitheliomatous degeneration to record. If inquiry were made into cases of epitheliomata following *x* rays, it would be found that heroic or at least heavy or too prolonged treatment had been given. Visible reaction, even of the mildest degree, should never be attempted, otherwise telangiectases and pigmentation might follow, with the risk of subsequent keratotic growth, often the precursor of epitheliomatous degeneration. The tendency of *x* rays to diminish keloidal tissue was a further argument in favour of their careful employment in tuberculous skin affections. As a house physician he had had experience of old tuberculin, but did not now employ it, as relapses frequently occurred. A much-neglected treatment was systematic direct exposure to unmodified sun rays, carried out where sunshine was a dependable quantity. He had experience of its value in cases treated by himself at Helouan, in Egypt—a locality peculiarly suitable, not only on account of the prevailing uninterrupted sunshine, but also because of its dry, invigorating desert air. Now that the State was assuming so much responsibility in matters medical, surely sanatorium treatment in Egypt of lupus vulgaris—with a complete therapeutic armamentarium for this affection—might be undertaken by it. As regards *x*-ray treatment of scalp ringworm, this country had been somewhat slow in adopting the method with which Sabouraud's name was so intimately associated. For several years the speaker practised it in hospital and privately, and as dermatologist to the Glasgow School Board, where the *x* rays had been installed. He employed it for over twelve months. School treatment had greatly reduced the number of hospital cases of ringworm. There was no doubt that the medical inspection and treatment of school children was a step in the right direction, not only in combating actual cases of disease, but also in preventive medicine.

Mr. HALDIN DAVIS (London) said the difficulty in treating lupus was almost in exact proportion to the area affected, and it was impossible to lay too much stress on the value of early diagnosis. As a rule, examination of the lesion when pressed upon by a watch-glass would disclose the tell-tale apple-jelly nodule. For small patches on the limbs excision was the method of choice; even on the face, for a small patch in which only two or three nodules were present, it was preferable to every other form of treatment except Finsen light. By excision he meant real excision including a definite margin of healthy tissue, certainly not scraping or erasion. The resulting linear scar became in course of time almost invisible where children were concerned. As regards the treatment of ringworm, he had lately had considerable experience as medical officer in charge of a ringworm clinic under the Education Committee of the Willesden Urban District Council. North-West London was one of the largest, if not the largest, urban district in the British Isles. The area contained about 24,000 children of school age. At the present moment about 180 of these were excluded on account of ringworm. The clinic was open once a week for three hours, but they were unable to keep pace with the new patients continually discovered by the school authorities. They administered *x*-ray treatment in a way not very different from the standard methods generally adopted. For cases in which the whole head had to be exposed, the Kienbock-Adamson five-point system was always used. One of the most important sources of disaster in *x*-raying for ringworm was the possibility of exposing the same area twice. For this reason they always made a point of giving the five exposures in the same order—that is, the forehead, vertex, left side, right side, and occiput. They also used a rubber stamp which printed a simple outline of the head. On this it was easy to mark in roughly the position of the principal patches of disease. This was the only way of which he was aware that it was possible to make useful notes of a case of ringworm, and without notes it was quite impossible to remember details of these cases. For the measurement of the pastille dose he had been using for the last six months Corbett's radiometer—a useful instrument which was badly named, for it was really a tintometer. It was a great improvement on the old method of comparing the pastille with the so-called standard tint B supplied in the book of pastilles. This was usually a monument of inaccuracy. On the other hand, even Corbett's instrument gave different readings in bright daylight from what it did on a dull day. On a dull day the pastille appeared darker than on a bright day, and therefore the time taken to match the pastille to the standard glass was shorter than on a bright day. Consequently one was liable to give too little a dose. With practice, however, it was easy to allow for this, and in any case it was better to give too little than too much. In order to stop any reverse current he employed one of Leslie Miller's revolving mica discs, and it was to the excellent work done by this instrument that he attributed the good fortune he had had with his *x*-ray tube. Since the Willesden Clinic was first opened, on August 30th, 1913, he had only used one tube. With it he had given over 400 separate pastille doses, and it was still going as well as ever. At first he ran it with only half a milliampère of current, and it took about twelve minutes to turn a pastille; he was now running it with about 0.8. to 1 milliampère, and it took about eight minutes to turn a pastille. Thus, in three hours he could treat three whole heads, and while the apparatus was running he could

examine about forty children's scalps in the course of the morning. In regard to the very short ringworm stumps which were loosened by the exposure to x rays but refused to fall out, and might possibly reinfect the new hair, the best way was to arm the forefinger with a piece of zinc-oxide plaster and with it to rub the patch where the stumps were seen. The stumps, if loose, stuck to the plaster, and the patch was left bare and clean.

Dr. Winkelried Williams (Brighton) said that the form of local treatment which appealed most strongly to him was the application of potassium permanganate, which in his hands had given good results when persistently utilized. A point which he considered was often lost sight of was the importance of withholding alcohol from patients suffering from lupus. He was sure that it had a deleterious effect. He had carried out some experiments on himself with reference to the effect of alcohol upon his opsonic index to tubercle, but was unable to draw any definite conclusions from them.

Dr. Bolam (Newcastle) agreed with Dr. Norman Walker that lupus was very unmethodically and casually treated, and that to this circumstance was due the unsatisfactory results obtained. On the other hand, he differed from Dr. Walker in thinking that lupus was a disease of the poor rather than of the rich to a greater extent than Dr. Walker's figures suggested. The salient features of the disease were its chronicity, its rebelliousness to treatment, and its tendency to relapse, hence the pressing necessity for continuous treatment. He hoped for considerable assistance from the new order for the notification of the disease. As regards the therapeutic methods which he advocated, he expressed himself strongly in favour of scraping. He was nervous of x rays, even in the small doses recommended by Dr. Tomkinson. He regarded sanatorium treatment as very important, and was especially in favour of open-air treatment combined with rest in bed. He practised this method as far as he could in his own wards.

Dr. Milne (London) said that as medical officer to a large number of children he had considerable experience of both diseases under discussion. He was strongly in favour of scraping for lupus and the local application of potassium permanganate. He found ringworm a very trying disease to treat, but he had seen some unfortunate results from x rays, of which he was consequently very shy. He was fond of a modified croton-oil treatment, by means of which he was often able to cure cases in five or six weeks.

Dr. Russell Green (Birmingham) said that in his experience the incidence of a bald patch in cases of ringworm treated by x rays was certainly less than 1 in 350 cases treated. As regards the life of a tube, he had found it possible to give as many as 600 Sabouraud doses with one tube, using a valve tube. In lupus he had been much impressed by the exhibition of vaccines. Streptococci or staphylococci were very frequently found, especially in the catarrhal cases, and were much benefited by the use of the appropriate vaccine. In addition he administered small doses of x rays and treated single nodules by electrolysis.

Dr. Norman Meachen (London) said he endorsed the opinion expressed by Dr. Bolam as to the value of in-patient hospital treatment in cases of lupus. Hospital authorities were still only too unwilling to provide beds for skin cases, and personally he thought that lupus should receive as much care and attention in the wards of a hospital as any other form of tuberculosis. He considered that scraping was a valuable measure, in early cases especially, but it was often advisable to apply some chemical germicide immediately after scraping, such as the acid nitrate of mercury solution, or the organic form of copper known as "lecutyl," a note on the treatment by which he had the honour to bring before the Section last year. Small areas of lupus also did very well by the judicious application of the solid carbon dioxide, either with or without scraping.

Dr. MacCormac (London) said that he too had been extremely struck with the bad results of the treatment of lupus. In dry forms of the disease he personally preferred surgical measures—preferably excision. Ravaut in Paris had obtained good results by the use of air superheated to 700° C. in extensive cases, but wounds were thereby produced which took a long time to heal. With tuberculin he had been very disappointed. He thought that patients got so attached to tuberculin, apart from its therapeutic value, that they actually developed a drug habit with it. As regards the treatment of ringworm, he was strongly in favour of x-ray treatment. He invariably x-rayed the whole head even when there was but a single patch of the disease—he had seen such unsatisfactory results from x-raying single patches only.

Dr. Norman Walker, in his reply, pointed out that his particular object in reading his paper had been to point out the necessity for more method in dealing with lupus. As regards the observations made by various speakers, he said that he did not look upon the doses of x rays given by Dr. Tomkinson as so very small. As regards scraping, to which several speakers had referred, he wished to point out that he did not depend upon scraping alone. He remembered one case in which a surgeon had scraped no less than seventy-seven times and the patient was still uncured. He was strongly in favour both of sanatorium treatment and heliotherapy, but he wished to emphasize the fact that the most important ingredient in all the treatments of lupus was perseverance. The speaker concluded by calling upon the profession to do its best to guide the State along the right lines in its new departure, the treatment of lupus.

ANTIMONY IN SYPHILIS.

By J. C. McWalter, M.D., LL.D., F.R.F.P.and S.,
Dublin.

The true antisyphilitic drugs, according to Neisser, are those which have the power of killing spirochaetes. These are mercury, arsenical compounds, including salvarsan, and antimony. Concerning antimony, Neisser does not think there is any evidence yet of its efficacy in human syphilis, but he states it has a destructive action on the spirillosis of animals.

Neisser's view of the ideal drug is one which would combine arsenic, as in salvarsan, with mercury, and he considers it would be made still more powerful by the addition of antimony.

The whole world is now drenched with salvarsan, given mostly in heroic doses, and a reaction has set in. (1) Instead of the "Therapia Magna Sterilisans" of Ehrlich, Neisser advocates a combination of drugs, in moderate doses, continued for over a year. He states that while a non-toxic dose of each drug may be given, the combined effect is powerful. (2) Some spirochaetes are affected more by mercury, some by arsenic, some are probably more affected by antimony. (3) Mercury and arsenic destroy spirochaetes in different ways. More modern views seem to suggest that the treatment of syphilis must consist not only in killing the treponemes, but in rendering the blood unfavourable to their reproductive functions, and resistant to the life-cycle of the infective organisms. The seed, the soil, the cycle, have all to be modified by therapeutic agents, and to suppose that any one drug could have such varied and opposing qualities is surely fantastic.

A substance called "antilutin" has recently been introduced by Tsuzuki. It is a compound of antimony oxide with potassium tartrate and ammonium, and it is administered hypodermically in solution, about 3 grains being given in divided doses in four days.

I have used antimony in the treatment of syphilis for fifteen years, and it appears to be a drug of very considerable value for both the nervous and epithelial tissues.

It is worth noting that although Neisser states that there is no evidence whether antimony cures syphilis in the human subject, Plummer's pill, which contains sulphide of antimony, has been in the pharmacopoeias for ninety years. It was claimed then that it had a specific action on skin diseases of a syphilitic type. My experience goes to show that, whilst the curative effects of antimony on syphilitic lesions are very much like those of arsenic,

it is distinctly milder in character, and seldom or never followed by optic neuritis or by the fatal effects attributed to arsenical compounds. It seems proper to analyse the therapeutics of each one of what Neisser classifies as antisyphilitics, in view of a very recent conclusion, after a careful analysis of all the fatalities by salvarsan, that "death by salvarsan is nothing less than death from acute paralysis of the circulation by arsenic. Theories which attribute catastrophes to impurities of the solution, alcoholism in the patient, injudicious selection of cases, or technical errors in administration, must be abandoned. Both salvarsan and arsenic are vascular poisons, acting directly on the blood vessel wall, the blood itself, and the vaso-constrictor centre, producing a circulatory stasis or local thrombosis and their associated symptoms." In Ireland, where famine or relapsing fever, one of the earliest diseases proved to be due to a spirillum, was unhappily frequent, antimony appears to have been given both in that disease and in typhus.

I have nothing miraculous to report about the effects of antimony in syphilis, except the fact that I have given it for many years, and absolutely without fatalities. I do not think it will cure syphilis if given alone, but it certainly assists the cure if mercury be also given. It appears to be particularly useful in the dermatological manifestations of the disease, and the cases which I treated with it were notably free from nervous complications. I think the red sulphide—or antimonium sulphuratum—is the most convenient salt to employ. The dose should not exceed from 1 to 2 grains, but must be continued daily for two or three months—with occasional intermissions of a few days. It is, I think, a peculiarly useful drug in the fatal bronchopneumonia which carries off so many infants the subjects of inherited syphilis. Antimony was a panacea for almost every disorder in the seventeenth and eighteenth centuries. It cannot be denied that it had frequent good effects in various types of mania, and it seems safe to assume that many of them were of a syphilitic genesis, and it is fair to suppose that any beneficial effects were due to the spirillicidal properties of the antimony.

THE RATIONALE OR MODUS OPERANDI OF THE WASSERMANN REACTION.

By J. E. R. McDonagh, F.R.C.S.

(*Abstract.*)

The antigen in the Wassermann reaction owes its activity to the amino groups which it contains. If a trace of formalin be added the antigenic properties are increased, and at the same time the amino-acid content is decreased. Formalin increases the antigenic action because the replacement of the amino groups by a methane group increases the size of the colloidal particle.

$H.COH + R.NH_2 = R.N.CH_2 + H_2O$. Since the formalized product will act as an antigen, it looks as if the size of the colloidal particle plays an important rôle in the reaction.

The reagin (antibody) is a lipoid-globulin. There is no constant ratio between the lipoid and protein molecules. The greater the quantity of lipoid molecules, the more positive is the reaction; but those colloidal particles in which the lipoid molecules are in excess are liable to have a free fatty acid group. A free fatty acid and a free amino-acid can readjust complement, and therefore a negative reaction may be obtained when it should have been a positive one. An excess of free fatty acid and amino-acid molecules have a marked anticomplementary action, and cause all serums to give a positive reaction.

Any factor causing hydrolysis will naturally set free fatty and amino acids. That is why normal serums become positive on keeping, and why raising the atmospheric pressure at which serums are kept makes them give a positive reaction.

Any factor which increases the size of the colloidal particle (reagin) will also result in normal serums giving a positive reaction. This is why serums become positive if kept in the cold, if heated above 57° C., if frozen, if the atmospheric pressure is diminished, and if they are treated with barium sulphate.

The fact that syphilitic serums under ordinary conditions give a positive reaction and normal serums a negative reaction is due to the difference in size and number of the lipoid-globulin colloidal particles. Complement is the normal lipoid-globulin of the serum in an ionic state, and it has its origin in the lymphocytes. Complement is the same substance as antibody. It is the ever-ready protective substance in the serum, and it becomes antibody when its colloidal particles increase in size and number to combat the infection. Inactivation of complement alters its ionic state and rids it of oxydases, which are probably primarily responsible for its action.

The Wassermann reaction is an adsorption phenomenon; the lipoid-protein molecules (complement and reagin) coalesce, and thereby become precipitated. Precipitation deionizes complement and destroys its oxydases. Therefore there is no electrically charged lipoid-protein molecule to bring about haemolysis.

The Wassermann reaction is not a specific reaction; it is purely a physical reaction. Under ordinary circumstances, syphilitic serums have the physical properties necessary to produce the reaction, but normal serums can easily be made to possess them. Therefore any modification of the reaction, the addition of cholesterol to the antigen, etc., can only have one result—that is, to increase the tendency of normal serums to give a positive reaction.

In true bacterial complement-fixation tests the test is specific, and the specificity lies in the physical and not in the chemical molecular configuration of the lipoid-protein colloidal particles. When homologous lipoid-protein molecules meet they coalesce; in other words, the phenomenon of adsorption comes into play. This adsorption process requires molecules which are electrically charged and which have oxydases attached to them, and as all antibodies arise from and constitute the complement, it will be readily understood that complement is necessary for all these reactions, since it is the only perfectly charged molecule in the serum, and it is the molecule to which the oxydase is attached.

When an antibody meets its homologous molecule in the antigen—and the body always meets its foe with the same weapons as those with which it is attacked—an adsorption of the two molecules will take place, provided that the antibody is fresh—that is, has the action of complement. Adsorption results in precipitation and consequent hydrolysis, and during the act of adsorption the complement properties of the antibody molecule are destroyed.

Haemolysis is explained in the same way. The stereochemical molecular configuration of the lipoid-globulin in the amboceptor is the same as that in the red blood corpuscles of the sheep. If complement is present, or if the amboceptor (antibody), which is the serum of rabbits immunized against the sheep's corpuscles, still possesses its complement action as well, adsorption between the red blood corpuscles and the amboceptor takes place. This adsorption alters the osmotic pressure, with the result that haemoglobin is freed from the corpuscles. As antibody and complement are contained in the same molecule, and as the action of the former is enhanced by the latter, it is justifiable to use serums in the active state—that is, not heated to 57° C. for half an hour. If serums are used active, the addition of guinea-pig's complement is nevertheless essential.

Once a serum has had its adsorptive capacity increased, as occurs to the lipoid-globulin molecules (reagin), in a syphilitic case, it is always liable to exhibit the same phenomenon, should circumstances arise which give it the opportunity. Most of these opportunities arise only after the blood has been withdrawn. Moreover, it will be seen that several factors may be responsible for a positive reaction—an increase in the size of the protein molecule, a preponderance of lipoid atoms in the lipoid globulin complex, a breaking down of the large lipoid-globulin molecule into several smaller ones, and an excess of fatty and amino acids.

These various factors may be at work without the observer's knowledge, and they cannot be prevented or differentiated; therefore it must be wrong to state that a positive Wassermann reaction is necessarily indicative of active syphilis.

Since a free amino group, or a free fatty acid group, can prevent what would have been a positively reacting serum from giving a positive reaction, it can be easily understood

that a negative reaction can neither exclude syphilis nor be taken as an indication of a cure.

It must be obviously incorrect to say that a positive Wassermann reaction means that there are spirochaetes in the body, because, if true, a ratio would exist between the positivity of the reaction and the number of spirochaetes present. This is by no means the case, since the most positive reactions are obtained from those cases which are suffering from diseases caused by syphilis, as the intermediary cutaneous and visceral lymphocytomata, in which no parasites are present, and then in tertiary cases in which only a few parasites are present.

The complement is the most important factor in the reaction; therefore any modification which relies upon the patient's own complement must be fallacious, as the action of the complement is altered by the behaviour of the radicles to which the complement is attached.

Some modifications rely upon the patient's own complement and sheep's blood amboceptor. Results obtained by such modifications must be untrustworthy, since the action of amboceptor upsets its complement action, and vice versa, for both exist in the same molecule. Hence the reason why so many positive reactions are obtained in patients who have never had syphilis. Furthermore, the complementary action of different serums varies enormously; therefore it is essential that a standardized strength of complement be employed, which means, in other words, that only the original Wassermann technique is reliable, and that, when the reaction is positive, it can never mean more than that presumably the patient has had syphilis at some time.

The paper, of which this is only an abstract, will appear *in extenso* in a future number of the *Quarterly Journal of Medicine*.

FOUR CASES OF LAHORE SORE.

By J. Goodwin Tomkinson, M.D.,

Skin Physician to Out-patients, and Dermatological Medical Electrician, Western Infirmary, Glasgow; Dermatologist to the Glasgow School Board; Consulting Dermatologist, County Council of Lanark, etc.

Four patients—a father and three of his children—recently arrived from Sialkot, in the Punjab where the family had been living, and who were suffering from Lahore sore, came under my care at the end of May of this year. When living at Sialkot they had been sent to a member of the staff of the Lahore Medical College, who made the diagnosis of Lahore sore, and advised treatment with solid CO_2 or with *x* rays. Prior to this tincture of iodine and an ointment had been used at Sialkot. The following brief history was obtained early in June:

Daughter, aged 10. About a year ago a red pimple appeared on the left cheek in the malar region, free from itching and all other subjective symptoms, and began to enlarge. It was treated with solid CO_2.



Fig. 1.—Father, aged 56. Lesion on forehead.

Inspection reveals a lesion about the size of a florin. The inner half presents a crescentic, yellowish-grey crust covering an infiltrated, pale-red projecting area. The outer half gives evidence of cicatrization—being pinkish-white and stippled—doubtless the result of solid CO_2 treatment. External to this is a vertical row of what appear to be four small deep-seated pustules

Father, aged 56. A red pimple appeared about five months ago to the right of the middle line of the forehead near the margin of the hairy scalp. It was free from subjective symptoms. It increased in size, and presented an angry red inflammatory appearance. There was no ulceration. It was treated with tincture of iodine and an ointment, and subsequently with solid CO_2, at the Civil Hospital in Sialkot.

Examination reveals a vividly red infiltrated lesion about 3 or 4 in. by 2 in.—the long axis directed across the fore-

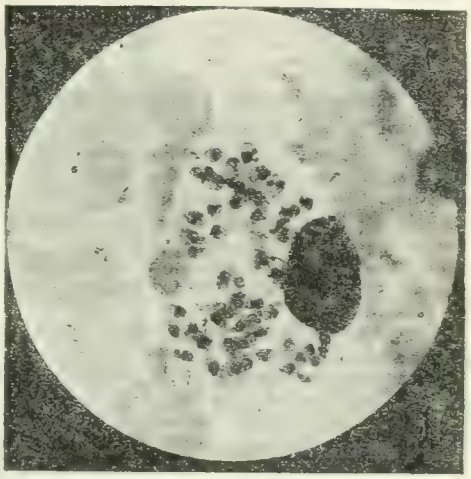


Fig. 2.—Father. Photomicrograph of blood film showing causative bodies, *Leishmania tropica*, in endothelial (?) cell.

head—gradually merging into the normal skin. It is not adherent to the bone. The centre is covered with a firmly adherent crust in which there is evidence of a powder deposited from a lotion used three weeks ago on board ship. Slight itching and very slight burning sensations are present.

Son, aged 8. About five months ago there appeared two tiny skin-coloured pimples, one to the left of the middle line of the forehead midway between the margin of the hair and eyebrow, but nearer the former; the other near the middle of the left cheek. They increased in size. There was some little fever during development. They were treated with solid CO_2.

Inspection reveals disappearance of the upper lesion, a pinkish cicatrix having resulted from the treatment. The lower lesion remains as a pea-sized pinkish nodule, giving distinct impression of infiltration on digital investigation. Its lower and inner margin is surrounded by a pinkish-white cicatrix, doubtless induced by the solid CO_2 treatment.

(*Subsequent Note.*—The patient has had three attacks of fever in his own home since arrival in Scotland, the temperature once reaching 106° F.)

Son, aged 11. A little more than three months ago two pimples developed—one above the outer half of the left eyebrow, the other about the middle of the left cheek. The onset was associated with a little itching. They were treated with solid CO_2.

On inspection a pinkish pea-sized infiltrated nodule is found in the middle of the left cheek, and a smaller livid infiltrated lesion is found above the outer half of the left eyebrow. In contact with the outer margin is a cicatrix, presumably resulting from the application of solid CO_2.

In the case of the children solid CO_2 treatment was resumed. The crust on the father's forehead was removed with an oil dressing—preparatory to treatment with *x* rays—and Dr. Thomas J. Mackay, Assistant in the Clinical Laboratory of the Western Infirmary, very kindly made sections of a small portion of the granulation tissue exposed on removal of the crust and took blood films from the lesion, in both of which the causative bodies, *Leishmania tropica*, were found.

Daniels in his work, *Tropical Medicine and Hygiene*, remarks, "The cells composing the granulation tissue are almost exclusively of the mononuclear type. They are large rounded cells with prominent nuclei, and are apparently of endothelial origin. The appearance is thus very different from that of simple ulceration of the skin in which polymorphonuclear cells predominate." In this

case the photomicrograph of a section of the granuloma shows a marked predominance of mononuclear cells.

A differential count of the leucocytes in blood taken from the finger—for which I am indebted to Dr. C. H. Browning, Director of the Clinical Laboratory, Western Infirmary—would suggest some disturbance of the ratio of polymorphonuclear and mononuclear elements—diminution of the former and increase of the latter:

Neutrophile polymorphs	55 per cent.
Lymphocytes	26 ,,
Large hyalines	12 ,,
Eosinophiles	6 ,,
Mast cells	1 ,,

Number of leucocytes 5,500 per c.mm.

No abnormality was observed in the red cells. (Film stained with Jenner's fluid, 200 leucocytes counted.)

In the photomicrograph of the blood film a large endothelial (?) cell is seen containing many of the parasitic bodies, round or oval, mainly the latter, containing two masses of chromatin, one considerably larger than the other, which is rod-shaped, with one end directed to the larger mass. In the main they occupy the shorter diameter of the bodies.

In a recent conversation I elicited from the father that the onset of disease appeared to be related in some way with the cold season—the daughter's lesion appeared at the end of the cold season, the elder son's lesions in the middle, and the father's and younger son's lesions at the beginning of the cold season. With the exception of July and August, when they visited Dalhousie, 7,000 to 8,000 ft. above sea level, the whole year was spent at Sialkot. The drinking water was obtained from deep wells. Near the house were two stagnant pools—one now dry, except for a very short time in the rainy season, my patient having partially filled it up to prevent, if possible, a breeding ground for mosquitos; the other pool, over which he had no control, was never quite dry and had a bad smell.

The patients when living in Sialkot slept in the open air in the hot season, *and the children state that they habitually sleep on the right side.*

In reviewing the above details one remarks the absence of subjective symptoms, save in the elder brother's case, and then only slight, during the development of the lesions. The most arresting feature, however, is the uniformity of the site of the lesions in the case of the three children. Each child has a lesion approximately on the middle of the left cheek, and the two sons, in addition, have each a lesion on the left forehead. The daughter has no forehead lesion; her greater quantity of hair may account for this.

The proximity of the stagnant water, the sleeping in the open air, the assumption by the three children of the right lateral decubitus, and all their lesions being situated on the left side of the face is strong presumptive evidence in favour of the opinion that the causative parasites, *Leishmania tropica*, are conveyed by insects, and, it might be added, obviously of nocturnal habits.

DISCUSSION.

Dr. CRANSTON LOW (Edinburgh) said he had seen one case with a chronic ulcerated lesion on the rim of the ear of a military man who had lived many years in India. It was more chronic than the lesions described by Dr. Tomkinson, and had caused considerable destruction of tissue. Microscopically no parasite was to be seen, but subsequently the parasite was demonstrated in scrapings from the surface.

INFANTILE ECZEMA.

By HALDIN DAVIS, F.R.C.S.

(Abstract.)

THE eczema of infants has afforded since many years material for dermatological speculation. To one who has been for some time in charge of the skin department of a children's hospital it appeals very forcibly. It is common, for cases of eczema form a large proportion of the more serious cases which pass through the department, its origin is often a mystery and its treatment is sometimes very difficult.

Before entering any further into its consideration it is advisable to attempt to obtain a clear understanding of the type of eczema with which we have to deal. I am here concerned exclusively with an eruption which is primarily vesicular in character, in which the main area attacked is usually on the face, but with which almost any other part of the cutaneous surface may be associated. Most often, however, the other parts principally affected are the limbs, and it is common in children who in early life have been the subjects of eczema to retain as "legacies" residual patches in the antecubital fossae or popliteal spaces. It is, of course, to be noted that eczema of the face in babies is unlike eczema of the face in adults which is erythematous in being markedly vesicular in character. I exclude from consideration in this paper the irritative rashes or erythemata found on the napkin areas and buttocks of infants, which are due to insufficient and incomplete removal of the excretions.

The first problem of this disease is the etiology. Many observers, especially those on the Continent, hold strongly the opinion that it is due to some error in metabolism and to overfeeding, others, on the contrary, think that external causes are most potent. The present writer is strongly inclined toward the latter theory. The Continental advocates of the theory of metabolic error are divided into two schools—the French on the one side and the German on the other. The French ascribe the disease to the "arthritic diathesis," the German to the "exudative diathesis." Although so dissimilar in name, in essence each of these two rival schools is ascribing to the diathesis that it favours not only eczema but practically all the troubles of infancy whose etiology has not been precisely established.

In neither case does any one really know what the diathesis is—whether it be some peculiarity of the blood or other body fluids, or a chemical or morphological anomaly; so, to offer it as an explanation of the existence of eczema or of any other morbid condition is, in fact, no explanation at all.

The other theory—that of external irritation—certainly does, however, afford an adequate explanation in some instances. We are all familiar with cases of eczema in children brought on by washing them with unsuitable soaps, which may or may not be suitable for washing clothes, but which certainly are unsuitable for washing babies' faces. We are also all familiar with the common cases of intertrigo and napkin rashes, which, although not cases of eczema, are in certain stages of the lesions scarcely distinguishable from it. On the other hand, it must be admitted that there are many cases which cannot be explained in this easy way, and which must be accounted for. In my opinion the best work which has been done on this subject is that of Dr. Hall of Sheffield, published in a series of papers in the *British Journal of Dermatology*, 1905. He is a strong supporter of the external irritation theory. His work has been unaccountably neglected by Continental writers, notably by Feer, who published in 1912 in the *Ergebnisse der innere Medizin* an almost exhaustive article on eczema of children, with an extensive bibliography of the subject.

Hall pointed out several very suggestive facts in his papers. In the first place, in the great majority of cases the eruption starts on the face and head. These are the only exposed parts in the warmly swaddled infant. (1) An infant is exposed to many new external surroundings which are capable of acting as irritants. (2) The most exposed part of its surface—that is, the face and head—is in almost all cases the starting point of the eruption. (3) The skin reflexes are far more widely distributed and easily called forth in the infant than the adult. (4) There is evidence that the majority of cases begin in the colder seasons of the year. As the children grow older their skins become obviously tougher, less sensitive, and therefore less vulnerable. Hence the tendency in most cases to recovery. It is only exceptionally that eczema persists beyond the third year.

This last point brings me to the consideration of the prognosis in infants. The mortality among eczematous infants in hospital practice is exceedingly difficult to ascertain; they cease to attend the skin department, and one presumes it is because they are cured; in a few cases it is because they are dead. It is well known that eczematous infants are liable to bronchitis and asthma; in fact, that they have delicate chests. This tendency is quite likely *prima facie*, for, as they have hypersensitive

skins, so it is not surprising that they have hypersensitive mucous membranes.

When an eczema baby is attacked by a serious chest complaint it is brought, not to the skin department, but to the general physician, and the result is that its demise remains unremarked by the dermatologist. There seems to be a considerable amount of evidence that the expectation of life in these infants is not so good as in normal children. A paper read before the Children's Section of the Royal Society of Medicine shows that of twenty-eight babies who were sufficiently seriously ill with eczema to be admitted as in-patients to a large hospital six died from various causes. In every case the eczema disappeared, or nearly disappeared, before death. The explanation I would offer of that fact is not that the disappearance of the eczema killed the baby but that the fall of blood pressure on the near approach of death removed the erythema and rendered the eczema nearly invisible.

I do not believe in the eczema being a safety valve for the discharge of toxins from the system. Nor do I believe that it is dangerous to soothe an eczematous eruption suddenly into quiescence. Cynical individuals hold the opinion that that is a legend invented by a clever but—may I say?—a somewhat unscrupulous practitioner to console an anxious parent for the obstinacy of her child's affection. Probably most dermatologists will agree that the difficulty of soothing infantile eczema is quite sufficient to prevent any risk of too speedy a cure.

As regards the treatment, believing as I do in the preponderating importance of external conditions I consider the adequate protection of the inflamed cutaneous surface of the greatest importance. It is obtained by the application of a bland emollient which has no chemical action upon the skin but which checks evaporation from the surface and which prevents irritation from the deposition of dust and from friction of clothing. The form of friction against which it is most necessary to guard is that of scratching. For this purpose it is usual, when dealing with infants, to apply splints to the arms about the elbows, thus preventing them from being bent and keeping the hands off the face. Formerly, when the children were confined to bed, I used to have the arms tied to the edge of the bed, but lately the sister of the medical ward at Paddington Green Children's Hospital, Miss Probyn, has devised a much better method. A large towel is taken; the child is wrapped up in this, it is pinned down the back, while the lower edge is drawn up and pinned round the child's forearms, which are flexed to a right angle at the elbow. Thus the infant is confined in a sort of straight jacket which has the advantage of keeping the child warm and does not interfere with proper nursing as it can be lifted up out of bed and carried about without undoing any bandages.

The drug which I regard as the therapeutic sheet anchor in this condition is zinc oxide, which may be made up either into a thin cream or a thick paste. Except in very mild cases it is spread on a mask of butter muslin for the face or on lint for other parts. Treated on these lines most cases clear up within a reasonable period. On the other hand, it must be admitted that there are some which refuse to do so. The only other drug which in my experience is of much avail is lenigallol, which may be added to the zinc paste in the proportion of 10 or 20 grains to the ounce. This sometimes seems to effect an enormous improvement. Occasional painting with a weak solution of silver nitrate also in some cases is very helpful. Still there remain some extremely obstinate cases which persist for many months. In their treatment I think I have made some advance, for during the last eighteen months I have been trying the effect of using small doses of x rays for these, and I may say at once I have been much gratified by the results. As I have only used x rays for the very worst cases, I have not collected a great number—only 8 in all—but every one of these has been very greatly improved by their use. Now, it will be readily understood that a baby who has not sufficient intelligence to keep its head still when requested to do so is not an easy object to which to apply x rays. Those who have tried to x-ray young children for tinea will appreciate the difficulty. I have overcome this difficulty by giving the patients a little anaesthetic—just enough to put them to sleep. As the application of x rays is quite painless, far less anaesthetic is necessary than for surgical anaesthesia, and I have never known any ill effects from its employment. The dose of x rays which I am in the habit of giving for these cases is one-third of a pastille at intervals of once a fortnight for not more than three doses in succession. After that an interval of at least a month must be allowed to elapse, and then, if necessary, another series of applications may be made. Of the 8 cases which I have treated in this way, 5 are practically well, except, perhaps, for a slight roughness of the skin, while 1 is still under treatment. I am sufficiently encouraged by my results to continue this method in cases obstinate beyond the ordinary.

One case which had been attending a skin hospital seven months before I saw it I had as an in-patient in Paddington Green for three months, and beyond getting the condition cleaner I effected but little improvement until I applied x rays in March last for the first time. There is now only a very small area in the middle of the forehead.

DISCUSSION.

Dr. Norman Walker (Edinburgh) agreed with much which Dr. Haldin Davis had said. He believed the most important element in treatment was continuity of application. He agreed that zinc oxide was very useful, and he believed this was because it was an inert application. He avoided bandaging on ointment which contained salicylic acid. He had a strong affection for the old-fashioned tar, especially in the form of lotion. It often relieved itching, and then the scratching ceased. Though he believed that external causes were of prime importance, he found the old-fashioned mercurial purge often of great value.

Dr. Nixon (Bristol) said that sudden deaths in cases of infantile eczema usually occurred after the eczema had been cured. Some of these deaths were due to status lymphaticus. The children were fat, but not necessarily healthy; they were often fat, white, and flabby. Other deaths were due to pulmonary diseases—bronchitis and bronchopneumonia. The eczema in such cases was truly urticarial in origin and the children frequently exhibited the alternations between eczema and asthma. The other class of eczema owed its origin to external irritants. One common cause liable to be overlooked in male children was a long dribbling prepuce. Circumcision would hasten the cure and avert relapses when this factor was present.

Dr. R. Cranston Low (Edinburgh) spoke with regard to the causation of so-called infantile eczema. He regarded these cases as being due to three factors: (1) Susceptibility of the patient, (2) an external irritant, such as soap, etc., (3) a superinfection with the organism causing seborrhoeic dermatitis on the irritated area. In order to get a case developing these three factors must all be present. He considered the severe cases of "eczema" which persisted after 3 years of age, and which were often associated with asthmatical symptoms, as really mild cases of prurigo, and the fact that these cases often showed lesions closely allied to urticaria supported that view.

KERATODERMIA BLENNORRHAGICA.

By A. Winkelried Williams, M.B., C.M.Edin., D.P.H.Lond.,
Brighton; Dermatologist, Royal Sussex County Hospital, and Royal Alexandra Hospital for Children.

(*Abridged.*)

This paper deals with the fourth case of blennorrhagic keratosis recorded in this country. J. H. Sequeira published the first case,[1] myself the second,[2] G. Little the third.[3] On the Continent some seventeen cases have been published (see references).

The clinical features of the eruption in this disease are very distinctive, and the following description of it applies to all the four cases mentioned above. The eruption consists of very hard, nearly transparent yellow cones and domes capping a thickened keratosic base. In the newer lesions there is a reddish areola, but this is often absent in the older. Some of the lesions are joined at their keratosic bases, and form ridges like mountain chains from which conical peaks project; others are

isolated, the latter being usual in the dome-shaped lesions. Sometimes a diffuse keratosis of the soles accompanies the typical lesions. The type eruption begins either as telangiectasic spots, red papules, or plaques; on these the keratosis with horny cones or domes rapidly develop. After several weeks the keratosic bases crack, and, together with the cones or domes, peel off, leaving a reddened area glazed by a thin epidermis. If the peeling is hurried by tearing off the mass with sterile forceps, the under surface of the removed mass is coated with a greyish-white slimy or putty-like material, in which careful histological and cultural examinations have failed to find any micro-organisms.

All the cases hitherto recorded excepting those of E. Robert[7] were suffering from gonorrhoeal arthritis, and Robert's cases had ophthalmia.

The histology of the lesions has been studied by A. Chauffard[6] and by Turnbull and Sequeira.[1] It consists of a great thickening of the horny layer, leucocyte infiltration, and acanthosis of the prickle layers of the epidermis, oedema, and infiltration with plasma cells and leucocytes of the upper layers of the corium. The pathological processes leading to the development of the keratosis have been experimentally studied by Chauffard and Fiessinger.[11 16] They raised a horny growth from the foot, and scarified the underlying skin, and some of the exuding fluid was smeared on places on arms and legs which had previously been gently scraped. Over these areas watch-glasses were fixed with strips of strapping; a very rapid development of a keratosis followed, which was indistinguishable both macroscopically and microscopically from the spontaneous blennorrhagic keratosis. Similar inoculation of the serum without the watch-glass failed to produce a keratosis, and a negative result also followed the application of the watch-glass without the serum.

This appears to indicate that the serum of these patients when accompanied by a macerating hyperidrosis has a peculiar capacity for producing a keratodermia.

The two cases that I myself have had an opportunity of observing—both being well developed—I owe to my colleague, Dr. Hobhouse, at the Royal Sussex County Hospital. The first occurred in the course of an acute gonorrhoeal rheumatism, the history and diagnosis of which were clear and definite. The skin lesions were absolutely typical, and details regarding it were published in the *British Journal of Dermatology* for December, 1910. In my second case—the one now to be recorded—the history was very unusual, for if the patient's story is to be believed—and I have reason for regarding him as truthful—a very long period had elapsed since the original infection with gonorrhoea.

The patient, a waiter, was admitted into the hospital for rheumatoid arthritis, under Dr. Hobhouse, on May 15th, 1913, and gave a history to the following effect. He contracted syphilis twenty years ago and was treated for six months, and he had apparently had no after-effects. Gonorrhoea he acquired twenty-three years ago; it was followed by chronic gleet, which finally disappeared ten years ago. He had been married for over ten years. His present illness commenced with pain in the right foot two years ago, and this pain had troubled him fairly constantly ever since. During the past three months he had suffered from severe pain in the right buttock and back of the leg to ankle. It was relieved by exercise, and returned after rest. Two months ago the knees became painful, and six weeks ago the right wrist, hand, shoulder, and back were similarly affected.

State on Admission.—Great swelling of right wrist and hand involving practically all the joints, and some swelling of left wrist. Right foot and ankle also much swollen. No swelling of knees. All joints stiff and painful on movement; no definite creaking nor grating. Pain along line of sciatic nerve. Pyorrhoea alveolaris. Psoriasis of superficial type. Wassermann reaction negative.

Treatment.—The patient was treated for his pyorrhoea, his psoriasis, and with rest, iodides, and antistreptococcal serum for his joints. He left hospital relieved on June 27th.

Progress.—After leaving hospital he gradually got worse, and was readmitted on August 27th. There was much deformity of both hands and wrists, which were much swollen and acutely painful; his feet also were affected acutely, but less so than the hands, and he suffered from acute pain in neck and back along the vertebral line. He had very inflamed psoriasis of the groins, nails, and scalp. A few horny growths were noted on the soles. He was given a streptococcal vaccine, and treated internally with quinine and iodides.

Second Admission.—I was away when he returned to hospital. I saw him on September 22nd, and noted in addition to psoriasis of nails of both hands, a number of typical gonorrhoeal cones as follows: *Right hand.*—Dorsal aspect: One on wrist beginning to peel, one on metacarpal region, three over first phalanx of ring finger, four over joint between first and second phalanx of middle finger, and one in interdigital region; two cones, one on each interdigital surface of index finger, and a red area where cones had peeled off; also the lunula of nail was deformed by a conical thickening from below. Three conical thickenings raised the thumbnail from its bed. Palmar aspect: Five cones, two on little and three on middle fingers. None on palm. *Left hand.*—Dorsal aspect: Two small cones on ulnar border and one on little finger. *Left foot.*—Psoriasis lesions of toes including the nails, also typical lesions of blennorrhagic keratosis; of the latter only one exists on the dorsal aspect, namely, one small yellow translucent cone over third metacarpo-phalangeal joint, but a large number exist on sole, both cones and domes, which are mostly on pressure regions. *Right foot.*—Psoriasis of nails. Dorsal aspect: Two yellow translucent domes on outer aspect and a red peeled area. The sole shows typical yellow cones and domes mostly on pressure regions of foot, but a dozen also exist on inner side of arch in front of heel. *Left leg.*—Forty or fifty small cones scattered especially about knee, also three on thigh about junction of middle and upper third. Posterior aspect: Three small cones and many small psoriatic lesions. *Right leg.*—Similar distribution of cones but less numerous, also psoriasis patch on knee. *Groin.*—Acutely red moist intertrigo with well defined border which is scaly and psoriasiform; no fungus found in scrapings.

Comparison of photographs of this case with photographs similarly taken of my previous case illustrates their very close resemblance.

Vaccine Treatment.—I prescribed small doses of a gonococcal vaccine. There was a little delay in obtaining this, so that he did not get the first dose before October 1st. During this week's interval no noticeable change occurred to the lesions. A few days after the vaccine cracking at the bases of all the blennorrhagic lesions was noted, and a week later all had gone, the psoriasis lesions alone remaining of his skin troubles. Another dose was given two weeks later, and afterwards at weekly intervals in increasing doses until December 15th; this time excepting local treatment of his psoriasis he had no other treatment.

Result.—The joints at first slowly and later rapidly improved, so that when he left the hospital on January 7th, 1914, he could use his hands and walk with freedom and ease. I saw him last June, when he ran after me in the street to thank me for his perfect cure; he was quite free from all pain and deformity; he had resumed his old occupation and was apparently in robust health.

Since the first cases of this disease were recorded in Britain I have suspected that it is far less rare than the recorded cases would indicate. The larger proportion of cases recorded on the Continent is probably due to the fact that gonorrhoea is considered part of the dermatologist's speciality. Here a lesion which in itself is of little importance, and gives rise to but little suffering to the patient, is not considered worthy of record by physicians not especially interested in dermatology. I inquired of my friend Mr. McDonagh whether he considered this to be the case, and he told me that mild cases are not infrequently seen in the London Lock hospitals. Of the four cases published in England, the two I saw nearly escaped record. The first case under Dr. Hobhouse came into hospital during his holiday, and only on his return was the unusual character of the lesions observed, and he asked me to see it; the second case was nearly overlooked for a similar reason. I told one of my dermatological friends at the Royal Society of Medicine I had a second case. He smilingly told me he feared we had very bad blennorrhagia in Brighton, but I do not think that we are an exceptionally bad lot in Brighton, but merely accident that led to their being noted.

The disease, however, is not without importance, as my second case shows. I have described at some length the joint symptoms and history in this case, and I think most will agree that until blennorrhagic keratosis indicated the probable cause there was no reason to specially diagnose the gonococcus as the probable cause of his rheumatoid arthritis. The kerotoses in this case led to the man's cure; a bad prognosis was altered, and a perfect cure resulted. This case is a further support of the opinion that rheumatoid arthritis may have, even in unlikely cases, a gonococcal origin, and that a gonococcal vaccine may be considered as one of our valuable remedies in cases of this disease.

As for the treatment employed, Dr. Graham Little's case was cured in an exactly similar way to my second case—namely, by a gonococcal vaccine; this is a remarkably rapid and active specific and no other treatment is required.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN EXTRAORDINARY SHELL WOUND.

A Seaforth Highlander, aged 23, was brought to the temporary field hospital at Burcy le Long, suffering from a severe shell wound in the back, sustained two days before, while lying in the trenches. He had on his field dressing, which had been applied at the time he was wounded. On removing this dressing a compound comminuted fracture of the right scapula below the spine presented itself accompanied by extensive laceration of the soft tissues. The gaping opening in the skin was about 7 in. by 5 in. This appeared to be the only injury he had received, and was cleaned up, dressed, and bandaged, but on removing his kilt an extraordinary lump was seen lying immediately above the base of the sacrum and slightly to the right side, giving exactly the appearance that might be expected in a case of complete fracture dislocation of the spine. The skin above this was like parchment, and being quite insensitive a cross incision was made through the skin and subcutaneous tissue, beneath which the object was found. This turned out to be the complete time fuse of a large shell, familar to laymen as the brass nozzle of the shell. This object weighs 2¼ lb., and while it may be interesting to conjecture as to the exact manner in which it travelled the whole length of his back, passing in its course beneath the tight belt of his kilt, the fact that he should have lived to tell of his marvellous escape makes the case, in our opinion, one worth recording. As he was transferred the same night to the base, his subsequent history has not been obtainable.



Sketch of time fuse by M. Nichol, French interpreter.

Hugh Stewart,
Captain R.A.M.C.,
J. F. Murphy,
Captain R.A.M.C.,
Special Reserve.

HERPES AND VARICELLA.

In view of recent correspondence and articles in the British Medical Journal, I think the following is of interest. On September 12th I was called to a boy with varicella. The rash was three days old. On August 24th his mother had an attack of herpes zoster; none of my colleagues have any cases of varicella, and I can learn of none in the district. In both cases the rash was typical and unmistakable. It will be noted that the incubation period of varicella is accurately fulfilled. I think there are so many recorded cases that coincidence does not explain them, and we do not know how many unrecorded cases there may be; for instance, my attention was only arrested on account of the publication on the subject in the Journal.

Beaumaris. J. Hepworth.

"RAT-BITE FEVER" CAUSED BY A FERRET.

F. L. L. was bitten by a ferret whilst ratting on April 2nd. As the wound, inflicted on the left thumb, was small, no particular attention was paid to it. On the third day the healed wound became inflamed and the glands in the axilla painful. The general symptoms were extreme weakness, shiverings, sweats, and fear of impending death. The patient looked very pale and exhausted and his temperature ran up to 104° F. He quite recovered in four days, but a week later had a recurrence of symptoms, and on this occasion in the neighbourhood of the healed wound there was an erythematous rash. The glands in the axilla were swollen and hard to the touch, but only moderately tender. After four days in bed he expressed his condition by saying he felt as well as ever he did in his life, and was considerably surprised to have a relapse ten days later, with a repetition of former symptoms together with pain in the throat and diarrhoea. On this occasion the erythematous patches were present on both arms and chest; the inguinal glands and a few of the cervical glands were affected.

Dr. Carey Coombs, of Bristol, saw the case and supported the diagnosis of "rat-bite fever." The blood count was as follows:

Red blood corpuscles (no abnormal forms)	4,856,000
Leucocytes (normal in number)—	
Polymorphs	64 per cent.
Large mononuclears... ...	18 ,,
Lymphocytes	16 ,,
Mast cells	2 ,,

No causal protozoan could be demonstrated.

The patient responded so well to inunctions of mercury that recourse to neo-salvarsan was deemed unnecessary. The attacks have become slighter and the intervals between them of longer duration.

On looking through the literature of rat-bite fever I find a case recorded of a ferret-bite leading to such consequences, and, curiously enough, it occurred in this neighbourhood at Malmesbury, and was eventually under Dr. Luff's care at St. Mary's Hospital.

Chippenham, Wilts. J. Hobart Nixon, M.D.

Reports

on

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

GOVERNMENT HOSPITAL, MBARARA, UGANDA.

ABDOMINAL WOUND: PROLAPSE OF STOMACH: RECOVERY.

(By R. E. McConnell, M.D.McGill, Medical Officer.)

A male Ankole native, of poor physique, aged about 22, was carried to hospital on December 1st, 1912, suffering from a penetrating abdominal spear wound which had been self-inflicted five days previously at a village about seventy-five miles away. The incision was about 4 in. long, running diagonally downward from the left side of the epigastrium into the left hypochondrium. Through this the entire stomach presented. It was wrapped in a filthy cloth and bathed in green offensive pus.

The viscus was washed with carbolic lotion four times daily and a wet dressing was left on it during the intervals. For the rest the treatment was one of moderate stimulation with strychnine. The temperature on admission was 99° F., but at the end of thirty-six hours became subnormal. The patient took food well, and his bowels behaved in a normal manner.

On December 7th I had to leave my station before a relieving medical officer arrived in order to connect with a homeward-bound steamer at Mombasa. The stomach, though not yet altogether healthy in appearance, had become clear, and to replace it in the abdominal cavity seemed the lesser of two evils. It was found to adhere firmly in its whole circumference to the surfaces of the wound. This adhesion was broken down with the fingers, aided, when necessary, by scissors. As considerable difficulty was experienced in returning the organ, the abdominal wall near it was transfixed by three long strands of stout silk; by pulling on these the wall was elevated and the return satisfactorily made. The wound was then closed by through-and-through sutures.

The further record of this case, kept by the sub-assistant surgeon, Mr. Gokal Chand, states that on the evening of December 8th the temperature reached 99.6° F., but on the following day became normal and remained so. Recovery was uninterrupted, and the patient left the hospital well on January 2nd, 1913.

This case is reported, not as a triumph of surgery, but as an astounding example of the recuperative power of negroes.

Reviews.

VITAL STAINING.

The monograph by Dr. KIYONO[1] on vital carmine staining is a valuable contribution to normal and pathological histology, especially in respect to all differentiation in normal and inflamed tissues. Dr. Kiyono carried out his elaborate series of experiments and observations in the laboratory of Professor Aschoff at Freiburg.

It may be remembered that the late Professor Goldmann of Freiburg made most valuable and original contributions to our knowledge by the employment of a vital staining method. He, however, used pyrrol blue, isamin blue, and trypan blue. A full account of these researches was published in this JOURNAL about a year ago. Dr. Kiyono claims that the Ribbert carmine method which he has used possesses certain advantages over the methods employed by Goldmann. The Ribbert method consists in the successive intravenous injection of small quantities of lithium carmine solution and subsequent microscopic examination of sections of the tissues. Sections show that certain types of cells contain granules of varying size carmine stained whilst other types are entirely devoid of the carmine granules. The reticulo-endothelial cells of the bone marrow, of the spleen, of the lymph glands, of the liver, and of the cortex of the adrenals, contain the carmine granules; moreover, certain types of connective tissue cells, namely, polymorph cells designated klastomycetes, or cells which can store fat in their interior, and fibroblasts contain carmine granules; whereas the proper blood cell elements of the marrow and lymphatic glands are free. The reticulo-endothelial cells which Kiyono terms "histiocytes" contain abundance of carmine granules in their protoplasm so that they are readily recognized in normal and inflamed tissues. The liver is stained red by this vital staining method, and sections show that not only do the stellate interstitial cells contain the coloured granules, but the liver cells also; the epithelium of the bile ducts is unstained, but the fibroblasts and the klasmatocytes of Glisson's capsule contain coloured granules.

It is interesting to note that the central nervous system is unstained, whilst the membranes and the choroid plexus are stained red. The cells of the ependyma of the ventricles and the neuroglia cells are unstained. The cerebro-spinal fluid is unstained. These results are in conformity with those of Goldmann, except that the carmine stains the membranes. Kiyono does not find any staining of the capillary endothelium of the hypophysis, although the interstitial klastomycetes contain abundant carmine granules. These interstitial stained cells are found in both the glandular and neuro-hypophysis. Goldmann and others, after injection of trypan blue, however, found the capillary endothelium of the glandular portion stained, which was a different result from that of Kiyono. Neither lymphocytes nor plasma cells nor myeloid cells are stained, nor are smooth muscle fibres, heart muscle, and striped muscle fibres. Borrell has shown that carmine is deposited in the ovary only in cells of the "corpora involutionis." Kiyono agrees, and thinks these cells are histiocytes. In pregnancy the carmine never passes into the fœtal animal, in spite of the fact that the placenta is intensely stained red. Kiyono's results, therefore, agree in the main with those of Goldmann, except in the fact that the amniotic fluid is unstained by the carmine method.

Some interesting observations have been made by Kiyono on inflammation of the cornea. He found that when this structure is experimentally inflamed, not only is there a migration of leucocytes from the circumference of the cornea, but also of klasmatocytes containing carmine granules.

He has also made observations by vital staining on fowls suffering with sarcoma and mice with cancer. His researches show that in sarcoma both the sarcoma cells and the interstitial cells contain the coloured granules, whilst in carcinoma only the interstitial cells are stained.

What are these intracellular coloured granules, and why are they present in some cells and not in others? We have a solution of carmine injected into the blood stream, and yet neither the living endothelium nor the blood cells contain the pigment, but only certain tissue cells. Is it because the cells contain a substance in granule form of varying size, which has an affinity, either physical or chemical, for the colouring matter; the chromo-receptor theory of Ehrlich, which Goldman favoured; or is it the carmine has an elective affinity for soluble lipoid substances existing in granule form in the cells? To Kiyono it does not appear probable that the carmine granules are of the nature of bioblasts or living elemental particles (Altmann's granules).

It is impossible in a review to do more than call attention to some of the many interesting facts contained in this valuable monograph, illustrated with five excellent coloured plates and provided with a very complete bibliography. The work is well worth a study by histologists.

[1] *Die vitale Karminspeicherung.* Von Dr. K. Kiyono, Kioto (Japan); mit einem Vorwart von L. Aschoff. Jena: G. Fischer. 1914. (Roy. 8vo, pp. 265; 5 plates. M. 16.)

NEUROLOGY.

THE second edition of Dr. GORDON'S textbook of *Diseases of the Nervous System*[2] has been brought up to date by the addition of various paragraphs on important subjects of recent origin, such as the Wassermann reaction and psycho-analysis, and aims at giving students and practitioners a plain and practical account of the subject. In addition, a considerable amount of space is given to treatment, where treatment is likely to be of service. The book is clearly written, full of detail, and well illustrated. It shows a tendency to pass lightly over the difficulties of the subject, for which, perhaps, the readers for whom it is intended will be grateful. The author is an American, and not seldom uses words with a breezy disregard for their finer shades of meaning. For example, on p. 382, he describes "An insolated neuritis . . . . of the musculo-spinal nerve," where the word "insolated"—no doubt a hybrid between "insulated" and "isolated"—has no reference to the sun. On p. 528 it is stated that in "trumpet players a spasm of orbicularis palpebrarum has been observed," much as if that muscle were identical with the orbicularis oris. Evidences suggesting a rather hasty compilation may be found throughout the book, and not a few misprints.

Professor MAX VERWORN'S treatise on *Irritability*[3] consists of a series of lectures delivered in 1911 at Yale University under the terms of the Silliman Memorial Fund. It contains not only the results of the author's laborious and systematic investigation of the general effects of stimulation but also a wealth of information with regard to those of other workers. The treatment of the subject at the hands of Professor Verworn is masterly, and will doubtless command the widest interest. Among the many problems treated there is not one upon which a flood of light is not shed by the insight and zeal of his research. He holds that the chemical process which in the functional disintegration of aërobic-bearing substance accompanies the transformation of potential into kinetic energy, consists in the breaking down of a loosely combined complex molecule into simpler elements through the sudden addition of oxygen. He demonstrates the applicability of the "all or none" law to the normal functioning of the medullated nerve and the muscular fibre, that is, that in every normal nerve impulse or contraction, from cross-section to cross-section, the entire number of irritable molecules are broken down as the wave of activity proceeds. He adduces evidence favouring his belief in the presence of a reserve supply of oxygen in the aërobic cell. He shows how the refractory period which follows excitation must be absolute for organisms or structures to which the "all or none" law applies, relative merely for those in which functional disintegration is incomplete. He defines fatigue as "the refractory period prolonged by deficiency of oxygen." He demonstrates the fatigability and the functional dependence upon oxygen of nerves. He regards inhibition as merely "an expression of a refractory period persisting as a result of dissimilatory

[2] *Diseases of the Nervous System; for the General Practitioner and Student.* By A. Gordon, A.M., M.D. Paris: Second edition, revised and enlarged. London: H. K. Lewis. 1914. (Roy. 8vo, pp. 632; 169 figures. 17s. net.)

[3] *Irritability.* A Physiological Analysis of the General Effect of the Stimuli in Living Substance. By M. Verworn, M.D., Ph.B. London: H. Frowde. 1913. (Med. 8vo, pp. 276; 63 figures. 15s. net.)

excitating stimuli," considering that it as well as tonus is based upon a state of equilibrium between excitation and recovery, disintegration and restitution, the two conditions differing merely in the level at which this equilibrium is maintained. The lectures were written in German, and the English version has been prepared by the author's wife, aided by Dr. Lodholz. The only fault we find with it is the profusion of split infinitives.

THE EXTERNAL SECRETIONS OF THE DIGESTIVE GLANDS.

An enormous amount of work upon the processes of digestion has been carried out in Russian physiological laboratories during the last quarter of a century. So far as British readers are concerned, there is reason to believe that most of it has been obscured in German periodicals or lost in Russian publications, to speak in a general way, although it was brought into prominence in 1898 when Pawlow published his book on the work of the digestive glands, which was soon translated into English. A well written and comprehensive account of all these and other kindred researches is to be found in a recent publication by Babkin,[4] for ten years an assistant in Pawlow's laboratory.

The book deals with the work and mechanism of these glands in man and carnivores, and does not attempt to go deeply into the chemistry or the activity of the ferments of digestion. It opens with 86 pages on the salivary glands, their action, secretion, innervation, and control. Then follow 150 pages on the secretion of the gastric juice, a subject in which physiology owes so much to Pawlow and his pupils. A special chapter is given to the pars pylorica of the stomach and Brunner's glands in the duodenum, for in the dog both these secrete a digestive fluid continuously, whether the animal is fed or fasting. A hundred pages are given to the pancreas and its secretion. The effects of the passage of bile into the duodenum are briefly noted, and in the remainder of the volume the intestinal secretions and certain peristaltic phenomena are considered. An index of authors' names and a fair subject index bring the volume to an end.

We have nothing but praise for Dr. Babkin's book. It is clearly and succinctly written, full of references to the literature, and apparently complete within the limits set by the author. It is dedicated to Pawlow, and may probably be taken as an authoritative exposition of the views held by that eminent physiologist. It appeals primarily to the physiologist but contains much that is of interest to medical men, and should be found in all medical libraries.

TEXTBOOKS OF CHEMISTRY.

In the preface to Dr. H. T. Clarke's *Organic Chemistry*,[5] the author expresses the opinion that there are two distinct and incompatible methods on which such a book may be written, the one keeping chiefly in view the practical aspect of the science, and the other its symmetry and homogeneity. He declares himself a convinced adherent of the latter method, and points out that no real knowledge of the subject can be acquired without laboratory work, details of which should not be given in a textbook to be memorized. Organic chemistry, with its innumerable compounds related to one another in an orderly system, is a subject in regard to which it is particularly important for the author of a textbook to proceed on a well-considered plan, and Dr. Clarke has certainly achieved the clearness of presentation at which he has aimed, while the fascinating character of the subject can hardly fail to appeal to the student who takes this book as guide. In scope it is intended to meet the requirements of the new syllabus of the lower examination of the Board of Education, and is also designed for those preparing for the medical examinations. It can be strongly recommended to students requiring a work covering this ground.

The *Elements of Chemistry*,[6] by Mr. H. Ll. Bassett, is put forward as containing in one volume all the chemistry—general, inorganic, organic, and practical—that is required for the various first medical examinations, and is intended principally for those who do not wish to devote more than one year to the chemistry and the other subjects required for such examinations. In what is thus frankly an examination textbook one does not of course expect to find the student led from experiment to theory, or from particular cases to generalizations. Its method is to enunciate the various "laws" as *ex cathedra* statements, and then marshal a few facts exemplifying them. It is obvious, too, that if the desired ground is to be covered in a moderate-sized book no words must be wasted. In the present case the author has succeeded in accomplishing his object; and while such a method of treating the subject is not suitable for those who wish to learn chemistry, those who wish to acquire only a sufficient acquaintance with it for the examinations referred to are not likely to find a better book for the purpose than this of Mr. Bassett's.

Mr. F. H. Jefferey's *Notes on Elementary Inorganic Chemistry*[7] adds yet another to the large number of books of all sorts on the subject of chemistry written primarily for the author's own pupils. It is intended to be used in connexion with a course of lectures and laboratory work; it is quite elementary in character and little ground is covered. It will no doubt be useful for the purpose for which it is intended, but possesses no special character to differentiate it from many others.

NOTES ON BOOKS.

Lambart's *Practical Handbook of the Tropical Diseases of Asia and Africa*[8] may prove useful to any one who wishes to run rapidly through the chief points of the diseases found in these continents. The contents are arranged alphabetically, and the work embodies the experience gained by the author during residence in various parts of the tropics. Its aim is to be concise and practical, and theory and disputed points are therefore omitted. Special attention is given to treatment, and the recommendations are sound. The matter throughout the book is good, and care has been taken in its compilation, though one or two small errors have crept in. Without wishing to cast any aspersions on the author's artistic skill, we may say that he might have been well advised to have used photographs instead of some of his own drawings.

OPENING OF THE WINTER SESSION AT THE MEDICAL SCHOOLS.

All medical schools in London commenced work for the winter session last week, but at most of them there was no opening ceremony whatever. At none of the schools was there the usual gathering of old students round the table, and only at the Middlesex and the London School of Medicine for Women were opening addresses delivered. At the former school there was a prize distribution, at which Sir John Bland-Sutton presided, and an address on the subject of alienism, and its attractions and shortcomings as a career, was delivered by Dr. Hubert Bond, one of His Majesty's Commissioners in Lunacy.

At the London School of Medicine for Women the address was delivered by Dr. Frances Ivens, Honorary Medical Officer for Diseases of Women at the Stanley Hospital, Liverpool. After some general remarks on the work of the school and its position among its compeers, and some aspects of the National Insurance Act, she said that there had recently been a swing of the pendulum towards whole-time inspection appointments for medical women. It was to be hoped that by the time those whom

[4] *Die äussere Sekretion der Verdauungsdrüsen.* Von Dr. med. B. P. Babkin. Berlin: J. Springer. 1914. (Sup. roy. octavo, pp. 417; 29 figs. Mk. 16; bound, M. 16.80.)

[5] *An Introduction to the Study of Organic Chemistry.* By H. T. Clarke, D.Sc. Lond., F.I.C. London: Longmans, Green, and Co. 1914. Post 8vo, pp. 491; 9 figures, numerous diagrams. 6s. 6d.)

[6] *The Elements of Chemistry.* By H. Ll. Bassett, B.A., B.Sc.; with an Introduction by Professor W. J. Pope, M.A., F.R.S. London: Crosby Lockwood and Son. 1914. (Cr. 8vo, pp. 380; 31 figures. 4s. 6d.)

[7] *Notes on Elementary Inorganic Chemistry.* By F. H. Jefferey, M.A. Cambridge: University Press. 1914. (Demy 8vo, pp. 55. 2s. 6d.)

[8] *A Practical Handbook of the Tropical Diseases of Asia and Africa.* By H. C. Lambart. London: C. Griffin and Co., Limited. 1914. (Post 8vo, pp. 339; 6 plates, 82 figures. 8s. 6d. net.)

the speaker was addressing were qualified it would have swung back. Not only was it in many cases a form of blind-alley employment, but it compared as unfavourably with mixed general practice as did machine work to hand work in its tendency to kill individuality and initiative.

If they were obliged, for financial reasons, to take it up, let it be for as short a time as possible, unless they found that they really were interested in what they were doing and were doing it well. Let them not think, however, that for general practice they would not need to put out their best energies. No idea could be more erroneous, for the bulk of medical work had to be done by the general practitioner, who must be prepared to face all emergencies. The world in general was in a position to criticize his smallest error with severity and based its judgement of the whole profession on the representatives with whom it was brought into contact. If they chose this exacting branch of practice they would need a sound medical education, good health, much wisdom and all the virtues. Failing these it were wiser to tread a less thorny path such as that of surgery. The surgeon from remote times had been permitted to be less perfect than the physician. But if they were as courageous as the speaker expected, the easier path would not appeal; consequently she would place before them some of the attributes which might be considered necessary for an ideal practitioner. First came the gift of imagination, the power of seeing with the eyes of the mind. This would glorify the common task and daily round, for they must not expect that all medical work would be interesting and thrilling.

Imagination would enable the fortunate possessor to place herself in the position of those with whom she was brought into contact, and so to realize the facts of life as they affected another. It would prevent her from wounding the feelings of her patients and from blurting out the truth with somewhat brutal candour, when a little reticence might be advisable. In her dealings with her fellow-practitioners it would give her the power to recognize how a given course of conduct would affect them, and would thus partly take the place of experience. She would be better able to acknowledge their rights and privileges, to realize she was not the only pebble on the beach, and must not play her own game regardless of the tactics of the team. Having the power to see, she was able to show forbearance and courtesy to the most unreasonable and exacting patients, and had nothing with which to reproach herself when she discovered there were many extenuating circumstances to account for their whims and fancies. However tried she would not terminate abruptly the long-winded story of the old lady who, meeting a medical woman for the first time, seized the opportunity to pour out her medical history in copious and uninteresting detail. Still more would imagination prevent her from resembling ever so slightly that repellent person—"one that would peep and botanize upon his mother's grave." She would not forget that the patient was a suffering human being, not a case, and as such was entitled to the most sympathetic handling and the tenderest consideration. However zealous and enthusiastic as a student, she would have always regarded the patient's comfort before her own need for knowledge, and though she might have missed examining an unusual case, her soul would not be stained by thoughtless cruelty. Taking as her patron saint St. Hildegard, the Abbess of Ruppertsberg in the twelfth century, the first physician who ever attempted to make nauseous drugs palatable, she would spare herself no effort to give physical and mental relief with as little pain as possible. A student of human nature, born with a sense of humour, she would never be bored, but find endless scope for interest in the constant variety her profession opened out before her. Judgement and sense of proportion would enable her to view with detachment, and as a whole, many things which might otherwise overwhelm her with their desperate sadness. Honesty and sincerity would lead her to expect to find truth in others, and she would rarely be disappointed. Accurate in thought and thorough in detail, the ideal practitioner would be no machine, and would not fail to respond with enthusiasm to any note of human interest. Although possibly but recently qualified, she would not regard herself as infallible, and, recognizing that she herself occasionally might make a mistake, would be charitable to others. She would listen, therefore, somewhat coldly to the tales of wrong-doing on the part of other practitioners, poured out by neurotic and dissatisfied patients, conscious, too, that she herself would probably be the next subject for complaint.

Narrowly observant, she would gain the confidence of others, not by brilliant guesses, but by avoiding rash conclusions based on insufficient data and impressing them rather by a well-balanced judgement. Although by no means unsocial and of an open disposition, she would respect with the strictest rectitude the confidences of her patients. Generous to a fault, she would realize that her profession was an art, not a trade, and having an artistic sense of perfection, she would give only one form of service, her best. Not always counting the cost to herself, she would be rewarded bountifully by the affection of her patients. Tolerant of others, she would express no harsh judgements. Remembering the words of Hippocrates, she would not shirk responsibility, "knowing that the physician himself acting should do the things that are useful." Having a strict sense of duty, her word would be her bond, and what she promised she would perform faithfully to the best of her ability. Not lacking in courage, she would be able to face difficult situations with calmness, and would not be dismayed by the first obstacle. Not forgetting that she was a woman as well as a doctor, she would use her intuition on many occasions with startling success.

SLEEPING SICKNESS.

THE following statement, which reaches us from Nyasaland, was drawn up by request at a recent meeting of the mission council by the medical men working in connexion with the Livingstonia Mission. It expresses in brief form opinions and recommendations which had been placed before the home authorities at earlier dates. The years inserted after each signature show the terms of service in the country.

Statement.

The members of the Livingstonia medical staff desire to express their approval of the Livingstonia Committee's action in keeping in touch with the Colonial Secretary regarding the question of sleeping sickness in Nyasaland and Rhodesia.

They reaffirm their belief that we are facing one of the gravest problems with which these territories have been confronted; and in this connexion they wish to emphasize the following points:

1. That the tsetse fly is rapidly encroaching upon districts where within the memory of living man it was never before encountered, causing great loss among cattle, and endangering human lives.

2. That the cases of sleeping sickness officially reported in Nyasaland during a period of about two years number nearly 200, while the actual number of cases is much larger. The number of officially reported cases in Rhodesia is not known to us, but we are aware of some districts being heavily infected.

3. That missionary operations are being seriously interfered with, the medical members of the Livingstonia Mission Council having had great difficulty about recommending suitable sites for mission stations in the Chinsali, Lundazi, and Fort Jameson divisions of Rhodesia, these districts forming geographically about one half of the Livingstonia sphere.

The Dutch Reformed Church Mission working in Nyasaland has been compelled at great trouble and expense to move its headquarters from Moera, where it had worked for twenty-five years, to Mkoma, owing to the advance of infective fly.

4. That it is well known to us as medical men and old residents in these territories that tsetse fly is not in itself a source of danger. It is a troublesome pest, but not more so than many other biting insects abounding in tropical Africa.

In the presence of infective game, however, it at once becomes a menace to the welfare of the whole community, game being the natural reservoir of several varieties of trypanosome pathogenic to domestic animals, and, we believe, of one or more varieties pathogenic to man.

5. That the measures suggested by the Liverpool Commission and by medical missionaries of experience in

tsetse-infested areas should at once be put into force. Briefly summarized, these are the suspension of our present game laws in the vicinity of human settlements and public highways. This need not interfere with the work of the recently-appointed Entomological Commission, as ample opportunity would still be afforded in many parts for the study of the bionomics of the tsetse fly.

6. That, considering the knowledge now available of the intimate connexion between game, tsetse, and the various forms of trypanosomiasis, the time has fully come for the Colonial Secretary to implement his promise to the missionary deputation.

We request the Livingstonia Committee once more to approach the Colonial Secretary with this end in view. Should his reply be unsatisfactory, we recommend the committee to use every power at its command, political or other, for the protection of our people and ourselves from the deadly scourge which is slowly but steadily spreading abroad in the land. The medical members of the Livingstonia staff who approve of the above statement are:

(Signed) Robert Laws, M.D. (39 years),
W. A. Elmslie, M.B., C.M. (30 years),
George Prentice, L.R.C.P. and S.E., D.T.M. (20 years),
Frank A. Innes, M.B., Ch.B., D.T.M. (15 years),
James Chisholm, L.R.C.P. and S.E., D.T.M. (14 years),
Wm. J. Turner, M.B., Ch.B., D.T.M. and H. (7 years),
H. F. Wilson, M.B., B.C., D.T.M. (recent).

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Continued from page 591.)

Help for the Wounded during the American War.

The movement which developed into the international organization, conveniently designated by the general term "Red Cross," was definitely started at the conference at Geneva in 1863, held in response to the efforts of Henri Dunant. It should not be forgotten, however, that an independent organization for the aid of the wounded came into existence in America during the Civil War. At the outbreak of the war in 1861 a women's central association of relief was formed at New York. They announced that they wished to organize the scattered efforts of the women of the country; for that purpose they said "they will collect and disseminate information on the actual and prospective wants of the army, establish recognized relations with the medical staff, and act as auxiliary to it, that they will maintain a central dépôt of stores, and open a bureau for the examination and registration of nurses." Dr. Valentine Mott was elected president. They met with the greatest difficulty in getting themselves recognized by the authorities, and even President Lincoln thought they would "be adding a fifth wheel to the coach." Notwithstanding every discouragement, they succeeded in securing the appointment of a "commission of inquiry and advice in respect of the sanitary interests of the United States Forces, to serve without remuneration, and to be officially recognized within the limits of their authority." The commission divided itself into two committees, one of inquiry and one of advice. A central office was established at Washington, and agents were sent to every part of the army. Only three weeks after the formation of the Commission its general manager, Mr. Olmsted, made a detailed report on the hygienic condition of the troops and the probable needs of the volunteers. A system of camp and hospital inspection was organized, and the necessity of better sanitary arrangements was urged on the Government, but the laxity of discipline rendered improvements all but impossible. Supplementary hospital accommodation was organized at every station in the army. An idea of the work of the association may be gathered from the account of the battlefield relief given after the battle of Antietam, fought on September 17th, 1862, which closed the campaign in Northern Virginia and Maryland:

> More than 10,000 Federal wounded, besides a large number of the enemy, were in need of succour. Every house, barn, church, or building of any kind for miles was filled with them. The supplies of the medical authorities were not a tenth of what was absolutely needed. But throughout the campaign a waggon train laden with supplies had been sent from the head quarters of the Commission to the army every day, and after the battle relays of these trains daily arrived. Thus the first wants of the wounded were at once attended to, and by the nineteenth the most pressing necessities of all were relieved, and it must be borne in mind that the aid given in the first two days is worth all in the next ten—chloroform, opiates, instruments, bedpans, and everything required for the treatment of the wounded was supplied. "Within a week after the battle of Antietam there were dispatched to the field by the sanitary commission and distributed by its agents the following articles: 28,763 pieces of dry goods, shirts, towels, bedticks, pillows, etc.; 30 barrels of old linen bandages and lint, 3,188 lb. farina, 2,620 lb. condensed milk, 5,000 lb. beef stock and canned meats, 3,000 bottles wines and cordials, and several tons of lemons and other fruit, crackers, tea, sugar, rubber cloth, tin cups, and hospital conveniences."[1]

The Commission continued to do excellent work throughout the war, not only by helping the surgeons and supplying medicines, food, and other necessaries, but by trying to comfort the patients and ministering to them in mind as well as in body. Some members were arrested and sent to prison, but nothing stopped them. The overworked medical officers, with no medical comforts and often without the most necessary appliances, had often occasion to say: "Thank God, here comes the sanitary commission; now we shall be able to do something." Twenty-two thousand wounded were succoured at Gettysburg alone. After the battle of the Wilderness the train of carriages containing wounded men stretched for ten miles in length. The Commission established three healing stations on the road, whence nourishing food was borne to the wounded men in the ambulances. A notion of the nature and variety of the help given may be got from the record of one day's work of a member of the corps when the first days of agony were over:

> Yesterday I went round with a basket on each arm and a haversack on my neck. A rough estimate of the day's work from the morning and evening stock on hand showed that I had given out writing paper and envelopes to about 700 men, pencils to 90, a large lot of newspapers . . . crutches to 136 wounded below the knee, who were thus enabled to get up and move about, arm slings to 115 wounded in the arm, a piece of chewing tobacco each to about 370, smoking tobacco and matches to about 450, and pipes to 73 who had lost theirs. . . . The sleep last night was sweetened by bearing out 38 nice warm new blankets to as many blanketless men whom I found as I came from a distant part of the camping ground at a late hour of the evening.[2]

The Commission continued its beneficent mission to the very end of the war. How its work was appreciated by the fighting men is well shown in Bret Harte's verses entitled, "How are you, Sanitary?"

> Down the picket-guarded lane
> Rolled the comfort-laden wain,
> Cheered by shouts that shook the plain,
> Soldier-like and merry:
> Phrases such as camps may teach,
> Sabre-cuts of Saxon speech,
> Such as "Bully!" "Them's the peach!"
> "Wade in, Sanitary!"
>
> Right and left the caissons drew,
> As the car went lumbering through,
> Quick succeeding in review
> Squadrons military:
> Sunburnt men with beards like frieze,
> Smooth-faced boys, and cries like these—
> "U.S. San. Com.," "That's the cheese!"
> "Pass in, Sanitary!"
>
> In such cheer it struggled on
> Till the battle-front was won:
> Then the car, its journey done,
> Lo! was stationary;
> And where bullets whistling fly,
> Came the sadder, fainter cry:
> "Help us, brothers, ere we die—
> Save us, Sanitary!"

The Geneva Conference.

It would be tedious, and at this time of day unprofitable, to follow the movement set on foot by Dunant through all the complicated details of the negotiations which led to the successful establishment of the Red

[1] Brackenbury, *Help for Sick and Wounded*, London, 1870, p. 436.
[2] Ibid., p. 438.

Cross. A summary narrative will enable the reader to appreciate the exact objects aimed at and the difficulties that had to be overcome before they were attained. In a circular addressed to the Powers asking for their co-operation in an international conference, Dunant recommended the creation in all the countries of the world of permanent national committees which should arrange that on the outbreak of a war they should have ready an adequate provision of aids for the sick and wounded, without risk of seeing them wasted or diverted to other purposes. He urged that there should be co-ordination of the various national committees, each working for the same philanthropic end, in accordance with the differences of national temper, custom, religion, and so forth; that each committee in time of war should act in the interests of its country; that the sick and wounded and the personnel and material of hospitals and ambulances should be treated as neutrals. The committees of non-belligerent States were to be asked to help impartially the committees of those at war. He also advocated periodical international conferences, either of the national committees or of the military health services, to study the improvements in hospital, transport, care of the wounded, and other questions relative to the care of the sick and wounded. Another point on which he laid stress was the creation of international expositions, and the regular and continuous instruction of voluntary helpers. Dunant further sent to the press of all countries an urgent appeal that every country should profit by the experience acquired by its neighbours, and contribute in turn to the obliteration of national prejudice. His ideas were hailed with sympathetic interest by charitable societies in France, Germany, and other countries. The Genevan Society of Public Utility appointed a committee consisting of the Commander-in-Chief of the Swiss army, General Dufour, Gustave Moynier and two Genevan doctors, Théodore Maunoir and Louis Appia, with Dunant himself, to study the question of the attachment to belligerent armies of a corps of volunteer male nurses.

A draft concordat consisting of ten clauses with an explanatory circular signed by five members of the committee was drawn up for submission to the Conference. Dunant attended the fifth International Congress of Statistics at Berlin in September, 1862. The fourth section of that congress was composed of army doctors, and on their programme of discussions was one on the comparative statistics of health and mortality in the civil and military population. At the general meeting the congress passed a resolution recognizing Dunant's work, and expressing the hope that the projected conference at Geneva would help to diminish the sacrifice of health and life entailed by battles. The Crown Prince, afterwards Emperor, had a long interview with Dunant, who was presented to General von Roon, Minister for War, who received him with these words: "Ah, ah, then you wish to make our surgeons neutrals?" As Dunant insisted upon the importance of neutralization of the wounded, von Roon replied: "We will come to that later." After some minutes of reflection he said: "In point of fact the neutrality of the doctors and the voluntary helpers implies that of the wounded." Von Roon enthusiastically adopted Dunant's ideas, and declared himself in favour of a uniform and international flag. Prince Karl of Prussia, brother of the King, and Grand Master of the Order of St. John of Jerusalem, promised the concurrence of his Order, and he sent Henry XIII of Reuss as his representative to the Conference.

The Conference was attended by thirty-six persons, including delegates from fourteen States, some of whom were army medical officers. General Dufour welcomed the delegates, and then vacated the chair in favour of M. Moynier. Dunant was Secretary. The Conference sat for four days, and passed a number of resolutions, of which the chief are the following:[8] In each of the countries which shall adhere to the Convention proposed by the Geneva Bureau a committee shall be formed with the object of co-operating in time of war, if there should be need for it, by all means in its power with the medical services of the armies. Each committee shall organize itself in the manner that appears to it most suitable and divide itself into sections according to need. Each committee shall make application to the Government of its country to get its services accepted. In time of peace the central committees and the sectional committees shall occupy themselves with arranging the means to make themselves truly useful in time of war, especially in preparing material helps of all kinds and seeking to form and instruct volunteer hospital workers. In case of war the committees of the belligerent countries shall furnish help to their respective armies in proportion to their resources. They shall organize the hospital volunteers, mobilize them and in accord with the military authority arrange places for the care of the wounded. They may ask for the support of the committees belonging to neutral nations. With the permission of the proper authority, the committees shall send to the battlefield volunteer helpers to work under the direction of the military commanders. They must all wear, to whatever country they belong, a white brassard or arm badge with the red cross. In addition to these the Conference passed *vocux* asking that ambulances, hospitals, official sanitary personnel, and the inhabitants of countries helping the wounded should be completely neutralized; that a distinctive uniform badge for the health services of all armies should be admitted diplomatically, and that an identical flag for ambulances and hospitals should be adopted by all countries. The Geneva Commission was appointed the International Committee, and as such entrusted with the carrying of its resolutions into effect.

The committee got to work at once and in July, 1864, fifteen States had agreed to the suggestions of the Conference for the formation of help committees. The French Emperor informed Dunant that he had instructed the Minister for War to authorize some general officers to become members of the committee then being organized in France. After the Conference Dunant, who had previously laid down the bases of the Central Prussian Committee, asked Prince Henry to be its president. The Committee was founded in February, 1864, and the Minister for War, von Roon, wrote that it might count on active co-operation and keen sympathy from the Prussian military authorities.

International Congress.

In April, 1864, the French Minister of Foreign Affairs informed Dunant that if, with the view of transforming the idea of neutrality into an international law, Switzerland invited the Powers to a congress, France was ready to support the proposal. It was accordingly arranged that a congress for the purpose should be held at Geneva, and, after some discussion, it was agreed that the Federal Council should send out invitations to twenty-five States. Sixteen sent official delegates—namely, Baden, Belgium, Denmark, Spain, the United States, France, Great Britain, Hesse, Italy, Holland, Portugal, Prussia, Saxony, Sweden and Norway, Switzerland, Würtemberg. Great Britain, the United States, Saxony, and Sweden had not given their delegates the necessary powers to sign the treaty, but had reserved to themselves the right of signing the protocol. Soon afterwards these countries adhered to the Convention. Russia, which had accepted the invitation, could not send a representative at the proper time. Brazil, Greece, Mexico, and Turkey expressed regret for being unable to send delegates in time, but the three last named States held out the hope of a later adhesion to the resolutions. The congress met in August, 1864, and sat from August 8th to 22nd, under the presidency of M. Moynier. It concluded its labours by drawing up a number of articles which were embodied in a formal Convention.

(To be continued.)

[8] *Les Origines de la Croix-Rouge.* Par Ch. F. Haje et J. M. Simon. Stuttgart, Imprimerie de A. Lindheimer, Amsterdam, Academische Boekhandel, Delsman, and Nolthenius. 1900. The account of the foundation of the Red Cross here given is largely based on this work.

THE BRITISH PHARMACOPOEIA, 1914.

In the period—nearly sixteen years—which has elapsed since the appearance of the present *British Pharmacopoeia*, the number of new substances and combinations which have come into use has probably been far greater than in any previous equal period of time; it is of much interest and importance, therefore, to consider in some detail how far the new *Pharmacopoeia*, which will become the official standard on January 1st, 1915, gives statutory recognition and definition to new medicines, and generally what are the changes in formulae which are introduced by it. A certain proportion of such changes, of course, merely represent improvements in the pharmacy of various

preparations, and are of subordinate interest from the point of view of the prescriber. In the present and succeeding articles, changes of this kind will not be discussed in detail, but attention will be given to those alterations, additions and omissions which are of particular interest to the medical profession.

The publication in 1900 of the *Indian and Colonial Addendum to the British Pharmacopoeia 1898*, represented the first attempt, to some extent provisional, to give the *Pharmacopoeia* an imperial scope. In the new volume, those drugs and preparations of the *Addendum* which it has been decided to retain have been incorporated in the body of the book, and the work is thus, for the first time, a British Imperial Pharmacopoeia. The list of divisions of the British Empire referred to in the new *Pharmacopoeia* is somewhat greater than that given in the 1900 *Addendum*, as it includes Northern and Southern Rhodesia, Swaziland, Weihaiwei, and some colonial provinces and divisions not previously mentioned individually.

The alterations of a general nature which have been made are to some extent summarized and indicated in the course of the preface. A comparison of the preface of the new *Pharmacopoeia* with that of the 1898 issue shows that the greater part of it is identical, but the following matters are pointed out as having been dealt with differently.

Weights and Measures.

In all the formulae for the preparation of galenicals and compound medicines the metric system is now exclusively employed. Doses are stated both in the metric and imperial systems, the metric doses being given first; the equivalence of the doses in the two systems is necessarily only approximate. The term "cubic centimetre" is now entirely dropped, and is replaced by the more correct term "millilitre," defined in the appendix as the volume at 4° C. of 1 gram of water; this term, however, is shortened to "mil" in stating doses, the word "mil" having been given official recognition by the Board of Trade in 1908; the subdivisions decimil (one-tenth of a millilitre, approximately 1.69 minims), and centimil (one-hundredth of a millilitre, approximately 0.169 minim) are also regularly used in the same connexion. It was stated in 1898 that "it is still optional with the physician *in prescribing* to use the symbols ℈ (scruple) and ʒ (drachm), the former representing 20 and the latter 60 grains"; but in the present preface no reference is made to the scruple, and in regard to the symbols ʒ and ℥ it is remarked, "in prescriptions the symbol ʒj is often used to represent 60 grains, and also to represent 1 fluid drachm; and the symbol ℥j to represent sometimes 480 grains, sometimes 437.5 grains, and also to represent 1 fluid ounce. As these symbols are apt to be misread, it is recommended that prescribers should cease to employ them." With regard to this recommendation, it is no great inconvenience to discard the symbol ʒ, and to express the quantities of solids in a prescription in grains, and small quantities of liquids in minims; but for larger quantities of liquids, including the total volume to which a liquid medicine is to be made up, it is hardly likely that the symbol ℥ (indicating 480 minims) will be readily given up until such time as the use of the metric system in writing prescriptions may become general.

Dosage.

It is again pointed out that the doses mentioned in the *Pharmacopoeia* are not authoritative, but are merely intended for guidance, and represent the average range of quantities usually prescribed for adults, while the medical practitioner must act on his own responsibility in respect to the amount of any therapeutic agent he may prescribe or administer. It is added that "where an unusually large dose appears to be prescribed, it is the duty of the pharmacist or dispenser to satisfy himself that the prescriber's intention has been correctly interpreted." It would have been of considerable assistance in this direction if it had been definitely recommended that where a dose of any potent medicine greatly in excess of the official maximum dose is prescribed, a note of exclamation or the initials of the prescriber should be appended to show that it is intentional and not a slip of the pen.

Preparation of Chemicals.

The descriptions of processes of manufacture of medicinal chemicals mentioned in the monographs have not been amplified; such changes as have been made are in the direction of further reduction, while the general phrase used is, "it may be obtained by . . .," instead of "it is obtained by . . ." It is not possible to include in a pharmacopoeia descriptions of the actual processes employed in manufacture of chemicals on the large scale, nor would it serve any useful purpose; as, moreover, new processes are frequently introduced which supplant the older ones, it is more correct to say of any given substance that it *may be* than that it *is* prepared in a particular way. On the other hand, the standards of purity for such substances have in most cases been more exactly defined, particularly in regard to traces of such serious impurities as lead and arsenic.

Tests for Drugs and Chemicals.

Generally, throughout the work, the characters which a substance must possess and the tests which it must pass are defined with greater precision, and several analytical processes not previous included are described in an appendix. This matter will be referred to more fully in a subsequent article.

Standardization of Drugs and Galenicals.

The number of drugs and galenical preparations which are required to contain a definite proportion of the chief active constituent is further increased.

Atomic Weights.

The atomic weights now adopted in the *British Pharmacopoeia* are those agreed upon by the International Committee on Atomic Weights, based on the atomic weight of oxygen as 16. This is an improvement on the present *Pharmacopoeia*, in which atomic weights are referred to hydrogen as 1, giving a series of figures differing somewhat from those employed in standard works on chemistry.

International Conference on Potent Drugs.

Changes have been made in the preparation, composition, and strength of certain galenical compounds containing potent drugs, to bring them into accordance with the recommendations of the International Conference which met at Brussels in 1902. In a few cases these recommendations have not been followed, and the reasons for this are duly set forth.

General Nature of Alterations.

The new *Pharmacopoeia* is a volume of 602 pages, which is slightly more than the aggregate number of its predecessor and the *Indian and Colonial Addendum*. This increase, however, is only due to larger spaces having been left between the monographs, the actual amount of matter being less than in the *Pharmacopoeia* of 1898 and *Addendum*.

Examination of the lists of alterations shows that 168 articles have been omitted, while only 43 new ones have been introduced. These figures indicate clearly that the general policy has been one of exclusion and not inclusion. The drugs omitted, with all their galenical preparations, include many still in fairly common use, such as arnica, gamboge, hemlock (leaves and fruits), cimicifuga, saffron, cusparia, galbanum, hops, mezereon, pareira, sarsaparilla, etc.; of preparations, all the liquores concentrati (first introduced in 1898, and never adopted in practice to any considerable extent) are omitted, and also several plasters, extracts, juices, tinctures, and ointments. The drugs cantharides, coca, jaborandi, and physostigma are dropped, but their active principles—cantharidin, cocaine, pilocarpine, and eserine (the last two in the form of salts only)—are retained; blistering preparations are all made from cantharidin. Figs, prunes, and black pepper are no longer described in monographs, and in the formulae for the preparations into which they enter they are ordered as "of commerce." Chemical substances which are omitted include cerium oxalate, iron arsenate, and phosphate (the latter being replaced by a saccharated salt), lead carbonate, sulphocarbolates of sodium and zinc, and iodide of sulphur.

The drugs and preparations now included for the first time and the alterations in composition, strength, or name of those retained from the 1898 *Pharmacopoeia* require more detailed description, and will be dealt with in the sequel.

(To be continued.)

British Medical Journal.

SATURDAY, OCTOBER 10TH, 1914.

TETANUS AND ITS PREVENTION.

The article on the prevention and treatment of tetanus by Dr. MacConkey, the bacteriologist in charge of the serum laboratories of the Lister Institute, which appears elsewhere, arrives most opportunely, for it is known that a good many cases of this disease have occurred in France among wounded men both of the British and French forces. Thanks to antisepsis tetanus is not now common in peace at home, and many members of the profession have seen little or nothing of it. In the Boer war few cases occurred, so that many of our military surgeons are in like case. In South Africa the men were for the most part fighting over upland grass lands, and the majority of the wounds were occasioned by rifle fire. The conditions of the present campaign are different. In France the soldier is fighting over cultivated land, and shell wounds bulk large among the casualties. Many wounds are necessarily contaminated by the kind of earth which is particularly liable to contain the bacillus of tetanus.

Dr. MacConkey's article is primarily concerned with the prophylactic and curative use of antitetanic serum, but it includes a careful summary of the various premonitory symptoms of tetanus, which should be of the greatest service, as the chances of successful treatment by antitoxin diminish enormously as the disease develops.

It is, however, very doubtful whether, under war conditions, much is to be hoped from treatment other than prophylactic. Experience has shown that if the *toxin* be given but a few hours' start one million times the dose of antitoxin which would save an animal if injected previously may be ineffectual. It is true that apparently hopeless cases have recovered after the administration of large and sometimes colossal doses of high potency serum—as much as one pint being employed in some cases. The amount of serum necessary to effect a cure may no doubt be diminished by administering some of it by lumbar puncture; but an attempt to treat adequately quite a limited number of cases of developed tetanus, even if some measure of success were attained, would soon exhaust all the tetanus antitoxin available.

It is sometimes asked why, when antitoxic treatment is so satisfactory in the case of diphtheria, it should be so ineffective against tetanus. But the contradiction between the two sets of facts is only apparent. By the time symptoms of tetanus have developed the poison has done its work, it is already combined with the nerve cells, and although it may perhaps be gradually dislodged by swamping the fluids bathing the cells with antitoxin, this is a very slow process and the result uncertain. Diphtheria is diagnosed from the local lesion and antitoxin can be administered in time to be already circulating in the body fluids to fix the toxin as it is elaborated by the bacilli. In this way it is prevented from reaching the nerve cells.

The true analogy to treating a case of developed tetanus by tetanus antitoxin is the treatment of a case of diphtheritic paralysis by diphtheria antitoxin. The latter is as unsatisfactory as the former.

On the other hand, it has been abundantly shown that if a small dose of tetanus antitoxin be injected within twenty-four or even forty-eight hours of the time an animal (for example, a horse) is inoculated with a culture of the tetanus *bacillus*, which, without treatment, would be surely fatal, the animal does not contract the disease. The same satisfactory results have followed in veterinary practice and in human surgery in countries, such as India, where wounds soiled by earth are particularly liable to become infected with the tetanus bacillus.

The proper use of tetanus antitoxin in war time is prophylactic rather than curative, and it is most important that those responsible for the care of our wounded should realize this fact. A prophylactic dose of tetanus antitoxin should be the routine treatment in all cases of shell, bayonet, and other wounds, when there is risk of soil contamination, as soon as possible after their infliction. It may not be possible to do this at the time the wounded are first attended to on the actual field of battle, but it should be done at the field ambulance or clearing hospital, and in any case at the earliest possible moment. Only a few cubic centimetres of serum of good potency are required. The injection in no way harms the patient or delays his recovery, and it is horrible to think of the chances of tetanus being added to the sufferings of our wounded for the lack of this precaution.

SLEEPING SICKNESS

The statement on sleeping sickness by the medical men working in connexion with the Livingstonia Mission, published in another part of this issue, brings up again the vexed question of the connexion which exists between game, tsetse flies, and trypanosomiasis.

The report of the Committee on Sleeping Sickness, which sat recently in London, was discussed in the Journal of May 30th, 1914. It showed a considerable diversity of opinion with regard to the prophylactic measures which should be instituted. Many of the members of that Commission, however, had never been in Rhodesia and Nyasaland, and it was pointed out in the Journal that it would have been better if the Commission had actually worked on the spot and had studied the conditions locally. The feeling seems to exist amongst the workers of the Livingstonia medical staff that some of them should have been called to give evidence, especially when the number of years many of them have served in these areas is remembered. Sir David Bruce and his fellow workers, as well as Drs. Kinghorn and Yorke, after laborious and painstaking studies, are convinced that the wild game is the real source of the human disease in Rhodesia and Nyasaland, and this opinion is strongly confirmed by the medical missionaries who have signed the statement now published. It is undoubtedly an important document, and cognizance must be taken of it.

The tsetse fly, not in itself a serious danger, is, in the presence of infected game, as the signatories state, a menace to the welfare of the whole community, for game is the natural reservoir of several varieties of trypanosomes pathogenic to domestic animals, and of one or more varieties pathogenic to man. The conclusion is obvious that these reservoirs must be removed, or at least driven back from the haunts of man, by no means an impossible task. No one, of course, suggests for a moment that the whole fauna of Africa is to be destroyed; what is advised is

the local destruction of wild animals around towns, villages, and other habitations of man. The authors of the statement believe that this may be accomplished by the suspension of the present game laws in the vicinity of human settlements and public highways. If this were done, then the game would quickly become scarce or disappear entirely, and the tsetse fly would not be able to acquire the virus; even though it still existed in such a zone, it would be rendered relatively harmless. That game disappears from around townships and cultivated land is well illustrated by the experience of the more southern parts of Africa. As civilization advances and the land is put under cultivation the game gradually disappears, its presence being incompatible with agricultural work and stock rearing. No country will develop properly that cannot rear domestic animals for its food supply, and on this ground alone infected game should be driven far from such situations. As regards danger to human beings, it has been stated that the Rhodesian and Nyasaland form of sleeping sickness is only feebly endemic and not epidemic, but it is difficult to verify this assertion completely, and undoubtedly there are more cases of persons suffering from the disease than have ever been reported. The statement now published shows that in Nyasaland during a period of about two years nearly 200 cases were actually reported, but it adds that missionary operations are being seriously interfered with on account of the spread of infective tsetse flies.

Taking all these things into consideration, therefore, there is no doubt that the time has now arrived for some definite plan of campaign to be adopted for the prophylaxis of sleeping sickness and the trypanosome diseases of cattle in these regions. Sir David Bruce's suggestions on the subject are good and sound and might well be followed by the Nyasaland Government and its staff in the affected zones. There is a chance at present of stopping the further spread of the disease, but if this chance is allowed to pass there is no saying what the cost will be at a later date. The suggestion that the Livingstonia Committee should approach the Colonial Secretary again on the subject seems a useful one, and it is sincerely to be hoped that the Government will not only act in the matter but act energetically. Little or nothing seems to have been done since the Sleeping Sickness Committee concluded its labours, and this is not as it should be. The time for half-hearted measures is past.

COUNTY ADMINISTRATION AND THE HOME FORCES.

In the scheme for the sanitary organization of the regular army issued in 1907 it was provided that on mobilization a sanitary inspection committee should be formed for service in the field, consisting of a combatant officer as president, a field officer Royal Engineers, and a field officer Royal Army Medical Corps, as members. The scheme proposed that the committee should act under the orders of the General Officer Commanding-in-Chief, and that its duties should be: "(*a*) To ascertain that sanitary appliances and materials of all kinds required for the army are forthcoming, and that an adequate reserve is maintained. (*b*) To assist general officers and the medical service in their efforts to maintain the health of the army by co-ordinating not only the work of the different military branches, but also the military and the civil sanitary organizations of the country or area occupied. (*c*) To initiate schemes of general sanitation, and to serve as a board of reference for the solution of sanitary questions. (*d*) To visit and inspect stations occupied by troops, to advise local authorities regarding necessary sanitary measures, and to further in every way the maintenance of satisfactory sanitary conditions. They will report to head quarters any measures they consider necessary, but which they cannot arrange for locally."

No public announcement has been made of the appointment of such a committee to carry out the duties indicated in respect of the forces now serving abroad. Possibly it may have been considered that during the early operations the movements of troops were so rapid that sanitary questions of this kind were of secondary importance, since experience has shown that camp epidemics as a rule only arise after troops have been for some three or four weeks in the same place. As the events of the last three or four weeks show, conditions demanding the appointment of such a committee may now shortly arise.

But if such co-ordination of sanitary work is necessary in the regular army, where all the regimental officers are trained in sanitation, still more is it necessary in dealing with the Territorial Forces in this country and the new recruits. We do not intend to suggest that an exactly similar system would be desirable or efficacious in this country; on the contrary, we believe that, unassisted, such a committee would accomplish very little work, although it might be useful as a general advisory and co-ordinating body.

When the Territorial Forces were organized medical officers of health were invited to enroll themselves in its medical corps; they were asked to take voluntarily upon themselves the duty of considering the problems to be solved during active operations within their own home area, and to be ready to place their knowledge and experience at the disposal of the officers commanding the Territorial Forces. Many of them responded to this call by becoming commissioned officers whose services would be available on mobilization as sanitary officers (or sanitary specialists). When put to the test by the recent mobilization the system has not worked satisfactorily, and the special local knowledge of medical officers of health has not been utilized to the best advantage, except in a few areas such as London, as was explained in an article published a fortnight ago. A Division may be, and in many instances has been, moved out of its district. Even if it has as sanitary officer a medical officer of health in the area from which the Division is drawn, his local knowledge becomes valueless to it, while his own area and the troops in it are deprived of that knowledge at a time when it is most urgently needed: moreover, a Division usually, probably in all cases, leaves behind detachments on special duty in various parts of its own area. It seems highly desirable that the system should be reconsidered. We believe that in the county medical officers of health the military authorities have at hand medical officers of large general and local experience whose advice would be of the highest value to the command in each district. We are inclined to believe that the originators of the scheme founded it too much on the divisional organization, and did not attach sufficient importance to the points mentioned in the penultimate paragraph. There are six commands in England and Wales, and in each command a large number of counties are included. The Northern Command, for instance, includes Northumberland, Durham, Yorkshire, Lincolnshire, Nottinghamshire, Derbyshire, Staffordshire, Leicestershire,

and Rutland; the Western Command, again, includes Wales and Monmouthshire, Cheshire, Shropshire, Herefordshire, Lancashire, Westmorland, and Cumberland. The head quarters where the Deputy Director of Medical Services is stationed are in the one case at York and in the other at Cheshire. It is clear that effective supervision of local sanitary conditions cannot be exercised by these officers save in the most general sense. Moreover, the Army List shows no sanitary officer on the staff of the Deputy Director of Medical Services at head quarters of commands, and we venture to think that the first step in organizing an effective service would be to appoint an expert sanitary officer in each command, with authority and instructions to consult the county medical officers of health with regard to all proposals for the establishment of camps, or for billeting on an extensive scale. The county medical officer of health would either be able to advise from his own knowledge or would quickly be able to obtain the necessary information. He would know the local difficulties, and would, moreover, be able to superintend any measures which the military authorities were advised to take in order to overcome them.

SURGERY IN THE WAR.

According to a statement by Dr. Henry de Varigny in the *Journal des Débats* (quoted by the *Times*), among over 6,000 wounded men admitted to the Vichy Hospital only some 600 operations were required, and of these not ten were amputations. This is, we believe, in accord with the experience, so far, of the general hospitals in this country, but we fear that it cannot be taken as fully representing the facts. The worst cases have not been brought to this country from the British forces in France, and it is unlikely that cases from the French fighting line have been removed as far as Vichy, which boasts itself to be the central town of France. There is much evidence that the conditions by which the surgeon in this war is confronted are very different from those encountered in South Africa. The general experience seems to be that bullet wounds are comparatively rare. There are wounded men returned to this country from the seat of war who have never seen a German soldier, and it is to shell fire, often at long ranges, that most of the serious casualties are due. Some of the shell wounds are extensive and severe, and we fear it will be found that the number of amputations it has been necessary to perform has been greatly in excess of experience in recent campaigns. The rapid collection of wounded from a position which is being searched by the enemy's heavy artillery must often be a physical impossibility. In spite of all that can be done—and the casualties in the Royal Army Medical Corps have unfortunately been heavy—severely wounded men must sometimes lie out perhaps for many hours before aid reaches them. The congestion of the railways at the rear of the Allies has often caused great delay in getting them to hospital, and this has combined with the severe nature of the wounds and their frequent contamination by earth to make tetanus and traumatic gangrene more frequent than in the past. A medical correspondent at Aix-les-Bains informs us that since the beginning of September a large number of wounded have been admitted to the hospitals in that well-known watering place. Many of them had been two or three days in the train in horse trucks without change of first aid dressings, and the grave cases were in a pitiable state. Since then all the big hotels have been converted into hospitals. The first batch, which arrived at 1 a.m., were, thanks to a very good distribution service, in bed in the hospital by 2.30. The two British surgical volunteers worked on till 10.30 a.m. before the more serious cases had been attended to. Since then attendance at the hospital has averaged seven or eight hours a day, and a good many operations have been performed. There were very few cases of bullet wounds, most of the men suffering from shrapnel wounds, especially of the thighs, buttocks, and genitals. At the time of writing, about a fortnight ago, there had been five deaths, two of them from tetanus and two from secondary haemorrhage. Many of the fifty serious cases in the hospital were then still in a very precarious condition.

WAR PSYCHOLOGY "MADE IN GERMANY."

The war seems to have turned the heads of German men of science, or perhaps it would be truer to say that it has revealed the innate incapacity of the Teutonic mind to see things from any but its own point of view. How otherwise are we to account for the ravings—we can call them nothing else—of Professor Hugo Munsterberg, who has analysed the value of human testimony and other problems of psychology with such subtlety, when he seeks to persuade Americans that his countrymen have been foully wronged by jealous rivals and have committed no crime but defend themselves against unprovoked attack? The same line has been taken by Professor Haeckel of Jena. The calm assurance with which these eminent men ignore facts destructive of their case is a striking illustration of the belief in the general stupidity of all other men which is characteristic of the "cultured" German. We need not insist on the extent to which this attitude of mind must tend to lessen the estimation in which much of the work done in the laboratories of the Fatherland must be held. The most amazing instance we have yet seen of the mingled impudence and simplicity of the German professor is the deliverance—which would be delightfully funny if the subject were not so horrible—of Professor Albert Moll, president of the Berlin Society of Psychology. He professes to give a psychological explanation of the atrocities committed by the German troops in Belgium. It is all, he would have us believe, a matter of hysteria and hallucination. Women are violated, unoffending men, women, and children are murdered, homes are wrecked, a peaceful country is laid waste. But it is not the Germans who are responsible for these things; it is, forsooth, because the Belgian people has been for years and decades left in blind ignorance by the Belgian Government and the Belgian press. Owing to this the Belgian nation has been reduced to a condition which can only be described as national hypnotism! Well, they have had a rude awakening, these unhappy Belgians. The Germans have taught them to know what education means. They are not likely to forget the lesson. And Dr. Moll dares to talk of the "lies" of the Belgian Commission! Are the smoking ruins of Louvain "lies"? Is the wrecked cathedral of Malines a "lie"? The Germans, wherever they could, have left a track of wanton destruction and bloodshed; yet we are complacently told by Professor Moll that it is all the fruit of the Belgians' ignorance, when it is not downright "hallucination"! Either the President of the Berlin Psychological Society has allowed his patriotism to hypnotize his common sense as well as his humanity, or he is seeking to deceive the world. We recommend Dr. Moll to apply his psychology to the moving spirits among his own countrymen who kindled the flame of this tremendous war among the nations. He will find among some of the highest of them excellent subjects for the study of hysteria, hallucination and megalomania. He might also with advantage study an interesting letter from Dr. Kaufmann of Aix-la-Chapelle, which, according to the *Evening Standard and St. James's Gazette* of October 6th, has recently appeared in the *Koelnische Zeitung*. It appears that soldiers passing through the railway station at Cologne declared that the hospitals at Aix were crowded with their comrades mutilated by the Belgians. These tales of cruelty, says Dr. Kaufmann, spread like

wildfire among the soldiers, and a single case of a man being mutilated by a shell is magnified into an outrage, and only one of a hundred similar instances. The soldiers by auto-suggestion come to believe their own wild fancies. We congratulate Dr. Kaufmann on his honesty in making this statement, which may serve to show Dr. Moll that hysteria and hallucination are by no means confined to "ignorant" Belgians.

WAR POETRY.

The war has already produced quite a large crop of poetry of very varying merit. Even the Laureate, Mr. Kipling, and Mr. William Watson seem to us to have shown only a moderate degree of inspiration; perhaps the reason is that the subject is too tremendous. The events are too near to be dealt with even by the most devoted lover of art for art's sake in a purely aesthetic spirit. The songs of Tyrtaeus fired the Spartans to deeds of valour during the Messenian war, but the ditties that stir the spirits of our soldiers and sailors are more of the music-hall than the military order. Neither Dibdin nor Campbell has ever, we believe, had much vogue among seamen. Probably the most popular song at the present time is "It's a long, long way to Tipperary," though in its origin it had, we believe, no association with the war. A fine marching song which one often hears from the recruits on their way to Hampstead Heath or other drilling ground is "John Brown's body lies mouldering in the dust," but that dates from the American Civil War. Of the songs inspired by the present war the best, we think, is Mr. Harold Begbie's "The homes they leave behind," set to music by Mr. Walter Rubens. It is published by Messrs. Enoch and Sons for the benefit of the National Relief Fund; 25 per cent. of the profits are to be given to the variety artistes fund. The tune has a fine lilt, and the words should appeal to all patriots. The refrain will give an idea of the spirit by which it is inspired:

> Men are rolling up in thousands,
> And they've flung their jobs behind,
> They have kissed their girls and mothers
> And they've told them not to mind.
> You have called them to the Colours
> Where the battle breaks and foams.
> Well! they're rolling up in thousands,
> It's for you to help their homes.

Dr. F. Barber Wells, of London, is the author of two little books of verse which have been sent to us by the publisher, Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate, E.C. The proceeds of these poems are also to be devoted to the National Relief Fund. They are entitled respectively "1914, a War Poem," and "The Roll of the Drum." The former denounces the Kaiser, and predicts that

> The Teuton sword shall yet be sheathed in shame
> And every blade engraven "Ichabod."

The second celebrates the heroism of our troops, of whom it is said:

> They hail from the castle and slum;
> They heed not the wounds that are galling;
> They die to the roll of the drum.

The author has a decided gift of verse, and he is to be congratulated on the patriotic feeling which has led him to use that gift in the service of his country. *Drina Drippings* comes to us from a hospital ship. It is a monthly periodical and is intended for the entertainment of those serving on board the *Drina*. The contents are varied and amusing. The verse is of a comic character. The editors are worthy of high praise for their enterprise and success in producing their little magazine under the difficulties they must have had to encounter.

FIRST-AID USE OF ANAESTHETICS IN THE GERMAN ARMY.

Professor Schleich, whose name is associated with modern improvements in local anaesthesiā, has recently advocated the more extensive use of anaesthetics in the field. He even goes so far as to urge the administration of anaesthetics by every soldier, who should carry a small bottle on active service. Chloroform alone is too dangerous for the layman to give himself, while ether is apt to excite the patient, making him toss about and aggravate his wounds. Neither of these drugs should, therefore, be entrusted in the pure state to the soldier. Professor Schleich recommends the following mixture, the efficacy of which he has already tested in the present campaign. The mixture contains ethyl chloride, chloroform, and ether in the proportions of 20, 40, and 120. The man saturates a handful of cotton-wool with this mixture, and presses it to his nose and mouth while he breathes deeply. He quickly loses consciousness, and no longer being able to hold the cotton-wool to his face, the further administration of the anaesthetic is automatically prevented; so Professor Schleich believes, but if the man were lying on his back this might not happen. The loss of consciousness is followed by a prolonged sleep, and when death supervenes it is, according to Professor Schleich, invariably due to the wound and not to the anaesthetic.

The new calendar of the Royal Society of Medicine for the session 1914–15, which has recently been issued, shows that many of the sections have felt compelled to reduce the number of their meetings, in view of the fact that so many of their members are engaged, directly or indirectly, in connexion with the war. The president of the society is Dr. Frederick Taylor, who recently succeeded Sir Francis Champneys.

THE WAR.

ANTITYPHOID INOCULATION.

ANTISEPSIS: RESPONSIBILITY OF INOCULATORS.

Much has been written in the Journal recently on the subject of antityphoid inoculation, but we have reason to believe that some uncertainty may still exist in various directions regarding the exact procedure which it is desirable to adopt, and the precautions that require to be taken to guard against the possibility of septic infection in carrying out inoculations on an extended scale.

In antityphoid inoculation we possess a method of protection of the utmost value. It is a preventive measure which can confidently be relied on to remain effective at the seat of war. It is almost, if not quite, inevitable that sanitary measures of all kinds should fail from time to time in the emergencies of active service. It is, therefore, a matter of the highest importance that the inoculation method should be recognized by our troops, and by the country at large, as being not only reliable but also harmless.

Clearly, no hard and fast rules can be laid down in regard to actual detail, but it may not be amiss to indicate again in general outline the methods which are broadly applicable, and the precautions which should be regarded as essential.

The Vaccine.

The vaccine employed is a sterile suspension of killed typhoid bacilli, sent out in sealed phials, which should be kept in a cool, dark place until required. Before use each phial is well shaken to ensure a uniform distribution of its bacillary contents. It is then opened with all due aseptic precautions, the neck of the vessel being carefully "flamed" both before and after opening. Except in special cases and in the hands of experts, a phial once opened should never be resealed or preserved for further use, otherwise the vaccine may become contaminated. Whatever remains of the contents when the inoculations are completed for the time being must be discarded.

The Apparatus.

The apparatus required for properly carrying out inoculations consists of a small sterilizer and spirit lamp (or Bunsen flame), a bowl of antiseptic solution for the

hands, one or two 1 c.cm. all-glass syringes with a selection of fine needles, and a pair of forceps. The syringes and needles are well boiled at the outset, and during the inoculations are replaced in the sterilizer and reboiled from time to time, the work being carried on meanwhile with a fresh syringe taken from the sterilizer by means of the "flamed" forceps.

It is best to make use of platinum iridium needles. These can be sterilized by heating to redness in the flame after each inoculation. Steel needles quickly lose temper and sharpness in the flame, and if they are used "flaming" is inadmissible, and a fresh needle must be picked out of the sterilizer for each inoculation, so that half a dozen or more needles would be required by each operator. It is important to insist emphatically on the resterilization of the needle before each and every inoculation, not only to avoid sepsis, but also to prevent the possible transmission of other grave infections.

The vaccine is drawn up into the syringe from the phial, and when the dose is measured care is taken that no air is left in the nose of the syringe.

Site of Inoculation.

The site of inoculation is so chosen that the local reaction may cause a minimum of discomfort and incapacity to the subject. The left upper arm, at a point just below the deltoid muscle, has been the situation usually selected, but we understand that it is now considered better to make the injection below the clavicle. The injection is made into the deep subcutaneous tissue—not hypodermically and not into muscle or fascial planes, otherwise the local reaction is likely to be more severe and painful than it need be.

Method of Inoculation.

The arm being clean (in the ordinary sense of the word), the assistant cleanses the site of inoculation either with ether and alcohol or an antiseptic. Probably the quickest and most satisfactory method of preparing the skin is to dab a small area liberally with tincture of iodine (*B.P.*). The operator then takes up a generous fold of tissue. If the injection is made into the upper arm the limb should hang limp and relaxed. The needle is introduced from above downwards and pushed well in before making the injection. The fluid should run easily, encountering no appreciable resistance. As the needle is withdrawn a small pledget of sterile cotton-wool is momentarily pressed over the point of puncture and the inoculation is completed. But, if the needle is not fine or not very sharp, the puncture may be sealed with a drop of collodion.

The Subject.

The subject should not be told that the inoculation is quite negligible and will cause no inconvenience. He should be told that there will probably be soreness for some days and that he may feel more or less indisposition, headache, or feverishness for a day or two. He will then be under no unnecessary apprehension when these symptoms appear, and if he escapes them he will not feel any the less satisfaction. He should be advised to avoid alcohol for the time being. Whether the injection be made in the arm or into the infraclavicular region, the local reaction will be much diminished if the arm be kept at rest so far as possible, and the general reaction is both diminished and curtailed if the subject is allowed a full day off duty after inoculation. The first symptoms are usually felt within from four to eight hours.

Systematic Organization of Inoculations.

Vaccine inoculations are extremely simple and easy to perform, and they are practically free from risk of any kind when carried out singly under the ordinary conditions of medical practice. But where large numbers of individuals are dealt with in rapid succession, probably in surroundings not particularly adapted for the purpose, and the sitting extends over a period of several hours, accidents and mistakes can easily occur if the operators allow haste, or familiarity, or fatigue to lessen carefulness and concentration of attention. The greater the number of inoculations to be made the greater is the need for scrupulous cleanliness as well as for a precise and methodical technique. And since the observance of a due ceremonial is probably the best check on any tendency to negligence or inattention in a routine procedure, the operator and his assistant or orderly may with advantage put on clean white coats and otherwise prepare and maintain themselves as for a minor operation of aseptic surgery.

Responsibility of Inoculators.

It is impossible to use too much care in carrying out the inoculations. The men who are now being urged to undergo the treatment are told, and are rightly told, that the vaccination is a simple and harmless procedure, ordinarily entailing at the most a day or two of moderate indisposition and a rather sore arm. It is therefore not right, and it ought not to be possible, that any man who has been given an assurance of that kind should, through inadvertence, negligence, or the operator's fatigue, be submitted to the risk of septic infection. Should such an infection occur there will of necessity be a strong presumption, and indeed a very high degree of probability, that the technique of the inoculation was at fault, and the responsibility of the operator will be very grave. In particular cases there might possibly exist some other explanation. But unless and until such an explanation appeared the operator would remain under suspicion. Moreover, if such accidents occurred not only would the risk of a serious injury be entailed on the individual sufferers, but by discrediting the procedure and bringing it into disrepute among the troops a gross disservice would be done to the State.

THE HOUSING OF THE RECRUITS.

THE expeditious housing of a new army in training has presented a serious problem to the military authorities. During recent years the method of placing soldiers in barrack huts has grown in favour, both in the British and German armies, and in the present emergency this form of structure appeared to furnish the most ready and simple means of housing troops on Salisbury Plain, and also the new recruits where it was not advisable to billet the latter upon the civilian population. Huts are being erected accordingly on an extensive scale in various parts of the country, to serve both as quarters for the men, from twenty to fifty of whom are accommodated in each hut, and as places of storage and general military use. The advantage of huts as compared with tents in the winter time is obvious, and if they are to serve only a temporary purpose the use of a wooden frame with some kind of asbestos roofing commends itself on the ground of economy. Timber hospitals also are being erected in the South of England.

The increasing scarcity of timber, however, has to be reckoned with. Practically the whole of the cheap timber imported into this country comes from the forests surrounding the Baltic, and a state of war has the effect of limiting severely, where it does not annul, this industry. In the event of protracted war, involving greatly increased enlistments, the expenditure on timber huts would become formidable. In the United States wooden buildings have hitherto been extremely common, but the price of lumber has advanced during the last few years almost to prohibitive figures, and a substitute has been found in concrete. In addition to the advantage that it is a more stable material, its final cost has proved to be not much greater, and in some localities even less, than that of wood. The result has been to make concrete structures popular in America, even for quite unambitious purposes, such as stables, dairies, greenhouses, barns, and farm buildings.

The possibility of erecting concrete huts for the men in training has been brought under the notice of the War Office, but it appears that at present in this country timber has the advantage over concrete for temporary structures on the score of cost, expedition, and mobility. The question remains as to whether the higher degree of sanitation and comfort which is secured by concrete is sufficient to reverse the balance. Although wooden huts, when well constructed, may pass a hygienic test, they are far from ideal. The protection afforded by timber against cold and damp is frequently very unsatisfactory. Timber harbours vermin; as the Master of Christ's College pointed out in his recent article on the subject of bugs,[1] the minute interstices of wood furnish readily an almost unassailable home for those insects which are among the plagues of camps. Yet again, the inflammability of timber is a consideration

[1] BRITISH MEDICAL JOURNAL, September 26th, 1914.

which has ruled out the timber dwelling-house from urban areas.

A concrete hut would certainly be a protection against these evils. Concrete is vermin proof and lends itself more readily than wood to disinfection and sterilization. The interior of a concrete hut could be quickly and thoroughly flushed from top to bottom with hot steam, or washed with an antiseptic. The rat also is known to have a great aversion to concrete structures. The fact that this material would stand the conflagration test is worthy of being borne in mind, in view of the possibility of bomb dropping. Properly made concrete, further, is a protection against the weather. The hollow concrete blocks of 8 in. thickness, which are usually recommended for one-story erections, have the advantage that the cavity between the two facings acts as a non-conductor, with the result that the temperature within the structure is equable; like the tube railways, it is cool in summer and warm in winter. This concrete-block construction is an alternative method to the better known reinforced concrete. In the latter there is no cavity, but the ordinary materials of concretion (sand, broken stone, and cement) are strengthened by the addition of a steel skeleton. The experts we have consulted agree that reinforced concrete would offer no advantage for this particular purpose over concrete blocks, that the process of manufacture would be too unwieldy, and that the longer time which the reinforced concrete takes to dry and harden (at least six weeks) is against its use in this instance. An even cheaper and more rapid concrete method consists in the use of what are known as concrete slabs, some 3 in. in thickness, which can be waterproofed by roughcasting on the outside surface, but it seems likely that some method of strengthening would have to be employed in order to support the roof.

The question of relative cost is difficult, and only the roughest estimate can be given. Much depends upon whether the materials for making concrete are available in the locality; in Lancashire, for example, rapid and cheap concreting of this description would be impossible, as the materials would have to be carried thither from Wales or Yorkshire. Given a favourable locality, it would seem, from some figures supplied to us, that the concrete shell of a hut, apart from finishing, might be put up at a cost of less than £5 per man, supposing each man to have a cubic space of 500 ft., which is the minimum of the military hygienist. One builder of wide experience assured us that the first cost of a concrete would be at least twice as much as that of a timber hut; but as the turning out of sized concrete blocks is merely mechanical repetition, the price would diminish in inverse ratio to the size of the order, and if timber goes on advancing in price—it has already appreciated by 25 per cent. since the war started—the difference between a concrete and a timber structure would probably be nearly negligible. First cost, however, is not the only consideration. Timber structures can be made in sections at the works, and sent down to the camp, where each marked piece can readily be put up by the soldiers themselves. Concrete buildings, on the other hand, would require a gang of labourers to be sent down for the laying. The timber hut also can be taken down and removed quickly to another site, whereas the concrete hut, which must have, by the way, a concrete foundation, does not lend itself to this treatment. When the purpose of these structures has been served, the timber can be sold, but the market value of the concrete blocks would be small, owing to the cost of transporting them. Timber huts may be put up very quickly, but the making and seasoning of the concrete blocks would involve a delay, varying with the degree of humidity in the atmosphere, but usually about four weeks, from the giving of the order to the commencement of laying. The laying, however, would be a very rapid process, and the huts would be habitable immediately after erection.

Although as many as possible of the new recruits will be lodged in private houses, a large proportion must necessarily have hutment. A great number of these recruits come from gentle homes and sedentary occupations, and the rough initiation into camp life must expose them to certain physical perils, which might, however, be diminished by a little extra attention to the question of healthy and comfortable housing.

THE BRITISH RED CROSS SOCIETY.

Adequacy of Arrangements for British Wounded.

Sir Frederick Treves informs us that so far as the British wounded in France are concerned it is probably now safe to say that the supply of surgeons, dressers, orderlies, and nurses meets every demand; indeed, more surgeons and nurses have been sent out than have been actually applied for. In addition to the large British Red Cross party of surgeons, dressers, orderlies, and nurses—numbering 100 in all—already dispatched to Paris, the Society on October 6th sent another 15 surgeons and 54 nurses. There are still about 200 surgeons and 1,000 fully trained hospital nurses on the waiting list—a fact that should be noted in view of statements appearing from time to time in the lay press that there is great need for surgeons and nurses.

Plight of the French Wounded.

Matters are not so satisfactory, unfortunately, with regard to the French wounded. The problem of dealing with them is, of course, a far larger one, and the finances of the French Red Cross Society unhappily seem to be restricted. Payment of expenses is promised, but beyond that the Society apparently is able to do little. There is no doubt that the French Society is greatly in need of help both as to personnel and supplies. A few surgeons and nurses have gone out as unpaid volunteers, and any British Red Cross surgeons and nurses who are not required for the British wounded will be placed at the disposal of the French, the British Society meeting all expenses and paying all salaries. Instructions to this effect have been given to the party just sent out. An enormous strain has been cast by the war upon the Army Medical Department of France and the French Red Cross Society, and it is not a matter for surprise that to some extent they have failed to meet it.

Tons of Stores.

The British Red Cross Hospital at Netley is nearly ready for occupation. The stores sent to the front amount to many tons a week; the *Sunbeam* alone on one voyage took nearly 1,000 cases, representing 50 tons of goods. The number of garments in the stores at the moment is about 75,000.

Supply of Motor Ambulances.

The Society is sending out a large number of motor ambulances, a special ship being chartered for the purpose. So generous has been the response of the public that it is hoped before long to have 200 motor ambulances in France at the disposal of the British army medical authorities and to add rapidly to this number.

THE NEED FOR MOTOR AMBULANCES.

We drew attention last week to the urgent need of motor ambulances for the conveyance of wounded soldiers in France from the field to the base hospitals, and it is gratifying to find that the need had only to be stated to meet with a ready response. The Scottish branch of the British Red Cross Society has promised that Scotland will provide ten motor ambulances, three commercial vans for transporting stores, and three motor cars for general use on the Continent. Early this week the number of ambulances promised, in addition to these, was 63—all offered free of cost to the Red Cross Society.

Sir Frederick Treves has addressed the following letter to the panel practitioners of London, to whom an appeal is being made by the Panel Committee to provide a motor ambulance for the British Red Cross Society:

October 4th, 1914.

Dear Sir,—A very striking feature in the present war has been the eagerness of the medical profession to be of help, and the splendid generosity with which that help has been tendered. A motor ambulance presented to the British Red Cross Society by the panel practitioners of London would, I think, be a crowning act in this display of whole-hearted patriotism. Such an ambulance at work on the road to the front would bear practical testimony to the sympathies of those medical men who are compelled to stay at home.

From the point of view of the wounded the motor ambulance is a very urgent need. The wounded, when picked up by the stretcher parties, are cared for in the field ambulances by the Royal Army Medical Corps, and there is abundant evidence to

show that the work of that corps has never been better done. At the advanced base also the wounded soldier has every possible comfort and attention. It is between the field ambulance and the advanced base that the grave difficulty lies.

As is well known, there is no special transport for the wounded. Some travel down in empty ammunition waggons, supply carts, and lorries, but the majority come by rail. The first demand upon the railway is for reinforcements, ammunition, food, and supplies. As a result, the ambulance train may be for hours standing in a siding. Sometimes, owing to constant delays, the journey has occupied three or four days. If the wounded be in a proper ambulance train this delay, although serious, is not disastrous, but when—as is often the case—they have to lie in cattle trucks and horse trucks on unclean straw, the result is terrible.

Most of the wounds are lacerated wounds due to shell fire, and the base hospitals abound with cases of "gas gangrene" (the acute traumatic gangrene of old days) and tetanus. These alarming troubles could only be effectually met by early treatment. Long delay on the road, under the worst possible surgical conditions, is deplorable and indeed calamitous. The motor ambulance makes use of the open road (and the roads in France are good), and brings the wounded down promptly to the advanced base—brings him, let us suppose, from Soissons to Paris.

Rapid transport is everything. With the lack of such transport, the wounded must suffer terribly, and the greatest kindness that the practitioners of London could do would be to help in providing the means for conveying the wounded man promptly from the front to a hospital bed.

Yours faithfully,

FREDERICK TREVES.

We are glad to learn that subscriptions to the fund are coming in so well that sufficient money is already in hand to provide one ambulance, and there is every prospect that the amount received in subscriptions will soon permit the provision of a second.

The suggestion is made in the following letter that the practitioners in each county should provide an ambulance by means of a guinea subscription:

Sir,—At the present time many medical practitioners must be wishing that they could be of direct assistance to our army in France, and yet they know that it is their duty to stay behind and look after the sick at home. There appears to me to be at least one way in which their interest might be made more direct, and I suggest that the medical profession as a whole should adopt it.

At the present time there is a lack of motor ambulances in France for conveying the wounded from the front to the nearest hospital. May I suggest that the medical profession supply this want?

A motor ambulance, I understand, costs about £400, and it would be a fine thing if the medical men and women in each county could supply one such ambulance. It might be understood that the subscription should be one guinea, and this could be collected by the Medical Officer of Health, who would know all the medical practitioners in his district, and forwarded by him to the County Medical Officer, who would, no doubt, be willing to undertake the general organization of the scheme.

If this idea appeals to any medical man or woman, he or she should communicate with the Medical Officer of Health, who would then urge the County Medical Officer to initiate the scheme.—I am, Sir, your obedient servant,

WALTER T. CORFIELD,
Colchester, Oct. 5th. Medical Officer of Health.

AMBULANCE WORK AT THE FRONT.

By H. MASSAC BUIST.

DURING the past fortnight the need for still greater numbers of motor ambulances has become more and more widely recognized. The response to the appeal for these vehicles for the British Red Cross Society and for the St. John Ambulance Association is of a gratifying character. But there is still much to be done. The area of operations is very extensive, and the casualties experienced are on an unprecedentedly large scale; therefore, a dozen machines here or there is as nothing. Further, too large a proportion of the gifts received towards this end appear to take the form of ordinary pleasure cars, whereas it is undoubtedly better, wherever possible, to have vehicles specially constructed for the purpose, as distinct from the adapted class, which, as was shown in a previous article, can nevertheless be made to serve on occasion.

In order the better to grasp the situation, it may be as well to consider what takes place at the front, because that reveals so clearly that the need for motor ambulances is more urgent in this campaign than in any previous one. That might not appear on first considering the matter, because the answer would be that the campaign in the west is being waged in a region well furnished with railways. These, however, must first be used for assisting in the conveyance of troops and supplies to the fighting line, therefore the wounded have perforce often to be delayed in trains shunted on to sidings, and so forth, apart from which the injured have frequently to be transported many miles from the field ambulances to the advance base. They can only be picked up at night, because of the shells falling in the daytime. Any available conveyance has to be used to take them to the rail head, where the train may be shunted into a siding to allow of the transport of troops, ammunition, or supplies to the front. Wherever a sufficient number of motor ambulances are available, however, all such difficulties are obviated, the injured being taken straight from the field ambulance to the advance base hospital, hence the need for motor ambulances and more motor ambulances.

Some two hundred extra ones have been sent by the British Red Cross authorities, but hundreds more can be used with advantage at the front. Therefore every effort should be made to swell the funds that are being raised for the purchase of such machines and for adapting ordinary cars to motor ambulance requirements. All wealthy owners of large cars, and especially such folk as keep a stud of motor carriages, should be urged to offer one or more to the British Red Cross Society or the St. John Ambulance. They should give machines of as strong, as well sprung, and as long a wheel base as possible, since these are most easily converted to the needs of the hour. Experience has shown the immense superiority of the motor ambulance over the horse variety, wheel litters, or similar contrivances.

PETROL VEHICLES ALONE PRACTICAL.

At the front, of course, it is possible to employ only one class of vehicle—the petrol variety. The electric sort is impracticable, first, by reason of its comparatively short range of action without recharging; secondly, by reason of the great disadvantages under which it labours should it be operating in a region where there are any appreciable gradients; and, thirdly, because, whereas about seven years ago the electric vehicle was the most luxurious form of town carriage, to-day these run by no means as smoothly as the best petrol cars, the weight of the batteries and the comparative brevity of wheel base rendering them considerably subject to vibration. I speak of this from personal experience, having tried the electric vehicle in town when recovering from illness some two years ago, when I found the petrol variety infinitely better. Indeed, the situation has changed vastly since 1907, when the Corporation of the City of London began employing some electric motor ambulances. That was the slump year of the motor industry, and the petrol carriage as we know it to-day was really begun to be developed towards refinement in the following year.

Detachments of the City of London Branch of the British Red Cross Society have lately had motor ambulance drill in Regent's Park under the command of Colonel P. Broome Giles. He was particularly desirous of ascertaining which of the various types of motor ambulances assembled could be loaded most efficiently in the shortest time. It appeared from that particular test that the best was designed and built by the coach-making firm of Salmons and Sons, of St. Martin's Lane and Newport Pagnell. This has a door in the front, and an interior gangway between the tiers of the stretchers, whereby the wagon orderly is enabled alike to assist in loading and unloading, so obviating the entrance of the stretcher bearer for that purpose, and to give assistance to the wounded during the passage of the vehicle without having to stop it. This point was particularly appreciated by a number of medical officers present, and the time occupied in each instance in loading and unloading this particular ambulance was only one-third that taken by others present on the ground. This type of wagon accommodates four persons lying down, or two lying and half a dozen sitting, or, again, twelve in a sitting position.

The first batch of the British Red Cross Society's motor ambulances that assembled outside the Royal Automobile Club in Piccadilly before proceeding to France come out very badly from the engineering points of view brought out in notes published in these columns at the end of September. There was an extraordinary amount of overhang. Despite the fact that chassis of long wheel base were used, in some cases more than half of the portion

designed to accommodate the injured projected behind the back axle. This is very bad construction, and it is to be hoped that after the first rush is over better methods of adapting vehicles than have been employed in these particular cases will be exploited, for such systems mean that the injured are subjected to the maximum oscillations possible to be set up on the ambulance. Further, the mere provision of all manner of spring suspension for the interior fitments does not obviate the main drawback, though, of course, of two evils the lesser is that the patient should be plunged about on a sort of plangent stretcher in place of being subjected to jars.

Points when Adapting.

The early examples have necessarily had to be improvised with practically not a moment's delay, for in a war in which motor transport of all sorts was foreseen to be a vital factor, it is unfortunately the tragic truth that this country, which of all was in the position to have proportionately vastly more ample supplies than any other, nevertheless started the campaign with far too few motor vehicles, and especially with the most inadequate proportion of motor ambulances. Therefore at the moment we are in the position of having to improvise motor ambulances at short notices. It is only as the campaign proceeds to a later stage that we can hope to have leisure to send out to the front only such types of vehicles as are ideal for the purpose. At the moment we have still to continue making the promptest possible use of whatever material comes to hand. The rear springs of many pleasure cars taken have to be reinforced by a leaf or so each, not only to accommodate Continental road surfaces, but also to make them capable of carrying what is the equivalent of heavily loaded covered limousine body work. In the case of an ambulance the centre of gravity is somewhat higher than that of a pleasure car, owing to the disposition of the stretchers, and so forth; hence in the interests of the patients the difficulty of arranging suspension to avoid swaying. Drivers of motor ambulances, too, require to be specially instructed, particularly in the manner in which they take their corners, and so forth. Expedition is a good enough quality, but a few minutes extra taken in traversing each ten miles is time well spent if it is taken off the corner work. Further, there should be no slapping gears in and out in endeavours to rush up gradients. All the changes with the power transmission mechanism ought to be made as smoothly as possible.

The motor ambulance is needed not only between the field and the advance base, but also between various railway stations and important centres on the Continent where large hospitals are established. The wounded have to be taken from the stations to the hospitals. Motor wagons ordinarily employed for estate purposes are suitable for transporting certain types of casualties, as well as for the work of carrying hospital stores from point to point as need arises. There is some tendency to try the motor cycle and side-car, since these forms of attachments are often very plangently sprung. Against this, however, is the fact that the motor bicycle itself is generally an extremely noisy vehicle. There are many other disadvantages such as point to this being desirable only when no other instrument of transporting the wounded is available.

THE WOUNDED IN FRANCE.

[From a Special Correspondent in Paris.]

The late Lieutenant-Colonel Dalton.—Army Rank for Consultants.—Ambulance Trains.

The list of casualties among officers and men of the Royal Army Medical Corps is already very long, and seems certain greatly to lengthen. But whatever name may hereafter be included in the list, the loss of no officer will be more generally regretted than that of Lieutenant-Colonel Charles Dalton, whose career was briefly outlined in the issue of the British Medical Journal for September 26th. Not only was he a first-class officer of exceptionally wide experience in actual warfare, but he was an excellent comrade. The Army Medical Service has never lacked men of gallantry, but no man ever afforded better evidence of his possession of true courage than did Dalton. Several events in his life sufficed to prove it, namely, his conduct on the occasion of the sinking of the steamship *Cotopaxi* off the coast of South America some twenty-four years ago, for which he was awarded medals by both the British and French humane societies; and later in West Africa, when his efforts to save a wounded comrade were adjudged by those aware of all the circumstances to be worthy of the highest honour which it is possible for a soldier to gain. For his gallant conduct during the South African war he received the Arnott medal, a distinction open to graduates of Irish medical schools who perform any noble deed in the cause of humanity. The wound from which he died was not his first wound, for he was shot through the stomach during operations near Ladysmith, in South Africa, but made a complete recovery. There have been occasions when losses among the Army Medical Service have been asserted to have been due to officers and men thoughtlessly exposing themselves to quite unnecessary risks, but the fact that so experienced an officer as Dalton should have been twice wounded affords ample proof, if any be needed, that wounds and deaths among men who are nominally non-combatants are absolutely inevitable. At the time that he received his wound he had only just joined the head quarters of the 2nd Division 1st Army Corps as assistant director of the Medical Service, in succession to Colonel Harry Thompson, D.S.O., who fell into the hands of the Germans during the retirement from Mons. Dalton was well known in sporting circles in Ireland, where he won most of the events open to army officers at the military meetings—on one occasion riding his own horse. Only last year his horse Thoul Pin carried off the Irish grand military steeplechase at Punchestown. Those who knew him in his student days will remember him as a member of one of the best Irish International Rugby teams of those times. Dalton was never married.

I see in the *Morning Post* for October 2nd a record of the gazetting of Mr. Makins and Sir Anthony Bowlby to the Army Medical Staff. They came over about a fortnight ago and are attached to General French's staff as full colonels. Both of them gained experience of war surgery fourteen years ago in South Africa, and both joined the Territorial Force on its formation, and took commissions in its medical branch. These appointments are a compliment to the officers themselves, some think an even higher compliment to the profession as a whole than the appointments made by the Admiralty at the beginning of the war, of half a dozen more or less well-known men to serve as consultants at base hospitals in Great Britain at rates of pay equal to that of a Cabinet Minister. The new appointments, however, are far more than merely complimentary; they are a very practical step which affords fresh evidence of the sound sense with which the affairs of the medical department of the army are being conducted. Colonel Sir Anthony Bowlby and Colonel Makins are, practically speaking, free medical lances, able to visit any part of the line that they may deem desirable, and act as consultants in any case where a second opinion may seem desirable.

It seems to be generally admitted that the medical arrangements for the care of the British army have on the whole worked very well, and that, so far as avoidable suffering has not been avoided, it has been due to the immense difficulty of bringing down large numbers of wounded from the rail heads or clearing hospitals to the base. The journeys have often been very long and interrupted, little food has sometimes been obtainable, and the rolling stock employed has frequently been unsuited to the purpose to which it has been put. So long as a limited number of lines have to be employed for the dispatch of reinforcements, ammunition, and food there is bound to be considerable delay on the railway; but matters promise to be remedied to some extent by improvements in the type and reconstruction of French railway rolling stock and by the arrival of a complete ambulance train which is being fitted in England with wheels suited to Continental railways. It is expected to arrive quite shortly. In the meantime the British Red Cross Society has provided two trains, and is preparing a third, and has greatly increased its fleet of motor ambulances.

THE HOSPITALS AND THE WAR.

2ND LONDON TERRITORIAL HOSPITAL.

THIS hospital, which has been already described in the JOURNAL (SUPPLEMENT, September 5th, p. 163) has been admitting men from the Territorial Force for some time past; on September 29th it received 78 men from the front and on October 1st 141 more. Lieutenant-Colonel Eustace M. Callender, the commanding officer, this week gave a representative of the JOURNAL some interesting particulars of the cases. Most of them are wounds, many being very serious. There are a great many wounds of the upper extremity, compound fractures caused by gunshot; a few compound fractures of the femur, and two cases of wounds of the chest, one very serious, with pyopneumothorax. Most of the wounds were septic when the patients arrived at the hospital, but notwithstanding the majority have done extremely well under treatment.

One man has a rifle bullet lodged in the muscles of the upper part of the thigh. He was carrying a tin of tobacco in his trouser pocket and the bullet expended much of its velocity in passing through the tin. Consequently the wound is not serious, whereas, but for the obstruction, the shot would probably have been fatal. In another case two men were sharing between them the task of carrying a tin of "bully beef." One of them was arguing with his comrade that it was his turn to carry it and had received a refusal. Just then a bullet hit the tin and embedded itself in the beef which it never fully penetrated. If it had, the carrier's wound must have been fatal. Another man, when lying down firing, was shot in the neck. On his arrival at the hospital the bullet was found near the eighth rib, the wound in the neck having quite healed. The man stated that when hit he was convinced that his right arm was blown off. There was no paralysis of the arm, but the man suffers from intense and almost constant neuralgia.

Nearly all the wounds are due to shrapnel and very few to rifle bullets. The men express the greatest contempt for the German infantry soldier, and have no fear of him as a shot and still less of his bayonet.

There are a few bullet wounds passing through both buttocks, the men having been shot when lying prone. A few interesting medical cases have been received. One is that of a man who was on a canal bank when a large shell exploded close to him. He was uninjured, but the concussion disabled him and hurled him into the canal, where he remained, unable to help himself and up to his neck in water, for sixteen hours. As a result of the explosion he is quite deaf in one ear and partially so in the other, and is suffering from neurasthenia. Whether the deafness is due to nerve injury or to injury of the ear has not yet been ascertained. Another man was struck on the right side of the head by a piece of shell. It did not wound him, but ever since then he has had diplopia on the side on which he was struck. He is getting better; at first he had diplopia in using both eyes, but now only when using the right eye alone. There are some cases of heart disease, including two or three cases of mitral disease in which compensation has broken down. There are a good many cases of rheumatism and sciatica, attributed to the men having been constantly in wet trenches. There are several cases of gastric trouble of various sorts, due to imperfect teeth. There is only one case of enteric fever and one of dysentery; the latter was acquired in India years ago and has reappeared under service conditions.

There are about 400 men in the hospital, of whom 219 have been received from the front. The balance is made up of members of the Territorial Force embodied in various parts of this country. Service in the field brings out any defects in the men. The surgical staff has already operated on 25 or 30 cases of inguinal hernia, and there are still many in the hospital waiting for operation. A considerable number have been admitted for operations on varicose veins. In several cases serious heart disease—chiefly mitral—has rendered men unfit for further service. One man has complete congenital paralysis of the right deltoid, and can hardly raise his arm to an angle of 45 degrees from his body. Several cases have been received of extreme defective vision of the right eye. There are a considerable number of cases of acute tonsillitis, several cases of pleurisy, and several of pulmonary tuberculosis. So far only two cases of appendicitis have been admitted, and no cases of infectious disease amongst Territorials.

Men who have been at the front or who have been mobilized as Territorials tend to become verminous, and a regular routine is followed at the hospital to prevent the beds from becoming infected with lice. Each man's clothing is taken away on admission; his personal linen is steeped in a solution of cresol, disinfected in a high-pressure steam disinfector, and then sent to the laundry. The patient is given a bath and supplied with a complete outfit of hospital clothing. The outer clothing is disinfected by hot air, as steam is liable to shrink the material; the clothes then remain at the packstore until the soldier leaves the hospital. All cases of scabies and impetigo are isolated in separate wards. Men have reached the hospital in a deplorable condition—haggard, dirty, with matted hair, unshaven faces, and clothes stiff with mud or blood from wounds. In twenty-four hours, however, the change is so complete that the men are hardly recognizable as the same.

Enteric cases are kept entirely separate in every particular, alike as to nursing, bedpan, sink, etc. There has been no case of insanity, although this is rather common in a big war, and the hospital is equipped for such cases. Colonel Callender agreed with the suggestion that freedom from mental trouble might be due to the British soldier's philosophical attitude towards life. He said the men were extraordinarily cheerful; the more seriously injured a man was the less he grumbled. One lad, who was wounded at 11 o'clock in the day, spoke of his good luck in being picked up by the field ambulance as soon as 6 o'clock in the evening. Other men, with compound fracture of the femur, passed days in cattle trucks; they "did not mind when the train was running—it was when it stopped."

Colonel Callender said the adapted buildings of the hospital are serving their purpose admirably. Difficulties arise, but they are not serious; the sanitary and bathing accommodation is found adequate, and the school classrooms make satisfactory wards. A section of the hospital (200 beds) is established at St. Thomas's, and another (40 beds) at the Great Northern Hospital, Holloway. Of 124 cases admitted to St. Thomas's Hospital early in the war all except 7 have now been discharged; hardly any of them were seriously ill. The fact that these hospitals are so far from Chelsea, where the 2nd London Territorial Hospital is situated, makes the work of administration somewhat difficult; but matters have been considerably easier through the kindness of a lady, who has placed a motor car at the disposal of the medical staff.

3RD LONDON TERRITORIAL HOSPITAL.

Of the four Territorial General Hospitals in London, the most considerable structural works have had to be carried out at the 3rd London, for which the Royal Victoria Patriotic School has been vacated. Each general hospital is required to provide 520 beds, but the buildings of the Patriotic School afforded accommodation for about 200 only, and hut hospitals are being erected in the grounds. Until these are ready the number of cases that can be taken is limited; 120 men have been received from the front and some Territorials. These cases are being treated in the main buildings of the school, an early Victorian edifice built round a central quadrangle, and others have been received at the Middlesex Hospital, where a section of the Territorial General Hospital is established. Amongst the cases received from the front are two of tetanus; both are recovering, thanks to the early injection of antitetanic serum. Most of the cases call for no special comment; progress towards recovery is rapid, and there has not been a single death. A finely-equipped *x*-ray installation has been of great service, and bullets have been located that in earlier times must have been allowed to remain. In many cases, too, bullets have been found where their presence was not suspected. The patients received from the Territorial Force have been mainly cases of "young soldiers'" complaints; generally speaking, no serious defects have been revealed.

The commanding officer here is Colonel H. B. Bruce-Porter, the registrar is Major Miller, and the quartermaster Lieutenant Leopard. The consulting staff consists, on the medical side, of Lieutenant-Colonel Sir

James Kingston Fowler, Major Sir J. Rose Bradford, Major Lough, Captain Voelker, Captain Rissien Russell, and Captain F. J. Wetherell; on the surgical side, Major Sir Alfred Pearce Gould, Major Mayo Robson, Major A. E. Barker, Captain Sir John Bland-Sutton, Captain Murray, and Captain Kellock.

The grounds of the Patriotic School are ample in extent for the erection of supplemental buildings. The hut hospitals are ten in number, each containing 20 beds. They are placed on either side of a covered way, and are connected under cover with the main building. The material used in construction is corrugated iron lined with asbestos felt painted to render it impervious. Each hut has a verandah for convalescents, and the sanitary offices are connected with a main drain passing through the estate. At some distance from the principal building is an isolation camp, and in an outlying field are tents for the staff. Here huts are being built in readiness for the winter. A water tank at a considerable height above the temporary buildings provides a supply under head in case of fire. Some tumbledown sheds have been rebuilt to form a pathological laboratory, where Captain Dennis Embleton is doing valuable work. There is hot and cold storage for bacteria, a *post-mortem* room and mortuary, destructor and disinfector, the latter similar to those installed at municipal cleansing stations. The kitchens, which were already in order for feeding large numbers of people, have been supplied with hot-water mess-tins for the conveyance of food. Extensive as are the works, either completed or in progress, the grounds are large enough to provide ample space for convalescents. The 3rd London Territorial Hospital is a most interesting example of the work being done for the reception of wounded soldiers.

The London Hospital.

At the time of writing no fresh cases from the front have been received at the London Hospital beyond the 300 whose arrival some weeks ago was duly chronicled in the Journal (Supplement, September 5th, p. 162). The greater number of these men have gone to convalescent homes or have returned to the front, but the machinery for dealing with the wounded is still maintained in readiness even to the special lighting installation in the courtyards to facilitate admission if a batch of wounded arrives during the night. In the out-patient department soldiers discharged from the hospital, or soldiers on sick furlough, are being treated, the former in many cases for nerve injuries the after-effects of bullet wounds. Looking back over a period of strain, the medical staff is able to congratulate itself that a full service has been maintained for the treatment of the local sick; no suitable case presenting itself has been denied treatment. The daily surgical operating list is as heavy as before the war, and the only work suspended is purely clinical research. In the case of wounded soldiers injuries have been largely of the class with which the South African war familiarized surgeons. Each man has been submitted to *x*-ray examination as a matter of routine, and bullets have been found in men who did not know they had got them.

There is a good entry of students in the medical school this year, and the greater number of them have joined the Officers' Training Corps, so that when they get commissions they can be useful at once without preliminary dépôt training in drill. In the hospital promotions in the way of house appointments are now very rapid. Junior men are getting at once posts for which they might have reasonably expected to wait eighteen months. It is felt desirable that they should be trained by the hospital rather than by the Royal Army Medical Corps, though the arrangement gives added work and anxiety to the supervisory staff.

An Officers' Hospital in the City of London.

For the first time in any war—so it is claimed—a hall of one of the ancient City companies has been converted into a hospital for the wounded. At the instance of the City branch of the British Red Cross Society, and mainly through the generosity of City firms, approached through the wives of the aldermen of the several electoral wards, the Fishmongers' Hall at the north-west corner of London Bridge has been converted into a hospital for officers and completely equipped. Only the spacious apartments on the first floor are used for this purpose. The Great Hall, a lofty and handsomely decorated room, whose gilded walls and ceilings are as little like those of an ordinary hospital as it is possible to conceive, has been subdivided to form five cubicles, each containing two beds. The cubicles occupy that side of the hall on which the windows are placed, and are formed by wooden partitions 7 ft. 6 in. in height, covered with white enamel paint. About half the floor space is thus left free, except for a cubicle forming the matron's room. A smaller room overlooks the river, and affords a view of river and bridge traffic of unceasing interest and charm, all the more that the distance is sufficient greatly to reduce the noise of the vehicles crossing the bridge. This apartment has been divided into two cubicles, each containing two beds. Another room provides three cubicles of similar size and accommodation. At the back of the building—entirely removed from the sound of traffic—is a room which has been divided into three single-bedded cubicles, intended for the reception of very serious cases. All the rooms thus divided adjoin one another and are on the same level. Smaller apartments serve as the Roentgen ray room, anaesthetizing room, and operating theatre. The kitchen department is situate in the basement, two floors distant. This, if the hospital were a larger one, would probably prove an unsuitable arrangement, especially as a lift cannot be installed. The Fishmongers' Company, however, has lent the services of the men who carry the dishes at the periodical banquets, and arrangements which have been good enough for so epicurean a gathering as a City company at dinner will doubtless satisfy men fresh from the hardships of active service.

Not only in the surroundings, but in the furnishings, is the Fishmongers' Hall in its new guise very unlike a hospital. Each cubicle is distinctly homelike in appearance, with furnishings more like those of a private house than a public institution—down quilts on the beds, electric radiators for warming, an electric light and reading table to each bed, armchairs, and so on. Much thought and care have evidently been expended on every detail.

The medical administrator of the hospital is Dr. Howarth, the Medical Officer of Health of the City of London; the civil administrator is Dowager Lady Dimsdale. The resident medical officer is Dr. Mackenzie Wallace, of St. Bartholomew's; the consulting surgeon, Mr. D'Arcy Power; and the consulting physician, Dr. Samuel West. The matron is Miss Lightfoot, who nursed through the South African war; and the nursing staff consists of three sisters and eight nurses, all fully trained.

MEDICAL ATTENDANCE FOR DEPENDANTS OF MEN SERVING WITH THE COLOURS.

Belfast.

At a meeting of the Executive Committee of the Belfast Division of the British Medical Association the following resolution was passed unanimously:

> That we strongly approve of the extension to Ireland of the scheme of free medical attendance for dependants of men serving with the colours, and consider that the necessary steps should be taken to set up committees modified to suit the exceptional requirements of this country.

North Suffolk.

The following resolution was carried unanimously at a meeting of practitioners held at the Lowestoft Hospital on September 25th:

> We, the medical practitioners of the North Suffolk Division of the British Medical Association, agree that the dependants of those men who are serving in His Majesty's Forces should be attended gratuitously when their circumstances require it; we are prepared to give such attendance, but we consider that such charitable attendance should be a private matter between doctor and patient.

This resolution has been signed by the following:

> H. C. Barraclough (Chairman), H. M. Evans (ex-Vice-Chairman), W. Tyson (Honorary Secretary), J. M. Taylor, H. P. Helsham, O. W. Owles, E. W. Toulmin, D. Craig, L. B. Perry, W. Berry, J. F. Carver (for the Medical Institute), E. W. Wade, E. A. Collins, W. L. Bell, J. Aylen, M. Ffoulkes (L.T. for Dr. Boswell), J. C. Mead, C. Ticehurst (pp. H. M. Evans), R. T. Worthington, D. Hutchinson.

W. Sly, F. C. James, C. J. Acton, F. Maidment, P. J. de Nyssen, J. Allnutt, G. Schilling, W. E. Dixon, T. Lawson, R. W. Mullock, A. Marshall, G. Colbourne.

Dr. Warwick (Halesworth) and Dr. Fox (Beccles) have written expressing their agreement with the terms of the resolution, holding that each medical practitioner should decide for himself upon the merits of each case. In addition, the three medical men in Bungay, we are informed, express themselves as satisfied with local conditions. It appears, therefore, that the whole of the medical men in active practice in North Suffolk are in sympathy with the principle that the doctor should decide for himself upon the merits of each case coming under his care, and are willing to act on these lines.

Edinburgh and Leith.

On September 5th (Supplement, p. 161) a report was published of the meeting of medical practitioners of Edinburgh and Leith, at which it was decided that they should systematically co-operate with the Soldiers' and Sailors' Families Association, and with the local committee of the National Relief Fund with regard to the provision of medical attendance on persons rendered necessitous by the war. Dr. R. A. Lundie, convener of the Edinburgh and Leith Medical Emergency Committee then appointed, has addressed a circular letter to the medical profession in Edinburgh and Leith, stating that the bodies mentioned cordially welcomed the proposal, and had agreed to co-operate with the Committee in the manner therein suggested, and that the medical representatives nominated had been elected members of the various committees. The Edinburgh and Leith Medical Emergency Committee has issued the following memorandum:

Edinburgh and Leith Medical Emergency Committee.

Memorandum regarding proposed co-operation of the Medical Practitioners of Edinburgh and Leith with the Soldiers' and Sailors' Families Association and the Edinburgh and Leith Committees of the National Relief Fund with regard to the provision of Medical Attendance on persons rendered necessitous by the War.

For the purpose of this co-operation it is necessary that there should be medical representation (with nomination by the profession) on these committees to the extent of two members on each district committee of the Soldiers' and Sailors' Families Association, and on each local committee and ward subcommittee of the National Relief Fund.

This proposal does not invade the province of dispensaries, maternity hospitals, and other charitable medical institutions, or of the Poor Law. Persons who have been in the habit of receiving medical attendance from any of these should be directed to apply to them as before.

With regard to this limitation, it is suggested that these committees should confer, if need arise, with representatives of charitable institutions (hospitals, maternity, and dispensaries) with reference to the medical attendance on persons who would properly come within their sphere.

While it is recognized that in a large proportion of cases arrangements will be made privately between those affected and their medical attendants, there are likely to be others (their number depending on the acuteness and duration of the crisis) for whom special provision will be required. With regard to these, it is suggested that provision for their medical attendance might be facilitated by co-operation with the above committees thus:

(*a*) In the case of persons who have already applied to these committees for help:

1. By all information with regard to the persons whose applications have been granted or refused being made available to any medical practitioner applying for it. (The details of this can be subsequently arranged.)
2. By these committees furnishing to persons who, in their view, should receive free private medical attendance, vouchers to be presented to their previous medical attendants, or, if they had none, to some practitioner within a reasonable distance. In all cases in which it is possible the voucher should be presented in the first instance to the previous medical attendant.

(*b*) In the case of persons who have not yet applied to these committees for help:

1. By these committees inquiring, on the request of medical practitioners, into the cases of those who have applied to them (the practitioners) for free medical treatment, and about whose circumstances they may be in doubt.
2. By medical practitioners informing these committees of any necessitous cases which come under their notice.

An essential condition of this arrangement is that no voucher for medical attendance be given on a less stringent inquiry than is required for pecuniary relief, or its equivalent in other forms, and that vouchers be only given to persons who under ordinary conditions would have employed a private medical attendant.

A patient bringing a voucher to a doctor will be exactly in the same position, except as regards the payment of fees, as any other private patient. The doctor to whom he applies may undertake his case or decline to do so as he thinks fit. In the latter case the patient may apply to any other doctor.

The proposed arrangement is an entirely voluntary one on the part of the medical practitioners. It must in the meantime be regarded as provisional and experimental.

Dr. John Stevens, the Honorary Secretary of the Committee, sends us the following notes on some of the features of some the arrangements made:

1. It is automatically open to *all* members of the profession in the district, so far as they find themselves able to give service, and avoids any limitation of the service which might, and which in Edinburgh we know *would* to a considerable extent, result from the formation of a special list of those who consent to their names being put on it.

2. The co-operation with the committees secures important safeguards against practitioners being unduly taken advantage of.

3. The presence of medical representatives on the committees is an important service in itself, and is expected materially to promote the smooth and efficient working of the arrangements.

4. It does not commit any individual practitioner to give any service beyond what he considers it right to undertake, having entirely the nature of a free-will offering without anything of the nature of an obligation or guarantee; nor does it commit the profession to more than it is found possible to accomplish.

5. By the arrangement being made with the local committees of the National Relief Fund, as well as with those of the Soldiers' and Sailors' Families Association, it provides not only for the necessitous dependants of those serving with the colours, but also for the possible distress among the rest of the civil population due to, though arising indirectly from, the war.

NOTES.

OVERSEAS DOMINIONS.

Canada.

(From Our Canadian Correspondent.)

At the time of writing the first contingent of Canadian troops, consisting of over 30,000 men, is leaving Valcartier on its way to the front. With it goes a general hospital with equipment of 500 beds, under the direction of Dr. Murray MacLaren, of St. John, New Brunswick. The staff of twenty-one doctors and forty-two nurses is recruited chiefly from the Montreal General Hospital and from the eastern part of Canada; it includes Dr. F. G. Finley, of Montreal, as Physician-in-Chief, and Dr. Kenneth Cameron, also of Montreal, as Chief Surgeon. A stationary hospital also accompanies the troops. It is the intention that a second general hospital and a stationary hospital shall be sent with the next contingent that leaves the Dominion. No. 2 General Hospital will be recruited from Ontario and from Western Canada. Valcartier, which is seventeen miles from Quebec, was chosen some time ago as an artillery training ground. The health of the men has been excellent. A few cases of pneumonia have occurred and one or two cases of typhoid, but the latter were not contracted at the camp. It has been necessary to chlorinate the water as, on examination, it was found unfit for drinking purposes, and the success of the measures taken is shown by the fact that no cases of typhoid have originated at Valcartier. Inoculation against typhoid has been carried on systematically, and the results have been most satisfactory.

A splendid response has been made throughout Canada to the appeal for funds and the patriotic fund campaigns that have been conducted in the various cities have been successful beyond all expectation. The money will be expended in providing assistance for the families of the soldiers who have gone to the front. Over a million and a half dollars have been subscribed in Montreal alone, and other cities have been equally generous. The Canadian

naval militia is being organized, under the direction of the Hon. J. D. Hazen, Minister of Militia and Defence. One command will be sent to the Pacific, one to the Atlantic, and one to the Great Lakes.

FURTHER CASUALTIES IN THE MEDICAL SERVICES.

ARMY.

Killed.

In the casualty lists of October 3rd the names of Lieutenants W. O. W. Ball and J. Crocket, R.A.M.C., were entered as killed in action in the battle of the Aisne.

Lieutenant William Ormsby Wyndham Ball was educated in Dublin, where he took the M.B., B.Ch. and B.A.O. in 1912, and entered the army as Lieutenant on January 24th, 1913. He was recently stationed at Aldershot.

Lieutenant John Crocket was at Edinburgh University, where he graduated as M.B. and B.Ch. in 1908. Subsequently he served as house-surgeon in three Edinburgh hospitals consecutively—the Royal Infirmary, the Chalmers Hospital, and the Royal Hospital for Sick children. He got his commission as Lieutenant on January 24th, 1913, and was recently stationed in Edinburgh.

Missing.

Flood, Lieutenant R. A., R.A.M.C.

Irland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Expenditure of Dublin Hospitals.

The fifty-sixth annual report of the Board of Superintendence of the Dublin hospitals for the year 1913–14, just issued, deals with nine institutions. All the hospitals inspected fulfilled in an economical and thorough way the objects for which they were founded, and zeal and efficiency were displayed in their management. During the year the board went specially into the cost of maintenance of patients in hospitals and into the differences that exist. The inquiry satisfied the board that, while it was impossible to reach absolute uniformity, inasmuch as there was no recognized standard of living, there was practical uniformity. The differences above or below the average shown in the returns were mainly due to the class of patients treated. Those in which the number of children and fever cases treated was large showed a comparatively small expenditure under that head, and vice versa.

The Belfast War Babies.

Queen Mary has graciously intimated her great interest in and her approval of the Belfast scheme for looking after the "war babies," the idea of which appears to her "to be an excellent one." The organization is working in connexion with the Soldiers' and Sailors' Families' Association, of which it is a branch of the Belfast division; it was among the first of such special schemes to be started in the United Kingdom. Already it is proving a very marked success, as is shown by the large and increasing number of wives resident in Belfast of soldiers fighting for their country, who are bringing their children—from earliest infancy up to 2 years of age—for advice and direction as to their general care and management to the Babies Club, Divis Street, Belfast. The greatest care is being taken by the ladies, who are voluntarily giving an immense deal of time to the work, so that by investigation and inquiry no unfair advantage shall be taken of the aid that is supplied. Indeed, the aim of the movement is, while providing assistance in absolutely necessitous cases, to encourage thrift and self-reliance on the part of the mothers, and to point out to them the best way by which they can help themselves.

Presentation to Dr. William Magner, Cork.

An interesting ceremony took place on September 30th at the Police Court, Cork, when Dr. William Magner, Assistant to the Professor of Pathology at University College, Cork, was presented by Mr. Starkie, the Resident Magistrate of Cork with the certificate of the Royal Humane Society for having on July 6th, 1914, gone to the rescue of a boy who was in imminent danger of drowning in the river Lee at Cork. Dr. Magner gallantly jumped into the water without waiting to divest himself of any of his clothing, and brought the boy safely to the bank of the river. Mr. Starkie, on behalf of the magistrates of Cork, handed the certificate to Dr. Magner, and congratulated him on his very plucky conduct in rescuing this poor boy. Dr. Magner said that while not wishing to assume an air of false modesty, he thought too much had been made of the affair, but he was very proud to receive the certificate which he would treasure. He thanked Mr. Starkie very sincerely for the kind reference he had made to his conduct.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

The Radium Supply.

The war has had an unforeseen effect in facilitating the work of the Manchester Radium Committee. At a meeting of the committee on October 2nd it was stated by Sir William Milligan that the committee would be able to commence work at the beginning of November, and would be much better equipped than was at first expected, as it had been able to obtain a supply of radium quite six months earlier than anticipated. About £5,000 worth had already arrived, and Sir William stated that on the outbreak of the war he had communicated with Pittsburg, in the United States, from which locality radium is largely obtained, and he had learnt that a considerable amount had been ordered for use in the German hospitals, but that Germany could not now take it, and he had accordingly wired that the Manchester committee would purchase the stock. This was agreed on, and by the end of next week it is expected that about £15,000 worth will have arrived. The total amount of the Radium Fund now stands at about £31,000, and sums are still coming in.

The Manchester Dental Hospital.

The committee of the Manchester Dental Hospital is to be congratulated on the valuable assistance it has rendered to the recruiting for the army. If the ordinary dental standard for the army had been strictly enforced, the examining medical officers would have been compelled to reject a large number of candidates, and the Dental Hospital has undertaken to attend to the teeth of all men who are in other respects suited for enlistment. Over 3,000 extractions have been made and a large number of fillings have been done, and artificial teeth have been supplied in about 300 cases. In order to cope with the extra work, the ordinary staff has invoked the assistance of dental practitioners in Manchester. All extractions and fillings have been done free, but where artificial teeth have been supplied the patients have been asked to contribute as far as they could afford, but as many of the patients were out of work and unable to contribute anything, only a comparatively small amount has been received in this way. The total cost of materials used is something like £500, and to meet this the committee has been compelled to make a special appeal to the public for funds.

Correspondence.

ANTITYPHOID VACCINATION.

Sir,—Through the courtesy of your Journal, may I ask my colleagues to send details of cases in which unusually severe or protracted symptoms have followed antityphoid vaccination? That they occasionally occur is well known, but I am being bombarded with antivaccination literature, some of which contains reports of very unpleasant results. Special cases within a reasonable distance of London I should be glad to see with my colleagues.—I am, etc.,

Oxford, Oct. 3rd. WILLIAM OSLER.

INSECTS AND WAR.

Sir,—In the interesting papers by Dr. Shipley I have not seen any mention of a simple preventive to, I think, nearly all insects—for example, fleas, lice, bugs, etc.; I mean ordinary flowers of sulphur.

Over thirty years ago, when house-surgeon at the Children's Infirmary, Liverpool, I used this with absolute success in all cases of plaster of paris jackets who

formerly had been much distressed by vermin getting under the jacket. The sulphur was rubbed well into the underclothes. I suggest all on active service should rub it into their clothes, and gently shake out the superfluous sulphur into their change clothes.—I am, etc.,

Leyton, N.E., Oct. 4th. HARDING H. TOMKINS.

PNEUMOCOCCI AND BILLETS.

SIR,—I always read Sir William Osler's addresses with pleasure and advantage, and his address to the soldiers in camp at Churn is no exception to the rest. Sir William names three diseases which may almost certainly appear, even in sanitary camps, as the winter progresses—namely, dysentery, pneumonia, and typhoid. For two of these—the first and the last in the series—he gives good preventive advice. For pneumonia he does nothing of the sort—that is, he seems to me to leave it to warm clothing, etc., which auxiliary aids to health are of little value to a half-starved private at the bottom of a muddy trench! "Fools rush in," to quote a familiar tag, and, classing myself in this category, may I be permitted to suggest a preventive course of treatment which the university professor has overlooked? I speak from many years' personal and professional experience. The pneumococcus with other microbes are commonly billeted in healthy oral and nasal cavities, where they apparently live a symbiotic life of peace and comfort and cause little inconvenience to their healthy host. When, however, his health fails, they immediately start the exploration of his unhealthy tissues, get, it may be, into his blood vessels, and sooner or later upset his "apple cart." Now, the problem before us is how to check this invasion—how, in military parlance, to turn their wrong wing! This is effectively done in nine cases out of ten (to be modest in my estimate) by cleaning the mouth and throat daily—that is, by brushing the teeth and gargling the posterior nares thoroughly with clean water. If, however, the soldier still feels discomfort in his throat (and nearly all chills, I believe, affect this region at their onset), then let him place a pinch of salicylate of quinine on the tongue and draw in his breath, when the powder will spread itself over the pharynx and remain there to the great discomfort of the microbes. Another way is to gargle with ammoniated tincture of quinine (℥j to ℥j) and swallow the result. As regards tooth cleansing, why not pluck a "twig" from the tree of Indian knowledge and use one for that purpose?—I am, etc.,

October 3rd. W. A. H.

AN ANTIVIVISECTIONIST FIXED.

SIR,—May we point out that by giving prominence to the charge of the prosecution in the case of Rex *v.* Kidd on a point which was not accepted by the magistrate, you have conveyed a totally false impression, doing our client the grave injustice of suggesting that she published and dispersed a spurious copy of the official report of the inspector under the Vivisection Act? The magistrate, Mr. Hopkins, expressed himself satisfied that the book in question did not purport to be the inspector's report. Such an assumption was clearly untenable by the fact that on the second page of the small booklet referred to occur the words: "Two prominent features mark the inspector's returns under the Vivisection Act for 1912. The first is the extreme lateness of their issue," etc. Thus it criticized the very document it was alleged to purport to be. The booklet was one published and printed by another lady in Manchester, and our client infringed the law by gratuitously distributing a limited number, being unaware that the law requires the name and address of the printer to be appended to all published matter, and holds the disperser responsible.—We are, etc.,

UNDERWOOD, PIPER, AND HEYS-JONES.

London, W., Oct. 5th.

*** We can scarcely be held responsible for "conveying a totally false impression," as the account of the case which appeared in the BRITISH MEDICAL JOURNAL was taken from the *Daily News and Leader*, a newspaper which we have always regarded as favourable to the anti-vivisectionist cause. The letter in the *Daily News and Leader* of October 1st from Miss Beatrice Kidd's solicitors, explaining her position, only came under our notice after the JOURNAL of last week had gone to press.

Obituary.

SIR HENRY D. LITTLEJOHN, M.D., LL.D.EDIN., F.R.C.S.E.

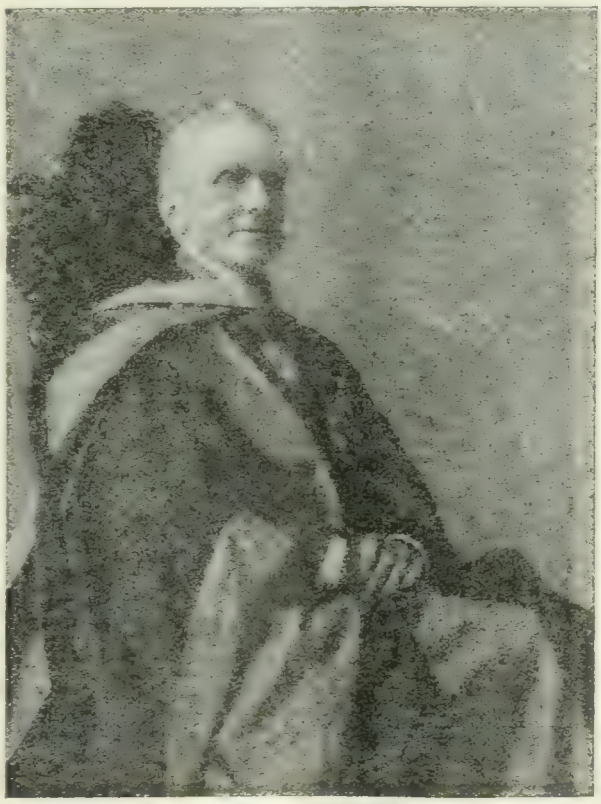
IT may be three years ago, it certainly is not much more, since Sir Henry Littlejohn's lithe, active, and wonderfully youthful figure was seen on the streets of Edinburgh. He would take his stand between two of the stopping places on the cable car system; the driver of the oncoming car would receive from a slight imperious gesture of Sir Henry's hand the intimation that he was not even from courtesy to slacken speed; and then, with an easy spring, well timed and adroitly accomplished, the professor was on board before the onlooker had time to speculate on what might befall. The incident was characteristic of Sir Henry Littlejohn's whole career: boundless energy, amazing vitality, a perfect grasp of the psychological moment, and rapidity of performance which no sooner met with than it overcame one after another of the sanitary difficulties of the health conditions of the city of Edinburgh. For over forty years he was an ideal medical officer of health, and for years to come his cleverly conceived and masterfully accomplished hygienic reforms will continue to shine forth from the pages of the annual reports of the health of the city, and to work their beneficent way in the slums and closes which cluster round the Cowgate and Canongate. There would have been worse slums and many more closes had it not been for the cleansing wrought during Sir Henry's long term of office as health officer. There is talk already about the raising, when these days of stress are over, of a permanent memorial to Sir Henry Littlejohn; but Edinburgh's low death-rate is his great monument.

Henry Duncan Littlejohn was born in Leith Street, Edinburgh, in 1828, and he died at Benreoch, Arrochar, on the last day of September, 1914, having attained the great age of 86. His education was accomplished at Perth Academy and at the Edinburgh Royal High School, whilst his medical training was gained in Edinburgh University and in the Royal College of Surgeons of that city. At the Sorbonne, too, in Paris he studied for a time. L.R.C.S. in 1847, he graduated M.D. in the same year, and became a Fellow of the Royal College of Surgeons of Edinburgh in 1854.

A year later, in 1855, he began to lecture in connexion with the School of Medicine of the College, and for forty-two years he edified and delighted successive generations of students with lectures and what may be called field demonstrations on medical jurisprudence and public health, which certainly have never been surpassed for their vividness, raciness, indestructible memorability, and compacted contents. With humour which was contagious, with wit which was sparkling and even disconcerting to the unwary, with gestures which were intensely dramatic, and with an immense collection of extraordinary anecdotes, each one illustrating a "point" in forensic medicine or hygiene, which it was well should be remembered, Littlejohn held his students spellbound whilst in his class and sent them out from it with certain invaluable pieces of knowledge impressed upon their mind with a security and permanence which resisted the tooth of time for a life's span. When at the present day three or four of Sir Henry's old students meet and when the talk turns upon his teaching, the conversation with absolute and rapid directness takes the form of successive interrogations, such as, Do you remember his story of that murder trial, of that railway journey from Granton, of the burial of the foot in Inchcolm, of the suffocation with the piece of tripe, of Madeleine Smith and Madame Tussaud's, of the ventilation of the Albert Hall, of the water supply of ancient Rome and of modern Athens, and of the drainage system or no system of such and such a place? The Saturday excursions, too; what exciting memories cluster round them. The visit to Craigentinny sewage farm with its odours and its obelisks (which "had nothing to do with the case"); the look in at the law courts—stuffy, empty, but filled in a moment at the touch of Sir Henry's wand of reminiscence with judge, jury, criminals, medical witnesses, and perspiring general public; the climb at break-neck haste up Liberton Hill to see the filter beds with Littlejohn far ahead explaining details all the way and appealing to his breathless students

in the rear for an assurance that they "followed him"; the examination of the slaughter-houses, the graphic description of the abattage of cattle and of the mysteries of how the blood was got rid of for the securing of the amenity of the neighbouring dwelling houses; all these experiences come back as in a flash to the men who were privileged to take part in them. When in 1897 Sir Henry was placed into the chair of Medical Jurisprudence in the University of Edinburgh, that institution received from the extra-mural school of medicine a rich gift indeed; the professor was then 69 years of age, but he believed, and rightly, that he had some five or seven good years of teaching ability still left in him.

But Sir Henry Littlejohn's full life contained much more than his work as a teacher. He was made medical officer for the city of Edinburgh and surgeon of police in 1862, and the former post he held for forty-six years; during this time, practically half a century, all that was done for the improvement of the health of the city (and it was much) bore the impress of Sir Henry's personality; drainage, water supply, bake houses, byres, street widening, overcrowding, epidemics, notification of infectious disease, fever hospital—all these, and many more, received from him in turn his keen attention, and never without a following advantage, which was easily recognized in the improved vital statistics of Edinburgh. A favourite saying with him was that a medical officer of health should always be poking about looking for things that were wrong (hygienically) and then be busy putting them right; and he practised what he preached.



SIR HENRY D. LITTLEJOHN.
(Photograph by J. Moffat, Edinburgh.)

Then, again, there was his work as medical adviser to the Crown in Scotland in criminal cases, and his appearances in court as an expert witness. Some one has said that he loved the witness box; truly when he was in it, and especially during his cross-examination, there was no lack of interest, and the lawyer who faced him was lucky if he got off with only a few "palpable hits."

He had also a leading part to play in the foundation of the Royal Hospital for Sick Children; he gave years of service to the Board of the Royal Infirmary; he was an examiner in medical jurisprudence in connexion with the triple qualification of the Royal Colleges; and in later years he was to be seen many a time at the daily religious service held in the Moray Aisle in St. Giles's Cathedral, a few yards distant from the public health offices in the High Street.

Into this fully packed mosaic of a life Sir Henry Littlejohn also managed to introduce the doings of his duties as President of the Royal College of Surgeons (1875–6), of the Medico-Chirurgical Society (1883–5), and of the Institute of Public Health (1893). How he found interstices for these pieces of work no one could say, not even himself; but we may conjecture that it was because, as some one said of him, he had "no to-morrow in his vocabulary," because his maxim was "Don't put off to the next moment what can be done in the present one." Besides this, he had a healthy body, which seemed almost immune against all ordinary ailments—there is a legend that he once had typhus, simply because every one took it in these early days—and he seemed, as Sir William Turner expressed it, to have "found the elixir of unfading youth." These are possessions which enable a man, if of the right sort, to do much work.

Bailie Pollard, who was intimately associated with him in the health of Edinburgh, said he had "not a lazy muscle in his body," and someone else capped this with "nor an idle fibre in his brain." With such an equipment one can go far and achieve much. It is no wonder that his Alma Mater made him LL.D. in 1893, and that two years later Her Majesty Queen Victoria conferred upon him the honour of knighthood. To the writer of this appreciation he gave many signs of kindliness, from the time when the former modestly endeavoured to accept his teacher's invitation to write an essay on abattoirs up to the last year during which Sir Henry occupied the Chair of Forensic Medicine in the University. It must have been a great satisfaction to Sir Henry Littlejohn, when, on his retirement from the Chair, the Crown elected to it his son, Professor Harvey Littlejohn; and the University has every reason to be satisfied likewise.

Sir Henry Littlejohn was one of Edinburgh's and of Scotland's great men, and his work as medical jurist and as hygienist will be enduring and fruitful everywhere.

In accordance with his own wishes—for he was strongly in favour of cremation—the remains of Sir Henry Littlejohn were cremated in Glasgow on October 3rd; the ashes were afterwards interred at the Dean Cemetery, Edinburgh.

Mr. D. Scott Moncrieff (Edinburgh) writes: Some of the many admirers of the beloved and lamented Sir Henry Duncan Littlejohn have asked me, as having once been a school fellow of his, if I can give them any idea as to his characteristics and appearance in his boyhood. Although a school fellow of Sir Henry, I was not one of his class fellows, my intercourse with him having been confined to the session of 1840–41, when he was an earnest student in the class-room of Dr. Carson, the respected rector of the Royal High School of Edinburgh, while I was an idler in the class next to the rector's, then under the charge of worthy Dr. Boyd. I had thus no opportunity of seeing how Sir Henry acquitted himself in the class-room. It was well known, however, amongst the school boys that he was a hard worker, and that for the gold medal given by the town of Edinburgh to the dux of the school there had been a keen contest between him and his class fellow William Maclagan, afterwards Archbishop of York. Although young Littlejohn must obviously in his boyhood have been very exceptionally gifted, I can vouch for it that he gave himself no airs, and that in the playground he was always most kind and considerate to boys like me who were younger and less gifted than he. I can still well recall his lithe and active figure, always well dressed and well groomed; his merry, laughter-loving eye; and his open, manly brow. Amongst the rough schoolboys he was essentially one of the gentlemen. In after-years I occasionally met him in connexion with business matters, and I can never forget the care and attention with which he listened to all that one had to say; the way in which he was always ready to make allowance for mistakes in others; and his readiness to admit any oversight which was chargeable against himself. As an illustration of his genuine kindheartedness I may mention that on one occasion I had to call upon a servant girl, the daughter of a policeman, who spoke to me in the most grateful way of the great kindness shown to her father by

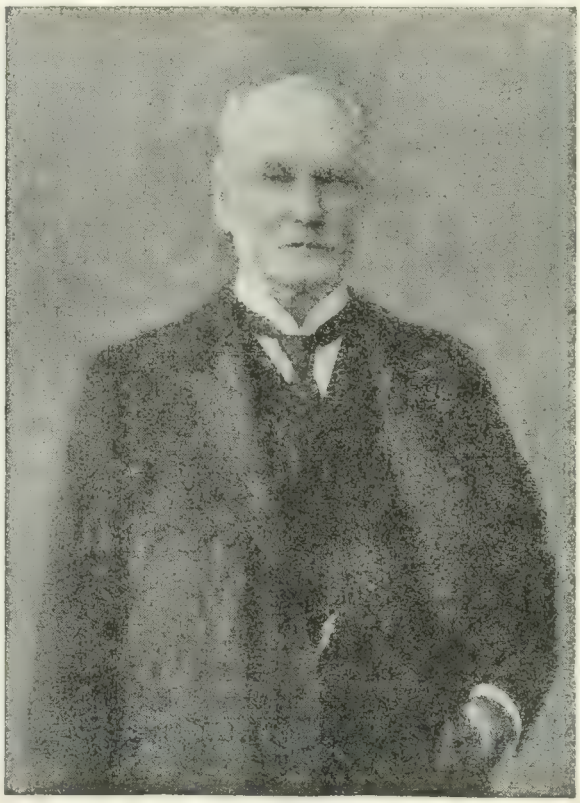
Sir Henry when surgeon of the police. She added that once, when she was handing dishes at a large dinner party where Sir Henry was one of the company, he had recognized her and told her to take care of her fingers, for the dishes were very hot. Sir Henry had a merry laugh over this incident when I repeated it to him.

Take him all round, Sir Henry Duncan Littlejohn was one of the best and noblest men I ever met with.

EDWARD HOOPER MAY, M.D.St. And., F.R.C.S.Eng.,

CONSULTING SURGEON, PRINCE OF WALES'S GENERAL HOSPITAL.

By the death of Dr. E. Hooper May, on September 23rd, the medical profession of the North of London has lost its oldest and most prominent member. A man of a singularly retiring disposition, he possessed the peculiar charm and old world courtesy that characterized what is called the "old school." During the many years that I have known him, he was never heard to say an unkind word of any one, and his help and encouragement to the younger men of the profession endeared him to all his colleagues. Essentially a surgeon at heart, he yet made an ideal general practitioner, and throughout his long life he was ever foremost in efforts to advance the welfare of his neighbourhood. Perhaps he will be best remembered for his work in connexion with the Prince of Wales's General Hospital, of which he was one of the founders in 1867, and on the surgical staff of which he served until advancing years caused his retirement from the acting staff to become consulting surgeon. Nothing, he has told me, gave him greater gratification than the rapid advance of this hospital, and there is no doubt that it is to his energy and devotion that its present position among the London hospitals is due.



EDWARD HOOPER MAY.

Edward Hooper May was born on November 2nd, 1831, in the house at Tottenham in which he died; he was educated at a private school and at St. Bartholomew's Hospital, where he was dresser to Edward Stanley and clinical clerk to Sir George Burrows. After qualifying in 1854 he went for an extra year's study to Edinburgh, to be under Syme. For Syme he had the greatest admiration, and only a few days before his death he told me that he still thought Syme was the greatest surgeon of modern times. He also worked with Lister in 1855, at that time resident surgeon at Edinburgh Infirmary. He used to tell a story of Lister which is interesting. When he was his dresser they used to work late at night at the infirmary, and when work was over Lister used to pull out his flute, and say, "Now I will give you a tune," and play to them. Apparently they used to keep it up rather late, because they had to climb over the gate when they left.

Dr. May obtained the F.R.C.S.Eng. by examination in 1856, and settled in practice in Tottenham, where his father, who came of old Quaker stock, had been in practice before him. In 1860 he took the degree of M.D. of St. Andrews. In 1864 he assisted in establishing a dispensary, now known as the Tottenham and Edmonton General Dispensary, and in 1867 he was one of the founders of a hospital in connexion with a community of Evangelical Protestant Deaconesses. This became the Tottenham Hospital and eventually the Prince of Wales's General Hospital. Excellently trained for the work, he introduced Listerian principles at Tottenham, and used to say that the carbolic spray was used earlier at Tottenham than at any other hospital in London, and given up earlier too. At this time he maintained a close friendship with, among others, Paget and Jonathan Hutchinson senior, and Hughlings Jackson was one of his most intimate friends. Dr. May did the first nephrolithotomy in England, though it was not done as a planned operation, the credit for which, I believe, belongs to Sir Henry Morris.

Dr. May did not make many contributions to medical literature, but his opinion was widely sought, and not only in surgical cases, so that he did much consulting work in the North of London. To the end he retained perfectly his eyesight and hearing, and his interest in affairs and his mental activity were unabated. He leaves a widow and family, but none of his sons is in the profession. One cannot say all one would of a man who won the love of so many; it is enough to say that he spent his long life for the welfare of others, and all his work was done with his whole might.

The funeral, which took place on September 28th, was attended by, among others, a number of medical friends and representatives of the Prince of Wales's Hospital.

H. W. C.

JOHN FLETCHER LITTLE, M.B.Cantab., M.R.C.P.Lond.,

VICE-PRESIDENT OF THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, LONDON.

We have to record with much regret the death of Dr. John Fletcher Little, which took place on August 9th. He was born in co. Tipperary in 1843. His early education, including the first part of his medical training, was obtained in Dublin. In 1866 he took the diplomas of L.R.C.S. and L.R.C.P. Edin. Shortly afterwards he commenced practice at Woolton near Liverpool, an experience which he frequently afterwards used to quote as having been of much value to him. After some years he established himself at Ben-Rhydding. It was at this time that he became interested in physical methods of treatment, especially in massage, and was able to pay a visit to the United States of America to study the ideas which found development later in treatment of the Weir Mitchell type.

In 1879 he began to attend the medical courses at Cambridge and Charing Cross Hospital; he took the degree of M.B. in 1888, and the diploma of M.R.C.P.Lond. in 1889. He had already opened a school for the training of both men and women in massage, one of the earliest institutions for this purpose in London.

Dr. Little acquired a considerable practice, but his wide interests soon induced him to give a large amount of time to public duties. He served for a considerable period on the London County Council and on the Marylebone Borough Council. In both positions he gave evidence of a wide and sympathetic outlook on public affairs, and his advice was of much assistance on many occasions when matters involving the public health and medical interests were concerned. In politics he was an enthusiastic Liberal, and contested Oxford City in the year 1895.

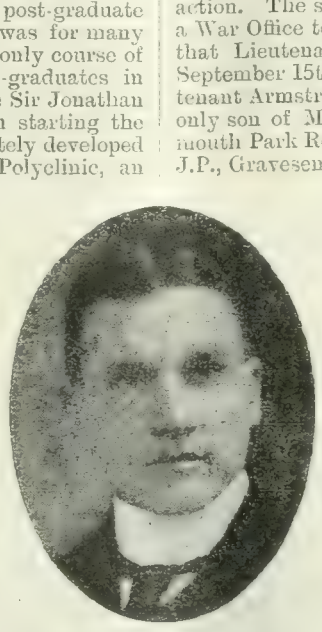
During his career Dr. Little held various posts of importance in London; for some time his medical work centred in the London Temperance Hospital and at the Mount Vernon Hospital, in both of which institutions he held the appointment of physician. A post to which at one time he gave a large amount of care and assiduous

attention was that of medical officer of health for Harrow. He held this position up to the time of his death, never losing interest in Harrow and its neighbourhood, and had the strength to prepare the report of his work to the Harrow Council for the year 1913.

To medical men in London Dr. Little was well known on account of his early advocacy and unfailing interest in schemes for post-graduate instruction. He had personally appreciated the value of this in his own career, and felt sure of the desirability of making post-graduate study easily obtainable. He assisted in starting a post-graduate course at Charing Cross Hospital, which was for many years very successful, and was almost the only course of instruction at the time arranged for post-graduates in London. Later, in association with the late Sir Jonathan Hutchinson, he was greatly instrumental in starting the London post-graduate scheme which ultimately developed into the Medical Graduates' College and Polyclinic, an institution which has done so much good work for the medical profession.

He was a man gifted with a sanguine temperament, enthusiastic in all that he undertook; difficulties were never too great to be overcome, and his optimism was of unfailing value to his colleagues in the various undertakings with which he was associated during his career. His cheerfulness of disposition never stood him in better stead than during the long and trying illness which preceded his death. His resourcefulness and brightness of character will always remain a pleasant memory to those who had the privilege to know him well.

Dr. Little was a member of a family consisting of three sisters and five brothers. Two brothers—William and Joseph—entered the medical profession, and practised in Australia; Shepherd Little, a barrister, was at one time M.P. for Whitehaven, and during the latter years of his life stipendiary magistrate for Liverpool; the remaining brother was the late Reverend R. Wentworth Little.



Lieutenant A. K. Armstrong,
(Photograph, by Stereoscopic Company, London.)

SIR ALFRED EDWARD THOMSON, M.D., M.Ch., R.U.I., L.M.R.C.P.I., M.R.C.S.Eng.,

VISITING SURGEON, NEW SOMERSET HOSPITAL, CAPETOWN, S.A.; FELLOW ROYAL SOCIETY OF MEDICINE.

It was with deep regret that the announcement of the death of Sir A. E. Thomson, M.D., of Capetown, South Africa, was received in Ulster. He died in Belfast on September 27th. He had resided long in Capetown, but those who were his fellow students and who had met him from time to time on his visits to his native land felt that a personal friend, a conscientious and highly skilled surgeon, and a personality of exceptional worth had been lost. Sir Alfred had long been an invalid, and had suffered much from stomach and subsequently bowel trouble. He had been operated on in London four years ago, and had come back once more to Belfast to seek for aid, but numerous adhesions between coils of bowel, into which old abscesses had evidently emptied, and finally perforation brought about the untimely end. His old fellow students and personal friends gave him all that skill and affection could do for him. Sir Alfred Thomson's work and success in South Africa under such most painful and trying conditions proved his courage and determination.

He was the second son of the late Dr. Thomson, of Bangor, County Down, and entered the Queen's College, Belfast, and Royal University of Ireland. After taking his degree in 1886, he was for a time resident medical officer in the old Belfast Royal Hospital, and York Road Lying-in Hospital in London; even then the gastric ulcer troubled him, and he sought health in the south of France in charge of a patient. Going to South Africa he became resident medical officer of Kimberley Hospital. He was most successful in Capetown, where he finally settled, and soon entered the leading ranks of the profession. Within the last year he received the honour of knighthood, which gave great pleasure to his friends in Ulster, who recognized the suitability of the bestowal and the merit of the recipient.

Sir Alfred Thomson was unmarried, and leaves an aged aunt, with whom he resided at home before he went into the private hospital, and a brother, Dr. Robert Thomson, of Margate, with whom deep sympathy is felt.

LIEUTENANT A. K. ARMSTRONG, R.A.M.C.,

MONMOUTH.

Lieutenant Arthur Keith Armstrong died in France on September 15th from the effects of wounds received in action. The sad news was conveyed to Mrs. Armstrong in a War Office telegram as follows: "We beg to inform you that Lieutenant A. K. Armstrong died of wounds on September 15th. With Lord Kitchener's regrets." Lieutenant Armstrong, who was only 33 years of age, was the only son of Mr. and Mrs. Henry Armstrong, of 42, Dartmouth Park Road, London, and grandson of Dr. Armstrong, J.P., Gravesend. He was educated at Highgate School, where he was a member of the cadet corps. He afterwards entered St. Bartholomew's Hospital. In 1907 he was appointed house-surgeon at Huntingdon County Hospital, and afterwards became surgeon to the British IndiaMail steamer *Jelunga*. In 1909 he began practice in Monmouth in partnership with Dr. Lloyd-Smith, and became a member of the staff of the Monmouth Hospital. At the outbreak of the war he offered his services to the Government and was granted a commission in the R.A.M.C., being stationed first at Woolwich Hospital and then ordered abroad. During his residence in Monmouth Dr. Armstrong had made himself very popular with his colleagues and had earned the respect and regard of the public. In the town of his adoption he will be much missed and the deepest sympathy is felt for his widow and two children. He was a member of the British Medical Association, and published in this Journal in 1911 a paper on a case of eclampsia treated by saline infusion and another on hydrocephalus as a sequel to shock in 1912.

Universities and Colleges.

UNIVERSITY OF LONDON.

University College.

The following entrance scholarships and exhibitions have been awarded in the Faculty of Medical Sciences: Buckuill Scholarship (135 guineas), B. Rosenstein, of Westminster City School; First Medical Exhibition (55 guineas), H. N. F. Cook, of University College, London; Second Medical Exhibition (55 guineas), A. W. Holgate, of Alleyn's School, Dulwich; *proxime accessit*, M. Baranov, of King Edward VII School, Johannesburg, and University College, London; Epsom Free Medical Scholarship, N. E. Beasley.

London Hospital.

The entrance scholarships have been awarded as follows: Price Entrance Scholarship in Science (£100), Mr. I. H. Zortman; Price Entrance Scholarship in Anatomy and Physiology, for students of the Universities of Oxford and Cambridge (£52 10s.), Mr. H. D. McIlroy, Jesus College, Cambridge.

St. Mary's Hospital.

The competition for entrance scholarships at the medical school resulted in the following awards: The three open *Scholarships in Natural Science* (value £100, £50, and £26 5s. respectively) to Mr. J. O'F. Fletcher, St. Mary's College, Trinidad; Mr. W. F. Francis, Berkhamsted; and Mr. H. E. Suter, Epsom College. The two *University Scholarships* (each of the value of £52 10s.) to Mr. J. W. G. Phillips, St. Mary's Hospital Medical School, and Mr. T. S. Evans, University College, Cardiff. A *University Exhibition* was also awarded to Mr. R. A. Woodhouse, Downing College, Cambridge.

Guy's Hospital.

The following were the successful candidates for the entrance scholarships awarded at the Medical School in September. The two *Senior Science Scholarships* (for University students), value £75 and £35, Mr. J. M. H. Campbell, New College, Oxford, and Mr. F. A. Unwin, King's College, London. The two *Junior Science Scholarships*, value £120 and £50, Mr. A. E. Sawday and Mr. S. A. Sharpe, both of Guy's Hospital Preliminary Science Class. The two *Scholarships in Arts*, each of the value of £50, Mr. E. E. D. Gray, St. Paul's School, and Mr. M. W. O'Bryen, Oratory School, Edgbaston.

ST. GEORGE'S HOSPITAL.

The entrance scholarships in Anatomy and Physiology, of the value of 70 guineas and £50, have been awarded to Mr. R. Salisbury Woods, of Downing College, Cambridge, and Mr. A. Birrell, of the University of Wales, respectively.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

FIRST M.B.—*Part I (Inorganic Chemistry and Physics)*: Mary G. Cardwell, S. E. Critchley, F. L. Heap, F. S. Horrocks, A. W. Kirkham. *(Physics)*: F. H. Moor, V. T. Smith, Marie Wardman, James Yates. *Part II (Elementary Biology)*: Mary G. Cardwell, Elizabeth C. Davies, F. S. Horrocks, Kathleen O'Donnell, Marie Wardman, Ethel D. Willis.

Medical News.

THE 1st (Home Service) Home Counties Field Ambulance, with head quarters at the Old Palace, Maidstone, requires officers to complete its establishment. Inquiries should be addressed to the officer commanding.

AS announced in our advertisement columns, the autumn session of the Post-Graduate College, West London Hospital, Hammersmith, will open on Monday, October 12th. Full information can be obtained on application to the dean or vice-dean at the college.

THE winter term of clinical lectures and demonstrations at the National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury, commenced on Tuesday, October 6th, and will be continued on Tuesdays and Fridays, at 3.30 p.m. up to and including December 11th.

A MEETING of the Society for the Study of Inebriety will be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, October 13th, at 4 p.m., when Dr. Robert Armstrong-Jones will open a discussion on drug addiction in relation to mental disorder.

THE Local Government Board has issued a revised list of sanatoriums approved by the Board under the Insurance Act for the treatment of persons suffering from tuberculosis and resident in England excluding Monmouthshire. Under the provisions of Section 42 (1) of the Insurance Act, 1913, sanatoriums for the treatment of insured persons suffering from tuberculosis and resident in Wales and Monmouthshire are subject to the approval of the Welsh Commissioners.

THE prizes of the School of Dental Surgery of the Royal Dental Hospital, Leicester Square, will be distributed on November 17th by Mr. Arthur Hood, Chairman of the Managing Committee, in place of Sir Charles Wyndham, who, it is hoped, will distribute the prizes next year. The dinner of past and present students will not be held and the post-graduate lectures announced for October and November have been postponed, but will be given in the new year if circumstances permit.

INCOME tax used to be accounted a war tax, and though it has been largely used to meet other expenditure, it is reasonable to anticipate in the next and the following years a considerable increase in the amount of taxation levied on income. While no one wishes to shirk his responsibilities in this respect, it is only right that each should secure the advantages by way of exemption and abatement that the law permits. Returns are often difficult to make out, and we may therefore call attention to the advertisement of the Income Tax Protection and Relief Association, 7, Staple Inn, Holborn, W.C., published in this issue, offering assistance in the preparation of returns at an annual subscription of half a guinea.

A SPLENDID gift of £57,000 has been made by the women of Canada to show their sympathy with the sufferers through the war. Of this sum £37,000 has been set aside, by request, for a naval hospital at Portsmouth, the remainder being placed at the disposition of Lord Kitchener for use in connexion with our forces in the field. The Admiralty have gratefully accepted the gift on behalf of the navy, and have undertaken to identify the hospital with the women of Canada, whose happy inspiration and thoughtful sympathy have thus forged a new link between the navy, Portsmouth, and the Dominion. The hospital of the Canadian War Contingent Association, particulars of which were given in the JOURNAL of September 19th, is being established in a country house at Shorncliffe, lent by Sir Arthur and Lady Markham.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

MR. A. W. BALL, Director of Oppenheimer, Son and Company, Limited, asks us to state that the product sold by that company under the name Metramine, and mentioned in the note on "Drugs with German Names," published in the JOURNAL of October 3rd, page 594, is a trade mark name for purified hexamethylenetetramine. The name is registered in London and other British-speaking countries, and also in Italy. The process used in its manufacture is not a protected or patented process of German origin, but a secret in the company's laboratories. Mr. Ball also asks us to state that the company was founded in Great Britain by William Oppenheimer, who was born in 1849 at Manchester, whose wife also is of British origin; his children were born in Great Britain and are the only Oppenheimers interested in the business, all the other shareholders are British-born subjects, the capital is British, and all the members of the staff are British-born subjects, and the products of the company are manufactured in London.

PROPOSED SPECIAL SERVICE (CHOLERA) CORPS.

DR. A. WHITE ROBERTSON, Honorary Secretary, writes: As there seems to be no call for the services of this corps in the immediate future I have, after correspondence with the War Office and British Red Cross Society, to inform the large number of medical men and nurses who have applied for special training that the project will now be dropped, leaving its members free to accept other appointments.

LECTURER CHARGED WITH MANSLAUGHTER.

MR. ORLANDO EDGAR MILLER, who has been committed for trial on a charge of manslaughter, was incorrectly described in the JOURNAL of last week, page 607, as a teacher of Christian Science. He described himself at the inquest as a lecturer on higher thought, and a practitioner of faith-healing, and said he was not a Christian Scientist.

ELEVATION OF DEPRESSED FETAL CRANIUM.

FUSTER of Algiers (*Bulletins de la Soc. d'Obstét. et de Gynéc. de Paris*, etc., June, 1914, p. 496) delivered a big multiparous woman, aged 47, by turning, after an unsuccessful attempt at delivery by forceps had been made by a resident assistant at a lying-in hospital. The patient had been delivered normally six times in succession, but version had been employed at the seventh labour, the forceps at the eighth, and embryotomy at the ninth. On this occasion, the tenth labour, the first stage was greatly prolonged, pituitrin was given, and the dilating bags applied, but oedema of the cervix developed. On that account the forceps was applied, but unsuccessfully. Fuster detected a deep depression in the fetal cranium, which was quite movable. He turned and delivered with ease. The child was a well-developed female, weighing 8½ lb., the occipito-frontal diameter was 4½ in., the occipito-mental 4¾ in., and the biparietal 3¾ in. It was asphyxiated when delivered, but revived a little after the usual treatment; the left parietal bone was so completely depressed as to be concave instead of convex. Fuster cut down through the scalp on the depressed bone, making an incision about a fifth of an inch long at the level of the uppermost part of the parietal eminence. The only instrument at his disposition, as it happened, was a Faraboeuf's perforator employed for symphysiotomy, but with it he was able to open the parietal bone. Then he pushed the instrument under the inner surface of the bone and succeeded in elevating it almost completely. The scalp was closed by one suture and a drop of collodion applied to the wound. At the end of three weeks, when the mother was discharged, the child was in perfect health. Fuster notes that Hauch recently elevated a depressed frontal bone in a newborn child by means of a small corkscrew. If immediately undertaken, with aseptic precautions, elevation of the depressed frontal cranium, on its delivery, is a safe and simple operation.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

ON CANCER OF THE DUODENUM AND SMALL INTESTINE.

Being the Presidential Address delivered to the Medical Society of London, October 12th, 1914,

by

SIR JOHN BLAND-SUTTON, F.R.C.S., LL.D.,

surgeon to the middlesex hospital.

The distribution of cancer in the section of the alimentary canal known as the gastro-intestinal tract is remarkable. Cancer is very common in the stomach, but in the intestine between the pylorus and the ileo-caecal valve it is uncommon. Primary cancer is rare in any part of the small intestine, but it occurs more frequently in the duodenum, short as it is, than in the jejunum or the ileum.

Cancer of the Duodenum.

A study of the effects produced by cancer of the duodenum shows that the time-honoured division of this section of the small intestine into first, second and third parts is of little use for the purposes of clinical medicine. It is more convenient, following Sherren, to call the portion above the bile papilla the supra-ampullary segment; the portion containing the bile papilla, the ampullary, and the remainder the infra-ampullary segment.

Supra-ampullary Cancer.

Duodenal ulcer is a common affection, and observations made on the living in the course of operations, and on the dead, have shown that the ulcer, for it is nearly always solitary, occurs most frequently in that section of the duodenum immediately adjacent to the pylorus. The chronic indurated duodenal ulcer is usually situated in the first 2 cm. of the duodenum, and four-fifths of the patients are men.



Fig. 1.—The pylorus and supra-ampullary section of the duodenum. A sarcoma occupies the scar of a chronic ulcer. Excised from a man aged 55.

Many surgeons who have had great experience in gastric surgery believe that a chronic ulcer of the stomach is a precancerous condition. There is much evidence to support the view that a chronic gastric ulcer—like a chronic ulcer of the leg, a lupus patch, or a chronic syphilitic ulcer of the tongue—occasionally becomes cancerous. Physicians and surgeons admit the difficulty of early diagnosis in cancer of the alimentary canal from the pylorus downwards; the disease furnishes no sign until it becomes septic or obstructs the gut. This explains our great ignorance of the early stages of cancer arising in the stomach, duodenum, and on through the intestine to the anus. It is insisted by some surgeons that if chronic gastric ulcers are liable to become cancerous the same changes should affect chronic duodenal ulcers. Observation teaches that cancer of the duodenum is a rare disease, and there is no evidence that it arises in a chronic duodenal ulcer. Malignant disease of the duodenum of any kind is uncommon, and very few specimens of cancer of the small intestine are preserved in the hospital museums in London. This is sufficient to indicate, not only that the disease is uncommon, but the important fact that cancer of the duodenum is rarely excised by surgeons. The only example of malignant disease in the supra-ampullary section of the duodenum I have seen associated with a chronic duodenal ulcer was a sarcoma. A man, aged 55, had well-marked symptoms of pyloric obstruction, and at the operation a polypoid mass could be felt in the duodenum, and was easily pressed into the pyloric ring. There was a well-marked scar on the serous surface of the duodenum opposite the pylorus. I resected the pylorus with the adjacent part of the stomach and the duodenum to within half an inch of the bile papilla. The duodenum was closed, and the stomach also. Union of the stomach with the intestine was re-established by a posterior gastro-jejunostomy. The parts exsected are drawn of natural size in Fig. 1. A fungating growth springs from the floor of a chronic ulcer. Microscopically, it is a spindle-celled sarcoma. The post-operative course of this case is of some interest. A few days after the operation the duodenal stump leaked and much bile-stained fluid escaped through the lower angle of the abdominal incision. Frequently the fluid was quite clear, alkaline, and excoriated the skin. This fluid was mainly pancreatic juice, and in a few days the patient was in the condition of Pavlow's famous dog. This animal had an artificial pancreatic fistula, and the escaping fluid eroded the skin. The dog was tied up in the laboratory and at night scraped the plaster from the wall and lay with its belly in the débris. This suggested a plan of treatment, and a bed of sand was prepared for the clever dog, and the pancreatic juice no longer eroded the skin. I did not give my patient a bed of sand, but the erosion of the skin was prevented by covering the skin surrounding the fistula with gauze, or lint, soaked in paroleine. A perusal of Pavlow's experimental observations helped me a great deal in the management of my patient. We know the average amount of fluid secreted daily by important organs, such as the liver, kidneys, and stomach, but no one has determined the average amount of fluid secreted by the pancreas, because the pancreatic secretion varies in quantity with the nature of the food. The greatest stimulant is fat. In my patient there were times when the fluid flowed in an almost continuous stream and quite clear. This happened when he swallowed milk. A fat-free dietary was then arranged, consisting of whey, beef-tea from which fat was carefully removed, water, and tea. The fistula soon closed. It was unfortunate that, after piloting the patient through many difficulties, he died a month after operation with apparently an abdominal dissemination of the disease. The man being a Jew, his relatives refused a *post-mortem* examination.

Cancer arising in the duodenal mucous membrane around the bile papilla is known as circum-ampullary cancer, in order to distinguish it from cancer arising in the ampulla, or in the common bile duct, but the three varieties lead to obstruction of the bile duct, jaundice, and distension of the gall bladder. There can be little doubt that cancer of this section of the duodenum would often escape detection if it were not for the obstruction it offers to the flow of bile from the common duct. It is very difficult to distinguish clinically between circum-ampullary cancer, ampullary cancer, and malignant disease of the head of the pancreas, for all give rise to obstructive jaundice, often associated with an over-distended gall bladder.

Cancer of the Ampulla.

From a practical standpoint the distinction between cancer arising in the mucous membrane of the duodenum near the ampulla and cancer arising in the ampulla may not be important, but primary cancer of the ampulla is interesting in itself and exhibits some remarkable peculiarities. Nowhere in the body does so small a growth lead to such grave interference with digestion. A cancerous growth, sometimes no larger than a small cherry, will block the outflow of bile and pancreatic juice, causing intense jaundice, and great emaciation by interfering with digestion in consequence of the obstruction to the outflow of pancreatic juice. The three clinical signs of cancer of the ampulla are painlessness, intense jaundice, and great emaciation. The pathological features of cancer in this situation are its slight tendency to infiltrate surrounding structures, the infrequency of dissemination, and the enormous dilatation of the main bile ducts and the gall bladder. A feature of cancer of the ampulla which distinguishes it from cancer of the gall bladder is the infrequency with which it is associated with gall stones. In spite of the local nature of the disease it quickly

destroys life. When cancer of the ampulla gives rise to jaundice, death usually follows within six months.

The daring resourcefulness of modern surgery is well exemplified in the attempts to deal with this singular form of cancer, and there can be little doubt that some means will be found for dealing with it successfully. Some valuable papers have been written on this subject by Hartmann, Körte, Schuler, Kausch, and Upcott. An American surgeon, Outerbridge, has recently collected 100 reported cases. An example from a case under my care at the Middlesex Hospital is represented in Fig. 2.

Very few specimens of ampullary cancer have been described in London, and there are few specimens in the metropolitan museums. Perhaps it is only necessary to draw attention to this deficiency in order to have it remedied.

Cancer of the Transverse or Infra-ampullary Duodenum.

This is the common place for duodenal cancer. The symptoms associated with it are like those set up by cancer of the pylorus, but the vomited matter contains bile and pancreatic juice, and is sometimes very offensive. The cancer is usually of the constricting type, and the duodenum above the constriction becomes enormously distended; the dilated stomach and duodenum constricted by the pylorus resemble a bilocular stomach. Cancer sometimes arises in the middle of the transverse portion of the duodenum and the growth involves the vena cava and the superior mesenteric vessels. A constricting cancer in this part of the duodenum may be so hidden as not to be visible until the gut is opened. Rolleston has seen the channel of the gut so narrowed that its lumen in the cancerous section would only admit the passage of a pencil. I had an opportunity of operating on a man in whom the duodenum was completely obstructed by cancer. The patient, aged 56, was invalided from Burma on account of persistent vomiting and rapid emaciation. Cancer of the stomach seemed to be the most probable cause of the illness, but no lump could be felt in the stomach or its neighbourhood. The vomiting resembled that seen in the condition known as a "vicious circle" after gastro-jejunostomy; it was very offensive. At the operation the stomach was found to be contracted, and on turning it over to examine the posterior surface I found a small constricting growth in the middle of the third part of the duodenum. This hard ring of cancer completely obstructed the gut, so that the bile and pancreatic juice regurgitated into the stomach, where they mingled with the gastric juice and ingested fluids to be ejected as filthy vomit. The duodenum above the stricture was enormously dilated, and produced an appearance like a bilocular stomach. The cancer had involved the walls of the duodenum, and implicated the superior mesenteric vein; excision of the affected area of the gut was impracticable. Posterior gastro-jejunostomy was performed, and the distended section of the duodenum was also anastomosed with an adjacent coil of jejunum. The vomiting ceased after the operation, and the patient began to take food freely and assimilate it. Pain ceased, and we hoped that his life might be prolonged. Cardiac dyspnoea began to cause trouble, circulatory complications arose, and he died fourteen days after the operation. A *post-mortem* examination confirmed the opinion, formed at the time of the operation, in regard to the impracticability of removing the cancerous portion of the intestine, for it involved the pancreas extensively as well as the large blood vessels. In the infra-ampullary cases the vomit always contains bile and pancreatic juice; this is of diagnostic value. Pancreatic juice can be demonstrated by the digestion of fibrin in the filtered vomit, with the addition of a few grains of sodium bicarbonate.

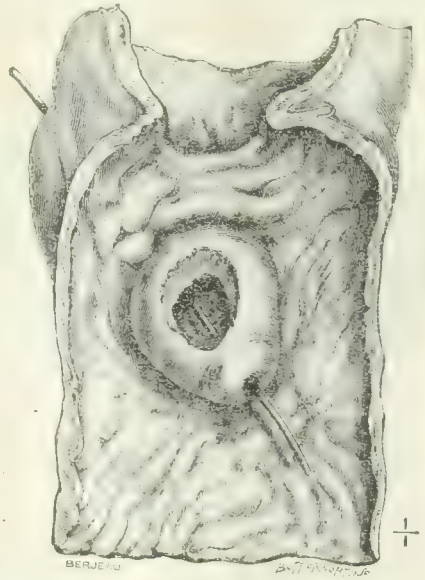


Fig. 2.—Cancer of the ampulla. The common duct contained three gall stones, and one had ulcerated through the growth. From a woman aged 58. (Museum, Royal College of Surgeons.)

Cancer of the Jejunum and Ileum.

Tumours of the jejunum and ileum are interesting pathologically and clinically. A tumour of any kind in the small intestine is rare, and those belonging to the benign group are, as a rule, pedunculated; the propulsive movements of the intestine not only affect the contents, but influence tumour formations within its walls. The simple tumours arising in the intestinal walls may be lipomas, some are described as myomas, and many as sarcomas, but, whatever the structure, the constant propulsive efforts of the intestine tend to force the tumour towards the lumen of the bowel until it projects within it covered merely by a layer of mucous membrane. The danger to be feared from such tumours is invagination, or intussusception of the gut, for the tumour, acting as a foreign body, is urged along the bowel, and being fixed to the bowel wall drags it in and produces an intussusception, which, if unrelieved by art, or the timely sloughing of the intussusceptum, ends in fatal obstruction. The peristalsis of the small intestine exercises moulding effects on deposits of cancer within its walls, as well as on benign tumours; this applies to secondary as well as primary deposits. A man with disseminated melanoma was admitted into the Middlesex Hospital with intestinal obstruction. In the face of widespread melanomatous deposits an operation for the relief of the obstruction was regarded as useless; to the astonishment of the physician, the symptoms abated and the patient passed a long slough of intestine which proved to be a piece of ileum containing a deposit of melanoma. This had led to intussusception, and the intussuscepted piece of gut sloughed and the man recovered.

The museum of the London Hospital contains a portion of ileum in a state of intussusception caused by a secondary deposit of melanocarcinoma. The specimen was obtained from a woman admitted with signs of strangulated femoral hernia; at the operation the supposed hernia proved to be an enlarged lymph node charged with black pigment. The woman died and the invaginated gut was discovered after death. The seat of the primary growth is not stated.

Cancer and Accessory Pancreatic Tissue.

A consideration of tumours of the small intestine would be incomplete without reference to the suggestion that cancer of the small intestine may arise in an accessory pancreas. Small detached masses of pancreatic tissue have been detected in the stomach near the pylorus and in the duodenum; they may be situated in the mucosa, muscularis mucosae, or in the muscular layer of the intestine, and measure 3 or 4 cm. in diameter. An accessory pancreas is occasionally situated at the apex of a diverticulum. Although such diverticula usually arise in the duodenum they have been observed in the lower parts of the ileum, and regarded as persistent Meckelian diverticula. A pancreatic and a Meckelian diverticulum have been found in the same individual. It is possible that pancreatic diverticula are produced by traction; they are by no means harmless, and several cases have been reported in which a diverticulum, with an accessory pancreas at its apex, has invaginated into the bowel and produced intussusception. In a remarkable case reported by O'Connor an inverted diverticulum caused intussusception in a boy aged 13. On the fourth day after the attack he passed 11½ in. of gangrenous intestine with the diverticulum attached.

It is necessary to mention accessory pancreas when considering cancer of the duodenum and small intestine, because those pathologists who still believe that cancer arises in embryonic vestiges think it probable that this disease may arise in islands of pancreatic tissue. There is no evidence to support this theory, nor that which attributes duodenal cancer to morbid changes in Brunner's

glands. Like the theory attributing parotid chondromas to relics of Meckel's cartilage, they belong to the domain of fiction. Such theories indicate that pathologists, like poets, are not devoid of imagination.

Cancer at the End of the Ileum.

The frequency of ulcer and cancer at the pylorus is not repeated at the ileo-caecal valve. This part of the small



Fig. 3.—The caecum and terminal segment of the ileum. The specimen shows the manner in which cancer arising in the caecum may involve the ileum.

intestine, notwithstanding its narrowness, is rarely attacked by morbid growths, and they have been rarely the subject of critical analysis. For many years I have been interested in this question, and find obstructive growths at the valve are of four kinds:

1. Cancer arising in the ileum.
2. Cancer arising in the caecum.
3. Malignant growths in the vermiform appendix.
4. Hyperplastic tubercle of the ileum.

Cancer at the ileo-caecal junction, in the cases I have seen, has been of the circular contracting type, and leads to almost complete occlusion of the opening. The contraction is so extreme that it is necessary to make a careful search in order to detect it, and, as a rule, the disease is more easily felt than seen.

It is a remarkable thing that such inconspicuous growths give rise to widespread metastasis in the abdomen. For example, an elderly woman had a large ovarian cyst associated with frequent vomiting—two conditions forming a sinister combination, and suggestive of malignant disease of the bowel associated with the ovarian cyst.

The removal of the cysts—there were two, one as big as the patient's head, and the other the size of a turkey's egg—was easily accomplished, but the presence of much solid tissue in the walls of the cyst convinced me that the solid matter was implanted cancer. The distended condition of the small intestines led me to carefully search for an obstruction, and I found a thin, narrow hard ring of growth completely obliterating the ileo-caecal orifice. I joined the ileum to the ascending colon by a lateral anastomosis. The woman survived, and lived free from pain and able to look after her house for twelve months. In this instance the primary lesion, though contracting and atrophic, had shed cancerous cells into the general peritoneal cavity which had fallen on the walls of the ovarian cysts and converted them into large, solid, cancerous masses. The frequency with which ovaries, and ovarian cysts, are converted into solid blocks of cancer by the implantation of cells shed from a primary focus in the gastro-intestinal tract is not properly appreciated by gynaecologists, but I am glad to note that the number of converts is steadily increasing, and my scepticism in the existence of primary cancer of the ovary is intensified by further experience.

Cancer arising in the caecum does not obstruct the lumen of the bowel at such an early stage as when it arises in the colon, but there is an anatomical arrangement by which cancer arising in the caecum can obstruct the ileum. The terminal segment of the ileum rests in close contact with the wall of the caecum; if cancer, or hyperplastic tubercle, attacks the mucous membrane of the caecum immediately in relation with the terminal portion of the ileum, the intermediate tissues become infiltrated with growth, the walls of the ileum are implicated, and ultimately its lumen becomes obstructed (Fig. 3).

A study of the specimens of primary cancer of the small intestine preserved in the hospital museums in London shows that the disease presents the same characters as in



Fig. 4.—The caecum and terminal piece of the ileum. The vermiform appendix is obliterated by a new growth with the microscopic features of a sarcoma. Removed from a man aged 75. He only survived the excision of the caecum six days. (Museum, Middlesex Hospital.)

the colon. Some are of the annular contracting type, constricting the gut as if a piece of cord had been tightly tied around it. In others the disease sprouts like a cauliflower into the bowel; there is a massive form which envelops the intestine with a hard collar of new growth. An

annular constricting cancer strictly limited to the ileal aspect of the ileo-caecal valve is associated with signs of intestinal obstruction rendering accurate localization of the obstruction a matter of uncertainty. There is nothing in the signs and symptoms approaching the definiteness characteristic of a constricting cancer of the third part of the duodenum. The chief feature connected with cancer of the gastro-intestinal tract is its extreme frequency at the pylorus and its rarity at the ileo-caecal valve. The age-distribution of cancer of the small intestine agrees with that of the stomach and colon.

The Appendix.

Primary Malignant Disease.

In order to show the difficulty of properly assessing the frequency of cancer at the ileo caecal valve, the following case is useful:

A man, aged 73, came under observation with symptoms of chronic intestinal obstruction, and a lump was easily detected in the region of the caecum. It was freely movable and painless. The age of the patient, the absence of fever and tenderness, the presence of a movable swelling in the right iliac fossa, accompanied with intestinal stasis and vomiting, indicated that the mass was in all probability a cancerous growth in the caecum. This view being confirmed in the course of the operation, I excised the caecum and joined the ileum by an end-to-side anastomosis in the ascending colon. The patient died suddenly six days after the operation. The caecum and exsected portion of the ileum were preserved, and, on subsequent examination, the mass proved to be a primary tumour of the vermiform appendix which had infiltrated the adjacent walls of the ileum and caecum, including the segments of the valve (Fig. 4). Microscopically, the growth possesses the features of a sarcoma. There were no signs of dissemination and no enlarged lymph nodes were detected. Such growths in the appendix are probably rare. I have had only one



Fig. 5.—Melanosis of the mucous membrane of the colon. From a man aged 64 who died of bronchopneumonia. (After Professor Dr. Ludwig Pick.)

specimen of primary cancer of the vermiform appendix. I removed it from a spinster aged 30.

Hyperplastic Tuberculous Affections in the Neighbourhood of the Valve.

An analysis of the various growths which arise at the ileo-caecal junction makes it evident that some of the tumours in this situation labelled after operation "cancer," are in some instances tuberculous. The hyperplastic form of intestinal tuberculosis is most common in the caecum and caecal end of the ileum. It differs from other varieties of tuberculous disease in that the lesion is not destructive and leads to an increase in the bulk of the part affected. The disease begins in the submucous, or subserous, tissue, and spreads to the other coats of the bowel. The new tissue contains clumps of giant cells and sometimes calcareous deposits. Occasionally the thickened bowel is enveloped in a mass of fibro-fatty tissue such as sometimes

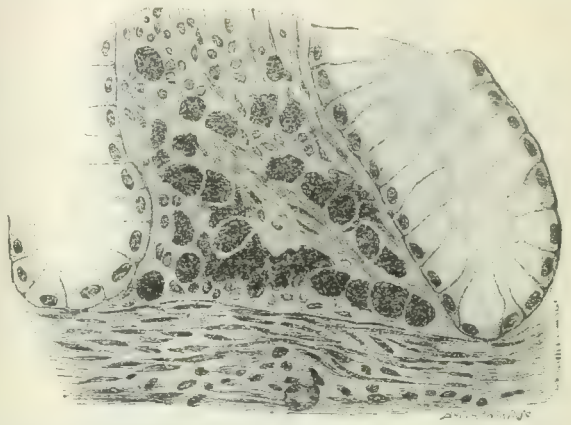


Fig. 6.—Melanosis of the colic mucous membrane showing the deposits of pigment in the stroma between the crypts. (After Ludwig Pick.)

surrounds chronic tuberculous kidneys. The cavity of the bowel is narrowed, sometimes a track no larger than a writing-quill remains, and the ileo-caecal valve is obstructed; in rare cases the disease is limited to the valve. This condition is very liable on mere naked-eye examination to be mistaken for cancer of the ileum or caecum, and it is very probable that some cases in which the caecum has been excised for a tumour casually regarded as cancer, and the patients have remained free from recurrence, the disease was hyperplastic tuberculous disease.

From the operative point of view the distinction between cancer and hyperplastic tubercle is not important, because the treatment for both conditions is the same—excision—but is a matter of great concern in regard to prognosis. Cancer and hyperplastic tubercle left to run their course end fatally, but the latter is curable by excision. Hyperplastic tubercle of the bowel was not recognized till 1891, then it received attention from Billroth, Hartmann, and Pilliet. Very little attention has been given to the disease in Britain, although there is reason to believe that tuberculous disease attacks the caecum more frequently than any other part of the gastro-intestinal tract.

Melanosis of the Colon.

Melanosis is a morbid condition of the mucous membrane of the colon that has received little attention in Great Britain. My experience is limited to one example:

A septuagenarian spinster suffered from recurring attacks of intestinal obstruction; at last colostomy was necessary, and a constricting annular cancer was excised from the iliac colon. Four months later the cut ends of the bowel were rejoined, successfully. The mucous membrane of the excised portion of the gut was of an inky blackness, but the cancer in the bowel had the microscopic structure common to primary cancer of the colon and was devoid of pigment. The blackness of the mucous membrane depended on a deposit of pigment in the connective tissue of the mucosa. I am unable to state how much of the colon was pigmented, because the patient recovered from the operation, but I examined her thoroughly with the object of finding evidence of a melanoma or an ulcerating pigmented wart, but found none. This pigmentation of the colon puzzled me. During the Christmas vacation, 1912, I visited the museum at the Friedrichshain, Berlin. There I saw a colon with the same deep pigmentation. (Fig. 5.) The intense blackness affected the colon uniformly, being sharply limited by the ileo-caecal valve and extending thence to the anus. The terminal portion of the vermiform appendix was obliterated, but the mucous membrane of its proximal unobliterated part shares in the pigmentation.

Professor Dr. Ludwig Pick has discussed in an exhaustive manner the anatomical, histological, and chemical features of this rare form of pigmentation. He also gives a useful summary of nearly a score of similar cases, beginning with one recorded by Virchow, 1847, and three described in England by C. J. Williams, 1867, G. Newton Pitt, 1891, and H. D. Rolleston, 1892. Pick states that the coloration is not due to metallic deposit—it is essentially a pigmentation of the connective tissue of the mucous membrane, and haematogenous.

Although the pigmentation begins, as a rule, at the ileo-caecal valve and extends to the anus, cases have been observed in which it does not involve the whole length of the colon. When the colic membrane is involved throughout, the pigmentation is discoverable at the anus by means of a speculum. The condition is a clinical curiosity, but if detected in the course of a clinical examination it might have undue significance attached to it. It will be useful to have some further observations on this curious pigmentation.

I selected cancer of the small intestine as the subject of the address this evening because it is a matter neglected in the ordinary works on surgery. It is intended to hold a discussion at our next meeting on the surgery of tumours of the large intestine, and we hope to have an exhibition of illustrative specimens of tumours of the small intestine as well as tumours of the caecum and colon. The council is hopeful that a series of specimens illustrating hyperplastic tuberculous disease of the caecum will be shown. This disease, often mistaken for cancer of the caecum, has not received much attention in this country, although Henri Hartmann made it the subject of the oration in 1911. The society will also be grateful for the loan of specimens illustrating primary cancer of the vermiform appendix, a disease concerning which there is much uncertainty. It will also be useful to obtain some further observations on the curious pigmentation of the colon.

PRESENT-DAY LESSONS FROM THE LIFE WORK OF MITCHELL BANKS.

Being the Third Sir William Mitchell Banks Memorial Lecture.

By SIR VICTOR HORSLEY, F.R.S., M.B., F.R.C.S.

Though the keeping bright the memory of our benefactors is a pleasant and, as in the present instance, a most honourable duty, the object and value of a memorial lecture rests equally on the fact that even a superficial consideration of the conditioning circumstances of our predecessors' work evolves a whole crowd of conclusions which are full of lessons for us.

The life work of Sir William Mitchell Banks in every aspect is not only interesting and educational but it is also a pleasant study of how much active public benefit can be secured to the community by the efforts of one of our profession, and how much can be effected by single-mindedness.

For Mitchell Banks tried to live up to Pasteur's scientific idea of what should be the inspiration of a medical practitioner, namely, that "A doctor must consider what people will say about him 100 years hence and not trouble himself about the blame or praise of to-day." Probably Banks, in his active advocacy and support of surgical and educational reforms, realized Pasteur's ideal more completely than many of his contemporaries.

Seventy-two years ago Mitchell Banks, as he was familiarly known to most of us, was born in Edinburgh (in 1842), his father being Mr. Peter S. Banks, Writer to the Signet, and his mother, Miss Ann Williamson. A student of the greatest ability, originality, and promise, he took his M.D. degree in 1864, with the highest distinction, and under the stimulating scientific influence of Goodsir, produced original work on the Wolffian bodies, which at once became the classical authority on that subject. Banks had, in fact, entered the profession at the moment when the greatest advances in medical science were being made by the anatomists owing to the development of microscopical technique. Goodsir had all John Hunter's feeling that anatomy should be pursued not only as part of natural truth to be determined for its own sake, but also always with the interpretation of function as the purpose and object of progress, and Banks's work and thought throughout his whole life exhibited this practical combination.

We have to thank the Scottish School of Medicine and its various teachers for many things, but especially the academic recognition of anatomy. For just as Goodsir was the successor to the distinguished line of Munros, so Bell made his contribution to the progress of surgical science more notable through his enforcing dissection by all his students.

But Goodsir was far more than an anatomist limited to his special subject. There was another aspect of Goodsir's influence which, perhaps, has not been so well realized outside the inner circle of the Edinburgh School fifty years ago, and yet it must have exercised a considerable effect on Banks's active intellect. I refer to Goodsir's comprehensive views of medical work in general and its bearing on social life, which led him, though in many respects a recluse, to take a part in the organization of the Edinburgh Society which was called the "Universal Brotherhood of Friends of Truth," and the principles of which were declared to be the promotion of "Fellowship, Work done, Love for the good and beautiful," and, above all, "Co-operation." Pre-eminently among Goodsir's pupils Mitchell Banks tried to carry out these principles of his teacher in his social, communal public life, as well as in his professional work.

There was thus from the first the development in him of that knowledge and sympathy for anatomy as a pure science which subsequently he so extended during his tenure of the chair of anatomy in the Medical School as to make that at first the most flourishing teaching department in University College at its foundation in 1882. And later on his work for the developing Medical School and University meant labour, not merely for medical science alone but his sympathy for social science as well, because of the inestimable benefit the University has conferred on the citizens of Liverpool.

What now of the main work of his life—his surgical achievements?

Two subjects will always be honourably associated with Mitchell Banks's name and the Liverpool School of Surgery—namely, cancer and hernia. To-day they are humanity problems just as important and just as much in need of constant notice, consideration and reconsideration as they were when he began to hold up the light of surgical progress.

Both, too, are subjects respecting which his teacher Goodsir had put the true value of surgical work in words which for their scientific precision and accuracy are worthy of resuscitation here, and for their just appreciation of the possibilities and limitations of clinical work ought not to be forgotten.

> It is with methods of prevention and recovery that our profession has to do. If we make use of the terms *cure* and *remedy* we do so in their fundamental and not in their vulgar sense, for we do not profess to perform the one or to provide the other in their vulgar sense.
>
> What we undertake to provide are, *firstly*, the conditions of relief or alleviation of pain as far as these have been discovered; *secondly*, the conditions of recovery, provided these conditions can be restored; and, *thirdly*, the conditions of longevity within the limits assigned to the life of man in the present phase of his existence.

Every one who followed Mitchell Banks's work, whether in the wards or as revealed in his writings, knows that these words exactly express what he did, and no one recognized more clearly the scientific limits of the surgery of his day on the fundamental questions of "cure," "relief," "longevity," etc., which were so clearly laid down by Goodsir. No one in speaking of "results" used the word "cure" with more meticulous care, and no one weighed up more carefully in the interests of his patient the risks, especially to life, of any suggested procedure. On this last of Goodsir's points—namely, "longevity"—a word must be interpolated here, for social changes advance so unnoticed by those participating in them that the handicapping conditions under which our predecessors have worked are seldom remembered and often unknown.

The numerous risks to life caused by even a simple operation and due solely to ignorance and want of civiliza-

tion which existed only a few years ago are already forgotten in the safety of modern operative procedures.

Thus, for instance, in the year 1864, when Mitchell Banks began his career, so backward were we in civilization that a troopship crowded with sick women, children, and time-expired men took more than five months to come from Bombay to this country. And again, to quote an instance from our immediate subject—namely, the survival of patients on whom an operation designed to prolong life had been performed—let me point out that Banks, as late as 1882, stated that the death of a patient by infection was due to such shocking neglect in hospital administration that "many of the beds in the ward in which this patient lay were found to be absolutely rotten"!

And yet under similar depressing circumstances Lister—misunderstood, contemned, and cold-shouldered by his ignorant and unscientific contemporaries—had completely solved long before 1882 the principal part of the "longevity" problem—namely, how to prolong and not curtail life by an operation.

Consequently, since we have besides protection from sepsis, modern means for successfully dealing with shock, Goodsir's condition of "longevity" is now fully satisfied in both these subjects of cancer and hernia.

CANCER.

With this preface and with these rather painful memories of a by no means distant past let us take the first of these cases—namely, cancer—and we must limit ourselves to the special case of cancer of the breast.

No subject is commoner and none has been dealt with more widely by surgeons, yet at the present time there cannot be said to be either a full consensus of opinion among surgeons as to the best operative procedure for dealing with it, nor anything like a fulfilment in practice of a general acceptance of the principles on which that procedure must be based.

Mitchell Banks, at a time when pathology was only just emancipating itself from the preconceptions of clinical hypotheses, began with the fundamental fact that cancer is primarily a local disease, and must be dealt with as such. Perhaps we owe to Edinburgh teaching the idea that cancer was not a general blood dyscrasia but a parasitic disease beginning locally and only gradually invading the body. It seems to have been first taught clearly by Bell, at any rate.

But many decades passed without this all-important axiom being generally accepted. Indeed, after Mitchell Banks had begun to make true surgical principles better known, an old practitioner wrote (anonymously, of course) to the *Medical Times and Gazette*, 1870, p. 762, suggesting that all surgical treatment of cancer of the breast was useless.

It was in this sort of intellectual fog which beset the profession that Mitchell Banks began the work which became so essentially his own, for which the human race must always be indebted to him, and which, like all achievements of real scientific value, not only enhanced his reputation but also added further distinction to the School of Surgery in Liverpool.

He first published in detail the results of his work in 1877, and formulated the true position of the surgical treatment of mammary cancer by putting forward two principles:

1. That the whole of the breast tissue must be removed, because even in the parts of the gland not obviously the seat of active cancer there were, nevertheless, changes which must be regarded as pre-cancerous.*

2. That all the lymph glands in relation to the mammae should be removed, on the ground that it is impossible to determine at the time of operation,† when they appear to be normal, that they are not really infected.

Though possibly acted upon in general, these two great principles I shall show directly are not even now fulfilled in practice with scientific loyalty, though thirty-five years have elapsed since Banks promulgated them.

It might be said that these principles of operation for cancer of the breast are, after all, but the practical recognition of the truth of Bell's dictum that cancer is at first a local disease, but that is only another way of saying that all genuine advance in operative surgery is based on pathology.

Moreover, the need for Banks's teaching was indeed great, since, owing to their lack of scientific appreciation of Lister's great discovery, surgeons in 1877 did not operate to remove the disease but to palliate it. Such palliative operations were so limited in design and execution that even ten years before (in 1867) Moore had protested against what he aptly described as wholly "inadequate operations."

It was in reference to this inefficient fashion of operating in 1877 that Banks, in 1882, said in his characteristic way, "Very few people died as an immediate result of it (that is, such operation). Unfortunately, at a little later period they all died from want of a little more of it." "For it never effected a cure."

No doubt the fatal error of this incomplete operating was due in a large measure to post-operative difficulties and risks to life, which restricted the enterprise of the surgeons of that day, and which they could not or would not see were only due to their neglect of scientific facts and research.

Perhaps the best evidence of this is the fact that even in Mitchell Banks's own practice at that time (1882) the risk to life—that is, the mortality after operations for cancer of the breast—was no less than 13 per cent., a mortality which, in the hands of most modern surgeons, has now wholly disappeared from this branch of operative surgery.

Allow me to digress here for a moment on the matter of surgical terminology. I have always urged that the phrase "mortality of an operation," so commonly used, is, in fact, a false statement, and should be replaced by "mortality after an operation." For an operation *per se* is not a cause of death unless some accident occurs during its performance or unless it is unfortunately designed or executed. The fact is that cases are not adequately clinically analysed, and, as a rule, the old fallacy of *post hoc propter hoc* is allowed to prevail. Shock, for instance, is often attributed to the operative procedure in cases where it is wholly due to the condition into which the patient had been allowed to drift before operation was decided upon. Typical examples of this very common logical error in statistics are to be found in all elaborate tables and discussions of so-called operative mortality in the treatment of various diseases, and none more strikingly so than in the case of cerebral tumours, where the patient is rarely offered surgical treatment until in the last stages of the disease. Let me at the same time point out that this mistake in statistical method is not characteristic of the medical profession only, for mathematical statisticians when dealing with biological subjects also constantly omit to analyse their case material, and consequently arrive at most fantastic conclusions on all important questions of public health, such as tuberculosis, alcohol poisoning, infant mortality, housing, etc.

Leaving now the question of danger of treatment, as one now wholly without importance, we must proceed to the discussion of the chief object of Mitchell Banks's work on the treatment of cancer, namely, how to secure for the patient what Goodsir meant by "prevention" and "cure."

In the case of cancer this means the immediate extirpation of the disease while it is yet only local, and it would naturally occur to an anatomist like Mitchell Banks that such extirpation must include all the structures likely to be invaded, in the order—breast, lymph glands, pectoralis muscle.

In speaking of this anatomical order of the mode of invasion of the body by cancer beginning in the breast it is worth while drawing attention to the close parallelism between it and another parasitic disease, namely, tuberculosis.

The local lesion, the subsequent infection of the glands and later of the viscera in tuberculous inoculation of guinea-pigs, presents in a few weeks exactly the same picture that carcinoma does in years when commencing in the breast.

Early and complete extirpation of the local disease and neighbouring structures effects a cure in both conditions

* Subsequently fully confirmed by Johnson, Beadles, and others.

† In 1877 histological methods were not sufficiently advanced to permit of rapid microscopical investigation of doubtful tissues at the time of operation. But such examination, though occasionally carried out, does not meet the necessities of the case in gland infection, since time does not permit of an exhaustive search. Consequently Banks's law is as true now as in 1877, and must be fulfilled to the letter.

alike. That was Mitchell Banks's principle in respect of mammary cancer.

It might be thought that as his surgical teachers at Edinburgh were also primarily anatomists* he simply followed their inspiration, but I have not been able to find any evidence in their writings that these men had arrived at the point of intellectual evolution which marks the beginning of Mitchell Banks's original work.

One quotation will, I think, prove this. Thus Syme, his chief teacher in surgery, not only was in the habit of dismissing all cases of mammary cancer as hopelessly inoperable if he discovered any evidence of infection of the axillary glands, but also, in his last description of operating for the disease given in his *Principles of Surgery* (5th edition, 1863), he makes no mention of removing the glands as a measure of precaution.

There is certainly no evidence that the idea was present to his mind at all, and we may fairly assume that Syme represented the surgery of his day, which had not yet so freed itself from tradition as to be guided by scientific principle.

It was on this principle of making the local removal of the disease complete that Mitchell Banks advocated the clearing of the axilla, and the occasion of this lecture is the moment to consider whether we have thoroughly profited by his teaching, and to see whether the present-day operative treatment of cancer is always as complete as it should be, and as he strove to make it. In the first place, to judge by the textbooks at least, removal of the axillary glands is understood to be a *sine quâ non*, and Küster, after practising Banks's method for a few years, saw out of 95 recurrences only one occur in the axilla.

But the same statement cannot be made of excision of the supraclavicular glands; indeed, in the recent monograph on *Cancer of the Breast*, by the late Mr. Cecil Leaf, this step in the operation was distinctly discouraged.

Yet from the standpoint of surgical principle it cannot justly be omitted, for what Banks said of the axilla, "Since you cannot tell whether the glands are infected or not, remove them and dissipate the doubt," applies with equal force to the supraclavicular region.

He might have added to his terse phrase the words, "thus giving the patients the further security due to them," for Halsted, who by carrying out Mitchell Banks's principles with completeness and originality has done so much to get their truth recognized, found by a laborious and accurate investigation that cancer was present in the supraclavicular glands and tissues in 34 per cent. of the 67 cases he examined. Plainly, therefore, we owe it to our patients to clear out both fossae.

It is not just, however, to leave the question of the design of an operation for mammary cancer at this point, for the subject has been further elucidated by subsequent investigators, notably Sampson Handley.

In his method of operating Mitchell Banks removed the skin freely, and in so far protected his patients from local recurrence, but it was from the empirical point of view of likelihood of original foci of disease being left, and this part of the scheme of operation was not put on a scientific basis until Handley's complete demonstration of the infection paths through the lymph vessels in the fascial planes.

Consideration of this point naturally brings us to the remaining one of the treatment of the pectoralis muscles. The paramount source of risk is, of course, the fascia on the pectoralis major, and the empirical practice of Volkmann in 1875, when he advocated the invariable removal of this fascia (more properly the muscle itself), unfortunately was regarded by the timorous (because septic) surgeons of the day as an extreme measure, and did not gain general acceptance until Heidenhain, many years after Banks and Volkmann, proved anatomically the widespread degree of involvement of these structures in an average case. Even then the mistaken idea of possible cripplement prevailed in the minds of some against even the realization of its necessity.

To sum up. Every operation for mammary cancer in order to fulfil all known requirements, and, by antagonizing all known avenues of the disease, really serve the interests of the patients, must include:

First, very wide removal of skin, breast, and margin of subcutaneous fat and fascia outside the gland edge, the pectoralis major, and the whole axillary contents—fat, fascia, and glands up to the edge of the first rib—in one mass; secondly, free removal of the supraclavicular fat, fascia, and glands.

So far as I know, however, this procedure is not followed in its entirety except by a few surgeons. Various explanations are often offered to justify omitting, in given cases of carcinoma, parts of the procedure, although every such omission is, for the reasons given above, a violation of surgical principle. To me such omission seems also to be a grievous wrong done to the memory of Mitchell Banks, and there we must leave it.

Hernia.

Now let us turn to the other subject which Mitchell Banks with practical prescience seized upon as a very common infliction on suffering humanity, and yet one most imperfectly treated—namely, hernia.

Prominent among the innumerable benefits which have directly issued from Lister's work is the absolute safety he conferred on the surgical treatment of hernia, and it is interesting to see what a striking diminution of its so-called clinical importance has in consequence resulted.

But hernia still remains a very considerable national evil, and one which it is the business of our profession to remove.

In view of this responsibility upon us, and the fact that hernia as a cause of death is a wholly preventable one, it is very depressing to read in the last report of the Registrar General for England and Wales—namely, for 1911—that no less than 1,569 deaths were certified in one year as due to hernia alone.

Since, as I have elsewhere shown,† our national vital statistics are extremely untrustworthy (in respect of many causes of death—for example, alcohol, syphilis, etc.—utterly so), we must be careful in endeavouring to analyse this astonishing figure, but it may be assumed to mean that a very large number of persons do really die every year directly because of their suffering from a hernia. Whether strangulation occurs or not, however important clinically as being the immediately fatal factor, is a detail quite unimportant for the present purpose, and so also is the question how many of the 1,569 patients were operated upon.

The one grave fact which stands out clearly is that our present treatment of such a very common and simple condition as hernia is exceedingly faulty, and urgently needs reconsideration, because a very large number of our fellow citizens are clearly not protected from its fatal consequences.

But there is also an equally important socio-economic reason for condemning our present methods of dealing with hernia, and that is the continual loss of national working efficiency, owing to the personal incapacity caused by hernia to the hardest worked and most industrious classes of the community.

On this part of the discussion we must determine, if possible, what proportion of the population are thus handicapped or rendered practically useless to the nation.

In his recent statistical report to the Local Government Board Dr. Basil Cook gives tables constructed from the examination of recruits which at least constitute a rough basis for a minimal estimate. From these figures we are probably justified in assuming that at any given moment 500,000 individuals of all ages are suffering to a greater or less degree from hernia in the United Kingdom. As regards total incapacity leading to social failure and poverty, Dr. Basil Cook found that, out of 3,162 paupers, nearly 2 per cent. attributed their pauperism to their being rendered incapable by a hernia.

Now if we ask why the medical profession in this matter of hernia has failed adequately to protect the community from such loss, and done so little to preserve national efficiency, the answer is simple—namely, that until quite recently the largest proportion of the profession's mode of dealing with hernia has been by means of trusses.

Unfortunately for the nation, the application of a truss to a hernia is not treatment of the evil, but merely

* The archaeology of surgery is always interesting, and on this point I would like to add that not only were the Bells and Fergusson anatomists, but that Liston taught anatomy till 1833, when Syme took his place. Though followers of John Hunter, they never seem to have been drawn towards biological physiology.

† Evidence to First Report of the Royal Commission on Venereal Diseases, 1914. Also British Medical Journal, 1914, i, p. 923.

palliation. In my opinion we had drifted into this unfortunate habit of regarding a truss as treatment of hernia by following the usual path of least resistance, for the only procedure which merits the name of treatment is of course radical cure—that is, the obtaining by operation a permanent closure of the hernial defect in the abdominal wall. This being so, we have yet to explain why the profession had largely become satisfied with makeshift applications such as trusses. The explanation is not without interest, and shows that our maltreatment of hernia is due to the same causes as our inefficient operating for cancer of the breast, and therefore rightly became an object of Mitchell Banks's reforming zeal.

Seventy years ago the misdeeds of itinerant quacks and the disasters of septic infection had brought all operative treatment of hernia into such disrepute that as late as 1840 the then leader of operative surgery, Liston,[1] said, "Operations for unincarcerated (that is, without any symptoms of strangulation) hernia are not justifiable," and he added, "Those who have operated in such circumstances give a very unfavourable account of the experiment."

In fact, throughout the whole preantiseptic era no progress could be made until Lister had not only freed operative procedures from the risk of septic infection, but in this case of hernia also from the further risk of producing more functional and material injury by suppurative inflammation occurring just where most cicatricial strength was needed. On this latter point I may remind you that Denk[2] showed from his examination of the statistics in von Eiselsberg's clinic that of the cases of hernia operations in which suppuration had occurred, recurrence followed in 43 per cent. The same point had been demonstrated by Damer Harrison[3] seventeen years before.

Although Lister's work is now forty-five years old, such is the unfortunate conservative influence of tradition and custom in our profession that there still exists a certain prejudice against the radical operation, and some surgeons in consequence still speak of "treating" hernia (even in the adult) with a truss, as though this mechanical placebo was something more than a makeshift.

In fact, a truss, like "treatment" by taxis of a strangulated hernia, is one of those *reliquiae diluvianae* which will still survive in medical practice, to the detriment of the community and suffering public, until the only rational treatment by radical cure has become so habituated that operation will immediately follow diagnosis.

This custom being even now prevalent in our profession, it can easily be understood that it was not one of the least difficulties which Mitchell Banks had to contend against when he began, and even as recently as 1882 such was the prevailing darkness on the subject when he read his paper at a (Worcester) Branch meeting of the British Medical Association that Mr. Spanton, in the discussion, pointed out that in the "textbooks of surgery all operations for the cure of hernia were alluded to, only to be condemned as unnecessary and unjustifiable."

No doubt the idea that a truss deserved credit as a form of treatment arose from the number of so-called "congenital" cases in infants which are apparently cured by a rubber truss or even a figure of 8 woollen band.

All that actually happens in these circumstances is that the normal developmental process of closure of the funicular infundibular cavity occurs, and possibly more rapidly than if no support were used, but that a permanent cure is really produced in all the cases in which the hernia does not recur in adolescence there is no evidence to show. Of course these cases of so-called cure of congenital hernia are never followed up, and often the previous existence of the hernia in infancy is wholly forgotten.

Thus as lately as 1895 the principal textbook of British surgery contained the following passage:

> In young children the operation (that is, radical cure) is comparatively rarely required, for during the first few years of life herniae show a great tendency to undergo spontaneous cure.

I know of no statistics which justify the use of the word "cure" as here given. One can imagine Goodsir asking the pertinent questions—What is a cure? What was the subsequent adolescent and adult life-histories of these cases? How many relapsed soon, and how many developed herniae with advancing age?

In truth the actual clinical facts are entirely the other way, as the following analysis of the conditions which underlie the causation of hernia prove.

The old clinicians taught that the causes of hernia were manifold, but that the most important should be all grouped together under one head—namely, muscular effort and strain. That is to say, the assumption was made, and is still taught, that by muscular pressure on the abdominal contents the bowel is driven against the muscles and tissues, gradually stretching these until a sac is completely developed.

I never could bring myself to believe that a smooth soft elastic coil of intestine could be forced through the abdominal wall by violent contraction of muscles, the action of which is not in fact convergent on any spot but over the superficies of the abdomen generally. *A priori*, then, the old theory of the causation being possibly violence alone is not reasonable and moreover cannot be said to have been proved to be really operative in the way supposed.

Further, every surgeon knows that clinically in the large majority of cases a hernia is stated to have been discovered accidentally by the patient; therefore it was not suddenly produced by any such supposititious violence. Thus, Coley found that of 4,780 cases of hernia in adult males it appeared in no less than 3,102 without any known cause or violence.

Frankly, the only reasonable pathogeny is that so clearly worked out and formulated by Hamilton Russell—namely, that a preformed sac is the causal factor of hernia, the clinical converse of this pathological position being the rule first urged by Mitchell Banks, and to the discussion of which I will revert directly—namely, that no cure of a hernia is possible unless the sac is removed.

Hamilton Russell's view that all herniae are due to a primary congenital defect is further proved by the fact that the topical frequency of hernia occurs in precisely the proportion to be expected—namely, according to the regions in which congenital deficiencies and arrests and failures of development most frequently occur. For this reason inguinal hernia heads the list of herniae by such an enormous majority.

Thus all facts—anatomical, pathological, and clinical—confirm the conclusion I have put forward that so-called congenital hernia is not "cured" by trusses; that when the funnel-shaped fossa in the peritoneal surface and often part of the infundibular tube remain, and when in later life the tone of the muscles is diminished the hernia naturally becomes re-established.

The logical conclusion follows that for the good of the community—that is the State as well as the individual—every hernia must be cured by radical operation as soon as it is discovered, and such I believe is the opinion of every modern surgeon.

Mitchell Banks's share in bringing us up to this level of surgical progress was a very interesting one, because although as late as 1893 he was an advocate for the use of trusses, his scheme of real curative treatment was practically what is now universally adopted, I believe, as a radical cure, namely, the fulfilment of two principles:

(*a*) Removal of the sac with restoration of the continuous peritoneal surface (that is, abolition of the fossa).

(*b*) Protection of the hernial area by closure of the inguinal or femoral canal.

Of these two Mitchell Banks undoubtedly thought the first most important, but he always fulfilled the second by closing the canal with permanent—that is, buried—silver sutures.

(*a*) *Closure and Removal of the Hernial Sac as the Chief Step in Radical Cure.*

I have already stated the causal importance of the hernial sac as a developmental relic. If the old theory of causation by sudden violence were correct, then simple ligature of the neck of the hernial sac could not be effective as a radical cure.

Yet that it was actually so has been proved for years by the work of many surgeons, especially Professor Rushton Parker,[4] and this fundamental principle for which Mitchell

Banks contended at a time when little or no support was forthcoming is thoroughly accepted for the cure of inguinal hernia.

The anatomical conditions of inguinal hernia secure that with the closure of the neck sac there is also an abolition of any infundibular fossa, but this is not the case with femoral hernia, and I believe that some unfavourable criticism of radical cure of hernia in general has resulted in consequence of the operative treatment of femoral hernia failing to completely satisfy Mitchell Banks's first principle—namely, complete abolition of the sac. All present-day operations for the radical cure of femoral hernia which approach the sac from below and include various steps, such as closure flaps of aponeurotic tissue like the pectineal fascia, etc., are liable to failure, though a certain number succeed.

They should, in my opinion, be wholly abandoned in favour of the method of operating from above which I employed from about 1890 at University College Hospital.

It consists, first, in a 3-in. horizontal incision through the abdominal wall just above the inguinal canal, ample room being obtained by firm retraction especially of the rectus inwards. The peritoneum being exposed, traction is made upon it and the femoral hernial protrusion lifted out of its bed intact. The sac is then completely removed and the continuity of the peritoneum made normal. The upper orifice of the crural canal is then closed, preferably by a flap of periosteum and a thin scale of bone from the posterior surface of the pubic bone.

I would suggest that recurrence is impossible by this method of operating, and that it involves no more special procedures than those of approach from below, but that its chief value lies in its complete fulfilment of Mitchell Banks's principles.

Schwartschild[5] has since employed a similar procedure for the radical cure of a remarkable case of recurrent obturator hernia.

(b) Protection of the Hernial area by Closure of the Inguinal Canal.

I have already shown that Mitchell Banks fully recognized the importance of this question, but, curiously enough, he does not seem to have fully grasped the most important step of supporting an inguinal hernial defect by transplanting downwards the lower border of the internal oblique muscle and fixing it firmly to Poupart's ligament.

Perhaps the elastic value, and therefore immensely higher efficiency, of muscle tissue as compared to fascial fibrous tissue was not then realized, nor the fact that the rigidity of aponeurotic fibres not only does not prevent their slowly stretching, but also, of course, precludes any physiological elastic recoil which is essential for the support of the viscera.

Owing, unfortunately, to so many cases coming for radical cure when they have been imperfectly supported by trusses for many years until muscular atrophy has resulted, surgeons have been obliged to employ filigree or other materials to furnish a shield to the abdominal defect, and Trendelenburg indeed transplanted bone for this purpose, but no case of hernia should be allowed to sink into such a difficult and hopeless condition.

To sum up this question of hernia, the removal of which from the community is a matter of such vital importance, I would say that our plain duty is to press to their logical conclusion—namely, early and invariably operation—the principles sketched out for us by our predecessors like Mitchell Banks. Our reward will be that we have then achieved a great benefit for our people and for the State by abolishing a source of danger and suffering.

This leads me to conclude with what can only be a very brief reference to a very large share of Mitchell Banks's useful life—namely, his public work for his city, his infirmary, his university, and his profession. The help he gave to each was so great that it is impossible to do more than express our gratitude by meeting on an occasion like this.

Deeply interested in all phases of humanity and of human life, and especially in the interests and success of his fellow citizens in the city of his adoption, he emphasized in the following pungent sentences the duty of every one of us to take some active part in public affairs and assist in the development of social progress:

We must be something more than mere prescribers of physic and healers of wounds. In my youth I had it strongly recommended to me to stick to my profession and leave everything else severely alone. The life of a doctor was to see patients, do operations, order drugs, and collect fees. I thank God that I entirely repudiated this idea of my profession.

Let us show our respect for Mitchell Banks by trying to follow his example.

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PINEWOOD SAWDUST AS A SURGICAL DRESSING.

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SAWDUST has been used from time to time by many surgeons as a surgical dressing, but its merits do not yet seem to be appreciated as they deserve. At the present time, when an efficient, cheap, and easily prepared material is desirable, I wish to draw attention again to sawdust.

Among those who have recognized its value are the late Owen Thomas of Liverpool, the late Surgeon-Major Porter, R.A.M.C., the late Mr. Callender,[1] and the present active surgical workers in Cashmir, the brothers Neve. In a recent paper by Professor Saundby[2] reference is made to the value of pinewood sawdust as a deodorizer, which was demonstrated to him by the late Professor Vivian Poore.[3]

I have used it extensively in time past, and am using it now in Edinburgh at the Royal Infirmary and at the 2nd Scottish General Hospital at Craigleith, not only for operation wounds but also for septic cases of all sorts. It has also been much appreciated as a dressing for the shell wounds of the wounded German sailors in Edinburgh Castle, and it is very valuable for cases of incontinence of urine.

As to the wood, the sawdust from various kinds of pinewood has given good results. The softer kinds are the best, being more absorbent, while the harder kinds, although less absorbent, have the advantage of containing more resinous material. Commercial hard woods like mahogany or oak should be excluded if pinewood can be obtained. A simple method of testing the absorbent property of a sample piece of planed wood is to draw a stroke across it with a pen full of ink. If the ink spreads laterally, and dries in quickly as it would on blotting paper, the fibre of the wood is good for surgical purposes. If the ink remains on the surface, as on writing paper, the absorbent power is deficient. Apart from the wood itself, however, a good deal of absorption will take place between the individual particles of the wood.

The method of preparation I have found useful is the following:

Two large standard wire sieves are required — No. 8, that is, eight threads per inch, and No. 40, that is, forty threads per inch. In order to reject the coarse fragments the sawdust, as obtained from the sawmill, is passed through No. 8 sieve and allowed to fall on to No. 40.

It is then well shaken and rubbed on No. 40, and the very fine particles which pass through are discarded, because they would escape too readily from the prepared pads and cause an inconvenient dust. The sawdust which remains on No. 40 sieve is put into a box or sack and sent to the theatre sister.

The bags are made of butter muslin, and the sizes may be regulated according to requirement. Two sizes have, however, been found generally useful with us, and these may be shaped from a square yard of muslin as follows: Fold the square once on itself and divide the elongated double piece into three. Each of these thirds will make one large or two small bags. One end is left open, the others are closed by sewing if they do not happen to be folded. The nurse fills the bag about two-thirds full with the sifted sawdust, and then closes it with a coloured thread. The filled bags or pads are sterilized by steam in the same manner as other dressings. After use the coloured thread is withdrawn, the sawdust thrown away, and the bag washed, boiled, and dried for future use.

Besides the advantage of cheapness, and the relative

ease with which it may be obtained, sawdust is very absorbent. The pads are somewhat bulky, but this feature, with careful management, is seldom inconvenient. The discharge is so evenly distributed throughout the mass of sawdust, that the bandages and bedclothes are not soiled nearly so quickly as they are with other forms of dressing. The resin of the wood seems to act as a deodorizer, and probably also as an antiseptic.

Sawdust is well adapted for civil or stationary military hospitals. Its extensive use at the present time would save hundreds of pounds. Other materials more portable, but more expensive, might be reserved mainly for field use.

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INSECTS AND WAR:

V.—*FLIES.* (*I*) *THE HOUSE-FLY* (*Musca domestica*).

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> Musca est meus pater nil potest clam illum haberi
> Nec sacrum nec tam profanum quidquam est, quin
> Ibi ilico adsit.
>
> PLAUTUS, *Mercator*.

"THE common house-fly," says Ruskin, "is the most perfectly free and republican of creatures. There is no courtesy in him; he does not care whether it is a king or clown whom he teases, and in every step of his swift mechanical march and in every pause of his resolute observation there is one and the same perfect expression of perfect egotism, perfect independence and self-confidence and conviction of the world having been made for flies. Your fly free in the air, free in the chamber, a black incarnation of caprice, wandering, investigating, fleeting, flitting, feasting at his will with rich variety of feast, from the heaped sweets in the grocer's window to those of the butcher's back yard and from the galled place on your horse's neck to the brown spot on the road from which, as the hoof disturbs him, he rises with angry republican buzz; what freedom is like his?"

The house-fly is all that Ruskin describes it to be, but it is more. It is the most cosmopolitan of insects. Wherever man is there is the fly. It is found "From Greenland's icy mountains" To "India's coral strand." But it is naturally more frequent in warm climates than in cold, as the rate of its development depends very largely upon temperature.



Fig. 1.—Photograph of enlarged model of the house-fly (*Musca domestica*) in the American Museum of Natural History, New York. (From Gordon Hewitt.)

Unlike the lice and the bed-bug, the fly, like the flea, passes through a complete metamorphosis. It will breed in almost any rotten matter, whether vegetable or animal, and it breeds most successfully, as Gordon Hewitt has pointed out, when certain processes of fermentation are taking place. Probably the fermentation has a favourable effect upon the food of their larvae. Undoubtedly the place most readily selected by the female for laying her eggs is stable manure. A few years ago there was a remarkable reduction in the number of house-flies in London, and Lord Montague of Beaulieu attributed this reduction to the refreshing and antiseptic petrol vapour with which the streets were then bathed. I do not know what experiments Lord Montague had made on the subject of the insecticidal value of petrol vapour, but the ordinary man in the street attributed—and I think more correctly—the diminution of the plague of flies to the absence of the nidus in which the female fly prefers to lay her eggs. Stable-yards had been turned into garages. Flies will, indeed, breed in almost any kind of dejecta, including the human, and in rotten straw, rotten wool, cotton garments, decaying vegetables and fruits, bad meat, rotten grain, and even in spittoons; but they prefer horse-manure.

In our country flies usually begin to breed in June and July, continuing well on into October if the weather be but warm. Their greatest activity is, however, in the hotter month of August and the beginning of September. In warm stables, restaurants, and kitchens, flies are able to develop the whole winter through. A single fly will deposit at one time 100 to 150 eggs, and in the course of her summer life may produce five, or even six, batches of this size. The eggs are pearly white, elongated structures, with two converging lines, along which the egg-case will ultimately split to give exit to the larva. The eggs are laid by means of a long ovipositor a little way beneath the surface of the dung heap in a position where they will not be dried up. In favourable conditions the eggs hatch in from eight to twenty-four hours.

The first larva is legless, tapering towards the head, which bears a pair of breathing holes, or spiracles; the body is much stouter towards the hinder end. On the whole it is a white, unpleasant-looking maggot, called by freshwater fishermen a "gentle." By contracting and expanding its body it pushes its way through its moist surroundings. The skin is usually moulted some twenty-four hours later, but all these time limits depend much upon the temperature and favourable conditions. With normally high temperatures—say with 30° to 35° C.—the larva will become fully

grown in five or six days. The third and final larval stage, after the second moult or ecdysis, lasts three days, and when fully grown the maggot is now about half an inch in length. Externally twelve segments are

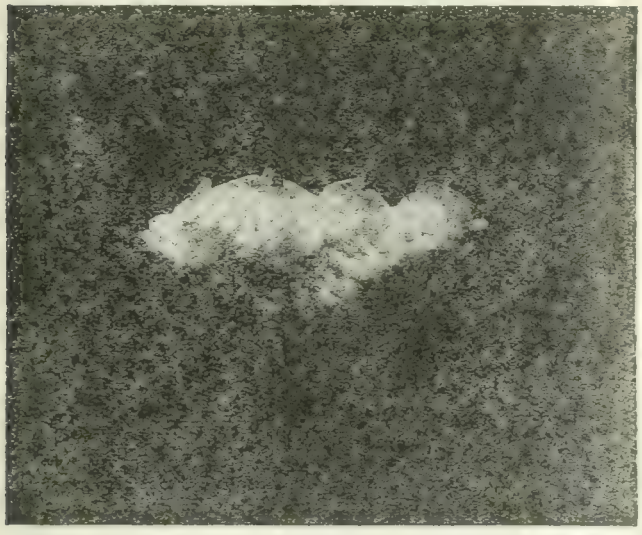


Fig. 2.—Mass of eggs of *M. domestica*. (From Gordon Hewitt.)

visible, but the internal anatomy shows that thirteen are really present though one is masked.

It is only during these larval stages that the insect grows, and it is never more bulky than in the third larval stage. Now it leaves the moist situation, in which it has flourished, and, crawling through the manure, seeks some dry or sheltered corner. For a time it rests, and then after an hour or two's quiescence it retracts, its anterior end assumes a barrel-shaped outline, its creamy white colour slowly changing to a mahogany brown. The larval skin forms the pupa case, and within this pupa case the body of the larva undergoes a wonderful change, far greater than even human beings undergo at the time of puberty. Many of its organs are disintegrated and re-formed, and in the course of three or four days the white, legless, repellent maggot, who "loves darkness rather than light," is changed into a lively, flying insect, seeking the sun and the companionship of man. As the Frenchman said of the pork which goes into one end of the machine in the Chicago meat factory as live pig and comes out at the other in the form of sausages, "il est diablement changé en route."

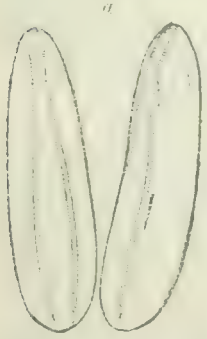


Fig. 3.—Eggs of *M. domestica*, × 40, dorsal and dorso-lateral views. *a*, Anterior end. (From Gordon Hewitt.)

In a short time after leaving the pupa case the fly has

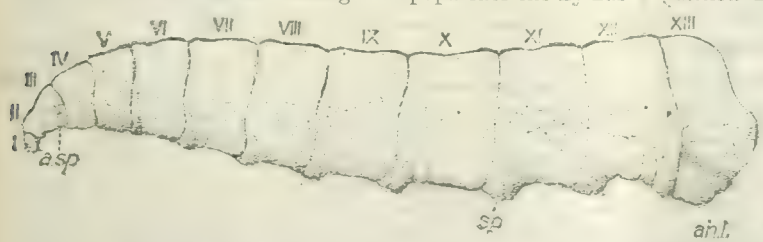


Fig. 4.—Mature larva of *M. domestica*. *a.sp*, Anterior spiracular process; *an.l*, anal lobe; *sp*, spiniferous pad. I–XIII, Body segments. (From Gordon Hewitt.)

stretched her wings, the chitin of her body has hardened, and she flies away "on her several occasions."

Flies become sexually mature in a week or ten days, and are capable of depositing their eggs four days after mating, so that if the conditions be indeed favourable the whole development from the egg to the perfect fly may be accomplished in nine or ten days, and the second generations are able to lay their eggs ten days later. The appalling fecundity of such an insect explains the fact that in the hotter parts of the world nearly everything seems to be half covered with them.

The proboscis of a fly can only suck in liquid food, and when we see it feeding on solid substances, such as sugar, it has really dissolved the sugar by depositing some saliva on it, and is sucking up the sugary solution so produced. It not infrequently regurgitates its food in a spherical drop, which it generally reabsorbs.

As we have seen, flies are very susceptible to temperature, and with the approach of cold weather they either die or retire to hiding places in warm dwellings, and here in a state of suspended animation they pass the winter months. Many of them undoubtedly die in the autumn, as bees die, of old age; they are literally worn out. But a great number fall victims to a parasitic fungus called *Empusa*. Flies killed by this fungus are frequently to be seen in autumn, hanging dead on windows, etc., surrounded by a little whitish powdery ring of spores discharged by the fungus. Like many other insects, they are extremely difficult to keep alive in captivity, and few have succeeded in rearing them for more than a month or two. It seems probable that those flies which survive the winter are fertilized females of the younger broods. During the winter they live upon their fat bodies and their abdomen shrinks, but in the spring it very soon regains its former proportions after a meal or two.

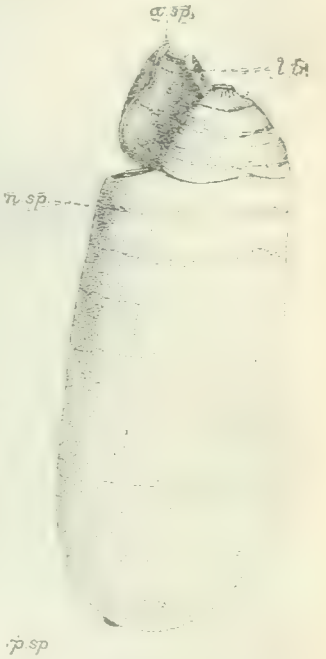


Fig. 5.—Pupal case or puparium of *M. domestica* from which the imago has emerged, thus lifting off the anterior end or "cap" of the pupa; ventro-lateral aspect. *a.sp*, Remains of the anterior spiracular process of larva; *l.tr*, remains of the larval lateral tracheal trunk; *n.sp*, temporary spiracular process of nymph; *p.sp*, remains of the posterior spiracles of larva.

Gordon Hewitt, Copeman, Howlett and Merriman, and others have made experiments as to how far a fly can travel. Marked flies have been taken within forty-eight hours at distances ranging from 300 yards to a mile. Apparently the direction of the wind plays a considerable part in the distance they travel.

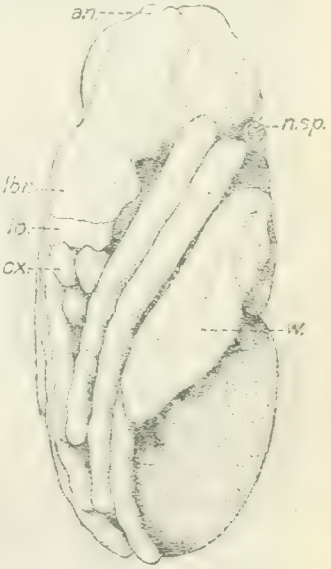


Fig. 6.—"Nymph" of *M. domestica* dissected out of pupal case about thirty hours after pupation. *an*, Swellings of nymphal sheath marking bases of antennae; *cx*, coxa of leg; *lb*, labial portion of proboscis sheath; *lbr*, labral portion of same; *n.sp*, spiracular process of nymph; *w*, wing in nymphal alar sheath. (From Gordon Hewitt.)

The house-fly has recently become of very great importance to humanity, and especially to humanity at war, as a carrier of disease, especially of bacterial disease. Moses was as great as a Principal Medical Officer as he was as a Director of Supplies, and this is shown in Deuteronomy, chapter xxiii, where he deals with the need of strict

hygiene in the camp. In the middle of last century already attention was being drawn to the fact that the house-fly and the blow-fly transmitted various diseases. But it was during the American-Spanish war and the South African war which followed shortly afterwards that the part played by these pests in conveying enteric became definitely established. Flies coming straight from the latrines with their legs and their wings and their proboscides soiled with typhoid bacilli would enter the camp and



Fig. 7.—*M. domestica* in the act of regurgitating food. (From Gordon Hewitt.)

the tents of the soldiers and settle on their food supplies, crawling over their jam, floating in their milk. Thirty per cent. of the deaths in the Boer war were due to typhoid fever. The bacillus, as is well known, is capable of existing for a long time and of persisting alive in the alimentary canal of the insect, and Graham Smith has shown that the bacilli may remain active for six days after feeding, and that the feet of flies which have the bacillus on them are capable of infecting surfaces upon which they walk for at least two days after first coming in contact with the germs.

Faichne reared maggots in dejecta infected with typhoid bacilli, and he was able to show that the flies into which these maggots turned contained virulent typhoid germs in their intestines. There is absolutely no doubt that typhoid is largely conveyed by the agency of these insects, and as flies are perfectly controllable if the people will but have it so, it is one of the disgraces of our civilization that this disease should be so prevalent.

The protective inoculation against enteric is now almost perfect, and its value is shown by two quotations from a valuable leaflet issued by the Research Defence Society:

> Sir William Leishman, in a letter published during the present war, August 22nd, 1914, says: "The benefits of inoculation are so well recognized in the regular forces that we find little difficulty, in foreign stations, in securing volunteers for inoculation; for instance, about 93 per cent. of the British garrison of India have been protected by inoculation, and typhoid fever, which used to cost us from 300 to 600 deaths annually, was last year responsible for less than 20 deaths. Inoculation was made compulsory in the American army in 1911, and has practically abolished the disease; in 1913 there were only 5 cases and no deaths in the entire army of over 90,000 men."
>
> In Avignon, in the south of France, during the summer of 1912, typhoid fever broke out in the barracks. Of 2,053 men, 1,366 were protected and 687 were not. The non-protected had 155 cases of typhoid, of whom 21 died; the protected had not one case. In the winter of 1913 the French Senate resolved that the protective treatment should be made compulsory throughout the French army; and, in special circumstances, among the reservists.

Infantile diarrhœa, which so afflicts the crowded poorer quarters of our cities in the summer, is another disease

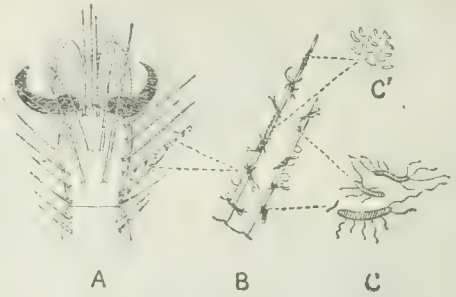


Fig. 8.—A, Foot of a fly, showing hairs bearing bacteria; B, a single hair more highly magnified; c and c', bacteria.

intimately connected with the *Musca domestica*. But that is hardly a disease likely to trouble the soldiers. The tubercle bacillus is another germ conveyed by flies. They are particularly fond of feeding on saliva, and Lord, Hayward, and Graham-Smith have obtained virulent bacilli from the intestines and dejecta of flies which had been fed on tubes containing tuberculous sputum. These experiments have been amply confirmed by other workers. Any one who has ever been in Egypt will remember the terrible sight of the flies attacking little children suffering from ophthalmia, and it is believed that the wide prevalence of this most pitiful trouble is attributable to the abundance of flies — the flies of Egypt.

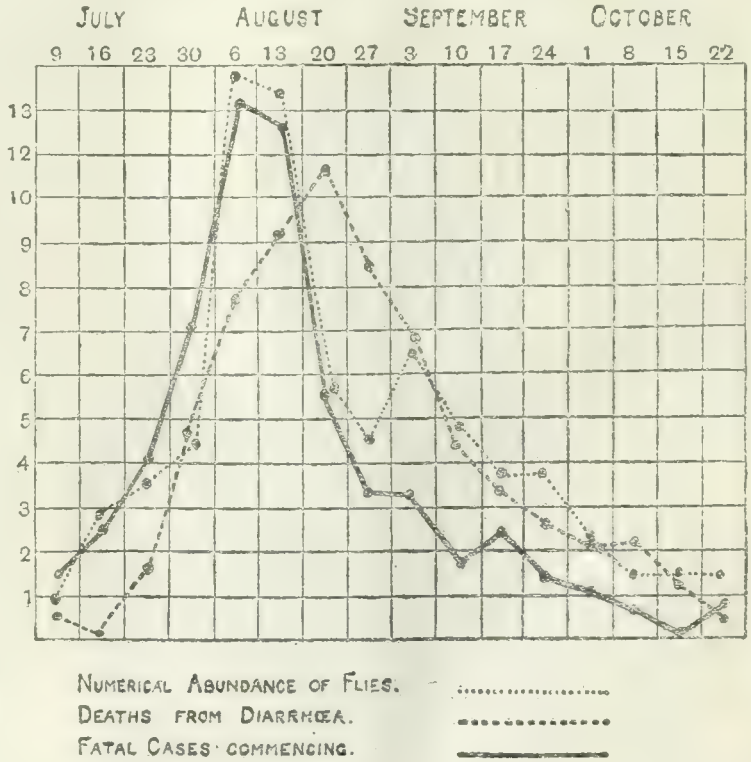


Fig. 9.—Chart illustrating the relation of the numerical abundance of house-flies to summer diarrhœa in the city of Manchester in 1904. Prepared from statistics and chart given by Niven.

Another disease—anthrax, or wool-sorter's disease—may be conveyed by the same carriers from infected cattle, and there is a good deal of epidemiological and bacteriological evidence available to show that flies play an important part in the spread of cholera, which is now becoming alarmingly prevalent in the Eastern seat of the war, and possibly in disseminating the organisms which cause yaws and tropical sore.

It will be noticed that the fly is not a necessary second host for any of these germs. They are conveyed, as if by an inoculating needle, by contact with the proboscis or the legs or other organ of the fly. Other bacilli, however, pass through the alimentary canal apparently unchanged and unharmed, and are deposited either with the regurgitated food from the fly's stomach, or with the dejecta of the insect. There is no subcutaneous inoculation such as takes place in the case of the mosquito when it conveys malaria, or in the case of the tsetse fly conveying sleeping sickness, where the disease-causing organism is injected into the human body. The action of the fly is mechanical, but none the less efficient. The poisoning of the soldiers' food supply is its chief rôle.

(To be continued.)

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICINE.

F. J. Smith, M.D., F.R.C.P., President.

THE OUTLOOK IN EPILEPSY.

By William Aldren Turner, M.D., F.R.C.P.,

Physician to King's College Hospital and to the National Hospital for the Paralysed and Epileptic, Queen Square, London.

In estimating the curability of epilepsy it is necessary to define what is meant by a cured case. A cure has generally been considered to be an arrest of seizures for a certain number of years—the actual number of years varying from two or three up to ten or more. With so much elasticity in the definition of a cure, it is not unnatural that the cure of any given case of epilepsy would depend upon the interpretation, optimistic or otherwise, which the physician would place upon the arrest of seizures in his patient.

We know that cases remit for several years and then relapse sometimes into an incurable state. It is therefore desirable that some feature other than a time limit should be introduced into the definition of the cure of epilepsy. I am therefore entirely in agreement with Pierce Clark[1] and others, who hold that the mental condition of the patient is an essential factor. The cured epileptic should be able to obtain his living. If this state can be obtained without the use of sedatives so much the better, but complete withdrawal of all sedative remedies is not necessary. I have personal knowledge of a number of epileptics who are able to attend to business and carry on all the ordinary duties of life so long as they take a daily dose of bromide, but who at once lose confidence in themselves and sometimes experience a return of symptoms when bromide is withheld for a time.

It may be urged by way of criticism that those patients ought not to be regarded as cured; but my point is that the most that can reasonably be expected in epilepsy is the arrest of the fits in conjunction with a mental condition so unimpaired that the patient is able to attend to business and earn his living according to his vocation. If the sedative drug can be permanently withdrawn (and this should be done gradually) without any relapse of the seizures and with retention of good mental faculties and memory, the case belongs to the group of cured epilepsy.

The curability of any case of epilepsy depends to a large extent upon several factors, to which brief consideration may be given.

The epilepsies of infancy and early childhood form one of the most unsatisfactory of the several types of the disease. In many cases these epilepsies arise from organic focal lesions of the brain. Some of the patients also are backward in mental development, in walking, and in talking. Quite a large proportion are feeble-minded, showing restless, destructive, and often dirty tendencies. There is one point, however, which ought to be borne in mind in connexion with the early epilepsies—namely, the remarkable tendency to temporary arrest or remission of the fits which frequently takes place about the age of 4 or 5 years, a remission which may last for some years, or until puberty.

When, however, we come to consider the epilepsies of puberty and adolescence, which are the common periods for the onset of the idiopathic disease, we have as a rule a not unfavourable type of epilepsy, provided that the fits are not too frequent, too severe or of a psychical character, that the mental condition is satisfactory, and that the treatment is undertaken early and conducted persistently.

In the late epilepsies, or that form of the disease which arises after 30 or 35 years of age, we find on the whole a favourable type of epilepsy, provided that the seizures are not symptomatic of a cerebral tumour or other organic lesion of the brain and that alcoholism may be excluded.

In the greater number of cases of idiopathic epilepsy no cause of the fits is found. The origin of the disorder is attributed to the normal processes of development, growth, and maturation of the reproductive functions in those who are hereditarily disposed to nervous instability and convulsions. On the other hand, infective causes may be at work, among which scarlet fever, measles, and diphtheria may be mentioned. Psychical causes, such as fright, worry, and anxiety, are not infrequent, and injuries to the head without organic cerebral lesion are often mentioned as the exciting cause.

My own experience, and it would seem to bear out the observations of others, is that epilepsy supervening upon infective conditions, such as scarlet fever or measles, is not an unfavourable type of the disease, and should stimulate to prolonged medicinal treatment.

On the other hand, cases attributed to psychical causes have a less favourable outlook.

In a general way my experience shows that cases of epilepsy arising without exciting causes and without ascertainable heredity are less favourable for treatment and are more likely to become confirmed cases than those with both an exciting cause and a hereditary foundation.

It is in connexion with the late epilepsies that the investigation of an organic cause is important. Should an individual over 30 years of age develop epileptic or epileptiform attacks, certain possibilities should in the first place be investigated before a diagnosis of epilepsy is made. One of the commoner causes of epilepsy in later years is the onset of intracranial tumour, hence the need of careful examination of the reflexes and the optic discs in all such cases. In a like manner general paralysis of the insane may develop and its existence be eliminated only after careful examination, in which the Wassermann reaction of the cerebro-spinal fluid should play a part. The majority of cases of late epilepsy are due either to chronic alcoholism or to degenerative cardio-vascular disease. My experience of late epilepsy of vascular origin is on the whole favourable, provided that there is abstinence from alcohol and the administration of the bromides is maintained over a long period.

It is a matter of common knowledge that the major attacks (grand mal) are more readily influenced by the bromides than the minor attacks (petit mal). My statistics show that the largest number of cases of arrested epilepsy are found amongst those who suffered from major fits of relatively infrequent occurrence. The least favourable type of the disease is the true minor epilepsy or petit mal, especially when the attacks are of a psychical character with epileptic automatism as a marked feature.

Quite a favourable type of epilepsy, on the other hand, is that which is characterized by the presence of jerks or jumps frequently unattended by loss of consciousness, the "petit mal moteur" of the French writers.

A recent German writer[2] on epilepsy states that cases showing considerable motor and psychical irritability at the time of the seizures respond favourably to bromide treatment. He points out that the activity of the knee-jerks is especially valuable as a guide to the usefulness or otherwise of the bromides in any particular case.

It is, however, on the mental condition of the patient that the physician should rely largely in forming an estimate of the curability of any particular case of epilepsy.

The term "mental condition" here referred to is that which is observed during the intervals of the seizures, and may be called the permanent interparoxysmal mental state.

The mental state of epileptics varies within limits from what may be regarded as normal, on the one hand, up to a considerable degree of dementia on the other. A certain number of epileptics present no obvious mental deficiency, notwithstanding an inherited predisposition to the disease, the duration of the malady over many years, its onset in early life, and the combination of major and minor attacks, occurring at frequent intervals. Likewise the impaired mental condition found in many epileptics is not necessarily the direct consequence of the seizures, but is an expression of the same neuropathic constitution which gives rise to the fits.

There can be no doubt that the earlier the onset of the

disease, especially when under 5 years of age, the greater is the probability of mental failure—a fact which indicates a more aggravated type of the malady than that which occurs in consequence of arterio-sclerosis in later life.

It is therefore obvious that when a case of epilepsy first comes under observation certain features are present by which the outlook may be surmised. As features of a favourable character may be mentioned the commencement of the disease between the ages of 16 and 20, especially if a hereditary history is obtained, and some obvious exciting cause for the disease is present; the commencement of the disease after 40 or 45 years of age provided organic disease of the brain can be eliminated; infrequent occurrence of the seizures, and the absence of any obvious mental impairment or well-marked stigmata of degeneration.

In contradistinction to the above-mentioned type of epilepsy, or that class of case which is eminently favourable for treatment, there is the incurable, chronic, or confirmed type, which finds its way eventually into institutions for epileptics.

The general features of epileptic dementia need not be considered here, but it is revealed by all grades of mental deficiency, from a mere defect of memory, especially for recent events, up to pronounced dementia. Although an integral part of the disease it may be modified to some extent by the duration, the frequency, and the character of the seizures.

My experience shows that once the mental condition has become materially affected in the direction of dementia, the outlook as regards any real amelioration is unfavourable, although the fits may be kept in abeyance over long periods by sedative remedies.

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RHEUMATOID ARTHRITIS.

By D. DURWARD BROWN, M.D.,

Harrogate.

To most medical men, and in Harrogate to all, this condition presents itself as one of the most insidious, most perplexing, and even most mysterious of the ills of our modern time. It is, if we may trust tradition, growing in the frequency of occurrence. The obvious commentary on such a statement is that it is now more readily diagnosed. It certainly has signally arrested our regard in Harrogate, where we yearly see an ever-increasing number of cases.

Before approaching the subject of treatment I must claim the benefit of your intelligence whilst I shortly run through the etiology of this disease, for treatment is but the sequel of such an understanding.

General Causes.

1. Absorption of toxic products—for example: (*a*) Pyorrhoea alveolaris, 70 per cent. of cases are due to this cause; (*b*) leucorrhoea; (*c*) local suppurations; (*d*) worry; (*e*) thyroid changes.

2. Menopausal causes: (*a*) Artificial; (*b*) natural, often premature as to time.

3. Inflammatory abdominal causes, as in a case reported by Dr. Woodcock, in which an acute abdominal crisis, apparently without suppuration, was followed in two months' time by a typical acute rheumatoid arthritis, affecting the joints universally.

The Direct Chemical Cause.

This is the abnormal fermentation products of carbohydrates. Such foods seem to form a generous nidus for the growth of micro-organisms. Men suffer less than women from this disease.

Another point I should like specially to bring to your notice is the connexion of certain spinal disorders and rheumatoid arthritis. In these cases the spine is attacked by infective inflammation, as metastatic arthritis, or a chronic cerebro-spinal toxaemia is followed or preceded by changes in the joints of the spine, the joints of which show the characteristics of rheumatoid arthritis, but the changes are not limited to the spinal bones, at least, so I find in the very many cases I have met with among visitors to Harrogate. I decidedly lean towards the theory that the changes in the joints and muscles which are characteristic of rheumatoid arthritis may be due to irritation and destructive lesions often first located by the physician as being in the spinal ganglia, and especially met with in the cervical and lumbar enlargements.

In my early cases with a history suggesting a septic cause, I find that although the main symptoms present are often stiffness of the fingers with slightly enlarged joints, yet the spine, especially at the eighth or ninth dorsal, shows a decidedly painful spot, and when the patient's attention is called to it, he or she will remember vague inconvenience at intervals which she has suffered for years.

Some authors hold that the cause is either infective or nervous, but why separate causes which are interdependent?

Treatment.

The aim of treatment in all cases must be as follows:

1. To remove the toxic cause in the digestive tract; the greatest offenders in this direction are the teeth, gums, and, to a less degree, the nose, tonsils, and stomach. The teeth must be removed or otherwise treated by antiseptics. A case I saw two years ago illustrates this:

> Miss M., aged 45, was so lame as not to be able to walk without a stick; both knees very swollen and tender; hands stiff, but no deformity. On inquiring, I found she had a full set of false teeth, and she said they were all right; but, on asking her to remove them, I discovered the teeth had been broken off, and all the stumps were left, and the mouth was in a filthy condition. I advised extraction of the teeth, which was done (two or three at a time, as, to my mind, the disease is aggravated if they are all taken out at one sitting), and within a month the knees were reduced to almost normal, and the last time I heard she was able to play the English national game, which every Scotsman knows to be golf.

The nose must also be examined and treated, if necessary.

The stomach must also be treated with care; and might I mention here that in the majority of cases of rheumatoid arthritis I find dilatation of the stomach to a greater or less degree?

Leucorrhoea and all other discharges must be inquired into and treated by the gynaecologist.

2. To encourage the elimination of the poison by the bowels, kidneys, and skin.

The Bowels.

In Harrogate we make use of the Plombières treatment, and, if thought advisable (a lot of these cases are not able to stand too drastic treatment), the sulphur water each morning for the first week at least.

If at home, Hunyadi water, or a similar water, might be given three mornings running, and after which a large enema twice a week is necessary.

Drugs.

Among the principal drugs I place creosote or guaiacol, and I certainly agree with Dr. Luff that great benefit can be got by their use. I generally order it in the form of a cachet (guaiacol carbonate grains v, guaiacol resin grains v), and if pain is severe I prescribe calcii acetosal (grains v), and with quinine sulphate (grains j), and these I give on alternate weeks with some form of iodine, and also in most of these cases thyroid extract (grain j) twice or thrice a day.

Might I point out here that[1] not only does the internal secretion of the thyroid gland promote appetite, digestion, and peristalsis, but also it neutralizes any toxic substances resulting from imperfect digestion of food, and therefore is an adjunct in the cure of rheumatoid arthritis?

All these must be continued for months or even years, and personally I have greatly rejoiced at the results of this treatment.

I have also used solution of magnesium sulphate (25 per cent. solution, use 2 c.cm.), injected into the muscles, but the results are uncertain, although in more acute cases of rheumatism the results have been brilliantly successful. I got the idea from Russell of Edinburgh and A. B. Jackson of Philadelphia, and certainly in some cases it is all that they promise.

General tonics must not be forgotten—their name is legion, and a few are good. Syr. ferri hypophos. co. will do as well as any.

Kidneys.

Hot water should be taken the last thing at night and first thing in the morning.

Electric Treatment.

Blistering the spine has been recommended by several authors,[2] and I have carried out this treatment in several cases with good results. The blisters are applied in the mid-dorsal and lumbar regions, and the wounds kept open for three weeks with savin and resin ointments, but the fault I find with this drastic treatment is that so few patients will submit to it, and, besides, why continue this when the same results can be procured from ionization? In this I always first of all treat the back, feeling very confident that the spine is the primarily affected part. The ionization is applied in the form of pads of potassium iodide and lithium—one on the dorsal and the other to the lumbar region. Later I treat the other affected parts in the same way, such as the knee, hand, foot, etc. Alternating with this treatment I give d'Arsonval or static treatment, according to whether the blood pressure is above or below normal. If there is much pain in any of the joints I also give Berthollet baths (hot steam up to 300°) to the affected parts, also "light and heat" and peat baths.

Massage and Exercises.

This is very important towards the end of the treatment, specially when the disease is complicated with fibrositis, or in some cases of panniculitis; also to give tone to the abdominal muscles and indirectly to the stomach and bowels. With these I usually advise some light exercises, especially those of resistance.

Summary.

Is rheumatoid arthritis increasing in frequency? The answer I would give would be Yes, but one reason that might disprove that assertion would be the more frequent capable diagnosis made in the disease. Then I should ask, Is it curable? Now here I give a very emphatic Yes; although we deplore almost every day how patients are told that there is no cure for rheumatoid arthritis, and practically nothing can be done for the patient. I think this is deplorable. Why should a disease so frequent be left to its fate in this stupid manner? Can you blame patients who get no assistance from their own medical men reverting to all sorts of advertised quackery?

Therefore, let us agree that the first thing is to remove all sources of infection, and especially associated with dental decay. Then, if possible, hurry the patient into a nursing home, where she will be away from any worry or alien thoughts. Keep her in bed as long as possible, up to three weeks or a month, and all this time electric massage and bathe her, and above all feed her generously well.

Do not despise suitable treatment by drugs, and at the risk of undue repetition go in manfully for electricity and massage, but above all devote the latter to the spine primarily and to the other joints secondly. This treatment can, no doubt, be best carried out at a spa, and in Harrogate, during three to six weeks' stay, a patient can be given a very good start towards complete recovery. After the period of passive movement comes the period of active movement, and many nowadays would give less bed than I have given.

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SECTION OF DISEASES OF CHILDREN.

Dr. John Thomson, President.

THE TREATMENT OF TORTICOLLIS

(CONGENITAL NON-SPASMODIC WRY-NECK).

By Paul Bernard Roth, M.B., Ch.B.Aberd., F.R.C.S.Eng.,
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This note is in the nature of a plea for the adoption of a simpler treatment than that usually employed. The present teaching is that the whole muscle, that is, the sternal and the clavicular heads, together with bands of deep fascia, must be divided by the open operation; and that retentive apparatus must then be applied over a long period subsequently. I maintain:

1. That, as a rule, division of the sternal head is sufficient; in exceptional cases division of the clavicular head is also required; but division of bands of deep fascia with the knife is never required.

2. That whether the clavicular head is divided or not the operation should always be done subcutaneously.

3. That retentive apparatus after the operation is entirely unnecessary.

The following remarks are made in support of the above propositions:—

1. In the very large majority of cases, when the sternal head is divided on the operating table, the deformity can be over-corrected without any further section. I am therefore unable to see why the surgeon should proceed to divide the clavicular head. The favourite argument advanced is that as he is operating he may as well do the job thoroughly, and so lessen the likelihood of relapse. But it is a good surgical rule never to divide a structure if it can be saved, and relapse after operation for torticollis is practically unknown. I doubt if there is anyone here who can cite a case. Exceptionally, perhaps in one case out of ten, division of the sternal head is not sufficient; in such a case, after division of the sternal head, the clavicular head rises up instantaneously into the area of operation, as if to take its place, and it also must be divided. If after section of both of these the deformity cannot be over-corrected, firm but gentle manipulation of the head while the patient is still anaesthetized will stretch or rupture any bands of deep fascia responsible; to divide these by any cutting operation is fraught with danger, owing to their close proximity to the internal jugular vein.

2. While house surgeon at the London Hospital in 1909 I divided the sterno-mastoid muscle in five patients by the open method. Since then I have always divided it subcutaneously, and the latter method appearing so vastly superior I examined the literature of the subject to find out if possible why it had been abandoned; in this, however, I was unsuccessful. The operation was first described by William Salmon, M.D., in 1685,[1] but was apparently first performed by Roonhuysen in 1670.[2] It was the standard operation for the greater part of the nineteenth century, for an open operation would have ended in suppuration. When antiseptic surgery came in there was a great tendency to abandon all old methods and do everything in a brave antiseptic manner, and this operation seems gradually to have fallen into disrepute for no other reason. At the present time the alleged danger of the operation is a formidable bogey, but that is all. In every modern manual of surgery with but one exception, one is warned of the danger of the operation, and in most of them strongly advised not to perform it. In only one book is it recommended—namely, in Calot's *Orthopédie Indispensable*.[3] Calot says: If you are set on doing it by the open method, do it by the open method; but if you have no views on the subject, take his advice and do it subcutaneously. When I tried to obtain evidence of the danger of the operation, in book after book I found it stated that accidents had occurred, but hardly ever any definite data. Erichsen[4] stated, in 1884, that he had heard of "more than one case in which from want of due precaution, abundant haemorrhage occurred, and of three in which a fatal result followed the operation." (Cause not stated.) Then Edmund Owen,[5] in 1890, described how he nearly lost a case during the operation.

This exhausts the evidence I have been able to find in books as to the danger of the method.

As for Erichsen's three cases, of which he had heard, it is not clear what they died of; a fatal result may follow any operation. They may have died of sepsis.

As for Owen's case, as recorded in the British Medical Journal,[5] a vein was divided, and the air was heard being sucked in with each breath with a hissing sound, and no attempt seems to have been made to apply a pad to the wound. If this had been done, it is unlikely there would have been any untoward symptoms to record.

I wrote to Owen in 1912 to ask if he knew of any other case of accident, and he kindly replied at some length, telling me that when he was house-surgeon to Spencer Smith the latter told him that Skey, whose pupil he was, divided the tendon subcutaneously, and that the patient—a young lady—died on the table. My comment on this case is that we do not know whether the young lady had not "status lymphaticus."

The above does not appear to me sufficient ground for regarding the operation as dangerous. On the other hand, I regard the open operation as certainly dangerous. Directly the incision is made just above the clavicle, the negative pressure at the root of the neck causes all the deeper structures, including the subcutaneous tissue, to retract so that a hollow space is formed there; and it becomes exceedingly difficult not to wound a vein. Moreover, after one has divided the tendon one feels tempted to nick at various strands of tense fascia which lie perilously near the great vessels of the neck. On five occasions when I have performed the open operation, even though I had ample assistants and a good light, I was never able to avoid wounding both the anterior jugular and external jugular veins. Owing to the formation of the negative pressure space, these veins come to occupy an abnormal position, and the tissues which should support and protect them fall away. Bradford and Lovett record a case where the internal jugular vein was wounded during the open operation. Another danger is undoubtedly that of sepsis.

Then there is the difficulty of suturing; it is very difficult to join the skin edges accurately, the reason being the negative pressure space. Even if the edges appear in good position, a day or two later they are found apart or puckered in. The result in nearly all cases is a depressed scar. This grows, as all scars grow, and when the patient, perhaps the daughter of well-to-do people, starts going out to dances, on her neck is a bad advertisement for the surgeon. I have heard of three cases in private where the scar has developed into a keloid. A writer[6] on this subject makes light of the annoyance of a resulting scar, and then describes a new incision of his own for avoiding it. Probably when the new incision has been tested by time the resulting scar will be as bad as ever. The subcutaneous operation leaves no scar at all.

Technique of Subcutaneous Tenotomy.

General anaesthetic; paint with iodine; while tendon is being made prominent by gentle traction, introduce with blade held vertically a sharp-pointed, slender-bladed tenotome immediately to inner side of sternal head, half an inch above sternum; when way clear to tendon withdraw, and insert blunt-pointed tenotome; insinuate it carefully behind tendon, turn blade at right angles to tendon, and stroke the tendon with little short strokes while the anaesthetist puts the muscle on the stretch; the tendon gradually gives way as bundle after bundle of fibres are cut through; there is no hurry; half a minute may be taken to divide the whole tendon. When divided withdraw tenotome and at once seal opening with celloidin and gauze. After division of the sternal tendon the clavicular tendon, if it require division, at once springs up into the area of operation, and appears as a tense band under the skin, just as the sternal tendon had previously done. The sharp tenotome is again taken, a vertical puncture again made at the inner side of this tendon, and the operation completed exactly as before. No attempt is made to divide deep bands of fascia. After the first pad of gauze and celloidin is set, or if both tendons have been divided, after the second pad, the surgeon takes the patient's head and firmly, but gently, twists it round till the chin is over the shoulder of the affected side; as he moves it round any bands of fascia which perhaps still retain the head in a bad position give way. Turning the head straight again, he now bends it sideways until the ear on the unaffected side can be made to touch the shoulder on that side. The head is then laid straight, a pad of wool fixed over the gauze with strapping, and the patient left till next day, when the same two movements are performed once each. On the third day the patient is allowed up.

REMARKS.

As regards the possibility of injury to veins in this operation, there are two which might be injured—the anterior jugular and the external jugular. (It is difficult to conceive of any surgeon being fearful of wounding the internal jugular, which in a case of torticollis lies ½ in. to ¾ in. deep to the posterior surface of the muscle.)

The anterior jugular can be avoided by introducing the tenotome exacting at the inner border of the sternal tendon, ½ in. above the sternum; this is outside the vein where the latter runs vertically, and above it where it runs horizontally.

The external jugular is not wounded, because by the time the tenotome gets near it the tendon is divided, and the surgeon at once ceases moving it.

Even supposing that both these veins are nicked, owing to their occupying an abnormal position, it is doubtful whether any serious bleeding could take place; for there is no artificially produced negative pressure space for them to bleed into, and the tendency is for the blood to be drawn in rather than out.

3. The question of the unnecessary use of retentive apparatus after operation was dealt with at some length in a paper[7] contributed by me to the *Lancet* in 1911; and I have only time to refer briefly to it. In that paper I showed by extracts from leading textbooks that the universal practice was to use retentive apparatus; I then gave a description of the treatment I had carried out in four cases without the use of any apparatus, and indeed without any after-treatment at all except some slight simple exercises, with excellent results; and finally suggested that the use of retentive apparatus was unnecessary in all cases.

In the next issue of the *Lancet*[8] appeared a letter from Mr. T. H. Kellock warmly endorsing my remarks, and even going further and stating that exercises and manipulations are equally unnecessary. He also stated that "relapses after operation for torticollis seem to be very rare." Since that letter was written I have slightly altered my practice. Where the case is one of simple torticollis, in a child, say, of 4 or 5, division of the muscle is all that is required, and I discard exercises; but in older children, where a secondary scoliosis has been produced, exercises after the operation are of use in hastening the assumption of a straight position, and I retain them.

I conclude this paper by a quotation from the works[9] of one whose opinion, though delivered in 1863, before the days of antiseptic surgery, and therefore before the introduction of the open operation, will certainly carry weight with you—Syme of Edinburgh:

> Every case of wry-neck that has come under my care since the one just mentioned (which was in 1831) I have treated in this manner—that is, by subcutaneous tenotomy—with invariable success. I have seldom found it necessary to divide more than the sternal portion of the muscle. . . . No . . . after-treatment of any kind is required, since the distorted parts soon regain their natural position.

REFERENCES.

[1] Salmon, *Compendium of Physick, Chirurgerie, and Anatomy*, 1685, p. 1142. [2] Roonhuysen, quoted by Malgaigne, *Orthopédie*, 1862, p. 298. [3] Calot, *Orthopédie indispensable*, 1906, p. 604. [4] Erichsen, *Science and Art of Surgery*, 1884, eighth edition, vol. ii, p. 502. [5] Owen, *Lancet*, February 8th, 1890, p. 255. [6] Tubby, *Deformities*, 1912, vol. i, p. 70. [7] Roth, Treatment of Torticollis, *Lancet*, September 9th, 1911. [8] Kellock, letter to *Lancet*, September 16th, 1911. [9] Syme, *Principles of Surgery*, fifth edition, 1863, p. 276.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

THE first ordinary meeting of the session was held on October 12th. A vote of thanks to the retiring President, Sir David Ferrier, was proposed by Dr. DE HAVILLAND HALL, seconded by Mr. WILLMOTT EVANS, and carried with acclamation. Sir DAVID FERRIER replied. Dr. WALTER BROADBENT proposed a vote of thanks to the other retiring officers. This was seconded by Dr. STEELE PERKINS, and passed unanimously. Dr. R. A. YOUNG, the retiring Honorary Secretary, replied. Sir DAVID FERRIER then introduced the new President, Sir J. Bland-Sutton, and invested him with the badge of office. Having taken the chair, Sir J. BLAND-SUTTON delivered his opening address on Cancer of the Small Intestine, which is published in full in this issue of the JOURNAL (p. 653). A vote of thanks to the President for his address was proposed by Mr. SWINFORD EDWARDS, seconded by Sir STCLAIR THOMSON, and carried unanimously.

THE second annual convention of the Cremation Association of America was held at Indianapolis on September 3rd. The President, Dr. Hugo Erichsen, of Detroit, delivered an address in which he reviewed the progress of cremation. Speaking of the obstacles which the movement had met with he said: "The apathy of the general public, the antagonism of some undertakers, the indifference of the press, the open hostility of certain cemetery and mausoleum corporations, and the inertia of some so-called cremationists—surely no reform ever had to cope with so many difficulties and obstacles as ours." Yet in face of them all he was confident of ultimate success. The Convention extended over two days, and many questions relating to cremation were discussed. Dr. Erichsen was re-elected president.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF TETANUS.

Anything which may be of use to our wounded needs no apology, therefore I wish to repeat some remarks I made in the British Medical Journal of November 5th, 1910.

In the ordinary way tetanus is such a rare disease that it only occupies a small part of one's thoughts. Now this is not the case. Tetanus kills partly by the direct action of the toxin and partly by the exhausting effects of the convulsions. By the trismus and dread that taking food will bring on a convulsion, starvation is added to the horrors of the disease, and sleep is prevented by the painful muscular contractions. In treating the disease when it is manifest there are therefore the following indications:

1. To prevent further absorption of toxin by the removal of its source as far as possible.
2. To neutralize the toxin present.
3. To relax the muscles and prevent the tetanic spasms, so that the patient will escape the exhaustion and be able to take food and to sleep. Consequently he will be spared much suffering and be in the best position to fight the disease.

Of the first two indications, the necessity for removing every scrap of necrotic tissue or blood clot, the provision of the freest drainage, the great value of the prophylactic dose of antitetanus serum after suspicious wounds, and the necessity for large doses to produce effect when the disease is established, are too well known to need more than passing mention. But the use of chloretone to meet the third indication does not seem as well known as it deserves.

McClintock and Hutchings undertook an experimental study of the various drugs used for this purpose, and were convinced that chloretone was the best and least poisonous substance hitherto employed. Hutchings published 6 cases treated with chloretone, with 4 recoveries. The only case I have so treated was a severe one; the beneficial effects of the drug were immediate and striking, trismus was almost abolished and convulsions completely prevented, and the patient recovered. These cases seem to more than warrant a further trial of chloretone.

The method of using chloretone is as follows: 30 to 40 grains of chloretone in olive oil are given by the rectum; in one to two hours there should be an improvement in the muscular symptoms. When the effect passes off, the dose is repeated. Our man had an average of 80 grains a day for five days. Chloretone poisoning is by respiratory failure, so this must be looked out for. Its use is in no way to supersede antitoxin or surgical measures, but to act as a very useful ally.

Guildford. Eric W. Sheaf, M.C.Cantab.

THE ADRENALS AND URINARY SECRETION.

Mentioning the following case to Sir Berkeley Moynihan he tells me it is worthy of report. A lady of 72 was confined to bed by sheer weakness and listlessness; she complained of nothing else. Repeated medical examinations revealed no disease, but it was found that the urinary secretion was only some 10 to 12 ounces daily.

A consulting physician diagnosed pure senile debility, and prescribed strong tonics, strychnine, etc. A good deal of improvement followed, but in an early relapse these drugs failed to resume their good offices. Several medical men then saw her, but nothing prevented the gradual decrease in strength and in amount of urine. One idea occurred to me—to try adrenalin. The result was dramatic and staggering in its efficiency. In forty-eight hours the urine rose from 5 to 40 ounces; in a few days the patient was up, and in a week was out in a bath-chair.

The improvement continued after the lapse of some months, but she continues to take adrenalin, for cessation at once causes renewed debility, etc.

Sir Berkeley gave me the interesting information, and allows me to state it here, that whilst he has not paid much attention to this side of the question he has to the converse, and, having come to the conclusion that *excessive* activity of the suprarenal glands is a cause of arteriosclerosis, has already suggested surgical measures depriving the gland of its blood supply and leaving it attached to the kidney by only a few strands of tissue. One such early case has already undergone the operation, and Sir Berkeley Moynihan is on the look-out for another on which to perform the operation himself.

These two converse methods of treatment afford fascinating fields for further much-needed work, and will yield a rich harvest to the gleaner.

Leeds. Ralph Hopton, M.D.Lond.

ANAESTHETICS IN EYE-WORK.

Recent correspondence in your columns on this subject reminds me of an experience which raises the question as to the depth of anaesthesia required in ophthalmic surgery.

The patient was an old man of 74, with but one eye and that blind from cataract. At the preliminary iridectomy he developed such spasm of the eyelids that I told him it would be unsafe to remove the lens. He, however, pleaded so insistently for its performance and carried out so earnestly the control exercises that I consented to do it under a general anaesthetic.

The operation, in all its steps, was completed in a few seconds and no time wasted over the toilet. No sooner was an attempt made to gently raise the speculum than it was followed by a most vicious spasm of the ocular muscles with a great loss of vitreous.

The patient was deeply under and cocaine had been previously used, yet the old habit spasm manifested itself.

Perhaps it would have been better to have used deep orbital injections of cocaine, as suggested by Dr. Traquair, or to have held the eye by means of the superior rectus. Fortunately the ultimate outcome was very good ($\frac{6}{12}$) with glasses, but the slow steady squeeze and the outpouring of vitreous was as surprising as it was unpleasant.

Manchester. A. A. Bradburne, F.R.C.S.E.

Reports
on
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

ROYAL EYE HOSPITAL.

BULLET WOUND OF THE EYE: LOCALIZATION BY X RAYS: EXCISION: PATHOLOGICAL REPORT.

(Under the care of Sir William Collins, K.C.V.O., M.S.Lond., F.R.C.S.)

Private A., Coldstream Guards, was engaged in the battle of the Marne at Château Thierry on September 8th. The enemy was in occupation of a farmhouse and firing a Maxim gun from an upper window. The patient was shooting from behind a boulder when a bullet ricochetted off the stone, splashing into the right side of his face. A field dressing was applied to the face two hours later and he slept in a barn that night. Next morning he was transported by motor car and ambulance train and viâ Southampton to London, arriving at Woolwich on September 15th.

He was admitted at the Royal Eye Hospital on September 16th. The face exhibited several small wounds from lead splutters from a bullet; the right eye was closed by swelling of eyelids and there was photophobia in the left. The vision of the right eye was p. l. only, the tension was slightly *plus*, there was much conjunctival injection and chemosis. There was iritis, the pupil was immobile, and the fundus unilluminable. A pigmented spot midway between the corneal margin and the equator, down and out, and some corneal abrasions suggested points of entry of fragments of the bullet. The right upper canine tooth had been smashed by the bullet, and pellets of lead could be felt under the skin of the face in several places. The left eye showed some minute fragments of lead on the cornea, which were removed, but the vision was—tells time accurately; the media were otherwise clear and the tension normal. He was suffering a good deal of pain in the right eye and side of the head.

A skiagram taken by Dr. Herbert Rhodes showed a peppering of the right side of the face; fragments, the

largest of which was not more than 3 or 4 mm. in breadth, were to be seen in the upper and lower jaw and the right orbit.

On September 24th Sir William Collins excised the right eye under chloroform, administered by Mr. F. D. Bennett. The orbit was searched by the finger for fragments, but none found. The pain was at once relieved, he made a rapid recovery, and was discharged on October 2nd with perfect vision and no photophobia in the left eye. The report on the excised eye by Mr. Chapman, the pathologist, states as follows:

Three fragments of lead have perforated the globe through the outer and lower portion of the cornea, passing through the iris and ciliary muscle but not rupturing the lens. Two fragments lie close together and one is deeply embedded in the sclerotic near the attachment of the external rectus. The third fragment was probably at first in the vitreous, but has sunk and become attached near the ora serrata by a focus of suppuration, which is becoming fibrous. The vitreous is beginning to be infiltrated with leucocytes, and in the hyaloid fossa is a collection of pus although the lens is clear. Three other minute fragments of lead lie close together, deeply embedded in the substantia propria of the cornea, just below the scar caused by the perforating fragments, and two other small pieces of lead are set in the sclera below the insertion of the external rectus, but have not penetrated.

Reviews.

ORGANIC ANALYSES.

THE eighth and final volume of the fourth edition of *Allen's Commercial Organic Analysis*[1] is devoted to proteins, albuminoids, and allied bodies. Like previous volumes of this edition, it consists of a number of sections written by different authors. To the physiologist or physiological chemist this is, perhaps, the most important and interesting volume; but the commercial analyst, for whom the book is presumably principally intended, does not appear to have been kept specially in mind in deciding on what to include and what to exclude. In some sections the amount of information supplied is rather too scanty, while in others much valuable detail is given which belongs more to the department of research than to that of commercial analysis. It is, perhaps, natural that a work produced as this has been, with the editors and other contributors divided between England and America, should be rather open to such criticism, which is not intended to detract from the valuable character of the book as a whole.

The first section of the work is devoted to enzymes, and this important and interesting class of substances is dealt with much more briefly than any of the other groups to which sections are allotted, this portion only occupying some fifteen pages. The enzymes mentioned are arranged in six divisions, but the arrangement is not adhered to; thus emulsin is classed as a glucosidoclast, but is described under the heading "sucroclasts," and lipase is classed as a lipoclast, but is described under "proteoclastic enzymes."

The second section of the book consists of a very excellent treatise on the proteins proper; their general chemical nature, the separation of the products of their hydrolysis, the quantitative determination of the proteins themselves, and the identification of the individual compounds, are very clearly described. The proteins of plants and the proteins of milk are dealt with separately in the two succeeding sections; another of considerable length is devoted to milk, and its full examination for commercial and other purposes. Cream, butter, cheese, and other milk products are dealt with by other writers in a separate section; humanized milk and other modified milks, koumiss, kephir, and the sour milk produced by the action of *Bacillus bulgaricus*, are included here.

Then follows what is by far the longest section in the book, on meat and meat products, by Dr. W. D. Richardson of Chicago. The term "meat" is treated as including poultry, eggs, and fish, while "meat products" embraces extracts, juices, etc., as well as sausages of many kinds. The composition of the various kinds of meat and their full analysis, the preservation of meats by canning, curing, and the addition of antiseptics, the nature and detection of ptomaines, etc., are among the matters discussed in detail. Other divisions of the book are devoted to the digestion-products of the proteins, haemoglobin and its derivatives, albuminoids or sclero-proteins, and fibroids. In accordance with modern usage, the term "albuminoids" is used to cover collagen, gelatin, chondrin, mucin, and similar bodies not included in the group of proteins proper; while fibroids include silk, hair, wool, chitin, etc.

There can be no question as to the great usefulness of the book, in spite of some unevenness in the treatment of the various divisions of the matter; any one concerned directly or indirectly with the analysis of nitrogenous foodstuffs will find it almost indispensable as an up-to-date compendium of present knowledge of the subject.

[1] *Allen's Commercial Organic Analysis.* Entirely rewritten and edited by W. A. Davis, B.Sc., A.C.G.I., and S. S. Sadtler, S.B. Vol. viii. Fourth edition. London: J. and A. Churchill. 1914. (Roy. 8vo, pp. 706; 60 figures. 21s. net.)

ASTHMA.

IN a small volume Dr. ADAM presents his view of the causation and treatment of *Asthma*.[2] He endeavours to prove that its main cause lies not in any local condition *per se*—as bronchial spasm or vascular engorgement—but that these depend upon a constitutional factor, which is a toxaemia secondary to imperfect protein metabolism, the result of excess of carbohydrate in the diet and of insufficient exercise; the toxaemia arising partly in the bowel and partly in the tissues generally. To prove his point he passes in review the symptoms of an acute attack, and some of the pathological conditions found in the asthmatic subject, laying particular stress upon the toxicity of the urine, and frequently quoting Bouchard and Walker Hall to substantiate his theories. From this point of view he deals with the mode of life of the asthmatic and of those suffering from allied conditions, such as the recurrent bronchitis of children, laryngeal catarrhs and spasms, angio-neurotic oedema, etc. He gives a few pages only to nasal conditions, considering them to be subsidiary factors, yet in most of the clinical cases he reports nasal abnormalities were present and were also treated. By a combination of diet, exercise, and nasal treatment he claims to have cured 76 per cent. of all cases; 16 per cent. were improved, and 8 per cent. unimproved. His contribution to the vexed question of asthma causation is useful, by drawing attention to the importance of regimen, but his conclusions can hardly be accepted in full. They do not fully explain those fairly numerous cases in which under precisely the same dietetic conditions attacks occur due to slight causes, as odours, varied climatic conditions, even change of room, and the numerous cases in which a cure—using the term as he uses it—has resulted through nasal treatment only.

THE PHYSIOLOGY OF THE INTERNAL SECRETIONS.

ONE of the best of the papers read before the Section of Medicine at the International Congress of Medicine held in London during August, 1913, was Professor GLEY'S report on the correlation of the organs of internal secretion and their disturbances. He has rearranged and added to this report, and published it in the form of a little book.[3] He believes that our knowledge of the glands with internal secretions, as such, is due to Claude Bernard and Brown-Séquard, in reality, and sounds a warning note as to the facility and futility of the countless unfounded speculations as to the functions and disturbances of function of these organs, that are so common in the medical literature of the present day. He calls for more facts about these endocrine glands, as they are called, and fewer fancies, and gives an account of their various secretions and a classification of the glands themselves. The last twenty pages deal with the functions of these glands in health and disease. Like Dr. Noel Paton's volume recently reviewed in these pages (November 29th, 1913, p. 1438), Dr. Gley's book is a very valuable contribution to medical literature from the pen of an eminent physiologist. It is most lucidly written, and should be read by all physiologists and practitioners of medicine.

[2] *Asthma and its Radical Treatment.* By James Adam, M.A., M.D. F.R.F.P.S. London: Henry Kimpton; Glasgow: A. Stenhouse. 1913. (Cr. 8vo, pp. 181; 4 illustrations. 5s. net.)

[3] *Les Sécrétions internes. Principes Physiologiques, Applications à la Pathologie.* Par Professor Dr. E. Gley. Paris: J. B. Baillière et Fils. 1914. (Cr. 8vo, pp. 96. Fr. 1.50.)

THE RESTRICTION OF BIRTHS.

THERE has been a steady increase in the number of scientific works dealing with the social phenomena of the falling birth-rate and of the voluntary restriction of families published in Germany. Needless to say, the interest in the subject has not been lessened of recent years by the fact that the German birth-rate itself has begun to descend. Dr. Max Hirsch's book upon abortion and the prevention of conception in their relation to the fall in the birth-rate, which was reviewed in these pages not so long ago (vide JOURNAL for February 28th, 1914, p. 486), was written from the viewpoint of gynaecology; Professor A. GROTJAHN, a teacher of hygiene in the University of Berlin, has since issued a work [4] on the falling birth-rate and the restriction of births, in which these matters are discussed from the side of individual and social hygiene.

Setting out to prove the main proposition that the falling birth-rate is peculiarly the central problem of social hygiene at the present time, Professor Grotjahn passes lightly over the contrast between natural and rational propagation in ancient and modern times and comes straight to the problem itself as it began to attract notice in the last three decades of the nineteenth century. The first part of his book deals with the possibility of restricting the birth-rate. He refers to the high development of the art of prevention in relation to conception, to the hiding of the falling birth-rate by the coetaneously falling death-rate, and to the appearance in all civilized lands of this decrease in the size of families. Then he touches upon some false and upon some insufficient explanations of the falling rate, showing that natural fertility has not altered, that the number of marriages has not lessened, and that neither the fall in infant mortality nor the increase in wealth are to be blamed for the smaller number of births. The immensely improved means of preventing births is the true cause of the fall. Preventive measures may be placed in four groups: there are the so-called natural means, such as lactation, complete abstinence, partial abstinence at fixed periods, and interrupted cohabitation; these it is said are uncertain or little practised. There are the means which act by destruction of tissue, such as criminal abortion and artificial sterilization by surgical operation, and by the Roentgen rays. There are the chemical means, such as vaginal douches and suppositories and the great army of "Lady's Friends." "Lady's Doctors," "Comfort Douches," "Pneumatiks," "Lätitias," "Spermathanatons," "Semori-tabletten," "Steriloform-tabletten," "Paris Safety-sponges," etc. Finally, there are the mechanical means, such as the various types of occlusive pessaries and rubber condoms.

The second part of Professor Grotjahn's book deals with the right to restrict births, and touches upon the many vexed questions of prevention of conception and stoppage of pregnancy in such diseases as syphilis and gonorrhoea, in such complications of pregnancy as tuberculosis, kidney disease, nervous maladies, and heart troubles, in connexion with the propaganda of eugenics and race hygiene, and in circumstances where the births in a family are either too numerous or are following upon each other too quickly, or where a campaign is being waged against an excessive infantile or child mortality. In all these cases it is evident that the medical man has a part to play; he cannot avoid playing it, and he must be prepared to meet each set of circumstances as it arises. The great problem is the inevitable conflict between the interests of the individual family and the good of the whole community.

The third part of the work concerns itself with the dangers of the falling birth-rate, from race-suicide down to the more selfish matters between neighbouring States and even between rival towns. The author looks at the risks as they exist among the Jews, the French, the Anglo-Saxons, the Dutch and the Germans. The really valuable and in many ways novel part of this section of the book is the statistical light which it throws upon the falling birth-rate in Germany. The great danger anticipated there would appear to be an inflowing of Slavs.

The fourth section takes up the consideration of how the falling birth-rate and its dangers are to be counteracted or adjusted, and deals with many complicated and intricate problems, such as the legal questions connected with the preventives and abortive agents, the moralities involved, neo-Malthusianism and the two-child system, the three-child minimum system, the desire for offspring, and a great many other socio-political and hygienic questions, such as housing and food supply, which can only be described as likely to be very pressing long before the twentieth century has reached the end of its first quarter. Professor Grotjahn's book may be confidently consulted by any one in search of information on the various matters alluded to above.

[4] *Geburten-Rückgang und Geburten-Regelung. Im Lichte der individuellen und der sozialen Hygiene.* Von Prof. Dr. med. A. Grotjahn. Berlin: L. Marcus. 1914. (Med. 8vo. pp. 385. Brosch. Mk. 6.00.)

NOTES ON BOOKS.

OLD age should be attainable by every one who will keep to the road which leads to it. Failure to reach the goal is generally traceable to neglect of warnings by the way. The significance of these warnings is well shown by Dr. T. B. SCOTT of Bournemouth in a little series of essays, lay and medical, collected into a small volume indicating *The Road to a Healthy Old Age.*[5] Dealing for the most part with high arterial tension, its causes, effects, and treatment, the medical element largely preponderates over the lay, but a great deal of sound advice as to personal hygiene may be noted which should appeal to all who are growing old, and can recognize in themselves the symptoms about which they may read. It is the fashion of modern times to attribute everything to microbes, but it is probable that the microbes would make but little headway if the ordinary rules of hygiene were followed, and the soil for their development kept in physiological health. Dr. Scott holds very definite views as to the results of certain drugs in lowering blood pressure and so prolonging life. He follows the teaching of Dr. Oliver in the use of hippurates of lithium and ammonium as depressors, but he also extols the value of adrenalin and suprarenal extracts in the same direction. Deeply impressed with the importance of vaccines in the treatment of diseases of the lungs of bacterial origin, he appends a chapter dealing with vaccines in general from the pen of Surgeon G. B. Scott, R.N.

Dr. HYVERT of Pougues has written a little volume on pathology and diagnosis [6] for the benefit of general practitioners of medicine, in the form of a dictionary of the chief signs, symptoms, and diseases. Having reached the second edition, the book has clearly met with a success for which the author, as he says, had not hoped. Nothing in the inevitable summary and superficial character of its contents explains this success; one would have thought that few practitioners would be benefited by entries such as the following—Hogdson, disease of; Variety of syphilitic aortitis, with marked arterial pulsation—which may serve not unfairly as a type of many.

[5] *The Road to a Healthy Old Age: Essays Lay and Medical.* By T. B. Scott. London: H. K. Lewis. 1914. (Fcap. 8vo, pp. 112. 2s. 6d. net.)

[6] *Pathologie interne et diagnostic.* Par Dr. R. Hyvert. Guides de Médecine Pratique. 2me édition, entièrement revue. Paris: A. Maloine. 1914. (Cr. 8vo, pp 510. Fr. 6.)

MEDICINAL AND DIETETIC PREPARATIONS.

Sweet Whey Powder.

WE have received from Casein, Limited (Culvert Works, Battersea, S.W.), a sample of their sweet whey powder, which is put forward for the preparation of foods for infants and invalids. It is claimed for this that it is prepared in such a way that the enzymes are not destroyed, and that the protein contained in it consists chiefly of lactalbumen, and not casein. It is a fine, cream-coloured powder, which readily dissolves in water to a cloudy solution having a very pleasant taste. Our analysis showed it to contain:

Proteins	14.4 per cent.
Milk sugar	75.1 ,,
Mineral matter	8.5 ,,

It will, no doubt, prove a very useful preparation in the feeding of convalescents, infants, and the aged.

MR. SYDNEY STEPHENSON has been appointed master of the Oxford Ophthalmological Congress vice Mr. R. W. Doyne nominated as past-master. Mr. P. H. Adams has become deputy-master and Mr. Bernard Cridland secretary. Colonel R. H. Elliot has been elected a member of the Council.

THE BRITISH PHARMACOPOEIA, 1914.

(Continued from page 635.)

ADDITIONS TO THE PHARMACOPOEIA.

SYNTHETIC ORGANIC CHEMICALS.

Of the many organic chemical substances prepared artificially which have come into use in medicine since 1898, only seven are included in the new *Pharmacopoeia;* for four of these new names have been coined. The following is a list of the seven substances, the terms in brackets being the names by which they have hitherto commonly been known:

Acetylsalicylic acid (aspirin).
Barbitone (veronal).
Benzamine lactate (beta-eucaine lactate).
Chloral formamide or chloralamide.
Diamorphine hydrochloride (heroin hydrochloride).
Hexamine (urotropine, hexamethylene-tetramine).
Phenolphthalein (purgen, laxoin).

Other artificial organic chemicals of less recent introduction, now made official for the first time, are picric acid, ethyl chloride, guaiacol and guaiacol carbonate, formaldehyde (solution), methyl salicylate, methylsulphonal (trional), and resorcin.

It will be seen that the principle of not admitting to the *Pharmacopoeia* names which are the registered trade marks of particular firms, has been adhered to; but it is to be regretted that new names have been introduced for those substances for which non-proprietary short names are already in use. Thus the body known under the trade names veronal, malonal, and hypnogen, and by the descriptive chemical names diethyl-malonyl urea and diethyl-barbituric acid, was introduced into the *British Pharmaceutical Codex* in 1907 under the name malourea; the new name barbitone appears to possess no advantage over this, and introduces fresh possibilities of confusion. Betacaine was the name given in the *Codex* to beta-eucaine; the name benzocaine was given to para-amino-benzoic ethyl ester (known under the trade name anaesthesine), and the new name benzamine may easily be confused with this. A useful principle adopted in the *Codex* was that of giving all local anaesthetics names ending in "caine," but the name "benzamine" does not conform to this. It would be a reasonable contraction for the chemical name "benzylamine," which is a totally different body, and confusion may thus arise. Again, acetomorphine (the *Codex* name for diacetylmorphine or heroin) is more descriptive, and scarcely any longer than diamorphine. However, the new names, being official will of course have to be used, whatever their intrinsic merits, and whatever temporary confusion may ensue from the multitude of synonymous terms.

Certainly no fault will be found with the inclusion of the substances mentioned above, since all of them are in frequent use. But it would not be difficult to name a good many more which are probably quite as much used and which have not been included.

Coming now to the consideration of the substances now included, the following points may be noted:

Acetylsalicylic Acid.—A test is ordered for the detection of free salicylic acid, which is required to be absent. Maximum limits are fixed for lead and arsenic respectively of ten and two parts per million. The purity of the substance is to some extent safeguarded by the melting point, given as 133° C. to 135° C., but no quantitative test to prove the presence of a definite proportion (for example, 98 or 99 per cent.) of true acetylsalicylic acid is given.

Barbitone.—The melting point is given as 191° C., and certain identity tests are described; there is no test for purity except the melting point, the absence of ash, and the general characters.

Benzamine Lactate.—No doubt this salt has been adopted, and not the hydrochloride, because of the greater solubility of the lactate, which makes it much more useful. Certain identity tests, especially for distinguishing it from cocaine and alpha-eucaine, are described. No quantitative test is given and no melting point.

Chloral Formamide.—The commoner name "chloralamide" is mentioned as a synonym. The melting point (114° to 115° C.) and tests for "certain organic impurities" and "certain decomposition products" are given. There is no quantitative test.

Diamorphine Hydrochloride.—This is described as "the hydrochloride of an alkaloid obtainable by the action of acetic anhydride on morphine; the formula represents it as containing one molecule of water ($C_{21}H_{23}NO_5HClH_2O$), but in the *Codex* it is represented as anhydrous. The melting point is given as 231° C. to 232° C., which is a little higher than is usually assigned. The "characters and tests" given are chiefly identity tests, but there is a test for the absence of morphine. No quantitative test is given.

Hexamine.—This is required to contain not less than 98 per cent. of real hexamethylene-tetramine, and a quantitative test, depending on its decomposition by means of dilute acid, is ordered.

Phenolphthalein.—The melting point is given as 250° to 253°, and no appreciable ash is to remain on ignition. A quantitative test for its sensitiveness to alkali is ordered, which indicates the absence of any serious quantity of the objectionable impurity, fluorane.

Picric Acid.—Purity of 99 per cent. is required. The melting point is given as 122° C., and titration with caustic soda is ordered to prove the presence of 99 per cent. of real trinitrophenol.

Ethyl Chloride.—This is permitted to be made from ethyl alcohol or from industrial methylated spirit; in the latter case (as is pointed out in the text) it will contain a small proportion of methyl chloride. A range of specific gravity—at 0° C.—of from 0.920 to 0.960 is allowed. Several qualitative tests for impurities are ordered, and a quantitative test by hydrolyzing a weighed quantity with potash and titrating back with standard acid; the result is required to correspond to not less than 99.5 per cent. of esters calculated as ethyl chloride.

Guaiacol.—This may be prepared synthetically or from creosote. Certain tests for impurities are directed.

Guaiacol Carbonate.—The melting point is given as 85° C. to 88° C. There is no quantitative test.

Formaldehyde Solution.—This is required to be from 36 to 38 per cent. strength, weight in volume. The strength is determined by adding caustic soda and hydrogen peroxide, and after allowing a sufficient amount of heating on a water bath titrating the excess of soda. A solution of formaldehyde with soap is also made official; this contains 20 per cent. by volume of formaldehyde solution with soft soap and some alcohol.

Methyl Salicylate.—Oil of gaultheria (wintergreen) contains about 99 per cent. of methyl salicylate. The article introduced under the name "methyl salicylate" is made artificially, and is required to contain not less than 98 per cent. of the pure substance, but no method is given for its quantitative determination.

Methylsulphonal.—The melting-point is given as 76° C. to 76.5° C., and certain tests for identity and purity are specified.

Resorcin.—The melting-point is given as 110° C. to 111° C., and certain tests for identity and purity are specified.

ACTIVE PRINCIPLES AND THEIR PREPARATIONS.

The additions under this head include adrenalin and liquor adrenalini hydrochloricus, cantharidin and acetum, emplastrum, tinctura, and unguentum cantharidini, injectio strychninae hypodermica, pelletierinae tannas, and theobrominae et sodii salicylas. The following points may be noted:

Adrenalin.—It is stated that this "may be obtained from the suprarenal glands of animals"; this does not specifically exclude the synthetic article, and none of the characters and tests given would do so. But the chemical name which is given, laevo-methylamino-ethanol-catechol, is properly only applicable to the natural substance, which is laevorotary, while the synthetic is optically inactive unless special means are taken to eliminate the dextro-modification. It is an arguable question, in view of this fact, whether the artificial substance would be considered to be included or not.

Liquor Adrenalini Hydrochloricus.—This is a 1 in 1,000 solution, containing also 0.3 per mille of real hydrochloric acid, 9 per mille of sodium chloride, and 5 per mille by measure of chloroform.

Cantharidin and Preparations.—These are introduced to take the place of the preparations of cantharides, which are omitted; the latter were by no means of uniform strength in active principle, and the cantharidin preparations have the additional advantage of being cleaner. The Chinese fly *Mylabris* and its preparations were in the Indian and Colonial *Addendum;* these are also now dropped and replaced by the cantharidin preparations. The strengths of the new preparations are: Acetum, 1 in 2,000; emplastrum, 0.2 per cent.; tinctura, 1 in 10,000; unguentum, 1 in 3,000. In addition, the formula of emplastrum calefaciens is altered to contain 0.02 per cent. of cantharidin, instead of being made with cantharides. Tincture of cantharidin is approximately of the same strength as an average sample of the present tincture of cantharides, and therefore only about one-seventh of the strength of the tinctura cantharidis of the international agreement. Unguentum cantharidini is of approximately two-thirds of the strength of the unguentum cantharidis which it replaces.

Injectio Strychninae Hypodermica.—This is a simple solution of strychnine hydrochloride containing 0.75 per cent., or ¾ grain in 110 minims.

Pelletierine Tannate.—This is a mixture of the tannates of the alkaloids of pomegranate bark; the bark itself and the decoction are now omitted. The name "pelletierine" has been given to one of these alkaloids, but the pelletierine tannate of commerce usually consists of the tannates of the total alkaloids, and this practice now receives official sanction.

Theobromine and Sodium Salicylate.—This is the substance known by the trade-mark name "diuretin." The formula is given as $Na_2C_{14}H_{12}N_4O_5$, and the method of preparation mentioned is "by combining sodium hydroxide, theobromine, and sodium salicylate in molecular proportions"; such a compound would contain 49.7 per cent. of theobromine and 38.1 per cent. of salicylic acid, but the official requirement is that 40 per cent. of theobromine and 35 per cent. of salicylic acid shall be yielded by the test which is described. Some loss of theobromine occurs in the test, but when this is allowed for, the 40 per cent. only represents 46.5 per cent. present in the compound, so that the standard is certainly not unduly strict.

Metallic Salts.

The new metallic salts are calcii lactas, ferri phosphas saccharatus, sodii phosphas acidus, strontii bromidum, and zinci oleostearas. The following points may be noted:

Calcium Lactate.—This is required to contain not less than 93 per cent. of the hydrated salt $Ca(C_3H_5O_3)_2$, $5H_2O$, the percentage of calcium being determined gravimetrically. The salt is described as "slowly soluble in 18.5 parts of water, forming a clear, colourless solution"; it is required to be free from alkalinity, and a limit is fixed for acidity. The limit for lead is 10 parts, and for arsenic 5 parts per million.

Saccharated Iron Phosphate.—This is a mixture of ferrous phosphate with glucose, and takes the place of plain ferrous phosphate, which is omitted. By an improved method of precipitation the percentage of ferrous salt in the product is increased; it is required to contain not less than 60 per cent. of ferrous compounds calculated as hydrated ferrous phosphate, $Fe_3(PO_4)_2,8H_2O$, against the present minimum of 47 per cent. The limit for arsenic is 5 parts per million.

Acid Sodium Phosphate.—This is required to contain not less than 70 per cent. of the anhydrous salt NaH_2PO_4. The limit for lead is 5 parts, and for arsenic 2 parts per million.

Strontium Bromide.—This is required to contain not less than 97 per cent. of the hydrated salt $SrBr_2,6H_2O$. A volumetric test for the bromine, and a gravimetric test for the strontium are given, and a special test to ensure absence of barium. The limit for lead is 20 parts, and for arsenic 5 parts, per million.

Zinc Oleostearate.—This is made by precipitation from zinc sulphate and a mixture of hard soap and curd soap, and consists therefore chiefly of a mixture of zinc oleate and stearate. It is a white amorphous powder, insoluble in water, alcohol, or ether.

Other Additions.

Other additions to the *Pharmacopoeia* are the following:

Acetone.—Not less than 95 per cent. is required to distil between 55° C. and 57° C., the boiling-point of pure acetone being 56.5° C.

Dilute Hydriodic Acid.—This contains 10 per cent. of real hydriodic acid, and 1 per cent. of real hypophosphorous acid as a preservative.

Syrup of Hydriodic Acid.—Contains 10 per cent. (weight in volume) of the dilute acid.

Cassia Fruit.—Introduced as the source of cassia pulp, used in confection of senna.

Cresol.—Not less than 90 per cent. is required to distil between 195° C. and 205° C.; the boiling points of the three isomeric cresols which may be present are 188° C., 198° C., and 202° C. Phenol is required to be absent, and a limit test is given for hydrocarbon oils.

Liquor Cresol Saponatus.—This is a disinfectant of the type of the proprietary article lysol. It contains 50 per cent. (weight in volume) of cresol and differs from the liquor cresolis saponatus of the *British Pharmacopoeia Codex* in being made with castor oil soap instead of linseed oil soap, and in containing no glycerine except what is produced in the saponification; the *Codex* preparation contains 50 per cent. of cresol by weight.

Glucose.—The syrupy variety, containing about 80 per cent. of solids, is adopted. It is introduced principally for use as an adjunct to ferrous carbonate and phosphate. The limit for arsenic is two parts per million.

Ipomoea Root.—This is usually known as Mexican scammony, or Orizaba jalap. It is introduced as a source of scammony resin, which has been commercially prepared from it for some time. It has been shown, however, that the resin so obtained is not identical with that from true scammony.

Senna Fruit.—The well-known senna pods, which have been in general use for a considerable time.

Benzoated Suet.—Introduced for use in India in place of benzoated lard.

Unguentum Lanae Compositum, Compound Wool Fat Ointment.—A mixture of lard, wool fat, hard and soft paraffins, and beeswax.

Unguentum Plumbi Subacetatis.—A mixture of strong solution of lead subacetate with a base of wool fat and hard and soft paraffins. It takes the place of the present lead acetate ointment, which is dropped.

The next article will deal with changes in the name and composition of preparations.

(*To be continued.*)

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(*Continued from page 634.*)

The Geneva Convention.

The following is a list of the Powers which originally signed the "Convention for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field," and of those which subsequently acceded to it: Argentine Republic, Austria, Baden, Bavaria, Belgium, Bolivia, Brazil, Bulgaria, Chile, China, Colombia, Congo, Corea, Cuba, Denmark, Dominican Republic, Ecuador, France, Germany, Great Britain, Greece, Guatemala, Hayti, Hesse-Darmstadt, Honduras, Italy, Japan, Luxemburg, Mecklenburg-Schwerin, Mexico, Montenegro, Netherlands, Nicaragua, Panama, Paraguay, Persia, Peru, the Pope, Portugal, Prussia, Rumania, Russia, Salvador, Saxony, Servia, Siam, Spain, Sweden and Norway, Switzerland, Turkey, United States, Uruguay, Venezuela, Würtemberg.

From time to time various additions and modifications were considered and in 1906 (June 11th to July 6th) a conference was held at Geneva for the revision of the original Convention. A full account of its proceedings will be found in *Sick and Wounded: Papers relating to the Geneva Convention, 1906.*[1] The Convention of 1864 contained ten articles; that drawn up by the Conference of 1906 is divided into eight chapters and general provisions containing in all thirty-three articles. As charges of abuse of the Red Cross on the part of the Germans in the course of the present war have been so frequent that it has been suggested that the use of that emblem of mercy has rather added to than diminished the horrors of war, and as our own Territorial Forces may not have had the

[1] Presented to both Houses of Parliament by command of His Majesty. Eyre and Spottiswoode. 1908.

opportunity of studying the provisions of the Convention, it may be well to give the essential clauses of the text as it was settled in 1906:

CHAPTER I.—*The Wounded and Sick.*

Art. 1.—Officers and soldiers, and other persons officially attached to armies, shall be respected and taken care of when wounded or sick, by the belligerent in whose power they may be, without distinction of nationality.

Nevertheless, a belligerent who is compelled to abandon sick or wounded to the enemy shall, as far as military exigencies permit, leave with them a portion of his medical personnel and matériel to contribute to the care of them.

Art. 2.—Except as regards the treatment to be provided for them in virtue of the preceding Article, the wounded and sick of an army who fall into the hands of the enemy are prisoners of war, and the general provisions of international law concerning prisoners are applicable to them.

Belligerents are, however, free to arrange with one another such exceptions and mitigations with reference to sick and wounded prisoners as they may judge expedient; in particular, they will be at liberty to agree:

To restore to one another the wounded left on the field after a battle;

To repatriate any wounded and sick whom they do not wish to retain as prisoners, after rendering them fit for removal or after recovery;

To hand over to a neutral State, with the latter's consent, the enemy's wounded and sick to be interned by the neutral State until the end of hostilities.

Art. 3.—After each engagement the commander in possession of the field shall take measures to search for the wounded, and to ensure protection against pillage and maltreatment, both for the wounded and for the dead.

He shall arrange that a careful examination of the bodies is made before the dead are buried or cremated.

Art. 4.—As early as possible each belligerent shall send to the authorities of the country or army to which they belong the military identification marks or tokens found on the dead, and a nominal roll of the wounded or sick who have been collected. The belligerents shall keep each other mutually informed of any internments and changes, as well as the admissions into hospital and deaths, among the wounded and sick in their hands. They shall collect all the articles of personal use, valuables, letters, etc., which are found on the field of battle, or left by the wounded or sick who have died in the medical establishments or units, in order that such objects may be transmitted to the persons interested by the authorities of their own country.

Art. 5.—A competent military authority may appeal to the charitable zeal of the inhabitants to collect and take care of, under his direction, the wounded or sick of armies, granting to those who respond to the appeal special protection and certain immunities.

CHAPTER II.—*Medical Units and Establishments.*

Art. 6.—Mobile medical units—that is to say, those which are intended to accompany armies into the field—and the fixed establishments of the medical service will be respected and protected by the belligerents.

Art 7.—The protection to which medical units and establishments are entitled ceases if they are made use of to commit acts harmful to the enemy.

Art. 8.—The following facts are not considered to be of a nature to deprive a medical unit or establishment of the protection guaranteed to it by Article 6:

(1) That the personnel of the unit or of the establishment is armed, and that it uses its arms for its own defence or for that of the sick and wounded under its charge.

(2) That in default of armed orderlies the unit or establishment is guarded by a piquet or by sentinels, furnished with an authority in due form.

(3) That weapons and cartridges taken from the wounded and not yet handed over to the proper department are found in the unit or establishment.

CHAPTER III.—*Personnel.*

Art. 9.—The personnel engaged exclusively in the collection, transport, and treatment of the wounded and the sick, as well as in the administration of medical units and establishments, and the chaplains attached to armies, shall be respected and protected under all circumstances. If they fall into the hands of the enemy they are not to be treated as prisoners of war.

These provisions apply to the guard of medical units and establishments mentioned in Article 8 (2).

Art. 10.—The personnel of Voluntary Aid Societies, duly recognized and authorized by their Government, who may be employed in the medical units and establishments of the armies, is placed on the same footing as the personnel referred to in the preceding article, provided always that the first-mentioned personnel shall be subject to military law and regulations.

Each State shall notify to the other, either in time of peace or at the commencement of or during the course of hostilities, but in every case before actually employing them, the names of the societies which it has authorized, under State responsibility, to render assistance to the regular medical service of its armies.

Art. 11.—A recognized society of a neutral country can only afford the assistance of its medical personnel and units to a belligerent with the previous consent of its own Government and the authorization of the belligerent concerned.

A belligerent who accepts such assistance is bound to notify the fact to his adversary before making any use of it.

Art. 12.—The persons designated in Articles 9, 10, and 11, after they have fallen into the hands of the enemy, shall continue to carry on their duties under his direction.

When their assistance is no longer indispensable, they shall be sent back to their army or to their country at such time and by such route as may be compatible with military exigencies.

They shall then take with them such effects, instruments, arms, and horses as are their private property.

Art. 13.—The enemy shall secure to the persons mentioned in Article 9, while in his hands, the same allowances and the same pay as are granted to the persons holding the same rank in his own army.

CHAPTER IV.—*Matériel.*

Art. 14.—If mobile medical units fall into the hands of the enemy they shall retain their matériel, including their teams, irrespectively of the means of transport and the drivers employed.

Nevertheless, the competent military authority shall be free to use the matériel for the treatment of the wounded and sick. It shall be restored under the conditions laid down for the medical personnel, and, so far as possible, at the same time.

Art. 15.—The buildings and matériel of fixed establishments remain subject to the laws of war, but may not be diverted from their purpose so long as they are necessary for the wounded and the sick.

Nevertheless, the commanders of troops in the field may dispose of them in case of urgent military necessity, provided they make previous arrangements for the welfare of the wounded and sick found there.

Art. 16.—The matériel of Voluntary Aid Societies which are admitted to the privileges of the Convention under the conditions laid down therein is considered private property and, as such, will be respected under all circumstances, saving only the right of requisition recognized for belligerents in accordance with the laws and customs of war.

CHAPTER V.—*Convoys of Evacuation.*

Art. 17.—Convoys of evacuation shall be treated like mobile medical units, subject to the following special provisions:

1. A belligerent intercepting a convoy may break it up if military exigencies demand, provided he takes charge of the sick and wounded in it.

2. In this case, the obligation to send back the medical personnel, provided for in Article 12, shall be extended to the whole of the military personnel detailed for the purposes of transport or guard of the convoy, and furnished with authority in due form to that effect.

The obligation to restore the medical matériel, provided for in Article 14, shall apply to railway trains, and boats used in internal navigation, which are specially arranged for evacuations, as well as to the matérial belonging to the medical service for fitting up ordinary vehicles, trains, and boats.

Military vehicles, other than those of the medical service, may be captured with their teams.

The civilian personnel and the various means of transport obtained by requisition, including railway matériel and boats used for convoys, shall be subject to the general rules of international law.

CHAPTER VI.—*The Distinctive Emblem.*

Art. 18.—As a compliment to Switzerland, the heraldic emblem of the red cross on a white ground, formed by reversing the Federal colours, is retained as the sign and distinctive emblem of the medical service of armies.

Art. 19.—With the permission of the competent military authority this emblem shall be shown on the flags and armlets (brassards) as well as on all the matériel belonging to the medical service.

Art. 20.—The personnel protected in pursuance of Articles 9 (paragraph 1), 10, and 11 shall wear, fixed to the left arm, an armlet (brassard) with a red cross on a white ground, delivered and stamped by the competent military authority, and accompanied by a certificate of identity in the case of persons who have not a military uniform, and who are attached to the medical service of armies.

Art. 21.—The distinctive flag of the Convention shall not be hoisted except over those medical units and establishments which are entitled to be respected under the Articles of the Convention, and except with the consent of the military authorities. It must be accompanied by the national flag of the belligerent to whom the unit or establishment belongs.

Nevertheless, medical units which have fallen into the hands of the enemy, so long as they are in that situation, shall not fly any other flag than that of the red cross.

Art. 22.—The medical units belonging to neutral countries which may be authorized to afford their services under the conditions laid down in Article 11 shall fly, along with the flag of the Convention, the national flag of the belligerent to which they belong.

The provisions of the second paragraph of the preceding Article are applicable to them.

Art. 23.—The emblem of the red cross on a white ground and the words "Red Cross" or "Geneva Cross" shall not be used, either in time of peace or in time of war, except to protect or to indicate the medical units and establishments and the personnel and matériel protected by the Convention.

CHAPTER VII.—*Application and Carrying out of the Convention.*

Art. 24.—The provisions of the present Convention are only obligatory for the contracting Powers in the case of war

between two or more of them. These provisions shall cease to be obligatory from the moment when one of the belligerent powers is no longer a party to the Convention.

Art. 25.—The Commanders-in-Chief of the belligerent armies shall arrange the details for the execution of the preceding Articles, as well as for cases not provided for, in accordance with the instructions of their respective Governments and in conformity with the general principles of the present Convention.

Art. 26.—The signatory Governments will take the necessary measures to instruct their troops, especially the personnel protected, with regard to the provisions of the present Convention, and to bring them to the notice of the civil population.

CHAPTER VIII.—*Prevention of Abuses and Infractions.*

Art. 27.—The signatory Governments, in countries the legislation of which is not at present adequate for the purpose, undertake to adopt or to propose to their legislative bodies such measures as may be necessary to prevent at all times the employment of the emblem or the name of Red Cross or Geneva Cross, by private individuals or by societies other than those which are entitled to do so under the present Convention, and in particular for commercial purposes as a trade mark or trading mark. The prohibition of the employment of the emblem or the names in question shall come into operation from the date fixed by each Legislature, and at the latest five years after the present Convention comes into force. From that date it shall no longer be legal to adopt a trade mark or trading mark contrary to this prohibition.

Art. 28.—The signatory Governments also undertake to adopt, or to propose to their legislative bodies, should their military law be insufficient for the purpose, the measures necessary for the repression in time of war of individual acts of pillage and maltreatment of the wounded and sick of armies, as well as for the punishment, as an unlawful employment of military insignia, of the improper use of the Red Cross flag and armlet (brassard) by officers and soldiers and private individuals not protected by the present Convention.

They will communicate to one another, through the Swiss Federal Council, the provisions relative to these preventive measures at the latest within five years from the ratification of the present Convention.

The following States ratified the Convention on the dates appended to the several names: Siam (January 29th, 1907), United States of America (February 9th, 1907), Russia (February 9th, 1907), Italy (March 9th, 1907), Switzerland (April 16th, 1907), Congo (April 16th, 1907), German Empire (May 27th, 1907), Mexico (June 4th, 1907), Denmark (June 11th, 1907), Brazil (June 18th, 1907), Belgium (August 27th, 1907), Luxemburg (August 27th, 1907), Spain (October 11th, 1907), Austria-Hungary (March 27th, 1908). The following States have acceded to the Convention: Nicaragua (June 17th, 1907), Venezuela (July 8th, 1907), Turkey, with reservation that emblem of Red Crescent will be employed (August 4th, 1907), Colombia (October 28th, 1907).

The delegates appointed by the British Government for the revision of the Convention were Major General Sir John Ardagh, K.C.M.G., K.C.I.E., C.B.; Sir John Furley, C.B., J.P., D.L.; Professor T. E. Holland, K.C., D.C.L., and Lieutenant-Colonel W. G. Macpherson, C.M.G., Royal Army Medical Corps.

The revised Convention of 1906 completed the work initiated by Henry Dunant. As Sir Thomas Longmore, speaking of the original Convention in a lecture delivered at the Royal United Service Institution on March 16th, 1866, truly said:[2]

> This is a remarkable instance of a general treaty brought about by the exertions of an individual in private life; at the same time, without the active support and operation of the International Committee of Geneva, but, above all, without an advanced philanthropy inducing a strong general desire for lessening, as much as practicable, the evils of war to individual soldiers, who, after all, have no personal feelings in the conflicts in which they are engaged, who only act as instruments; without these aids, it is more than probable that the benevolent efforts of Monsieur Dunant would never have achieved the work they at last accomplished.

It is gratifying to be able to add to this testimony that Dunant's work was recognized in his later years before the award of the Nobel Prize showed that his name had not wholly faded from the memory of the world. On December 30th, 1897, the Swiss Federal Council awarded him the highest prize in its gift—that known by the name of Binet-Fendt (about £73) as "founder of the Red Cross and initiator of the Geneva Convention of August 22nd, 1864." The twelfth International Congress, held at Moscow in 1897, also awarded him the prize of the Municipal Council of the City of Moscow (£200) "for the eminent services rendered by him to suffering humanity."

[2] *Help for Sick and Wounded.* London. 1870. P. 373.

PARLIAMENTARY GRANTS, 1914-15.

DETAILS of the Votes in Supply with regard to insurance and public health matters (with the exception of that which forms part of the Education Vote) passed by the House of Commons without discussion, in view of the national crisis, on August 4th, were not reported at that time, but the details may now be interesting.

The vote to the Royal Society for scientific investigations was increased by £4,000, the total now being £29,550. A special grant for defective children in Scotland amounted to £4,139.

The grants passed in respect of National Insurance were as follows:

G.—*Administration of Medical Benefit, etc. (Grant in Aid).* (£35,100.)—The special grants in aid of the administration of medical benefit for the year 1914 (Class VIII, Vote 9, 1913-4) were subject to the condition that the grants therefrom to Insurance Committees should not exceed the rate of 1½d. for each insured person. Experience has shown that the cost of administration of Insurance Committees per head of insured population varies with the number of insured persons in the area, and that a flat rate of grant is inappropriate. It is proposed, therefore, to apply a sum not exceeding £21,000 out of this vote in payments to certain Insurance Committees for the year 1914 in excess of the rate of 1½d. per insured person. As, however, there will be balances in the special accounts estimated at £20,900, which will be available towards the grants to be made for the year 1915, the net additional sum required to bring up the amount available in respect of the latter year to a sum equal to 1½d. per insured person is £100. Provision is also made for grants to Insurance Committees, in addition to those above mentioned, but not exceeding £15,000 in all, in respect of the special initial expenses in connexion with the administration of medical benefit in the year 1914, so far as those expenses have created a deficiency in the administration account of any committee. It is also proposed to apply a sum not exceeding £20,000 in grants to Insurance Committees in the United Kingdom towards the cost of health lectures and the publication of information on questions of health (National Insurance Act, 1911, section 60 (1) (*b*)).

K.—*Arrears of Contributions (Grant in Aid).* (£80,000.)—For grants to approved societies to be applied by them towards discharging the "penalty arrears" of their members incurred while out of work (so far as such arrears may exceed six in the case of a man and five in the case of a woman), including a contribution towards the expenses incurred by those societies in administering the grants.

L.—*Sickness Benefit (Women) (Grant in Aid).* (£500,000.)—For grants towards the cost of sickness benefit, including loss of contributions, incurred since the commencement of the Act by approved societies having women members on a basis calculated with reference to the relative incidence of incapacity during pregnancy among such members.

M.—*Medical Referee-Consultants, etc.* (£50,000.)—Remuneration and expenses of Medical Referees and Consultants, travelling expenses of insured persons presenting themselves for examination, and other expenses for the purpose of Referee and Consultant services. (Any payments made by approved societies in respect of the services of Medical Referees will be paid into the Exchequer.)

N.—*Supplementary Medical Services (Great Britain).* (£50,000.)—For grants to Insurance Committees in respect of the provision of specialist consultations in connexion with the treatment of insured persons and in aid of the equipment and maintenance of clinics for the use of panel practitioners.

O.—*Nursing Grants.* (£100,000.)—For grants to Insurance Committees towards the provision of nursing.

P.—*Sanatorium Benefit.* (£100,000.)—For grants to Insurance Committees for the purpose of supplementing the funds available for sanatorium benefit under the National Insurance Act, 1911, on a basis calculated with reference, *inter alia*, to the relative incidence of tuberculosis in various areas.

Q.—*Medical Attendance, etc., of Aged and Disabled Members of Societies (1913).* (£28,000.)—For grants towards the cost of medical attendance of aged and disabled members of societies to whom Section 15 (2) (*c*) of the Act of 1911, as amended by Section 10 (2) of the Act of 1913, applies, at a rate not exceeding 2s. 6d. for each such person. The grants will be paid in respect of expenses incurred in the year 1913, provision having been made in the original estimate in respect of the year 1914 only.

The grant for pathological laboratories for the portion of the current year is £50,000, and is described as follows:

Pathological Laboratories. (£50,000.)—The money will be allocated by the Treasury to the English, Scottish, and Irish Local Government Boards for the purpose of distribution, with the approval of the Treasury, as grants to local authorities willing to provide or arrange for the provision of laboratory facilities with a view to the prevention, diagnosis, and treatment of disease, and who submit schemes for that purpose not later than December 31st, 1914. If in any area the local authority is unwilling to provide or arrange accordingly, a share of the grants will be allocated to the National Insurance Joint Committee for distribution to the Insurance Committee of that area towards the provision of such facilities and aids. Balances remaining in hand at the close of the financial year will not be subject to surrender to the Exchequer.

British Medical Journal.

SATURDAY, OCTOBER 17TH, 1914.

THE MEDICAL SITUATION IN FRANCE.

We received this week a number of communications from a correspondent in France; some of them will be found elsewhere in this issue, and the rest we regard as not intended for publication. The writer is a medical man who has had experience of men and affairs in many parts of the world, and, besides taking part in more than one great war, has had as a private practitioner to deal with cases of sickness and injury in conditions unfamiliar to the great majority of his colleagues. On the strength of what he says we are prepared to take a much more cheerful view of medical matters in France than seemed reasonable a week or two ago.

At that time, and even more recently, there were rumours which seemed to be almost equivalent to a statement that the medical arrangements, both of the British and French authorities, were ill-devised and had already broken down. It was, indeed, a charge of this character launched against the French Government by M. Clemenceau—a medical man by education, but best known as a politician, and nicknamed at times the "breaker of Ministries"—that led to the suppression of his paper, *l'Homme Libre*. He promptly brought out another journal, under the title of *l'Homme Enchaîné*, and in the second issue of this publication, which appeared last week, though he did not actually recant, he made a statement which was practically equivalent to a confession of error. He explained that he had not intended to assert that there had been gross neglect of the wounded and lack of foresight in regard to them, but merely that there had been great delay in getting them from the advanced hospitals where they had received efficient first-aid treatment, to the base hospitals at which it was intended that they should be submitted to any operations necessary, and remain until convalescent.

With the views of M. Clemenceau we are not directly concerned, but they are of some interest as being probably based on the rumours which have been current both in France and in this country. There has been a tendency to believe that the death-rate in France from tetanus and so-called gas gangrene is gigantic, that any officer or man reported to be wounded who does not shortly arrive in this country is in a hopeless condition, that the authorities are being negligent because they have been obliged to correct with some frequency the statements made by themselves in regard to casualties, and that the extent of the mortality and suffering have been gravely increased by avoidable causes.

We do not propose to consider all these rumours, as to some of which statements will be found in the notes already mentioned, but may remark that our correspondent's communications make it clear that a large proportion of all the wounded officers and men who have not been sent home are in a condition which is anything but hopeless, that he is strongly impressed by the comprehensiveness of the arrangements made for the care of the wounded and prevention of disease, by the extent to which the very latest scientific knowledge is being utilized, and by the width of the view which has been taken by the medical department of the British War Office of the needs of the situation, past, present, and future.

One of his notes affords an explanation, which may console some of them, of the fact that the friends of missing officers sometimes find it difficult to ascertain anything of them and as to why the casualty lists have often needed correction. Comparatively early in the war the French War Office issued permits to go to the front to a very large number of persons possessed of motor cars and extemporized ambulances. These benevolent folk picked up wounded men who had been removed from the firing line by regimental bearer parties to await the arrival of field ambulances, and took them off for treatment either in their own homes or in hospitals in towns more or less distant from the seat of operations. Like steps were frequently taken by the inhabitants of towns and villages near the front; they rarely reported what they had done, and the result was that the authorities altogether lost sight of many men, and could not be certain whether they were prisoners or wounded, or alive or dead. They merely knew they were missing.

He thinks it is true that until recently there has been an unhappy amount of delay in securing for the wounded conditions in which final treatment could be undertaken, but points out that the circumstances of the war have rendered this entirely unavoidable. Apart from the fact that the absolute necessity of keeping the armies supplied with food, ammunition, and reinforcements has necessarily tended to prevent free circulation of trains on the railway lines, no one could have foreseen that the operations would be extended over so wide a range of country as to make it impossible for the horsed ambulances of each divisional ambulance unit to collect the wounded promptly from the multiplicity of regimental dressing stations. He tells us that he has conversed with a great many privates, some of whom had quitted the firing line only a few hours previously, that all were loud in praise of the gallantry and devotion exhibited by the officers and men of the Royal Army Medical Corps, and agreed that at times it would have been absolute folly to attempt to withdraw the wounded from the firing line except by night. In this connexion it will at once occur to our readers that in a large proportion of cases—especially those in which large vessels or the cavities of the body have been wounded—it must be decidedly advantageous from a medical point of view that the patients should not be subjected to any kind of movement for at least some hours after the first aid dressings, which every soldier carries, have been applied either by the patients themselves or the men in their immediate vicinity.

Another subject on which our correspondent dwells is the immense strain to which the medical arrangements of our own army were subjected almost as soon as they came into operation. As every one knows, the army after the battle of Mons commenced a rapid retirement to the south, which lasted several days and ended in an equally rapid advance in a north-easterly direction. During the first part of this procedure it was quite impossible to afford adequate treatment to all the wounded; large quantities of stores were left behind, some ambulance units lost practically the whole of their officers and men, and regimental medical officers had to be replaced in some instances several times in succession. After the

turning point had been reached the fighting was even heavier than before and the advance rapid; hence convoys of wounded inevitably made slow progress towards the various bases. As things are, the operation of the medical arrangements seems to him to be daily improving; the blockage of the railway lines is diminishing, the rolling stock used for ambulance work is being improved, the ambulance trains fully staffed and equipped, and the greatly increased supply of volunteer automobile ambulance workers organized on a proper footing.

On the whole, therefore, it seems to us that, so far as medical foresight and unstinting utilization of the resources of medical science can diminish the mortality and suffering inevitable in any war, the outlook is favourable. We feel, in short, very little doubt that when the end at length comes the Army Medical Staff and the Royal Army Medical Corps will both be congratulated on the way in which they have done their work.

SCHOOLS FOR MOTHERS, AND MATERNITY CENTRES.

Towards the end of July the Board of Education issued regulations under which it was prepared to make grants to Schools for Mothers in England and Wales during the financial year ending March 31st, 1915. The regulations were accompanied by a memorandum in which it was pointed out that one of the results of medical inspection had been to show that a large number of children on first admission to public elementary schools were already suffering from ailments and defects attributable to a great extent to insufficient knowledge of the simple rules of health on the part of the mothers. A School for Mothers was defined as primarily an educational institution providing training and instruction for mothers in the care and management of infants and little children. Such a school would impart instruction by systematic classes, by home visiting, and by infant consultations, but any provision of medical and surgical advice and treatment should only be incidental. A School for Mothers was to be distinguished from a baby clinic or infant dispensary, which is an institution primarily concerned in giving medical and surgical advice and treatment for infants and little children, and in which any instruction of the mother was only incidental. A number of schools for mothers have for some time received grants under the regulations of the Board of Education for technical schools, but the grants were payable only in respect of organized class instruction, and the amounts paid have in consequence been small. The new regulations permit the Board to take account of the whole of the activities of schools for mothers, and in future where the work is efficient the amount may be increased and brought into closer relation with its cost. To earn the grant, which may amount to fifty per cent. of the approved expenditure, the syllabus of instruction in the systematic course must be approved by the Board, and must be of a simple character, including practical work. It is contemplated that each institution would have a superintendent, who would be present at the infant consultations conducted by a medical officer on the staff of the institution. The infant consultations, the Board laid down, should be held not less often than once a fortnight, and wherever practicable once a week or oftener. Home visiting would be carried out under the supervision of the superintendent, who might need one or more nurses to assist her, though this would depend to a large extent on the number of voluntary helpers available. In places where there are several institutions concerned in various ways with the welfare of infants and young children the Board suggested that a representative local committee should be formed to prevent overlapping, and that on this committee the local education authority and the sanitary authority should be invited to appoint its medical officer as one of its representatives. The memorandum also pointed out that the co-ordination of such institutions with the school medical service, and with the work of the sanitary authority would need careful consideration.

The plan of the Board of Education, it will be seen, was a modest proposal to extend and consolidate schemes which had done good work, and had commanded, we believe, the sympathy of the medical profession.

A little later the Local Government Board published a very much more ambitious scheme which it had in contemplation, and for the initiation of which it had obtained from Parliament at the end of the session a grant of £12,000 in the supplementary estimates passed during the rapid conduct of business in the House of Commons at the beginning of the war. The grant was for the administration of maternity and child welfare centres, but a memorandum [1] issued by the Board set out that a complete scheme would comprise a number of elements, each "organized in its direct bearing on infantile health." These elements included arrangements for the local supervision of midwives; for an antenatal clinic for expectant mothers; for home visiting; for maternity hospitals; for attendance during confinement at home; for the treatment of complications arising after parturition, whether in the mother or infant; for the provision of systematic advice and treatment of infants at a baby clinic or infant dispensary; for the continuance of these clinics and dispensaries so as to be available for children up to school age; and for the systematic home visiting of such infants and children. This explanatory memorandum shows that the scheme in view, if carried out, would overlap or replace many existing institutions and schemes, and would indeed involve something like a complete revolution in present methods.

Before such a scheme could command its sympathy and support it would have to be very carefully considered in all its bearings by the medical profession. At present it seems to be very much in the air, and the respective spheres of the Board of Education and the Local Government Board are not well defined. The Prime Minister was questioned upon the subject on July 20th, and we must confess that his answer was not as illuminating as most of his utterances. "Any funds available for grants to institutions of the nature of baby clinics and infant dispensaries, whose primary object is to provide medical and surgical advice and treatment for infants and little children, will," he said, "be administered by the Local Government Board. Grants to institutions of the nature of schools for mothers, the object of which is primarily educational, which provide training and instruction for mothers in the care and management of infants and little children, and which may include systematic classes, or home visiting, or infant consultations (the provision of specific medical and surgical advice, the treatment, if any, being only incidental), will be administered by the Board of Education. Any cases of doubt or difficulty will be investigated by a joint committee of

[1] See British Medical Journal, August 22nd, p. 382.

officers of the two Boards, which will include women medical officers."

In the stress of the last two months the matter has been rather lost sight of, but the time has come when the Ministers responsible should make a clear statement on the subject, and should publicly indicate their desire to consult the medical profession upon matters which so nearly concern it.

THE DIRECTION OF THE ARMY MEDICAL SERVICES.

It has been decided that at the present juncture it is desirable to duplicate the office of Director-General of the Army Medical Services. Sir Alfred Keogh, K.C.B., who was Director-General from 1904 to 1909, and has recently been Chief Commissioner of the British Red Cross Society in France, has been called to London, where he will be in charge of the office of Director-General at home. Sir Arthur Sloggett will become Director General of the Expeditionary Force, and will shortly leave for France. He will be accompanied by Colonel Burtchaell, R.A.M.C., as staff officer. This decision has been taken partly on the score of the enormous amount of work connected with the Expeditionary Force on the one hand, and the home force and new recruits on the other, and partly because it is felt to be essential that the officer acting as Director-General in this country should have had personal experience of the local conditions with the Expeditionary Force. This Sir Alfred Keogh has gained during the last two months, when he was Chief Commissioner of the British Red Cross Society. Sir Arthur Sloggett has been appointed Chief Commissioner in France both of the British Red Cross Society and the St. John Ambulance Association; he will thus be in a position to co-ordinate the work of the Royal Army Medical Corps with the two voluntary organizations, and in this way to increase the efficiency of the combined service by obviating any overlapping.

THE PREVENTION OF EPIDEMIC DISEASE IN THE EXPEDITIONARY FORCE.

The War Office has appointed Sir John Rose Bradford, physician to University College Hospital, Sir Wilmot Herringham, physician to St. Bartholomew's Hospital, and Sir Almroth Wright, director of the Department of Therapeutic Inoculation, St. Mary's Hospital, London, to be consulting physicians with the Expeditionary Force. Like the consulting surgeons previously appointed, they will have the rank of colonel, and draw the pay and allowances of that rank. They will leave England next week, and will be accompanied by three expert bacteriologists of junior standing. The Minister for War has also decided to appoint a special Army Sanitary Committee to advise the Army Council on all matters connected with the health of the troops at home and abroad. It will be a mixed committee, presided over probably by a general officer of the Engineers, and comprising officers of the Royal Army Medical Corps and members of the civilian public health service. This announcement will be received with great satisfaction by the medical profession, which is well acquainted with the risks from epidemic disease that must arise both with the Expeditionary Force and in this country. We can only trust that full use will be made of this committee, and that the results of its labours will be seen in the thorough organization of a medical and sanitary service which will safeguard the health of the new recruits and at the same time reinforce the efforts of the medical service of the Territorial Force. There has been no official confirmation of the reports to the effect that a considerable number of cases of cholera have occurred in the Austrian army and that several Austrian provinces, as well as part of Hungary, are infected, but the Austro-Hungarian Government has not been profuse in official statements, and the announcement that the University of Vienna has been asked to supply large quantities of anticholera vaccine is very categorical and may well be true. During July the disease was epidemic in Podolia,[1] the Russian province immediately east of Galicia, through which the railway from Odessa to Lemberg and Przemysl runs, so that there is nothing inherently improbable in the reports that the Austrian army has become infected. The health of the British force in France during the earliest stages of the war was very good, and down to ten days ago, at any rate, there had been little sickness. There had been cases of pneumonia, and also of diarrhœa and bowel complaints, some of which have been spoken of as dysentery. This comparative immunity from disease may, we hope, be in a large measure attributed to the efficacy of the antityphoid inoculations which a large majority of the men in most units underwent before leaving this country. But the history of previous campaigns seems to suggest that it may be in some measure due to the fact that troops were not during the early part of the campaign long encamped in one place, for it is known that enteric fever and dysentery do not, as a rule, become prevalent until troops have been in camp in one place for three or four weeks. During the last few weeks the conditions have materially altered, and it is very positively stated that the German forces in their entrenched positions have suffered from enteric, and that the services of bacteriological experts have been called into requisition.

TREATMENT OF TETANUS.

Mr. Sheaf, of Guildford, has done well to recall attention to the use of chloretone in the treatment of tetanus at the present time, when we hear of a good many cases occurring among the wounded both in the French and British forces. At one time chloral hydrate was a good deal used in the treatment of the rare cases of tetanus which occur in civil life. More recently chloretone has been used with success, a striking instance of which was reported in the Journal of April 24th, 1909, as occurring in the practice of Dr. Peterson, of Ann Arbor, Michigan. Dr. Peterson called in consultation Dr. W. H. Hutchings, of Detroit, who had then successfully treated five cases of tetanus with this drug. An enema of 60 grains of chloretone dissolved in hot olive oil was administered, and followed by 1,500 units of antitetanic serum. The patient improved, but a recurrence of symptoms took place next day, and both the chloretone and the serum were repeated; after this convalescence was uninterrupted. In the Journal of November 5th, 1910, Mr. Hobbs and Mr. Sheaf reported the case to which the latter refers at page 669, and in that also antitetanic serum was used, but for reasons indicated last week (page 636) it is doubtful whether the serum had much to do with the fortunate result in any of the cases. Chloretone is a trade name for trichlor-tertiary butyl alcohol—$CCl_3C(CH_3)_2OH$—also known as chlorbutanol or chlorbutol, the latter being the name by which it is described in the *British Pharmaceutical Codex*, and under which it is now in fairly general use. It is produced by the reaction of acetone and chloroform, and has been named acetone-chloroform, but this name is misleading and should not be employed. Chlorbutol is a crystalline substance with camphoraceous odour and taste, nearly insoluble in water, but soluble in alcohol and several other organic solvents; when given internally it is usually administered in cachets or capsules in doses of 5 to 20 grains; it has a local anæsthetic action on the stomach, and has been somewhat widely used for seasickness, with varying success, and to some extent as an analgesic and

[1] *Bulletin: Office International d'Hygiène Publique*, August, 1914.

hypnotic. In the treatment of tetanus it seems usually to have been administered in the manner stated by Mr. Sheaf—namely, in olive oil by rectal injection.

THE PLAGUE OF LICE IN THE CRIMEA.

The *Guy's Hospital Gazette* of October 10th contains some interesting letters written by Sir Thomas Longmore when he was a regimental surgeon in the Crimea. One of them, addressed (March 25th, 1855) to Edmund Birkett, who was a contemporary of his at Guy's, describes the plague of lice from which our men suffered in the Crimea, and is of special interest in relation to Dr. Shipley's article on that "minor discomfort" of an army in the field which was published in the Journal of September 19th, p. 497. Longmore tells his correspondent that he has sent him two packages of the "veritable Crimean Pediculi." He thought that if they survived the voyage they might be of some interest as evidence before Mr. Roebuck's Committee. These parasites had been much talked about, and an old Peninsular officer told Longmore they were of the same family as those which infested the troops in Spain and Portugal. They "seemed to thrive nearly as well on the ground for some time as on the clothes, and the officers, who had to lie down in the trenches, where also the men were in the habit of lying, got them in this way in considerable numbers every time they went on duty in the trenches. They multiplied with marvellous rapidity in the clothes and persons of men, who became anaemiated and much debilitated, and the increase of vermin and increase of debility, by mutual co-action, went on at least at geometrical ratio until death carried off the man. Putting wet flannels for a couple of days in snow destroyed the lice, but not the ova, and it was very difficult to get rid of them, as we had no means of boiling or baking the clothes. The larger lice burst from the effect of the cold when placed in snow, others became shrivelled up." In another letter Longmore complains bitterly of the ineptitude of the superior medical officers. Everything was tied fast in red tape, and hardly any medicines could be got. When the hospitals were full of "frost bite, scorbutic dysentery, and general emaciation and cachexia from overwork, want of food and clothing, and all kinds of exposure," the regimental surgeon who applied for remedies was told to "try charcoal"! An instance of the attitude of the generals of that day to any suggestion of sanitary improvement is afforded by Sir George Brown, a first-rate fighting man, but, according to Kinglake, "the most unbending opponent of innovations." On his return to duty after recovery from a wound he inspected the regiment and almost the first question he asked the commanding officer was whether he had any pipe-clay. The major replied that he had not, and that there was none to be got at Balaklava. "Then," said the General, "it must be got from England; get your belts clean, then the men will think themselves clean"! Longmore goes on: "Not a word about the *means of ablution* and *personal cleanliness*, one of our greatest difficulties. Our only water is got from very small streams issuing out of springs in the ravines. The men bring, with great labour, enough for cooking up to camp. From only one set of flannels having been issued to the men until lately, when a second set was given, from their constant labour, utter fatigue and prostration, and always lying on the muddy ground, their underclothing became infested with a species of vermin, different in some respects from the ordinary pediculus: they multiplied in immense numbers, and the more anaemiated and prostrate the man the greater the increase of the parasites. We have done all we could to arrest the evil, but without washing tubs, bathing place, drying place, with snow on the ground and no protection but a tent, it has been impossible to prevent it altogether. Men threw away their flannels, abandoning all hope of ridding them of their swarms. You would not credit if I were to describe what living tissues I have seen some of these woollens become. Very few officers were at one time, before we got our baggage from the transports, free from some of these companions; and even at this moment no means are arranged for washing even our hospital blankets. I long since suggested the conversion of two houses or sheds at Balaklava, one into an ablution, the other into a drying house, for hospital blankets, etc., but nothing was done. One of our great difficulties is still to obtain for the men the time and means of personal cleanliness. Sir George Brown proposes to effect this object by pipeclaying the belts and *appearing clean*—perhaps the reality of cleanliness may follow."

TEUTONIC CULTURE AND SCIENCE.

We have heard so much of German culture for many years past, and of the debt which the world owes to those who are regarded as its prophets, that not a few allowed themselves to be persuaded that it was all true. Especially was this the case in the province of science. At the beginning of the war a group of Cambridge "intellectuals" issued a sort of manifesto to the effect that to fight against Germany was a crime against human progress. The eyes of most of these superior persons have been opened by subsequent events to the true character of the civilizing agency in favour of which apparently they were willing to let considerations of national honour go to the winds. One by one they have withdrawn their adhesion to the unfortunate proclamation which they signed, and some of them are now among the fiercest denouncers of the "Huns." We who have never taken German culture or science at the valuation of their professors may be allowed to feel a little amusement at the suddenness of a conversion which has been brought about by a rude contact with reality. Nietzsche, the preacher of the gospel of the "Superman," from whom the powers that guide the destinies of modern Germany seem to derive their inspiration, was under no illusion as to the mentality of his fellow-countrymen and the real tendency of the doctrines of their teachers; he said that wherever Germany extends her sway, she ruins culture. In this he echoed Heine. Education seems but to make the natural Teuton more potent for mischief. It is stated in the papers that the other day a German who had lived for years near the Bibliothèque Nationale came flying over Paris and tried to drop a bomb exactly over the manuscript room of that famous library; this attempt failed only because of his indifferent aim. This kind of thing is war, not against an enemy, but against civilization. A still more characteristic example of this same spirit is related in Vallery-Radot's *Life of Pasteur*. The famous physicist, Regnault, was at Geneva when the war of 1870 broke out. He had left his laboratory apparatus in his rooms at the Sèvres porcelain manufactory, of which he was the manager. On his return everything was apparently left in the same place, not a window was broken, no locks forced; but a Prussian, evidently an expert, had been there. "Nothing seemed changed," writes J. B. Dumas, "in that abode of science, and yet everything was destroyed; the glass tubes of barometers, thermometers, etc., were broken: scales and other similar instruments had been carefully knocked out of shape with a hammer." In a corner was a heap of ashes; they were the registers, notes, manuscripts, all Regnault's work of the last ten years. "Such cruelty," exclaimed J. B. Dumas, "is unexampled in history. The Roman soldier who butchered Archimedes in the heat of the onslaught may be excused—he did not know him; but with what sacrilegious meanness could such a work of destruction as this be accomplished!" The deliberate cruelty of this calculated piece of "cultured" spite shows that the descendants of the men of 1870 are worthy of their forefathers.

THE THERAPEUTIC APPLICATION OF RADIUM.

In a lecture to post-graduate students at the School of Physic, Trinity College, Dublin, on October 2nd, Professor John Joly, Sc.D., F.R.S., said that a radio-active treatment, whether by use of radium or of the emanation of radium, owed its value mainly to the properties of one particular derivative of these elements—the substance RaC. This body gives off very penetrating alpha, beta, and gamma rays. The alpha ray was not of use in general, seeing that the atomic particles of which it was constituted did not penetrate an appreciable depth into soft tissues. The more minute material particles (electrons) of which the beta ray was composed, penetrated distances which might amount to as much as one centimetre of soft tissues. The ethereal vibrations making the gamma rays of RaC were very penetrating—the most penetrating gamma rays known. The gamma ray was identical with the light ray, but of much shorter wave length; to this it owed its more penetrating properties. Photo-electric phenomena had established that electrons were expelled or liberated from matter exposed to light vibrations. Similarly, investigation had shown that the x ray caused the liberation of a beta ray (which was a fast-moving electron) from matter. The x ray was similar in properties to the gamma ray, but of longer wave length. Finally, the gamma ray caused the expulsion of a beta ray of very high velocity. All these facts bore out a law established by photo-electric investigations—namely, that the velocity of the expelled electron increased as the wave-length of the vibration concerned in its expulsion diminished. It was evident that the physical effects of all three sorts of vibration—(1) spectral vibrations, (2) x-ray vibrations, and (3) gamma-ray vibrations—were of the same nature, only differing in intensity. The therapeutic effects of the gamma ray were with very great probability to be ascribed to ionization, which was mainly not a direct result of the gamma ray. As already stated, however, this ray gave rise to beta rays of very high velocity—in the case of the gamma rays of RaC approaching that of light. Now the beta ray was a powerful ioniser. Hence the therapeutic value of all radiations seemed to depend either on the direct application of high-speed beta rays or on the secondary creation of these by gamma, x, or light rays. The first agent was much the most vigorous source of secondary beta rays. Direct chemical effects due to ionization had been established by the break-up of H_2O, HCl, NH_3, CO_2, etc., under the rays from radio-active bodies. That the growing cell should be profoundly affected by such rays was not to be wondered at. It could, in fact, be either stimulated in its natural functions or over-stimulated to its destruction. The object of the physician was to secure, as far as possible, uniform illumination of the tissues being radiated. This result was best to be obtained by exposing them to radiation from several points of feeble radiation. Results obtained in Dublin hospitals showed very beneficial effects by the use of emanation contained in very fine capillary tubes and enclosed in fine exploring needles. They were inserted in surface tumours, many at a time, and in such positions as best to irradiate the tissues. The method was extremely economical, as the smallness of the dose—5 to 10 millicuries in each needle—rendered lead-screening unnecessary. Professor Joly concluded by discussing the advantages of using the emanation in place of the parent substance radium. At the conclusion of the lecture Dr. Walter C. Stevenson demonstrated the use of the capillary emanation tubes obtained from the Radium Institute of the Royal Dublin Society, and showed a series of photographs of patients in various stages of treatment.

NOTIFICATION IN NEW YORK.

By a recent order of the New York Board of Health the number of diseases notifiable within twenty-four hours of the time when the case was first seen is now twenty-nine. The following is the list: Anthrax, Asiatic cholera, diphtheria (croup), dysentery (epidemic), epidemic cerebro-spinal meningitis, glanders, gonorrhoeal ophthalmia, hookworm disease, leprosy, malarial fever, measles, mumps, paratyphoid, plague, acute anterior poliomyelitis (infantile paralysis), pulmonary tuberculosis, rabies, rubella (German measles), scarlet fever, septic sore throat, small-pox, tetanus, trachoma, tuberculous meningitis, typhoid fever, typhus, varicella, whooping-cough, and yellow fever.

THE TOTAL NUMBER OF INSURED PERSONS.

THE Insurance Commissioners have announced that the total number of names on the index registers throughout the country is considerably more than the total of insured persons. The conclusion drawn was that there must be many duplications on the index registers, and it is stated the Commissioners have announced that the number of persons for whom medical fees shall be paid must be reduced pro rata throughout the country. The matter came up at the recent meeting of the Sheffield Insurance Committee, when the chairman stated that the number of insured persons on the index registers of the societies in Sheffield was 172,000, whereas the number estimated by the Commissioners was only 148,000. Dr. Forbes contended that there was no evidence that in Sheffield the index registers were anything but correct, and that in fact it was possible that the total number might prove to be in excess of the higher of the two numbers. It was urged that it would be unfair to penalize a district where the lists were accurately kept because in other districts there had been incompetence. It was decided that a conference should be held between the Panel and Finance Committees with a view to submitting a case to the Commissioners. Clearly the Commissioners cannot be expected to pay medical fees for more insured persons than exist, and no doubt accuracy is difficult to attain, but we feel sure that this way of cutting the Gordian knot by doing injustice in some districts because there has been incompetence in others will cause very great dissatisfaction. It would seem that it ought to be possible to ascertain the facts in each district and to allocate the money accordingly.

WINTER COMFORTS FOR THE R.A.M.C.

WITH the approval of the War Office, Mrs. C. K. Morgan, wife of Major Morgan, Instructor in the Training School at Aldershot, is making an appeal for winter comforts to dispatch to the medical units who are succouring the wounded at the front. She will be glad to receive shirts, socks, flannel belts, mufflers, coloured handkerchiefs, tobacco, pipes, cigarettes, pipe-lighters, etc., or money for the purchase of the same. Communications may be addressed to her at Oakdene, Alexandra Road, South Farnborough. We understand that it may probably be found advisable to extend the organization and to form a committee for the purpose, but meanwhile those who are disposed to respond to this appeal may feel certain that anything sent to Mrs. Morgan will be well used. The need of the men of the corps for such comforts is quite as great as that of any other force in the army.

AT the meeting of the Royal Anthropological Institute on Tuesday next, at 8.15 p.m., Mr. D. MacRitchie will give a demonstration on the double-walled towers of Scotland. The meeting will be held at 50, Great Russell Street, W.C., instead of at the rooms of the Medical Society of London.

AT the meeting of the Council of the University College of South Wales and Monmouthshire, held at Cardiff on October 9th, it was announced that the anonymous donor whose munificent offer to erect and present to the college a school of preventive medicine and medical school buildings was accepted in May last, had promised a further £10,000 towards the building fund for the completion of the medical school.

THE WAR.

MEDICAL MATTERS IN FRANCE.

(From a Special Correspondent in Paris.)

RED CROSS WORK IN PARIS.

The British Red Cross.

The ensign of Paris at the present time is the Red Cross. Automobile cars bearing it are constantly flitting through the streets, and commonly at a pace which would horrify a London policeman. They are to be seen at every hour of the day, and seem in some quarters almost as numerous as taxi's. The latter never dominate the streets of Paris to the same extent as those of London, and at the present time they are much fewer than usual. In most streets, too, the Red Cross is again in evidence either at the head of some printed notice relating to the French Red Cross Association, or over the doorway of some house in which an ambulance has been established. But the Red Cross ensign is in effect neither Parisian nor national. It is distinctly international, for no one could be many hours in Paris without becoming aware that the French Red Cross Association has a compeer in the matter of benevolent activity. Last week (on Friday), for instance, the traffic on the main boulevards was temporarily blocked during the passage of a large convoy of British Red Cross ambulances, lorries, and automobiles on their way up country, and one meets from time to time officers and orderlies obviously in the employ either of the British Red Cross Society itself or of the St. John Ambulance Association, which is working in conjunction with it and under its control.

The Society has established its French head quarters in the Avenue de Iena, the actual building used being a large modern hotel of that name. Even a casual stroll through its rooms conveys a good idea of the vastness of the work that the Society has undertaken, and a trained observer would probably conclude that its general organization was sound. The personnel is adequate, and the whole administrative machinery is under the control of Sir Savile Crossley, who was for many years one of the honorary secretaries of an equally successful organization, King Edward's Hospital Fund for London, and of Colonel E. St. A. Wake, a retired officer of the Indian army. The work is being done in the closest co-operation with the army medical authorities, both British and French, and in its character seems to fall under three main headings—ambulance work, hospital work, and supply work.

Ambulance Work.

To the ambulance work reference has already been made. The plan upon which it is to be done in future has been arranged in all its details, and is already partly in operation. Its merits, however, still have to be tested, and for this and for other reasons details of the systematized operations in view are for the moment better omitted. Let it suffice, therefore, to say that the term "ambulance" is here used in its restricted English sense, and that if no hitches occur the work done under this heading is likely at least to equal in importance and utility the other two branches of the Society's work. It may be added, however, that the work hitherto done has lain in two main directions—the provision and working of true ambulance convoys operating under the control of an officer of the Army Medical Corps, and the provision and maintenance of small flying convoys charged with the duty of exploring all villages and townships where it is thought likely that wounded British officers and men may be found under French care.

Hospitals.

The Society has been asked by the War Office to maintain at Paris for the present an aggregate of 500 beds. This it is doing, and in addition is maintaining an officers' hospital at Rouen, and has two other hospitals outside Paris under its control. One of these is near Chantilly, at Château Laversine, the property of Baron Robert de Rothschild, now on General French's staff. Besides generously placing this beautiful chateau at the disposal of the Society, he has fully equipped it as a 65-bed hospital, expansible to 200, and provides all the funds necessary for its maintenance. The other is still further north, near Compiègne, and a comparatively short distance from the front. It is established at the Château d'Annell, the country residence of Mrs. Depew, an American lady, who personally takes a part in all its work. The 500 beds of which mention has been made are distributed among four institutions, all of which are working under the aegis of the Society, though some of them draw part of their maintenance funds from private sources. The largest is the Astoria Hospital, with 180 beds, expansible to 300, the other three ranging in capacity from 25 beds upwards. All of them are fully equipped, and do their work under the general superintendence of an officer of the Royal Army Medical Corps. Their staffs consist of a varying number of medical officers, a matron, a number of trained nurses, a number of dressers, and a number of orderlies. The cooking work is done by locally engaged labour, but each hospital unit is prepared, I understand, to do its cooking for itself if occasion requires.

At the present time none of these institutions is working nearly to its full capacity. The actual number of daily casualties at the front seems to be less than it was, and in addition the diminished stream of wounded and sick is to some extent being diverted from Paris. Consequently the needs of the situation, so far as the Society is concerned, are fully met by its present arrangements and it is well able to carry out its principle of keeping at least one complete hospital unit ready packed up and in a position to start, at an hour's notice, for any place where the army medical authorities desire to see a Red Cross hospital established. The present waiting units are the Duchess of Westminster's hospital and that which works under the name of Lady Dudley. The former of these, which is under the command of Major Douglas, V.C., who has Mr. C. Gordon Watson as his surgeon-in-chief, will probably have been dispatched to a station outside Paris before this letter reaches home.

Supplies.

In regard to the third heading under which the work of the British Red Cross in Paris has here been classified, the aim kept in view is double. The hospitals working under the control of the Society have to be maintained fully equipped in the matter of personnel, furniture, drugs, medical comforts, and general stores, and there are likewise the needs of the Army Medical Service to be considered. Hence it need scarcely be said that this part of the Society's work entails a great amount of labour and forethought. The great bulk of its supplies are kept separately stored, but it maintains an emergency supply at head quarters ready for immediate dispatch, and it is there, too, that such members of the executive personnel as are not already posted attend daily for orders. The scene, therefore, is one of constant and considerable animation, though the extent of the visible work naturally varies from time to time. It is superfluous to give a list of the goods that are kept in stock, but it may be said generally that the Society is in a position to supply on the briefest notice anything from a tin of vaseline to a bottle of chloroform or a tube of tetanus antitoxin, from a pair of list slippers to a hat, from a pair of pyjamas to an outdoor set of clothes, whether for an officer or a private, from a pair of surgical scissors to a sterilizer, from a bed-rest to a bed, from a light novel to a packet of chocolate or cigarettes, from a male orderly to a clergyman of the Church of England or a chaplain of any other denomination, from a surgical safety-pin to a completely equipped 300 bed hospital. All this is apart from the maintenance of a staff of surgeons and nurses to meet any probable emergency.

It is indubitable, therefore, that the British Red Cross Society is finding plenty of use for the money placed at its disposal by the British public. The task with which its officers in France have had to grapple would in any case have been very great, and its difficulty has been materially increased by the fact that the course the war has taken has made it necessary for the Society to change the base of its operations on at least four occasions. So far as concerns its Paris branch, which has now become its French head quarters branch, it is much indebted both to Dr. Leonard Robinson, physician to the British Embassy, and Dr. C. J. Jarvis, physician to the Hertford British Hospital. The former was authorized some time ago to establish a local branch of the Society at Paris, and is now its president, and the two, acting together, have co-operated in establishing the various

hospitals of which mention has been made, and, helped by Mr. Stanhope, the Secretary of the Society, have organized the ambulance convoys which, besides bringing back a considerable number of wounded, have taken out supplementary supplies of medical stores and comforts to the army medical establishments at the front.

Rest Camps.

Work corresponding in kind to that described under the heading "Railway Canteens," but of a more comprehensive character, has already been undertaken by the British Red Cross Society. At various times and at various stations on the railway lines leading from various bases towards the front it has established "rest camps," these being in the nature of what the French would term auxiliary ambulances. They are staffed by surgeons, dressers, nurses, and orderlies, and, last but not least, by cooks, and their purpose is to supply suitable hot meals to the occupants of ambulance and other trains containing sick or wounded that stop at the stations where these rest camps are established, to remove from them any cases which may seem too bad to continue their journeys, and to supply other patients with any deficiencies noted in the matter of warm clothing and other comforts. How much work of this order is now going on I am unable to state, but the undertaking of it when required seems to be one of the definite aims that the British Red Cross Society in Paris has in view.

Nursing Costume.

The military governor has drawn attention this week to a Government order issued a fortnight ago relative to ambulance workers. This forbade all ladies executively connected with red cross or other associations to wear nursing costumes or red crosses or anything else likely to suggest their occupation while going about the town. They must wear them only when actually within the confines of the different hospitals or of ambulance posts at the stations and elsewhere, unless given an order which necessarily takes them into further places in circumstances which render a return to plain clothes impossible for the moment. Furthermore, every woman ambulance worker must always have with her some means by which her status can be proved, the proper evidence being a kind of descriptive passport and a photograph of herself. Hitherto breaches of this order have been frequent, but the military governor intends now rigorously to enforce it. The reason is that it was found that many women were sailing under false colours, their objects including those which have led, I understand, many of the great hospitals in London to cease to issue outdoor uniforms to their nurses. Practically none of the many English nurses now working in France have brought with them anything in the way of plain clothes, and therefore must perforce, while working in Paris or waiting for orders, go about in uniforms. Consequently the order of the military governor might be expected to put them in a position of great difficulty. The governor, however, must necessarily depend for the execution of his order on the *gens d'armes* and other Paris police, and these, like their analogues in London, usually bring to their work a vast amount of common sense. No English nurse, therefore, seems likely to be embarrassed by the regulation in question.

The French Red Cross.

Often one sees references, both in the English and foreign press, to the French Red Cross Society, but the statements made with regard to it usually relate in reality to one of the three societies—La Société de Secours aux Blessés Militaires, L'Union des Femmes de France, and L'Association des Femmes Françaises, the first named being much the oldest and richest of the three. Nominally they form one common body known as La Croix Rouge Française, but there is considerable rivalry between them, and, practically speaking, their strongest bond of union seems to be the fact that they are all subject to the jurisdiction of the French War Office. The latter leaves them quite free so far as their internal management and the work they undertake are concerned. The character of their work indeed varies widely, but when it comes to actually dealing with individual soldiers the control exercised is effective. No hospital, however small, can be utilized by any of these societies for the purpose of receiving soldiers until it has been sanctioned by the French War Office; once this sanction has been given the hospital becomes in effect an integral part of the French army medical department itself, doing its work under the title of "Ambulance Auxiliaire," a term which covers all institutions for the reception of sick and wounded soldiers other than those which exist in times of peace as well as of war.

The Ambulances Auxiliaires.

The number of these auxiliary hospitals is very large; in Paris alone there must be upwards of a hundred of them. They vary greatly in size and the completeness of their equipment, in the way in which they are staffed, and, to some extent, in the general character of the treatment afforded. Some possess only nine or ten beds, and are in charge of a single medical officer and half a dozen amateur nurses, and the patients are mainly wounded soldiers arrived at a semi-convalescent stage. Some, not very much larger, depend entirely on trained assistance so far as the work of the wards is concerned, and others are quite large hospitals which, although extemporized, are complete in every respect, and deal mainly with cases requiring very active surgical interference. The character of the buildings occupied by them also presents great variety; the largest of all, that known as the Hôpital Buffon, occupies a very large school of that name in the neighbourhood of Les Invalides. The home of another is the Théâtre Français at the Palais Royal. A third enjoys the distinction of doing its work in some rooms at the Louvre itself—namely, the State and the highly decorated apartments of the Minister of Finance. Others have been established in business premises for which their owners have no present use, or in private houses, or have had placed at their disposition the whole or part of some modern hotel. There are instances, in fact, in which hospital work and ordinary hotel work are going on under the same roof. These auxiliary ambulances are to be found all over Paris, but are more numerous right in central Paris than elsewhere. They work quite independently of one another, and the fact that there is already a hospital established in one particular area does not seem to be regarded as a reason for not opening another a few hundred yards away. As to the character of the work they perform and the efficiency of the attention that the French wounded soldier receives it would be easy to draw false conclusions. There is a vast difference between French and English ideas on almost every subject, and an almost equally large difference between English and French standards of medical comfort and hospital routine and discipline. Some of the things done in French hospitals would certainly horrify an English nurse, and others would probably set a whole ward grumbling; there are sometimes, too, conditions which to a physician or surgeon trained on purely English lines might seem calculated to militate seriously against successful treatment. But how far all these differences are of any real importance so far as obtaining good results is concerned is quite another question. The only thing that is certain is that while the French—an exceptionally logical race—recognize very fully the value of trained nursing, they could not possibly meet the needs of the present situation if they excluded all but trained workers from their hospitals. It is to be remembered, too, that French women are very adaptable, and that though it is easy to detect the society lady under her uniform, she brings to her work a high degree of intelligence and readiness to learn, takes much pride in making herself efficient, and is prepared to devote herself heart and soul to her duties. I am speaking now rather of the smaller institutions than of the one or two larger places attendance whereat is apt to be regarded as a mark of social distinction. The general rule as to hours of work seems to be twelve hours on and twelve hours off, the nurses living out of doors and providing their own meals. But every ambulance has its own laws on this subject. It is not alone French ladies who are co-operating in the work of these auxiliary hospitals; practically all of them have on their staffs a greater or smaller number of men who for varying reasons have been held exempt from ordinary military service. They act as porters and clerks, and in other capacities, some devoting their whole day to their duties, others dividing their time between their ambulance and their ordinary occupation.

Railway Canteens.

An organization which is to bear the title "L'oeuvre des trains de blessés" has just come into existence at the suggestion of the authorities. The object in view is to establish at various points on the railways leading to the front a number of canteens for the benefit of the wounded. They are always to be prepared to serve out hot liquid and other suitable food to the wounded on their passage through these stations, and will, whenever possible, be warned in advance that a train containing wounded men is coming down. A canteen of this kind was established some little time ago at Aubervilliers by the Union of Women of France—one of the three bodies which form the French Red Cross Society. It was found to be of such utility that a desire was expressed that the work should be greatly extended, many more canteens being established, and some of them placed at stations as near the front as military considerations may render permissible. The initial organization of the new work is in the hands of the Syndicat of the Paris Press, 37, Rue de Chateaudun.

The Calm of Paris.

How far the medical arrangements at Paris would stand a really severe strain is a little doubtful. So far none of the hospitals have had to work up to the full extent of their normal capacity in the matter of beds, and the cases treated have been mainly of a surgical character. Up to the present the military governor of Paris has discountenanced the bringing of many wounded into the city, though he has raised no objection to the opening of hospitals; the result is that at the present time the total number of French wounded under treatment at Paris seems to be not more than about 3,000. In allowing hospitals to be opened freely the Governor has acted very wisely, for, whether the auxiliary hospitals do much work or little work, they afford occupation and usefully divert the thoughts of a very large number of persons. Why the military governor of Paris is keeping down the number of wounded is a matter as to which there is considerable difference of opinion. That he should have done so a few weeks ago when there was a prospect of Paris being invested was easy to understand; possibly he is afraid of the effect of the presence of large numbers of wounded on the city's *moral*, but, if so, I venture to believe that his fears are groundless. No one who has known Paris in peace times can fail to be struck by its profound calm. If I had to choose for a neurotic patient either Paris or London as a residence, I should certainly opt for the former. The difference between their moral atmospheres is very great. A day in London, with its crowded streets, its dangerous crossings, unlimited special editions with flaring posters, and alternating waves of depression and buoyancy, throws a much greater strain on the nerves than a week in Paris, with its occasional bombs, 75 per cent. of closed shops, no theatres, and total closure of cafés and restaurants after 9 p.m. Weekday Paris of to-day is early Sunday morning Paris of three months ago. No one seems to have any doubt as to the ultimate result, and news, whether good or bad, is received with calm. The women that one sees in the streets and elsewhere are very quietly dressed, mourning is not uncommon, and a large proportion of the whole male population carries a brassard, or a band of some kind or other, such as is worn in London by special police on the left arm. But the whole tone is one of cheerful resolution. The news of more bombs is not followed by the slightest sign of excitement, and a stranger to France might be disposed, from his experience of Paris and its surroundings, to write down the French as a phlegmatic race.

Tetanus and Gangrene.

Two diseases which modern surgery has almost abolished from civil life are to be seen in Paris at the present moment. They are tetanus and emphysematous traumatic gangrene, which is commonly going by the name of "gas gangrene." The wildest rumours have been current in regard to both of them, and until the end of the war it will be practically impossible to form any satisfactory estimate of the extent to which they have contributed to the gross mortality. At present the views expressed even by those who are really in a position to form an opinion vary very greatly; each man judges according to his personal experience in his own hospital, or from the figures relating to one or more hospitals which have come under his official or other observation.

Some seem disposed to see a direct and essential connexion between the two diseases, a slight attack of gas gangrene reducing the oxygen content of the tissues and making it possible for the tetanus bacillus to multiply in the system. One knows, of course, that the tetanus germ is quite common, and experience gained in the early days of injections of quinine in cases of malarial fever showed that quite small reductions of the local resistance of any given part of the body, such as those caused by injections of quinine sulphate, might suffice at times to allow a tetanus bacillus to develop. It is credible, therefore, that there has been in many cases a direct connexion between a patch of gangrene and a subsequent attack of tetanus. I have, however, seen some cases in which tetanus came on in men admitted to hospital within forty-eight hours of being wounded, and in whom there was no evidence whatever of any gangrenous or other septic infection.

Some observers, on the other hand, assert that the prevalence of tetanus has been purely due to the character of the country in which the greater part of the battles during the past month have been taking place. They assert that the soil in the Aisne valley has long been well known to contain many more tetanus bacilli than does most soil. They support this view by citing numbers of cases of apparently identical lesions, some of which developed tetanus and some did not, and by showing that those attacked were wounded when fighting in certain areas. Another view which is favoured by many persons may be described as the "stackyard" view; they hold that it explains the existence both of tetanus and gas gangrene. According to this view, the wounded men have been infected sometimes with tetanus, sometimes with gas gangrene, by having been laid down in farmyards on beds of straw, or by straw being placed in the wagons used for the transport of the wounded.

Antitetanic Serum.

It is not very profitable, however, to consider all these various views; much more satisfactory is it to be able to state that the military authorities both of Great Britain and of France seem very fully alive to the needs of the situation. The occurrence of tetanus, indeed, seems to have been one of those possibilities which our own medical department foresaw from the beginning. In any case, it sent out supplies of antitetanic serum at the beginning, and this serum is now being used prophylactically as well as therapeutically very freely indeed. Its use was at first restricted to cases in which tetanus had either already developed or in which for some reason or other its onset was deemed likely, but it is now being used prophylactically in a more general way. An experienced serum worker is stationed at the railhead with instructions to give a prophylactic injection to every wounded man, and in order to avoid any case being overlooked the surgeons lower down the line are directed to inquire as to whether an injection has been made, and if not to make one themselves. At the French hospitals it appears to be the rule now to give a prophylactic injection as soon as a patient arrives. Should any operation be undertaken a lumbar injection of antitetanic serum appears to be part of the ordinary routine.

The reports as to the therapeutic value of antitetanic serum are not very satisfactory, but there is reason to believe that its prophylactic use is of considerable value; at all events, the authorities of the Buffon Hospital, which is the largest of the extemporized military hospitals now at work in Paris, were able to assure me that since they had commenced the prophylactic use of antitetanic serum the proportion of cases in which tetanus developed had materially diminished. At one hospital I was told of a case in which a patient whose condition was previously exceedingly bad lost all symptoms for four whole days, but then died suddenly. The earliest date of onset of which I have hitherto heard is fifty-four hours after the time of the reception of the wound, the latest fifteen days. The patient in the first of these cases died within twelve hours.

Last week there was a rumour that the supplies of antitetanic serum were running short, but it would seem to be baseless. Apart from the supplies obtainable from England the Pasteur Institute in Paris appears to have in

use for the production of antitetanic serum some sixty horses, each of which is capable of furnishing some 1,500 doses of serum a month. It is also credited with having had a very large stock in hand at the beginning of the war, and to have been hard at work in its production ever since. The rumour, in short, may be considered to have been based on an order issued last week by the Minister of War. It directed the Pasteur Institute to refer to himself all applicants for serum. The order gave rise to a good deal of irritation, as the Minister of War, in common with all the other Ministers, has moved to Bordeaux, and Bordeaux at the present time is, for all practical purposes, twice as far away from Paris as in normal times.

"Gas Gangrene."

As for "gas gangrene," the impression left upon my mind is that the extent to which this has prevailed has been considerably exaggerated; on the other hand, there is no doubt whatever that a large proportion of wounds are septic. It would be strange if it were otherwise, seeing that shell wounds which commonly cause large breaches of surface predominate, and that many of the men have been wounded while wearing under-clothing which they have not changed for days and weeks, and a large proportion of them after standing or sitting in wet trenches for many hours. Moreover, the fact that there has often been considerable, but inevitable, delay in getting down the wounded from the front to a base hospital may have counted for something. I put things in this way because in the public mind this delay accounts for everything—that is to say, both for tetanus and for gas gangrene. It could not account for tetanus, and it could hardly account entirely either for septicity or gas gangrene. In any case, I have seen patients whose wounds have healed almost by first intention, though they have assured me that their first-aid bandages were soaked through and through with blood, and remained so for days before they were changed. On the other hand, I have been given an account of a case in which signs of septic infection were noted by a skilled observer as early as ten hours after the receipt of the wound.

Septic Wounds.

In regard to the treatment of ordinary septic wounds, free irrigation appears to be the general rule, while in the case of large breaches of surface treatment by vaporized tincture of iodine appears to be favoured by many. Hydrogen peroxide is also being employed. I have heard of no treatment for gas gangrene which seems to be markedly effective. Driving streams of oxygenated air over the wounds has been proposed, but I have not yet had an opportunity of noting its effect, if any. One or two cases have created in my mind an impression that the experience of civilian hospitals is perhaps influencing treatment somewhat unduly; in other words, I have seen attempts made to treat on conservative principles fractures so extensive in themselves, and accompanied by such serious lesions of soft parts, that only a few years ago they would have been treated by amputation without the slightest hesitation. They were quite fresh cases—that is to say, they had reached a base hospital within forty-eight hours of the receipt of the wounds.

The Paris Hospitals and Schools.

The Dental School of Paris (Rue de la Tour d'Auvergne) is to recommence lectures and classes on the first Tuesday in November. Practically, however, it has been at work for many weeks past, for at the beginning of the war arrangements were made by it for the treatment of injuries coming within the field of dental surgery. The Medical Faculty of the University of Paris still remains closed, and it seems doubtful whether it will be open for some little time to come. Despite the absence of a considerable proportion of the general population of Paris the civil hospitals seem to have plenty to do, and most of those who compose their staffs are engaged on work connected with the war. Many of them, indeed, are absent from Paris altogether on military duty. Much the same considerations apply also to junior members of the staffs of the civil hospitals and to the young fellows who in the natural course of events would be pursuing their studies in the medical schools. On the other hand, some of the faculties of the University of Paris have opened their doors for the winter session as usual, the Faculty of Science being one of them. Still, the conditions in which they are doing their work are scarcely normal; one friend of mine, for instance, who is a professor in this particular faculty, rushes off to do radiography at one of the larger Red Cross hospitals as soon as he has got through any work that his position as a professor imposes upon him.

The Academies of Medicine and of Science.

The Academy of Medicine held its opening meeting for the session 1914–15 on October 6th, and the general character of the proceedings was what might be expected at the present time. A large proportion of all those present were in uniform, and the patients in all cases brought forward were soldiers. The chief address was delivered by M. Capitan, who wore the uniform of a principal medical officer in the army, and dealt with the subject of bullet wounds of the chest.

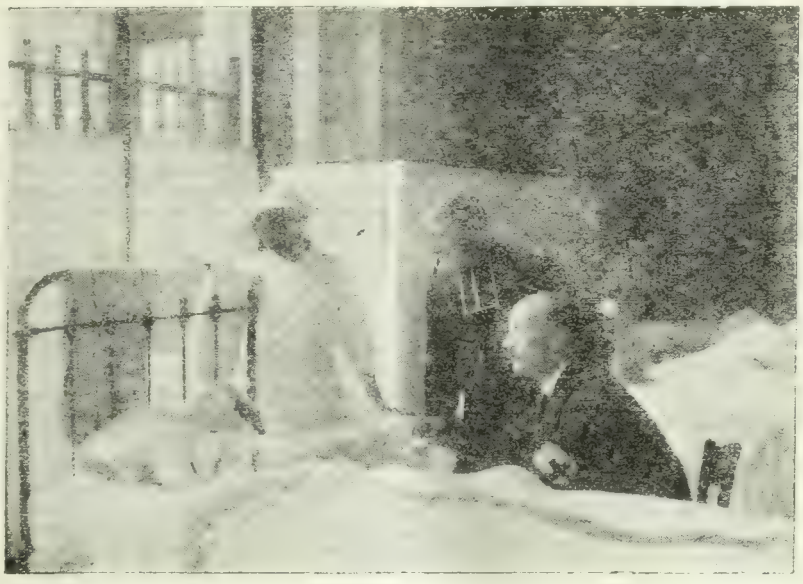
Dr. Capitan said that his experience with ten patients, all of whom had been wounded on one of two consecutive days, indicated that complete recovery from a bullet wound of the chest might be expected in from fifteen to twenty-one days, provided that the wound was caused by a bullet travelling at a sufficient rate to pass right through the chest, and it wounded neither the heart nor any great vessel. If, however, many ribs were broken, or portions of clothing were carried in, the consequences were less benign. A soldier struck by a bullet in the chest was usually able to march for some little time, his only abnormal sensation being a pricking feeling, accompanied in some cases by a slight feeling of oppression. Pure blood, or blood mixed with air, jetted from the wound, and some of the men said they coughed up a little frothy blood. After a lapse of between twelve and twenty-four hours or so nearly all of them experienced a varying degree of dyspnœa. Most of the patients had remained free from fever from beginning to end.

The Academy of Science held one of its ordinary meetings last week (October 5th), the proceedings including a paper by M. Laveran. Subsequently it held a private meeting for the purpose of considering what steps, if any, should be taken in regard to a question which has been giving rise to a good deal of difference of opinion. This is as to whether corresponding members of French scientific societies who are of German and Austrian nationality should be expelled, on the ground that they have made no protest against the atrocities perpetrated by the German army. The Academy is understood to have decided that no step should be taken by itself except as a sequence of any decision that may be reached at a meeting of all the academies composing the Institute of France. Whether any such meeting will ever be held remains to be seen; in any case none has yet been summoned.

The Entente Cordiale.

One of the most interesting of the many hospitals now at work in Paris is that established at the Hôtel Majestic, near the Arc de Triomphe. Apart from the fact that it owes its existence entirely to the generosity of a member of the English medical profession, none other perhaps so fully represents the incorporated spirit of the Entente Cordiale. English in point of origin, it is for administrative purposes French; generally known as The Majestic, its proper title is Hôpital Auxiliaire, No. 160 (Union des Femmes de France). Nominally staffed purely by English people, its personnel is, in effect, mixed in the matter of nationality, and equally mixed in the same respect are the occupants of its eighty beds. By way of evidence of this I send a couple of snapshots of a bedside scene. The figure in nursing uniform at the head of the bed is that of a French lady, the figure at the foot that of an English trained nurse; the figures on each side of the bed are in one picture English, in the other French; one patient is an Algerian Turco, the other a Highland piper. The building occupied is the ground floor of one of the newest and vastest of Parisian caravansaries; this, thanks to the width of the corridors, the excellent sanitary arrangements of the cloak rooms, and the size of the various reception rooms, lends itself very well to hospital work. Between two of the largest rooms there is a balcony broader than that of

any sanatorium I have ever seen, and the highly decorated walls and ceilings of the principal wards present a curious contrast to the hospital beds placed against them. The cloak room used for a theatre lends itself so well to its present purpose that one could almost imagine that it had been built to meet it. The same might be said of the radiography annexe and photographic dark room. Curiously enough, one of the first patients admitted was a man who had helped to gild one of the ceilings. In a semi-torpid condition when he arrived, he was much puzzled on coming to himself to account for finding himself in a room which had recently been so familiar to him in quite another connexion. This hospital is being provisioned by the branch of the French Red Cross Society under whose aegis it works, but its lavish equipment was provided by Dr. Kirby, who still furnishes the funds required to meet the outlay entailed by its maintenance. The undertaking was organized on his behalf by Dr. Haden Guest; the latter is still the official representative of the hospital so far as the French authorities are concerned, but at the time of my visit last week he had gone south to see to the establishment of a second unit, which Dr. Kirby wishes to see constituted on the same basis at Limoges.



The professional staff of the hospital consists of three English surgeons, one of whom is an expert radiographer; of twenty-five fully-trained English nurses, a house-surgeon, and four dressers drawn from London hospitals. Besides these, there are eight or nine persons who, although amateurs, play an important part in the hospital's work; there are, for instance, four men—one an old English resident in Paris, another a Frenchman usually an inhabitant of London, and all of good social position, who act as *brancardiers*, or stretcher-bearers; they move patients about the hospital when required, go out with the ambulance to meet the hospital trains, and do a great many odd jobs in the way of cleaning up and sweeping. There are also several ladies, some French, some English, whose services are equally valuable. They act as interpreters for the nurses and staff when required, write letters for patients, and assist in various other small but highly useful ways. One of them, for instance, knows shorthand well, and, attending at all operations, takes down a dictated note as to the work done. Another of these volunteers—a lady to be seen in one of the pictures—plays a still more important part in the work of the hospital. Practically every night the ambulance wagon attached to the hospital goes out to Aubervilliers, where all hospital trains bound southwards stop for an hour or two, and returns in the morning sometimes empty, sometimes full. She always goes out with it, and it is largely owing to her tact and energy that the staff of the hospital is gaining so much experience of military surgery. At any rate, I fancy that they are getting placed in their charge a larger proportion of cases requiring immediate operative interference than are most of the British surgeons now at work in Paris. On two evenings that I visited the hospital I was present during the performance of six or seven operations, and can testify to the high standard of the work done. The staff was also lucky in being sent out from Paris soon after the battle of Meaux to a station where several trains of wounded had accumulated. It was there that they met the French lady who has been mentioned; she had been helping some local doctors for several days and eventually attached herself to the Majestic party.

I have dwelt upon the work of this hospital and of that done by the volunteers attached to it at some length, for it illustrates more or less aptly much of the work that is being done by all Paris hospitals, including those of the British Red Cross. It also illustrates what I have elsewhere said as to the adaptability of French women in the amount of zeal they bring to their voluntary work. The two specifically mentioned, for instance, though both in their early twenties, and certainly entire strangers to hospital work of any kind until a month or two ago, are as professional in their manner and ways when on duty as if they had been in hospitals for years.



It may be as well also to supplement what has been said in regard to Aubervilliers and Limoges. The French system is to send all military patients for treatment, if possible, in the territorial areas of their regiments; this is why the French wounded and sick are to be found distributed all over France, from north to south, from east to west, and one reason why the Paris hospitals have some difficulty in obtaining a sufficient number of patients to keep them reasonably busy, and why a hospital so far away from the front as Limoges is likely to be useful.

THE BRITISH RED CROSS SOCIETY.

Motor Ambulances.

The work of the Society has proceeded during the week without unusual incident. An encouraging feature has been the large number of motor ambulances subscribed for or promised, and the squares near the head quarters in Pall Mall are lined with ambulances or motor vehicles which have been converted for that purpose. The Sydney branch of the Society has sent a donation of £5,000, of which £1,000 is to be allotted for ambulances. The number promised now exceeds 200. There is still need for a large hospital train.

Hospitals in Paris.

The personnel of a 50-bed hospital in Paris provided by the Scottish branch of the Society which left Scotland recently has now reached its destination. The hospital is located in the upper floor of the Red Cross Hospital at the Hotel Astoria. In view of the fact that many British wounded have been treated there, the British Red Cross Society has made a grant of £1,000 towards the American Hospital at Neuilly. A party of six surgeons and ten nurses was ready this week to go to Ostend, but owing to the change in the military situation they are awaiting fresh instructions.

Hospitals for the Indian Troops.

Orleans is the hospital base of the Indian contingent, and in connexion with it a hospital of 500 beds is being established at Alexandria in order that the recovery of the wounded may be facilitated by a suitable climate. A smaller hospital has been established at Marseilles, to serve mainly as a rest station.

The Society and French Wounded.

Urgent appeals have been received from many of the coast towns of France begging for assistance for wounded French soldiers. It has not been possible to give more than temporary help, because if the British Society were to satisfy all the French appeals for stores, for example, its own stock would be utterly depleted. The Society has been compelled, however regretfully, to adhere to the principle of attending to British demands first. An enormous extension of the work would be necessary if the requirements of the French wounded were to be met by the British Red Cross Society.

A Gift from America.

A handsome gift has been received from America of £800 worth of chloroform. With every surgeon is being sent out an ample supply of antitetanic serum.

Help for Servia.

An offer by the British Red Cross Society and the St. John Ambulance Association to send medical stores to Servia has been gratefully accepted. As land transport would be difficult at the present time, the Society is in need of a yacht to take out the consignment.

THE HOME HOSPITALS AND THE WAR.

The 3rd and 4th Scottish Hospitals at Glasgow.

The 3rd and 4th Scottish Hospitals are established in the Glasgow Parish Council's large new hospital at Stobhill, which is situated on high ground in the northern part of the city. Stobhill Hospital is practically in the country, and extensive views of country districts are obtained from the wards. It is particularly well suited for the purpose of a military hospital; its wards are ample and spacious, and there is a large space of ground around it, while a very important additional convenience is found in a railway siding with a temporary platform, so that hospital trains can be run directly into the hospital grounds and patients transported with a minimum of trouble and suffering to themselves.

The 3rd Scottish Hospital.

Our representative was favoured with an interview by Lieutenant-Colonel Archibald G. Hay, M.D., the officer commanding the Third Scottish Hospital. Associated with him are Major Brownlow Riddell, M.D., who is acting as Registrar, and Major and Quartermaster Lee of the regular forces. The following is the medical and surgical staff which was mobilized immediately on declaration of war: Lieutenant-Colonel Professor Robert Muir, M.D., Lieutenant Colonel T. K. Dalziel, M.D., Majors Henry Rutherfurd, M.B., James H. Nicoll, M.B., Professor W. K. Hunter, M.D., John M. Cowan, M.D.; Captains R. B. Ness, M.B., J. McC. Johnstone, M.D., James Carslaw, M.D., Alfred A. Young, M.B., John Morton, M.B., W. W. Christie, M.D., Alexander McLennan, M.B., A. H. Edwards, F.R.C.S.Edin., Logan Taylor, M.B., E. G. Fortune, M.B., John Gracie, M.B.

The hospital accommodates 500 privates and 20 officers. The numbers at present in residence are 314, of whom 168 belong to the Territorial Forces, and 146 to the Expeditionary Force. Four trains have been received, the latest to arrive being on October 13th. To this date 400 members of the Expeditionary Force had been in residence, of whom 145 have been discharged, some on sick furlough and others to various convalescent homes throughout the country. A notable feature of the admissions has been that the first lot of wounded had the cleanest wounds—the degree of sepsis has been increasing with every train. There has been, so far, only one death—a man suffering from septic compound fracture. There is at present one case of tetanus in the hospital. The cases amongst the Territorial soldiers were appendicitis, varicose veins, varicocele and hernia, and amongst the medical cases phthisis, rheumatism, bronchitis, bronchial asthma; the nature of some of these indicated that the examination by the recruiting medical officer had been conducted with some laxity. Amongst the Territorials there have been two cases of amputation of the knee, required on account of gunshot wounds; each of those cases illustrates the truth pointed out by Mr. F. C. Selous in a recent letter to the *Times*. The rifle in each case was fired at short range, in one case the muzzle was held against the man's leg, and in the other the shooting took place within the barrack room; in each case the limb was completely shattered, the calf muscles in one case being absolutely burst asunder. On examination of one of the bullets it was found that the point was intact, but that the coating of the after-part of the bullet had spread out like an umbrella.

The 4th Scottish Hospital.

Lieutenant-Colonel Napier, M.D., is in command of the 4th Scottish Hospital in which Captain Hugh Walker, M.B., is registrar. The following officers have been mobilized: Lieutenant-Colonel Renton, Lieutenant-Colonel Middleton, Majors J. H. Pringle, F.R.C.S., R. H. Parry, F.R.C.S.E., Professor T. K. Monro, M.D., J. Grant Andrew, M.D.; Captains A. N. McGregor, M.B., J. Brown Kelly, M.B., Farquhar Macrae, M.B., J. A. C. Macewen, M.B., David Fyfe, M.B., J. D. Holmes, M.B., Robert Carslaw, M.B., James McLean, M.B., Goodwin Tomkinson, M.D., Douglas Russell, M.B., David Lamb, M.B. Dr. Otto McGregor, Superintendent of the Victoria Infirmary, had been appointed Registrar, but an unfortunate accident has compelled him to go on sick furlough for a considerable time. The total number of patients in the 4th Hospital is 347, of whom 187 belong to the Expeditionary Force and 160 to the Territorials. There has been a fatal case of tetanus in this hospital.

Glasgow Royal Infirmary and the Wounded.

Immediately on the outbreak of war the managers placed a certain number of beds at the disposal of the War Office. The offer was made possible by the fact that, having still intact six wards of the old infirmary—the new building opened by His Majesty on July 7th being now fully occupied—there was no likelihood of the needs of the civilian population being neglected. The medical and surgical staff had also willingly agreed to undertake the treatment of cases sent in, while the nursing staff was fully equipped in spite of the departure of many nurses on military service. On October 9th a hospital trainload of 100 men of the Expeditionary Force was received. The train arrived at Queen Street Station from Southampton in the early hours of the morning, and a fleet of motor ambulances was in readiness to transport the men to the infirmary. The arrangements for admission made by Dr. J. Maxtone Thom, superintendent, and Miss Melrose, matron, worked with admirable smoothness and celerity, so that in seventy-five minutes every case was comfortably established in bed. The number of

serious cases is not large in spite of the fact that most of the men were wounded a month ago at Soissons and on the Aisne. The injuries are almost entirely of the limbs. There are 28 medical cases, of whom at least 2 suffer from dysentery. There are 2 cases of tetanus.

2nd Eastern General Hospital, Brighton.

Two further convoys of wounded men from the front, numbering together about 200, have been received into the 2nd General Eastern Hospital, Brighton. Most of them received their wounds at the battle of the Marne, some at the battle of the Aisne. They were landed at Southampton and travelled by ambulance train to Brighton; having been in many instances a week altogether on their journey from the front they were thoroughly tired out on arrival. The wounds were distinctly more severe in nature than in those previously admitted. Shrapnel wounds were most numerous and the cause of nearly all the more serious injuries.

A short account of some of the graver cases will be interesting.

Shrapnel Bullet embedded in the Head of the Tibia.

This patient was struck by a shrapnel bullet in front of the knee. Examination by *x* rays showed the piece of lead embedded in the head of the tibia, close to the posterior surface of the bone, and just over the popliteal artery. There was a sinus in front of the upper part of the tibia. The upper end of the bone was exposed, and a sinus found in it leading to an abscess cavity in the head of the bone. The sinus was enlarged by chiselling, the bullet extracted, and the abscess cavity drained. The patient is making good progress towards recovery. If the bullet had struck him ½ in. higher up, he would have had a suppurating knee-joint, and would probably have lost his leg.

Shrapnel Wound of Buttock.

This patient had a large portion of the buttock blown away, and was admitted with a big sloughing wound. Under treatment with hydrogen peroxide and iodoform it is rapidly clearing and healing up. Although only the soft parts were touched in this instance, it is a good example of the disability caused by an extensive superficial shrapnel wound. The patient will be disabled for at least two or three months.

Bullet Wound of the Pelvis.

A shrapnel bullet struck this man in the lower part of the abdomen, passed through the pelvis, just missing the bladder, and finally lodged high up in the femur. Some considerable difficulty was experienced in removing the lead, but it was finally extracted, and the patient is doing well.

Bullet Wound of the Liver.

This man was shot through the upper part of the abdomen, the bullet passing through his liver. On admission he was passing blood by the rectum, and there was a fair-sized swelling in the abdomen. This was incised, found to be full of pus, and drained. The man did well, and the bleeding by the rectum ceased. After about a month he was suddenly attacked with signs of commencing intestinal obstruction—persistent vomiting and constipation. The abdomen was opened, and it was found that the intestines were matted in many places by recent adhesions, causing acute intestinal obstruction by constriction and kinking. The adhesions were broken down as far as possible, but the obstruction could not be completely relieved in this way. The distended small intestine was anastomosed to a piece of large intestine and the wound sewn up. Unfortunately death ensued in forty-eight hours.

Bullet Wound of Thigh and Pelvis, causing Concussion of the Spine.

This man's history is most interesting. He had marched and fought for two days practically without food, when he was struck in the upper part of the left thigh, the bullet passing upwards, traversing the abdomen, and lodging under the skin of the right ribs. He lay on the ground under shell fire for forty-eight hours, his legs completely paralysed, and with no sensation, unable to pass water. All the time he was without anything to eat or drink, and rain fell heavily. At the end of two days our men drove the Germans back three miles, and the patient was picked up by an ambulance. A catheter was passed at once. He was for seven days in the train and boat, during which time the bullet was extracted. He is now improving; he has regained almost all the power in his legs, and sensation is commencing to return, but, so far, the bladder and rectum are completely paralysed. There could not have been any actual mechanical lesion of the spine, as many of the chief symptoms have disappeared rapidly. The case was one of concussion of the cord—a quite well-known effect of a bullet passing with velocity in the immediate neighbourhood of nerve tissue. The prognosis is good, for there is every probability that the bladder and rectal signs will soon clear up.

Bullet Wounds of the Skull.

The first patient was struck by a bullet on the vertex of the skull; on admission there was a wound of this part opening up the brain case. He was trephined, and several pieces of loose bone were removed from deep in the brain, in which there was an abscess. No trace of a bullet was found, nor did an *x*-ray examination reveal any. Probably the bullet struck at such an angle that it drove the pieces of bone into the brain without itself entering, though there remains the possibility that it may be embedded deeply in the base of the skull. The man is doing well.

The second patient was struck by a bullet on the left side of the vertex of the skull. He was left lying in the trenches, half full of water, for forty hours, and when picked up he was found to be suffering from paralysis of the right leg. On admission, examination with the *x* rays showed a punctured wound of the skull, with small pieces of loose bone just beneath. The bullet could not be located, though it is undoubtedly in the skull. The man is very fit, and the paralysis of the leg has quite cleared up. The lesion here was clearly an injury, slight in nature, of the cortical leg centre on the left side.

There are a good many cases of wounds of large joints, some of them very serious indeed. So far no amputations have been performed, though there is little doubt that eventually some of the limbs will have to be removed. But every possible effort is being made to save them.

Bullet Wound of Knee.

In this man the bullet was found wedged between the patella and the lower end of the femur, and removed. There is very marked synovitis of the knee-joint, but so far no pus, so the prospect of saving the leg is good.

In another case of injured knee-joint the lower end of the femur and the upper end of the tibia are smashed, and the joint is full of blood and totally disintegrated. Even here an attempt is being made to save the limb, but probably amputation will have to be resorted to.

Shrapnel Wound of the Humerus causing Compound Fracture of the Joint: Secondary Haemorrhage: Ligature of the Subclavian Artery.

This man received a bullet wound of the upper part of the arm which fractured the humerus. Soon after admission, and about ten days after he had been shot, there suddenly appeared a large subcutaneous swelling over the pectoral muscles, and the man became very blanched. It was obvious that there was some excessive bleeding going on under the skin. The swelling was incised, the blood clot turned out, and attempts made to find the bleeding vessel. This could not be done, and the subclavian artery was therefore ligatured. This stopped the main haemorrhage, but there was still a good deal of blood being lost; this was controlled by plugging with gauze. All went well for about two weeks, when on the separation of some sloughs very free bleeding again came on. Pressure stopped this, but the same thing occurred again a week or so later, and the man is in a precarious condition, with the chance of having his arm amputated.

There were also a good many compound fractures of bones not affecting joints, such as one of the femur, in which the bone was extensively comminuted; as many as thirty pieces of bone were removed; the wound was full of pus. In all cases, including this, attempts are being made to save the limb.

Up to the present, among over 500 cases admitted to the hospital, there have only been four deaths, one each from bullet wound of the brain, bullet wound of the liver, enteric, and meningitis following otitis—a very satisfactory record.

1st London Territorial Hospital.

Colonel Sir Wilmot Herringham, M.D., is temporarily in charge of the 1st London Territorial Hospital owing to the indisposition of the commanding officer, Lieutenant-Colonel W. A. Atkinson, M.D. The buildings which have been adapted for their present purpose consist of St. Gabriel's Training College, situate in a quiet, residential part of Camberwell, and a large London County Council school adjoining. Both premises are of modern construction and overlook a public open space called Myatt's Fields. St. Gabriel's College, which forms the principal block, is four or five stories high and has a considerable frontage, though comparatively little depth. The proportion of window space is therefore high and the class-rooms are exceptionally airy and well lighted; in fact, Sir Wilmot Herringham expressed the opinion that in this respect the buildings were superior to those of most hospitals. There are twelve wards in the college block, providing 206 beds, also quarters for 20 sick officers. The council school affords accommodation for 318 more patients. After the fittings had been removed the class-rooms required very little adaptation to render them suitable for hospital wards, but it was necessary to construct extensive sanitary annexes of every kind and to instal two lifts which involved a considerable amount of constructional work. An art studio in the roof was

easily adapted as an excellent operating theatre, but to serve it one of the lifts had to be extended beyond the roof of the building. The college building also contains the administrative offices. In the playground of the school wooden buildings have been constructed to provide quarters for the staff attached to the hospital, sleeping, dining, and washing accommodation, sleeping quarters for the night orderlies, and a large cook-house to serve that portion of the hospital located in the Council school. Existing sheds have been adapted as a storehouse and a mortuary and *post-mortem* room. A disinfector, sterilizer, and incinerator for the destruction of refuse have also been installed in the playground. The remaining principal constructional work is the erection of a covered way between the two hospital buildings.

The administrative staff consists of Lieutenant-Colonel W. A. Atkinson, commanding officer, Captain R. J. W. Oswald, registrar, and Hon. Major H. E. L. Purcell, quartermaster. The whole of the medical and surgical staff is drawn from St. Bartholomew's Hospital, and the nursing staff has been trained there. A section of the hospital is also established at St. Bartholomew's, affording accommodation, when necessity arises, for 198 additional patients. At present these beds have not been used.

The first convoy of wounded was received on September 29th and numbered 67. Another convoy of 117 was received on October 3rd. Amongst the first contingent were men suffering from very bad shell wounds, but the second convoy had been treated for some time in a hospital in France and were well on the way to recovery. Amongst them also were some very slight cases. There are between twenty and thirty medical cases, including one of diarrhoea and several of pneumonia and rheumatism. There are no cases of enteric or of tetanus. A few members of the Territorial Force are under treatment: one of them has mumps. One or two of the personnel of the hospital are ill.

MEDICAL SUPERVISION OF CAMPS AND BILLETS.

IN the JOURNAL of September 12th a note was published from a correspondent who had been civil surgeon during the South African war, in which, after regretting that he had received no special instruction beforehand, he made the observation that he had been for several months in medical charge of a regiment before he learnt that one of his duties was to inspect the cooking utensils and see that they were kept clean.

A medical officer of a Territorial regiment now mobilized and in billets, whose attention has been attracted by this note, has sent us the following interesting observations bearing on the subject:

There are a hundred and one ways in which a regimental officer can see that the men of a regiment are comfortable, and it is only by experience that a man can learn these things. A medical man has to be up and down the billets constantly keeping his eyes open. For example, when making my rounds with the sanitary sergeant I saw a butcher coming out of the stable with a brush; I made a mental note and visited the butcher's store shortly afterwards, to find him brushing it out. I asked where he got the brush, and was told that, as he had lost his own, he was using that used to brush out the stable. Then we wonder why men get diarrhoea! We had a good deal of diarrhoea at first, and I found that nearly every man who came sick from that cause had had fried chips and potatoes at some of the Italian shops. I communicated with the medical officer of health for the county, and the police were instructed to tell these people I would call and inspect their premises. I had no powers, but called and asked if they objected to my having a look round. I said we did not wish to interfere with their trade, but I had the commanding officer's authority to say that if they did not consent their shops would be marked "Out of bounds." I then made a minute inspection of their shops, and recommended that all towels used to dry glasses in which ices were served should be boiled twice a week at least; that the cages in which the fish was fried should be boiled regularly; and that fish not used the one night was not to be kept over and used next day; that unless they could detach the knives on the potato cutters and boil them they must use ordinary knives to pare and cut the potatoes. I think the Italians have made every effort to carry out my suggestions. Probably many regimental medical officers do not recognize that this is part of their duty. In our case we have had practically no diarrhoea since we started this inspection. A district order has recently been issued recommending such inspection. So far in my experience no objection has been made.

It might be a help if in the various Division areas an experienced officer was appointed as a medical inspector under the Assistant Director of Medical Services, to go round and assist the regimental officers to follow out a uniform system of dealing with the sick and regimental sanitary duties.

In spite of the fact that in many instances medical officers of the Territorial Force found themselves suddenly placed on mobilization in positions which called upon them to do surgical or sanitary work quite outside any recent experience, our correspondent thinks that a very efficient medical service for the Territorials is being evolved. So far as the sick and injured are concerned, they are being very well looked after, and the other duties are being learnt. When the war is over, he says, most medical officers will have suggestions to make, and, by taking stock, a Territorial medical service which will be much better fitted to meet any future emergency will be evolved. Our correspondent thinks it a defect in the present organization that the medical officers in charge of field ambulances have in most cases not previously acted as regimental medical officers; such officers have had no personal experience of the routine life in a regiment, and consequently there has sometimes been a certain amount of working at cross purposes, but this difficulty also is being adjusted as experience is being gained.

NOTES.

THE OVERSEAS DOMINIONS.

Canadian Red Cross Society.

COLONEL JEFFREY HALE BURLAND, who has been appointed Commissioner in charge of the Canadian Red Cross both in England and at the front, left Montreal on September 28th. He will take complete charge of the work during the war. Colonel Burland has been closely connected with the work of the Canadian Red Cross Society for years, and in 1912 organized the Quebec Province branch of the society. Mrs. Burland accompanied her husband. She will remain in England and will direct the work there while Colonel Burland is at the front. In appreciation of the interest taken by Colonel Burland in the work of the Red Cross Society, His Majesty the King recently made him a Knight of Grace of the Order of St. John of Jerusalem.

The Canadian Contingent and its Hospitals.

By the time these lines are published the first contingent of 30,000 Canadian troops, which left Valcartier, Canada, early this month, as already noted in the JOURNAL, will probably have landed in this country.

In addition to field hospitals it is intended to establish base hospitals, one on the French coast and one at Folkestone, to serve Canadian sick and wounded. The hospital at Folkestone is already in being, but at the request of the War Office it is nearly filled at present with serious cases from the front, principally Belgian soldiers, whose condition was so grave that further travelling was most undesirable. A telephone message received in London on the morning of October 14th from Mr. Donald Armour, F.R.C.S., who is at Folkestone, stated that the surgeons had been operating all through the night, and that the loss of several cases was feared. The Canadian Contingent Aid Association has taken offices at the Westminster Palace Hotel, Victoria Street, London, S.W.

When the war broke out, the women of Canada offered the French Government a fully-equipped hospital with a complete personnel of doctors and nurses drawn from the French-speaking towns of Canada. The hospital was to be placed in any part of France that the Government desired, and the cost of maintenance for one year was guaranteed. The offer has now been accepted by the French Government.

IRELAND.

Untrained Nurses for the Front.

The request of several of the holders of the certificates of the St. John Ambulance Association and of the Red

Cross to be allowed to obtain practical experience in the Royal Victoria Hospital, Belfast, has led to a very full and careful consideration of the whole question by the board of management of that institution. The Principal of the Technical Institute of Belfast has also made a similar application on behalf of classes on first aid and nursing which are being held in the institute.

Great sympathy with the movement is felt by every one, but it was pointed out that the Royal Victoria Hospital is one of the teaching hospitals in Belfast, and has upward of 150 students in the winter session; in addition there are about 50 probationers. To allow any more raw material in for training would exceed the powers of the responsible heads and tend to lower the standard of attention to the patient. Besides, to allow a number of young women into the hospital in a more or less irresponsible position would put a strain upon its discipline, and these women would, when they had obtained their month's or three months' or six months' certificates, in many cases arrogate to themselves the title of sick nurse, and by the public would be looked upon as sick nurses, and so the high standard demanded now by the three years' training would be lowered. Would such a short training really equip a woman for active and responsible duty in a hospital where terrific strain is suddenly thrown upon the officers of all classes, or in the field, where the personal initiative and responsibility is so great?

But the whole discussion seems to be futile in the light of the declaration of the War Office that they will not send any but fully-trained nurses to the front, and that they have a reserve of some 1,500 of such on their list. The British Red Cross also states that the reserve of fully-trained nurses is large. The board of management of the Royal Victoria Hospital, after a most sympathetic discussion of the matter, announced that on account of the difficulties surrounding the question, it could not accede to the request, but agreed that, in case the War Office thought that a serious emergency had arisen demanding the engagement of such a type of trained nurse, it would, along with other authorities, accede to the request.

Dublin Hospitals and the War.

During last week six nurses were called up by the War Office from Steevens's Hospital, Dublin, and four from the Royal City of Dublin Hospital; in both cases this is the second detachment that has been sent, and in the case of the latter hospital there is a further number waiting for orders to go. A second class of temporary probationers has been started this month at the Royal City of Dublin Hospital; most of the other Dublin hospitals are also holding these classes, and the numbers wishing to join are so great that in one, at any rate, the waiting list contains close on 200 names. Most of the classes of lectures in first aid have now finished and the examinations have been held; classes for instruction in home nursing are being attended by large numbers. Already two convalescent homes, each containing about thirty beds, have been established within a few miles of Dublin to accommodate the wounded soldiers when they are well enough to be discharged from the hospitals, but so far none have been sent to any of the Dublin general hospitals.

The Condition of the Wounded from France.

A surgeon on active duty at one of the London base hospitals, Territorial Force, has given us some details of the wounded from the front who have come under his care. The general impression which he has formed is that the condition of the wounded when they arrived was extraordinarily good, bearing in mind the difficulties of transport. The total number of men from the front that this surgeon has had under his care is between 100 and 130, and of these there were not more than ten admitted with discharging wounds. The cases have been mostly caused by shrapnel shell; the bullet wounds were few. The latter have done very well, and in one case in which the patella was smashed by a bullet, and another in which the bullet had passed through the knee-joint and lodged in the internal condyle of the femur, there is every hope of saving the joint. The vast majority of the cases came with wounds well scabbed over, excellently dressed and apparently free from infection. In one case, however—that of a very severe shell wound, tetanus had already supervened.

So far as could be gathered the men's wounds had been dressed at proper intervals during the long journey from the front, and they were well and regularly supplied with food. The general condition of those who were sent from the battles of the Marne and Aisne was much superior to those who came from Mons. This is doubtless to be explained by the fact that the former had been fighting in an advance, while the latter had been retreating.

French Wounded at Lyons.

Dr. Alexis Carrel, who in 1912 was awarded the Nobel Prize for his researches on the transplantation of organs, and who is now serving as a medical officer with the French army, says in a letter written to a friend from Lyons: "I am in my own city. Mobilized, naturally. I am in the Hôtel-Dieu in the Department of Surgery. I have more than a thousand wounded to look after. My patients are the first who came under fire. They are those who in Haute Alsace completed with the bayonet the work of the mitrailleuse. Fortunately the wounds are not very serious. In all, the wounded in Lyons are about 12,000, distributed among forty-two hospitals; in the district there are 25,000 more. Having regard to the tremendous number of combatants, the number of wounded up to the present is not, so far as our army is concerned, very heavy, and the mortality is very low. In my hospital of 2,000 men hardly 20 have died of their wounds. Besides, our wounded go back in great numbers to the front, and thus our army goes on acquiring as time goes on soldiers who know what taking cover under fire means."

Midwifery in the Fire Zone.

A medical officer of the Special Reserve, R.A.M.C., sends us the following graphic little story in an envelope endorsed "No military information":

Imagine a very small village situated in the shadow of a wooded ridge of hill, and above the village limestone caves, and above the caves reserve trenches, then trenches and wire entanglements, then the dead whom neither side could remove, and then the Germans, the latter, of course, crowning their slope of the hill as we do ours.

Within two hundred yards of our most advanced trenches, and continually under shell fire, what remains of the civil life of the village goes on day by day. In the caves are our dressing stations and our wounded. The officers live in a farmhouse near the caves—or did until three days ago, when shell fire sent us back to the caves to sleep. And in the village some houses are wrecked—a few—and most are stripped of furniture and valuables. These the inhabitants have taken down to large underground refuges—half cellar and half cave.

Standing by the caves one day—a quiet day, with little firing since one big bombardment at about 7 a.m.—a message was brought me by a sergeant that "a lady wanted a doctor to see some one who had been hurt in the village." Putting on a haversack which contained most things necessary for the ordinary casualties of war, I went with the guides—"two ladies." They led me to a cellar with one door and no other light. On the left of the door was a space reaching the depth of the cave, and cut off by wire netting. In this were chickens. On the extreme right was inky darkness. Nearer to me on the right was a woman in bed. Beyond her another mattress on the floor, at her feet two children asleep. In front of me as I entered was a pile of household goods, and, as in our own country, there were not wanting neighbours.

My servant had followed me, although not at my suggestion, but on perceiving an obviously newly-born babe I sent him away. The babe had been born the night before, was very neatly and cleanly wrapped up, and should be a credit to its country.

The trouble was that the placenta had not appeared. As the uterus was well contracted and not unduly large, it required little erudition to locate the placenta in the vagina. Lysol (made into a thick but soluble form, and put up in flexible screw-top tubes) was available and water. Thus the placenta was soon removed.

The people then brought soap and water and placed them before me, and, after ablutions, I withdrew, while all the inhabitants shouted "Merci, Monsieur," and similar phrases.

I should have mentioned that they showed me money, and seemed desirous of paying on the spot—a practice not without merit but out of place in the circumstances. I was living in the house of one of the attendant neighbours.

An hour or two later—an hour of terror for the chickens—my servant was given what appeared to be a fine chicken. Alas! it proved later to be uncommonly tough. Even so I was amply rewarded by the mere sight of roast chicken. (Is it roast, or is the process as applied to fowls called by some other name? I forget.) The few inhabitants left in this village live largely on our bully beef, eggs when the chickens are obliging, and field produce. There is no bread or milk.

Next day I visited my patient and gathered that medicine was required. I assumed that castor oil was what they wanted, and gave an eggcupful to be taken in two parts, the second only if required. Also the mother not only had no milk then, but from the condition of her breasts was not preparing any. I cannot say why this should have been. She was a woman of about 30, and seemed healthy. Anyway, I gave her from His Majesty's stores two tins of condensed milk. This being made by Nestlé's had instructions on the cover. I hope these made it plain how much the circumstances required, but from a cursory inspection I fear that the gift may have led to a violation of the principles of infant feeding as laid down by eminent authorities.

We were relieved next day, and I did not see my patient again, but possibly the whole incident may interest you as a picture of things as they are in one small spot of the great battle line.

THE MEDICAL SERVICE OF THE GERMAN NAVY.

An Italian newspaper quoted by *Il Policlinico* says that the experiences of recent naval warfare shows that the number of killed in modern sea fights is 5 per cent. and that of wounded about 15 per cent. The sailors of the German navy are trained not only in the transport of wounded men, but also in first aid, for which at various stations sterilized bandages and dressings are provided. The appliances include light splints for fractured limbs and elastic bandages for the arrest of profuse haemorrhage. The sailors are also trained in the performance of artificial respiration. There is a service of carriers of wounded attached to the hospitals. In smaller ships with only one surgeon there is a ward for first dressing and immediate treatment, whilst a second ward is kept in reserve in case the other is destroyed. Battleships carry three surgeons, who give immediate attention to all cases. Only the most urgent operations, such as the arrest of haemorrhage, necessary amputations, and tracheotomy, are done on the battleships, though to this list laparotomy is added. All wounded men in a condition to be transported are sent as soon as possible to the hospital ship.

FIRST AID USE OF ANAESTHETICS.

Lieutenant-Colonel E. LAWRIE, I.M.S. (ret.), Hove, writes: The method of anaesthesia in the field advocated by Professor Schleich (BRITISH MEDICAL JOURNAL, October 10th, p. 639) is clumsy, wasteful, and impracticable. For use to relieve pain, in the field, the anaesthetic *par excellence* is chloroform, given by means of a Junker's inhaler which the wounded soldier can, if necessary, work himself. I first saw this plan employed in midwifery by Dr. G. F. Blacker several years ago. Directly the patient becomes unconscious he can no longer squeeze the ball of the inhaler, the further administration of the anaesthetic ceases automatically, and whether he is lying on his back or not there is no danger whatever in entrusting pure or methylated chloroform to a wounded man to administer to himself in this way. At present an enormous amount of pain goes unrelieved on the field of battle owing to ignorance of the advantages of Dr. Blacker's method of auto-administration of chloroform. . . .

THE 5TH K.O.S.B.

The medical profession, and particularly the British Medical Association, may be proud of the contribution of officers it has made to the 5th (Dumfries and Galloway) Battalion of the King's Own Scottish Borderers. The battalion is commanded by Dr. P. M. Kerr of Dumfries; Dr. Ford of Castle Douglas and Dr. Anderson of Dalbeattie are captains, and another captain is Dr. J. J. Dykes, who practises as a dentist in Dumfries. The medical officers are Major G. R. Livingston, honorary secretary, Scottish Committee, and formerly honorary secretary and treasurer of the Border Counties Branch of the British Medical Association, and Lieutenant John Saffley, M.B., of Annan.

VACANCIES FOR MEDICAL OFFICERS.

1st (Home Service) North Midland Field Ambulance.

Five medical men are urgently required as officers to complete the establishment of the 1st (Home Service) North Midland Field Ambulance, R.A.M.C. Engagement for the period of the war, home or foreign service. Applications should be made to the Commanding Officer, Captain H. G. W. Dawson, M.B., at the Head Quarters, 91, Siddals Road, Derby.

FURTHER CASUALTIES IN THE MEDICAL SERVICE.

Prisoners of War: Previously Reported Missing.

Graham, Captain J. H., R.A.M.C.
Kelly, Captain H. B., R.A.M.C.
Kempthorne, Captain G. A., R.A.M.C. (wounded).
Long, Major H. W., R.A.M.C.
Preston, Lieutenant A., R.A.M.C.
Stevenson, Captain G. H., R.A.M.C.
Thomson, Colonel H. N., A.M.S.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LEEDS.

UNIVERSITY OF LEEDS: OPENING OF MEDICAL SESSION.

In respect of the serious situation of European affairs the winter session of the School of Medicine was opened very quietly on October 1st. In spite of the fact that a good many of the members of the staff were on duty at the Second Northern Hospital, near Leeds, and that others of the staff and students were prevented by having undertaken various duties from being present, there was a good attendance at the opening address, which was delivered by Professor Arthur Keith, curator of the Royal College of Surgeons Museum. He took as his subject the "Making of a Surgeon," and illustrated his theme by references to the life of Sir James Paget. With singular charm of manner Professor Keith dealt with the various phases of Sir James's character and the influence his early training in natural history had in strengthening his powers of independent observation. Speaking of his eloquence and of the beauty of his language Professor Keith attributed much of this to the orderliness of his mind and to the beauty and uprightness and purity of his spirit. A cordial vote of thanks was accorded to Professor Keith on the motion of Sir Berkeley Moynihan. The motion was seconded by Mr. Stephen Hey, the warden of the dental department of the school, and this served to mark in a quiet way the recent complete amalgamation of the school of dentistry with the University.

It has for many years been the habit for the profession of Leeds and district to celebrate the opening of the winter session by holding a dinner at which the orator is entertained as the chief guest. No one would have received a more cordial welcome in that capacity than Professor Keith, but it was felt on all hands that such a function would not be in keeping with the feelings in the hearts of the members of the school and of the profession at large.

MEMORIAL TO THE LATE DR. E. F. TREVELYAN.

At a largely attended meeting of the colleagues and friends of the late Dr. Trevelyan, who died in December, 1911, a portrait bust was unveiled at the General Infirmary to commemorate his valuable services to that institution, and in recognition of his other activities in Leeds. The bust, which is executed in bronze, is the work of Mr. Wyon, and has been placed in the entrance hall of the infirmary. The presentation, which was made by Dr. Barrs on behalf of the subscribers, was followed by the unveiling by Mrs. Hicks, wife of the Bishop of Lincoln and a sister of Dr. Trevelyan, and, on behalf of the infirmary, Mr. Charles Lupton accepted the memorial and undertook its custody. In making the presentation Dr. Barrs referred to the work of Dr. Trevelyan, to the affection in which he was held by all his colleagues, and to

the high standard of his scientific attainments. But, as Dr. Barrs rightly said, there was something more than all this. "It is not," he said, "the mere record of service that makes us offer you this memorial. We are swayed by our remembrance of Edmond Trevelyan's personality. He was always an English gentleman, brave and true to the last, never more so than when he was suffering from his last painful illness." These were true words, and the members of the staff and the other subscribers to the memorial were fortunate in having their feelings so adequately expressed as they were by Dr. Barrs.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Royal Academy of Medicine in Ireland.

At the annual general meeting of the Royal Academy of Medicine in Ireland, held in the Royal College of Physicians on October 9th, the following officers were elected for the coming year: President, Walter G. Smith; General Secretary, J. Alfred Scott; Secretary for Foreign Correspondence, Sir John Moore; Presidents of Sections—Medical, J. A. Lindsay; Pathological, J. B. Coleman; Surgical, F. Conway Dwyer; Anatomy and Physiology, E. J. Evatt; Obstetrical, M. J. Gibson; State Medicine, T. P. C. Kirkpatrick.

St. John Ambulance Association.

The sixth of a series of lectures arranged by the Dublin centre of St. John Ambulance Association was delivered last week in the Lecture Theatre of the Royal Dublin Society by Sir Charles Cameron. He dealt with Water: its danger and methods of purification. The importance of water might, he said, be inferred from the fact that a person should drink a quart of it every day, and that water entered very largely into the constituents of food. The Vartry water was very soft, and it contained only 4½ grains of solids per gallon. The danger of contamination of wells by surface water was pointed out, and attention was drawn to the fact that whereas the Vartry water was usually slightly coloured, at present, owing to the fact that the only water going into the reservoir was spring water, it was perfectly colourless. Having spoken of the diseases which are usually attributed to water infection, Sir Charles Cameron emphasized his points by performing a number of experiments.

Meals for School Children.

Up to the present the work of providing meals for hungry school children in Dublin has been left to private benevolence, but now some of the provisions of the English Act have been extended to Ireland. The new Irish Act has many disadvantages, it confines municipal expenditure to a very narrow rate, and is only applicable to schools that come under the jurisdiction of the Board of National Education, but it is better than nothing in that it enables a beginning to be made. Last week the Corporation of Dublin decided to put the Act into effect. There are 158 schools under the National Board in Dublin, and the halfpenny rate will realize only £2,000, or about 5s. a week for every school. It is clear, therefore, that the scheme will only succeed if it secures the support of all classes of the citizens, and is conducted efficiently and economically. There can be no doubt about the necessity of meals for the hungry children of our slums, and there ought to be no delay in getting the machinery of the scheme into full working order. The provision of meals should be dissociated from school work and school buildings, and parents should be required to contribute, as far as may be possible, to the cost of their children's meals; but no public difference should be made between children for whom this contribution is available and those who pay nothing.

Political Ferment and Lunacy.

Dr. M. J. Nolan, the resident medical superintendent of the Down District Lunatic Asylum, in his annual report, speaks of the admissions during the year, and goes on to discuss the predisposing causes which led to some of them. It is noteworthy, he says, and it cannot be too often emphasized, that the conditions of modern life tend enormously to increase the predisposing and exciting causes which make for the production of insanity, and it is interesting that passing events influence very largely the manner in which current insanity manifests itself. During the past year contemporary insanity in his district had been deeply tinged by many stirring though more or less ephemeral occurrences. This is in contrast to the monotonous continuity of "voices," "vague fears," and "unknown enemies" which were previously the uniform complaint in the majority of cases of delusional insanity. The "voices" are now definite commands of opposing factions of political and sectarian strife; the "vague fears" are the acute terrors of "civil war"; the "unknown enemies" are "Orangemen" or "Hibernians," as the case may be. The stimulation of the public mind of the district by political ferment has had the natural result of influencing the direction of the aberrant minds of the community. In some cases, undoubtedly, this strain was the exciting cause of the breakdown: in others it unquestionably shaped the form of the attacks which would have occurred in any event. So it is, Dr. Nolan says, at all periods of exceptional popular emotional waves the lunatics of the period reflect in their delusions the prevailing ideas, but the reflection is the grotesque of a mirror which distorts.

Canada.

[FROM OUR SPECIAL CORRESPONDENTS.]

Saskatchewan Medical Association.

The eighth annual meeting of the Saskatchewan Medical Association, which took place on August 18th, 19th, and 20th, was the most successful convention in its history, and Dr. Peterson (the president) and Dr. MacKay (the secretary) are to be congratulated. Perhaps the most important matter dealt with was that of public health. A schedule of questions had previously been sent to the secretary of each rural municipality in the province, and the replies were considered by a committee appointed for that purpose. The following recommendations were prepared and will be forwarded to the Minister in charge of public health at Regina:

> Resolved that the province of Saskatchewan be divided into four or more health districts, each under the supervision of a fully qualified health officer, under the direction of the provincial public health department; that the above officers be required to devote their entire time to the health matters within their respective districts, and that at least one nurse be engaged for each district under the supervision of the district medical health officer.

At present there is a lack of uniformity in matters pertaining to public health; in some instances the officers are not specially trained for the work, and, as a rule, they only devote a small portion of their time to it. In many of the rural districts of the province there are no medical practitioners for miles, and in cases of emergency it is impossible to get prompt aid. Consideration was also given to the matter of claims for overcharge against members of the medical profession. Instances have occurred in which such claims have received the support of the Grain Growers' Association, and Mr. W. J. Thompson, a director of this latter association, had been invited to address the meeting. After some discussion, it was arranged that the President of the Medical Council should appoint an official representative whose duty it should be to attend each meeting of the Grain Growers' Association, so that matters of common interest could be discussed and amicably settled. Some interesting papers were read and discussed. The association will meet next year at Moose Jaw on the last Tuesday in July. The president is Dr. G. P. Bawden, of Moose Jaw, and the secretary-treasurer is Dr. C. G. Sutherland, also of Moose Jaw.

Huron Medical Association.

The meeting of the Huron Medical Association at Goderich, Ontario, on September 9th was well attended, and some interesting papers were read. It was decided that members of the association should give their professional services free to the families of privates who have volunteered for military service during the present war.

Tuberculosis in Nova Scotia.

An able address was given at the recent meeting of the Municipalities Union, which took place at Halifax, by Dr. W. H. Hattie, the provincial health officer for Nova Scotia. Dr. Hattie reminded his hearers that each year more than a quarter of a million dollars are expended by the public treasury of Nova Scotia in the prevention of tuberculosis. According to the provisions of the Act passed last year, the province will be divided into five districts, in each of which a sanatorium will be established by the provincial government. The local government will provide two dollars a week towards the maintenance of each patient in those sanatoriums. Clinics will be established in each county, and nurses will be appointed to take charge of them. These clinics will serve as bureaux of information and as places of consultation for local physicians, and they will be visited from time to time by a provincial officer appointed for that purpose. The nurses' duties will include visits to the homes of patients. Thus the work of prevention will extend throughout the province, each town council assuming its share of the burden. The system, as a piece of legislation, is most complete, and if carried out properly should be productive of great results. There is room for improvement, for last year there were 471 deaths from tuberculosis in the province, which has a total population of some 500,000.

Waterworks and Sewage Disposal.

Regulations concerning the preparation of plans for the installation and extension of waterworks, sewerage, and sewage disposal systems in Saskatchewan are now in force. They provide that information must be supplied to the Bureau of Public Health concerning every point that would be taken into consideration by a competent consulting or municipal engineer, and that, unless this information is satisfactory, the construction of the works in question cannot be commenced. In the past general information has been supplied to the bureau, but the details of construction have been left in the hands of the engineer in charge, and cases have occurred in which the mistakes made have proved extremely costly to all parties concerned.

Conservation of Life.

The Commission of Conservation has recently enlarged its sphere of activity. In the past its efforts have been devoted principally to the conservation of the natural resources of the country; in future the conservation of health will constitute a special branch of its work. A monthly publication, entitled *Conservation of Life*, will be issued, and an effort will be made to "disseminate light on the one subject which vitally affects every human being." The problems which confront the health officer and the sanitary engineer will be treated, and information, stated simply and concisely, will be placed at the disposal of the man who is too busy to gather it from books for himself. Research will also be undertaken. The first number of this publication, which appeared in August, deals with such questions as the maternal nursing of infants, infectivity of tuberculosis, prevention of occupational diseases, and the first Canadian town-planning regulations; Halifax is the first Canadian city to adopt such regulations.

The Prevalence of Cancer.

During the year 1913 there were in Canada, with its 7 million people, 7,000 deaths from cancer. From 80 to 90 per cent. of the cases occurred in persons over 45 years of age. When it is remembered that a large percentage of these cases could have been cured had they been operated upon in time, it behoves the medical profession to impress upon the public the extreme necessity of early attention to any symptoms which might suggest the disease. In the August number of the *Health Bulletin* issued by the Toronto Department of Public Health this is done and information is given which should be of material assistance to readers. In the United States and Canada more than 80,000 persons die each year from this disease.

Gift to McGill University.

The late H. H. Lyman, who lost his life in the *Empress of Ireland* disaster, bequeathed his entomological collection and library and the sum of twenty thousand dollars to McGill University.

Correspondence.

INSECTS AND WAR: FLEAS.

Sir,—In the very interesting and instructive paper of Dr. Shipley in your issue of October 3rd he says: "Plastering a floor with cow-dung, which is a common practice in South Africa, is said to be a very efficacious means of keeping down fleas." This was certainly not my experience, for I have a very lively recollection of a dwelling in Natal, during the Boer war of 1880 and 1881, the earthen floor of which had a plastering of cow-dung which was simply swarming with fleas, due, I have no doubt, to the excellent breeding nature of such primitive floor covering in a semi-tropical climate.

I have found Keating's powder most effective in keeping down these little pests.—I am, etc.,

Dublin, Oct. 10th. Trevor N. Smith.

NUTRITION AND MEAT EXTRACTS.

Sir,—In a letter appearing in your issue of September 26th, Professor W. H. Thompson, referring to my book, *Nutrition, a Guide to Food and Dieting*, reviewed by you recently, disclaims an economical ration attributed to him.

I can only express regret if, inadvertently, he was given credit for that to which he lays no claim. He protests also, and at some length, against my suggestion that retention of water might explain the increases in weight observed in certain dogs when meat extract was added to their diet.

He agrees that there was retention of water, and when we refer to the original paper (British Medical Journal, September 16th, 1911) and find (p. 616) him admitting that retention of water "probably accounted largely for" the increase in weight, he really seems to have very little to complain of, and the matter might almost be left there, but an examination of his data will show that even his claim for gains in weight after administration of meat extract are by no means so free from doubt as they might be. A few examples will illustrate this:

Dog vi.—*Period 5: no extract.* Weights from day to day in kilos: 10.67, 10.64, 10.7, 10.64, 10.64, 10.67, 10.75, 10.73, 10.75. This dog is now a little heavier without meat extract than he was just after the meat extract period, when he weighed 10.69; he is also heavier than at the end of an earlier meat extract period. *Period 7; no extract:* 10.75, 10.77, 10.8. A further slight rise; in fact, *this dog shows a general tendency to increase in weight on the diet given, whether meat extract be added to it or not.*

Dog vii.—*Period 1; no extract.* Weights in kilos: 6.41, 6.41, 6.42: trifling rise. *Period 2; with extract:* 6.48, 6.475, 6.44, 6.42, 6.42, 6.44. The extract ceases to have any weight-raising effect after the second day; in fact, there is a fall after the first day. *Period 5; no extract:* 6.41, 6.445, 6.6, 6.575. Note, first, that on the first day of this period, following seven days with extract, he is no heavier than at the commencement of the experiments, and, secondly, that there is a greater rise without extract than with it. This dog continued to increase in weight during the next period without extract.

Coming to the human subjects, we meet with similar results; "C." for instance, rose from 61.020 to 61.465 after five days with extract, but weighed 61.690 at the end of the period during which he had no extract.

These differences are small, and Professor Thompson is doubtless perfectly right in not attaching so much importance to weight changes, but, if so, how unfortunate that he should have allowed a startling and, as I hold, misleading conception of the effects of meat extract to be spread broadcast among the general public with all the semblance of his authority.—I am, etc.,

London, N., Oct. 3rd. Charles E. Sohn.

THE WORKING POWER OF THE WHITE MAN IN THE TROPICS.

Sir,—At a recent meeting in Darwin of the medical officers of the Northern Territory of Australia, who are members of the British Medical Association, the article by Professor Leonard Hill on "The working power of the white man in the tropics and the electric fan" (British Medical Journal, February 7th, 1914) was discussed, and it was agreed that the arguments brought forward against the White Australia policy as regards the Northern Territory, although they may appear plausible in theory, are quite opposed to what is found to be the case in actual practice.

It was with amusement that we found a letter from Mr. F. Allen, Mayor of East Fremantle, referred to as supporting these arguments. As a matter of fact, Mr. Allen spent less than forty-eight hours in Darwin, and during that time interviewed, as far as we can gather, chiefly dissatisfied men who were on strike for higher wages, and most of whom had been but a few weeks or months in Darwin, and were unacquainted with the territory. He sought no information from departments, or from departmental records, of climatic conditions. This, added to his personal ignorance of these conditions, even as regards Darwin, let alone the Northern Territory, renders his views hardly worthy of attention.

As regards the working power of whites in the Northern Territory, we find in actual practice that the white man who spends his whole existence in the open air, exposed to the full force of climatic conditions, is capable of as good a day's work as are the men working in more temperate climates, and retains his strength and vigour unimpaired after many years of residence in the territory. These men take no precaution to protect themselves against actinic rays, their working costume often consisting merely of boots, breeches, and felt hat.

On the other hand, "the white man who takes refuge under umbrellas, in verandahs, etc., screening himself from the sunlight," is less healthy and less capable of severe exertion.

In the case of women also, it is found that those who take sufficient open-air exercise enjoy excellent health. As an example of this fact we find that women who live on the bush stations are capable of as great a degree of endurance as the men themselves. Recently two women who had spent more than four years on a bush station in what is considered the least agreeable part of the territory from a climatic point of view—namely, the coastal belt—journeyed to Darwin, spending five consecutive days in the saddle, and on the last day rode from 7 a.m. till 9 p.m., with but an hour's halt at midday.

Children in the territory show no evidence of deterioration, physical or mental, and the infantile mortality is lower than in any other part of Australia.

Turning to the black aboriginal races we find that their capacity for work is far below that of the white man, and apparently they feel the influence of climatic conditions more severely.

We have been struck with the general healthiness of the white race in the Northern Territory, and attribute it to the comparative absence of the diseases usually prevalent in other tropical countries. It seems to us that the great bar to the settlement and development of the tropics by the white race is the presence of these diseases, and not climatic unsuitability. The diseases can be eradicated.

The real drawback to the settlement of the Northern Territory by a white population is not climatic, but is due to the lack of communication with, and the distance from trade centres, a journey to Sydney meaning a fortnight's voyage. This difficulty will be overcome when railway communication is increased and Darwin is linked up with Adelaide and other State capitals.—We are, etc.,

FRANK HOWSON,
Government Medical Officer, Darwin; late Lecturer in Physiology, Sydney University,
MARTYN J. HOLMES, M.B., B.S.Melb.,
Chief Health Officer, N.T.A.
PHILIP A. MAPLESTONE, M.B., B.S.Melb.,
Darwin, Aug. 17th. G.M.O., Pine Creek, N.T.

LUMBAGO AND GREEN PEAS.

SIR,—I am interested in Dr. Haig's treatment of lumbago as described in the JOURNAL of September 26th (p. 539), by manipulation and active movement. Lumbago was one of the first ailments I had; I had repeated attacks, and generally was laid up for three days. Three years ago I was studying the physiological action of green peas, and to my astonishment I had an attack of lumbago, to which I had long been a stranger. It did not cripple me as it used to do, and I did not lay up, but exercised rather more than usual, having discovered that exercise was the best cure. Having met a young healthy farmer, I told him I was suffering from lumbago from eating green peas. "What," he said, "I have lumbago, and I have been indulging largely in green peas!" I was glad to have my observation corroborated by a healthy young man. Now, on looking back to my first attack, and knowing that it occurred at Whitsuntide, when green peas are to be had, and of which I have always been fond, I have little doubt that they would be the primary cause of the lumbago, which came on after the unusual exercise of cutting a terrace with a lawn mower, and getting a good sweat.

This spring I hesitated as to sowing peas, knowing that in spite of my knowledge of their action, I might indulge in them. I did sow them, however, and had an extra good crop. I was eating them, and without any other cause that I could think of, the old symptoms showed themselves. I gave the peas to a lady of my acquaintance, and she also had similar symptoms. The reason why Dr. Haig succeeded in relieving his patients by exercise, is no doubt the fact that lumbago, and indeed every ache and pain we have, is due to reflex action from the intestinal tract, and flatulence is probably the secondary cause. Massage and exercise no doubt act as stimulants of the circulation, and by causing increased elimination are useful in any disease, but specially so in lumbago, which is a sort of hybrid between rheumatism and a sprain in the sacro-iliac region, on a spot which the point of the finger can cover. Cramp, which is akin to lumbago, I can cause by eating green vegetables, such as cabbage; and when the physiological action of foods is studied, it will be found that the physician of to-day is causing more disease by the food he prescribes than all he can cure by drugs. Dr. Haultain, in the same journal, gives five cases of eclampsia treated by veratrone; the patients were fed on milk, the strongest of all foods, and a poison in such a disease. In reading the cases, no one can help being struck with the fact that improvement followed sickness. Whether the drug caused the sickness or not, there can be no doubt that the sickness would relieve the system, and allow elimination to occur, as it did, most markedly, by the kidneys. Such cases, if left without any food, would get well quicker than if fed and treated by any drug, but it is time the physician realized that his aim ought to be to find out a diet suitable for the sick, which Hippocrates, "The Father of Medicine," said it should be.—I am, etc.,

Hawick, Sept. 27th. JOHN HADDON, M.D.

BELGIAN REFUGEES.

SIR,—There are many medical men among the thousands of Belgian refugees. Surely we can show them some hospitality during their enforced residence amongst us.—I am, etc.,

London, W., Oct. 14th. H. FLEMING BROWNE, M.B.

*** The arrangements for the reception of Belgian refugees are in the hands of the War Refugees Committee. Lord Hugh Cecil is the chairman of the executive, and the honorary treasurer is Viscount Gladstone. Offers of hospitality should be addressed to Mr. F. A. Hirst, Hospitality Department, War Refugees Committee General Buildings, Aldwych, W.C.

Obituary.

LIEUTENANT J. F. O'CONNELL, M.B., B.S.LOND.,

ROYAL ARMY MEDICAL CORPS.

THE death in action at the battle of the Aisne on September 20th of Lieutenant John Forbes O'Connell, M.B., B.S.Lond., R.A.M.C., was briefly announced a fortnight ago.

He was born at Neemuch, Central India, on February 18th, 1889, where his father, Lieutenant-Colonel D. V. O'Connell, R.A.M.C., was then serving. He was the great-grandson of Dr. James Forbes, Inspector-General of the Forces, who served with distinction in the Peninsular War, and was the founder of the Army Medical Mess at Fort Pete, Chatham, which was moved to Netley in 1860.

He was educated at Epsom College, where he gained an entrance scholarship in 1902. After passing the preliminary scientific examination of the London University in 1907 he proceeded to St. Mary's Hospital, where he had a brilliant career. He became L.M.S.S.A.Lond. in January 1912, was house-physician at St. Mary's for six months and subsequently assistant resident medical officer at Hanwell Lunatic Asylum for nearly six months.

In November, 1912, he graduated M.B., B.S.Lond., and in the following January joined the R.A.M.C., gaining the fifth place at the entrance examination. He was stationed at the Connaught Hospital, Aldershot, till he went in medical charge of the 2nd Highland Light Infantry with the British Expeditionary Force on August 14th.

He was an ardent Rugby footballer, gaining his first XV cap at school, was twice captain of his hospital team, and played also for the London Welsh and London Irish; of the former he was vice-captain in 1913.

He was a very general favourite with every one who knew him, his frank and generous nature and sunny disposition gaining him friends wherever he went. An old school friend of his at Epsom writes to his father on hearing of his death:

For several years at Epsom and afterwards it was my privilege to know him intimately, and I shall always look back upon his friendship as one of the most delightful and valued possessions of my life. None who knew him could have failed to respect his frank and generous nature, or to love him for his warm and genial sentiments. It is indeed sad that so promising a life should so soon be cut off, and I am sure that all who had the honour of his friendship will suffer an irreparable loss. The loss to you of so splendid and gallant a son must be a great blow, but you have the consolation of knowing that he died nobly in the service of his country, unselfishly laying down his life that others through him might live—a fine end to a fine life. I shall always remember him as a genial, kind-hearted comrade—one of the very best.

Colonel Wolfe Murray, commanding the Highland Light Infantry, in announcing the sad news of his death to his wife, to whom he was married only a few months, writes:

He was shot dead in the trenches while attending Lieutenant Fergusson, H.L.I., who had been very seriously wounded, and who himself died later in the day. We all feel his loss most acutely. He performed his duties as a medical officer most efficiently, and was a general favourite with us all. I have never seen any one pluckier; he was just as cool under fire as he was at any other time, and the act which cost him his life was characteristic of him.

LIEUT.-COL. HERBERT WILSON PILGRIM, M.B., F.R.C.S.,

LATE SURGEON-SUPERINTENDENT, EUROPEAN GENERAL HOSPITAL, CALCUTTA.

Lieutenant-Colonel Herbert Wilson Pilgrim, Bengal Medical service (retired), died suddenly at Brighton on October 1st. He was born on October 10th, 1858, at Barbados, the son of Mr. Henry Pilgrim, a planter in that island, and was educated at Cheltenham College, and afterwards at University College, London, St. Bartholomew's, and Edinburgh University. He took the diplomas of L.S.A. and M.R.C.S. in 1884, and the degree of M.B.Lond. in 1885; in 1902 he became F.R.C.S.Eng. His first commission as surgeon was dated September 30th, 1886, when he passed into the I.M.S. second of a very large batch. He became major on September 30th, 1898, lieutenant-colonel on September 30th, 1906, and was placed on the selected list from December 25th, 1911. In April, 1912, he took two years' furlough, at the expiration of which he retired from the service on May 11th, 1914. He served on the North-East frontier of India in the Lushai campaign of 1889, receiving the frontier medal with a clasp. Most of his service, however, was spent in civil employ in Bengal. He was posted to that province in June, 1890, and, after two years as civil surgeon of the Nadiya district, was appointed second resident surgeon of the Presidency European General Hospital, Calcutta, and in it, with the exception of two short intervals of acting as civil surgeon of the 24 Parganas, he spent the remaining twenty-four years of his service. In 1896 he became first resident surgeon. When the late Lieutenant-Colonel Alexander Crombie, surgeon-superintendent of that hospital, retired, in the spring of 1898, his post was not filled for some months. Finally, in June, 1898, Pilgrim was appointed to succeed him, though he still only held the rank of surgeon-captain, and the post has usually been held by one of the senior members of the service. He was the most junior officer ever appointed to this post, one of the most important, professionally, in the whole service. How well he discharged the duties of the post, and how thoroughly he justified his selection—which was the subject of much comment at the time—is well known to all who have served or lived in Calcutta during the last sixteen years.

He was not only a first-class man all round in his profession, both as physician and as surgeon, but during his tenure of office he showed great business ability. The hospital, the most important in Eastern India, had fallen somewhat behind the times, and it was Colonel Pilgrim's lot to supervise, as well as partly to plan, the construction of an entirely new and up-to-date hospital, which has been constructed at a very large expense, by the Government of Bengal. The whole hospital, as it stood when he was appointed, has been dismantled block by block, and new and greatly improved buildings, thoroughly equipped on the most modern lines, have taken the place of those in which many of the senior members of the service have studied or worked. The only buildings which remain as they were at the date of his appointment are those of the block used as quarters by the resident surgeons. His epitaph, like that of Sir Christopher Wren, might well be, *Si monumentum quaeris, circumspice.*

THE HON. G. H. BUTLER, M.R.C.S., L.R.C.P.,

CONSULTING MEDICAL OFFICER, HOBART GENERAL HOSPITAL; FORMERLY CHIEF SECRETARY OF STATE.

The Honourable Gamaliel Henry Butler died on July 15th of cerebral apoplexy after a few hours' illness. He was born in June, 1854, the son of the late Hon. Henry Butler, F.R.C.S.Eng., who had settled in Tasmania in the Forties. After attending the Hobart High School he became a student at the Westminster Hospital, and took the diplomas of L.R.C.P. and M.R.C.S.Eng. in 1879. On his return to Tasmania Dr. Butler settled in Hobart, and became an honorary medical officer to the General Hospital. At the time of his death he was honorary consulting surgeon, with rank of major, to the Military Forces of Tasmania, president of the Medical Defence Association, chief medical officer to the Australian Mutual Provident Society, member of the Medical Council and Dental Board, president of the Australian Trained Nurses' Association, vice president and chairman of the council of the Royal Society. He was a member of the Tasmanian Branch of the British Medical Association, and in 1902 was president of the Intercolonial Medical Congress which met in Hobart. Dr. Butler became a member of the legislative council of Tasmania in 1896, and was Chief Secretary from 1909 to June, 1912; he held the same office under the Solomon Ministry until March of this year. Some eighteen months ago his health broke down, and he made a visit to England. He returned last November much improved in health, and resumed his many duties, so that his sudden death was a great shock to his relatives and friends. He was a genial, kind-hearted man, a keen observer, and sound reasoner. The *Medical Journal of Australia* says that he never lost a friend, but often won over a would-be enemy.

The funeral was attended by representatives of all classes. Dr. Butler leaves a widow, two daughters and four sons, one of whom, Dr. Nairn Butler, is engaged in practice in Hobart.

Dr. Robert Arthur Fryer died on September 25th, at Southbourne, Hants, after a lingering illness. He was born at Warwick in 1869, and educated at the King's School in the same town. He received his medical education at Edinburgh, and graduated M.B. and C.M. In 1891 he began practice in partnership with Dr. John Davies, J.P., at Hoxton, and for nearly twenty years was one of the district medical officers of St. Leonard, Shoreditch, and carried on an extensive practice in the North of London. He was essentially a worker, and the whole of his life was given to the practical work of his profession. It is to be feared that his premature death was not a little due to his untiring energy and the self-denying way in which he laboured to promote the welfare of his numerous patients. Never of a robust constitution, the long hours, irregular meals, and constant nightwork slowly undermined his health. In January, 1912, he had an attack of what appeared to be acute rheumatism, but accompanied by some pulmonary symptoms, and tubercle bacilli were discovered in the sputum. He was a patient at several sanatoriums, but in spite of everything that medical science could suggest, the disease slowly progressed, and finally culminated in a fatal haemorrhage. Dr. Fryer possessed a most delightful

personality that endeared him to all who came in contact with him. If ever a man could be said to be without an enemy, he might have afforded an example, and his loss will be keenly regretted by all that knew him. He was fond of music, for which he had an excellent ear. He was also a keen sportsman, and the only relaxation from his arduous professional duties that he indulged in was a few weeks' holiday in the summer, which were invariably devoted to fishing and shooting. He leaves a widow, but no children.

We regret to announce the death, on September 6th, as the result of a cycle accident, of Dr. Horace Mansell Maybury. Dr. Maybury, who was in his 67th year, was the third son of the late William Augustus Maybury, surgeon of Frimley, Surrey. He was born in London on June 8th, 1848, and entered the City of London School. His medical training was received at St. Thomas's, London, and Queen's College, Belfast. He was M.D., M.Ch., and L.M. of the Royal University in Ireland, and held also the diplomas of M.R.C.S.Eng. and L.S.A. Dr. Maybury, as a young man of 24, became resident medical officer of the Islington Dispensary, an appointment he retained until shortly after his marriage in 1890, when he started in practice in Almeida Street. He was one of the oldest practitioners in Islington, and was held in the highest respect and affection by all who knew him. He was of a very genial, kind disposition, and his many good deeds and gratuitous medical services to those who needed his help will never be forgotten by many of his patients and friends. He was an adept cyclist, and his devotion to the wheel dated back to the old boneshaker machine. He had twice ridden from Land's End to John o' Groats. He had often gone 100 to 150 miles in one day, even in recent years. The funeral took place on September 12th at Frimley churchyard, and he was laid to rest with his late wife, who died in 1909.

Dr. Alfred Hegar, professor of obstetrics and gynaecology at Freiburg in Baden from 1864 till 1904, died on August 6th. He was the author of numerous writings extending over the whole field of gynaecology. He was the founder of the *Beiträge zur Geburtshilfe und Gynäkologie*.

Dr. W. J. Branch, of Basseterre, St. Kitts, W.I., who died recently, in his 76th year, was born in Barbados, and graduated M.D.Edin. in 1860. He had resided in St. Kitts for fifty years, and in announcing his death the *St. Kitts Daily Express* said that he had stood for all that was good and worthy in the community. "As a surgeon, a physician, a man of learning, and a friend of the poor his place will be hard, if not impossible, to fill." He had held the appointments of medical officer to the Cunningham Hospital and to the St. Kitts Hospital and analyser of vital statistics and health officer of St. Kitts, Nevis, and Anguilla. He was a member of the Leeward Isles Branch of the British Medical Association. For some years he had lived in retirement.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. Hasket Derby, one of the founders of the American Ophthalmological Society and a pioneer in the speciality of eye disease, aged 79; Dr. Gutierrez, Director of the Rubio Institute, Madrid, and Senator of Spain, aged 63; Dr. Alexander S. Leverty, clinical instructor in medicine, Department of Neurology, Cornell University Medical College, New York, aged 48; Dr. Martin Hayward Post, a prominent ophthalmic surgeon of St. Louis, aged 63; Dr. Paul Reclus, surgeon to the Hôtel-Dieu, Paris, and professor of clinical surgery, aged 67; and Dr. G. B. H. Swayne, one of the founders and first dean of the faculty of the Medico-Chirurgical College of Philadelphia, aged 81.

William Blackborne Clapham, M.R.C.S., L.S.A., aged 87, of Eastholme, Great Dunmow, Essex, left estate valued at £41,969.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

The following candidates have been approved at the examinations indicated:

First M.B. *Part I (Chemistry).*—J. C. Ainsworth Davis, H. Barbash, R. H. O. Betham Robinson, A. M. Broad, E. J. Crisp, E. C. Curwen, H. V. Edwards, A. C. Halliwell, A. T. Hawley, M. S. Thomson, J. S. Williams, R. L. Williams, D. W. Winnicott. *Part II (Physics).*—J. C. Ainsworth Davis, H. S. Allen, H. Barbash, R. H. O. Betham Robinson, A. M. Broad, E. J. Crisp, E. C. Curwen, H. V. Edwards, A. C. Halliwell, A. T. Hawley, H. J. H. Hendley, R. Hilton, K. P. Lloyd-Williams, A. S. Rediern, M. S. Thomson, R. L. Williams. *Part III (Elementary Biology).*—R. H. O. Betham Robinson, A. M. Broad, H. V. Edwards, M. S. Thomson, J. S. Williams, R. H. White.

Second M.B. *Part II (Pharmacology and General Pathology).*—E. H. R. Altounyan, D. J. Batterham, W. H. Blackburn, R. S. Corbett, E. H. Dendy, J. M. Downie, J. R. Earp, J. S. Ellis, H. W. Featherstone, L. P. L. Firman-Edwards, H. Gardiner-Hill, E. A. Gibb, C. C. Goodhall, E. A. Green, F. H. S. Greenish, J. Hale, F. E. Higgins, G. M. Kendall, C. C. Kerby, E. A. Leak, W. J. MacCombie, G. L. Maule, T. D. Morgan, D. M. Muir, E. S. Orme, P. E. D. Pank, D. W. R. Richardson, J. Rickman, G. B. Sellwood, W. J. D. Smyth, N. S. Tirard, F. H. Vey, R. C. P. Whitcombe, H. G. E. Williams.

NATIONAL UNIVERSITY OF IRELAND.

A meeting of the university was held at University College, Dublin, on Saturday, October 10th, when the following degrees and diploma were conferred:

M.B., B.Ch., B.A.O.—*J. B. Magennis, B.A., B.Sc.. *P. J. Smyth, †J. I. Enright, †W. O'Neill, P. Carney, C. I. Hannigan, B.A., M. Heenan, R. M'Grath, J. J. Moonan, E. J. O'Keeffe, B.Sc., F. C. Ward.

M.D.—J. Reidy, D.P.H. *(in absentiâ).*

Diploma in Public Health.—P. Steen, M.B., B.Ch., B.A.O. *(in absentiâ).*

* With first class honours. † With second class honours.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND.

The following have passed the autumn examination for the Conjoint Diploma in Public Health:

Donal Mahony Barry (honours), M.B., R.U.I.; Rutherford Cramb, M.B.Glasg.; Hugh Reynolds McKay Ferguson, M.B.Dubl.; Percy Ernest Harrison, L.R.C.P.and S.I.; Alexander Frederick Kennedy, M.B., R.U.I.; Augustus Charles Lorena, L.R.C.P.Edin.; Robert Joseph May, L.R.C.P.and S.I.; Charles Gregg Sherlock, M.D.Dubl.

CONJOINT BOARD IN ENGLAND.

The following candidates have been approved at the examination indicated:

Anatomy and Physiology.—K. N. G. Bailey, T. B. Bailey, H. F. G. Berncastle, K. H. Bhat, B. Bishara, L. G. Blackmore, C. J. L. Blair, J. B. Brash, A. W. A. Davies, F. G. L. Dawson, Saad el Din Ahmed El Daab, Abdel Aziz Hassan El Zeneiny, J. H. Ewen, E. F. Fernando, J. T. T. Forbes, A. R. Hart, Mahdy Sayed Hashish, T. L. Heath, H. S. Hensman, E. B. Hickson, S. R. Johnston, G. Mallya, R. S. Millar, A. Mishriky, B. Mitra, V. S. R. Pandit, W. D. Pearman, A. W. Peeris, W. E. Powell, H. L. Pridham, R. Rau, R. J. Rhys, A. Rodd, H. H. Silley, M. O. Simpson, R. S. S. Smith, V. R. Smith, E. L. Stephenson, A. A. Thiel, E. S. Toogood, S. K. Vaidya, L. R. Woods, W. Yeoman.

First Examination *(Part I. Chemistry, and Part II. Physics).*—†Y. Abdel-Massiah, †G. W. Almeyda, †J. F. E. Burns, †C. J. C. de Silva, *M. A. El Dardari, *M. A. El Hennawy, *A. H. El Rakshi, †M. W. M. Hassan'ally, *Elisabeth Esther McCulloch, †A. R. Neckle, *A. B. Olamuyiwa, *F. Y. Pearson, *M. C. Sarkies, *Gladys Mary Thurlow Williams, *S. Wolff, *V. D. Wyborn. *Part III, Elementary Biology.*—H. L. Bowen, F. S. Drewe, A. E. Collie, A. H. El Rakshi, H. M. Herbert, T. R. E. Hillier, N. Howard, W. Laing, Elisabeth Esther McCulloch, J. S. Moore, R. H. Roe, J. S. Rogers, E. A. Sparks, B. M. Tonkin. *Part IV, Practical Pharmacy.*—D. H. Anthony, G. T. Baker, J. Behesnilian, A. S. Carter, C. T. J. Drobig, C. C. G. Gibson, L. A. J. Graham, W. C. Hartgill, C. G. Hitchcock, A. H. Manfield, A. D. Morris, A. G. Morris, E. H. Morris, N. F. Norman, A. L. S. Payne, C. H. Philips, R. Quesada-Jiménez, W. L. E. Reynolds, L. E. Samaraweera, J. E. Scanlan, H. J. H. Symons, R. R. SyQuia, H. Vickers.

* Passed in Part I only. † Passed in Part II only.

CONJOINT BOARD IN SCOTLAND.

The following candidates, having passed the requisite examinations, have been admitted Diplomates in Public Health:

Hira Singh Anand, M.B., Ch.B.Edin.; C. Gamble, M.B., Ch.B.Edin.; J. W. Edington, M.B., Ch.B.Edin.; S. R. Rao, F.R.C.S.Edin., etc.; Lakshmi Prasad Chaliha, F.R.F.P.and S.G., etc.; and J. H. Boag, M.B., Ch.B.Edin.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates at the Primary Examination passed in:

Biology.—C. E. Clarke.

Materia Medica and Pharmacy.—A. M. Berman, C. H. Philips, A. J. A. Wilson.

Anatomy.—A. M. Berman, J. M. Forbes, C. Gilroy-Jones, E. M. Gooda, F. J. Harrington, D. E. Hearn, R. F. Jarrett, H. D. L. Jones, S. Mikhail, J. B. Thomas, L. J. Vincent.

Physiology.—E. V. Beaumont, A. M. Berman, R. F. Jarrett, S. Mikhail, T. F. Reason, J. B. Thomas, L. J. Vincent.

Medical News.

THE sixth International Congress of Thalassotherapy will, as at present arranged, be held at San Remo in 1916.

DR. F. S. LEACH and Dr. John Todd were among the justices of the peace sworn in at Gateshead police court on October 7th.

AT a recent meeting of the Mississippi State Board of Health it was decided to procure a supply of vaccines, antitoxins, and serums, to be distributed to the public at cost.

A CHAIR of clinical tropical medicine has been founded in the University of Naples. The sum allocated for its maintenance is £548 a year, in addition to an annual subsidy of £120.

ONE case of plague and one death from the disease were reported at Hong Kong in the week ending September 26th, while on October 5th the colony was reported free from the infection. Seven cases of plague and seven deaths were reported at Mauritius in the week ending September 24th.

THE Council of the National Institute for the Blind, Great Portland Street, London, W., have undertaken to help, as far as practicable, all men who lose their sight while serving their country in the present war. Names and addresses of those who desire to avail themselves of this offer should be forwarded to the secretary-general of the institute.

A HOSPITAL with accommodation for 140 non-paying and 50 paying patients for the benefit of Italians has been founded at Jerusalem. It is said to be the best equipped hospital in the Levant. The operating theatres are fitted up with every modern appliance. It has isolation pavilions for contagious diseases.

THE proprietors of the Droitwich Brine Baths have undertaken to give facilities for the use of the baths to officers and men who have been invalided in the course of the war. They believe that such treatment will be specially beneficial in the case of those who have suffered from exposure. Soldiers and sailors who may therefore have been invalided home, and for whom the baths may be prescribed, may have their use free of charge.

ACCORDING to the *Medical Record* of September 26th Dr. N. T. Moore, formerly secretary of El Paso County Medical Society, is being kept a prisoner at Culician, Sinaloa, Mexico, because he performed an operation upon a resident of that city which resulted in his death. From this it would seem that the practice of operative surgery is almost as dangerous in Mexico as it was in some parts of Europe in the Middle Ages. Even in Italy, then the most civilized country in the world, we read that a famous surgeon before performing a critical operation insisted on being protected by a bond of indemnity signed by all the patient's friends.

THE rubber flooring for the Stephen Ward of Guy's Hospital was formally presented on behalf of the Rubber Growers' Association by Lady French on October 6th. Mr. McEwan, chairman of the Rubber Growers' Association, stated that some 170 of the producing companies had contributed. Mr. Cosmo Bonsor accepted the gift on behalf of the governors of the hospital. Particulars of a similar gift to the Edinburgh Royal Infirmary were published in the BRITISH MEDICAL JOURNAL of September 12th, p. 488. The rubber flooring lately laid in the consulting room of the out-patients' department of the Hospital for Sick Children, Great Ormond Street, was also the gift of the Rubber Growers' Association. The association had also voted a gift of 1,000 hot-water bottles, made from plantation rubber, to the British Red Cross Society.

AMONG the books to be published this autumn by the Cambridge University Press are *The House-fly: Musca domestica (Linn.); Its Structure, Habits, Development, Relation to Disease and Control*, by C. Gordon Hewitt, D.Sc.; *The Chemical Examination of Water, Sewage, Foods, and other Substances*, by J. E. Purvis, M.A., and T. R. Hodgson, M.A. The publications of the University of Chicago Press are sold in Great Britain and the British Empire (except Canada) by the Cambridge University Press. Among those announced are the following: *Water Reptiles of the Past and Present*, by Samuel W. Williston; *The Osteology of Some American Permian Vertebrates*, by Samuel W. Williston (Contributions from Walker Museum, vol. i, No. 8); *The Evolution of Sex in Plants*, by J. M. Coulter; and *Proceedings of the American Sociological Society*, vol. viii (Problems of Social Assimilation).

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

CROWN DERBY asks for hints in building a surgery and waiting room.

INDIAN will be much obliged for information as to the suitability or otherwise of Alpine mountain resorts in winter for a person subject to chronic and subacute attacks of pneumococcal bronchitis in cold wet weather.

ANSWERS.

E.G.H.W.—A small household destructor for refuse, which would be suitable for a hospital of thirty beds, is made by Messrs. Horsfalls, the Station Works, Pershore, near Worcester.

LETTERS, NOTES, ETC.

THE PRACTITIONER AND THE NEW "PHARMACOPOEIA."

DR. J. C. MCWALTER (Dublin) writes: Allow me to make a vigorous protest against the meddling with the strength of the preparations of our most potent drugs—which is exhibited in the new *Pharmacopoeia*.

Take nux vomica, which is now being taken by literally millions of people. The new *British Pharmacopoeia* reduces the strength of the tincture to one-half. This means that practitioners no longer get the beneficial results they anticipate—for the dosage is suddenly cut down to half.

On the other hand, strophanthus—a most potent poison—is increased to four times its strength. Your heart patient, for whom you have prescribed a fairly liberal dose of the present *British Pharmacopoeia* tincture, will wander round the country in imminent danger of sudden death, when the conscientious chemist, after previous cogitation, insists on dispensing a tincture four times as strong as you contemplated.

Laudanum is also juggled with. It is made 25 per cent. stronger. Thus, when with fear and trembling you order a 20-minim dose, the equivalent of 25 minims will be given.

On the other hand, your syphilitic patient will be defrauded of his due dose of mercury. Liq. hydrargyri perchloridi is made weaker, and ungt. hydrargyri, used for inunction, suddenly drops to 60 per cent. of its former strength.

Surely to Heaven, digitalis should not be meddled with—but it is. The strength of the tincture is reduced 20 per cent.

There is a sudden drop in the strength of white precipitate ointment; it is reduced to half potency.

Belladonna is also altered. The tincture, formerly made from the leaves, and in the *British Pharmacopoeia* (1898) ordered to be made from the root—is now twisted back to the leaves again. Worse than that, its strength is reduced 30 per cent.

Another objectionable thing in the new *British Pharmacopoeia* is the introduction of abbreviations. We all write illegibly, but imagine sanctioning the use of "æth." when you want to prescribe ether, or "lin. sap." when you want to order soap liniment.

This extraordinary juggling with the strength of potent drugs should meet with stern reprobation.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE INFLUENCE OF ENFORCED DOGMATISM IN MEDICINE.

Being the Presidential Address of the Birmingham and Midland Institute.

By SIR FREDERICK TREVES, Bart., G.C.V.O., LL.D.,

Serjeant Surgeon to H.M. the King.

In the study of the rise and development of any science certain common features are met with which might be presupposed, before even that study is entered upon. There are the inevitable void of the unknown, the many doubts, the wanderings from the predestined track, the delusions passing as solid truth, and the fumbling over strange things picked up in the dark. Most curious of all, we find associated with much progress a varying amount of actual fiction the origin and intention of which are not always easy to determine.

The old geographer, for example, fashioned a map to the best of his knowledge, but often finished it to the best of his belief. He added fictitious lands and peopled them with such beings as are found only in children's story books. Certain of these essays which came, in later days, to be ridiculed have been proved to be undeserving of the slight. There was, for example, a period when it was confidently believed that the centre of Africa was occupied by an arid desert. It was then that the map of Claudius Ptolemaeus, drawn some time in the second century, was condemned as an unworthy document, since it showed great lakes about the equator as well as mountains covered with snow. In the fullness of time, however, when Speke had discovered the Victoria Nyanza, and when Rebman had sighted the snow peaks of Kilimanjaro it was allowed that Ptolemy's belittled map was nearer to the truth than any design the cartographer had produced in the intervening centuries.

Then again, in the history of chemistry the labours of the alchemist occupy a prominent place. These patient, earnest men worked blindly on with crucible and alembic, striving to attain an object, not by the way of reason or induction, but by the means of preternatural accident. Their prime purpose was the transmutation of metals and the discovery of that Philosopher's Stone which was to change base things into gold. Incidentally they strove to find, by the process of a fantastic pharmacy, the Elixir of Life. The alchemist lived at a time when every tale of wonder was believed; when miracles were common; when the relics of saints could turn the unswerving course of nature. He was occasionally stoned to death as a magician, or was thrown into prison as a common rogue. From about the eighth to the eighteenth century he struggled on, mixing his essences, going blind over his furnaces, until Lavoisier came upon the scene and raised chemistry to the status of an exact science.

The alchemist, although he made fools of many and was himself the wildest gambler, yet did great good. He kept alive the spark of chemical research, advanced that science without intention, and discovered, without concern, important chemical compounds and valuable drugs. To the seeker after the Elixir of Life we owe phosphorus, the compounds of antimony, some of the chief acids, as well as such humbler substances as nitrate of silver and calomel.

It may be asked, in view of what follows in connexion with medicine, if the fiction upon which the alchemist founded his work was entirely without reason. In a sense it was not. Sure it is that none will ever drink of the Elixir of Life, and that the Philosopher's Stone as an object for research may be ranked with the Golden Fleece or the Holy Grail. On the other hand, there were grounds for the idea of the transmutation of metals. The alchemist, in his very earliest essays, had seen strange changes take place in metals under the influence of heat and certain reagents. In fusing argentiferous lead ore he had found—after the baser metal had been got rid of—a globule of silver. If silver could come forth from lead, why not gold from iron? At the time when the atom was the ultimate and unalterable particle, the alchemist's belief in the transmutation of metals was regarded as the sorriest nonsense. It is curious that now, at this late hour of the day—in this the twentieth century—the alchemist's belief should be shown to have some basis in fact. The transmutation of metals is an accepted item in the modern scientific creed. Indeed, the evolution of the atom from uranium to lead through a series of intervening stages can be said to be allowed. The alchemist may now rest in his grave with a better repute than he has enjoyed since the last of his number was thrown out of the market place as an impudent impostor.

The history of medicine tells a like story. It records long centuries of sound and patient work. It tells also of error and of false conclusions. But what is most remarkable, in the evolution of the science, is the daring amount of pure fiction with which its progress is associated—a fiction for which no such excuse as has just been offered is available. Some grounds may be found for the fantasies of the alchemist, but none for those of the mediaeval physician. In no branch of learning does the element of absolute fabrication form so large a part in the early structure of a science as it does in the case of medicine. For years—nay, for centuries—the system upon which the practice of physic was founded was a system devoid of both reason and of truth, being little more, indeed, than a jumble of elaborate nonsense.

I trust to make it evident that this vast body of fiction was the product of no natural stage in the progress of research, but was compelled by a phase of public opinion, and was imposed upon the plastic science of medicine to satisfy a demand of the people.

In order to make clear this relation of cause to effect it is necessary to imagine the dawn of the medical art and the position of the physician at a time when his knowledge was without form and void.

In the days of the primitive community the sick or wounded man would invoke the aid of someone in the settlement who, by reason of length of years, was assumed to have experience of human troubles. This was probably an aged woman, for I think that the first doctor was a lady doctor. If the ministrations of the knowledgeable person were successful, the same were no doubt rewarded by gifts of meat, bone needles or flint implements. These primitive fees would in time excite the cupidity of stay-at-home men, who would profess an understanding of bodily ills in order to reap what appeared to be an easy harvest. The self-elected practitioner would sooner or later meet with failure and would, in consequence, be beaten with a club. Indeed, I fancy that the solitary neolithic man who wandered away from the tribe and discovered new lands was often an unsuccessful medical practitioner still sore from the blows of his last patient's friends.

It is obvious, therefore, that one of the first efforts of the primitive doctor would be to find means to protect himself, and in this endeavour he deserves sympathy. He must needs shift the responsibility for his failures upon shoulders that could not be belaboured with heavy sticks. It is not surprising that in his theory of medicine diseases were due to deities and demons and that his treatment consisted largely in either propitiating or in exorcising ill-disposed spirits. From little more than this rose the crude practices of the medicine man, with his mummery, his incantations and his immoderate antics. If he failed, the patient had had at least a little for his money, and the practitioner, while yet perspiring from his efforts and with his sorry trumpery still jingling about him, would explain that the ill result was due not to the art of medicine but to the obstinate malignancy of the powers of the air.

Throughout the early history of medicine punishment for failure was a prominent feature in the evolution of the practitioner. Even in the enlightened days of Rome and Athens unsuccessful physicians were apt to be severely handled, to be driven into exile or stripped of their possessions. This abiding dread of punishment was not conducive to the welfare of the science. It did not encourage high thinking, it fostered the art of making excuse, it promoted deceit, and made a certain amount of fabrication a necessity.

As civilization advanced and as the rag-bedecked demons of the savage faded away there streamed into the blue heaven, in stately and superb procession, the gods of ancient Egypt, Greece, and Rome. A wondrous and dazzling company they were, in whose laps lay the fate of all who were sick or afflicted. The practice of medicine

was transferred from the forest glade to those stupendous temples which are still the wonder of the world. The sick man, who crept along the pillared colonnade to fall before the statue of the god, learnt little more than the naked savage knew. The gods were offended, propitiation must be made, the greed of priests must be satisfied, and beyond that were little but a reverential hope and an aphorism to ponder over.

In fullness of time the gods failed, and man was once more brought face to face with man, as in the days when the world was young. The sick or wounded looked to his fellow and not to a petulant deity to help him in his distress.

We now begin to notice two lines of development proceeding side by side. On the one hand was the true science of Medicine, built up, fragment by fragment, with infinite labour, fact being added to fact with prodigious patience; until by slow degrees there appeared the elements of a practice of Physic based upon accurate observation and sound reasoning. On the other hand there sprang up, like the beanstalk in the nursery legend, a monstrous fabric purporting to be a system of healing, but lacking any foundation in either actual knowledge or experience—a work of fancy which assumed all the authority of an inspired revelation and which was as poor a simulacrum of the truth as was the tragic mask of an actor on the Athenian stage. This travesty of a science dominated Medicine for many centuries. It served no doubt a certain end, but it hampered progress and blinded the eyes of those who were seeking for the truth. It owed its origin, as I have already said, not to misdirected research but to a popular demand, and it is with this phase of its development that I propose alone to deal.

This imagined science of Medicine took upon itself several aspects. Its earliest, most conspicuous, and most abiding form is that known as the Humoral Pathology. This fiction had its origin about the days of Hippocrates, and to a very large extent dominated Medicine for some twenty centuries.

It was varied from time to time to meet the public taste and to satisfy new requirements, but its principal features were as follows: The body was occupied by, and was to a degree composed of, four cardinal humours—namely, blood, phlegm, yellow bile, and black bile, the two latter being also known respectively as choler and melancholy. The equipoise and proper adjustment of these humours constituted the state of health. The loss of this balance, or an unpropitious blending of the humours, was the cause of disease. The humours, which in substance were described as "humedious and vaporative," were allied with, or were expression of, certain distempers, complexions, or states of the body. Blood was associated with a hot condition or distemper, phlegm with cold, and black bile with melancholy. In like manner certain foods and medicines were heating, others were cooling, while a third variety was melancholic.

Very detailed accounts of these purely fictitious fluids were provided for all who demanded dogmatism in medicine. Phlegm, for example, was bred in the liver, and had most puissance in winter, from October 8th until March 9th, and from the third hour of the night until the ninth of the said night. Melancholy, in the language of the seventeenth century, "is a humour imperfectly concoct which hath his mansion and abiding in the spleen. It reigneth in harvest from September 18th until October 8th, and hath dominion from the ninth houre of the day until the third houre of the night." What more could a man want to know?

In applying these data to practice it would appear that cancer—as an instance—was due to a collection of black bile, produced by a hot distemper of the liver. Its medical treatment, therefore, was obvious. The patient must avoid all melancholy meats, must take cooling medicines together with such remedies as were soothing to the liver. Drugs with these reputed powers were forthcoming, and consequently the medical treatment of cancer was as undoubted as were its causes. Here, then, was a system of medicine for popular contemplation, complete in every particular, and one that not only explained the nature of all diseases, but, at the same time, indicated their intelligible treatment.

It is interesting to inquire how a science of medicine so elaborate and yet so devoid of any element of truth came into existence and remained dominant and satisfying for so many centuries. Ignorance rendered its acceptance possible, but not its fabrication, for ignorance is merely the state of not knowing, while this was a carefully invented and finished scheme. The explanation is, I think, the following: In matters involving special knowledge the layman is indulgent of hesitating statements. In a legal issue he will not complain if the opinion of his lawyer is indefinite as to the outcome of a pleading or as to the value attaching to this evidence or to that. He himself acknowledges that the law is uncertain. When he questions the mariner, too, as to the coming weather, he is satisfied with a dubious reply. The morrow will probably be fine, but, on the other hand, there may be rain. Now in all matters connected with personal health, as in all matters concerned with personal religion, the layman demands absolute dogmatism. There must be no uncertain reply to any inquiry. The very suggestion of doubt is abhorrent, and, indeed, insupportable. Both the pastor and the physician must be dogmatic, must be sure of their views and be free from any shadow of vacillation.

The true science of Medicine was slow of growth. In the early days of which we are speaking the sum of actual knowledge it presented was negligible. What the physician did not know would have filled many volumes, while what he did know would fall within the compass of a page. At the same time it was from the many volumes unhappily that the sick man sought his questions and expected, in reply, a firm answer. What could the man of Medicine do? If he stood in a Palace of Truth he would speak to his patient in this wise—"I believe that the disease from which you suffer is called cancer. As to the causes of the malady I know nothing; as to the nature of the malady I also know nothing. I only know with regret that the disease is fatal. Certain remedies are employed empirically in such a case as yours, but I cannot say how they act, nor am I sure that they have any effect at all. The surgeon may do something for you, but I nothing." As surgery in early days involved substantial terrors it is not to be supposed that the sick man would suffer the truth-speaking physician kindly. He demanded something more comforting than the bare truth.

Some such invention, some such plausible fiction as the humoral pathology became a necessity. Agnosticism in Medicine, however honest, the sick man would not and could not tolerate. Some satisfying tale was as much needed to maintain the status of the physician as it was to furnish consolation to the patient. The humoral pathology enabled the doctor to answer with promptness and confidence every problem placed before him and to convey his answer with the dogmatism that the afflicted man required.

The general trend of the humoral pathology was little more—as I shall hope to show—than a reflex of the untutored mind on the great subjects of health and disease, while its unfaltering array of reputed facts was needed to maintain that infallibility with which alone these problems could be discussed. The intellectual simplicity of those who derived comfort from this fiction and the ingenuity of the imposture are revealed by a very little study of the details.

The body of the sick man was the seat of turmoil. Humours flying in various directions were making great havoc. They were pursued by the physician with the same alacrity as would be displayed in chasing rats about a barn. Some humours had to be driven out; others had to be coaxed from their hiding place, for these humours, while sometimes very shy and often very bold, were always fickle and uncertain. Culpepper says that when in a fever the eruption fails it signifies "the retirement of the humour inwards." He speaks also of the obsequiousness of a morbid humour and of its contumacy and sulkiness. He tells, too, how they become numbed by cold and excited by heat. The activity and malignancy of the humours were marvellous. They could fly from the feet to the head like a soaring bird or drop from the brain to the ankle like a stone. They would gather together in unsuspected places like conspirators, or slink out of the body as do thieves in the night.

Every person in those days had a temperament, just as now many have a constitution. Those with a hot temperament grew quickly, as does a plant in a warm atmosphere,

their teeth appeared early, and the growth of their hair was luxuriant. The man of dry temperament was like an ill-watered shrub, scraggy and thin, while his hair, like the leaves, soon fell off.

These temperaments or complexions are very fully described in works on medicine of the time, and by no writer more vividly than by John Fage of Midhurst in his work, *The Sick-mens Glasse*, which was published in 1638, and sold at the shop of William Lugger on Tower Hill near to the Postern Gate.

The man of choleric temperament, John Fage tells us, was short of stature, with a florid complexion and red or "alborne" hair. He was quick witted and bold, but also unshamefaced, hasty, and fraudulent. He was eloquent, but, at the same time, graceless as well as a mocker and one apt to leasings. He of a melancholic constitution was slender and had dusky or flaxen hair. He was a self-lover and covetous, fearful without cause, vexed with dolours of the mind, ambitious and very majestical in behaviour, yet slovenly and inhumanious. The sanguine individual was well built and had brown hair. He was merry, liberal, courteous and bold, a man of good behaviour with apparently no other fault than that grief stuck but lightly to his heart. Every possible combination of temperament was described and among them the very modern person may be interested to find the sanguine-phlegmatic man who was noteworthy because of his proneness to dream of flying in the air.

Each of the organs had also a temperament. For example, a warm heart was associated with a large pulse, but also with "boldness and maniacal ferocity." The cold heart went with a small pulse and a "timid and spiritless disposition." With the dry heart the pulse was hard and the passions ungovernable, while the pulse of the humid heart was soft and the subject dull and lethargic.

The compounds produced were endless, so that one can conceive the physician sucking his gold-headed cane while he pondered a regimen for a man with a dry heart and a cold stomach or a hot liver and a humid lung.

Many of the characteristics ascribed to food and drugs appealed easily to the imagination of the layman. Some of them were arbitrary, and had to be accepted without question. A few have survived, for certain people still speak of cooling medicines, although what they mean is not now known. Meat was heating, and even to this day one hears of a mother who thinks that beef is too heating for a child, although her expression is no longer intelligible. The dryest meat was that of a wood-pigeon. The meat of the turtle dove was dry and hot, and had "a wonderful effect in sharpening the understanding." Fish, of course, was cold. Geese and ducks produced humid food, because they dabble about so much in water. Prunes were cooling and dates were heating, but the explanation of these properties I cannot discover. The lettuce, the gourd, and the cucumber were obviously cold foods. Lentils, for some reason, were melancholy. Sweet apples were heating, but sour apples were cooling, and "cut the humours in the stomach." Even now there is a domestic remedy in use for coughs which contains vinegar, the acid being of value—the wise women say—in cutting the phlegm. The radish, needless to say, was hot; while the penetrating onion could pierce with ease the thickest humour. Barley was decided to be cold, so barley water was given in fever, and is, I believe, still employed by some in the ceremonial treatment of that condition. Borage "imparted gladness to the soul," and for that reason, and so far as I know for no other, is still used in the compounding of claret-cup and like beverages, when gladness of soul is desired.

Wine, of course, was heating, although, as a matter of fact, it lessens heat production. Thick wines were assumed to make thick blood, and so to this day the sick man's friends prefer burgundy to claret. Red wine made red blood, and was therefore prescribed in anaemia. This ancient fancy still persists, for port wine is given to the pallid apparently on the ground that the wine is red and the patient is white. To give such a sufferer a white wine would be a heresy. I am under the impression—in this connexion—that stout is given to the weak because the word "stout," as defined in the dictionary, means "physically strong."

The number of medicines at the disposal of the practitioner was prodigious. The idea that any disease could be treated without medicine was inconceivable. This system embodied the great fundamental article of faith that if a person was sick he must take medicine. No man could expect to get well without going through this drear observance. He was taught to associate ill-health with drugs, or more probably he determined for himself that every one who was sick must take medicine in some form. The belief still lingers with many folk. The out-patient, for example, leaves the hospital with a sense of being wronged unless he takes with him something in a bottle. If a child has measles, there are parents still who demand that the child shall have medicine, and, if the physic be not forthcoming, they seek what they term "higher advice." Their argument is the old one. The child has measles; measles is a disease; therefore the child must have medicine.

Among the many hundreds of drugs which figured in the old antidotaries of, say, the sixteenth century, scarcely one is in use at the present day. These reputed remedies were obtained from all the realms of Nature. The majority were derived from herbs by complex and uncanny processes, such as attend the making of a broth in a witch's kitchen. Some of the plants the doctor gathered for himself in the fields and woods, more especially at the full of the moon. Others he grew in his garden, while many came across the seas from wonder-abounding lands. The botanical preparations were at least cleanly, but many of the remedies obtained from the animal kingdom were loathsome. Certain forms of physic were purely fanciful, for there was special power in an elder leaf upon which the sun had never shone, and sterling virtue in a powder made from the sail of a wrecked ship. A few items in the materia medica were almost poetical. For example, the heart of a nightingale was given as a cure for loss of memory. There is a pretty conceit in this, for the song of the nightingale is so long sustained, is so infinitely varied, and yet so well remembered, that the heart of the singer should bring back the recollection of all bygone things.

Every drug had its function, so that if a patient asked why a medicine was given, the physician had an answer ready. The doctor seldom trusted to one remedy; he rarely drew one bow at a venture, but rather sent a flight of arrows into the dark. If one bolt happened to hit the mark he proceeded to prove that it was aimed with a purpose. We find that one very popular draught of the time—the *aqua coelestis*—contained (as the *London Pharmacopoeia* of 1682 assures us) 45 ingredients, while that excellent electuary, Venice treacle, was composed of no less than 65 carefully selected drugs. The action of the drugs had, with one or two exceptions, not the slenderest foundation in fact. They belonged to a materia medica of pure fiction. The therapeutic effect of the much vaunted plants had no more scientific basis than has the "Language of Flowers." To assert that rue warmed the blood or that raisins strengthened the liver ranked in value with the pleasing conception that rosemary stood for remembrance.

As the properties of drugs were invented primarily to meet the demand of the patient for dogmatic assurance about his ailments it will be noted that the effect ascribed to many remedies was such as the lay mind could understand. I might take some of the simplest instances. The juice of the pomegranate was advised for undue pallor of the complexion, because that fruit itself is of the deepest red. To preserve the face from wrinkles a preparation was used composed of ivory shavings, frankincense, and isinglass. "Why?" asked the lady who buys the cosmetic. Because ivory is itself perfectly smooth and free from wrinkles; because frankincense is employed in embalming and can prevent the ravages of decay, and because isinglass is soft, glossy, and readily moulded. For threatened baldness bear's grease must be applied. But why bear's grease above all other forms of grease? Because the bear has the thickest coating of hair of any animal. By another plan—not yet quite abandoned—the hair was treated as an agricultural crop, and was supplied with fertilizers, just as, at the present day, one applies basic slag or nitrates to a bare or patchy lawn.

If, when a child was cutting teeth, the teeth were slow to come through the gum, the gum was rubbed with the brain of a hare, because the hare is so quick in its exits, and, at the same time, sweet oil was poured into the ear.

The mother could understand this latter measure well, for she must often have poured oil into a rusty lock when the bolt was hard to come through.

As the sick man demanded a scheme of therapeutics that would meet every malady and every symptom to which the human body was prone, he was supplied with the most lavish materia medica the world has ever seen. He asked for bread and was given not a stone but a magic mountain worthy of the *Arabian Nights*. The whole of this system of treatment has vanished, leaving no trace behind except in the form of a few valued drugs still in use, together with copious reminiscences embodied in the folk-lore of the country and in the literature of the modern quack.

The domestic use of linseed tea, of liquorice, of horehound, of coltsfoot, of cooling powders and of elder wine, all belong to the vanished Aladdin's Palace of Medicine. The hardiest survivor is, perhaps, the tonic. The tonic is a medicine the taking of which gives strength. The pretence is as ridiculous as would be the assurance that there was a drug the swallowing of which gave wealth or the power of speaking the truth. We have still in our chemists' shops some decoctions, some syrups, and some electuaries, but where are the lohochs and the necsings, the masticatories and the lambitives, the vapours and the fumes, the alexipharmicks, and the epithems?

It must be confessed that with the disappearance of this fool's paradise a great deal of the picturesqueness of the sick-room has also passed away. Think of the prettily named remedies that stood by the solemn four-post bedstead, or that were taken from the gracious Tudor cupboard or from the still-room chest! Where are the julep of wild poppies, the conserve of tamarisk flowers, the syrup of sweet smelling apples, the succory water and the oil of lilies? It was almost worth while to be ill if one could be treated with a potion made from "the four great cold seeds," while how poor a thing is the modern tabloid by the side of "one pugil of the great celandine"! Who could decline an ointment made of spikenard and black hellebore, or a draught of marjoram mixed with fleabane, or an apozem made by moonlight from so prettily named a simple as the pellitory of the wall?

There was nothing these remedies could not do. They could harden the heart or soften the brain, and make the pores of the skin to open or shut as easily as if they were the ventilators in a railway carriage. By his demand for dogmatism and a remedy for every symptom the sick man and his household laid up much trouble for themselves. The effect of their requirements upon the inventive powers of the physician may be illustrated by the treatment of a child for measles as given in a textbook written in the year 1668.

The room is very warm, because the pores of the skin must be kept open and the humours thereby afforded every opportunity to escape. It is also very close, since a cold air might drive a chilly humour back again, just as it was leaving the body. The coverings of the bed are crimson, because, as Culpepper says, that colour entices the boiling blood to the external parts. Lying actually on the bed is a live sheep, not tethered there to amuse the child but "because these creatures," as the writer states, "are easily infected and draw the venom to themselves, by which means some ease may happen to the sick person."

The wretched child has been already bled, to its infinite terror, and has already drunk a decoction of barley and figs in order to coax the humour to the skin. It has probably swallowed a quantity of gum, for whenever the humour is thin it must be thickened by gum and like substances. The little patient would now be in a position to take medicine. This might be either in the form of a julep of turnip seeds, fennel roots, and scabious leaves, or a lohoch of a nature equally uninviting. Gargles and vapours, as well as protective syrups for the lung, would be added as occasion offered.

Another example of the penalty the irrational patient brought upon himself is afforded by the procedure adopted in dealing with a common cold. The catarrh is due, the physician said when an explanation was demanded, to the defluxion of an excrementitious humour from the head to the parts below. The brain is the seat of the trouble, for are there not headache and great heaviness in the head? The brain is large; a cold distemper causes the nourishment brought to it to be excessive and ill concocted. The superfluous supply drains away in the form of phlegm, and so there is at once explained the streaming eyes, the nasal catarrh, the trouble in the throat, and, later on, the expectoration from the lung. The brain, in fact, is a kind of sponge which has become over-saturated. The rest is a mere question of gravity.

Cold feet may cause a catarrh? the patient asks. Assuredly they may, because—as Culpepper affirms—the cold distemper is conveyed to the brain from the feet "by the chiefest nerves that come through the marrow of the back bone." Hence incidentally is also explained the aching often felt about the spine. Could any pathology be more simple?

The treatment of the cold must follow the lines indicated by the pathology of the disease. The humour must be got rid of, and the dripping brain must be dried up. What a terrible process it was, and what horrors it added to a malady already melancholy enough! Picture the miserable man sitting in an armchair in a stifling room. He has been bled. He has been cupped on the neck and shoulders, and has had an issue applied behind each ear, for the humour must at all costs be drawn out. He could not feel more sore if he had been ridden over by a cart. He takes medicated snuff at one moment, and inhales the pungent fumes of burnt linen the next. He sniffs at powders that make him sneeze, or chews an acrid substance that causes his mouth to water. In this fashion the brain is, as it were, drained. In any interval that may occur he drinks medicine, such as marjoram water, betony juice, a mess made of nutmegs, or that gallant remedy for all cold distempers, coloquintida, which figures in so many "magistrall receipts."

This, however, is not all. The great medical event in the cure of a cold is the drying up of the brain. The fore part of the head is shaved and the supposed fluid in the sodden brain is mopped up, as it were, by applying bags of bran or of sage leaves to the scalp. Such is the procedure for the day; but at night the head is covered with a drying powder composed of eleven absorbent substances, which same powder is combed off, like so much clay, in the morning.

It is a dreadful picture. But for the folly of insisting upon a knowledge that none possessed the patient may have been sitting quietly in his room with an interesting romance and have recovered in half the time without a shaven head, without the scars of two issues behind the ears, without a long abiding nausea and the debility consequent upon loss of blood.

These measures belong not to science but to the cult of the story teller and the mime. The afflicted man called for a story—for any story—that would satisfy his anxiety, just as a frightened child demands from its nurse an explanation of the thunder and lightning which fills it with dread. The story furnished was dogmatic and detailed, and adapted to the intelligence of the inquirer. That it was pure fiction was immaterial. It fulfilled its intention. It satisfied the patient as it did the child.

It may be asked how remedies so utterly ineffectual came to be accepted by the world as of sovereign value even if the patient himself was unknowingly the instigator of their invention. Such measures were tolerated and were even held in esteem, for the same reason that secures some modicum of success to every quack. The reason is simple. The very great majority of sick people recover and the patient is always more ready to ascribe success to medicine than to nature. Moreover, as Stuart Mill has observed, "Faith in delusions is quite capable of holding out against a great multitude of failures, provided that it be nourished by a reasonable number of casual coincidences between the prediction and the event."

Here, then, is a science of medicine founded upon pure nonsense, or rather upon the fables evolved to satisfy the demand of the public for dogmatism in all that related to ill health. In this extraordinary product the physician himself believed. The tale had come to be accepted as true; it was a matter of sober study; it formed the basis of the education of every medical man, while its ridiculous gibberish became the speech of the cultured physician.

The true science of medicine, the science based upon assured facts, was proceeding side by side with this phantasm, but its influence was slight and its movement almost imperceptible. The course of medical progress had been diverted from the firm road into a shaking quagmire

where men stumbled to and fro, talking, so far as the ears of truth were concerned, in unknown tongues. The people insisted upon a complete, infallible system of medicine where was neither doubt nor wavering, and they obtained in response to their impossible demand a fabric of fiction which is unique in history by reason of its magnitude, its detail, its audacity and the completeness with which it satisfied the demand that called it into existence. This vast work of invention had no more concern with the living science of Medicine than has the cocoon with the living butterfly. It was the people who were the leaders of early Medicine. That they led it utterly astray does not alter the fact that they led. The physician had to adapt what little he knew or professed to know to the attitude of mind they displayed. The channels available for the expansion of Medicine were channels directed by the people's needs and expectations, while the very details of the art had to conform to the popular understanding.

In conclusion, it is needless to observe that the whole of this spurious science has long been swept away. Medicine is now an exact science founded upon well tested facts; its speculations are directed by reason and justified by experience. While its confines have been enormously extended, while its ramifications have become almost bewildering and its potentialities amazing to contemplate, its principles have been consolidated, simplified, and reduced to a few great propositions.

Medicine, or at least the elements of Medicine, are now for the first time "understanded of the people."

No longer are medical topics obscured by a mystic verbiage which was deliberately intended to hide ignorance and give the appearance of learning to sorry inventions. The educated person of the present day can inform himself of the foundations upon which medical practice is based; he finds himself dealing with facts and not with mysteries; he is enabled to appreciate the physician's difficulties, to share in his doubts, and yet to obtain, in well proven truths, that dogmatism which, while the world lasts, the sick man will never fail to demand.

NOTE ON THE USE OF "DUM-DUM" AND EXPLOSIVE BULLETS IN WAR.

By SURGEON-GENERAL W. F. STEVENSON, C.B., K.H.S.

History again repeats itself! and surgeons at the front, and especially young civilian surgeons inexperienced in bullet wounds, on both sides, are accusing their enemies in this war of using "Dum-Dum" and explosive small-arm bullets, a practice which, as regards the latter, is contrary to an agreement entered into by the principal European Powers in 1868, by which they bound themselves not to use explosive projectiles under 14 oz. in weight.

Dum-Dum and Other Kinds of Easily Deformed Bullets.

The Dum-Dum bullet is so named after the place near Calcutta at which it was first made. It is precisely similar to the Lee-Enfield bullet, except that the cupro-nickel envelope ends near the shoulder, about $\frac{3}{8}$ in. from the point, leaving the leaden core exposed for that distance. Other forms of this class of missile have a hollow, or dimple, in the fore-end which is uncovered by envelope, or cross-cuts made with a saw in the direction of the long axis of the bullet; but in all of them the same object is desired—that they should readily break up on contact or, at all events, on striking bone; and this result has certainly been achieved. They do break up very frequently in the tissues, and almost always when they meet with hard bone at a fairly high rate of velocity. No doubt the injuries produced by them are severe; pieces of the core and jagged strips of the envelope are scattered widely through the part struck, remaining lodged in the part to set up surgical complications later on, and important structures may be torn by pieces of the envelope. But, on the other hand, they suffer much damage themselves by being so broken and distorted, and thus a good deal of the energy they possess, on which their capability of destructive effect entirely depends, is expended in causing the distortion and fragmentation they undergo, and therefore less remains to be spent on comminuting the bone and injuring the soft parts. These projectiles were invented for the purpose of obtaining greater "stopping power" than the service bullet possessed against Ghazis and other fanatic savages, and, no doubt, when they implicate any of the large cavities of the body, the destruction of which they are capable is extreme. But the ordinary service bullet is, as we shall see later on, capable of causing more severe wounds in the limbs when they traverse compact bone at high rates of velocity.

The mere fact of finding bullets broken into numerous fragments in wounds is no proof that this type of missile is being used by the enemy. The ordinary service bullet sometimes parts with its envelope, which may be torn into jagged and twisted strips of metal, while the leaden core is broken into slug-like pieces, with the result that the destructive effect on the soft parts of the limb is greatly increased. The only certain evidence of their employment is the finding of bullets of this kind or fragments of them in the patients during their surgical treatment or in the positions recently evacuated by the enemy. The recognized customs of war and all ideas of humanity are against the use of projectiles of this kind among civilized nations, and it is improbable that they are used to any great extent.

Explosive Small-arm Missiles.

The employment of explosive small-arm bullets in warfare comes under another category altogether. It is not only against the customs of war and opposed to all notions of humanity, but it is contrary, as already mentioned, to the conference held in St. Petersburg in 1868. But agreements of this kind do not always exclude the evils they are intended to prevent—as witnessed notably in this year of 1914—and the matter must be considered from the point of view of the evidence for and against the truth of statements made on the question.

Army surgeons and civil surgeons employed on a campaign meet with a fairly large number of wounds the entrance apertures of which are clean-cut, circular holes of about the size of the end of an ordinary cedar-wood pencil, while the exit wounds are of great superficial area and accompanied by bone fractures of great severity and extensive comminution, together with wide-spread destruction of the soft parts. That injuries of this class could be due to the passage of a solid bullet of quite small calibre appears to those who see them for the first time to be impossible, and the ready explanation is immediately proclaimed that the enemy is using explosive bullets other than those for artillery guns—that he is using small-arm bullets containing bursting charges within them which explode on contact with the object hit. These cases have been met with, similar views have been held and similar reports made regarding them since small-arms of the more powerful kinds were first employed in warfare—the Snider, Martini-Henry, Lee-Enfield, Mauser, Lebel, etc.—and practically in every war for the last fifty years each side has accused the other of using these explosive small-arm bullets; whereas, in fact, they have not been used at all. This is the phase of the war which surgeons are going through just now, and it depends on a want of knowledge of the capabilities of the ordinary service small-bore bullet under certain conditions.

I was present and had to report on a long series of experiments carried out at Woolwich when small-bore rifles (Lee-Metford and Lee-Enfield) were first adopted in the British army, for the purpose of ascertaining the probable effects of their projectiles on men in actual war. The results obtained in these experiments showed that at short ranges the Lee-Enfield bullet produced wounds on the exit side, in a large number of cases, which, from their extent and extreme severity, it was difficult to recognize as being the results of solid bullets of 0.311 in. calibre; they looked as if they must have been produced by explosions within the tissues. It soon, however, became evident that two conditions as regards the bullet were invariably present in these cases—(1) short range and therefore high velocity, and (2) that it had passed through structures offering great resistance to it; in these circumstances only was the "explosive effect" produced.

M. Delorme, the French army surgeon, has reported this class of injury to have occurred when only strong tendinous soft parts had been traversed by the bullet, but in the experiments, and as actually experienced in South Africa, the implication of compact bone in the bullet track is necessary for their production in their really typical character. Injuries of this class were caused by the Snider and Martini-Henry bullets of as great severity as those resulting from small-bore bullets, but not so frequently, because the former did not retain a sufficiently high velocity over as long ranges as the latter. The older bullets produced them up to 100 or 150 yards' range, whereas the Lee-Enfield, Lebel, and Mauser bullets produced them up to about 400 yards. The cause of the great destructive effect seen on the exit side is the violent displacement of the fragments representing the comminution which occurs in the compact bone tissue, due to the great energy still inherent in the bullet at the ranges mentioned. The result is that the bone fragments, large and small, are driven forward through the soft parts and out at the exit side, producing the exit wound of the enormous size sometimes met with in specially severe cases, and when the exit side happens to be on the inner side of the limb large nerve and vascular trunks are very liable to be torn.

If injuries of this class are seen to result from solid small-arm bullets in experimental work, why should we immediately accuse the enemy of using explosive bullets when we meet with them in actual warfare, as we did in the Boer war, and as surgeons at the front are doing now? If small-arm shells were used in war, almost every bullet wound seen would be of the explosive type (the only exceptions being the few cases in which the bullets failed to explode), and they would not be confined to men hit at 400 yards and under, but would be experienced at all ranges, and whether bone had been implicated or not. Range and velocity and the structures traversed would, in fact, have nothing to do with the amount of damage done. But "explosive effect," experimentally and practically, is seen to result only under the conditions mentioned above; naturally, in these circumstances, we must admit the relation of cause and effect in this case. Surgeons who uphold the explosive bullet theory talk freely of the enemy's use of these projectiles. Why do they never produce one in proof of their contention? In every trench, or defended position, which has been evacuated by the fighting line, hundreds, perhaps thousands, of unused cartridges are to be picked up by any person who wishes; yet apparently nobody has ever found one with an explosive bullet in it. We accuse the Germans of using these missiles, and they accuse us of doing so. This kind of thing is just a phase common to the early days of all campaigns, and is equally untrue of all. The Germans carry on war in barbarous fashion, but they have not yet adopted this particular barbarity, probably because it would be of no advantage to them, for solid small-bore bullets do all they desire of them, and small-arm shells are not required.

I have seen references to the new sharp-pointed bullet first used in the German army as being more "humane" than those of other small-bore rifles. If humane in this connexion means less fatal, I believe that it will not prove, on actual experience, to deserve this character. Its centre of gravity, owing to its long and tapering shoulder and point, is situated unusually near its base. This gives it a marked tendency to turn over on meeting with even slight resistance, thus causing it to spin on its shorter axis during its passage through the part traversed by it, the result of which is certain to be increased damage to the contents of the head, chest and abdomen when these cavities have been traversed by it. Professor Fessler of Munich made experiments with this bullet when it was first introduced into the German army, and reported to the above effect.

THE Buxton Council have resolved "that all officers, soldiers, and sailors of the Allied Forces invalided to Buxton be granted the Buxton mineral water treatment free of cost, such treatment to be prescribed by a medical practitioner." It is believed that the waters of Buxton combined with the dry bracing air will prove an excellent remedy for the cases of rheumatism contracted by our army and allies whilst in the trenches.

THE SOLDIERS' FEET AND FOOTGEAR.

BY

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THE lexicographer might have said, "The question of feet comprises in itself a subject of no inconsiderable magnitude." The importance of soldiers having well formed and normal feet cannot be exaggerated, for an army lasts only as long as the feet of its infantryman. Feet to the soldier are what tyres are to the motor, wings to the bird. In fairy lore, classical literature, and mythology, the means of locomotion given to man and beast have engaged the attention of the greatest writers of the centuries. Children love to hear of the magic boots of the giant whose every stride covered a mile, while the tales of Cinderella and her slipper, and of the children who lived in a shoe have become immortal. The people of Abarimon, a district of Scythia, we are told, could only live in their native air, and their feet had toes behind their heels. Mythology tells us that Mercury, the son of Jupiter, had wings to his feet which enabled him to transport himself from place to place with lightning velocity. Amongst his many exploits he is said to have robbed Venus of her girdle, and Mars of his sword; nor must we forget Achilles, who was plunged by his mother in the Styx, and rendered invulnerable except in his heel. His life was one long day of deeds of valour until he met his death at the hands of Paris, who wounded him with an arrow in his vulnerable heel. Like Achilles, armies have proved themselves invulnerable except in their feet, and have suffered the humiliation of seeing victory snatched from their grasp on account of inability to march any further. When once the ambulatory power of a force breaks down, its *moral* and spirit suffer, and its attributes of pertinacity of purpose and celerity of movement are lost. This has been recognized by all the armies in the field to-day, and every endeavour is being made to cope with the question from a military and a medical standpoint. No one has shown more solicitude for the soldiers' feet than our King, who, when visiting the wounded, made anxious inquiries about their feet and footgear. The letters from soldiers at the front, published in the daily papers, constantly contain complaints about their feet, and may be well summed up in the sentence of Private F. Burton, of the Bedfords, who writes: "Sore feet are the great trouble, most of us being a bit lame." Brave as a man may be, it is a physical impossibility for him to march far with blistered and sore feet, and he becomes a drag on his comrades. In this respect one cannot help calling to mind how Captain Oates walked out of the tent into the Antarctic blizzard with his poor maimed feet tortured with frostbite, his one thought being to save his comrades who refused to proceed to "One-ton Camp" until he could accompany them.

No army in the world is better provided with good serviceable footgear than our own, and the Government, recognizing this to be of the utmost importance, are making strenuous efforts to keep this efficiency constant and lasting. The British "Tommy" has a special affection for his boots, for he knows that, in war time, they are his best friends, and a striking example of this is related by Sir Frederick Treves in his interesting book *The Tale of a Field Hospital*, in which he says: "Amongst other traits, one notices that the soldier clings with great pertinacity to his few possessions, and especially to his boots. There was one poor man at Spearman's who was in great distress because, just as he was being sent down to the base, he had lost his solitary boot. He said it contained a puttie, a tin of jam, two shillings in money, and a bullet that had been taken out of him."

The evolution of the human foot is of great interest. Man is the only animal whose thighs and trunk are in a straight line when standing, for even anthropoid apes have their lower limbs bent towards the belly at the hips, and flexed at the knees, when walking. To have gained our present erect posture has taken millions of years, for there is no bone, muscle, or organ in the body, which has not been changed. Although the ordinary monkey runs on all fours, the gibbon, or small anthropoid ape, runs along the

branches of a tree on its legs in an erect posture, only using its long arms to seize overhanging twigs to help it on its way, or to swing from bough to bough, or tree to tree, when pursued or in a hurry. In the gorilla the legs are comparatively stronger, and fashioned to bear the weight of the whole body, and in consequence have lost some of the features which make the monkey's foot chiefly a grasping organ. *Pithecanthropus*, the earliest human-like fossil discovered, had in all probability a foot like our own, for no human foot has ever been seen with the great toe separated like a thumb, as is the case in all anthropoids. To the scientific mind, however, there is little doubt that the great toe was once set like a thumb, and that the foot was used as a grasping organ. Wire walkers and the native artisans of the East use the great toe to steady and balance themselves and their work, causing the muscles of this organ to be well developed. The human foot was evolved, as far as one can say, in the Miocene period, and the upright posture of man appeared with the evolution of the gibbons. The chief changes which have taken place in the lower limb are:

(*a*) The straightening of the limb into a line with the trunk when standing.
(*b*) The stiffening of the mid-tarsal joint.
(*c*) The lowering of the heel until it reached the ground when standing or walking.
(*d*) The disappearance of the thumb and the substitution of the great toe.

The two diagrams below show roughly the position of the lower limb in the pronograde dog-like monkey and in the anthropoid ape.

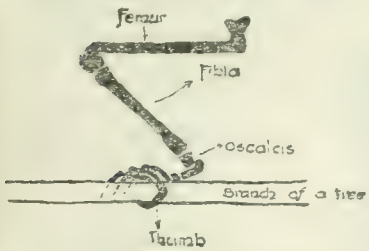


Fig. 1.—Diagram of the foot of a pronograde dog-like monkey grasping a branch of a tree. The heel is bent up and does not touch the branch; mid-tarsal joint is flexible.

In the former the limb is bent towards the belly, and flexed at the knee, while the mid-tarsal joint is very flexible, and the heel is a long way from the ground; while, in the latter, the limb is getting nearer the straight line, the mid-tarsal joint is becoming less flexible, and the heel is approaching the ground. The human foot, having to bear the whole weight of the body, is provided by nature with natural arches, which are recognized by engineers to be the strongest in existence. The hollow bony arches of the foot give it the necessary strength and elasticity, and, in addition, protect delicate structures (blood vessels and nerves), from pressure and injury.

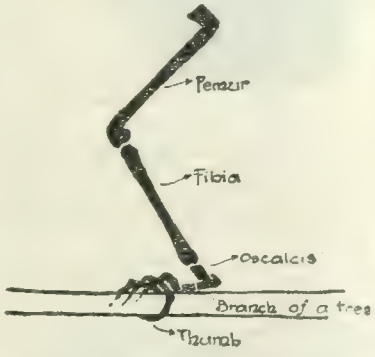


Fig. 2.—Diagram of the foot of an anthropoid ape. The heel is not bent so much, and nearly touches the branch; mid-tarsal joint is less flexible.

In man, the arch of the foot was evolved by:

(*a*) Development of a tonic and tetanic condition of the muscles of the toe and the flexors.
(*b*) The stiffening of the mid-tarsal joint.
(*c*) The approximation of the metatarsals 2, 3, 4, 5, to metatarsal 1, and not the opposite, as is usually supposed.

From within outwards, the longitudinal arch is dependent upon:

(*a*) The way in which the bones are fitted together to form an arch.
(*b*) The way in which the bones are held together by ligaments, especially the inferior calcaneo-scaphoid ligament, supporting the head of the astragalus.
(*c*) The tendons running round the inner ankle inverting the foot and flexing the toe, all tending to strengthen and maintain the arch, especially the tibialis posticus.
(*d*) The small muscles of the foot.
(*e*) The plantar fascia and the skin.

In walking or standing the maintenance of the arch depends on muscular action, and if, from strain or overwork, the muscles or tendons lose their power of bracing up the arches of the foot—and this task is left to the ligaments, which may themselves give way, either rapidly by rupturing or gradually by stretching—the result is what is known as flat-foot. It follows from this that the weight of the body should be distributed so as to cause least burden on the muscles of the arch, and should fall just in front of the transverse arch.



Fig. 3.—Diagram of section of a foot lengthways, showing bones of longitudinal arch.



Fig. 4.—Section of a foot crossways, showing bones of transverse arch.

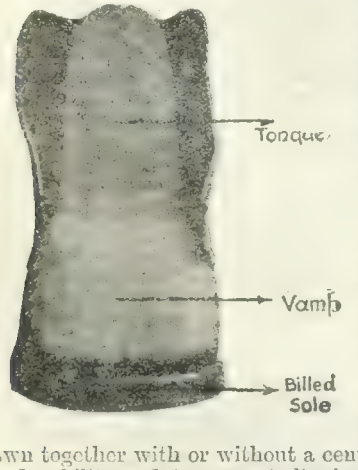
The skin of the sole of the foot is composed of three layers, the most superficial of which varies in thickness and hardness according to the amount of friction and pressure it is subjected to. The middle or mucous layer is intimately connected with the other two layers, and, although it contains no blood vessels, it may allow fluid from those in the deeper layer to pass through it. This exuded fluid, not being able to pass the hard horny layer, separates the first and second layers, and forms a blister. The third layer, or true skin, is composed of dense elastic tissue containing blood vessels, nerve endings, sweat glands, etc., and this is the layer which is affected when men complain of sore feet.

Having briefly touched on the morphology, anatomy, and physiology of the human foot, we must next consider how it is protected from injury by artificial means. The custom of wearing something to cover and protect the foot is of great antiquity, and in the British Museum there are specimens of Egyptian shoes and sandals dating back some three thousand years. Sandals of plaited papyrus and other materials were used by the ancient Egyptians, Greeks, and Romans, and are worn to this day in the East. They persisted, in Europe, until the fourteenth and fifteenth centuries, when the *poulaines* became the fashion. On account of their length, which sometimes reached several feet, the poulaines were found inconvenient, and gave way about the end of the fifteenth century to the *souliers camus*. In turn the narrow and broad shoes came, and were followed by various forms of boots, the chief fault of which was that there was little or no difference in the two feet. Gradually the patten, which was used for outdoor wear, was superseded by the heel, and each foot was properly fitted with its own boot. The sandal, being correctly shaped to the normal foot, with a straight inner edge, caused little deformity, and the two straps, the latchet and the forestrap, which kept it in position, helped to maintain the proper adducted position of the great toe in walking and standing. Ancient writers, about the time of Christ, in spite of this, have left on record descriptions of deformities caused by ill-fitting sandals and shoes. When, in Europe, the sandal was discarded in favour of the shoe, the tendency amongst the fashionable set was to have it smart and pointed, though in the reign of Henry VIII it was considered more fashionable to have a shoe wide and broad.

We must next review the steps taken by the Government to provide soldiers with suitable footgear. On joining the Regular Army each soldier is given two pairs of army boots and three pairs of socks, free

of cost. They are kept in stock sizes, and it is the duty of the officer to make quite sure that the correct sizes are issued, for if the soldiers are allowed to choose their own boots without official supervision, they are apt to let "vanity override wisdom," and choose too narrow or too small a boot. This is known in the army as "fitting the eye instead of the foot," and even after the proper sized boots have been issued, the soldier will often have them altered in shape at his own expense to make them look smarter. This should never be allowed, and, if discovered, should be severely dealt with. It may happen that no stock size will fit, in which case a man is permitted to have his boots specially made for him. The fact must not, however, be overlooked that such a man may prove a menace to his unit in a long campaign, for when his boots are worn out he will find it extremely difficult, or impossible, to get another pair to fit him. In every battalion there is a shoemaker's shop, where the boots are repaired at a fixed rate. The army socks are made of grey worsted and are of regulation sizes, and it is the duty of the soldier to see that they are kept clean and in proper repair. Periodically a kit inspection is held, when it is decided whether the boots and socks are in a satisfactory condition, and if the company officer is not satisfied that such is the case he either orders them to be repaired or new ones purchased. Every soldier has a clothing allowance, out of which new kit is purchased. If, at the end of a certain period, there is a surplus, the money is added to his regular pay, but if there is a deficit it is subtracted. By this means every soldier is encouraged to be careful and economical, and if he is careless and extravagant he has to pay for such weaknesses out of his own pocket.

When the British army is mobilized every soldier should possess two pairs of boots and two pairs of socks. If these are not in good condition the Government supply new boots in place of those not considered fit for active service. On reaching a foreign country, in order not to hamper the soldier when marching, his kit-bag containing his spare kit is left in charge of the company storeman at the Infantry Base Depôt. Amongst the other articles in this spare kit are one pair of boots and one pair of worsted socks, which can be forwarded from the base when it is considered convenient or necessary. On active service the British soldier does not carry a spare pair of boots with him, but fifty pairs of shoes and thirty pairs of ankle boots or Highland shoes for each infantry battalion are carried in the regimental transport. There should always be supplies at the base for replacements. The Territorial in peace is not supplied with either boots or socks by the Government, so that the oddest assortment of both are often seen. The county associations, however, usually make a grant to men who are in possession of suitable boots for the annual camp, and on embodiment every Territorial is given 10s. by the Government if his kit is considered satisfactory by his company officer. It would make for more uniformity and efficiency if the Government could see its way to provide both boots and socks free of cost to every Territorial on embodiment. Every Reserve man has his mobilization equipment, including his boots and socks, kept ready for him at the mobilization stores.



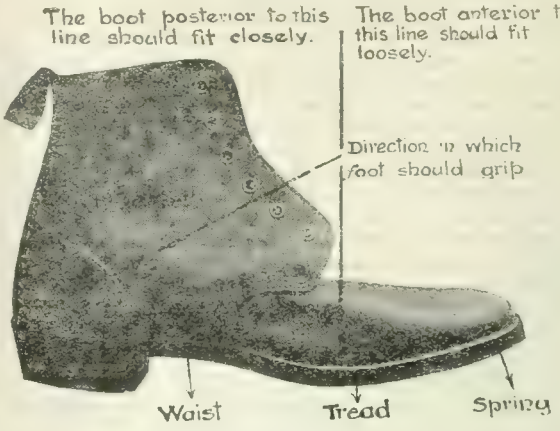
THE ARMY BOOT.

Photographs of the army boot are given in three positions. Made of stout leather, it consists of the following parts:

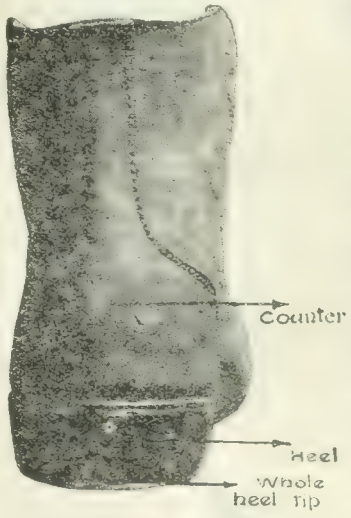
The Sole is composed of two stout layers of leather sewn together with or without a central filling. To add to its durability and to prevent slipping on wet ground, nails are inserted into it, and the sole is said to be "billed."

The Waist being the narrowest part of the sole is apt to "give" too much, and for this reason a piece of stout leather is usually inserted between the two layers, from the heel to the tread.

The Heel consists of stout leather, and is "whole-tipped" in order to prevent it wearing out too quickly, and to act



as a protection from stones and other objects when marching. Generally speaking, the lower the heel the better, for if too high, it tends to throw the weight of the body on to the toes and strain the arch of the foot and the ligaments of the ankle, especially when marching downhill.



The Vamp, or front portion of the boot, is made of a softer leather, and is rounded over the toes. It covers the toes and instep and is continued up in front of the ankle into the *tongue*, which reaches well to the top of the boot.

The Quarter, or back part of the boot, covers the ankle-joint and the heel, and is pliant over the former and stiff over the latter. It is composed of two halves seamed together with the edges of the seams turned outwards. It is stitched to the vamp in front and the "*counter*" behind, and is pierced with eyelet-holes for lacing. The laces are made of strong leather.

Fitting the Boot.

It may seem a matter of small importance to insist that the boots fit the feet properly, but it must not be forgotten that ill-fitting boots are the cause of bunions, corns, hallux valgus, metatarsalgia, ingrowing toenails, hammer toes, bromidrosis, and hyperidrosis.

The fitting of ready-made boots is no easy matter, and many things have to be considered before the right pair is finally selected. Not only the length and breadth of the foot, but also the height of the instep, must be taken account of, and for this reason *magnitude* as well as *size* must be allowed for. The size and magnitude are stamped on the inside of the boot for future reference, the former being placed below the latter—for example, $\frac{7}{5}$.

On standing or walking the whole weight of the body is thrown on the feet, and two changes take place in them—namely: (*a*) The whole foot spreads out and increases in length and breadth. (*b*) The great toe is drawn to the middle line of the body, although its alignment is seldom that of the first metatarsal bone, as it should be. For these reasons it is necessary to make the soldier stand and walk in the boots to see if they are comfortable and roomy

enough in front. It is important to remember that the foot swells when heated and fatigued, and that a boot which fits perfectly over a thin sock, may be very uncomfortable over a thick one.

An ideal boot should protect the foot from cold, wet, and external injury, and support it when necessary without hind r ig any of its normal movements or causing any undue pressure upon any part of it. It should fit tightly round the heel and as far forward as the middle of the metatarsus, but should be roomy in front of this to allow for the spread of the foot, the adduction of the great toe, and the free use of the metatarso-phalangeal joints. The sole of the boot should have a good projecting welt, be straight on the inner edge, and be pliant so as to ease the toes and the tread when marching. If the front part of the sole is not pliant it bends up and forms a curve called the "*spring*" of the boot, and gets fixed in this position. Although some soldiers say that such a boot facilitates marching by enabling them to use their feet simply as rockers with minimum muscular effort, sooner or later troubles will arise, such as corns in the sole of the feet, with pain and inflammation around the metatarso-phalangeal joints. The vamp of the boot should be pliable, especially near the roots of the toes, so as to allow free movement to the "natural hinge" of the foot, and should be boxed up and rounded over the toes to prevent pressure or friction. The quarters should not interfere with the bending of the ankle, nor should they quite meet in front, otherwise it will be impossible to lace them so as to apply firm pressure. If the quarters are too high the soldier will be tempted to leave one or two of the upper holes of the lacing undone to give more movement to the ankle.

I would insist upon the following details being carried out in fitting a soldier with boots:

1. Fit the boot *after* a march, when the foot is fatigued and swollen.
2. Fit the boot over the thickest sock.
3. Have both boots properly laced, to see that the quarters are not too high and that the ankle-joint is free.
4. Fit each boot separately.
5. Make the soldier stand and walk in his boots before deciding which pair to give him.
6. If no ready-made pair fit, insist upon a special pair being made.
7. Give full instructions about the preparation and subsequent care of the boots.
8. Give a boot that is too large rather than one that is too small, for leather, when wet, shrinks.

On handing a recruit a new pair of boots he should be told to soften them *before* wearing them, and this is best done by well soaking them, inside and outside, with crude castor oil. It is important to keep the uppers supple by the constant use of oil or dubbing, and especially is this necessary when the boot is thoroughly wet. If this is not done regularly the leather becomes hard and brittle, and one of the commonest mistakes a soldier makes is to place his wet boots near a fire. It is on record that during the first winter in the Crimean war our soldiers suffered from their boots getting soaked through, and many were in the trenches without either boots or socks, as the leather of the boots shrank so much from the constant wetting that when once they were taken off it was impossible to get them on again.

In the Balkan war the result of the men being in wet trenches for twelve to twenty-four hours on end was seen in various forms. Many suffered from cholera and dysentery, but it is also stated that gangrene of the foot was not an uncommon occurrence, beginning in a painless way with mere discoloured blistering over one or two toes, to death *en masse* of the leg as high as the knee (Max Page). Depage considers that many of these cases were caused by the pressure of damp boots and putties shrinking as they dried. It is probable that a vasomotor disturbance very similar to this occurred in the Crimean war, and was classified in the statistics as frost-bite.

It is true that, *Cucullus non facit monachum*, but the boot *may* make the soldier, and no trouble can be considered too great which not only provides him with a sound and perfectly-fitting boot but also with the knowledge of how to keep it supple and in an efficient state for the hardship of war.

The Army Socks.

The question of the soldiers' socks, although not so important as his boots, is one which requires most careful attention. Some years ago the Germans did away with socks, and kept the soldiers' feet well greased. It was reported to have been successful, not only from the point of view of economy, but it was maintained that the men marched more easily, and that the feet showed fewer blisters than when socks were worn. That this plan had its disadvantages is proved by the fact that the Germans are provided with socks at the present time. The socks should be properly shrunk before being worn, and should be a little on the large size. If too small, they will cramp the foot and compress the toes, and be liable to wear into holes very quickly. If too large, they are liable to cause blisters and sore feet from wrinkling. Unshrunken socks should be at least two or three sizes larger than the foot, otherwise, after several washings, the heels will be pulled down under the soles, and cause trouble. The army socks are made of grey absorbent worsted, and must be kept clean, or they become hard and non-absorbent, and cause sore and offensive feet. Each soldier should be taught to darn his socks evenly, so as to leave no ridges or imperfections, and on no account should he be permitted to wear socks with undarned holes. As thousands of socks are being made by patriotic ladies all over the country at the present time, the following particulars may be useful:

The socks are made with heels and toes of the usual kind, and should be woven or hand-knitted with No. 13 needles, and 4-ply superfingering or wheeling in grey, Lovat's mixture, or natural colour. The lengths of foot asked for are 10 in., 10½ in., 11 in., and 11½ in.; the largest number required are those measuring 10½ in. and 11 in. in length. For sizes 1 and 2, 64 stitches should be cast on in the first instance, and for sizes 2 and 3, 68 stitches.

A substitute has been tried for socks in the shape of foot-cloths, which can be more easily washed and dried, as they are simply wrapped round the feet. It is a matter of small consequence if they shrink, but, even with these advantages, good, well-fitting woollen socks have proved to be more efficacious.

(To be continued.)

INSECTS AND WAR:

VI.—*FLIES* (Part II).

By A. E. SHIPLEY, Sc.D., F.R.S.,
Master of Christ's College, Cambridge.

Who fills our butchers' shops with large blue flies?
Rejected Addresses.

But there are other flies, first amongst which may be mentioned *Fannia canicularis* and *F. scalaris*. These belong to the family known as Anthomyidae, and are distinguished from the house-fly by being smaller in size and by many other small details in the imago stage hardly to be appreciated except by trained dipterologists. For a short time at the beginning of the summer during May and June *F. canicularis* is more abundant than *M. domestica*, and, as watched on the window panes of our living rooms, are apt to be thought by the uninformed to be young specimens of the latter. But, as has been said in a previous article, flies when they are once flies do not grow; all the growing they do is done in the larval stage. But as the days lengthen the common house-fly becomes vastly more common than *F. canicularis*, the "lesser house-fly," and the latter now tend to aggregate in those rooms of our houses not devoted to cooking, and may frequently be noticed flying in a jerky and disconcerting manner around the chandeliers or bedposts in unfrequented living- or bed-rooms. The relative proportion of these two genera now varies in different localities. Roughly speaking, out of 100 flies collected in a house there is something between 90 and 99 per cent. of *M. domestica*, but the numbers not only vary with locality but with temperature.

On the other hand, there is a curious disproportion between the number of the sexes found "at home" in the lesser house-fly. For every 100 *F. canicularis* taken indoors 70 to 75 are males, the numbers being evened by an equal preponderance of females who have remained out of doors. The larva of *Fannia* is a flattened-looking

grub with distinct segments, decorated by numerous feathery processes. It lives amongst decaying vegetation and fruit, and also amongst fermenting animal matter and dejecta. Sometimes they are found in rotting grass. As we shall see later, they frequently pass into the human alimentary canal. *F. scalaris*, usually known as the "latrine fly," is even commoner than its congener, and the external structural differences are minute. As its name indicates, it is found as a rule breeding in human dejecta, and is therefore, as a typhoid carrier, much more dangerous than *F. canicularis*. Its larva is also more commonly found in the human intestine.



Fig. 1.—Latrine fly, *Fannia scalaris*, male (× 3). Antenna. Head of female, dorsal view. Natural size, resting position.

Then there are two species of large flies known as blue-bottles or blow-flies—*Calliphora erythrocephala* and *C. vomitoria*. The former of these is the more common. The sides of its face are golden yellow, set with black hair; whereas in *C. vomitoria* the sides of the face are



Fig. 2.—Blow-fly or blue-bottle, *Calliphora erythrocephala*, female (× 3). Antenna. Male head, dorsal view. Side view of head. Natural size, resting position.

black, but the hair is golden. Both are handsome, sturdy looking diptera, with bluish-black thoraces and abdomens of a dark metallic, gun-metal sort of colour.

Blow-flies deposit their eggs on fresh or decaying meat, and this is one of the great sources of trouble to the officers of the Army Service Corps. But they are not content with killed flesh. They will lay their eggs on any living flesh which is exposed, or in sores or tumours, and here their larvae will thrive. Dr. Graham-Smith tells us he once found the exposed muscles of the broken leg of a living rabbit seething with a mass of small blow-fly larvae, which were nourishing themselves upon the living flesh. The eggs of the blow-fly hatch out in from ten to twenty hours in normal British temperatures; the larval life, in its three stages, lasts from seven to eight and a half days; the pupa state lasts a fortnight, so that the total development extends a day or two over three weeks. These maggots are unusually voracious, and Linnaeus used to say that the progeny of three blow-flies will dispose of a dead horse as quickly as three lions.

C. erythrocephala is essentially an outdoor fly and enters houses only in search of a nidus on which to deposit its eggs. *C. vomitoria* resembles its congener in size and habits, but it is not so abundant. Occasionally its eggs have been known to be deposited in the nostrils of animals and men.

But there are:

> All species of resplendent flies,
> Some with green bodies and green eyes,
> Pricking like pins' heads from their holes
> Like tiny incandescent coals.—*Anon.*

One of these, *Lucilia caesar*, is a marked nuisance to those responsible for victualling a camp. This green-bottle fly, like the *Calliphora* and the house-fly, belongs



Fig. 3.—Green-bottle, *Lucilia caesar*, male (× 3). Antenna. Female head, dorsal view. Natural size, resting position.

to the family Muscidae, and its larvae are said to be indistinguishable from those of blue-bottles. Some species of *Lucilia* deposit their eggs in great quantities amongst the wool of sheep when the sheep are ill-kept, and they do much damage. But as far as war is concerned the harm that *Lucilia* does is laying its eggs upon dead animals. It does this on all sorts of meat stores, but in times of peace it especially infests stale fish, which the issuing larva very soon eat clean to the bone. When feeding upon a dead fish lying upon the beach they burrow down in the sand below their food. They descend some 2 to 6 in., and for the most part remain deep in the sand during the daytime, coming up to feed at night. They also have a habit of migrating from one fish to another. This fly has also been known to lay its eggs in the neglected wounds of human beings.

Sarcophaga carnaria is another species which occasionally infests human sores, and which enters houses in search of filth or carrion on which to lay its eggs; it is viviparous and produces not eggs but live larvae. One female can give birth to 20,000 young, and Redi states that the larvae of flesh-flies will in twenty-four hours devour so much food and grow so quickly that they increase their weight two-hundred fold.

Finally, there is a group of flies whose larvae penetrate under the skin of human beings and give rise to definite subcutaneous troubles. But fortunately these are with few exceptions confined to the warmer regions of the earth, and there is very little risk of their causing real trouble in Northern or Central Europe.

The troubles or diseases caused by the presence of fly larvae in the body are grouped in medical language



Fig. 4.—Flesh-fly, *Sarcophaga carnaria*, female (× 3). Antenna. Natural size, resting position.

under the term "myiasis," which Graham-Smith defines as follows:

The term "myiasis" signifies the presence of dipterous larvae in the living body, whether of man or animals, as

well as the disorders, whether accompanied or not by the destruction of tissue, caused thereby. Though not strictly coming within this definition the sucking of blood by larvae through punctures of the skin, which they themselves

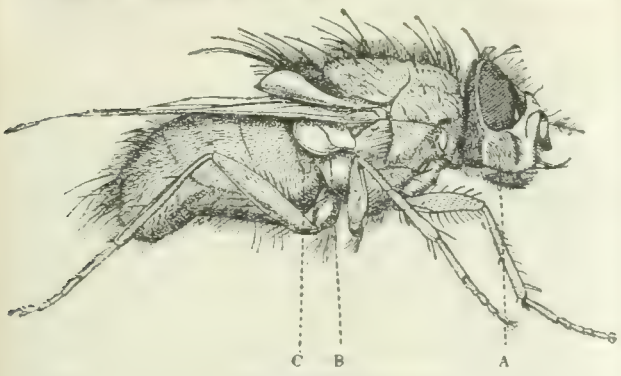


Fig. 5.—Side view of blow-fly (*Calliphora erythrocephala*) (× 5). A, Cheek (jowl); B, squama; C, halter.

produce, may be included for the sake of convenience in classification.

Myiasis in man may be produced by dipterous larvae—

(*a*) Sucking blood through punctures in the skin (*Auchmeromyia luteola*).

(*b*) Deposited in natural cavities of the body (*Chrysomyia, Lucilia, Sarcophaga, Calliphora, Oestrus*).

(*c*) Deposited in neglected wounds (*Chrysomyia, Lucilia, Sarcophaga, Calliphora*).

(*d*) Living in subcutaneous tissue (*Cordylobia, Dermatobia, Bengalia* (?), *Hypoderma*).

(*e*) Passing through the alimentary canal (*Fannia, Musca, Eristalis, Syrphus, Gastrophilus*).

In the above list only the more common genera producing myiasis are mentioned. In England Type (*e*) is fairly common, and Types (*b*) and (*c*) are occasionally observed.

We may now consider in detail, but very shortly, the categories set forth by Dr. Graham-Smith:

(*a*) The very peculiar blood-sucking maggot known as the Congo floor maggot, the larva of *Auchmeromyia luteola*, fortunately does not spread beyond tropical and subtropical Africa. It chiefly affects the natives who sleep on mats.

(*b*) The flies which deposit their ova and larvae in the cavities of the body are again mostly foreign. The worst of all is the screw-worm, *Chrysomyia macellaria*, of the Southern States, Central and South America. Although it extends to Canada it is not troublesome north of Texas.

Occasionally blow-flies in Great Britain deposit their ova in the human nose or ear. They very rapidly hatch and cause great inflammation and necrosis until they can be discharged or removed. They have even been found in the anterior chamber of the eye, and I have some microscopic sections showing the presence of these larvae in that chamber, whither they had probably proceeded from the nasal sinuses. But on the whole, cases of this sort are comparatively rare, and cause but little trouble.



Fig. 6.—Abdomen of female house-fly, showing the extended ovipositor.

(*c*) The real difficulty, and one which has already proved a serious trouble to our army in the field, are the cases in which maggots are found in neglected wounds. Here, however, we may take some comfort in the fact that the trouble is fortunately much greater in the tropical and subtropical regions than in more temperate climates, and is likely to diminish as the cold weather draws on. Still, during the hot weeks of August there were cases of wounded soldiers left lying on the fields for two or three days who were found to be suffering in this way. One almost hesitates to offer suggestions to our heroes in such cruel conditions, *but whenever and wherever it can be done wounds should as far as possible be kept covered.* Not only are neglected wounds affected, but tumours and ulcers are often attacked. But, as I have said, the danger is much greater in warmer climates. We know that Herod Agrippa "was eaten of worms, and gave up the ghost"; a fact which recalls the translation given by an unhappy undergraduate who when in difficulties with the Acts of the Apostles in the "Little-Go" translated καὶ γενόμενος σκωληκόβρωτος ἐξέψυξεν "He became a skolekobrote, and died in the enjoyment of that Office."

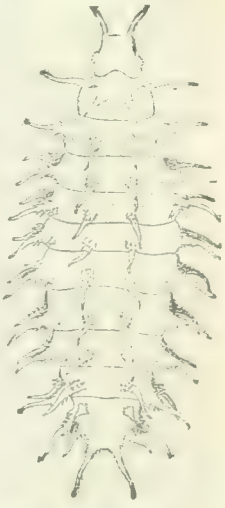


Fig. 7.—Larva of *F. canicularis*. (From Hewitt, Report to Local Government Board, 1912; reduced by one-half.)

(*d*) Flies burrowing in the subcutaneous tissues are again very much commoner in tropical climates than in Northern Europe, and the cases quoted in our country are comparatively rare.

(*e*) The presence of larvae in the alimentary canal of man is by no means uncommon. Both the larvae of *Musca* and *Fannia* are not infrequently found, and over a thousand of the latter have been passed by a highly infected individual at one time. They probably make their way into the body with over-ripe fruit. In some cases they give rise to no symptoms, but in others violent pains are felt and a certain dizziness, and the digestive functions are interfered with. The presence of these larvae in the urinary passages are even more difficult to explain, but they undoubtedly are at times found in these channels.

A few years ago an elaborate investigation was carried on by Mr. W. Nicol, for the Local Government Board, on the part played by flies in the dispersal of the eggs of parasitic worms. He showed quite definitely that the ova of certain human parasites are taken into the fly and pass through its body undigested. Should these be deposited on the food of man, there is great risk of his becoming infected. As I have said before, flies take only liquid food, and it is only when the ova of the parasites are very small that they can pass into the alimentary canal. Some eggs are too large for the fly to swallow. Eggs of parasitic worms have also been shown to be carried on the legs and proboscides of flies, and these are deposited on the spot where the fly next cleans itself. Probably, however, in the end little harm is really done by flies in disseminating parasitic worms, but it is a possibility which must not be disregarded.

The remedial measures for the control of flies are fully dealt with in Graham-Smith's admirable book, *Flies in Relation to Disease*, from which I have ventured to borrow many figures; and again by Dr. Gordon Hewitt, in his work on *House-flies*, which has had such a wonderful success in stimulating our North American cousins to decrease one of the gravest enemies to mankind.

It has been shown over and over again that we can control the mosquito; the building of the Panama Canal alone proves this. We could equally control the "Infinite Torment of Flies." The Canadians and Americans are doing their best, but are we? The knowledgeable world has at least discovered the reason why Beelzebub was called "the lord of flies."

A COURSE of lectures on infant care for voluntary health workers, mothers, nurses, etc., has been arranged by the Association for the Prevention of Infant Mortality and for the Welfare of Infancy. The lectures began on October 19th. Further particulars can be obtained on application to the Secretary, 4, Tavistock Square, W.C.

SOON after the war broke out the Lancaster Medical Book Club, one of the oldest medical societies in the country, which now includes every medical man in the town, held a special meeting at which arrangements were made to undertake the work of every medical man called up or volunteering for military service, and to safeguard the integrity of their practices. The balance of funds in hand, amounting to between £30 and £40, was voted to the Prince of Wales's Relief Fund.

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

W. S. Lazarus-Barlow, M.D., F.R.C.P., President.

DISCUSSION ON THE ACTION OF RADIATIONS ON CELLS AND FLUIDS.

OPENING PAPER.

By W. S. Lazarus-Barlow, M.D., F.R.C.P.

(*Abstract.*)

In a desire to investigate certain differences in the behaviour of different varieties of malignant new growth to radium radiations I determined to examine the effects of these radiations upon normal cells of the rat, notably the dry squamous epithelium of the tail, the moist squamous epithelium within the sphincter ani, and the columnar epithelium of the rectum. By inserting the upper part of a tube containing $RaBr_2$ into the rectum and allowing the lower part to protrude through the anus, I was able to ensure that each of these varieties of epithelial cell should be brought under the direct action of a constant source of radiations for a definite length of time. At various times after the irradiation the rats were killed and examination was made for histological change.

Two distinct varieties of radium exposure were made the subject of investigation. In the one a tube of platinum 0.3 mm. thick and 25 mm. long by 2 mm. wide contained 38 mg. $RaBr_2 2H_2O$. In the other a tube of platinum 0.5 mm. thick and 18 mm. long by 3½ mm. wide contained 92 mg. $RaBr_2 2H_2O$. Experiments showed that after due correction the total ionization of the 38 mg. tube for 30 minutes was represented in the case of the 92 mg. tube by 13½ minutes. One series of rats was therefore subjected to 38 mg. for 30 minutes, another series to 92 mg. for 13½ minutes. Rats of each series were killed on the first, second, third, seventh, eighth, and ninth days after irradiation.

Various points of difference between the irradiated and the normal epithelial cells and between the subcutaneous and submucous tissue in irradiated and in normal animals were noted, but I shall only advert here to the numbers of mitotic figures present in the epithelial cells and the number of cells presenting deeply-stained red cytoplasm with Pappenheim's stain ("plasma cells.") The number of "plasma cells" I regard as rough evidence of the degree of inflammatory reaction present in the subepithelial tissue; the number of mitotic figures is clearly evidence of the reproductive activity of the epithelial cells.

In the annexed table the mean values for the days 1–3 and 7–9 under the two conditions of irradiation are expressed as multiples or submultiples of the corresponding mean normal values, and it appears that the effects of a single application of radium are different (*a*) according to the type of epithelial cell under consideration, (*b*) according to the arrangement of the "quantity × time" factors which go to make up the single application of radium.

Thus 38 mg. for 30 minutes acting directly on columnar cells reduces mitosis 32 per cent. during days 1–3, but stimulates mitosis 33 per cent. during days 7–9 after irradiation, whereas it reduces the mitosis of dry squamous cells 85 per cent. during days 1–3 and further reduces it during days 7–9 after irradiation. Hence the dry squamous cell of the rat's tail is more vulnerable under these conditions of irradiation than the columnar cell of the intestine. On the other hand, the same total amount of irradiation, but distributed in the form of 92 mg. for 13½ minutes, reduces the mitosis of columnar cells in contact with the radium tube by 87 per cent. during the first three days after irradiation, while the mitosis of dry squamous cells is only reduced 43 per cent. Under these conditions, therefore, the columnar cell is more vulnerable than the dry squamous cell.

A similar difference is observable in the effects of radium at a distance ("high" columnar epithelium), 38 mg. for 30 minutes leading to a five-fold multiplication of the number of mitoses, 92 mg. for 13½ minutes only leading to a doubling of the number of mitoses.

One of the most striking points of difference brought out by the experiments concerns the two varieties of squamous epithelium. Histologically, one might possibly assume that the moist and the dry varieties only differ in respect of the amount of water they severally contain. But it is seen from the table that the two varieties behave differently under irradiation, although they have points of similarity. Whether early or late periods after irradiation be considered, the dry squamous cell is seen to be more vulnerable than the moist, while both varieties are more injured by 38 mg. for 30 minutes than by 92 mg. for 13½ minutes.

If attention be turned to the submucous and the subcutaneous tissues differences in behaviour under irradiation are equally observed. Whether the irradiation be by means of 38 mg. for 30 minutes or 92 mg. for 13½ minutes, subsquamous tissue shows no alteration. On the other hand, subcolumnar tissue shows an inflammatory reaction as indicated by the number of plasma cells present. But the two types of irradiation are not equally effective in this respect, even as regards subcolumnar tissue, for it is clear that 38 mg. for 30 minutes calls forth a greater inflammatory reaction than 92 mg. for 13½ minutes during the 1–3 days after irradiation (whether "low" or "high" epithelium be considered). During the 7–9 days this greater efficiency of 38 mg. for 30 minutes in invoking inflammatory reaction is seen in the case of "high" columnar subepithelial tissue—that is, tissue which has not been in direct apposition with the radium tube, but in the case of "low" columnar subepithelial tissue there apparently occurs a delayed inflammatory reaction.

If one consider columnar cells with submucous tissue and squamous cells with subcutaneous tissue as complexes that must necessarily be dealt with in matters of treatment with radium (for example, columnar cell carcinoma and squamous cell carcinoma), it would appear from the

Tube of $RaBr_2$	Days after Radium:	Days 1–3. 38 mg. for 30 min.	Days 1–3. 92 mg. for 13½ min.	Indication for Treatment.	Days 7–9. 38 mg. for 30 min.	Days 7–9. 92 mg. for 13½ min.	Indication for Treatment.
	(High) columnar—						
	Mitoses	× 4.8	× 1.9	92 mg. for 13½ minutes	× 4.1	× 4.5	Nil.
	Plasma cells	× 2.2	× 1.1	92 mg. for 13½ minutes	× 3.8	× 2.2	92 mg. for 13½ minutes.
	(Low) columnar—						
	Mitoses	× 0.68	× 0.13	92 mg. for 13½ minutes	× 1.33	× 1.3	Nil.
	Plasma cells	× 2.4	× 0.8	92 mg. for 13½ minutes	× 1.9	× 2.5	38 mg. for 30 minutes.
	Moist squamous—						
	Mitoses	× 0.5	× 1.04	38 mg. for 30 minutes	× 0.8	× 2.2	38 mg. for 30 minutes.
	Plasma cells	Negligible			Negligible		
	Dry squamous—						
	Mitoses	× 0.15	× 0.57	38 mg. for 30 minutes	× 0.1	× 1.0	38 mg. for 30 minutes.
	Plasma cells	Negligible			Negligible		

experiments that in order to produce the maximum injury to epithelial cells and minimum damage to subepithelial tissues different procedures must be adopted. If the quantity of radium be x, and the time of exposure be y, which produces the optimum results in the case of a carcinoma of dry squamous surface, x must be increased and y must be diminished in order to produce the optimum results in the case of a carcinoma of columnar epithelium. In the contrasted cases of squamous carcinoma affecting *a*, a dry surface, and *b*, a moist surface, the indications are not quite clear. So far as concerns the epithelial cells themselves of a carcinoma originating in a moist squamous surface, probably the quantity factor x might remain constant, the time factor y being prolonged, but it must be remembered that a carcinoma of a moist squamous surface is in close relation with submucous tissue upon which increase of the time factor acts injuriously. Hence the indications differ according to the size and situation of the growth. If the growth be small and submucous tissue be in close relation, the *time factor* should probably be kept as low as possible and the quantity factor should be high, whereas if the growth be large and submucous tissue be relatively at a distance, the *quantity factor* should be kept as low as possible and the time factor should be raised.

[The full paper upon which the preceding abstract is based will appear in the Archives of the Middlesex Hospital, Thirteenth Cancer Report.]

DISCUSSION.

Dr. J. O. Wakelin Barratt (London) said that of the appearances produced by irradiation those which were perhaps the least easy to interpret were caused by the formation of darkly staining material, sometimes in relatively abundant amount, in the cell nucleus. At first sight the impression was obtained that this represented paraplastic material, but no conclusive evidence existed that the cell nucleus stored up substances destined for its own use or for that of the body generally, nor was it possible to assign any other structural or functional significance to this darkly staining intranuclear substance. In the cytoplasm changes might occur which were capable of interpretation as evidence of functional disturbance. When such changes, however, were of rapid onset as the result of irradiation another interpretation appeared to be permissible—namely, that the changes in question did not represent a disturbance of function of the cell in the strict sense of the term, but indicated a process following upon death of the cell such as might conceivably be impossible of occurrence during the life of the cell, or it might be that if a similar end result obtained during life the mechanism of its production might be different from that taking place after death of the cell. Thus, in the few cases in which the appearances presented by cells after irradiation appeared capable of interpretation as due to disturbance of cell function, there might arise the difficult problem of ascertaining whether these changes really arose during the life of the cell or only came into being when the cell was no longer living. A further important inquiry was the extent to which acute or subacute changes, following upon irradiation, represented not functional disturbances nor events occurring after cell death, total or partial, but disordered processes of cell growth, or indicated disturbance of processes which were incidental to cell reproduction. The consideration of problems of this character was, however, unfortunately, as yet, in the absence of fuller knowledge of the nature and significance of developmental and reproductive cell changes, of necessity speculative or conjectural. In this connexion it was of considerable interest to recall the circumstance that in the case of mouse carcinoma the rate of growth of the tumour might be profoundly modified as the result of irradiation.

Dr. Henry Beckton (London) said that, in view of Morson's findings, it was of special importance to inquire whether the action of radium on cells was direct or indirect—that is, whether it was independent of, or dependent upon, the action of tissue fluids when these were present. With regard to beta and gamma radiations, the speaker's own work confirmed the observations of those who had found no effect to be produced by these radiations. He had used quantities of radium, varying from 25 to 100 mg., and for periods varying from one to three hours, and from one to three days. On fixing the radiated tissues (liver, kidney, and spleen) in formol-Müller (2 c.cm. formalin, 98 c.cm. Müller's fluid) for a week and embedding in paraffin he had found that the cells showed no constant differences from those of appropriate control pieces of tissue, either on staining with haematoxylin as regards nuclear detail, or on staining with aniline acid-fuchsin and differentiating with picric-acid alcohol as regards Altmann's granules. Moreover, he had allowed both experimental and control tissues to undergo autolysis for further periods of from one to three days, and had still observed no constant differences. With regard to alpha radiations, the matter was different, for Russ and the speaker found several years ago that these radiations produced marked changes both in nuclei and in Altmann's granules, the former showing diffusion of chromatin and the latter a very marked, or even complete, disappearance in most cell spaces worked with—namely, the cells occurring in liver, kidney, and spleen. Further, on irradiation of small tadpoles with beta and gamma radiations from 25 mg. of radium up to the moment of death, and similarly of infusoria (vorticella, etc.) with beta and gamma radiations from 3 mg., the speaker had found no histologically recognizable changes to be produced. It thus appeared that beta and gamma radiations acted upon living cells, even up to the point of killing them, without producing any histological changes as yet recognizable, and did not produce such changes in excised tissues when acting upon them even for prolonged periods. Hence it followed that the marked histological effects observed by Morson in the treatment of malignant disease by radium in tubes were dependent on the intervention of the tissue fluids of the living body.

Dr. S. Russ (London) drew attention to another aspect of radium dosage—namely, if when one type of radiation was used to cause a definite effect on two types of cells and the factor of relative sensibility was found, was this same factor found when one passed to another type of ray? Preliminary observations on these lines indicate that this was not so. He had made a comparison between the cells of Jensen rat sarcoma and *Staphylococcus pyogenes aureus* as regards their susceptibility to the alpha, beta, and gamma rays of radium. When submitted to the alpha rays the cells of the rat sarcoma appeared to be about four times as sensitive as the staphylococci; on passing to the beta rays, this factor was about six, and with the gamma rays it was reduced to about twelve.

Dr. Penfold (London) asked if the dose of the different rays from radium were adjusted so as to cause the death of the Jensen tumour tissue in constant time, would the differences of ratios he described still obtain, or was it not possible that the differences in the ratios of the lethal doses were due simply to the fact that different doses of the different rays were used, these doses being judged by the lethal action on either type of the cells under discussion?

Dr. Price Jones (London) said that he and Dr Mottram had made some observations on the influence of radium on *in vitro* cultures of mouse carcinoma and rat sarcoma. The technique employed in the preparation of the plasma cultures was practically identical with that described by Carrel and other workers. Beta and gamma rays from a capsule containing 7 mg. radium bromide were applied to the tumours for different periods of time before preparing the plasma cultures, a number of control non-radiated cultures being made at the same time from the same tumour. For purposes of examining the details of the growth, the cultures were fixed in Carnoy's fluid, and after treatment with alcohol were stained for twenty-four hours in dilute (1 in 100) Ehrlich's haematoxylin. This gave excellent results, and was much to be preferred to the use of strong stain for short time. It was found that in the different series of preparations the number of "takes" was variable. By "takes" was meant the presence after twenty-four hours of an appearance usually referred to as "growth"—that is, a spreading of the area of the original culture mass by the extrusion of cells possessing long, often branched, amoeboid processes. Out of 79 radiated cultures, including both mouse carcinoma and rat sarcoma, there were 58, or 73.4 per

cent., of takes; and of 193 control non-radiated cultures there were 135, or 69.9 per cent., of takes. From this it might be concluded that the exposure of the tissue to the 7 mg. capsule of radium bromide had no inhibiting effect on the "growth" of the culture expressed by the extension of cells. It should be noted that the minimum "radium dose" employed was more than enough to completely prevent the tissue from growing after transplantation into mice or rats. In the 25 radiated cultures that were stained, with two possible exceptions, mitosis was never observed; of these two exceptions, one culture showed 2 cells, the other 1 cell in which there was an appearance of mitosis, but of a very abnormal type the chromosomes being scattered and not arranged in any regular order. Of the control non-radiated specimens, 65 were stained; mitosis was observed in 18, and 307 cells in mitosis were counted. From this it seemed that exposure of the tissue to the 7 mg. capsule of radium bromide had a very remarkable inhibiting effect on mitosis of cells. They concluded that growth of *in vitro* cultures consisted of two processes: (*a*) Spreading of area of the original mass by extrusion of cells; (*b*) division of cells by mitosis. They concluded, further, that the spreading might occur quite independently of the mitosis, spreading being uninfluenced, mitosis being profoundly influenced by beta and gamma radiations. It also seemed to them that an increase in superficial area observed in an *in vitro* culture must not necessarily be regarded as growth in the sense of a multiplication of cells by mitosis.

Dr. Gaskell referred to experiments made some years ago on the development of hen's eggs under a daily dosage of *x* rays. The indications of these experiments tended to show that any radiation first caused a stimulation, then a diminution, finally followed by a compensatory stimulation.

DISCUSSION ON VARIABILITY AMONG BACTERIA AND ITS BEARING ON DIAGNOSIS.

OPENING PAPERS.

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Since 1904, when Hiss described variations in fermentation power occurring in members of the dysentery group, much work has been done on the subject. A large series of variations have been described and fully established. From recent studies it emerges that not only fermentation power but also culture and serum reactions hitherto applied in the classification of bacteria are subject to variation.

The idea of obtaining, apart from the power to produce the disease, single infallible tests to recognize pathogenic organisms has now been almost entirely abandoned.

This variation and selection are going on in nature; they have been shown to occur within the body in the course of infection, while in the laboratory the precise factors in the environment effecting the selection have been individually examined. The facts hitherto established on the subject affect:

(*a*) Bacterial classification; (*b*) the recognition of bacteria, the standards adopted by the hygienist, epidemiologist, and the clinical bacteriologist; (*c*) the vaccinist, whether he be engaged in immunizing patients or in producing serums for passive immunization.

The streptococci have been *classified* by various workers by means of their morphology, pathogenicity, fermentation power and by their action on blood agar. All these characters, however, have been shown to be very variable and names which have hitherto been used to designate varieties are now used to designate rather phases of growth of the individual strains.

Identification.—B. coli in water, food, etc., is recognized, amongst other tests, by its power to ferment lactose with gas formation. Recent work has shown that a large group of intestinal organisms take on, by processes of variation and selection, the power to ferment lactose and that this group passes insensibly into the lactose-fermenters proper. Moreover, it has been shown that the gas-producing power of the coliform organisms can be removed at will, under laboratory conditions, by various methods; it varies also within the body, so that these characters taken individually have less value in identification than has been hitherto supposed.

Recently it has been laid down by a well known practical worker in cholera prophylaxis that any vibrio, whether agglutinating with a specific serum or not, isolated from the excreta of a person coming from an infected country, must be looked upon as suspect.

In examining clinical material it is no longer sufficient to apply forthwith agglutination tests to the isolated organisms, since it has been shown that this particular, so called specific, character is frequently temporarily suppressed in the case of specific organisms as isolated from the body, and is restored by suitable selection.

It has been recently shown that vaccination with a plague strain grown on agar will protect rats against itself, but not against the same strain grown on serum. Here we have a clear demonstration that it is not sufficient to vaccinate with the homologous strain, but we must use the homologous strain in a particular condition. The aim of the vaccinist must be to use as a vaccine the particular strain infecting the patient in its most virulent phase or phases.

The result of all the work done recently on this important subject has added additional difficulty to the work of the bacteriologist. It has become necessary to obtain a larger number of tests to define the specific organisms so that their recognition can be effected with reasonable confidence, in spite of the temporary presence of atypical characters; further, it becomes necessary to establish the relative degree of variability to which each character is subject, and to apply the information so obtained in helping further to define the species. It has been shown recently that the power to vary easily in particular directions is frequently highly specific.

II.—M. C. W. Young, M.B., Ch.B.

(*Abstract.*)

This paper was intended to supplement a demonstration of modified bacteria in the Pathological Museum and to give a general account of the hypothesis from which the work had started and the methods which had been employed in the transformation of the bacteria. This hypothesis was that all bacteria formed merely stages in the history of a group of organisms with an extremely complicated life-cycle, part of which was protozoal in character and often, possibly always, parasitic.

The connexion between the bacterial and protozoal aspects could, the speaker said, frequently be demonstrated by examining with the dark ground illuminator perfectly clear and apparently sterile serum which had been incubated for some time. The serum chiefly used for study was taken from subjects with rheumatic affections or arterial disease. In it there might only be seen a few dancing granules, but more frequent and characteristic was a further stage of bright flocculent masses apparently made up of tiny amoebulae. In these masses nucleated bodies about the size of red corpuscles made their appearance later—the sporoblasts. These could develop microbes of various kinds. The one almost invariably met with—the sporozoite, in fact—was a bacillus of the *subtilis* type. This bacillus, in young growths, usually passed on in a few hours to the protist stage without giving any indication of its presence to the naked eye, and the serum again became apparently sterile to subculture. This cycle, with appearance and disappearance of the bacillus, might take place several times, but eventually, with the exhaustion of the medium for the protozoal phases, the bacillus came to stay. It, however, might be present for some days only in small numbers if any of the other stages were present which had not completed their evolution. It then grew, usually as a wrinkled film on the surface, and formed spores. A single cycle appeared in many cases to take about a fortnight, but several overlapping cycles were usually present.

Other bacteria which had been seen to develop from these sporoblasts were a drumstick bacillus in symbiosis with a coccus. These were seen to emerge from the sporoblasts of a moribund patient after a fortnight's incubation. A streptococcus arising from similar but larger sporoblasts was shown under the microscope.

These latter sporoblasts, subcultured from the serum of a rheumatic case, appeared as a solitary hard colony on agar on the eighth day, the streptococcus developing from them two days later. A staphylococcus had also been seen to develop from similar sporoblasts on an agar slope.

The spores of this *subtilis* bacillus had been transformed into the protozoal stages by growing them on agar at 60° and then in 10 per cent. unfiltered peptone solution acidulated with metaphosphoric acid at 37°. The transition to the protist was complete in about twelve hours,



Fig. 1.—Sporoblasts and bacteria.

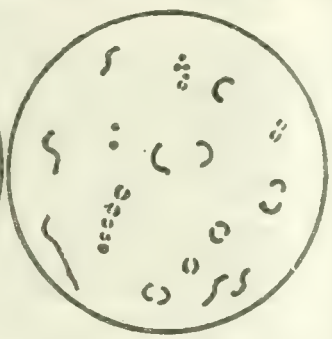


Fig. 2.—Passage from coccus into bacterium.

when the subcultures were negative. A couple of days later there appeared the nucleated sporoblasts. Unfortunately, the medium had apparently not been suitable for the repetition of the cycle, and the bacterium which developed from them did not disappear, but grew on and formed spores.

Every type of bacterium which had been tried—and the attempt had been made with a considerable number of non-pathogenic ones—had been transformed into this *subtilis* type with more or less ease, usually by growth in broths of varying alkalinity, ½ c.cm., 1 c.cm., or more of a 5 per cent. solution of sodium hydrate being added and the cultures kept at the required temperature, the optimum for many being about 42°. The cultures passed through the protist stage to the sporoblast, from which the usual sporing bacillus developed. The longest time taken was about four days. Some bacteria changed much more rapidly.

The bacteria resulting from this transformation resembled each other very closely, both microscopically and in culture, while, on the other hand, a large variety of types of growth could be obtained from each bacterium, by, for example, heating the spores to temperatures not sufficient to kill them. Each bacillus might occur also in a motile and non-motile form. There was shown a motile bacillus turned into a non-motile by growth at 60° in glycerine broth. Non-motile forms, on the other hand, tended to pass spontaneously into the motile, especially on media containing lactose.

It had been necessary, therefore, for identification to try to obtain as many other stages of each life-history as was possible. The preferable method would have been to have obtained the sporoblast as described above, and then to have brought about the development from it of the other phases. This method had to be given up for the time, owing to the difficulty of getting the bacteria to grow at the required temperature. It had been found, however, in the course of the experiments on the modification of the macroscopic appearance of the cultures, that on heating the spores for longer than the time which had apparently sufficed to kill them, the bacillus sometimes reappeared. The spores were therefore heated for still longer times and in various solutions, and other types of microbe were occasionally obtained.

Many of the sporing bacteria from the blood and saprophytic bacteria were used as well as those from the anthrax and tubercle bacilli.

The *subtilis* spores from anthrax were got by heating a two and a half months old culture and from the subculture in lactose broth of a five months old culture, which grew a wrinkled film, the broth below being clear and alkaline, while the other test broths gave typical cultures of the anthrax bacillus. The temperature for transforming the spores was, as a rule, 110°, the heating medium salt solution with or without alkali, and the time, for anthrax, at most five minutes. Slight variations in the process and even in the age of the spores used often affected the result materially. At best, 10 per cent. of the subcultures on one medium or another gave positive results (agar with various sugars was used). The microbes obtained included four apparently different staphylococci. A pink coccus, shown under the microscope, could be seen to transform itself directly into a bacillus on certain media, especially glucose agar, reverting to the coccal form when put back on plain agar. It was possible that such direct transformations were comparatively frequent. A diphtheroid and various cocco-bacilli and diplo-bacilli were also got.

Of the tubercle bacillus, both human and bovine types, and the Arloing Courment bacillus were used. It required a good deal of care to get positive results. The temperature was 41½°. The human bacillus turned five times out of six in ½ c.cm. alkaline broth and the sixth time in 1 c.cm. The bovine turned in the 1 c.cm., and the Arloing-Courment in the 1 c.cm. and 3 c.cm. broths. Often a bacillus which gave negative results would give positive if tried a week or so later. Parallel cultures from different media such as egg and glycerine agar would also give different results.

The sporing bacteria corresponding to the tubercle bacilli differed from all those hitherto worked with in being more readily killed by heat. Five minutes' boiling sufficed when first obtained, whereas most resisted for one and a half hours, the anthrax ones for over an hour, and one from a rheumatic blood for about six hours. Their upper limit of growth and spore formation were, when first got, about 10° higher than those of the *subtilis* type from anthrax.

The microbes got from overheating these tubercle spores were chiefly cocci. The temperature used was not higher than 105° for two to five minutes. With more or less similar conditions the same coccus, if any, appeared. Two sets of cocci from the bovine bacillus were shown. Those from the spores heated to 105° (ten in number) were white and grew at 37°; those from the steamed spores were orange, and did not grow at 37°, but scarcely above 20°. The cocci from the tubercle bacilli appeared on the agar in from two to four days, while those from anthrax took from seven to ten days, and the pink coccus mentioned above five weeks (one week being at 37°, and the heating solution 5 per cent. metaphosphoric acid). Cocco-bacilli, diplo-bacilli, and anthracoids were also got from this tubercle, as from most of the other spores, and a yeast and torula apiece from the human and bovine bacilli. The anthracoid from the human bacillus was remarkable for the extremely waved, almost spirochaetal, appearance of its filaments by the third day, spore formation having been arrested.

The above record gave very little idea of the extreme complexity of the results. The account of methods was to be regarded more as indicating the direction in which further results might be obtained than as a definite guide. Each bacterium presented to some extent new problems.

DISCUSSION.

Dr. W. S. Lazarus-Barlow (London) called attention to the fact that minute quantities of radium might exist in normal tissues, and he had found experimentally that ordinary laboratory broth sometimes contained an appreciable amount of the element. In view of the pronounced agglutination that Russ and Chambers noted in cultures of *B. diphtheriae* exposed to radium emanation, the speaker thought the possible effect of variations in the radium content of the culture medium in bringing about some of the bacterial variability ought to be borne in mind.

Dr. E. C. Hort (London) drew attention to the necessity for abandoning artificial media for the preparation of vaccines for purposes of treatment. The great point was to approximate as near as possible to the natural media of the body in order to imitate the natural processes of cure of infections. For this purpose Dr. Hort and Dr. Ingram had been using in numerous diseases whole normal human blood as medium of growth, and the results had been full of encouragement.

Dr. Wilson (Belfast) mentioned some cases of bacterial variation coming under his observation. In examining

the fermentative characters of strains of *B. coli* isolated from the urine in cases of cystitis and pyelitis he had found a number of colon bacilli, which in most cases were unable to form gas from sugars and alcohols, but a few of them were able to produce gas from alcohols but not from sugars. These "anaërogenes" strains occurring naturally were very similar to strains produced artificially by Penfold by growing *B. coli* on sodium monochloracetate media. He had also observed a *B. coli* which was able to ferment lactose at room temperature but which had no action on the sugar at body temperature. As regards morphological alterations, he had observed that the *Streptococcus faecalis*, when grown on the Drigalski-Conradi medium, attained a very large size and became distinctly ovoid in shape. Some experiments showed that this alteration was due to the action of the lactose and crystal violet in the medium. Recently he had isolated a bacillus of the *proteus* group from a subcutaneous abscess. This micro organism grew profusely at 37° C., and had the usual morphological and staining characters. When grown at 39° C. the growth was scanty, and the culture, when stained by Neisser's method, showed very well marked metachromatic granules. This bacillus was Gram-negative, and was in no way related to the *B. diphtheriae*, yet the appearance of the films was indistinguishable from that prepared with the Klebs-Loeffler bacillus. In an outbreak of cerebro-spinal fever in Belfast in 1907–8 out of some seventy strains examined all except five fermented maltose and glucose, but a few failed to ferment both these sugars. In other respects the cocci resembled the diplococcus of Weichselbaum. At the same time Houston and Rankin showed that the opsonins for the cocci isolated from cerebro-spinal fever cases had little effect on cocci obtained from cases of posterior basic meningitis. In the course of time the meningococci suddenly acquired the character of readily absorbing opsonins and agglutinins from a normal serum, whereas, at the start, it required a specific serum to produce an opsonic or agglutinative effect.

Dr. BENHAM said that the bacteriologist had this advantage over other observers in that he was able to watch the process of evolution in miniature. The rapidity with which micro-organisms subdivided, as shown by the researches of Dr. Thiele, was so great, that it was easy to understand how rapidly these extraordinary variations in type could occur. If this discussion bore no other result, he hoped it would lead bacteriologists to pay great attention to the nature of the medium on which their strains were grown, and he suggested to bacteriologists the desirability of trying their strains of bacteria on media prepared in other laboratories as well as their own, in order to see whether they had the same characteristics under these circumstances. From the point of view of immunization the discussion certainly emphasized the need for the use of media which approximated as nearly as possible to the tissues of the human body, and also the necessity for using the first subculture for immunizing purposes, a point which had been known by vaccine therapists as a rule of thumb for some years. The observations of both Dr. Penfold and Miss Young were of such importance that he hoped their papers would be read by bacteriologists throughout the world.

Dr. JOHN H. TEACHER (Glasgow) discussed variation in a diphtheroid organism. The original cultures were obtained from the uteri or placentae of guinea-pigs which had aborted. The first cultures, whether on agar or serum agar, were quite characteristic to naked eye and microscopical examination. The culture looked like diphtheria, but by the second day the colonies spread out in thin delicate crenated margins with white pointed centres. They were discrete and hard and rubbed off solidly from the agar, breaking up with difficulty. The bacilli were like *B. diphtheriae* but more septate, and on staining by Neisser's method they were less abundantly beaded. In subculture some of the cultures remained fairly constant, but in the majority the colonies lost their sharply defined characters and hardness, the result being a diffuse soft "mucusy" growth. The organisms might be coliform or even coccoid in character. But on inoculation of guinea-pigs the original characters constantly reappeared in the first culture. This process had been observed repeatedly in experiments extending over many months.

THE PRESENCE AND SIGNIFICANCE OF NITRITES IN URINE.

BY

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(Abridged.)

THE presence of nitrite and nitrate in urine was first observed in 1864 by Schönbein.[1] In 1895 Richter[2] found nitrites in the fresh urine of certain cases of acute gastric and intestinal catarrh, and regarded this occurrence as of pathological significance in these conditions. The fresh urine of cases of sulphaemoglobinaemia may also contain nitrites in considerable amount, and this, together with the blood changes, is regarded as an indication of the presence in the blood of an active reducing agent (a hydroxylamine derivative, vide Mackenzie Wallis[3]). Normal fresh urine, however, does not contain nitrites. In urine which is allowed to stand exposed to the air nitrites make their appearance, generally within a comparatively short time, before the urine becomes distinctly alkaline in reaction. It is also stated that the presence of nitrites in drinking water may cause nitrites to appear in the urine.

During an investigation of urine for another purpose it was found by us that the occurrence of nitrites in the freshly passed urine of mental patients was not uncommon, and as the knowledge of the phenomena connected with "nitrituria" seemed to be incomplete, we have examined in some detail a large number of normal and pathological urines for the presence of nitrites.

The presence of nitrite in urine or other fluid can be readily detected by the use of various reagents. We have generally employed the Greiss Ilosvay test. Two solutions are made up, one containing 0.5 gram of sulphanilic acid, the other 0.1 gram of alpha-naphthylamine, each in 150 c.cm. of 5 per cent. acetic acid. A mixture of these in equal proportions is used for the test. It is advisable to keep the two reagents in separate bottles, and to mix the required amount just before use, as the mixture readily absorbs nitrite from the air. To 20 c.cm. of fresh urine 10 c.cm. of the alpha-naphthylamine-sulphanilic acid mixture are added. If nitrite is present a pink or red colour rapidly develops. This reagent is capable of detecting very minute traces of nitrite. A potassium iodide-starch mixture may also be used. A few drops of 10 per cent. potassium iodide solution and 5 c.cm. of dilute boiled starch solution are added to 20 c.cm. of urine, and a few drops of dilute sulphuric acid added. In the presence of nitrite iodine is liberated, and combines with the starch to give a blue compound. It is of importance, in testing for nitrite in urine, that the urine should be fresh, and that the vessel into which it is passed should be thoroughly clean. Where any doubt exists some of the reagent should be placed in the vessel, and the urine then passed directly into this. In our earlier experiments a number of urines were found to give positive nitrite reactions which on subsequent examinations always gave negative results. These reactions were readily traced to contamination of the specimens with a trace of old urine. In our later experiments the greatest care was taken to ensure that the urines were passed into perfectly clean vessels and tested immediately. Where possible, catheter specimens have been used.

About 600 specimens of urine have been tested. Out of 150 urines from healthy subjects two only gave positive results, and the possibility of contamination in these two cases could not be excluded, as further examinations of the urine of these two individuals always gave negative results. The statement that nitrites do not occur in normal urines has therefore been substantiated. Very different results, however, were obtained with the urines of patients suffering from mental and other diseases. Nitrites were found to be present in about 12 per cent. of the patients in the Crichton Royal Institution, a larger number of positive results being obtained with the urines of female patients than with those of male patients. Nitrites were found to occur in urines which were markedly acid, neutral, or

faintly alkaline, and there appeared to be no relationship between the amount of nitrite and the reaction of the urine. The amount of nitrite present differed considerably in different cases and even in different samples of the urine of the same individual. Colorimetric comparisons with known amounts of nitrite showed that the amount of nitrite being excreted per day varied from 0.01 gram to 0.08 gram, reckoned as sodium nitrite. No relationship could be traced between the occurrence of positive results and the type of mental illness, nor could we detect any physical condition which could be regarded as a possible cause of the condition. Diet and drugs were also considered, but no connexion between either of these and the "nitrituria" could be established. Careful examination of the urine for the presence of other abnormal products (albumin, sugar, blood, etc.) gave negative results. Bacteriological examination showed that in all the positive urines Gram-negative bacilli were present in varying amount. Catheter specimens from a number of cases were examined, and from all these samples cultures of coliform organisms were readily obtained. Morphologically and culturally the organisms isolated from the different cases differed considerably, and we have been unable to find any one organism common to all the cases. In no case did a nitrite-containing urine prove to be sterile. The numbers of bacilli present in particular samples of urine were frequently small and at first sight it seemed improbable that such slight infections of the urine could be regarded as the etiological factor of the condition. It was also difficult to explain on the basis of a bacteriological infection the great variations in the amount of nitrite which occurred from day to day in many of the cases. Nevertheless, we are of opinion that it was to the bacilluria that the presence of the nitrite in all our cases was to be referred. In support of this certain experiments were performed. Fresh normal urine free from nitrite was sterilized in a number of tubes. These were inoculated with a series of common laboratory organisms and with the organisms isolated from the nitrite-containing urines. The tubes were then incubated at 37° C. and tested from time to time for the presence of nitrite. It was found generally that the urinary organisms were much more active in causing the production of nitrite than were the majority of the control organisms. Distinct reactions for nitrite could be obtained in many cases after two to three hours' incubation. It was apparent from these experiments that although urine is normally retained in the bladder only for short periods such periods are ample for the production of nitrite by certain organisms of the *B. coli* type. Observations have been made over a period of about a year, and it has been found that in the majority of the cases the "nitrituria" has persisted. In certain cases every sample of urine examined during the year has shown the presence of considerable amounts of nitrite, and bacteriological examinations have always shown the presence of some degree of bacilluria. It is worthy of note that in only a very few cases has the bacilluria been accompanied by the presence of pus cells, and these only in small amount. Further, the patients showing persistent bacilluria have not appeared to suffer in any way from the condition. No symptoms referable to long-continued nitrite absorption have been observed and no nitrite has been found in the blood.

We have also examined a number of urines from patients in the medical and surgical wards of various hospitals. It was not possible to personally supervise the taking of the specimens and only a few catheter samples could be got. The results of much of the work had to be discarded owing to the possibility of contamination of the specimens. As a result we have been unable to come to any definite conclusions regarding the occurrence of nitrites in medical and surgical cases. One or two facts are, however, worthy of note. After abdominal operations nitrites not infrequently appeared in the urine as a transitory phenomenon within a few days of the operation, although the patients were apparently making an excellent recovery. This has been particularly noticeable after operations for hernia. In certain of these cases the appearance of nitrites in the urine was of short duration and was succeeded by a period in which the urine was markedly alkaline from the presence of ammonium carbonate and gave no nitrite reaction.

The administration of urotropine in doses of 10 grains three times a day was tested on two patients excreting nitrite, with the result that the nitrite rapidly diminished and ultimately disappeared.

A number of observations have also been made on the changes which urine undergoes on standing exposed to the air so far as these alterations affect the presence of nitrite. As a general rule, in the case of the normal urines, there was no trace of nitrite until the third or fourth day, but considerable variation was found in particular samples kept apparently under exactly similar conditions. The more acid the initial reaction of the urine the longer was the time before nitrite appeared. In all cases nitrite appeared while the urine was still acid to litmus. As the urine became alkaline the amount of nitrite rapidly diminished. It is important to note that the urine of cases of well-marked cystitis, in which the urine was markedly ammoniacal, gave n ative nitrite reactions. In the case of urines which gave a positive nitrite reaction in the fresh state, it was frequently found that the amount of nitrite rapidly diminished on standing and ultimately disappeared, but that after a further period nitrite again made its appearance, the reaction of the urine still being faintly acid or neutral.

In regard to the statement that the presence of nitrite in drinking water may cause nitrites to appear in the urine we have found that the administration of sodium nitrite (6 grains per day for several days) was not associated with any excretion of nitrite in the urine.

As a result of these investigations we are of opinion that the most common cause of nitrituria is an associated u inary infection, and that the presence of bacilluria should be sought for in all cases. The organisms generally belong to the *coli* group and possess in marked degree the power to split the nitrate of urine into nitrite.

The test for nitrite in the urine affords a simple and fairly reliable method of detecting cases of urinary infection without the use of the microscope, provided that the infection is not of such degree as to render the urine markedly alkaline.

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THE RECOGNITION OF HAEMIC INFECTIONS OF THE URINE: ITS CLINICAL AND EXPERIMENTAL VALUE.

By Edward C. Hort, F.R.C.P.Edin.

(*Abstract.*)

It is a familiar and annoying experience that bacteriological examination of the blood frequently gives negative results in cases in which the presence of continued fever makes it practically certain that pathogenic organisms, whether as primary or secondary invaders, are circulating in the blood stream. This inability to discover the organisms responsible for the fever is often an absolute bar not only to diagnosis but to the preparation of efficient vaccines, or to the use of an appropriate serum.

One of many reasons for failure in these cases appears to be the high bactericidal power of the blood. The bactericidal power of the urine, on the other hand, is relatively small, and a study of the comparative value of bacteriological examinations of the two fluids has convinced me that from this point of view the urine is often incomparably the better medium of the two.

Although haemic infection of the urine has long been known to occur in relapsing fever, Malta fever, plague, infective endocarditis and typhoid fever, and although the passage of pathogenic organisms from the blood stream to the urine has often been demonstrated in animals, the principle thus established does not appear to have been much used for clinical purposes, except for the detection of carriers. For example, no systematic attempt appears to have been recorded to show how far it can be applied to the early diagnosis of such common infections as influenza, epidemic catarrh, the pneumonias, the secondary infections of tuberculosis, or to the diagnosis of other diseases in which the causative organisms are well known. And in those numerous infective diseases in which the *causa causans* is still unknown, and in which fever is a

prominent symptom, the possibility that bacteriological examination of the urine might reveal the nature of the infective agent has been practically ignored.

In a communication such as this it is not possible to bring forward all the evidence with which my own practice has supplied me as to the clinical value of studying haemic infection of the urine, both for purposes of diagnosis and of treatment. In such diverse diseases as tuberculosis with its secondary infections, purpura septica, lobar pneumonia, bronchopneumonia, meningitis, appendicitis, infective cholecystitis, acute gastric and duodenal ulcer, acute rheumatic fever, and acute phlebitis, the results have been full of interest and promise, as they have also been in investigating the etiology of mumps and typhus, and in numerous cases of obscure fever in which physical signs were conspicuously absent. In many of the latter class of case a correct diagnosis has been only ultimately arrived at by a thorough bacteriological examination of a haemic infection of the urine. On this occasion I can only take as illustrations two diseases which I and my friend, Dr. Ingram, have been studying together for several months—lobar pneumonia and typhus fever. I have chosen the first because it is a type of infection in which the causal organisms are well known, the second because it is a type of disease in which the infective agent has not yet been discovered. It should be premised that in all cases the most scrupulous care is needed to exclude extraneous infection from the urine it is proposed to examine, and to establish the pathogenicity of the organisms cultivated. These are by no means easy matters, as may be judged from the numerous control observations we have been obliged to carry out on the sterility of normal urine. These will be shortly published elsewhere. It should also be noted that it is a mistake, if the urine is clear on passage, to rely on inoculation of artificial media with fresh urine or its centrifuged deposit. And this is especially true of solid media. In all cases in which the urine does not contain organisms in sufficient numbers to be readily recognized by the microscope immediately after discharge, as well as in cases in which large numbers are present, the use of the urine itself as the medium of growth will frequently reveal an unsuspected haemic infection. I have repeatedly found by this method that in many cases pathogenic organisms can be shown to be present in enormous numbers after a few hours' incubation of this fluid. When once firmly established in urine they will usually multiply with readiness on the ordinary artificial media. As a result of this observation I have often found that specimens of urine, rich in blood-derived organisms, can be easily obtained by allowing incubation to take place within the bladder.

Haemic Infections of the Urine in Lobar Pneumonia.

In a series of 20 cases of lobar pneumonia of the acute type we found that the urine when collected was often perfectly clear. In other cases it showed varying degrees of turbidity, and in the centrifuged deposits of the fresh turbid specimens we never failed to find organisms which proved to be either capsulated pneumococci, alone or in combination with the Gram-negative pneumobacilli of Friedländer, or else the *B. influenzae* of Pfeiffer. In the clear urines, in which prolonged search was necessary to show the presence of organisms, incubation of the urine for a few hours in no case failed to give us positive results. In several cases of chronic bronchopneumonia we have also been able to demonstrate in and cultivate from the urine during the pyrexial period capsulated pneumococci, either alone or in combination with Pfeiffer's influenza bacillus. The bacterial deposits from our cases of lobar pneumonia were tested in many instances for virulence by injection into mice. In no case did the deposit from the incubated urine when injected direct into mice produce any harmful effect if incubation was allowed for a few hours only. Yet the same organisms when injected after subcultivation in broth or on agar for one night did not once fail to produce death in a few hours in a much smaller dose. It appears, in fact, as if the urine organisms had become avirulent through sensitization acquired either during their passage through the blood in the case of fresh deposits or in the urine itself after incubation.

We therefore applied ourselves to a study of these as vaccines, using as the medium of growth either the urine itself or healthy human blood. As I showed in 1911, organisms may be profoundly modified in their antigenic behaviour if they are grown on the ordinary laboratory media after recovery from the body. Their value for the preparation of autogenous vaccines when grown on broth or agar, as compared with that of vaccines made from organisms grown on the natural media of the body, is, indeed, gravely impaired. In the past two years I have repeatedly found this use of natural media, especially of whole normal human blood, of the greatest value in vaccine treatment, and before long the use of laboratory media for the latter will probably disappear. It should not be forgotten that serum as a medium of growth for the preparation of vaccines is but a poor imitation of the circulating blood.

Haemic Infections of the Urine in Typhus Fever.

In spite of the attention that has been paid in recent years to the bacteriology of human blood in typhus fever the infective agent is still unknown. In fifteen recent cases of the disease occurring in Ireland we made films from the fresh blood, and obtained cultures from which we were able to identify the large so-called diplococcal and diplobacillary organisms which various observers have regarded, on insufficient grounds, as the causal agents of the disease. We have, indeed, gone farther, and have found that injections of the cultures of these organisms in citrated human blood, in which growth is easily obtained, has in no case produced any observable pathogenic effects in bonnet monkeys. We conclude, therefore, that these large organisms are not themselves responsible for the production of the disease.

The infectivity of human typhus blood when injected into healthy monkeys has been clearly established. But until now it has been quite impossible to say whether the continued fever thus induced is caused by the large organisms referred to or by some other infective agent which may or may not be the cause of typhus fever. And this applies also to the work so far recorded on the transmission of the disease from man to monkey, and from monkey to monkey, by the body louse, though the fact of transmission of the disease from man to man by this agent can hardly now be questioned.

In all of the 30 cases of typhus fever placed at our disposal we carefully examined the urine, by immediate examination of fresh specimens and by cultivation. In the great majority the fresh urine during the period of fever was turbid from the presence of micro-organisms. Both in catheter specimens in the two sexes and in non-catheter specimens the bacteriological findings in films made from the fresh centrifuged urine were strikingly similar, and were, in fact, so constant as to establish a valuable aid to rapid diagnosis. In all of the urines examined before the crisis great numbers of large coccal and bacillary organisms, morphologically similar to those found in the blood, were observed, and their identity was later established in the ordinary way. In each case there were also present in the deposits of the fresh urine minute organisms which occurred singly, or in pairs, or in clusters. When in clusters, as well as when occurring free, they were sometimes coccal in form, sometimes bacillary, and often it was impossible to determine whether they were the one or the other. They were both Gram-positive and Gram-negative in the same clusters, they had no apparent capsules, and they were non-motile. They varied in size from about 0.1 or 0.2 micron to about 0.5 micron in their greatest diameters when in pairs, and when single their greatest diameter was proportionately smaller. They rapidly disappeared from the urine when this was incubated, and after a few hours the larger cocco-bacillary forms only could be found, and these readily multiplied, both in urine and in, or on, the ordinary laboratory media. Injection of these cultures into bonnet monkeys, as we had found to be the case with cultures of the same organisms from the blood, produced no apparent pathological effect.

After filtration of the urine through tested Berkefeld candles we were able in many cases to show, by immediate examination of the filtrate, the small cocco-bacillary forms freed from admixture with the larger non-pathogenic organisms. When, however, the filtrate was incubated, they quickly disappeared, their place being taken by the large coccal and bacillary organisms, which also

proved, on injection into bonnet monkeys, to be non-pathogenic. And in the case of cultures on the ordinary laboratory media which had been inoculated with the fresh filtrated urine the small cocco-bacilli did not survive as such, only the larger non-pathogenic organisms being found.

The fresh urine of bonnet monkeys successfully inoculated with human typhus blood contained, we found, during the period of fever, great numbers of the small and large cocco-bacillary forms, and the filtrate of this urine, when fresh, also contained the smaller forms alone. If, however, incubation were allowed for a few hours, they could no longer be found, their place being again taken by the large non-pathogenic forms.

By inoculation of human blood-agar with the fresh filtrate of fresh human typhus urine we have been able to obtain cultures of the small cocco-bacillus in which the small size is retained. On subculture, however, it tends to become mixed with larger forms. Injections of the first culture on human blood-agar into two bonnet monkeys gave rise to a high continued fever after the lapse of a definite incubation period of a few days.

We then turned once more to examination of the fresh blood of typhus patients, and found that after dissolving the centrifuged red cells in bacterium-free distilled water we could sometimes demonstrate the small cocco-bacillus. And, as in the case of the urine, it rapidly disappeared when the citrated blood was incubated, or when artificial media were inoculated with it, its place being taken by the larger cocco-bacillary forms. In cerebro-spinal fluid, as in urine and blood, it soon disappeared after incubation, and in its place were seen great numbers of the large forms, which also proved on injection into bonnet monkeys to be inert.

From fresh human typhus blood, and from fresh cerebro-spinal fluid, we have been able to cultivate the small cocco-bacillus on human blood agar, as in the case of fresh urine. On injection of the blood and cerebro-spinal cultures on blood-agar the procedure has in bonnet monkeys been followed by high fever after a well-marked latent period.

We are fully aware that the pleomorphism of the filter-passing infective cocco-bacillus, as well as its apparent mutation into large cocco-bacillary forms which are non-infective, is not an easy matter to prove.

The object of this communication, however, is not to lay claim to the discovery of the causal organism of typhus fever, but to show that for both diagnosis and treatment haemic infections of the urine are well worth study in every case in which continued fever occurs.

ANEURYSM OF THE AORTA DUE TO BACTERIAL INFECTION.

By J. M. Morgan and John H. Teacher.

(Abridged.)

The authors gave a demonstration of specimens, with brief clinical and pathological notes, from the Glasgow Royal Infirmary. The cases were of interest from their bearing on the causation and mode of origin of aneurysm of the first part of the aorta. In all there was an acute ulcerative endocarditis, which produced infection of the aorta followed by rupture (which in one case caused sudden death by bleeding into the pericardial sac), and in all there was evidence of endocarditis prior to the attack, which proved fatal. Two of the subjects were under 20 years of age.

It was assumed that the disease was of bacterial origin, the cases being characteristic ulcerative endocarditis, although this was determined by bacteriological examination only in one of them. Syphilis appeared to be excluded in all cases. Appearances indicative of repair of the ruptured aorta were present in two cases, and in one of these the aneurysm was old, the lips of the orifice being rounded and the sac thin-walled and smooth, so that it presented the usual characteristics of an aneurysm at the root of the aorta.

Cases.

Case I.—*Ulcerative Endocarditis of the Aortic Valve, Old and Recent: Old Aneurysm of the First Part of the Aorta* (Path. Reports, 5780, Dr. J. M. Cowan, 1911).

J. B., message boy, aged 14, ulcerative endocarditis, lasting twelve weeks. Four days before death right-sided hemiplegia developed and embolism in the spleen and left femoral artery.

The endocarditis affected the aortic and mitral valves. The aortic cusps were thickened and deformed by old endocarditis, and were also the seat of recent ulcerative endocarditis with large vegetations. Above the anterior cusp there was the orifice of an aneurysm about half an inch wide, square in shape, with a laceration at each of the upper corners, and smooth rounded lips. Its lower border was close to the orifice of the right coronary artery. Externally it appeared as a smooth rounded sac lying between the tip of the right auricular appendix and the pulmonary artery. Its lining membrane was smooth like the internal surface of the aorta, and it was clearly an old condition due to an earlier attack of endocarditis. The thoracic aorta was otherwise healthy.

The left common iliac artery was dilated into a fusiform swelling about the size of a plum, containing pus and a large infected embolus.

Case II.—*Ulcerative Endocarditis with Aneurysms of the Aorta which had apparently originated by Rupture of Infected Aortic Wall* (Path. Reports, 6878, Professor Hunter, 1911).

G. C., moulder, age 24. History of cardiac disease two years, and subacute nephritis about one year, previously. In the fatal illness, which lasted two months, the symptoms were those of mitral and aortic valvular disease, nephritis, and anaemia.

The heart was found firmly contracted. The left ventricle was greatly hypertrophied and showed some patchy fibrosis. The finger could not be passed into the aortic orifice, which was therefore carefully dissected open. It was almost completely blocked by a mass of vegetations, which seemed to be principally old, being calcified. The cusps were extremely deformed and adherent to one another. About a quarter of an inch beyond the valves there were two little deep pockets—small aneurysms of the aorta—with squarely cut mouths the edges of which were smooth and rounded. They probably represented old ruptures of the internal and middle coats. About one inch above the valve there was an aneurysm the size of a walnut filled with massive vegetations. To the right of the aneurysm there was a recent rupture of the internal and middle coats of the aorta with clean-cut edges, and, between them, a triangular area with soft yielding floor composed of the external coat and fibrous adhesions. The aneurysm lay in the upper part of the pericardial sac between the aorta and the right auricle. There was also a small aneurysm rising by a narrow slit-like orifice between the left carotid and subclavian arteries. There was nothing of special interest in the other organs.

Sections of the margin of the aneurysm showed a ragged edge indicative of rupture, and, at one point, an acute suppurative focus. In the vegetations near this there were numbers of beaded bacilli, mostly in colonies. They resembled the *Bacillus diphtheriae*, but lost Gram's stain somewhat readily. No cultures.

Case III.—*Ulcerative Endocarditis: Rupture of Aortic Cusps: Aneurysm of Sinus of Valsalva burrowing into Wall of Left Ventricle* (Path. Reports, 7217, Professor Hunter, 1912).

Mrs. L., aged 36. The principal features of the illness, which lasted only five weeks, were irregular fever (Widal's reaction and blood cultures negative) and symptoms of cardiac valvular disease.

The heart was slightly above the normal size. The aortic valve was incompetent, and there was fatty mottling of the inner layers of the myocardium. Vegetations covered the adjacent parts of the anterior and left posterior cusps of the aortic valve, which were both perforated, the floor of the left posterior sinus of Valsalva, and an area of ventricular wall below it. A mass like an aneurysm could be felt burrowing forwards between the pulmonary artery and the right auricular appendage.

After hardening, incisions were made in the longitudinal axis of the heart. These showed a small aneurysm burrowing into the upper part of the interventricular septum and anterior wall of the left ventricle, and a large mass of red and white thrombus extending into the adipose tissue above the right ventricle. These appeared to interfere with the left coronary artery, but not with the auriculo-ventricular bundle.

Case IV.—*Ulcerative Endocarditis of the Aortic Valve extending to the Aorta: Rupture of the Aorta and Formation of a Small Aneurysm at the Insertion of the Aortic Valves* (Path. Reports, 7368, Dr. Cowan, 1913).

C. T., a man aged 36. The illness lasted twenty-three days. It commenced as pneumonia and developed into aortic valvular disease, pericarditis, and, finally, meningitis.

Post mortem, the right lung showed pneumonia in different stages in the upper and lower lobes, abscesses in the upper part of the latter and a collection of pus containing pneumococci on the front of the pericardium and pericarditis. There was ulcerative endocarditis of the aortic valve limited to the adjacent portions of the anterior and left posterior cusps. The insertion of these and a portion of the inner and middle coats of the aorta above it had been torn out leaving a gap about ½ in. in length by ½ in. in width which led into a small aneurysm lying between the aorta and the pulmonary artery.

Case V.—*Ulcerative Endocarditis of the Aortic Valve extending to the Aorta: Rupture of the Aorta into the Pericardium* (Path. Reports, 7491, Professor Hunter, 1913).

N. McI., a girl of 17 years, had been seriously ill from cardiac valvular disease for about four months and died suddenly.

The pericardial sac contained 5 or 6 oz. of recent blood clot, and there was pericarditis several days old. The aortic orifice was obstructed by soft vegetations with a firmer basis about the cusps, which were greatly deformed and thickened from old endocarditis. The anterior wall of the aorta for some distance above the remains of the valve was covered with vegetations and a perforation into the pericardial sac had taken place among them.

According to Osler (Clifford Allbutt's *System of Medicine*, vol. vi, p. 642), aneurysm of a sinus of Valsalva or the immediate neighbourhood in the aorta is most frequently met with in acute syphilitic aortitis. For statistical purposes the cases of aortic aneurysm and syphilis of the aorta recorded in one thousand successive *post-mortem* examinations at the Glasgow Royal Infirmary including the present series were counted, with the following result:

Aortic syphilis without aneurysm	...	37 cases.
Aneurysms due to syphilis ...	...	21 ,,
Infective aneurysms ...	...	5 ,,
Dissecting aneurysms ...	...	2 ,,

Three out of the 21 aneurysms due to syphilis were aneurysms of a sinus of Valsalva.

In conclusion, the 5 cases which we have shown may represent a run of comparative rarities; but they demonstrate the fact that aneurysm in the region of the sinuses of Valsalva may be infective and non-syphilitic in origin, a point which might be of considerable medico-legal importance.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

ANAESTHETICS IN EYE-WORK.

IN the JOURNAL of September 12th Mr. Whiting criticizes the view that chloroform should be banished from eye-work, and that ether should be the chosen anaesthetic. He states that the Moorfields figures show that chloroform may be administered *with a reasonable degree of safety*. Is the patient to be satisfied with a reasonable degree of safety when under ether he can have practically absolute freedom from danger? For a period of more than twenty years ether has been the usual anaesthetic at the British Ophthalmic Hospital in Jerusalem, and it has been administered without a single death. Personally, I gave it there over a thousand times without ever experiencing a moment's anxiety for my patient. During the past eight years I have under ether done every variety of eye operation, including extraction of cataract, at the Birmingham Eye Hospital, the Coventry General Hospital, and the Leamington General Hospital. I have never been in any degree incommoded by the anaesthetic machinery, nor have I experienced any anxiety for the safety of my patient. During this time there have been deaths from chloroform in these hospitals. An old man died under this anaesthetic, which was given him for the enucleation of his eye. Chloroform was administered to a healthy young girl for teeth extraction. She died suddenly during the period of induction. We have had other cases. Levy[1] notes that every three days two harmless and probably useful citizens die from chloroform in England and Wales alone, and he indicates the cause of death—ventricular fibrillation.

Mr. Whiting states that three conditions which are essential in eye surgery are not satisfied by ether anaesthesia. Firstly, he says, "anaesthesia must be deeper than in most general operations, because the corneal reflex must be abolished." I entirely disagree with him. If a little cocaine be instilled, very light anaesthesia is often sufficient. For a glaucoma iridectomy, for example, the operation can be completed under gas and ether given in a Clover's inhaler almost before the effect of the gas has passed off. An excision of the eye necessitates very superficial anaesthesia if cocaine be employed as well. Enucleation is a ghastly operation to perform under local anaesthesia, even if it can be done with the minimum of pain. I have upon one occasion extracted a cataract under ether. The patient had no self-control, and a general anaesthesia was essential. Here deep anaesthesia is necessary, and a good anaesthetist should be employed. I had no difficulties from either the anaesthetic or the apparatus.

Mr. Whiting goes on to say, "the surgeon must have as much as possible of the patient's face clear of the anaesthetist's hands and apparatus."

I disagree with the expression "must." A good operator and a good anaesthetist can tacitly accommodate each other in this respect. An eye operation is often a matter of seconds; the anaesthetist withdraws his apparatus while it is performed. A squint operation can easily be done in the presence of a Clover's inhaler, and in a lid operation the apparatus is not noticed by an experienced surgeon.

Finally, Mr. Whiting states that "coughing, vomiting, or straining of any kind must not occur." My experience is that these undesirable events are quite infrequent with good gas and ether anaesthesia; chloroform has no advantage here. I find that I have generally finished an operation long before a patient could be anaesthetized with chloroform; gas and ether is far quicker.

I fully agree with all your correspondents that the "corneal reflex test" should never be used. It is the hall-mark of an incompetent anaesthetist.

Birmingham. T. HARRISON BUTLER.

[1] BRITISH MEDICAL JOURNAL, September 19th, 1914.

THE TREATMENT OF ACUTE GONORRHOEA.

THE treatment recommended in the BRITISH MEDICAL JOURNAL of September 26th demands some criticism. It may be the best in the hands of the expert who advises it, but is scarcely the one to be recommended to the practitioner. To quickly "balloon" out an acutely inflamed urethra by a hydrostatic pressure of 6 feet, through a bore of 8 or 9 mm., so that the fluid "spurts out with great force," requires more consideration than the article gives us. How can a quick filling and emptying of the urethra facilitate more than a graduated and sustained means the entry of fluid into ducts and lacunae? Or on what principles is a single bore nozzle superior to a double in ensuring the circulation of fluid in the urethral bulb?

I used the hydrostatic plan for very many years, but gave it up, as experience taught me that gentleness should be the first law in urethral surgery. I now use with greater benefit a means by which I can measure the pressure used,[1] or an ordinary Higginson's syringe. Full distension of the urethra is required, but it should, I think, be gradual and sustained, so that the fluid has a chance of being forced into the tissues, and herein lies the chief secret of the so-called "irrigation" treatment. This irrigation can act with vigour *a fronte*, but can the *vis a tergo* (if we may so speak) of the anterior urethra be anything save negligible? Can it even equal the urine stream? Of course not.

Whoever will use in lieu of the irrigation apparatus an ordinary Higginson's syringe will not regret it. With it any force, from the mildest to the greatest, any rapidity of current from the slowest to the quickest, can be used. His hand, grasping the rubber bulb, will intelligently measure the urethral resistance; it will often feel this resistance expressed in the clonic contraction of the urethral muscles. And such a means is simple and always at readiness.

I have lately adapted Messrs. Ingram and Son's "bonda" Higginson's syringe (illustrated in the *Medical Annual, 1894*) for urethral use. By it suction as well as flushing can be carried out. It affords, I think, the ideal means of treating acute urethritis.

London, N.W. JAMES MACMUNN.

[1] *Lancet*, June 16th, 1906.

Reports of Societies.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

AT the opening meeting of the Society of Tropical Medicine and Hygiene for the new session—1914 to 1915—which took place on October 16th, an important paper was read by Sir DAVID BRUCE, C.B., F.R.S., upon *Classification of the African trypanosomes pathogenic to man and domestic animals*. Dr. F. M. SANDWITH, Vice-President, took the chair, in place of the President, Sir R. Havelock

Charles. There was a good attendance of Fellows, and a lively discussion took place, indicating a considerable amount of difference of opinion as to the method of classification and nomenclature of African trypanosomes. The following took part in the discussion: Professor J. W. W. Stephens, Dr. H. B. Fantham, Miss Muriel Robertson, Dr. Warrington Yorke, Dr. C. M. Wenyon, Dr. Andrew Balfour, Dr. G. C. Low, and Sir Ronald Ross, Sir David Bruce replying. Reference was made to the loss the society had sustained by the death of Captain Henry Sherwood Ranken from the effects of wounds received when attending the wounded in France. A vote of appreciation was passed not only of the valuable work which he had done in connexion with sleeping sickness but also of the gallantry he had shown in the discharge of his duties in the firing line. At the council meeting of the society, which took place previous to the ordinary meeting, it was unanimously agreed to continue the meetings of the society as usual, but to give special attention to practical questions which might have a bearing upon prevention and treatment of diseases which might develop in connexion with the war. Sir William Osler has kindly consented to open a discussion upon "Enteric in war, with means of its prevention" on November 20th, at 8.30 p.m. Visitors will be heartily welcome at this meeting.

Reviews.

SURGERY OF THE VASCULAR SYSTEM.

To those who are interested in blood-vessel surgery, whether operating surgeons or practitioners desirous of keeping their minds alive to surgical progress and achievements, we most heartily commend Dr. Bernheim's monograph on the *Surgery of the Vascular System*.[1] It is a short but complete and eminently readable statement of the present position of this branch of surgery, and its value is greatly increased by the most beautiful illustrations it is possible to produce.

We have in former issues indicated the main features of the subject in considering the work of Carrel, Guthrie, and Jeger. The technique of blood-vessel work is now practically standardized, but there are some points emphasized by Dr. Bernheim which seem to make for greater efficiency. He firmly discountenances the undertaking of blood-vessel surgery by those who have had no opportunity of laboratory training, and believes that many failures have resulted through disregard of this injunction, as well as from indiscreet choice of cases. It can hardly be otherwise when one considers that the suturing needle is 1 in. long and extremely delicate, while the silk thread may not be thicker than a human hair.

The author points out that of the three coats of a blood vessel the adventitia is the most important to the surgeon doing vascular work; its mobility or flaccidity tends to formation of clot by slipping into the needle hole, and by acting as a fringe over the opening of the vessel. When a vessel is about to be sutured, all blood is washed away with saline solution and the whole of the parts bathed with liquid vaseline, "a neutral lubricant that keeps the tissues soft and pliable, and is tolerated by the tissues in almost any quantity." The most delicate handling with small ball-pointed instruments is essential for success.

In the chapter on direct blood transfusion the various apparatus, including the author's recently invented, are figured, and the operation is described in detail. There seems still to be a difficulty in estimating the amount of blood which has gone or is going over, the only means available being so far clinical observations on both donor and recipient. Dr. Bernheim holds that "the danger of haemolysis following transfusion has always been vastly overrated and unwarrantably feared," though on theoretical grounds he believes it proper to have haemolytic tests made if the patient's condition permits it.

End-to-end suture of blood vessels is the most difficult of all the operations, and the author has many hints to offer for its successful accomplishment. Lateral anastomosis is easier and there are many occasions for its employment. For instance, the operation of reversal of the circulation of a limb is better done by lateral anastomosis between vein and artery and proximal ligation of the vein than by the end-to-end method. A wonderful success in a severe case of Raynaud's disease affecting all four limbs with actual and threatened gangrene and excruciating pain is recorded by reversal of circulation in each limb. The full details given assists the reader's belief—the author's is well-established—in the great future opening up for vascular surgery.

The chapters on the treatment of aneurysm will well repay study. The author is not bound to any one method, and his statement on this important branch of practical surgery is characterized by perfect open-mindedness. There seems to be only one regrettable omission, and that is any reference to Colt's wire-cartridge method found successful in this country in several instances.

[1] *Surgery of the Vascular System.* By B. M. Bernheim, A.B., M.D. Philadelphia and London: J. B. Lippincott Co. 1913. (Med. 8vo, pp. 116; 53 figures, 12s. 6d. net.)

FLIES AND DISEASE.

(*Non-bloodsucking Flies.*)

Last February we spoke highly of *Flies in Relation to Disease* (*Non-bloodsucking Flies*)[2] on its first appearance, but we are not quite sure how far the syndics of the Pitt Press are justified in describing the new issue of Dr. Graham-Smith's admirable work as a "second edition." It is in truth a reprint of the first edition, with an extensive appendix of nearly 90 pages. The new matter is arranged in the same sequence as the old and careful back references are given, but, at the same time, this method of publishing a "second edition" leads, as the Scotsman said when devouring a sheep's head, "to very confused feeding."

The appendix contains some very interesting remarks on the varying sizes of flies, which differ quite as much amongst each other as do the members of the human race. The size of the adult is, of course, a factor of larval growth, as neither the pupa nor the imago ever increase in magnitude and it apparently depends on the quality and the quantity of the food, though temperature probably plays some part.

A brief reference is also made in the appendix to the house-fly's preference for certain colours. Fé has recorded that they dislike rooms lined with blue, but Dr. Graham-Smith doubts this. The reviewer has often heard it said that flies are very rare in rooms which have green walls. The whole matter requires further investigation. Mosquitos undoubtedly show a good deal of colour preference; as Professor Nuttall and Dr. Shipley's experiments showed, the favourite colour of *Anopheles* is navy blue, and the one which attracts the genus least is khaki colour—a fact which is corroborated by the well-known immunity of the "yellow dog" from gnat bites and the trouble which these insects inflict on the Newfoundland dog.

It is satisfactory to find that after the most careful investigations Dr. Graham-Smith "now puts forward with some hesitation the suggestion that the annual diarrhoea epidemic in large cities is correlated in its time incidence, dimensions, and severity with the weather conditions which influence the emergence, activities, and numbers of flies." This, of course, is no new view, but it is satisfactory to have it confirmed by so accurate and careful an observer as Dr. Graham-Smith.

[2] *Flies in Relation to Disease: Non-bloodsucking Flies.* By G. S. Graham-Smith, M.D. Cambridge Public Health Series. Edited by G. S. Graham-Smith, M.D., and J. E. Purvis, M.A. Second edition. Cambridge University Press. 1914. (Med. 8vo, pp. 405; 27 plates, 32 figures, 20 charts. 12s. 6d. net.)

RACE REGENERATION.

Towards the elucidation of the problem of race regeneration, which so urgently presses for solution at the present day, Messrs. Cassell and Co. have contributed a series of Race and Sex Booklets,[3] in which questions related to the

[3] Race and Sex Booklets. London: Cassell and Co. (6d. each net.) *Education and Race Regeneration*, by the Right Hon. Sir John Eldon Gorst; *Religion and Race Regeneration*, by the Rev. F. B. Meyer, B.A.; *National Ideals and Race Regeneration*, by the Rev. R. F. Horton, M.A., D.D.; *The Methods of Race Regeneration*, by C. W. Saleeby, M.D., F.R.S.Edin.; *Womanhood and Race Regeneration*, by Mary Scharlieb, M.D., M.S.; *Problems of Sex*, by Professor J. A. Thomson and Professor Patrick Geddes; *Morals and Brain*, by Sir Thomas Clouston, M.D., LL.D.; *Literature—the Word of Life or of Death*, by Canon Barry, D.D.

subject are dealt with by various writers. In the general introduction, Mr. James Marchant says the booklets might be called New Tracts for New Times, "since they interpret the signs and prophecies of a new world in the making, demanding the application of loftier ideals, more widely embracing principles and surer methods of advance than have hitherto prevailed." Sir John Gorst discusses in a broad and sympathetic spirit the bringing up of children for parenthood. He pleads strongly for general education as a necessary factor in the regeneration of the race, but he urges that the Home Office, the Local Government Board, and the Board of Education themselves stand in need of education. This means the education of the permanent officials, the Minister being in general little more than a figurehead. It is suggested that these officials being mostly men of university training know little except artificially of the needs and aspirations of the poor, and therefore afford only a barren soil for the growth of novel schemes. Sir John Gorst holds that the Board of Education in particular suffers from the want of the co-operation of women. The apathy of education authorities in rural districts and small towns, and the way in which they subordinate everything to keeping down the rates, is severely criticized. He despairs of making the powers of local authorities compulsory, and concludes that there is "no hope for the reformer of national education except to await the slow rising of the light of truth, which will at last illuminate even provincial minds."

The gist of the Rev. F. B. Meyer's booklet is contained in the sentence: "Social reformers may deal with method, science may discuss the laws of blending and growth, educationists may train the young, and moralists urge our nature to self-discipline and self-control, but only religion can comprehend them all, co-ordinate them with each other and supply the breath of life." With a loftier conception of wedlock he looks forward to the coming back of a statelier Eden to man.

The Rev. Dr. Horton's national ideal is "an educated community—not a herd of clerks in black coats, of professional men treading each other down in their effort to grasp the spoils of their particular careers, of a *jeunesse dorée* trained to enjoy itself and to claim by right all the fields of human delight; but—a varied population in which each one is developed and trained to the utmost for the task assigned by faculty or opportunity, task of the hand, of the brain, or of the spirit." The educational ideal should include both moral and spiritual culture.

Dr. Saleeby regards "what may be called Education for Parenthood as the principal positive method of race regeneration." This must be carefully adapted to the special conditions and circumstances of boys and girls respectively and reinforced at every point by the religious sanction. The fundamental problems of eugenics are briefly but sufficiently discussed.

Mrs. Scharlieb is eminently sensible in what she says about the training of women, woman's influence on the race and women as citizens. She deplores the fact that a wave of irreligion has passed over the land and concludes with the following warning: "The regeneration of the race will never be accomplished until the women of the country, themselves deeply convinced of the importance of right belief and right practice, devote themselves to teaching their faith to their children, and to requiring it in a practical form from the members of their household." We commend Mrs. Scharlieb's booklet, which is charmingly written, to the attention of all women and all fathers of families.

Professors J. Arthur Thomson, of Aberdeen, and Patrick Geddes, of St. Andrews, in their little book deal with the problems of sex in a manner at once scientific and suitable for the education of the people. There is no trace of the apparent relish for the stirring up of foul waters in which Zola confessed that he found such pleasure—that feeling called by theologians *morosa delectatio*—which makes many so-called "scientific" treatises on these subjects disgusting even to the average sensual man.

Sir Thomas Clouston gives an interesting account of the development of sex, brain and morals, and discusses the means of bringing about "a clean, sweet and safe society." Speaking of social reform, he expresses the optimistic opinion that nearly all legislation directed to that end has been followed by good results to society and humanity.

Canon Barry's tract is a fulmination against indecency in literature. He is particularly severe on "women who write, prompted by anarchist impulses, against the divine order of things, against law, against the virtues, on which home is built up," and whose style knows neither modesty nor reticence any more than if they had been taught the language of Messalina! To medical readers the Canon's homily would be more impressive if he did not appear to rank the late Dr. Forbes Winslow with Johnson and Coleridge.

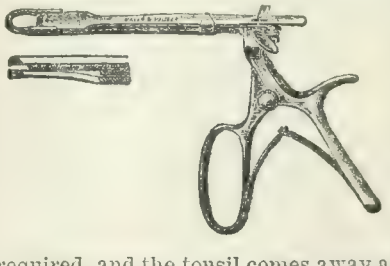
NOTES ON BOOKS.

The Encyclopaedia Britannica Company is, with the permission of the Cambridge University Press, reprinting in five volumes the historical articles published in the eleventh edition of the *Encyclopaedia Britannica* on France, Germany, Austria-Hungary and Poland, Russia and the Balkan States, and Belgium, Italy and Switzerland. Three volumes have already been published: that on France by M. Paul Wiriath, Director of the École Supérieure, Paris, and Mr. J. E. C. Bodley; that on Germany by Professor W. A. Phillips of Dublin, Mr. J. W. Headlam and Mr. A. W. Holland; and that on Belgium, Italy, and Switzerland by the Rev. G. Edmundson, Mr. H. Wickham Steed, formerly correspondent of the *Times* in Rome, and the Rev. W. A. B. Coolidge. As the publishers observe, the true significance of the present war cannot be grasped, nor can any wise settlement for the future be formulated, without a knowledge of those past events and conditions of which the war is an outcome. The volumes already published will, we believe, have a ready welcome from readers in this country, and their price puts them within the reach of all.[1] The volumes contain a few illustrations, chiefly portraits of persons celebrated in the history of the several countries. A sixth volume will deal with the wars of the nineteenth century from the French Revolution to the Balkan war.

MEDICAL AND SURGICAL APPLIANCES.

A Modified Tonsillectome.

Mr. K. G. Hearne, M.B. (late House-Surgeon, Salisbury Infirmary), writes: The accompanying illustration shows a modified tonsillectome designed for the enucleation of tonsils by Sluder's method. The principle involved is that of the blunt dissection of the tonsil from its bed by a movable blade, which is about one-sixteenth of an inch thick at its tonsillar end, but ground off so as to form one of two scissors blades. At the stage where the blade is driven almost completely home, and the tonsil is bulging on the far side of the ring, the final division of the mucous membrane and strands of fibrous tissue that bind the deep surface of the tonsil to its bed is completed by the meeting of the scissors edge of the movable blade with that of a fixed blade contained in the ring of the instrument, through which the tonsil has been squeezed. By this means the advantages of blunt dissection are preserved, yet cutting blades are provided at the moment they are required, and the tonsil comes away at once in the instrument without any twisting and pulling. The haemorrhage is only slight; this is probably explained by the fact that as the vessels are first stretched, and then cut across by scissors blades, their lumens occluded much in the same way that the bore of a rubber drainage tube is closed by cutting it with a pair of scissors. The blade portion comes apart readily into three pieces—the blade itself, the bed in which it travels, and the spring which controls the blade, holds the tonsil after removal, and locks the parts together. It is thus easily cleaned and sterilized. This instrument, which I have used in a large number of cases with perfectly satisfactory results, can be fitted with a handle giving either the Heath or the Mackenzie position. It has been made for me by Messrs. Mayer and Meltzer.



[1] London: The *Encyclopaedia Britannica* Company. 1914. (Price 2s. 6d. net. each volume.)

THE BRITISH PHARMACOPOEIA, 1914.

(Continued from page 673.)

Alterations in Composition and Strength.

The number of drugs and preparations the composition or strength of which has been changed in the new *Pharmacopoeia* is much more considerable than the number of additions. Neglecting for the present minor alterations, changes in composition have been made in fifty cases, and in strength in forty-one. In addition, the names of about forty have been altered to a greater or less extent; these three groups overlap somewhat, several preparations being altered in more than one respect. Naturally, not all the alterations are of equal importance, but a good many of them call for mention in detail. In the following notes the more important changes are dealt with first, and the order is therefore only partly alphabetical.

Belladonnae Folia.—The official drug is now the dried leaves, instead of the fresh leaves and branches. An assay process is ordered, and the leaves are required to contain not less than 0.30 per cent. of alkaloids. This is a reasonable lower limit, but as no upper limit is fixed, and the leaves sometimes contain considerably more than this, a good deal of variation in strength is still possible. Several of the preparations of the drug are also altered, namely:

Extractum Belladonnae.—The green extract, made from the fresh leaves and young branches, and the alcoholic extract, made from the root, are both dropped. The new preparation is called "extractum belladonnae siccum," but the names "extractum belladonnae" and "extractum belladonnae alcoholicum" are given as synonyms; it is an extract made from the leaves, standardized to contain 1 per cent. of alkaloids, and an addition of powdered leaf is made and the whole dried and powdered.

Tinctura Belladonnae.—This is now made from the leaves, instead of by diluting the liquid extract made from the root. It is standardized to contain 0.35 per cent. of alkaloids, instead of 0.5—that is, its strength is reduced by 30 per cent.

Emplastrum Belladonnae.—This is reduced in strength by one-half; it is required to contain 0.25 per cent. of alkaloids instead of 0.5 per cent.

Hyoscyami Folia.—The official drug now consists only of the dried leaves; formerly the fresh leaves, flowers, and branches were included under the same name. The juice of the fresh drug is dropped and the other preparations altered—namely,

Extractum Hyoscyami.—The green extract is dropped, and the name "extractum hyoscyami" now stands for an alcoholic extract of the dried leaves, standardized to contain 0.3 per cent. of alkaloids and evaporated down with an addition of powdered leaf to make a dry extract in powder, similar to the dry extract of belladonna.

There is a curious irregularity in the nomenclature of the extracts. The soft extracts of belladonna, hyoscyamus, nux vomica, and opium are replaced by dry preparations, but the name "extractum hyoscyami" remains unchanged, while the word "siccum" is added to the name of each of the other three. Extract of cascara sagrada is at present a dry extract, and its preparation is unchanged, but its name is altered to "extractum cascarae sagradae siccum." Extract of euonymus is also at present a dry extract, and its preparation is unchanged, but its name is altered from "extractum euonymi siccum" to "extractum euonymi." It is not easy to conjecture what may be the reason for such arbitrary treatment of names.

Tinctura Hyoscyami.—This is now made from the leaves only, instead of the leaves and flowering tops, and with 70 per cent. alcohol instead of 45 per cent. The proportion of drug is not altered and the tincture is not standardized.

Belladonna and henbane are the only two crude drugs which are altered; the other changes are in preparations.

Acetum Scillae; Acetum Urgineae.—Vinegar of squill is made approximately double its previous strength, and its Indian representative, vinegar of urginea, is similarly altered. The respective oxymels are now made from the vinegars, but their strength as compared with the present preparations is only slightly increased.

Injectio Cocainae Hypodermica.—Reduced to half strength; now contains 5 per cent. of the hydrochloride instead of 10.

Injectio Morphinae Hypodermica.—Reduced to half strength; now contains 2½ per cent. of the tartrate instead of 5.

A note in the text draws attention to the reduction in strength of the morphine injection, but no similar note is given on the cocaine injection.

Pilula Phosphori.—Reduced to half strength; now contains 1 per cent. of phosphorus instead of 2. The excipient is altered, oil of theobroma, lanolin, and dried sodium sulphate taking the place of wax and lard.

Tinctura Aconiti.—The strength is approximately doubled, being now about the same as in the 1885 *Pharmacopoeia*. The tincture is assayed, and required to contain 0.04 per cent. of ether-soluble alkaloid, and is thus in accordance with the international agreement.

Tinctura Colchici.—Reduced to half strength; now made with 70 per cent. alcohol instead of 45 per cent. The word "seminum" is omitted from the name. The strength is now approximately in accordance with the international agreement.

Tinctura Digitalis.—Reduced in strength by about one-fifth; now made with 70 per cent. alcohol instead of 60 per cent. The strength is now approximately in accordance with the international agreement.

Tinctura Nucis Vomicae.—Reduced to half strength, being now the same as in the *Pharmacopoeia* of 1885, and approximately in accordance with the international agreement.

Tinctura Opii.—Increased in strength by one-third; now contains 1 per cent. of morphine instead of 0.75 per cent. The strength is now approximately in accordance with the international agreement.

Tinctura Opii Ammoniata.—Reduced in strength by about one-ninth.

Tinctura Strophanthi.—Increased in strength to four times that of the *Pharmacopoeia* of 1898, or double that of 1885. The oil of the seeds is removed by a preliminary treatment with ether. The strength is now approximately that of the international agreement.

It is important that the great increase in strength of this potent medicine should be borne in mind, as all prescriptions written on or after January 1st, 1915, must be dispensed with the new tincture.

Unguentum Hydrargyri.—Reduced in strength to about three-fifths of that at present official; made with benzoated instead of prepared lard. The strength is now in accordance with the international agreement.

Unguentum Hydrargyri Compositum.—This contains the same proportion of mercury ointment as before, and is therefore reduced in strength, as regards mercury, to about three-fifths.

Unguentum Hydrargyri Ammoniati.—Reduced in strength to one-half, and made with benzoated lard instead of paraffin ointment.

Unguentum Hydrargyri Subchloridi.—The proportion of calomel is increased to double.

Acidum Nitricum Dilutum.—Reduced in strength to about three-fifths; now contains 10 per cent. of real nitric acid instead of 17.44 per cent.

Acidum Phosphoricum Dilutum.—Reduced in strength to about five-sevenths; now contains 10 per cent. of real phosphoric acid instead of 13.8 per cent.

Acidum Sulphuricum Dilutum.—Reduced in strength to about five-sevenths; now contains 10 per cent. of real sulphuric acid instead of 13.65 per cent.

In consequence of these changes all the official dilute acids, except hydrocyanic and nitro-hydrochloric, now contain ten per cent. of the respective real acids.

Confectio Sulphuris.—Made with precipitated sulphur instead of sublimed.

Decoctum Aloes Compositum.—The saffron is omitted.

Emplastrum Calefaciens.—As already noted, this is made with cantharidin instead of cantharides.

Extractum Ergotae.—This is now an aqueous extract, from which gummy and other matters are removed by precipitation with alcohol, instead of an alcoholic extract from which resinous matters are removed by precipitation with water and acid. The synonym "ergotin" is omitted.

Injectio Ergotae Hypodermica.—Since the new extract is used in making the hypodermic injection of ergotin,

the latter is altered in composition in a corresponding manner.

Extractum Ipecacuanhae Liquidum.—No lime is now used in the extraction. The alkaloidal strength is fixed at 2 per cent., instead of 2 to 2¼.

Extractum Nucis Vomicae Siccum. — A powdered extract replaces the soft extract at present official, calcium phosphate being used as a diluent instead of milk sugar. The strength remains the same.

Extractum Opii Siccum.—A powdered extract replaces the soft extract at present official, calcium phosphate being used as a diluent. The strength remains the same.

Ferri Carbonas Saccharatus. — Made with glucose instead of cane-sugar, and required to contain 50 per cent. of ferrous salts, calculated as carbonate, instead of about one-third.

Hydrargyri Oleatum (at present called hydrargyri oleas).—Made from mercuric oxide, oleic acid, and liquid paraffin, instead of by precipitation of mercuric chloride with soap; contains 20 per cent. of mercuric oxide instead of about 24.

Linimentum Hydrargyri.—This is reduced in strength to about three-fifths, in consequence of the change of strength in mercury ointment. It is now made with dilute ammonia instead of strong, and less camphor liniment.

Liquor Atropinae Sulphatis. — The salicylic acid is omitted.

Liquor Epispasticus.—Now an acetone solution of cantharidin, castor oil, and resin, instead of an acetic ether extract of cantharides; the strength is approximately the same.

Collodium Vesicans.—Since this is made with liquor epispasticus, its composition is correspondingly changed; it is also made slightly stronger, and coloured with cochineal.

Liquor Ferri Perchloridi Fortis.—The iron content is reduced from 22.5 to 20 per cent. (weight in volume); the specific gravity is increased from 1.42 to 1.49, the figure at present given being erroneous.

Liquor Hydrargyri Perchloridi.—Reduced in strength to 1 in 1,000 instead of 1 in 876; it now contains $\frac{1}{10}$ gr. in 110 minims, instead of $\frac{1}{16}$ gr. in 1 fluid drachm.

Liquor Potassae.—Reduced in strength from 6.2 per cent. of potassium hydroxide to 5 per cent. (weight in volume).

Lotio Hydrargyri Nigra.—The tragacanth mucilage is omitted.

Mistura Ferri Composita.—Glucose is used in place of cane-sugar, acacia gum is added, and the strength is slightly increased.

Oleum Phosphoratum.—One per cent. of oil of lemon is added.

Pilula Ferri.—The quantities of acacia and tragacanth are reduced, glucose is used instead of syrup and glycerin, and the proportion of ferrous carbonate is increased by about one-tenth.

Pilula Hydrargyri Subchloridi Composita.—Now made up with gum and syrup of glucose instead of castor oil.

Potassa Caustica.—Required to contain 85 per cent. of potassium hydroxide instead of 90.

Spiritus Aetheris Nitrosi.—The minimum content of ethyl nitrite is slightly reduced.

Spiritus Juniperi.—Strength increased to double; now contains 10 per cent. of oil of juniper instead of 5.

Syrupus Chloral.—Strength slightly increased; now contains 10.9 grains of chloral hydrate in 1 fluid drachm instead of 10, and is thus 20 per cent. (weight in volume).

Syrupus Codeinae Phosphatis.—Strength slightly increased; now 0.5 per cent. (weight in volume) or 0.27 grain in 1 fluid drachm instead of 0.25. The word "phosphatis" is added to the name, but the phosphate has always been the salt used.

Syrupus Ferri Iodidi.—Reduced in strength to about two-thirds, and is now in accordance with the international agreement. Part of the cane-sugar is replaced by glucose.

Syrupus Rhei.—Slightly increased in strength and made with oil of coriander instead of the fruit.

Tabellae Trinitrini.—Reduced in strength by about one-third, each tablet now containing about $\frac{1}{130}$ grain (0.5 mg.) of trinitroglycerin instead of $\frac{1}{100}$ grain.

Tinctura Camphorae Composita.—Strength of opium increased by about one-tenth.

Tinctura Cardamomi Composita.—Raisins are omitted and glycerin introduced; made with 45 per cent. alcohol instead of 60 per cent. The proportions of all the drugs are increased by about one-tenth.

Tinctura Cinchonae Composita.—Saffron is omitted.

Tinctura Picrorhizae.—Now made twice the strength of the tincture of the Indian and Colonial Addendum.

Tinctura Pruni Virginianae.—Part of the alcohol is replaced by glycerin.

Tinctura Rhei Composita.—Made with 45 per cent. alcohol instead of 60 per cent.

Tinctura Sennae Composita.—Raisins are omitted and glycerin introduced.

Trochiscus Acidi Carbolici.—Strength reduced to half, one lozenge now containing ½ grain of phenol instead of 1 grain; flavoured with lemon juice instead of tolu.

Trochiscus Acidi Tannici.—Made with tolu base instead of fruit base.

Trochiscus Catechu.—Made with fruit base instead of simple base.

Trochiscus Ipecacuanhae. — Made with simple base instead of fruit base.

Unguentum Acidi Carbolici.—Now made to contain 3 per cent. of phenol instead of 4, and glycerin omitted.

Unguentum Aquae Rosae.—Spermaceti is omitted and borax introduced. The proportion of rose water is reduced to 20 per cent. from about 37.

Unguentum Belladonnae.—Made with a mixture of lanolin and benzoated lard instead of the latter only.

Unguentum Capsici.—Made with hard and soft paraffin and lard instead of spermaceti and olive oil; strength slightly increased.

Unguentum Cetacei.—Made with liquid paraffin instead of benzoinated almond oil.

Unguentum Chrysarobini.—Made with soft paraffin instead of benzoated lard.

Unguentum Hamamelidis.—Part of the lanolin is replaced by soft paraffin.

Unguentum Iodoformi.—Made with prepared lard instead of paraffin ointment.

Unguentum Paraffini.—A little white beeswax is added.

Unguentum Plumbi Iodidi.—Made with benzoated lard instead of paraffin ointment.

Vinum Antimoniale.—Reduced in strength by one-seventh.

Vinum Aurantii.—The alcoholic strength is now given as 15 to 17 per cent. by volume instead of 10 to 12.

It will be seen that some of the alterations here noted refer to only minor points, but it is not easy to draw a line between those which are of some therapeutical importance and those which are purely pharmaceutical. Many small changes are made in other substances and some of these may be referred to in the sequel.

Changes of Name.

Most of the more important changes of name have been mentioned in the above; a few others may be noted:

Aloe.—Barbados and Socotrine aloes are not now treated as separate drugs, but are placed together under aloes. The names of the extract and pills are modified correspondingly.

Senna. — Alexandrian and Indian senna are similarly included under the one name "senna."

Alum and *Borax.*—The word "purified" is added to the names. This is probably to prevent the *Pharmacopoeia* being cited as a standard of purity when commercial alum or borax is sold for non-medicinal uses.

Red Gum.—The name "kino eucalypti" is adopted in place of "eucalypti gummi."

Strong Tincture of Iodine.—The name "tinctura iodi fortis" is adopted in place of "liquor iodi fortis"; this preparation was called linimentum iodi in 1885. The ordinary tincture now becomes "weak tincture of iodine," "tinctura iodi mitis"; no doubt it will continue to be dispensed when tincture, without an adjective, is ordered.

Chaulmoogra Oil and Ointment.—The names "oleum chaulmoograe" and "unguentum chaulmoograe" are adopted in place of "oleum gynocardiae" and "unguentum gynocardiae." The source is now correctly given as *Taraktogenos Kurzii* instead of *Gynocardia odorata.*

Pine Oil.—This is now derived from *Abies sibirica* instead of *Pinus pumilio*, and is called oleum abietis instead of oleum pini.

Turpentine.—Now called oleum terebinthinae rectifi-

catum, the last word being presumably added for the reason mentioned above under "alum."

We shall next discuss in a general way the alterations in standards for drugs and chemicals.

(To be continued.)

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Continued from page 675.)

The British Red Cross Society.

The Geneva Convention, as has been seen, was recognized by eighteen Powers within a year or two of the time the Conference was held. In 1867, on the occasion of the Paris Exhibition, international conferences of the societies for aid to wounded soldiers in time of war were held from August 26th to 31st. The general committee in Paris invited the national committees of different countries to send representatives, and also asked the Governments of the leading Powers of Europe to send delegates. Accordingly delegates were sent either by the Ministers for War, or the Governments of Austria, Baden, Bavaria, Great Britain, Holland, Prussia, Russia, Sweden, and Switzerland. Some of these official delegates in a few cases represented also national committees as well as their respective Governments. All the other delegates, with the exception of two sent by the Orders of St. John of Jerusalem in Prussia, and of St. John in Spain, and one sent by the Imperial Ottoman Commission for the Exhibition at Paris, were representatives of the Sociétés de Secours aux Militaires Blessés of different countries. The countries from which delegates were sent by societies for aid to the wounded in time of war were the following: Austria, Baden, Bavaria, Belgium, Spain, United States, France, Italy, Holland, Portugal, Prussia, Sweden, Norway, Switzerland, and Würtemberg. In all there were 56 delegates. Longmore in his report on the proceedings at the International Conference adds:[1]

> No society corresponding with the national societies for aid to wounded in time of war which have been established on the Continent has been organized in England. On the Continent these societies are said to have proved themselves valuable aids to their respective Government during recent campaigns. . . . Indeed, in not only all parts of the Continent are central national societies for aid to wounded soldiers in time of war now established on a firm basis with fixed rules and under the highest support, but they appear to have taken a deep root and to be throwing out extensive ramifications in their respective countries.

A year later Henry Brackenbury,[2] after giving an account of what had been done on the Continent, and insisting on the necessity of preparation and organization, asked:

> What is England doing? We have our Nightingale fund for training nurses, our patriotic fund for relief of Crimean sufferers. Where is our branch of the International Society for the Relief of the Sick and Wounded, and what work is it doing? Where is its shipload of comforts to follow the Abyssinian expedition? There lies before us the catalogue of that most interesting exhibition of objects for relief of sick and wounded soldiers held in connexion with the International Society at Paris, near the chief entrance; and in the midst of the thousands of objects exhibited, England sends two books, and one of those is called *America and its Army*. Surely this is a slur on our national humanity, a blot on our fair escutcheon. In Heaven's name let us be up and doing. We have signed the Convention of Geneva. We are bound in honour to be working in time of peace not for ourselves alone, but for all the other nations, whose wounded may, by even the remotest possibility, ever fall into our hands. We invite discussion and action on a subject affecting both our soldiers' lives and our national honour.

With our characteristic happy-go-lucky way of dealing with all things relating to preparation for war, notwithstanding the awful experience we had had in the Crimea, we did nothing to carry the lesson implied in the Geneva Convention into effect for some years after its signature.

Another congress on aid to the sick and wounded in war was held at Berlin in 1869, at which Longmore again represented Great Britain. About 1870 he trained the first bearer company ever known in England, and he was a pioneer in the initiation of the movement in this country which after many years resulted in the formation of the British Red Cross Society. The movement ran along several separate but converging lines, chief among them being the British National Society for Aid to the Sick and Wounded in War, and the St. John Ambulance.

[1] *Help for Sick and Wounded.* London, 1870, p. 401.
[2] Articles reprinted from the *Standard* of January 7th and 27th, 1868; *Help for Sick and Wounded*, p. 449.

National Society for Aid to the Sick and Wounded in War.

The National Society was the first Red Cross Association established in England. At a meeting held at Buckingham Palace on July 17th, 1905, under the presidency of Her Majesty the Queen, Lord Rothschild, the Chairman, gave an account of its foundation. He said:

> When the Franco-German war broke out in 1870, that gallant soldier the late Lord Wantage, who had planted the colours of his regiment on the heights of the Alma, for which he received the Victoria Cross, and who had served with distinction all through the campaign in the Crimea—Lord Wantage, who knew from experience the misery and sufferings of wounded and sick soldiers in a campaign, who was aware of how little was done in those days to alleviate men fighting for the honour and glory of the sovereign of their country, took advantage of the rules of the new Geneva Convention to start a society over which he long presided—namely, the National Society for Aid to the Sick and Wounded in War. His Majesty the King was the patron of that society, and his Royal Highness the Duke of Connaught was one of the trustees. Speaking of the work of the society, Lord Rothschild went on to say that from the time of its foundation in 1870 to 1905 it expended nearly £500,000 in assisting the sick and wounded in war. In the Franco-German war it provided £223,717 in supplying food, transport, clothing, medical stores, and grants in aid of local funds. It employed in that campaign nearly 200 agents, surgeons, nurses, and others, and established more than a dozen central dépôts in France and Germany for the distribution of stores. It rendered similar good service in the Turco-Servian and Russo-Turkish wars as well as in other European campaigns. It furnished aid in the Zulu campaign of 1879, and in the Boer war of 1881. In the Egyptian campaign of 1884–5 the society expended £33,922 in the employment of surgeons and nurses, in the provision of steamers, launches, and dahabeahs, and in the forwarding of medical and surgical supplies to the front. The amount expended by the society in the South African war 1899–1902 was £162,296. Twenty-one commissioners and agents were employed, grants in aid were given, clothing and medical and other stores were provided, the hospital ship *Princess of Wales* was chartered, and the hospital train Princess Christian purchased. The work in this war was carried out in connexion with, and under the direction of, the Central British Red Cross Committee.

St. John Ambulance.

The Order of St. John of Jerusalem, of which the St. John Ambulance is a department, though sometimes represented as a survival, is strictly a revival in a different form of the ancient Order of the Knights of St. John of Jerusalem or Hospitallers. Although it is a digression from the main subject, a short sketch history of this famous Order may not, therefore, be out of place here.

In the eleventh century some merchants of Amalfi founded at Jerusalem a convent, church, and hospital for the benefit of poor pilgrims visiting the Holy Places. It must be remembered that the word *hospitium* then meant not only a hospital in our modern sense, but a house of shelter for needy wanderers. At the siege of Jerusalem by the Crusaders in 1099 Gerard, a Provençal, then head of the hospital, displayed such devotion in ministering to sufferers without distinction of creed or class that Godfrey de Bouillon, when he was chosen King of Jerusalem, authorized the separation of the hospital from the convent and endowed it with one of his manors. Many of the patients, on their recovery, gave themselves in turn to the care of the sick and wounded, and Gerard formed them into a brotherhood with a distinctive garb. Their original patron was St. John the Cypriote, Patriarch of Alexandria, who, after the first capture of Jerusalem by the Saracens in the seventh century, sent money and food to the distressed Christians of Syria. In a few years the liberality of princely patrons among the Christians made the brethren of St. John of Jerusalem a wealthy order with a number of dependent hospitals in various places. As they grew in importance they renounced the patronage of the Cypriote and placed themselves under that of St. John the Baptist. Under the second Master, Raymond de Puy, the Hospitallers became a fighting as well as a nursing order. They were divided into three classes: Knights who were all nobles (it was necessary that each parent must have sixteen quarterings, so that a *mésalliance* of a great-great-grand-aunt was a bar to admission); chaplains who were priests; and brother servants who were not noble. By degrees the military character of the Hospitallers overshadowed their original mission as an order of charity,

and they became, with the Templars, one of the chief bulwarks of the Christian Power in the East. When Acre, called after them St. Jean d'Acre, the last stronghold of the Christians, fell before the attack of the Mussulmans in 1291, the Hospitallers withdrew to Cyprus, whence for some years they waged war by sea against the Saracenic nations of the Levant. When the Templars were suppressed in 1310 their lands were made over to the Hospitallers, who, however, "had to purchase the surrender from the King and other Princes at such vast cost of money raised at such exorbitant interest that the Order of St. John was poorer rather than richer from what seemed so splendid a grant."[3]

At the height of its prosperity the Order consisted of representatives of eight different nations or *langues*, among which the English were the sixth in order. The *langues* were those of Provence, Auvergne, France, Italy, Arragon, England, and Germany. Afterwards Castile was added to the number. Each language was divided into grand priories and bailiwicks, which again were subdivided into commanderies. The ordinary knights, *Chevalliers de Justice*, were required to prove noble birth, but a certain number of Knights by favour, *Chevalliers de Grâce*, were also admitted, though not noble, in consideration of distinguished valour or other merit. They were independent of all authority save that of the Pope, and that of their own Grand Master and the Chapter of the Order. About 1240 they held in Christendom nineteen thousand lordships and manors. At first their rule was very strict, and it is interesting to note that they held bodily cleanliness as well as moral purity of great importance. But as they grew in power and in wealth they became more lax in the observance of their rule. Moral corruption, which began during their stay in Cyprus, went on increasing. Almost to the last, however, they were first class fighting men. In 1310 they seized the Island of Rhodes where they maintained themselves for more than two centuries till in 1522 Solyman the Magnificent sent an immense fleet and army against them and they were compelled to surrender. In 1530 Charles V granted the dispossessed Order the Island of Malta. There, with the exception of one attack by the Turks in 1565, they remained undisturbed till, in 1792, on the breaking of the storm of the French Revolution, the abolition of the Order in France and the forfeiture of its possessions was decreed by the Directory. In 1798, owing to the weakness of the Grand Master, a German named Hompesch, and the treachery of some of the Knights, the island was surrendered to Napoleon, then on his way to Egypt. Soon afterwards it was blockaded by an English fleet, and the garrison was compelled by hunger to capitulate in 1800. Since then Malta has been held by England.

The Knights of St. John in England.

The Knights of St. John came into England in the reign of Henry I, and their first house and hospital were founded at Clerkenwell by Lord Jordan Briset about 1110. In 1185 the church was consecrated by Heraclius, Patriarch of Jerusalem. The buildings went on growing in extent and beauty till Wat Tyler's rising in 1381, when the priory was burnt and the Grand Prior, Sir Robert Hales, was beheaded by the mob. "They went streight to the goodly hospital of Rhodes called St. John's, beyond Smithfield," says Grafton in his *Chronicle*, "and spoyled that and then consumed it with fyre causing the same to burne for the space of seven days after." At this time "the building in its widely varied decorations, both internally and externally, is said to have contained specimens of the arts both of Europe and Asia, together with a collection of books and rarities, the loss of which in a less turbulent world would have been a theme for national lamentation." It was not till 1504 that the hospital was fully restored, and the South Gate—all that is left of the original buildings—was erected by the last Prior, Sir Thomas Docwra. The Prior of St. John of Jerusalem ranked as the first Baron of England. John Selden says he was "a kind of otter, a knight half spiritual half temporal." In 1540 the English Order was dissolved by Act of Parliament and its property confiscated (32 Henry VIII, cap. 24) because it "maliciously and traitorously upheld the Bishop of Rome to be the supreme head of Christ's Church," intending thereby to subvert "the good and godly laws and statutes of this realm." Some of the Knights retired to Malta; of three who remained, two were beheaded as traitors and the other hanged and quartered. In 1557, under Queen Mary, the Knights were again incorporated by Royal Charter, and some of the former possessions of the Order were restored. Queen Elizabeth, however, annexed to the Crown all the property of the Knights in England (1 Elizabeth, cap. 24).

There was also a priory in Ireland.

The Knights of St. John in Scotland.

An offshoot of the English *langue* established a Priory in Scotland, at Torphichen in Linlithgowshire, in 1124. In 1153 King David confirmed its foundation and its possessions and privileges by charter. Donations were freely bestowed upon it by several of the Scottish kings. The head of the Priory was styled Preceptor, and several of the preceptors played an important part in the councils of the kingdom. They were raised by James IV to the dignity of Lords of Parliament, and were designated by the title of "Lord St. John" or "Lord St. John of Torphichen." Sir George Beatson, in his *Knights Hospitallers in Scotland* (Glasgow, 1903), says:

> Of the actual work done in Scotland by the Torphichen Priory there are no authentic records, but we may, I think, safely surmise that it was on the lines of the more enlightened monastic views that were coming into vogue in the twelfth century. These recognized that God was to be served *in* the world and not by fleeing from it, and that the duty of the monks consisted not so much in retirement into solitude to save their own souls, as in labouring to save those of others. In short, that their lives were to be shaped, as has been said, more after the character of the parish priest, being not neglectful of the worldly and intellectual interests of their people, while developing in them a deeper humanity and a more fervent Christian zeal. Hence we find that not only religion but education, the encouragement of agriculture, trade, and manufactures, manual labour of every kind, the cultivation of learning, and the chronicling of events engaged their attention, and we may regard the monks of the abbeys and monasteries in the Middle Ages as the clergymen, the farmers, the gardeners, the builders, the schoolmasters, and the historians of Scotland in those bygone days. In all these directions we may be sure the Torphichen Priory did good work, its Knights being at the same time ever mindful of the charitable origin of their Order, and I have no doubt that at the Preceptory Gate many were fed who would otherwise have starved, and that not only were the sick admitted to be nursed and restored to health, but, in times of war, the wounded also; and it is on record that Edward I., who was injured by a kick from his horse on the night before the Battle of Falkirk, was subsequently carefully tended in Torphichen Priory. The existence both in Linlithgow and in Glasgow of houses belonging to the Knights Hospitallers raises the question as to what uses they were put to and for what object they were established. Upon this point no exact information is forthcoming. They may have served as almshouses or leper hospitals, or they may have been Friaries for the residence of Serving Brothers working amongst the city poor, just like the University settlements of the present day.

For four hundred years the Hospitallers worked in Scotland till the Reformation brought about the dissolution of the Order. Their last Preceptor, Sir James Sandilands, threw in his lot with John Knox. The Priory possessions were made into a temporal barony carrying with it the title of Lord of Torphichen. The ruins of the priory still exist, and Sir George Beatson says:

> It has been suggested that by a revival of the latter in the shape of reappointing its Prior and Subprior, the Priory might serve as a bond of union between the Order of St. John of Jerusalem and the St. Andrew's Ambulance Association, the latter agreeing to do for the Priory the ambulance work of the Order in Scotland in the same way that the St. John Ambulance Association does it in England and elsewhere. No more appropriate symbol to work under could be chosen.

Last Days in Malta.

It is difficult to discover whether the English *langue* was ever formally dissolved; probably it gradually ceased to exist as the English Knights died out. It may be inferred that this was the case, as it is recorded that in 1775 Emmanuel de Rohan, then Grand Master, erected an Anglo-Bavarian *langue*. That the Order had not forgotten its original mission of mercy is shown by the fact that in that year its galleys were sent to relieve the sufferers from the great earthquake in Sicily.

(To be continued.)

[3] Villani, quoted by Milman, *Latin Christianity*, vii, p. 275.

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SATURDAY, OCTOBER 24TH, 1914.

MILITARY SANITATION AT HOME.

The steps taken recently by the War Office, acting in conjunction with the Local Government Board, and after consultation with the Society of Medical Officers of Health, will, if followed by immediate and sustained action, go a long way towards reassuring the public mind and stilling the apprehensions of the medical profession with regard to the health of the Territorial Forces and the new recruits.

The letter of the Army Council to General Officers Commanding-in-Chief of Commands (page 730) conveys very definite instructions with regard to the reliance that should be placed upon the knowledge and local experience of members of the civilian public health service. Its terms show the need for the representations made in these columns during the last seven or eight weeks, and indicate the nature and causes of some of the unsatisfactory conditions which have prevailed. It will be seen that the Army Council directs the general officer to communicate with the medical officer of health of the district in which troops are to be quartered before they are marched in, with a view to obtaining his expert advice and co-operation in billeting troops under the best sanitary conditions available. Further, the medical officer of health is to be consulted when camps are formed and maintained, and his visits are to be encouraged, and it is intimated that urgent sanitary work in connexion with the removal of excreta, etc., can in many cases most expeditiously be performed by making use of the local sanitary officials, who, as is well known, are very willing to serve. It is recognized that this will raise financial questions as between the War Office and the local authorities, but it is stated that the matter is under consideration.

Mr. Herbert Lewis, Parliamentary Secretary to the Local Government Board, in a speech delivered last Monday, said that the Board had lent the whole-time services of twelve of its medical inspectors for co-ordinating the work of local sanitary authorities, and the Army Council's letter states that these inspectors will continue to visit billeting areas and camps. Mr. Lewis said also that, through the assistance of the medical officers of health and sanitary inspectors throughout the country, a system of inspection of all camps and other military premises had been arranged, and that in this way it was hoped to ensure that the defects already disclosed would rapidly disappear. He recognized that there were dangers to guard against in the future arising out of the continued occupation of camps, but he was able to say that out of some 600,000 men mobilized or recruited only 5 cases of typhoid fever had been notified in the week ending September 26th, 12 in the following week, and 10 in the week ending October 10th. Every one will agree that this reflects the highest credit upon the Army Medical Services, but the fact that even so small a number of cases should have occurred at so early a date shows the need for the measures now taken and for the systematic application, so long as the war continues, of every precaution which military or civil medical experience suggests.

We have steadily maintained that as the conditions now existing in this country are wholly unprecedented, special administrative machinery is needed to cope with them, and we are glad to find that this is now being realized by the central authorities. The responsibility for the health of the recruits lies primarily with the military authorities, not only with the medical officers, but with every officer of every rank in every unit, and not, as the Parliamentary Secretary of the Local Government Board would seem to have implied, with the Army Medical Department only. The Royal Army Medical Corps is recruited to a strength designed to give efficient medical and sanitary service to the regular army. It is doing this work splendidly, but it has its hands very full with the Expeditionary Force, and has to fill the vacant places due to the many casualties the Corps has suffered in the field. The Director-General, Sir Arthur Sloggett, is going to France to take charge of the work there, and to co-ordinate with the Army Medical Service the voluntary aid given by the British Red Cross and the St. John Ambulance Association; to facilitate this task he has been appointed Chief Commissioner in France by both these organizations. The Territorial Force has its own medical officers, civilian practitioners who patriotically gave their services to the country in time of peace. They have now to carry out onerous duties under conditions differing in many respects from the summer camps of exercise. In sanitary administration they need not only the sympathy and support of commanding officers but all the assistance that the civilian public health service is so competent to give, and which the Army Council now instructs general officers commanding to obtain. There remains the great multitude of recruits for the new armies; they as yet possess no medical service of their own, and in the meanwhile stand in need of the assistance of the civilian public health service even more urgently than the Territorials. The circular of the Army Council and the statements of Mr. Herbert Lewis refer equally to them. During Sir Arthur Sloggett's tour of duty at the front, Sir Alfred Keogh, as was stated last week, has returned to the War Office to act as Director-General of Army Medical Services at home. He has a gigantic task, but he is a man of large experience and tried administrative ability. He may feel confident that the public health service and the medical profession generally will second his efforts to the utmost limits of their powers.

ENFORCED DOGMATISM IN MEDICINE.

Sir Frederick Treves, in the brilliant presidential address he prepared for the Birmingham and Midland Institute, which is published at p. 697, dwells on the daring amount of pure fiction with which the progress of medicine is associated. His contention is that this was imposed on the profession to satisfy the demands of the people. In the early days of the human race disease was believed to be produced by evil spirits which took up their abode within the human body and caused discomfort, suffering, and death. The obvious remedy was to expel them. Hence the aid of the priest, who was credited with the ability to control the powers of darkness, was invoked. If his spiritual rites and incantations failed, recourse was had to the medicine man, who doubled that character with the part of priest, as Maitre Jacques served Harpagon

as cook as well as coachman when the occasion demanded such a variation of function. The medicine man, in his own way, did all in his power to make the tenement of clay in which the evil spirit had taken up his dwelling uninhabitable; he served him with writs of ejectment in the form of foul-smelling fumigations, horrible-tasting concoctions given him to swallow, blows and other modes of violent assault. If the particular part tenanted by the spirit was the head, a hole was made in the skull to allow him to escape. These fundamental principles of the primitive art of healing continued, though varied in form, well into modern times. In Pliny's *Historia Naturalis* there is an amazing collection of remedies which were in common use for centuries before his day; they continued to be employed for centuries afterwards. In many of these can be discerned, as it were, the faint dawn of some of the most advanced methods of the present day.

In time the place of evil spirits as causes of disease was taken by disordered humours. The humoral theory of pathology dominated medicine for two thousand years, and reached the height of its power over the human mind in the seventeenth century, when it is seen in its highest expression in the doctors of Molière. Even the ridicule of that master of satire, who may well be called the *malleus medicorum*, did not kill it, as Cervantes "smiled Spain's chivalry away"; indeed, it is not by any means wholly extinct among the people even at the present day. Sir Frederick Treves finds the origin of this remarkable product of the human fancy in the dogmatism imposed by lay folk on the physician as on the priest. The law is allowed to be doubtful, and the lawyer may therefore give an uncertain opinion. But there must be no hesitation on the part of the doctor. Hence the man of art had to invent theories, and even diseases, for each of which he must have an appropriate remedy. He had in all cases, according to the teaching of a well-known surgeon who only within the past few years was gathered to his fathers, to "do something." Though the educated public has lost faith in drugging, less enlightened patients consider themselves defrauded if they are put off with advice, and seek counsel of another oracle who does not disdain to seal up the "genius" of healing in a bottle. And the colour of the fluid contained in the bottle has a real influence. Sir Frederick seems to us to overlook the effect of the imagination, which in some varieties of disease, at any rate, has more potency than all the drugs in the *Pharmacopoeia*. Is not the faith of the average hospital patient in the efficacy of the medicine dispensed to him in proportion to the nastiness of its taste? This is a survival of the old doctrine that the evil spirit was to be evicted by making his abode unpleasant. It may be admitted, too, that the treatment of disease by wholesale drugging—a system analogous to the infantry fire of the Germans, who seem to pour in showers of lead on the enemy on the chance that some of it will reach the mark—was too profitable to the apothecary not to foster a belief in the power of medicines. Homoeopathy did a service to medical science, though unwittingly, by insistently reminding the profession that many sick people tend naturally to recovery without drugs.

While we agree with Sir Frederick Treves that dogmatism has been the greatest hindrance to the advance of medicine, we think that for this the doctors themselves are largely responsible. The worship of authority which so long held the human mind in shackles to the ancients was by no means confined to medicine; it dominated human thought in every sphere. So strong was this influence that, just as in the Middle Ages originality in theological speculation was apt to lead to the stake, in Egypt, if an illness proved fatal the doctor was liable to a heavy penalty, even to death, unless he could show that in his treatment he had followed the orthodox lines laid down in the books and consecrated by long usage. It might therefore be truer to say that dogmatism was enforced on the profession by its leaders and accepted by the people. Popular medicine at any given time may broadly be said to represent the medical knowledge of a century earlier. But often a belief in a theory such as the evil effects of the "suppression" of a rash or in some "cooling" or "soothing" medicine survives much longer, and we think Sir Frederick Treves goes too far when he says that the whole of the spurious science in which our forefathers placed their faith has been swept away. But we may congratulate ourselves with him that, while the landmarks of the older medicine have been moved to an extent that could not have been foreseen even a generation ago, the principles on which the healing art rests have been consolidated and reduced to a few fundamental propositions. Even greater satisfaction, we think, is to be found in the fact that people are now learning to take an intelligent interest in rational medicine. The more widely a knowledge of natural processes, and of the extent to which these can be controlled by the application of scientific methods is diffused, the more surely will be brought about the complete extinction of quackery—that most noxious form of trading on human weakness.

THE DEATH OF NELSON.

TRAFALGAR DAY (October 21st) inevitably aroused special interest this year. A pathetic feature among the usual memorials around the base of the Nelson Column was the number of mourning cards and wreaths commemorating the officers and men of the Royal Navy who have so far died in maintaining that sea power which even in these early days has had so marked an influence in the present war. The time, therefore, seems opportune for recalling the circumstances of our great naval hero's death. According to the official report of Dr. William Beatty, surgeon of H.M.S. *Victory* at Trafalgar,[1] Nelson was mortally wounded in the left breast about the middle of the action by a musket ball, supposed to be fired from the mizzen top of *La Redoutable*. The Admiral was in the act of turning on the quarterdeck with his face towards the enemy when he was wounded; he was at once taken to the cockpit where he lived about two hours. "On being brought below, he complained of acute pain about the sixth or seventh dorsal vertebra, and of privation of sense and motion of the body and inferior extremities. His respiration was short and difficult; pulse weak, small, and irregular. He frequently declared his back was shot through, that he felt every instant a gush of blood within his breast, and that he had sensations which indicated to him the approach of death. In the course of an hour his pulse became indistinct, and was gradually lost in the arm. His extremities and forehead became soon afterwards cold. He retained his wonted energy of mind, and exercise of his faculties, till the last moment of his existence; and when the victory as signal as decisive was announced to him, he expressed his pious acknowledgements, and heartfelt satisfaction at the glorious event, in the most emphatic language. He then delivered his last Orders with his usual precision, and in a few minutes afterwards expired without a struggle." The following is an account of the *post-mortem* examination: "The ball struck

[1] Reprinted in Beatty's *Death of Nelson*. Archibald Constable and Co. 1905.

the fore part of his Lordship's epaulette, and entered the left shoulder immediately before the processus acromion scapulae, which it slightly fractured. It then descended obliquely into the thorax, fracturing the second and third ribs; and after penetrating the left lobe of the lungs, and dividing in its passage a large branch of the pulmonary artery, it entered the left side of the spine between the sixth and seventh dorsal vertebrae, wounded the medulla spinalis, and fracturing the right transverse process of the seventh vertebra, made its way from the right side of the spine, directing its course through the muscles of the back, and lodged therein, about 2 in. below the inferior angle of the right scapula. On removing the ball, a portion of the gold lace and pad of the epaulette, together with a small piece of his Lordship's coat, was found firmly attached to it." The bullet which killed Nelson was given by Dr. Beatty to King William IV, who placed it in the Royal collection at Buckingham Palace. It is suspended in a case of plate glass $\frac{3}{4}$ in. thick. This glass casket is lowered into the interior of a solid pedestal, which is lined with the finest steel.

THE ACCURACY OF THE "MEDICAL REGISTER."

In another column will be found a letter from the Acting Registrar of the General Medical Council calling attention to the need of the co-operation of all medical practitioners in making the *Medical Register* accurate and complete. We are assured that the Registrar's office takes great pains to avoid the inconvenience which may be caused to practitioners by the removal of their names from the *Register* under Section XIV. The duty laid upon the Council by the Medical Acts is clear, but, quite apart from this, it is obvious that it is to the interest of the profession that the *Medical Register* should be absolutely accurate.

THE TUBERCULOSIS OFFICER AND HIS WORK.

The first annual report of the tuberculosis officer for the city of York, Dr. J. Bell Ferguson, giving an account of his preliminary work in starting a comprehensive scheme, presents many points of interest to others engaged in similar efforts. In common with all who have to do with the control of pulmonary tuberculosis, he laments the utterly insufficient means for dealing with acute and advanced cases. The time, labour, and money expended on the treatment of the incipient case is usually thrown away on the return of the patient to the infected home or the society of a consumptive relative. The increasing vigilance of inspectors, set going by the revelations of the dispensary, can do something to mitigate the evil, but it can never be stopped until the advanced case is placed under legislative control. The York Dispensary is worked with a small professional staff, but enlists the services of visitors for outside cases. A dental surgeon, a secretary, and a nurse, together with the tuberculosis officer, undertake the medical and clerical work, and a municipal committee constitutes the controlling element. With the limited amount of accommodation a good deal has been done in a twelvemonth. Perhaps the most important service has been rendered in the homes of the patients by the lady visitors. The spread of knowledge in hygienic matters is always slow, but it is an essential to success in establishing a tuberculosis dispensary. The fact that the institution can already be described as popular speaks well for the tact and persuasiveness of the lady visitors and the secretary. As regards general results, it is too soon to draw conclusions, but a high percentage of improvement is recorded. Very few cases, however, were found to have lost bacilli from the sputum. A special committee, representative of all classes, is charged with the after-care of dispensary patients, and would appear to be armed with power to collect money for the purpose by means of a two-day "flower crusade" in every year. Beds in open-air wards attached to an isolation hospital are available, as also in the County Hospital. Insured as well as uninsured cases are catered for, the cost of the former being partly provided by the Insurance Committee. The charge in the open-air wards is assessed at 25s. a week, and cases of surgical tuberculosis dealt with in the County Hospital are taken at 33s. The municipality undertakes the treatment of patients' dependants, whether insured or not. An open-air school is provided for children. The work would appear to have been vigorously started, and will doubtless be pushed forward as means become available. Careful and concise records, fully indexed, should prove of great value as time goes on.

MEDICAL WOMEN IN INDIA.

A lady holding the degrees of M.D., B.S.Lond., writes to us that although it is often said at home that "India is crying out" for well-qualified women doctors, this is not true in the sense that at the present moment there is work waiting for women doctors in India. There are, she says, in India some thirty or forty posts (charge of a hospital) which a well-qualified European woman may hold; a fair salary is given, quarters are provided, and private practice is allowed. At present these are all filled. With regard to junior posts in which a young medical woman might, while gaining professional experience, learn something of the languages, customs, and prejudices of the natives, and of the administration of an Indian hospital, there are few or none. These junior posts are intended for and filled by natives and Eurasians. The salaries offered, quarters provided, and the status of the post are not adequate to the needs of European women. The remedy for this state of things, according to our correspondent, lies in the formation of a Government Indian Medical Service for Women, and in the building and equipping of hospitals and placing them in charge of well-qualified and experienced women doctors. The salaries attached to the subordinate posts should be increased and the quarters assigned should be improved so that newly qualified European women should be willing to hold them for two or more years until they were sufficiently experienced to take charge of a hospital. Our correspondent goes on to say that a few months ago she answered an advertisement for the post of assistant to the obstetric surgeon at King George's Medical College, Lucknow. On asking for particulars about the work she was told she would be expected to instruct male native students in gynaecology and midwifery, both theoretically and practically. She declined the post, and we think she was fully justified in so doing. Assuming that the facts are as stated, we cannot help feeling that such a proposal made to a white woman was improper.

ANOTHER VACCINATION ORDER.

Still another amending order is now added to the list of changes in the Vaccination Acts. An "order" issued in 1910 provided what is known as Form Q, which was a notice to parents or other persons having custody of a child; it was issued by vaccination officers, and had regard to the transmission of the certificate of successful vaccination, statutory declaration, or medical certificate postponing the vaccination if the child was unfit. It has been found in some cases that this form has been read as implying that a "statutory declaration" is valid if made within seven days after the child is 4 months old. This is not the case. The Act requires that the declaration shall be made within four months from the birth of the child, and that it shall be delivered or sent by post to the vaccination officer of the district within seven days thereafter. The Order of 1910 is now rescinded, and a new Form Q is substituted for the form prescribed in that Order. There can now be no legal quibble as to the

meaning of this form in regard to the point already mentioned. Any person reading the new form should now know precisely what is required of him in the limits of the time stated. The new Order contains this additional paragraph addressed to the parent or custodian of the child: "If you propose to have the child vaccinated by some doctor other than the public vaccinator, I" (the vaccination officer) "shall be glad to be informed to that effect." The purpose of this is explained in a circular issued along with the new Order to boards of guardians which states that if the request mentioned in the paragraph above is complied with, "the vaccination officer should add a footnote to Form H" (that is, the form which contains the list furnished to public vaccinators of the names of children who have attained the age of 4 months and 7 days concerning whom none of the requirements have been made) "informing the public vaccinator of the fact, so that the public vaccinator, in arranging his visits, may be aware of the expressed intention of the parent, and may be able to defer his visit to those parents if for the convenience of his practice he should so desire." Unnecessary visits may by this means be spared. The experience of many public vaccinators is that the statement of parents who say they will employ their own doctor is often a mere excuse for deferring the vaccination or altogether evading it, and this especially in districts where the Vaccination Act is indifferently administered. There are indications that the authorities are beginning to be anxious about the possibility of an outbreak of small-pox, and it may be that in issuing this order of 1914 the Government is hoping to bring the subject of vaccination prominently forward and to stimulate vaccination officers in the discharge of their duties, as well as to clear up any misconception regarding the order of 1910.

THE GERMAN MEDICAL PROFESSION IN WAR TIME.

Germany is suffering from a severe dearth of medical men, many thousands of whom have joined the colours. According to *Aerztliche Mitteilungen* (No. 32) twenty-two out of twenty-six doctors in the neighbourhood of Wiesbaden have been called on for service. It has naturally been impossible for the remaining four doctors to cope with the work thrown on their shoulders, and the *Leipziger Verband* has applied to the Government for temporary relaxation of the usual qualifications required of practitioners. Permission has accordingly been granted for senior medical students, who have worked in the hospitals for two terms, to act as assistants in the treatment of club patients. Doctors who are not called to join the colours are urged by the *Leipziger Verband* to attend free of charge the club patients of their absent colleagues. The doctors remaining in Wiesbaden have undertaken to attend the private patients of their absent colleagues, and not even to receive gifts in kind for such services. Even during this crisis the Association of German Doctors has maintained its conflict with offending clubs, and as late as September 4th warning notices were published cautioning prospective applicants against more than 100 appointments, many of which were offered by large clubs. During August seven German military doctors were included in the casualties, four of whom died. One doctor is stated to have lost his life owing to "*einem tückischen Ueberfall Belgischer Einwohner.*"

ANTITETANIC SERUM.

As was mentioned last week, the Academy of Medicine held its opening meeting for the session in Paris on October 6th, but it may be interesting to add that it met weekly in private session from August 11th onwards. On that date it adopted a resolution congratulating the Royal Academy of Medicine in Brussels on the heroism displayed by the Belgian nation and army in the defence of the two countries, Belgium and France. On August 25th it took measures to encourage revaccination against small-pox, and on September 29th, after hearing a paper by M. C. Walther on the etiology and prophylaxis of tetanus, it adopted a resolution to the effect that, in view of the fact that it was important that in the case of all wounds, and especially those soiled by earth and clothing, the patient should receive prophylactic injections of antitetanic serum as early as possible, it called upon the Government to take special steps to ensure the supply of antitetanic serum to the ambulances. The Minister of War has replied that the course desired is being followed as far as circumstances permit.

THE LIMIT OF ADVERTISEMENT.

The surviving friends of the late Sir William Smart who happened last Tuesday to look at a London daily paper from which better things might have been expected, must have seen with astonishment, not unmixed with indignation, his name and portrait figuring in an advertisement of a proprietary remedy for rheumatism. Sir William Smart, after a distinguished career in the Medical Department of the Royal Navy, during which he served in the Crimea and in China, received towards the end of his career the honour of K.C.B. and was appointed one of the Naval Honorary Physicians to the Queen. The advertisement was headed "A Great Victory," and spoke of a Royal formula placed at the disposal of the public; it asserted that Sir William Smart exerted "his great intellect towards checking, subduing, and curing the rheumatical and kindred allied complaints to which a late great Crowned Head was subject." Sir William Smart died in 1887, and now we find that Sir William Smart and Co. will supply a free treatise explaining "how Sir William Smart's treatment so surely cured." "While one may hesitate," the advertisement says, "as to the acceptance and appliance of an ordinary treatment, there can be no doubt as to the soundness, safeness, and certainty of a Royal formula." We do not know what steps the relatives of Sir William Smart may be disposed to take, but we have no doubt that they will have the sympathy and support not only of the medical profession, but of all right thinking persons.

On Friday next, October 30th, Professor J. C. Bose, D.Sc., C.S.I., C.I.E., of Calcutta, will give a lecture at 5 p.m., before the Royal Society of Medicine, 1, Wimpole Street, W., on the modification of response in plants under the action of drugs. The lecture will be illustrated by experiments.

The Harveian Oration, delivered before the Royal College of Physicians of London on October 19th by Sir R. Douglas Powell, dealt with advances in knowledge regarding the circulation and attributes of the blood since Harvey's time. Afterwards the Bisset Hawkins memorial medal, awarded triennially in recognition of work in advancing sanitary science or promoting public health during the preceding ten years, was presented to Sir Ronald Ross, K.C.B., in recognition of his researches on malaria.

The presidential address to the Hunterian Society, which will be delivered by Dr. Thomas Glover Lyon, at the Barbers' Hall, Monkwell Street, E.C., on Wednesday next, at 4.30 p.m., will be on "The barber-surgeons and the medical profession." It will be illustrated by many objects of interest belonging to the company, including the famous painting by Holbein of the granting of a charter to the company, the cup presented by Henry VIII, and another cup presented by Charles II. Sir Thomas Crosby hopes to speak on the relation of the Barbers' Company to the corporate life of the City of London. Tea will be served at 4 p.m. All members of the medical profession are cordially invited.

THE WAR.

MEDICAL MATTERS IN FRANCE.

(From a Special Correspondent in Paris.)

RED CROSS WORK IN PARIS.

Floating Ambulances.

From time to time a good many wounded and sick have been moved to a distance from the front by means of barges, and this means of distributing cases seems likely to become quite common. At any rate, an association calling itself the Society of Floating Hospitals has been formed, and proposes to furnish quite a fleet of self-propelled river craft, covered in and equipped in much the same fashion as a well-appointed ambulance train. One that is already prepared for service has recently been open to inspection in the Seine, near the Grenelle bridge. It is about 120 ft. long and, though capable of carrying fifty wounded and their stretchers and attendants, is sufficiently narrow to traverse freely any of the very numerous waterways of France. The advantages of this method of dealing with wounded and sick soldiers become fully obvious only when it is borne in mind that the French system of dealing with soldiers sent down from the front is territorial in its character. Whenever possible, men requiring treatment and capable of being moved to any distance whatever are sent to the areas to which their regiments belong; consequently the distances they have to travel are sometimes very great, and the journeys, if performed entirely by train, would be trying even to a sound man. So far the practice has been to bring down the wounded from the front to a station near Paris, where all trains stop and where all the occupants of the berths are inspected. At this station there is established an ambulance whose officers decide what cases can be allowed to continue their journeys forthwith without material disadvantage, which of them should be detained for a few hours, at any rate, for the purpose of having their wounds redressed, and which cases should be removed from the train permanently and taken to a fully equipped hospital at once for immediate operative or other treatment.

Some Typical Wounds.

I am able to furnish this week, for reproduction in black and white, some sketches of typical wounds drawn from life by a senior medical student possessed of distinct talent as a draughtsman. This is Mr. D. C. Norris, of the London Hospital Medical School, who at the time he made these sketches was acting house-surgeon at Hôpital Auxiliaire No. 160 of the French Red Cross Society, and is now its senior dresser. Four of the pictures relate to cases of shell wound, and the fifth to a case in which the wound, despite its septicity and appearance, was certainly caused by a bullet from a rifle fired by a man only a few yards distant.

Case I.

The patient in this case (Fig. 1), a man aged 37, belonging to the 32rd French Territorial Regiment, was struck on the side of the chest by a fragment of shell on the afternoon of October 3rd. He was at the moment within the German lines, and for some hours lay unattended where he had fallen. Under cover of night he then found his way back to the French lines, his wound being dressed by a French army surgeon some eight hours after its infliction. Next day he was sent south in an ambulance train, and arrived at the hospital on October 6th.

He was then found to have a wound caused by a projectile which, entering in the left hypochondriac region, had passed upwards and backwards and emerged through a hole 3 in. wide close to the left scapula. The intervening track was sloughy and the surrounding superficial and other tissues in the same condition, with much ecchymosis further afield. Under a general anaesthetic a lumbar injection of 20 c.cm. antitetanic serum was first given and the track then opened up. It was found that there were comminuted fractures of the seventh and eighth ribs in the mid-axillary line and that some pieces of leather and clothing were embedded. These having been removed and the sloughing surfaces scraped away the wound was irrigated and packed with gauze.

On the following days the dressings were removed, the wound being syringed with hydrogen peroxide solution, and by October 12th the patient was doing well, the wound being clean and his temperature normal.



Fig. 1.—Shrapnel wound of side of chest, with fracture of seventh and eighth ribs.

Case II.

The patient in this case died on the fifth day after he was wounded, and the picture (Fig. 2) shows only one of his many lesions. All were due to the impact of shrapnel bullets or shrapnel shell casing, but he was so ill when he reached hospital on October 6th that nothing could be ascertained as to the circumstances except the fact that he had been wounded on October 3rd. On the right side there was a compound fracture of both leg bones, severe excoriation of the skin over the thigh, two flesh wounds over the shoulder, and a compound fracture of the lower third of the radius. On the left side there was a compound fracture just above the ankle, a compound fracture of two metacarpal bones, a lesion which resembled a large burn on the back of the hand, and a lacerated flesh wound on the outer side of the upper arm. All the lesions were markedly septic. The right leg was the seat of moist gangrene, extending to within 2 in. of the knee; the right hand was in the same state, and there was a crackling sensation on palpation of the outer side of the left foot.

The right leg and the right arm were amputated forthwith, the former above the knee and the latter below the elbow. The other wounds were cleaned up, those communicating with fractures being opened and irrigated with hydrogen peroxide and mercury biniodide $\frac{1}{1000}$. The following morning the left leg was found to be definitely gangrenous, so this too was removed, saline transfusion being performed during the course of the operation. Death occurred the following morning, the temperature running up meanwhile to 107° F.

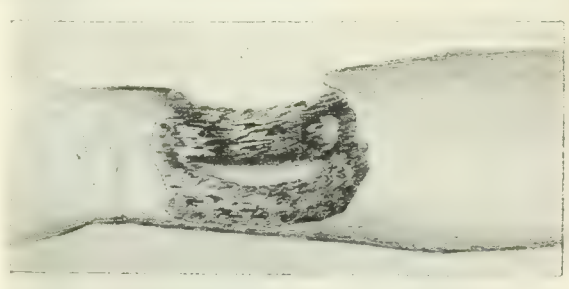


Fig. 2.—Shrapnel wound of forearm: compound comminuted fracture of right radius. Amputated 3 in. below elbow-joint for gangrene.

CASE III

In this case (Fig. 3) the patient was an officer in a French infantry regiment, wounded by a shell on September 15th. He received treatment at the field ambulance, passed the

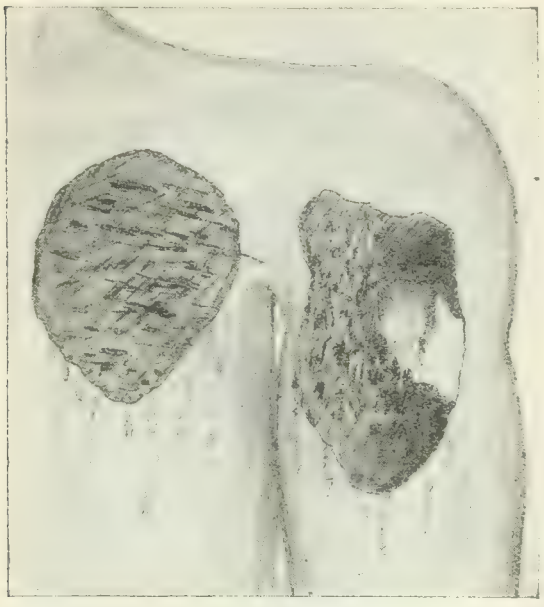


Fig. 3.—Compound comminuted fracture of humerus, with chest wound; result of shrapnel wound. Conservative treatment for eighteen days, then amputation at shoulder for secondary haemorrhage

night in a hospital a few miles distant, and next morning was put into a hospital train with the idea of his being taken to his own territorial area. On the way, however, it was thought wiser to remove him from the train and send him into Paris by a motor ambulance. On his admission to hospital on the second day (September 17th) after the injury it was found that the projectile had entered 2 in. below the point of the left shoulder and passed out on the inner side of the arm. The entrance wound was 3 in. wide, and the exit wound was of about the same size; in addition the projectile had comminuted the upper third of the humerus and just missed the brachial vessels which were exposed at the bottom of the exit wound. On emergence from the arm the missile had caused a flesh wound in the pectoral region measuring about 5 in. by 4 in. The lesions were all markedly septic, despite the early treatment secured.

The wounds were thoroughly cleaned up, and for seventeen days, during which the wounds were washed twice a day with H_2O_2, the progress of the case was favourable. On October 4th, however, severe haemorrhage from the arm started, and as it proved impossible to locate its precise origin, the arm was removed by disarticulation at the shoulder. After this the progress of the case again became favourable, the wound being almost clean by October 11th.

CASE IV.

An artilleryman, aged 19, received a shell wound of the

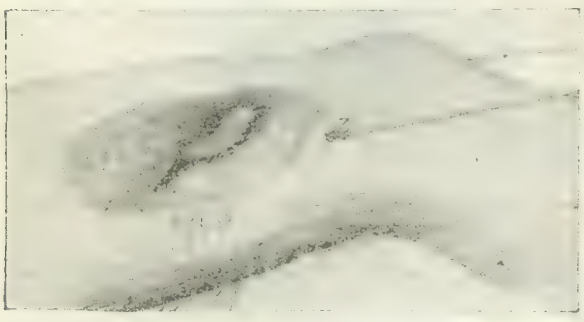


Fig. 4.—Compound comminuted fracture of femur, resulting from a shrapnel wound. Upper fragment of femur presenting in wound; lower fragment maintained in position by weight extension (5 kilograms). Sinus extends 4 in. upwards and backwards from wound.

thigh (Fig. 4) on September 15th, and had a first-aid dressing applied shortly afterwards by an orderly of the R.A.M.C. He was then carried out of the firing line to a barn, where he was laid on a bed of straw; there he remained till, on the second day after he had been wounded, he was taken down to Paris in an ambulance train. On his admission, on the third day after the date of his injury, some 3 in. of the lower third of the right femur was found to be broken into fragments, and the wound communicating with them smelt very badly.

Under anaesthesia the wound was opened up and thoroughly cleansed and fragments removed and a splint applied. The progress of the case not being satisfactory, the splint was removed three days later, hot fomentations applied to the leg, and the wound irrigated with hot lysol solution. The general state of the patient and the condition of the wound improved very much under this treatment, which was continued for several days. It was then found necessary to remove two large sequestra, one measuring 3 in. long by 1 in. thick. As there was great shortening of the limb, extension was applied. This was secured by driving in a 4-in. French nail horizontally into the inner and outer condyles and attaching thereto a weight of approximately 10 lb., the thigh and leg being raised from the bed by pillows.

After this progress was satisfactory. On October 12th there was still a freely discharging sinus, but the position of the broken ends was good, and the total shortening reduced to about an inch. When the fomentations were first applied there was considerable fever, but in a few days this subsided.

CASE V.

The chief injury in this case was a bullet wound of the knee-joint (Fig. 5), accidentally caused. The patient, a private in a British infantry regiment, was engaged in digging a trench when a comrade a few yards off accidentally discharged his rifle. First aid dressings were applied forthwith, and the patient passed the night in a field ambulance; then he was taken in a horsed ambulance to a railhead hospital, where the knee wound was redressed, and he remained two days. After this he was sent down to Paris by an ambulance train.

On his arrival, on the sixth morning after his injury, it was found that the bullet had passed through the inner

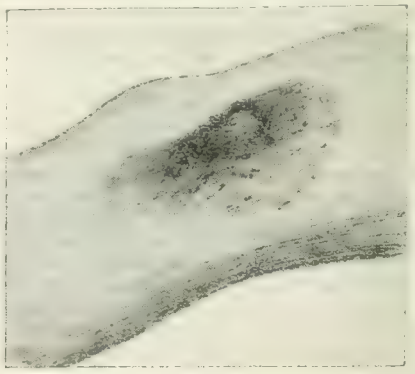


Fig. 5—Gunshot wound of right knee: compound comminuted fracture of internal condyle of femur and of internal tuberosity of tibia, with involvement of joint.

side of the right knee, exposing the joint and blowing away part of the inner condyle of the femur and the inner tuberosity of the tibia. It had then passed through the ulnar side of the arm and out at the back of the wrist, apparently without fracturing bone. The knee wound, which was lacerated and septic, was cleaned up and drained by a counter opening, the lateral patella ligament sutured with catgut, and the leg put on a back splint. For the first six days after admission the patient's condition was not satisfactory, the knee wound being painful, the patient sleepless, and the temperature rising to nearly 103° F. By the fourteenth day, however, from the date of the injury the temperature had dropped to 100° F., but the knee wound was still discharging very freely.

This last case seems to illustrate the explosive effect that a rifle bullet may sometimes have if it strikes a bone when travelling at its initial speed, and shows that septicity may occur even when skilled attention is given quite early. This point, however, was perhaps better brought out by a wound of the hand that I saw elsewhere. In this case the patient was quite positive that the distance from which he had been shot was not more than 300 yards. The missile had passed through the last four metacarpo-phalangeal joints, comminuting each of them,

and made its exit through the ulnar side of the metacarpal bone of the little finger. By means of the screen a tiny fragment of the bullet could be seen between the index and second metacarpals, and a larger fragment close to the exit wound. The latter was removed and seemed to me to be indubitably the upper sixth of the casing of a German rifle bullet. This wound, too, was very septic.

Bullet Wounds of the Chest.

I forgot to mention last week that by the courtesy of Medical Inspector Dr. Capitan I had had an opportunity of examining some of the patients whose cases formed the basis of the address delivered by him before the Academy of Medicine on October 6th. They were four in number, the other six cases having been discharged on the morning of the day that I paid my visit. Though these were the worst of the ten cases, and much less than a month had elapsed since they were wounded, only one of them was in bed; this patient was doing well, but had some fever, and it seemed to me possible that the missile by which he had been struck, and which was still lodged in the apex of the lung, was a small fragment of shell and not a bullet. The other three patients looked well, and I was rather struck by the excellent tone of their muscles, despite the unpleasant experiences of the past few weeks. In two of them the bullets seemed to have entered through the front of the chest, passing out much lower down at the back. The apparent track of the bullet in one of these cases suggested that the upper part of the back of the liver must have been at least grooved, but the clinical history of the case did not seem to confirm this supposition. In the third case the entrance wound was high in the back and that of the exit lower down in front. In this case the bullet was still lodged between the ribs when the patient was admitted; nevertheless, the amount of suppuration was very small.

All three cases showed considerable dullness on percussion on the injured side and the breath sounds were somewhat obscure. Dr. Capitan stated that these features were common to all the convalescent cases, and for this reason he considered that after their discharge they should be carefully watched for some time. Much the same view was taken by M. Reynier, of the Hôpital Lariboisière, in his discussion of M. Capitan's paper on the day that it was read. He held that no patient who had received a penetrating wound of the chest should be sent to the front again for at least three months, however well he might appear, and that meantime it was well to exhibit quinine. He added that it was his practice to envelop the chest of all patients wounded in the thorax in thick layers of cotton-wool as soon as they reached hospital, and thought that corresponding steps should be taken, if possible, directly the men came under treatment at the front.

Some Belgian Experiences.

I have had an opportunity of hearing the experiences of two English ladies, both fully trained and highly experienced nurses, who had been working for six weeks in a Belgian Red Cross hospital at Antwerp. They left the town on foot during the night that the military evacuation began. They had been told to leave five days previously, but did not feel disposed to do so as they still had a large number of patients on their hands. Finally those who could walk left of their own accord, and the helpless cases were removed by the military authorities on the night of the evacuation. The Germans having destroyed the reservoir, the only water available during the last eleven days of their stay was drawn from the Scheldt. It was so foul that its taste was perceptible even when made into coffee. This being the case a considerable amount of water-borne disease amongst the Belgian refugees would not be surprising. The experience of these ladies confirmed what I mentioned last week as to Dr. Capitan's views regarding the comparative benignity of bullet wounds of the chest. They had heard of the occurrence of some cases of tetanus in another hospital, but had seen no instances of it themselves, and though a very large proportion of all the wounds they had dressed were very septic actual gangrene had occurred in none of them. They were greatly impressed by the patient courage of the Belgian soldiers, by their uncomplaining endurance of pain, and the remarkable way in which they recovered from injuries which at first sight seemed to them inevitably fatal. Iodine was the chief antiseptic used and by some surgeons was employed so freely and in such strength that excoriation of the skin was quite common. What had struck them, however, more than anything else was the state of nerve exhaustion in which many of the patients arrived. Some who had serious and what had seemed to them very painful wounds, appeared to suffer not at all for some days after admission; others were brought in from the trenches without any wounds at all; they were simply semiconscious and remained so for days and days. It was difficult to get these patients to take either food or drink and their temperatures remained subnormal.

A Dresser's Experience.

We are indebted to Dr. T. Warner Lacey, of Woolwich Common, for the following letter from a dresser in the hospital in the Hôtel Majestic, organized by Dr. Haden Guest:

This hotel, with some 800 rooms, has been almost entirely taken over by the French Red Cross. We have two large ground-floor rooms fitted up as wards, each accommodating about 30 beds, for private soldiers. More rooms are now in course of preparation. We have two smaller rooms for officers, and also an operating theatre and numerous other departments. A dispensary has been improvised, together with an *x*-ray room, etc.

The cases are, of course, very different from anything one sees in an ordinary hospital. In London one may, now and then, see a man who has been seriously injured in an explosion, or who has had a limb or two crushed in a machine, and he usually dies. But if one can imagine that a hundred men are simultaneously involved in such an explosion or laceration, and half a dozen survive, lie in a ditch for a day or two, then are dragged out and dropped in a cattle truck, carried fifty miles, and taken to a hospital on a stretcher, you will get an idea of what the men are like who are brought here.

The following are typical cases:

1. Driver of an artillery wagon. He, with nine others, were halting by the roadside. A shell hit the wagon, killing seven, and wounding three. This man has wounds in right forearm (three), two in right leg, four in back, one of them reaching down through the scapula, including the pleura, and one on the scrotum. On admission all these were septic. All wounds now doing well.

2. Wounded September 14th. Compound fracture of right femur. Small field dressing applied same day. No attention till four days later, then splint applied. Brought to Paris September 23rd. Operated upon: Septic shell wound 4 in. by 3 in. Comminuted fracture of shaft of femur, just below middle. About twenty large loose fragments removed. Wound irrigated. Counter opening made in the back of thigh. Drainage tube. September 24: Persistent vomiting; exhaustion; died.

3. Wounded by shell. Neglected for two days, than carried to station and wound dressed. After four days arrived at Paris, having only field dressing on wound. Compound fracture of right femur; huge septic wound in thigh, about 4 in. of femur exposed. Foot internally rotated through about 110 degrees. Lower fragment of femur displaced backwards and upwards, and internally rotated. Profuse fetid discharge from wound. On admission, wound thoroughly cleaned up and packed with iodoform gauze; splint applied. Later (October 1st), deformity reduced under anaesthetic, and weight extension applied. Now doing well. On September 28th two large sequestra, 3 in. by 1 in., and 1½ in. by 1 in., extracted under anaesthetic.

4. Wounded Tuesday morning, three weeks ago. First attended to Thursday night. On admission severe compound fracture of tibia and fibula, with much fetid discharge. Gangrene of foot. Foot amputated, and leg wound cleaned up thoroughly. On 24th amputation wound clean and doing well. Leg wound opened for better drainage; two necrosed fragments of tibia removed. October 1st: Wound extremely tender; much discharge; another sequestrum separating. Amputation wound nearly healed.

We have two cases of tetanus, both of which are doing well, under injections of serum and chloral.

MILITARY SANITATION AT HOME.

The Society of Medical Officers of Health.

Dr. Herbert Jones of Hereford, in taking the chair as president of the Society of Medical Officers of Health on October 16th, devoted his address to a consideration of the duty of the public health service in the national crisis. After some preliminary observations, and after commenting on the remarkable improvement in physical conditions to be witnessed in men of the Territorial Force who have been undergoing intensive military

training during the last two or three months, he said that all those engaged in public health work in this country were ever ready to acknowledge their indebtedness to the Army Medical School, first established fifty-four years ago at Chatham, then removed to Netley, and since 1900 embodied in the Royal Army Medical College at Millbank. He went on to consider the sanitary medical service of the Territorial Force, and after sketching the original scheme he pointed out that, owing to unavoidable circumstances, which have already been indicated from time to time in our pages, it had not at once on mobilization fulfilled the functions it was intended to subserve. The principles underlying the scheme were, however, he said, being carried out in another manner to good purpose, and he outlined the steps which have recently been taken by the Army Council to make the services of medical officers of health available in the interests of troops. Instead of quoting Dr. Jones's account of the steps taken it will be preferable to give the actual terms of a letter addressed to General Officers Commanding-in-Chief of Commands instructing them to consult with the medical officers of health of localities in which troops are encamped, and to invite their co-operation in safeguarding the health of troops stationed in their respective areas.

Circular to General Officers Commanding-in-Chief of Commands.

With reference to War Office letters No. 79 Medical 17 (A.M.D.2), dated August 8th and September 12th, 1914, I am commanded by the Army Council to say that it is understood that billets are frequently arranged without reference to the medical officer of health of the district in which the troops are to be quartered, and, as he is in the best position to give the necessary information regarding the existence of infectious diseases, water supplies, drainage, localities where latrines should be placed, etc., the Army Council direct that you are to communicate with him before troops march in, with a view to obtaining his expert advice and co-operation in billeting the incoming troops under the best sanitary conditions available.

In the case of towns a telegram should be sent in advance addressed to the medical officer of health of the town in which the troops are to be billeted, appointing a time and place of meeting with the billeting officers, who are sent in advance, to arrange for the housing of troops. In the case of rural districts, that is, areas outside townships, similar telegrams should be sent, addressed to the medical officer of health of the county in which the troops are to be billeted and giving the same information.

As regards Territorial Force Head Quarters, the local medical officer of health is similarly to be consulted before men are furnished with billets.

When camps are formed and maintained the medical officer of health is also to be consulted, and his visits are to be encouraged.

In many cases urgent sanitary work in connexion with the removal of excreta, connexions with sewers, etc., can be most expeditiously performed by making use of local sanitary officials. When these officials are willing to perform this work, their services should be utilized. The question of the adjustment of any expenditure so incurred is under consideration.

When, in the interests of the public health of the troops, the medical officer of health feels compelled to submit written recommendations, these will be forwarded without delay, through the D.D.M.S. of the Command, to the War Office.

The medical inspectors of the Local Government Board will continue to visit billeting areas and camps, with a view to co-ordinating the work of the military and civil sanitary officials.

Dr. Jones believed that, bearing in mind the timely action of the Local Government Board on the one hand, and the Army Council on the other, there was a probability that the co-operation between civil and military authorities will in future be on a satisfactory footing. Medical officers of health, however, must, he said, remember that they are merely advisers.

It may not be possible, he continued, to act upon the advice given for military reasons, however correct it may be from a sanitary point of view. This aspect of the duties of a sanitary adviser is too often overlooked by medical officers of health, and may account to some extent for the reluctance of certain military officers to consult them. The recommendations of the medical officer of health must be reasonable, and when he is considering their reasonableness he must be guided, not by ordinary civil conditions, but by the special military circumstances prevailing at the time.

Future of the Civil and Military Sanitary Services.

I now come to the question of the future development of a civil sanitary service, which shall be closely associated, when necessity arises, with the military service. It has been suggested in some quarters that the existing *a la suite* corps should be reorganized, but that its members should be drawn exclusively from the ranks of the medical officers of health of counties and county and metropolitan boroughs, each one of whom should be given a commission. The fatal objection to this proposal is that among the fourteen sanitary officers of the Territorial divisions ten are medical officers of health of those districts, and they are certainly better employed than they would be in the *a la suite* service. A better plan, in my opinion, would be to reorganize the service on a geographical basis, and no longer restrict the duties of the officers to the areas of their civil activities. In this way there would be comparatively little upheaval of, or alteration in, the scheme as propounded to us by Sir Alfred Keogh, and those members of the service who are not medical officers of health of counties but who have in the past few years been paying particular attention to the duties likely to fall upon them on mobilization would be retained in the service to the advantage of the troops.

There is another direction in which it appears to me the public health service, and especially the whole-time members of the service, might be more closely associated with the Territorial Force than is at present the case. In the term public health service I include not only medical officers of health, both chiefs and assistants, but also school medical officers, assistant school medical officers, and tuberculosis officers. The R.A.M.C.(T.F.) includes nearly a thousand medical practitioners, the majority of whom are in private practice. They have to make large sacrifices both of leisure and of money in order to make themselves proficient in their military duties, and at a time such as the present, when the whole Territorial Force is mobilized, there must be considerable dislocation of practices all over the country through the absence of practitioners on military duty. There would, however, be a minimum of disarrangement if the officers of the R.A.M.C.(T.F.) were largely recruited, as I think they should be, from the whole-time public health service. In the case of medical officers of health two or more districts could be placed temporarily under the charge of one officer, who on account of age or for some other justifiable reason was not connected with the Territorial Force. The work of whole-time school medical officers, or of their assistants, and of tuberculosis officers could be carried on temporarily by private practitioners, an arrangement adopted in some districts at the present time, which has in it the elements of simplicity and success. I cannot help referring to the advantage it would have been to us had there been in operation in the past years the scheme of superannuation so long advocated by this Society. We should by now have had available a reserve of public health officials ready to return for a time to their former duties, and so release junior members of the service for active military duty.

THE LOCAL GOVERNMENT BOARD.

Mr. Herbert Lewis, Parliamentary Secretary to the Local Government Board, speaking last Monday at Buckley, in Flintshire, which county he represents in Parliament, said that, speaking generally, the health of the troops in the United Kingdom, including recruits, was excellent. One of the greatest dangers to be apprehended from the massing together of a large number of men, for whom temporary provision had to be made, was, he said, the spread of typhoid fever. He was therefore glad to be able to state that, out of some 600,000 men, only 5 cases had been notified in the week ending September 26th, 12 cases for the following week, and 10 cases for the week ending October 10th. This reflected the highest credit upon the sanitary arrangements made by the Army Medical Department, which was the responsible authority. The Local Government Board had lent the whole-time services of twelve of its medical inspectors for the purpose of co-ordinating the work of local sanitary authorities and of the military authorities of the camps. Medical officers of health and sanitary inspectors throughout the country were also giving the benefit of their local experience. A system of inspection of all camps and other military premises by these civil

officers had been arranged, and there was no doubt that this would ensure that any earlier defects, which might have been associated with the inauguration of immense new arrangements, would rapidly disappear. There was the closest and most cordial co-operation between the civil and military authorities. No doubt there would be further dangers to guard against, and it was likely that, with the advance of time, sickness arising out of the continued occupation of camps might increase; but, with the hearty co-operation of the civil and military authorities, there was every reason to be confident that disease would be kept within the narrowest possible limits.

SANITATION OF CAMPS.

An American View.

Our attention has been drawn to an address delivered at the annual meeting of the Medical Society of the State of California four years ago (June, 1910) by the president, Dr. James H. Parkinson (Sacramento). The title of the address was "The Physician in his Relation to Public Life," and it was concerned largely with the contrast between the results obtained by Japan in the prevention of disease among her troops during the Russo-Japanese war, and the results in the campaign of the British in South Africa, and the expedition of the United States to the West Indies (Cuban war). There was, he said, little to choose between the achievements of the Anglo-Saxon race, and less to be proud of. He discussed the disease record of the United States camps during the Cuban war, a subject of which we gave some account a few weeks ago (September 19th, p. 510). "If," he said, "the results on battlefields were disastrous from the modern standpoint, what can be said of the ghastly record of the reserve camps? Here were normal healthy young men assembled in peaceful camps in their own country to fall victims by thousands to a preventable disease." "Was it," he asked, "possible to imagine such results happening in any American city with a fairly equipped health department as lay at the door of the Medical Department of the United States Army, regular and volunteer?" "Far be it from me," he said, "to question the character and attainments of the medical corps of the United States Army; its personnel is of the highest. It is the fault of the system, not of the profession." It must rest, therefore, with the profession to remedy the system, by insisting upon the control of purely medical considerations being placed in the hands of those who understood their far-reaching and life-saving results.

"With all our progress in the healing art," Dr. Parkinson went on, "the opprobrium of centuries still remained; disease and pestilence slew more than the bullets of the enemy. This patent and obvious fact stands forth on army records everywhere, yet with its very obviousness, why could not the lesson be learnt? It was not the bullets of the enemy that decimated the armies; it was the bacilli of disease. At times his brigades worked havoc with the ranks, but the bacteria of pathogenic processes conducted a twenty-four hour campaign on every day of the year. How are these ravages to be met? By the trained medical officer, who can give force to his knowledge in an authoritative order."

Dr. Parkinson was Chairman of the State Board of Health at Sacramento when the earthquake at San Francisco occurred, and as the two cities are only ninety miles apart it was at once realized that a large number of unfortunate persons, many of them in a destitute condition, would reach Sacramento. A relief committee was instantly formed and raised 50,000 dols. in an hour, and the Board of Health at a special meeting agreed to work with the relief committee. A refugee camp was organized at head quarters with a medical man and trained nurse in charge, while the general administration was turned over to one of the inspectors of the board who had seen service, and held the rank of colonel in the State militia. The result was complete success; all relief demands were promptly met, and more than one-third of the relief fund was returned to the subscribers. The success was undoubtedly due to the fact that there was in existence an organization dealing with public health work and familiar with preventive medicine, and that this organization was given ample funds and ample authority to carry out what was considered essential to attain this end.

We would venture to invite those who have not had the opportunity to read Dr. Livingston Seaman's work on *The Real Triumph of Japan and the Conquest of the Silent Foe* (1906) to do so, as a further testimony that the American view supports the opinions expressed in recent issues of this Journal in connexion with the health of our New Army and Territorial Forces.

THE BRITISH RED CROSS SOCIETY.

Reception of Wounded at the Ports.

A new departure has been made by the British Red Cross Society in its work of supplementing the military provision for the sick and wounded. When a large number of wounded are landed at an English port the task of transferring them to the trains is no light one, and often severely taxes the available R.A.M.C. staff. A staff of six surgeons and a number of nurses is now maintained at head quarters in 83, Pall Mall, ready to be dispatched at a moment's notice to Southampton, Harwich, or any port where the wounded are being landed in large numbers. The work done in this way has already proved of the greatest value.

Change of Base in France.

Owing to the desire not to concentrate the wounded in large numbers in Paris, the military authorities are sending patients further north, and the British Red Cross head quarters have been moved from Paris to Boulogne. The removal of hospitals or the setting up of new ones in the more northerly area may be shortly expected.

The Supply of Trained Nurses.

Sir Frederick Treves informs us that rumours are abroad that sick and wounded British soldiers are being nursed by unqualified nurses, and he emphatically repeats that no women are engaged by the Red Cross Society as nurses except those who are fully trained hospital nurses with a three years' certificate. The statement that there is a shortage of trained nurses is untrue as far as Red Cross work is concerned, whatever may be the case in civil affairs. The Society has received considerable accessions to the roll, and still has 1,500 fully trained nurses on its waiting list. In addition, there is a reserve consisting of a large number of nuns, who have had a complete hospital training, but who have not yet been called upon. There is an ample supply of fully trained nurses for all the wounded who are likely to reach this country or are under treatment abroad.

The following letter emphasizing this point has been received by the Medical Secretary of the British Medical Association:

British Red Cross Society,
83, Pall Mall, London, S.W.,
October 19th, 1914.

Sir,—It has been brought to the notice of the Committee of the British Red Cross Society that doctors in various parts of the country are complaining that wounded soldiers are, as they allege, being nursed by members of Voluntary Aid Detachments who are not fully trained and certificated nurses.

On behalf of this Society I desire to point out that no offer of hospital accommodation which has been submitted to us, and has been approved of by the military authorities, is ever accepted unless fully trained and certificated nurses are in charge. In these hospitals the services of Voluntary Aid Detachments are utilized as probationers, cooks, and in other general ways.

If hospitals are started and utilized by the military authorities without reference to this Society, the doctor who is asked to take medical charge should, if he finds lack of skilled nurses, apply to the authority responsible for starting such a hospital.

I may mention that we have upon our books the names of some 1,500 trained and fully certificated nurses whose services could be called upon at any time in case of need, and without expense to the hospitals for which they are required.

I am, yours obediently,
Arthur Stanley,
Chairman of Executive Committee.

Pressure of Work in France.

The personnel of a large ambulance train in France is now being got ready. Twelve dressers have been sent to Boulogne, and surgeons have been sent to Biarritz and Dinant to relieve the pressure of work at those centres.

The Red Cross Hospital at Netley.

The British Red Cross Hospital at Netley has been supplied with full equipment for 500 patients, and is now open.

Enormous quantities of stores continue to be sent out. During the week as many as 100,000 garments were dispatched. The total number of motor ambulances promised has now reached 458.

Scottish Motor Ambulances.

The Scottish branch of the British Red Cross Society shipped four motor ambulances and three transports from Glasgow to France on October 15th. Two, the cost of which has been defrayed by public subscription, are named "Lord Lister" and "James Young Simpson." The third, presented by a Glasgow merchant, is called "The Glesca Keelie"; while the fourth, the cost of which has been defrayed by the women of Selkirk, has been named "The Selkirk Car." Mr. T. Craig-Brown, a former provost of Selkirk, has given £400 to provide another ambulance motor car to be called the "Ettrick Forest Car," on the understanding that at the end of the war one of the two cars shall be given to the burgh of Selkirk to be used for the county burgh and the immediate neighbourhood.

ST. JOHN AMBULANCE ASSOCIATION.

HIDDEN from observation in a district of large warehouses and factories, the picturesque mediaeval head quarters of the St. John Ambulance Association in Clerkenwell are the centre of much activity at the present time. Upon the outbreak of hostilities the association was able to render valuable service in supplying trained orderlies. Having been in existence for more than forty years and having issued certificates to a million people practised in first aid the association was able effectively to meet the demand. There were over 20,000 volunteers for the first 4,000 positions as orderlies in hospitals near the fighting line, at the base, or in various parts of England and France, which were filled through the association's organization. In all 5,000 orderlies were supplied. Reports from the front note with admiration the work of St. John Ambulance orderlies at the hospitals. Many of them are drawn from Lancashire and Cheshire; they look rather rough fellows (it is said), but the gentleness of touch and consideration they show, as well as their great strength, make them ideal ambulance men. Some are miners, and experience in pit accidents has served them in good stead. The association has supplied 44,000 men's garments and many tons of medical stores and supplies. The whole of the supply of medical stores and comforts for the Indian contingent is in the hands of the association, and many small hospitals established in buildings privately lent, have been organized and their staffs provided. No nurse has been sent out who has not had a three years' certificate. Marconi House, Strand, has been lent to the association for the purpose of organizing a fund to which regular contributions from the less well-to-do will be invited.

DUBLIN.

Under the auspices of the St. John Ambulance Brigade, a lecture was delivered in the Lecture Theatre of the Royal Dublin Society last week by Dr. Conway Dwyer, President of the Royal College of Surgeons, Ireland, on the treatment of wounds, more especially those received in action. He paid a special tribute to the zealous and intelligent manner in which not only the ladies of Dublin, but those in every part of Ireland, had been attending the various lectures and ambulance classes arranged by the St. John Ambulance Brigade. This attendance and interest was most admirable, and had brought to light energies that, in less strenuous times, might have remained dormant. Dr. Dwyer then said that wounds might be classified as infected and non-infected, and indicated the general principles of treatment. At the close of the lecture Dr. Lumsden announced that Ireland had been made an official district of the St. John Ambulance Brigade, with head quarters at his house, 4, Fitzwilliam Place, and that he would act as Deputy Commissioner.

THE HOME HOSPITALS AND THE WAR.

4TH NORTHERN GENERAL HOSPITAL, LINCOLN.

As was mentioned in the JOURNAL of August 15th, p. 339, the 4th Northern General Hospital was mobilized on August 5th. The first patient was admitted on August 18th, and since then there have been admitted 602 from the home troops, 213 from the expeditionary forces, and 216 Belgian wounded and sick, a total of 1,031 patients. On October 19th there were under treatment 159 from the home troops, 111 from the expeditionary force, and 216 Belgians, a total of 486, of whom about 100 are in the various convalescent homes connected with the hospital. The operations performed under a general anaesthetic number 56, and 29 of these were for damage caused by shrapnel and rifle bullets, of which the former largely preponderated, rendering necessary in 2 cases amputation of the leg and of the forearm respectively. Badly united fractures necessitated wiring the olecranon in one case and the forearm in another. Three cases of appendicular abscess have been operated on, and operations have been done for radical cure of hernia, varicose veins, cervical abscess, haemorrhoids, and loose cartilage of knee-joint. The mastoid operation has also been required, and among the others were operations in eye cases and amputations of toes and fingers.

There have been five deaths due to pneumonia, and one to tetanus after removal of a large piece of shrapnel shell from the thigh. The fifth was due to mastoid disease; the patient, who died four days after the operation, was in a very critical condition when admitted.

A number of venereal cases have been under treatment, amounting at one time to over sixty, but these are now being attended to elsewhere. Two cases of typhoid fever were transferred to the City Hospital, and there have been many cases of pneumonia. They have all occurred amongst the home troops.

The surgical cases have necessitated the taking of nearly 200 *x*-ray photographs. Most of the wounds were in a septic condition, and in many the bones were smashed up by shrapnel shell or bullet, and amputation seemed inevitable, but rest, food, and drainage of the wound worked marvels, and the men were soon able to be up and about.

In many of the cases of rifle bullet wounds in close proximity to important nerves acute neuralgic pains occurred sooner or later below the seat of injury. They lasted for a day or two, and were considered to be the reaction from nerve concussion.

The case of tetanus for a time seemed to respond to the treatment by the injection of antitetanic serum. Many of the cases were of great interest, especially one of shrapnel wound in the centre of the forehead; when the depressed inner plate of the frontal bone was partly elevated and partly removed, nearly two ounces of blood clot and broken down brain matter escaped; a drainage tube was passed backwards beneath the cerebrum for over four inches. The patient is making an excellent recovery.

The Belgian cases were in a pitiable condition—in some the wounds had not been dressed for three weeks; although it was after midnight when the last of them were warded, all the wounded needed immediate dressing. These cases were only admitted on October 16th, but many of them will soon be going to convalescent homes.

ST. GEORGE'S HOSPITAL.

St. George's Hospital has offered accommodation for fifty sick and wounded, and a first batch of twenty-eight was received recently. Of these four are medical cases—including a man who received a bullet wound in the liver. The remainder consist to a great extent of wounds of the arms, caused in a majority of cases by shrapnel. There are also several sufferers from injuries not the result of fighting—for example, a crushed hand, fractured shoulder, and septic thumb.

The arrangements at St. George's Hospital were at first somewhat disturbed, because a message was received from the War Office to prepare to receive fifty cases, and then a fortnight elapsed before any patients arrived, only twenty-eight being sent even then. Now, however, two wards have been shut off from the others to serve as a military unit, and here accommodation is available for fifty soldiers under conditions and rules varying from those prevailing in the hospital as a whole. The men have special diet, are given greater freedom as to visitors, and are allowed to smoke. Most of them are nearly recovered, but as they are under military regulations they remain at the hospital. For military purposes St. George's is a

branch of Queen Alexandra's Hospital, Millbank. Probably because of its prominent position at Hyde Park Corner the hospital has received a great many presents of fruit, games, and tobacco for the soldier patients, and offers of motor car drives in the park. A supply of tobacco sufficient for fifty men for six months has been guaranteed, and arrangements will be made if St. George's gets an overplus of good things to share with other institutes less fortunately situated.

Fifty beds at the convalescent home at Wimbledon have also been placed at the disposal of the authorities, and by drafting patients there it is hoped that 100 soldiers will be receiving the benefits of St. George's Hospital at one time.

Royal National Orthopaedic Hospital.

Seventy-nine wounded soldiers from Antwerp were received at this hospital last week, the majority being Belgians. Although the army medical authorities do not appear to have made a special selection of the cases, it so happened that many were fractures of the foot or leg. One or two men had bad smashes of the arm; one had comminuted fracture of the humerus. The wounds were remarkably clean and are doing extremely well. A man whose arm was amputated by a woman surgeon at Ostend is doing well. Several patients have been discharged already. In a few cases bullets have still to be extracted. Some of the Belgians have evidently undergone severe hardships; one man, who was at Liége, has hallucinations. There are no cases of tetanus; on the medical side are sufferers from sciatica, rheumatism, and bronchitis.

Edinburgh.

On October 17th a hundred wounded soldiers were admitted to the Edinburgh Royal Infirmary. They came up by special train, and through the exertions of the British Red Cross Society, were all in bed within an hour of their arrival, as Dr. McKenzie Johnston was able to inform the managers of the institution at their meeting on October 19th. In doing so he paid a tribute to the Edinburgh Red Cross staff and to the work done by the staff of the infirmary in preparing at rather short notice for the latest influx. The Red Cross, he said, removed both parties of men comfortably and expeditiously, and actually brought the patients to the places allocated to them in the wards. When they removed the 100 men from the special train everything went like clockwork, and the men were all in bed within an hour after the arrival of the train. The men were drawn from various regiments at the front—from the 2nd and 3rd Royal Scots, from the 2nd and 3rd K.O.S.B., from the 1st Gordon Highlanders, from the R.F.A., and from a considerable number of English and Irish infantry regiments.

About 170 sick and injured sailors arrived at South Queensferry on October 14th, most of whom were taken to the Royal Naval Hospital there, but some were sent to the Royal Infirmary at Edinburgh. Another large detachment of ninety wounded soldiers arrived at Edinburgh early on the morning of October 19th, and were taken to the Craigleith Military Hospital, where they were received by Sir Joseph Fayrer, the commanding officer, by Lieutenant-Colonel Cotterill, the senior surgeon, and by Major J. D. Comrie, the senior medical officer. They were drawn from a great variety of regiments.

In a Country House Hospital.

H. S. C. writes under date October 17th: It was my privilege to visit yesterday one of the many mansions of this county (Hampshire) which have been converted into military hospitals, and to be present at four operations done by a surgeon of the local Cottage Hospital. It is with pride and pleasure that I feel myself able to praise everything I saw. The admirably adapted wards and offices—luxurious beds and other fittings, the capable staff of professional nurses and the intelligence and usefulness of the Red Cross auxiliary helpers, while the technique of the operations was in my judgement without flaw.

To write such pleasant words would not be an excuse for sending you this letter, but at the close of the operations—all of which were for extraction of bullet or shell fragment—I found myself calling to memory the operations of extraction of bullets and the like which were done by me while still on the staff of a London hospital. The cases were neither brilliant nor numerous; the only use I can make of them is to express the following opinions:

1. Even when the foreign body can be localized without *x* rays, these should always be employed because it may be fragmented, or bone splinters may be present and require removal.

2. Fallacies of screen and pictures may be guarded against in many cases by a consideration of physical and rational signs.

3. A single *x*-ray picture by itself is not a guide but a dangerous misguide in most cases.

4. The presence of a colleague at the operation, unless he has seen the case under the screen, cannot relieve the operator from any part of the responsibility. It is unwise to operate without the *x*-ray apparatus and without the presence of someone acquainted with its working. Indeed, the *x*-ray expert is almost a necessary assistant.

SIR JOHN FRENCH'S DISPATCHES.

Sixty-six medical officers are mentioned in Sir John French's dispatches of September 17th and October 8th, dealing with the operations of the Expeditionary Force from August 28th to October 8th. In concluding his dispatch Sir John French wrote:

The fact that between the 12th September to the date of this dispatch the total numbers of killed, wounded, and missing reached the figures amounting to 561 officers, 12,980 men, proves the severity of the struggle.

The tax on the endurance of the troops was further increased by the heavy rain and cold which prevailed for some ten or twelve days of this trying time.

The battle of the Aisne has once more demonstrated the splendid spirit, gallantry, and devotion which animates the officers and men of His Majesty's forces.

The following are the names of the medical officers mentioned:

General Head Quarters Staff.

Surgeon-General T. P. Woodhouse.

Colonels E. H. L. Lynden-Bell, T. J. O'Donnell, D.S.O., H. S. Hickson, R. Porter, and R. H. S. Sawyer.

Lieutenant-Colonels J. H. Barefoot, W. W. O. Beveridge, D.S.O., S. F. Clark, G. Cree, C. Dalton (killed), J. J. Russell.

Majors M. H. Babington, E. A. Bourke, B. B. Burke, A. Chopping, S. L. Cummins, M. H. G. Fell, J. V. Forrest, J. S. Gallie, G. A. Moore, C. D. Myles, E. Ryan, E. B. Steel, F. A. Symonds, A. H. Waring, A. L. A. Webb, A. B. Smallman.

Captain A. C. Amy.

Also Principal Matron Miss E. M. McCarthy.

Regiments.

1st Battalion Irish Guards, Lieutenant H. J. S. Shields, R.A.M.C.

3rd Battalion Coldstream Guards, Lieutenant J. L. Huggan, R.A.M.C. (killed).

1st Battalion Northumberland Fusiliers, Captain M. Leckie, R.A.M.C.

1st Battalion Lincoln Regiment, Captain G. A. Kempthorne, R.A.M.C.

1st Battalion King's Royal Rifle Corps, Captain H. S. Ranken, R.A.M.C. (killed).

2nd Battalion Royal Irish Rifles, Captain S. E. Lewis, R.A.M.C.

Royal Army Medical Corps.

Lieutenant-Colonels L. A. Mitchell, J. C. Morgan.

Majors E. T. F. Birrell, S. G. Butler, R. V. Cowey, H. Ensor, D.S.O., T. E. Fielding, R. L. V. Foster, T. H. J. C. Goodwin, D.S.O., J. Grech, H. A. Hinge, O. W. Lloyd, C. W. Profeit.

Captains E. D. Caddell, E. B. Lathbury, J. T. McEntire, J. F. Murphy (Special Reserve), W. M. Nimmo (attached 1st Battalion, Loyal North Lancs. Regiment), C. P. O'Brien-Butler (attached 5th Lancers), A. C. Osburn, F. C. Sampson, H. Stewart, G. W. W. Ware.

Lieutenants L. G. Bourdillon, R. V. Dolbey, C. Hairsine (Special Reserve), C. Helm, H. L. Hopkins (Civil Surgeon), W. M. Howells, R. A. Preston, W. Wyler (Civil Surgeon).

NOTES

OVERSEAS DOMINIONS.

CANADA.

[From our Correspondent.]

The McGill Regiment.

A regiment is being recruited from the students and graduates of McGill University; the organization is proceeding rapidly under the direction of Dr. Geddes, and already over 300 are in training. McGill has had a contingent of the Canadian Officers' Training Corps for three

years, and five men from it have already received commissions in the British army. It is the intention that the contingent now being recruited shall consist of 500 men, and shall be attached to one of the British regiments and commanded by an officer of the British army. The necessary funds are to be raised by the Graduates' Society, which is prepared also to issue from time to time statements concerning the war, with the object of encouraging graduates to take some active part in assisting the Motherland, by themselves volunteering, by giving financial assistance, or by public speaking.

Canadian Hospitals in Paris.

It is announced that the French Government has accepted the offer made by the Canadian Government to give $100,000 towards a hospital in Paris, to be known as the "Hospice Canadien." A fund for the relief of Belgian refugees has been opened, and up to the present the contributions amount to $101,794.50. Clothing and foodstuffs have also been given.

The municipalities in the province of Quebec are contributing towards the maintenance of a hospital which has been established and equipped at the Rue de la Chaise, Paris, and which bears the military number 47. Each bed will cost about 5 francs a day, and, on the basis that the hospital will be required for five months, each municipality is asked to contribute 750 francs. It is the intention that each bed shall bear the name of the parish that contributed towards its maintenance. A sufficient sum has already been subscribed to maintain 15 beds for the period mentioned, and it is probable that the Quebec Government will give 10,000 dollars for the maintenance of a complete ward of about 70 beds with attendants, the ward to be named the Provincial Government of Quebec Ward.

The Expeditionary Force.

The first Canadian expeditionary force left Quebec recently. Arrangements are already being made for a second contingent of 22,000 troops, 2,000 being intended to fill vacancies. It is probable that these troops will not be trained at Valcartier, as the severe weather is coming on, but will be mobilized in sections in the various military districts, and will come together at the point of embarkation.

Medical Students on Active Service.

The McGill University is prepared to give students who go to the front every consideration both as to fees and time allowance, and in the case of medical students credit will be given for clinical experience gained on active service. Similar action was taken at a recent meeting of the Quebec College of Physicians and Surgeons, when it was decided to allow students in their final year of medicine to be exempted from study while on active service, the time to count as though they were attending regular college duties. It was resolved also that $1,000 should be given to the Patriotic Fund, which now amounts almost to five million dollars.

The late Colonel J. H. Burland.

The announcement of the death of Colonel Jeffrey Hale Burland has been received with the greatest regret in Canada. Colonel Burland left Montreal, apparently in good health, on September 28th last, to direct the work of the Canadian Red Cross in England and at the front. His death from angina pectoris occurred in London on Friday, October 9th. Colonel Burland was born in Montreal on March 19th, 1861; he was educated at the Montreal Academy and at McGill University, where he graduated in science in 1882. Closely identified with the business life of Montreal, devoted to all manner of charitable and philanthropic work, Colonel Burland was a man of great activity. He was in command of the 6th Fusiliers, and was president of the Dominion Rifle Association, but still found time to take an active part in the campaign against tuberculosis, and was one of the founders of the King Edward Institute. For several years he was closely connected with the work of the Red Cross, and it was due to his efforts that the Quebec branch of the society was established in 1912. In short, Colonel Burland was a man of boundless energy and enthusiasm, a splendid organizer, and a generous giver; he was held in the highest esteem by rich and poor alike, and his loss will be very keenly felt.

Attendance on Dependants: Interests of Practitioners with the Colours.

The members of the Montreal Medico-Chirurgical Society have decided to give to the Red Cross Society the sums usually expended in supplying tobacco at their smoking concerts, and members are requested to bring their own smoking materials. It was resolved, also, that members should give their services free to the dependants of those who have gone to the front, and it was decided that each member should attend to such cases within his own district. It was further agreed that members who had volunteered for active service should be exempted from the dues payable to the society, but that their names should be retained on the membership list.

Throughout the country the profession has expressed itself willing to protect in every way possible the interests of medical men who have volunteered for active service, and to look after their practices during their absence. It is also prepared to give medical aid free of charge to the dependants of those who have gone to the front.

Queen's Canadian Military Hospital.

Canadians resident in this country and on the other side of the Atlantic have combined to equip a hospital for the wounded, which, by permission of Her Majesty, is known as the Queen's Canadian Military Hospital. It is situated at Beachborough House, two miles from Shorncliffe, which has been lent by Sir Arthur Markham, Bart., M.P. The hospital has been organized by the Canadian War Contingent Association, and does not form part of the military scheme of hospitals in connexion with the Canadian contingent, of which particulars have already appeared in our pages. While it is hoped that as often as possible Canadians will be drafted to the hospital, the establishment has been placed unreservedly at the disposal of the War Office, by whom it has been approved. Sir Arthur and Lady Markham have given up the whole of their house for the purposes of the hospital. The largest apartment contains 10 beds, and the total accommodation is 60. In addition they have presented a complete *x*-ray apparatus and two motor ambulances.

The staff of the hospital is as follows: Principal physician, Sir William Osler; principal surgeon, Mr. Donald Armour; assistants, Dr. Fraser and Dr. Wallace; principal nurse, Miss Macmahon. The whole of the nursing staff is composed of Canadians; Lady Markham is the superintendent of the commissariat. Subscriptions already promised amount to upwards of £17,000, and Canadians and others interested are asked to communicate with the treasurer at the Bank of Montreal, Threadneedle Street, E.C. The Canadian War Contingent Association, in co-operation with the Canadian Y.M.C.A., also has in hand arrangements for the comfort of the troops from Canada now in training in this country.

At present the hospital is filled with wounded from Antwerp, principally officers and men of the Belgian army. Mr. Donald Armour kindly gave a representative of the JOURNAL some particulars of these cases. Many of the wounded had been almost constantly under active service conditions since the outbreak of war, and the effects of the terrible strain they had undergone were plainly visible. There were one or two heart cases and all were suffering from severe exhaustion. It seemed as though their wounds were not, in many cases, the chief concern of the men. More than anything, they wanted food and rest and to be quiet, away from the sound of firing. The condition of those suffering from bullet wounds confirmed the experience of the South African war as to the small extent of the injury done by the penetrating bullet as compared with the effects of shrapnel. Two men had bullet wounds through the lungs, but they seemed none the worse. Bad wounds were usually the result of shrapnel. One man was hit by a bullet just below the clavicle; it did not touch any vessels or nerves, went through the lung, and came out in the middle of the scapula. The wound of entrance was open, but the wound of exit had healed. Most of the wounds were septic. Some of the cases had already received attention in an Antwerp hospital and were removed before the entry of the enemy.

INDIA.

The *Pioneer Mail* of September 25th, received by the last Indian mail, gives the names of the medical staff

selected for the hospital ship presented by Madras. The vessel chosen is the British-India liner *Teuda*, a new twin-screw boat of nearly 7,000 tons. Lieutenant-Colonel G. G. Giffard, in medical charge, joined the Indian Medical Service on March 31st, 1890. He holds the M.R.C.P.Lond., and is Professor of Midwifery and Principal of the Madras Medical College. He received the C.S.I. on June 3rd, 1913. Major T. H. Symons entered on January 29th, 1896; he is Professor of Anatomy in the Medical College and second surgeon of Madras General Hospital. Major Diwan Gaupat Rai, a Punjabi by birth, entered on January 29th, 1902; he is district sanitary and medical officer of Nellore. Captain E. W. C. Bradfield joined on August 31st, 1903. He is an M.B.Lond. and F.R.C.S.Edin., was recently medical officer of the 31st Lancers, and is now third surgeon of Madras General Hospital. Captain Scott, the most junior, is surgeon to the Governor of Madras. The sixth, the Hon. Dr. T. M. Nair, is a private practitioner of reputation in Madras, better known, perhaps, as a public man than as a doctor, a member of the Madras Municipality and of the Madras Council. He served on the Indian Factory Commission in 1909.

Gift of Motor Ambulance by London Panel Practitioners.

The motor ambulance presented by the practitioners on the panel in the County of London was handed over to the British Red Cross Society on October 20th and will be sent to France for use in bringing wounded soldiers from the front to the base hospitals. The chassis of the ambulance is a 1915 model, 25-h.p. Berliet. The ambulance body, which is of the pattern approved by the British Red Cross Society, is capable of accommodating four persons lying down, or two lying down and six sitting, or twelve sitting. A special point about the body is the speed and efficiency with which it can be loaded. It has a door in the front and a narrow gangway between the tiers of stretchers which permit the attendant not only to assist in loading and unloading, but to give assistance to the wounded without having to stop the vehicle. The ambulance will form one of a number of ambulances which will parade at Regent's Park on Saturday next at 3 p.m., when detachments of the City of London Branch of the British Red Cross Society will assemble under the command of Colonel P. Broome Giles, C.B.

A Gift from Oxford.

Immediately after the publication, in the British Medical Journal of October 3rd, of the appeal by Sir Frederick Treves for motor ambulances for use in France, when he stated that no greater service could be done to our wounded troops than by the provision of motor ambulances, a circular letter was issued by Sir William Osler and Dr. William Collier of Oxford, to a few friends, which resulted in the receipt of over £500 in three days. A more public appeal was then made; over £1,200 has been received, and at least two well-equipped motor ambulances are being sent to the front. This ought to be a good example to other towns; probably there are many people who would be more willing to give to a local fund than to a general one.

CASUALTIES.

Royal Navy.

The Loss of the Hawke.

By the sinking of the cruiser *Hawke*, by a submarine, on October 15th, over 400 lives were lost, only some 70 being saved. The *Hawke*, it will be remembered, was in collision with the White Star liner *Olympic* in the Solent on September 20th, 1911. Among those lost, all three of her medical officers appear to be included.

Staff Surgeon George Charles Cumberland Ross was educated at Trinity College, Dublin, where he took the B.A. in 1897, the M.B., B.Ch., and B.A.O. in 1899. He entered the navy in 1901, became staff surgeon on August 11th, 1909, and joined the *Hawke* on August 1st last.

Surgeon Gustavus William Musgrave Custance was educated at St. Thomas's, took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1907, and entered the navy on May 12th, 1908, joining his ship on July 15th.

Temporary Surgeon James Henry Digby Watson was aged 23. He was the son of Engineer-Captain Watson, R.N., of Devonport Dockyard, and was educated at Edinburgh Academy, King's School, Canterbury, Edinburgh University, and the London Hospital; he had only recently qualified, joining the navy and the *Hawke* in August last. He was well known as a Rugby international football player, representing London Hospital and Blackheath, and specially distinguished himself playing three-quarter back for England in last year's international matches.

Surgeon B. A. Playne (temporary), R.N., 3rd Battalion (*Hawke*) 1st Brigade, is among the officers interned in Holland.

Army.

Prisoners of War.

Cahill, Captain R. J., R.A.M.C. (previously reported missing).
Thompson, Captain W. I., R.A.M.C. (previously reported missing).

Missing.

Fraser, Captain A. D., R.A.M.C.
Captain T. B. Moriarty, R.A.M.C., previously reported missing, has now rejoined.

Mr. F. F. Burghard, surgeon to King's College Hospital, London, has been appointed consulting surgeon with the British Forces overseas, and has already left for France.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

Graduation Ceremony.

The winter graduation ceremony in Edinburgh University has been remarkable for its quietness, and for the small attendance both of undergraduates and general public. The shadow of the great war has fallen on it, and dashed the usual rather too exuberant spirits of the students. It took place on October 16th in the McEwan Hall. Principal Sir William Turner was in the chair. After the presentation of the graduates in law, medicine, arts, and science, he said that he was happy to see that among them there were several who had already assumed the King's colours, who had already taken upon themselves duties which were additional to those of their degrees because they had pledged themselves to do honour to their country in the great contest that was now going on. There were among them several who had not as yet assumed the King's uniform but whose intention it was to do so; and when the time came—which he hoped would be a happy time for them—they would look to them also to go through the new duties imposed upon them, doing honour to the university of which they had become graduates. To all of them, graduates of both sexes, he heartily wished—and his colleagues joined him in the wish—success in their respective careers. The assembly then united in the singing of the National Anthem.

The following is the list of the graduates in Medicine (M.B. and Ch.B.):

C. W. Aikman, J. G. Anderson, T. H. S. Bell, P. N. Berry, T. C. Britton, E. L. G. Brodziak, W. T. Buchan, P. W. Carruthers, F. C. Chandler, J. S. Crichton, J. Dale, D. J. Dauth, J. Dunlop, W. F. Dunlop, H. H. Gellert, D. C. Graham, W. W. Hallenurch, F. W. Hird, S. C. Huddlestone (*in absentia*), M. P. Inglis, L. F. E. Jeffcoat, L. Lappin, G. MacL. Levack, J. Loftus, E. W. Louw, P. T. T. Macdonald, W. H. M'Granahan, F. G. Milne, W. W. Phillips, A. R. Ross, H. P. Rudolf, A. H. Shaikh, C. H. K. Smith, P. A. Strasheim, S. W. H. Stuart, K. A. M. Tomory, J. M. Verster, G. T. van der Vijver, J. F. van der Westhuijzen, H. W. Weir, J. A. Young.

Kavalam Padmanabha Panikkar, M.B., Ch.B., obtained the Diploma in Tropical Medicine and Hygiene.

German Lecturers.

In connexion with the action taken by the university authorities some weeks ago (vide Journal, p. 523, for September 19th), we learn that Dr. Otto Schlapp, University Lecturer on the German Language, Literature, and Teutonic Philology, being now a naturalized British subject, is continuing his teaching work, whilst the resignation of Dr. W. Cramer, Lecturer on Chemical Physiology, has been accepted. At the same time, we understand that the latter gentleman has either received, or is just about to receive, letters of naturalization.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

At the annual stated meeting of the President and Fellows of the Royal College of Physicians of Ireland, held on Monday, October 19th, the Morrow of St. Luke's Day, the following officers were elected for the coming year:

President.—Dr. E. MacDowel Cosgrave.
Vice-President.—Dr. Joseph O'Carroll.
Censors.—Dr. J. O'Carroll, Dr. S. T. Gordon, Dr. S. C. Drury, Dr. Gibbon Fitz-Gibbon.
Representative on the General Medical Council.—Sir John Moore.
Treasurer.—Dr. Bewlay.
Registrar.—Dr. Kirkpatrick.

Professor W. H. Thompson, M.D., of the School of Physic in Ireland, Trinity College, Dublin, was elected a Fellow of the College.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

WALES.

THE WELSH MILITARY HOSPITAL.

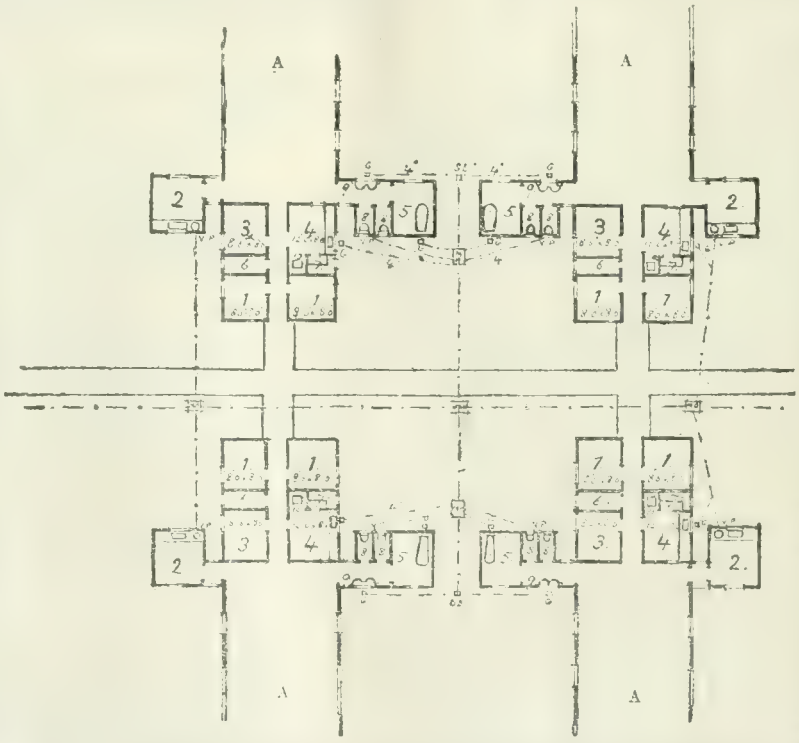
THE Welsh Hospital came into existence as the result of a public meeting held at Cardiff on August 11th, under the presidency of the Lord Mayor, Dr. Robinson. In response to the appeal for £25,000 signed by the Lord Mayor of Cardiff, and Sir W. J. Thomas, Honorary Treasurer of the Hospital, over £10,000 was subscribed in a week, and the total has now nearly been reached; £250 is regarded as endowing a bed to be named after the donor, and already there are 62 such endowed beds. All Wales has taken part in the movement, and many beds have been endowed from North Wales. Sir William James Thomas, always foremost in good works, endowed 10 beds, and other large subscribers are: Mr. David Davies, Llandinam (4 beds); the Earl of Plymouth (2 beds); and the Marquis of Bute (2 beds). Through the medium of the British Red Cross Society the hospital was offered on behalf of the Principality to the War Office, for service with the Expeditionary Force, by H.R.H. the Prince of Wales. The offer was accepted, and it was requested that the hospital should be located in the first place at Netley, to go overseas later when required.

It is situated on the recreation ground on the north side of the Royal Victoria Hospital, and will be ready to receive patients on October 26th.

The honorary architects are Messrs. E. T. and E. Stanley Hall of London, the architects of the Manchester Royal Infirmary and the Welsh National Memorial. The present hospital provides for 104 patients, but a further 100 beds can be added if required. The general plan of the hospital is shown in the sketch plan of its central part. The administration block is at the south end, and next in order is the residence for the medical staff. This consists of 11 rooms with a common room, lavatories, water closets, and bath rooms. Opposite this, on the west, are the quarters for sergeants and orderlies.

The theatre block, to the north of this, contains a theatre (20 ft. by 16 ft.) with an anaesthetizing room and sterilizing room, while an opposite building contains *x*-ray room, dark room, dispensary, and pathological laboratory. There are four long wards for 24 beds each, two single bed wards, a nurses' room, a pack store with cut-off annexes, a bath room and closets on one side and a nurses' sink room on the other.

Beyond the wards on the west are mess-rooms for the staff (male and female), and opposite these, on the east, the kitchen and general stores. Further north still is the residence of the matron and nurses on the west, and a separate residence for the maids on the east. At the northern extremity is a small laundry for casual use, the intention being that the general laundry work shall be done elsewhere. There is at the south-east end another small block containing the ambulance, the mortuary, and *post mortem* room, a workshop, and drying-room.



The Welsh Military Hospital, Netley.—1, Single-bed wards; 2, Sink room; 3, Pack store; 4, Nurse; 5, Bath; 6, Linen; 7, Larder; 8, W.c's.; 9, Lavatory; 10, Gas stove; A, Long wards for 24 beds.

The buildings are erected of timber framing covered with felt and iron outside and lined inside with asbestos sheeting which is of pleasing colour. The paintwork throughout the patients' and residential blocks is white internally; the exterior is being painted green. The floors generally, except that of the theatre block, are of wood. The fittings are complete in every respect. The buildings are lighted throughout by electricity and the heating and hot-water supplies are by gas.

The hospital is designed as a temporary building which could be removed if desired to France or elsewhere. The furniture and equipment could be packed up at short notice. The rooms have been kept as compact as possible, having regard to efficiency and the essentials of ventilation have been carefully considered.

The hospital was commenced on September 9th and will be completed by October 31st.

The total staff numbers forty-eight. The commanding officer and senior surgeon is Lieutenant-Colonel A. W. Sheen, R.A.M.C.(T.), surgeon to King Edward VII Hospital, Cardiff. The other medical officers are Mr. Fergus Armstrong, M.D.Edin., F.R.C.S. Edin., Mr. T. Garfield Evans, M.D. Lond., Mr. Sydney J. Rowlands, M.D. Liverp., and Mr. Bernard G. Klein, M.D.Oxon. The quartermaster is Mr. E. J. August. All these officers have been given temporary commissions in the Royal Army Medical Corps. Four senior medical students are engaged as dressers, and the rest of the male staff consists of a sergeant-major, two sergeants, and twelve orderlies. The matron is Miss M. Martin, who served with the Welsh Hospital in the South African war, and there are twelve nursing sisters, a housekeeper, and domestic staff.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

OPENING OF THE SESSION.

Royal Victoria Hospital, Belfast.

THE opening lecture of the present session was delivered by Dr. Fielden, principal anaesthetist to the hospital, on October 16th. The lecturer welcomed the students, and immediately proceeded to discuss the subject of his lecture, "Suggestion." He gave numerous illustrations from the physiology of everyday life. Tracing the history from early times, he then enlarged upon the views of Charcot and other more recent authorities, and showed that it was by no means the offspring of recent quackery, but was a means of treatment found not merely in the higher fiction but also in science. Hypnotism was suggestion to the subliminal consciousness, and its effects were different from suggestion to ordinary consciousness which was switched off in the patient and that of another switched on. A brief account of Christian Science, of Lourdes, of holy wells,

and healing places was given; all these deserved careful study on the part of the medical man, which would amply repay the work.

Royal College of Surgeons in Ireland.

The opening meeting of the winter session 1914–15 was held on October 15th in the Royal College of Surgeons, when the prizes were distributed by the President (Mr. F. Conway Dwyer). The President, in an address to the students, offered them a hearty welcome to the Medical School of the College. He admitted that the course of studies and the number and variety of the subjects was calculated to produce an impression of dismay; but the course was not so formidable as it looked, at the same time it made no allowance for slackness. He advised them to spend as much time as they could in the dissecting room, as any really useful knowledge of anatomy was only to be acquired if they made a proper use of their time there. He wished also to impress upon them the importance of attending to hospital work, as there was no other way of acquiring habits of observation, and that familiarity with the stigmata of disease which gave confidence and decision when confronted with disease in practice. Case-taking—a most important duty—was, he feared, somewhat neglected in the hospitals, through no fault of the students. Careful case-taking cultivated habits of precision, developed the faculty of observation, and enabled the student to systematize his work. It was well known that many of their men who sought to enter the army and naval medical services compared badly in this respect with candidates from the other side of the Channel.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Medical Teaching in Edinburgh and the War.

Inquiry at the university reveals the fact, as was anticipated, that the number of students this winter as compared with last is considerably smaller. It is understood that the total number of undergraduates of all faculties is about a third less, and that, of course, medicine shares in the drop; at the same time, it is said that neither the first nor the final year in medicine is affected, a circumstance which is presumably to be explained by the advice given to the fifth-year men to complete their studies so as to be ready for service as qualified men next year, and to the fact that the first-year students are less eligible in the matter of age, etc., for volunteering for military work. It is in the intermediate years that the shortage is more evident. With regard to the teaching staff, we are informed that the professorial ranks are unbroken, but that some of the lecturers and assistants are absent on active service, and that their duties are being undertaken by others. In the extramural school there is also a falling off in the number of students; it is not thought to be large, but in the meantime, until the session is further advanced, it is impossible to gauge its extent. With the single exception of surgery, the lecturers in the extramural school are little, if at all, affected, and the classes are going on as usual. All the surgery teachers, however, with one exception, are away on active service connected with the war. As a matter of fact, this occurrence could not have happened at a less inopportune time, for, as was indicated in the Journal for May 9th of the present year (see pp. 1040, 1041)), there has just been completed a large rearrangement of the classes by which the taking of the surgery lectures was put back a year whilst that of the medicine lectures was advanced. The result has been that scarcely any students wish to attend surgery lectures this session, whilst there has been a rush upon the medicine classrooms. In the School of Medicine for Women, where, by the way, there is a remarkable increase in the first-year students, the lecturer on medicine (Dr. W. T. Ritchie) is absent on military duties, and Dr. G. D. Mathewson is taking his place; the lecturer on surgery is also absent, but there was only one woman who required lectures on this subject this session, and an arrangement has been made whereby she shall not suffer through the lack of teaching during the winter. The other lecturers, including the veteran "father of the extramural school," Dr. William Craig, who began to teach materia medica as far back as 1874, are all in their places.

Correspondence.

TO SAFEGUARD THE ACCURACY OF THE "MEDICAL REGISTER."

Sir,—May I once more ask you for your valuable assistance in reminding members of the profession that, unless their names appear in the *Medical Register*, they are not "legally qualified medical practitioners" (Medical Act, 1858, Section 34), and that the duty of notifying changes of address rests with them?

> No person can "hold any appointment as a physician, surgeon, or other medical officer either in the military or naval service or in emigrant or other vessels, or in any hospital, infirmary, dispensary, or lying-in hospital, not supported wholly by voluntary contributions, or in any lunatic asylum, gaol, penitentiary, house of correction, house of industry, parochial or union workhouse or poor-house, parish union, or other public establishment, body or institution, or to any friendly or other society for affording mutual relief in sickness, infirmity, or old age, or as a medical officer of health, unless he be registered" (Section 36); and
>
> "no certificate required by any Act now in force, or that may hereafter be passed, from any physician, surgeon, licentiate in medicine and surgery, or other medical practitioner, shall be valid unless the person signing the same be registered" (Section 37).

The *Medical Register* is the only official publication, and should not be confused with any of the various directories which issue circulars annually.

No one who is not familiar with the work of this office would believe the amount of trouble which is taken to keep in touch with practitioners and to find them when touch has been lost, but unless we are assisted by members of the profession themselves our efforts are often fruitless.

In consequence of cases which have recently occurred it becomes increasingly important every year that the Registrar should carry out the duty laid upon him under Section 14 of removing from the *Register* the names of practitioners with whom he cannot communicate. It is done with reluctance, but only by this means can the public and the profession be protected against impostors. No doubt cases of hardship do sometimes arise in consequence of this removal of names, but every possible source of information is made use of to save practitioners from the results of their own forgetfulness, and if they are inconvenienced by finding that their names are off the *Register*, the blame does not rest with this office.

Perhaps I may add that, by a recent regulation, practitioners possessing medical and dental qualifications, if already on the *Medical Register*, may register in the *Dentists Register* (or vice versa) for a reduced fee of £2 1s. instead of £5 1s.

I should also like to take the opportunity of drawing attention to the following resolution, adopted by the Council on November 30th, 1911, and re-drafted on June 1st, 1914. It cannot be too strongly urged upon practitioners that, in giving certificates, they are recognized by law as members of a trusted profession, and that it behoves them to exercise the greatest possible care in the matter:

1. *Certificates, Notifications, Reports, etc.*

Registered practitioners are in certain cases bound by law to give, or may be from time to time called upon or requested to give, certificates, notifications, reports, and other documents of a kindred character, signed by them in their professional capacity, for subsequent use either in courts of justice or for administrative purposes.

Such documents include, among others, certificates, notifications, reports, etc.:

(*a*) Under the Statutes relating to *births, deaths, or disposal of the dead.*
(*b*) Under the Acts relating to *Lunacy* and *Mental Deficiency* and the rules made thereunder.
(*c*) Under the *Vaccination* Acts and the Local Government Board Orders made thereunder.
(*d*) Under the *Factory* Acts and the Home Office Regulations made thereunder.
(*e*) Under the *Education* Acts.
(*f*) Under the *Public Health* Acts and the Local Government Board Orders made thereunder.

(*g*) Under the *Workmen's Compensation* Acts.
(*h*) Under the Acts and the Local Government Board Orders relating to *the notification of infectious diseases*.
(*i*) Under the *National Insurance* Acts and the Regulations made thereunder.
(*j*) Under the *Old Age Pensions* Acts and the Treasury Regulations made thereunder.
(*k*) Under the *Merchant Shipping* Acts.
(*l*) In connexion with *sick benefit, insurance and friendly societies*.
(*m*) For procuring the issue of Foreign Office *passports*.
(*n*) For *excusing attendance* in courts of justice, in the public services, in public offices, or in ordinary employments.
(*o*) In connexion with *naval and military* matters.

Any registered practitioner who shall be shown to have signed or given under his name and authority any such certificate, notification, report, or document of a kindred character, which is untrue, misleading, or improper, *whether relating to the several matters above specified or otherwise*, is liable to have his name erased from the *Register*.

—I am, etc.,

A. J. COCKINGTON,
Acting Registrar.

General Medical Council Office,
299, Oxford Street, London, W.,
October 15th.

A PLEA FOR AN AMBULANCE CHASSIS.

SIR,—While so much is being done to increase the number of motor ambulances at the front, almost all attention, as regards construction, seems to be centred on the coachmaking. It is quite time that the chassis itself were constructed specially for ambulance work. To this end the back (driving) wheels ought to be at least 4 or 4½ ft. in height, including the tyres, since a high wheel runs far more smoothly over a bad road than a low one. The tyre on a high wheel will carry a much heavier load than an equally wide tyre on a small one as it has a longer ground contact. It also fatigues less and lasts longer. Small driving wheels were introduced to make room for side doors and to keep down expense in building, neither of which is essential when preparing an ambulance car.

The car should be chain driven, and the cogged drum on the driving wheel should, of course, have a diameter proportional to that of the wheel. This would make the propulsion of the car as easy for the engine as if the wheels were low. The driving drum, which contains the brake, is bolted on the spokes, and so strengthens the wheel that it scarcely needs to be more heavily constructed than a low wheel. This I know from experience, as I possess such a car. The frame might be underslung to bring the coachwork to a suitable height, and the ambulance should open at the front, as shown in Mr. Massac Buist's article in the BRITISH MEDICAL JOURNAL of October 10th, page 642. The back axle should, if possible, be behind the ambulance proper.

The only structural difficulty is to find room for the chain and brake drum and the radius rods. The wheels might have to be well clear of the side of the body to allow this, though a little ingenuity on the part of the builders would get over this difficulty, as it did in the early days of motor cars when they were constructed with high driving wheels.

Many of the ambulance wagons now supplied are a mechanical disgrace, with half the body overhanging behind low back wheels, thus providing a maximum of discomfort for the unfortunate occupants.—I am, etc.,

Clyst St. George, Devon. D. W. SAMWAYS.

NUTRITION AND MEAT EXTRACTS.

SIR,—If Mr. Sohn will be good enough to refer to my letter again (JOURNAL, September 26th) he will find there is no protest in it and nothing to admit. There is a statement of the published deductions which my colleagues and I had drawn from our experimental investigation of the nutritive value of beef extracts, with reasons for not accepting his suggestion that the effects we observed were due to a retention of mineral salts. Incidentally, some of the many inaccuracies in Mr. Sohn's book on nutrition were pointed out.

Our conclusions were drawn from a consideration of the whole facts and not from a small minority of deviations which do not modify the main inferences.

The effects of the extracts we used were, as I stated, an increase of weight, a better assimilation of other food, a retention of nitrogen, and, I may now add, a general improvement of nutrition. This latter, which many would regard as the most important outcome of the whole, was apparent to the eye in the condition of the animals, and was consciously felt by the human subjects, but being immeasurable was kept out of our published papers.

It is open, however, to any one to repeat the investigations, and if Mr. Sohn will spend eighteen months in doing so, and publish his results, with protocols giving details of the experiments, as we have done, he will have made a contribution to the subject which will be of value. Nor will any one welcome his findings more sincerely than I, whether they be in harmony or not with those obtained in my own laboratory.

As I stated in a letter which appeared in this JOURNAL on November 26th, 1910, "I have no interests to serve in the matter other than those of science," nor do I suppose Mr. Sohn has. There ought, therefore, to be no difficulty in finally settling the questions at issue if, as he thinks, our conclusions are unwarranted or untenable.

Meanwhile theoretical considerations are only of value as working hypotheses to be put, without bias, to the test of experimental proof.—I am, etc.,

Dublin, Oct. 17th. W. H. THOMPSON.

INSECTS AND WAR: FLEAS.

SIR,—With reference to the letter by Mr. Trevor M. Smith in your last week's issue, I would like to say that my informant was Mr. C. A. Barber, Sc.D., Sugar Expert for India. Mr. Barber was born in South Africa and has lived there a long time, and indeed in many parts of the world. I confess when he told me that rooms plastered with cow-dung kept away flies I was sceptical, but he was perfectly clear on the point and is a trained and accurate observer.—I am, etc.,

Cambridge, Oct. 20th. A. E. SHIPLEY.

Medical News.

BEGINNING with the October issue, the *American Journal of Surgery* will publish a thirty-two page supplement wholly devoted to anaesthesia and analgesia.

AT the annual meeting of the Society of Medical Officers of Health, held on October 16th, Sir Arthur Whitelegge, K.C.B., and Dr. E. C. Seaton, who had been Fellows of the Society for many years, were elected Honorary Fellows. Dr. Seaton was President of the Society in 1897.

THE Huxley Memorial Lecture on recent advances in science in relation to medicine and surgery will be delivered at Charing Cross Hospital on Monday, November 2nd, at 3 p.m., by Sir Ronald Ross, M.D., K.C.V.O., F.R.S., Sir Thomas Barlow, Bart., President of the Royal College of Physicians, in the chair. The lecture is open to all members of the profession.

AT a meeting of the Bath City Council on October 20th it was resolved to alter and improve or extend the baths; that the work should be put in hand at as early a date as possible; that any new baths should be first class in style and equipment; and that the chief aim should be to develop the use of the hot springs; but that, in view of the grave national crisis, the strictest economy should be observed. A proposal to enter on an expenditure of £87,000 was deferred.

THE next meeting of the Life Assurance Medical Officers' Association will be held at 1, Wimpole Street (Royal Society of Medicine), on Wednesday, November 4th, at 5.30 p.m., when Dr. H. J. Cardale and Dr. J. Fletcher Porter will initiate a discussion on The Certification of Invalidity under the National Insurance Act. Tea and coffee at 5 p.m. The association will welcome the presence and participation of any medical man interested in the subject.

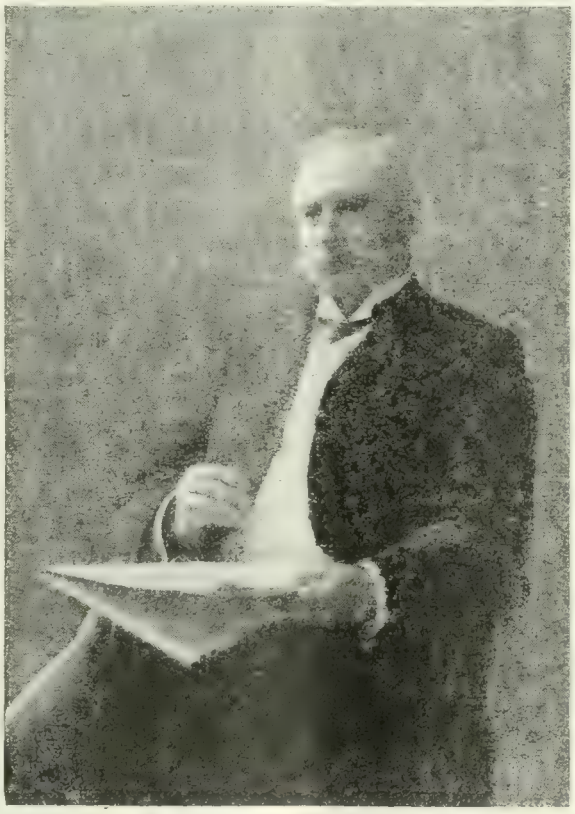
THE London County Council on October 20th approved the action of the Education Committee during recess, in opening, upon the outbreak of war, in various parts of London, 146 classes in first aid, 111 classes in home nursing, and 32 in cookery for the sick. These facilities were provided in response to many applications from persons wishing to qualify themselves to join detachments of the British Red Cross Society or otherwise to be able to render service in connexion with the war. The classes are estimated to cost £4,000.

Obituary.

THOMAS HOBBS CRAMPTON, L.R.C.P.I., L.R.C.S.I.,
ISLINGTON.

The death of Dr. Crampton, which took place after a very short illness at his residence in Islington on October 13th, will be mourned by a very large circle of personal friends, as well as by his brother practitioners in the neighbourhood where he practised, for his was a character that won respect and esteem bordering on affection.

He was born in the county Kildare in 1857, and studied medicine at the Carmichael School, Dublin. He obtained his diplomas in 1880, and shortly afterwards went to London, attracted by the advertisement for an assistant to a West-End practitioner ending with the note, "None but Irish need apply." The introduction thus obtained led finally to his putting up his plate in Islington, where he soon established for himself a good general practice. His steady attention to work, his constant acquisition of the most recent methods of treatment, coupled with his geniality and keen sense of humour, laid the foundation for his remarkable success, and the high esteem in which he was held by his brother practitioners in Islington, who had the greatest confidence in his judgement. In the recent efforts made by the profession to obtain better terms under the Insurance Acts, Hobbs Crampton was frequently put forward by his neighbours as their spokesman. He maintained to the last his unswerving opposition to the panel system.



Thomas Hobbs Crampton.
(*Photograph by Lafayette, Limited, London.*)

Dr. Hobbs Crampton was Chairman last year (1913–14) of the City Division of the Metropolitan Counties Branch of the British Medical Association, and at a meeting of the Division held a few days after his death Dr. J. W. Hunt, on behalf of the members, expressed the great appreciation all felt at the exemplary manner in which the duties of the chair had been sustained by Dr. Hobbs Crampton throughout a trying year of office; the unfailing courtesy, unswerving impartiality, and unwearying assiduity in the despatch of business having won universal admiration.

Dr. Crampton was one of the oldest members of the Irish Medical Schools' and Graduates' Association, at the functions of which for the last twenty years he was invariably present. In fact, an Irish graduates' banquet without Hobbs Crampton would have been shorn of half its charm. His fellow members of that society showed their appreciation of his qualities as a wise and capable administrator by electing him to every honorary office, one after the other, for which he was eligible. He would probably have been the next metropolitan member elected to the presidential chair. The Council mustered in large numbers at his funeral, which took place on October 16th at the Great Northern Cemetery, New Southgate, and was attended by nearly every medical practitioner within a circuit of several miles of Myddelton Square, where he had resided for over twenty years. He has left a widow, one son, now a student at Cambridge, and one daughter, to whom the sympathy of many scores of friends will go out, for Hobbs Crampton was essentially a man fond of his home, and in his case it was very true that—

> Home's not merely four square walls
> Hung with pictures framed and gilt;
> Home is where affection calls
> To the shrines itself hath built.

ANTHONY TRAILL, M.D., M.Ch., LL.D.,
PROVOST OF TRINITY COLLEGE, DUBLIN.

We regret to announce the death of Dr. Traill, the provost of Trinity College, Dublin, which took place on October 15th. For some time past he had been in bad health, and for several days before his death he had been practically unconscious.

Anthony Traill was born on November 1st, 1838, being the eldest son of William Traill, of Ballylough House, co. Antrim, and Louisa, daughter of Robert Ffrench, of Monivea Castle, co. Galway. He came of a sturdy stock, his first Irish ancestor being Colonel James Traill, who came over with the Parliamentary Army in 1660, and married the niece of the first Viscount Clandeboye, subsequently settling down at Tullaguim, co. Down. Anthony Traill entered Trinity College in July, 1855, at the age of 16, and had as fellow signatories of the students' roll Lecky the historian, Lord Justice Fitzgibbon, Lord Ashbourne, and Professor Mahaffy. He obtained a mathematical scholarship in 1858 and a studentship two years later, when he graduated B.A. with two senior moderatorships and two large gold medals. In 1864 he advanced to his degree of Master of Arts, and was elected a Fellow in the following year, in which he also took the degree of LL.D. In 1870 he took out the degrees of M.Ch. and M.D., and it was a subject of pride to him in later years that he was the first medical graduate of Trinity who had ever been called to the provost's chair. In 1875 Dr. Traill made an unsuccessful effort to enter Parliament as one of the representatives of the university. In 1888 he was elected a member of the Council, and in 1890 became assistant professor of natural philosophy. In 1899, on the resignation of Dr. Kells Ingram, he was co-opted a senior Fellow, and a little later filled the office of bursar of the College.

On January 23rd, 1904, Rev. George Salmon, who had been Provost since March, 1888, passed away at the advanced age of 85 years, and it was in succession to him that Dr. Traill was nominated a few months later by King Edward. A strong and stalwart character was needed at that time to face the disputes which were going on outside the College walls, and to meet those who might seek to lay hands on the rights and privileges of an envied seat of learning which had insisted on remaining true to her traditions and the principles of her original foundation. The late Provost was always a warm friend of technical education and concerned himself chiefly with the work of the University Engineering Students' Society; he was also a hard working member of the Medical School Committee, of which for a considerable time he acted as Vice-President. He was also President of the University Experimental Science Association, and of the University Choral Society; patron of the T.C.D. Church Musical Association and of the University Chess Club.

Many distinctions and honours came his way, including the degrees of LL.D. (*Honoris Causâ*) from the Universities of Glasgow, Aberdeen, and St. Andrews. In 1904 he became an honorary Fellow of the Royal College of Surgeons, and in 1905 an honorary Fellow of the Royal College of Physicians in Ireland.

He was all his life devoted to the welfare of the Church of Ireland, and as a member of the Representative Body since its incorporation, it was his privilege annually to

bring in the Church budget at the meetings of the General Synod. He was also one of the leading lay members of the Diocesan Council of the United Dioceses of Down, Connor, and Dromore, and as one of the diocesan trustees was a familiar figure at the Synod. His valuable services in connexion with the Church Auxiliary Fund, raised within recent years, will also always be remembered as an instance of the unwavering industry and ceaseless advocacy which he was able to bring to bear on any project that commended itself to his mind. From 1885 to 1892 Dr. Traill was one of the most useful and energetic members of the Educational Endowments (Ireland) Commission. In association with his brother and the late Lord Kelvin and Sir William Siemens, he was one of the pioneers in the construction of the Portrush and Giant's Causeway Electric Railway, which for many years enjoyed the unique distinction of being the only electric railway in the world.

The leading incidents of Dr. Traill's provostship are well within recollection, and need not, therefore, be recounted in detail. Trinity College found in him one of the shrewdest and most business-like of a long line of administrators. He was largely responsible for the admission of women to the privilege of university training and graduation. Dublin was the first of the three great residential universities in the United Kingdom to open its doors thus to womankind. Another departure in which Dr. Traill took an active interest was the formation of the Officers' Training Corps, which has fostered such a spirit that a few weeks ago 45 per cent. of the male undergraduates had applied for commissions in the new army. He has left a permanent mark on the history of Dublin University, not as a distinguished scholar, but as a very able administrator. As for the man himself, he was one who compelled the respect even of those who loved him least. He was, as the very barest recapitulation of his activities shows, a hard worker in many different causes. His great industry lasted as long as his health. The achievements of Dr. Traill were due to his immense strength of character. Any task which he set before himself he attacked with a determination and courage which was indomitable and almost irresistible. These characteristics, combined with a sturdy independence, which prevented him from taking opinions at second hand, made him at once a remarkable and formidable figure in Irish life. He never conformed to the academic ideal of the head of a learned university; but the work which he did for Trinity College will not soon be forgotten.

In the realm of sport Dr. Traill exhibited strenuous energy. In his undergraduate days he captained the University Cricket Eleven, and for fourteen years he held the University Racquet Championship, losing it for the first time at the age of 50, only to recapture it the following year. Of late years he was a keen golfer and was president of the Royal Portrush Golf Club. Rifle-shooting and fishing were also favourite pastimes. He was a member of the Alpine Club, and for many years spent his vacation in Switzerland. He was amongst the earliest of those who made the perilous climb of Monte Rosa; he made a second ascent on his wedding tour in 1867. In 1867 Dr. Traill married Catherine Elizabeth (who died in 1909), daughter of Captain Stewart Moore, of Ballydivity, co. Antrim, a Waterloo veteran. There were five sons and three daughters by the marriage.

Medico-Legal.

DEFINITION OF A "PROVIDENT DISPENSARY."

IN Coventry County Court, on Tuesday, October 20th, Judge Cann gave judgement in the case of Dr. David Holmes, one of the medical officers of the Coventry Provident Dispensary *v.* the Corporation, a claim of 1s. 6d., balance of fee for notifying a case of tuberculosis to the medical officer of health (Dr. Snell). Defendants contended that plaintiff was so acting as medical officer of a hospital as defined by the Public Health (Tuberculosis) Regulations, 1912, and therefore entitled to only 1s.

His Honour said plaintiff was paid out of the society, and not by the members individually, and his remuneration fixed according to the number of cases treated. He came to the conclusion that this provident dispensary was included in the definition of the word "hospital" as defined by the regulations of 1912; the claim therefore failed, and the action was dismissed with costs.

Letters, Notes, and Answers.

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☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

ANSWERS.

W.B.F.—In Martindale and Westcott's *Extra Pharmacopoeia* gonosan is said to be a special preparation of kava resins in santal wood oil in capsule form. The same book gives the formula for liquor santal cum kava, stated to consist of yellow santal wood in powder 4, alcohol 60 per cent., q.s. to 15, liquid extract of kava-kava 5. Kava-kava is the root of *Piper methysticum*, a shrub indigenous to the Sandwich Islands. The *Indian and Colonial Addendum*, 1900, to the *British Pharmacopoeia*, 1898, contains kava rhizome and a liquid extract of kava, both of which are official in the Australasian colonies (dose to 30 to 60 minims). The *British Pharmaceutical Codex*, which mentions also a solid extract of kava for use in pills (1 to 5 grains), states that the active constituents of the drug appear to be two resins—alpha-kava and beta-kava resins—and that an alkaloid kavaine is also said to be present. Kava-kava is used in the South Sea Islands for preparing an intoxicating drink; it is said to affect the power of movement, while leaving the intellect clear. It is given in gonorrhoea on the supposition that it acts as an anaesthetic to the urethral mucous membrane, reduces congestion, and acts as an anaphrodisiac.

SUITABILITY OF ALPINE CLIMATE FOR BRONCHITIC.

A LATE medical officer (British) to a sanatorium in Switzerland writes, in reply to "Indian": If the bronchitis is uncomplicated with emphysema or weakness of the heart muscles or other grave complication, such as advanced renal or arterial degeneration, the probability is that the dry mountain air would exercise a beneficial influence on the pneumococcal infection. The freedom from dust and relative sterility of the air would tend to prevent the onset of secondary infection and to minimize the effect of organisms already present in the upper air passages and bronchial tubes. Some emphysema is undoubtedly a contraindication to high altitudes, and the writer has had the unfortunate experience of seeing a patient with extensive emphysema and chronic bronchitis die on the day after arrival at Davos-Platz. Hence it is probable that if the symptoms comprise marked dyspnoea, marked and persistent tachycardia, and troublesome insomnia, a trial of the Alps should be made cautiously or not at all.

*** As the inquirer is now resident in Great Britain it will be necessary to make careful inquiries before starting as to how he is to reach Switzerland quickly and comfortably. Routes via Bordeaux and via Genoa have been mentioned, but we are informed that it is possible to travel by way of Paris, Lyons, Geneva, and Zürich; passports with French and Swiss consular visés are required. We are also informed that it is expected that the electric railway from Coire to Arosa will be open for passenger traffic early in November. From the *Davoser Blätter* of October 3rd it appears that at the end of September there were 1,630 foreign residents in Davos, of whom 552 were of German or Austro-Hungarian nationality. The British, French, Russians, and Belgians numbered 460, of whom 67 were British. The total was made up by various other nationalities, including 67 Americans.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

ON THE TREATMENT OF ARTHRITIC DEFORMITIES.

BEING THE INTRODUCTION TO A DISCUSSION IN THE SECTION OF SURGERY OF THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION, 1914.

BY ROBERT JONES, CH.M., F.R.C.S.E., F.R.C.S.I.(HON.),

LECTURER ON ORTHOPAEDIC SURGERY, UNIVERSITY OF LIVERPOOL.

MANY cases of arthritis hitherto classified as tuberculous belong really to other groups, but although these present manifold and often easily diagnosed variations in their clinical course, they nearly all present similar deformities. In some these deformities appear early, in others they appear late, but whenever and wherever they appear they reflect discredit upon somebody—the parent for not seeking advice, or the practitioner for failing to appreciate the fundamental principles of treatment.

The prevention of deformity is therefore a much more important matter than its correction, but except indirectly this phase of the subject will not be discussed. Certain symptoms are common to every variety of arthritis, but the essential symptom is that of limitation of movement of the joint in each of its normal directions. It is difficult to prevent deformity unless we know the types which occur in the natural course of disease. In arthritis of the big toe we must expect plantar flexion; of the ankle, extension; of the knee, flexion, accompanied in the more pronounced cases by rotation outwards and displacement backwards of the tibia; in the later stages of arthritis of the hip, flexion, adduction, and internal rotation; in that of the wrist, palmar flexion; in the elbow, extension to about 110 degrees, and in arthritis of the shoulder, adduction. In cervical caries the malposition of the head depends upon the location of the disease. If the upper two or three vertebrae are diseased the head is twisted to one side into the position of wry-neck. If the disease be lower the chin is advanced and dropped towards the chest. If the disease is yet lower the chin is elevated and somewhat advanced, the head being thrown backwards towards the shoulders, which are raised to meet it. In view of the possibility of ankylosis the surgeon should ascertain from the patient what position he would desire his joint, in order to obtain most use from it. In the case of the elbow this will depend largely upon occupation, and to a lesser extent also in the case of the hip. The hip is usually best fixed fully extended, as is also the knee; if bony ankylosis should occur a little flexion at both joints is no disadvantage. The ankle should be fixed at right angles, and the elbow slightly below the right angle. The wrist should be kept hyperextended.



Fig. 1.—Abduction frame applied for right tuberculous hip.

I need say no more in regard to preventive measures. When we realize the deformity of the untreated case we can always be prepared for its prevention.

To simplify the subject take first tuberculous deformities in the young. At the outset it may be asked, "At what stage of the disease should we correct deformity? Should we alter the malposition of a joint in the stage of its activity, or wait until recovery has taken place?" It is perfectly safe to correct deformity during the active period, and comparatively simple. My experience does not favour the view that by this act a general dissemination of tubercle will be caused.

In the hip-joint, therefore, when a case presents flexion, adduction and elevation of the pelvis, I apply a frame so constructed as to govern the triple deformity (Fig. 1). The splint should never be fitted to the deformity, but the deformity should be moulded to the splint. The limb is then retained rigidly at rest both to recover from the manipulation and in obedience to the principles according to which we treat such joints. It is obvious that the manipulation should be practised without excessive force, slowly and gently, never rapidly or roughly.

In the case of the knee, flexion and tibial displacement are corrected together, and the limb placed in a Thomas's bed knee splint. The correction is not necessarily completed at the one sitting. The deformity may be only partially reduced and then the treatment be completed by extension in the splint.

Palmar flexion at the wrist should be changed to dorsiflexion, in order that a good grip should be secured if ankylosis should become permanent (Fig. 1A). The power



Fig. 1A.—Showing wrist held in dorsiflexion by "cock-up" splint.

of grasp, as we know, diminishes in proportion to the amount of flexion at the wrist. The shoulder should be kept abducted, held somewhat forwards, and slightly rotated inwards, so that if ankylosis occur the range of movement will be materially assisted by the muscles of the scapula. Deformities of the spine may always be diminished by appropriate padding while the patient lies upon a convex frame.

These deformities, obviously fibrous in character, are thus corrected during the presence of active disease, and this correction is maintained until the joints recover. Such methods, however, are of avail only when the deformities are fibrous. If bony fixation has occurred, more radical measures are needed. Bony ankylosis in children is a comparatively uncommon ending, so that osteotomies, removal of wedges of bone, and similar radical measures are very rarely called for in the very young.

A fibrous ankylosis has one serious clinical drawback—it goes on contracting and adding to deformity for a considerable time, until at last it becomes quiescent. H. O Thomas introduced a nomenclature of ankylosis which was of considerable clinical value. He spoke of sound and unsound ankylosis. The distinction is that in unsound ankylosis the angle of flexion will be increased by use, and that in sound ankylosis the angle will not be altered by use. This is a useful classification, more especially when we deal with the adduction deformity in arthritic affections of the hip.

In those cases of hip disease in patients more advanced in age with typical deformity, where the disease has nearly run its course, we have to consider whether it may not be wiser to perform an osteotomy below the affected area in order to correct the flexion, pelvic obliquity, and internal rotation of the limb. This is often a time-saving measure, as we avoid the renewed deforming effects which would result from an attack upon an unsound ankylosis. I will endeavour to make this more clear. In a small child where disease is active and the diseased structures are soft, by placing a hip in abduction with extension we allow it to run its course until the ankylosis is sound, until, in fact, the angle at the joint will not be altered by use. In the more advanced case, where the deformity has been allowed to take place and the patient has nearly recovered, one might perform a subtrochanteric osteotomy and place the limb in abduction, rather than force the joint into abduction with the knowledge that the deformity would partially recur. A sound fibrous ankylosis at the hip, therefore, is best left alone, and the operative attack should be made below the joint.

Tuberculosis in the young I have always looked upon as benign and tractable; in the adult it is a very different

disease, requiring early and radical attack. The deformities presented are similar in both.

For the correction of deformity in the short fibrous and in the osseous types, the possible procedures consist of manipulation with or without extension, osteotomies, wedge exsections, exsections of joints, pseudo-arthroses, and arthroplasties and transplantations.

Manipulation with extension should always be our method of attack, in young children, where the disease is active, and in patients, of whatever age, where the fixation is soft and fibrous, and where operation is disallowed. It should never be advocated in the adolescent, where the ankylosis is sound, be it fibrous or bony. Osteotomy is employed with best effect on the femur to correct deformities at the hip, and sometimes to correct faulty lateral alinement in connexion with arthritis of the knee. Where ankylosis is bony the operation is most successful, and I have often, in the case of pelvic obliquity, corrected four and five inches of practical shortening (Fig. 2). If the adduction and flexion are marked and the neck of the femur is not absorbed and the ankylosis is bony, I prefer a trans-trochanteric section. To do this safely, no matter how pronounced the flexion and adduction, it is advisable to make the section through the bone parallel to Poupart's ligament, and the operation should be completed by subcutaneous division of the adductors.

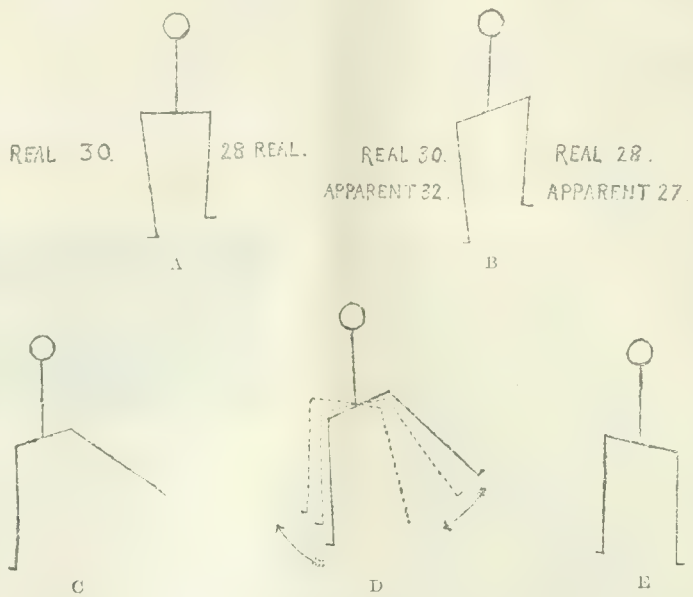


Fig. 2.—A, Showing 2 in. real shortening. B, Tilting of pelvis; showing real and practical shortening from pelvic obliquity. C, Position of leg after trans-trochanteric osteotomy. D, Showing elevation of pelvis on sound side by bringing abducted leg into position. E, Showing final result with adduction of leg and elevation of pelvis of sound side.

If the neck and head of the femur be absorbed and the trochanter raised, it will be necessary to remove a wedge from the base of the trochanter, as a simple osteotomy will not secure sufficient abduction. A subtrochanteric division should never be done if the flexion is acute, otherwise when the limb is straightened the upper end of the femur will project in Scarpa's triangle.

The subtrochanteric division should be reserved for cases of unsound fibrous ankylosis where flexion is not so marked a feature as adduction and rotation. In the adult this section is sometimes made by open incision, as the bone is very apt to splinter, and, if a wedge be removed with its base to the outside, the severed ends will remain in excellent apposition. Although the Gant operation done subcutaneously can scarcely be defended upon artistic or mechanical grounds, I have never yet met with a failure of union. The trans-trochanteric route should be that selected where the essential condition renders it possible. After the osteotomy the limb should be kept for six weeks well abducted, and at the end of that period the leg is brought to the middle line, the pelvis follows it, and in this way the practical length of the short limb is increased, the amount of lengthening being proportionate to the abduction at which it was placed.

In bony ankylosis of the knee a wedge is removed anteriorly, the shape of the wedge depending upon the degree of flexion and the presence or absence of lateral deviation. The fit should be very accurate to ensure a firm ankylosis.

In performing this operation it is better not to allow the apex of the wedge to reach the popliteal space; it should end half an inch anteriorly. The wedge of bone is then removed and the remaining bone is cautiously divided by means of the saw. The knee is then completely flexed, the posterior sharp ends trimmed, and the limb extended. In this way the vein and artery are secure from danger.

In cases where moderate flexion persists with otherwise free movement, an oblique osteotomy should be performed, and the limb straightened. In this way the joint mobility is transferred to a more useful sphere of activity.

In bony ankylosis of the shoulder, more particularly in young children, an osteotomy of the neck of the humerus may be advantageously employed in the young. The arm is rotated inwards and abducted forwards, and when union has taken place the arm can be lifted high.

Within comparatively recent years there has been a growing dissatisfaction felt towards the ankylosed joint, and in fields wide apart experiments and operations have been performed with a view of mobilizing ankylosed joints. Most of us who have dealt largely with colonies of tuberculous children have preferred a firm ankylosis as an end-result to the restricted movement which sometimes occurs. There is apt to be recurrence where movement remains, and through the years, if a true recurrence does not take place, there are frequent alarms, the consequence of strain. These recurrences are more likely to take place in tuberculous joints than in those of septic origin.

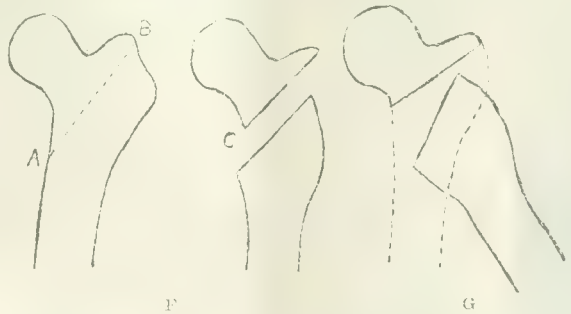


Fig. 3.—F: A, B, Line of section through trochanter; C, lengthening after traction. G, Position of fragments when limb is abducted.

But to obtain movement in joints without adding to the risks of recurrence of disease has been a very fascinating study and achievement during the last few years. We are in danger, perhaps, of underestimating the work done by older surgeons if we do not hold our enthusiasm a little in check. Very excellent results were obtained by our ancestors by the ordinary excision of the hip and elbow, and, though we hear very little of these successes now, there are vast numbers of men doing hard manual labour whose excisions have been performed without the intervention of muscle or fascial flap. There were, of course, the failures—the elbows, which did not confine their movements in normal directions, and the hips, which often ankylosed at divers angles.

The modern operation of arthroplasty requires the exposure of an ankylosed joint and the separation of the bones by manipulation and chisel at the site of the old articulation. The bones are then modelled or resected and covered with a flap of tissue either pedunculated or free, or by the interposition of some foreign body. These modern methods aim at greater precision of result and at

greater stability. In my early days most of the pseudo-arthroses I performed were in cases of ankylosis of both hips, and for some years following 1895 after excising the head and neck, sometimes neck and trochanter, I covered the stump with gold-foil, and, failing that, with any material in the vicinity of the bone that came to hand. The results on the whole were good, and when I

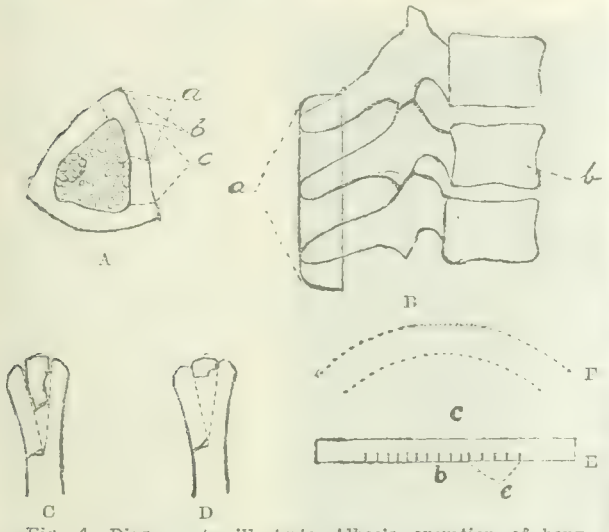


Fig. 4.—Diagram to illustrate Albee's operation of bony transplant: A, Showing methods of securing grafts from tibia. B, Showing splint-like action of transplant: *a*, Splint of bone; *b*, Diseased vertebra. C, D, Showing transplant in split spinal process. E, Showing cross incisions in graft to allow it to bend. F, Graft curved.

learnt the secret of the free removal of bone, the results were consistently better.

When a difficulty arose in securing a flap, one easily got over it by thinning and gouging the compact tissue at the reversed end of the femur and hammering the sides over the medullary cavity. In this way callus exudation was prevented. Until recent years I never performed a flap operation on the elbow, but for very long I have used masses of free fat in trying to obtain mobile ankles. All over Europe and America various procedures have been advocated, but I think the honour of priority of using tissue flaps should be given to Verneuil, who as early as 1865 recommended that after removing bone for temporo-maxillary ankylosis the capsular soft parts should be inserted between the bones.

Among the most ingenious and active workers of the present day we would place J. B. Murphy. He is the great apostle, and to him undoubtedly belongs the credit of systematically attempting to restore a joint to its normal shape and function, and of drawing our attention to the value of fat and fascia as a lining to a joint because of its hygromatous transformation. As I have on other occasions pointed out, it is rare in old tuberculous conditions where bony ankylosis has resulted, to find hips which can with any success be modelled into shape. The head is usually absorbed and the neck has travelled a varying distance above the acetabulum. It is quite impossible to bring such femora, often ankylosed to the ilium, into an approximately normal position. The application of pulleys after division of the bone I know from experience to be futile.

Such cases demand the free removal of bone, as in the case of a lady of 36 upon whom I operated in 1903. Her hip was flexed and adducted, and she presented 6 in. of practical shortening. As a first stage, in order to add to the length of the limb, I performed an osteotomy and placed the limb for six weeks in abduction. Four inches of practical lengthening were gained in this way. Some months later I removed the greater part of the trochanter and neck and interposed a muscular flap. The patient now has free movement, is on her feet most of the day, and can walk many miles.

I really do not think that it makes much difference what material is used for a flap. Most tissues, whether fat or muscular, seem to turn into connective tissue, and that is exactly what is required, if we are to place reliance upon the experiments made regarding the embryology of joints and the theory of bursa formation. For this reason I use entirely free fascial flaps derived from the fascia lata—operation is thus much simplified. Some of the most successful results are those reported by Baer of Baltimore, who uses sterilized pig's bladder. From a study of the records I should lay more stress upon the cleanliness and competence of the surgeon than upon the character of the interposing flap.

The elbow-joint offers a very favourable field for arthroplasty, whether we utilize a flap from the triceps, brachialis anticus, or any of the accommodating muscles in the neighbourhood of the joint, or in the transplantation of free or pedunculated fascial flaps. I have only performed one pseudo-arthrosis of the wrist, and I then filled the space with free fat. The operation was a success, and secured permanently about 40 degrees of movement. In bony ankylosis, where the wrist is flexed and the grip consequently poor, I have often removed a wedge from the carpus in order to obtain dorsiflexion.

Undoubtedly the knee-joint is the most difficult problem in connexion with arthroplasty. In complete bony ankylosis involving patella, femur, and tibia, it is difficult to conceive a mobile joint with stability. The stability of the knee-joint is not altogether maintained by bone, but chiefly by intra-articular ligaments and capsule. If these be destroyed, as is usually the case in complete bony ankylosis, the result cannot be as satisfactory as a good firm ankylosis. Baer, who gives a very judicial presentment of his results—and he has had a large experience—tells us that of eleven cases where the ankylosis was between the three bones, five cases gave no motion, four cases gave 20 per cent., and they were of gonorrhoeal origin. Two gave useful motion, but nothing is said as to the stability of the joint. The results are very promising in cases of fibrous ankylosis where ligaments can be saved, and in those cases where the only bony fixation is between the patella and the femur. The collected results of arthroplasty of the ankylosed tuberculous knee are by no means encouraging. There is no doubt that arthroplasty has come to stay, but we should proceed warily, learning all we can from our failures and recognizing the obvious fact that so far we are only on the threshold of the subject.

May I venture to suggest that the operation is contra-indicated in the presence of disease, in the young because of the growth centres—in cases where from prolonged ankylosis and infiltration the muscles are partially destroyed, or where scar tissue surrounds the joint in such a way as to threaten the vitality of the flaps?

It is not so easy to correct the deformities of spinal caries as to avoid them, but the work of Lange, Hibbs, and Albee have added interest to this type of case. Lange of Munich introduced metal rods along the spine and stitched them in position in order to secure fixation.

A distinct advance was made by Hibbs, who utilized the spinous processes in order to bring about a bony fixation. He split each spinous process longitudinally over the area of disease, turning one half upwards and the other downwards, so that the spinous processes became

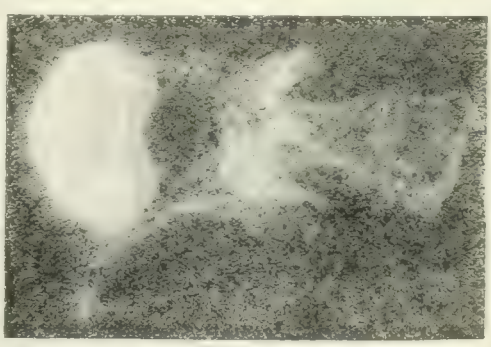


Fig. 5.—Section to show union of transplant to spinous process.

ankylosed, and supplied a firm support to the column. Albee brought about the same result by transplanting a portion of tibia into the cleft of the split spinous processes (Figs. 4 and 5). Bony spinal fixation is an ideal operation in the adult, especially in the lower lumbar region, where ambulatory fixation by apparatus is impossible. We have yet to solve the problem of growth of the transplant in the case of children. Will the transplanted

bone grow as the child grows, and at the same rate? If not, what then? So far the reports are favourable. After a conversation I held with Sir William Macewen I performed several operations affixing my graft against the bared laminae, and not disturbing the integrity of the spinous processes (Fig. 6).

The muscles are separated from the laminae and the base of the spinous processes, and then layers of bone are chiselled off and preserved. The transplant is laid upon the bed thus formed, and snugly covered by muscle and the preserved layers of bone.

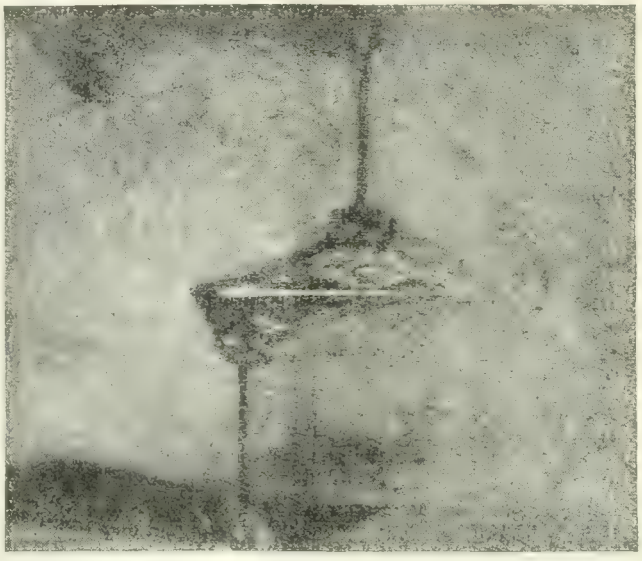


Fig. 6.—Photograph to show transplant lying on laminae.

The deformities of the rheumatoid or septic group are amenable to radical measures once the disease has ceased. The relation of such a case may be an encouragement to some.

A young woman of 30 presented two acutely flexed hips and knees and an ankle fixed by bony ankylosis. The joints stiffened five years before with very acute symptoms following typhoid fever. The left hip lay upon the abdomen bound down by firm fibrous ankylosis. The right knee was ankylosed at an angle of 90 degrees, both knees were badly flexed and fixed, while the ankle looked glazed and remained synostosed in extreme equino-varus. No attempt at walking had been made. In four months I operated upon her five times. The deformity at the ankle was rectified by the removal of a large wedge. Then a wedge was removed from the left knee. Later a pseudo-arthrosis of the left hip was performed, the head and neck of the femur being removed and a muscular flap interposed. The right knee was next straightened by a similar operation as the other knee, and finally a trans-trochanteric osteotomy of the right femur. In six months the patient was walking short distances painlessly, aided only by two sticks.

Surgeons rarely enthuse at the visit of a case of so-called monarticular rheumatoid arthritis of the hip in an elderly person. I shall not deal with its early treatment. What are we to do when a patient with this affection comes hobbling on two sticks or crutches, with a flexion deformity of 50 degrees and unendurable gnawing pain? We know that in such a case friction is the cause both of the pain and of the increase in bony excrescence. Relief from friction may be brought about in early cases by operations for the removal of bony outgrowths, such as those devised by Wheeler and Sampson Handley, or in more severe cases by bony fixation of the head of the femur to the acetabulum, as suggested by Albee, or in the still more advanced cases by the operation of pseudo-arthrosis without disarticulation, which I suggested and have practised for many years. The shock which disarticulation of the femur produces in the old is very great. I feel, therefore, that a relief from friction and a restoration of movement without the shock of disarticulation is a judicious proceeding. I devised, therefore, an operation which consisted of chiselling the trochanter from the femur and preserving it with its muscular attachments; and removing the neck of the femur and nailing the trochanter over the acetabulum, which contains the severed femoral head (Fig. 7). In this way callus exudation is avoided and movement practised without friction. This operation is rapidly done and involves but little shock.



Fig. 7.—Diagram to illustrate operation of pseudarthrosis of hip.

Transplantation of joints from the cadaver has been performed on several occasions, and was first practised by Lexer. I have never had an opportunity of examining such cases after operation, and cannot give an opinion as to the results. Auto-transplantations of portions of living joints have frequently resulted in success. If time permitted one would like to dwell on some of the difficulties and dangers of operative procedures, upon the grave collapse and abdominal distension which not uncommonly follows an attempt at extending the flexed thigh of elderly folk.

I would urge, however, the importance of anticipating deformity, and of carefully choosing safe and effective methods to restore the stability and functions of the joints.

We should give careful thought to the relative functional values and disadvantages of the stiff and mobile joints. We should not allow ourselves to be mesmerized by the mere glamour of mobility, unless movement is associated with stability. It is obvious that, however skilfully performed, no arthroplasty can produce a normal joint, and it depends largely upon the surgeon's temperament as to how he estimates his canons of perfection. I have seen a knee-joint so efficiently mobilized that the patient could perform an extensive circumduction, and yet the surgeon thought the result a promising one.

To briefly sum up, I would affirm—

That deformities are preventable if a surgeon be acquainted with the natural course of disease.

That in view of ankylosis the joint should be allowed to become fixed in the position of greatest usefulness as regards function.

That in children most deformities can be corrected by manipulation, and that osteotomies and exsection of bone are very rarely required.

That the reduction of deformity in a septic or tuber-

culous joint during the existence of disease can be safely undertaken if it be immediately followed by fixation.

That in sound fibrous ankylosis of the hip an osteotomy should be preferred for the correction of adduction, as some recurrence of deformity would follow reduction by manipulation.

That the site of osteotomy will depend upon the nature of the ankylosis and upon the extent of the deformity. Trans-trochanteric osteotomy gives the most accurate mechanical result. It should be practised in all cases of bony fixation where the femoral neck is not absorbed and where there is no marked pathological dislocation. Where destruction of the head and neck have occurred and the femur lies close upon the pelvis, a wedge should be removed from the neighbourhood of the trochanter. In cases of fibrous ankylosis in the process of becoming sound a sub-trochanteric osteotomy is indicated to prevent strain upon fibrous bands. All osteotomies require subcutaneous division of the adductors. Subtrochanteric osteotomy is contraindicated where flexion is extreme.

Arthroplasty of the hip-joint in any of its many forms may be looked upon as a valuable and successful procedure. The character of the intervening substance—whether bone, free or pedunculated fascial flap, fat, or muscle—is not so important as a good technique and a sound judgement.

It should not be performed upon children nor in the presence of active disease. It should be reserved for adult life, and has proved more successful after recovered septic than after tuberculous disease, and in the case of septic disease it should be postponed for one or more years until the periarticular structures have become more normal.

The results of arthroplasty of the knee are not too encouraging. In bony ankylosis of the femur and tibia the results are distinctly discouraging. In those instances where the ankylosis is fibrous, with perhaps bony fixation of patella, results are often good. We must recollect, however, that in such conditions mobility may often be secured without operation.

Finally, we have in painful and progressive deformities, such as in osteo-arthritis of the hip, many procedures destined to give relief by preventing the friction of tender joint surfaces.

DISCUSSION.

Mr. H. M. W. Gray (Aberdeen) said he wished to speak only about Albee's operation for spinal caries. The speaker's practice was to place the long grafts from the tibia on each side, resting on the spinous processes and on the laminae, from the surfaces of which the periosteum had been loosened in flaps, so that it would come into contact by its raw surface with the grafts. When the aponeurosis of each side was united across the apices of spinous processes—which was very easy—the pressure thereby produced kept the grafts closely applied to the denuded laminae and spines, and thus ensured solid fusion and fixation. In removing the grafts he drilled holes, ½ in. apart, along the lines where the tibia was to be incised. The drill holes caused the bone to split in the desired direction when the chisel was used. He preferred this method to using a circular saw. In drilling a considerable amount of bone "dust" was obtained, and was carefully collected and spread in the interstices in the depth of the bed where the grafts were to lie, so that new bone might be formed from this source also. After observation in many cases of bone grafting, he regarded it as essential to remove its periosteum with the graft, and to approximate the periosteum of the graft to that of the laminae, etc. With regard to the growth of the graft subsequently and the possibility of deformity occurring if it did not do so, he had operated on several cases so long ago that enough time had elapsed to allow sufficient growth of the child to enable it to be said that the graft developed *pari passu* with the growth of the child. Local anaesthetic, with plenty of adrenalin, prevented shock and gave a bloodless field.

Mr. Max Page (London) directed attention chiefly to tuberculosis of the shoulder in children; he urged that the arm should be placed in position of abduction. He thought that manipulative reduction of deformity of hip was feasible in those cases in which destruction of the neck and head of the bone had not proceeded very far. He had used spinal anaesthesia as a preventive of shock.

Professor Marnoch (Aberdeen) said that in performing arthroplasty of the elbow he had experienced difficulty in obtaining flaps of fascia in the neighbourhood, and his practice was to take a flap of fascia lata to cover the end of the humerus.

Mr. Hey Groves (Bristol) asked if it were justifiable to leave the limb in position of rest till the tuberculous process had come to an end, and then to proceed to restore the position of the joint. He referred to the difficulty of operating in ankle-joint cases, and recommended astragalectomy. He described a method of strengthening the excised knee by using a bone graft cut from the upper end of the tibia as an intramedullary peg in the lower end of the femur. He desired information as to the fate of bone grafts of small size, and expressed the opinion that many of these, if thrown more or less loosely into the hip, were more or less indolent.

Mr. McAdam Eccles (London) said that after wrist operations dorsiflexion was the position to be maintained. He recommended membrane from a prepatellar bursa as a suitable interposing membrane. The direction of section of the femur in cases of unsound ankylosis should be parallel to Poupart's ligament.

Professor J. T. J. Morrison (Birmingham) thought that the shock of these operations was minimized by the employment of spinal anaesthesia with tropacocaine.

Mr. de C. Wheeler (Dublin) said that he had operated upon a girl about two years ago who had consulted him for crippling rheumatic arthritis of the right hip and left knee joint. She had been on crutches for seven years and could bear no weight without pain on the side of the affected hip. The operation of "cheilotomy" (the first recorded) was performed with a perfect result. The knee was strengthened and some bony outgrowth chiselled off the upper end of the tibia. In a fortnight's time the patient was allowed up, and as soon as she was "taught" to walk was able to discard her crutches, and now, two years after operation, walked without limp and was free of pain.

Mr. Robert Jones, in reply, said he agreed with Professor Marnoch that local flaps in the neighbourhood of the elbow were difficult to secure, and he used free fascial flaps instead. In the case of pseudo-arthrosis of the ankle where possible removal of astragalus was practised; frequently, however, this was not possible. In attacking ankylosis of the knee where union was questionable, he performed an operation similar to Mr. Hey Groves, transplanting a slice of the upper end of the tibia into the femur.

The medical school of the University of Pennsylvania has admitted women to the regular course this year for the first time.

The Chadwick Trust (3, Dartmouth Street, Westminster) has arranged courses of public lectures on military hygiene, to be given in various places during the next three months. Dr. Nankivell, M.O.H. Poole, Dorset, will give three lectures at Bedford College, Regent's Park, on "Camp, Ship, and Hospital Hygiene," on Saturdays, November 14th, 21st, and 28th, at 3 p.m. on each day. Sir Ronald Ross, K.C.B., F.R.S., will give two lectures on "Government and Military Sanitation in the Tropics," at the London School of Economics, Clare Market, Kingsway, W.C., on Fridays, December 4th and December 11th, at 8.15 p.m. Dr. F. M. Sandwith, Gresham Professor of Physic, and formerly Physician to the Imperial Yeomanry Hospital, South Africa, will give three lectures at the Royal Society of Arts, Adelphi, W.C., on "War and Disease," on Fridays, January 15th, 22nd, and 29th, 1915, at 5.15 p.m. Professor W. J. Simpson, C.M.G., will give three lectures on "Naval Hygiene" at the Town Hall, Portsmouth, on Fridays, November 27th, December 4th and December 11th, at 9 p.m., and at the Royal Naval Hospital, Plymouth, on Saturdays, November 28th, December 5th and December 12th.

MECHANICAL CONSIDERATIONS OF THE HUMAN FOOT,

*WITH SPECIAL REFERENCE TO FLAT-FOOT.**

BY

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Some time ago a man came to me with what he called a problem in mechanics. He was troubled, he said, with flat-foot, and had found great relief on making the heels of his boots higher by means of ordinary rubber heel pads. I asked him if the value of the rubber heels might not be due to the shock-absorbing qualities of rubber, and suggested experiments with leather heels of equal height. But he declined the experiments, and said he was quite certain that the elevation of the heel was the important factor, because one or two hours on his feet in low-heeled slippers brought back to him the pains of flat-foot. He asked me to investigate the mechanical conditions of the foot in order to see if raising the heel might give some mechanical advantage to those parts which maintain the arch of the foot. What I have been able to do will be seen below.

From the mechanical point of view the human foot is a structure of great complexity, so complex, in fact, as to be, in its complete form at any rate, quite beyond the power of exact mathematical treatment; mathematicians would call it a statically indeterminate structure.

By making one or two legitimate assumptions, results at least qualitative may be simply deduced. The foot may be considered replaced by a simple structure like an unsymmetrical roof truss (see Fig. 1): A B and A C represent the anterior and posterior limbs of the pedal arch, and B C is the tie of the truss which may be regarded as the resultant of the various ligaments and muscles which have a similar function in the foot. The points B and C represent, of course, the centres of pressure under the toes and heel respectively. Thus we replace the foot, with its numerous bones, muscles, and ligaments, by a virtual arch or truss supported against collapse by a virtual tie. It is now a matter of simple statics to calculate the variation of tension in B C as the heel of the truss is raised or lowered. The downward force at A is, of course, regarded as a constant and proportional to the weight of the man.

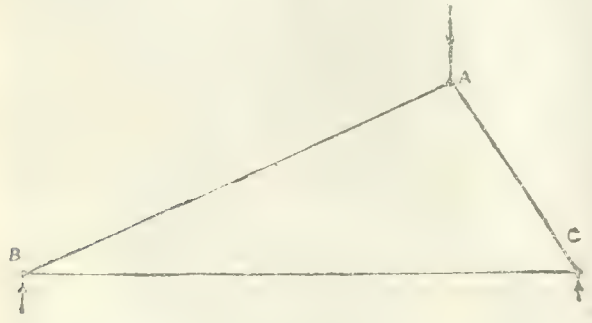


Fig. 1.

In the first place there are two limiting positions of the foot to be considered—the one, entirely supposititious, when the toes are raised until the posterior limb A C of the arch becomes vertical, the other, a case exemplified by many professional dancers, when the heel is raised so that the anterior limb A B becomes vertical. In both of these extreme positions there is no tension in the virtual tie of the arch. For any intermediate position there is a tension in B C, and the variation of this is shown graphically in Fig. 2. The abscissae of points on the curve in Fig. 2 represent in degrees the inclination of the sole of the foot to the horizontal; the angle of inclination being positive when the heel is higher than the toe and negative when lower. The ordinates of the curve represent the tensions in the virtual tie at the various angles of inclination. The scale of the ordinates is clearly quite immaterial, since the absolute tension is proportional to the weight of the man.

* Read in the Section of Surgery at the Annual Meetin of the British Medical Association, 1914.

The important point to be observed from Fig. 2 is that the tension (what would be popularly and erroneously termed the strain) is greatest when the sole of the foot is inclined

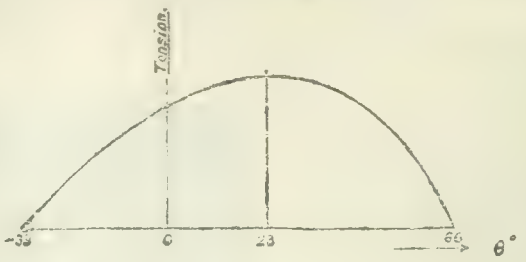


Fig. 2.

at 23 degrees to the horizontal. (In this position the tension is about 58 per cent. of the vertical load on the foot.) When the heel is raised or lowered from this position the tension is decreased. Thus, if the normal inclination of the foot were 23 degrees, then raising the heel would lessen the tension; but so also would lowering the heel, and this is distinctly inconsistent with the opening sentences of this paper.

It is to be remembered that the curve of Fig. 2 is deduced from a simple structure very different in detail from the foot which it is assumed to represent, and it might be supposed that the inclination of 23 degrees is not the exact angle of maximum tension in the actual foot. I have considered the chief elements which render the foot mechanically different from our simple roof truss model, such as a slight shifting of the astragalus and the finite curvature of the ends of the metatarsals and of the inferior surface of the os calcis. But these factors do not produce any material alteration in the results shown by Fig. 2. Thus the angle at which maximum tension occurs in the foot must be about 23 degrees. In Fig. 3 a boot is drawn in which the foot sole is at 23 degrees to the ground, and it will be seen to have a much higher heel than any ordinary man's boot. Thus raising the heel of the ordinary man's boot would have the effect of increasing instead of decreasing the tension in the supporting tissues. It is fitting to remark here that the boot shown in Fig. 3 is quite an average woman's boot, and we are led to wonder if women ordinarily wear boots which impose the maximum tension in the supporting tissues.



Fig. 3.

From the two preceding paragraphs it would appear that raising the boot heel could not in general have a beneficial influence in cases of incipient flat-foot. This conclusion is, however, only partly justifiable because our investigation has been purely statical and cannot take account of the foot in motion. On the other hand, flat-foot mostly occurs in people who do a great deal of standing, so that it might seem rational to suppose that the causes producing the trouble are statical. These results are in nowise affected by considerations of muscular tone except in the sense of corroboration. For if the muscles become flaccid the effect would be to increase the stress in the large ligamentous fascia at the sole of the foot and in fact to approach more nearly the statical conditions of the roof truss model.

So much, then, for statics. When we consider the foot in motion there are reasons why raising the heel might be advantageous. In the first place raising the heel must bring a greater proportion of the load on the anterior limb of the arch (see Fig. 4, where the maximum force in the anterior limb occurs when the inclination is 66° and is then equal to the vertical load—the ballet dancer condition). Now since the anterior portion of the foot is much more resilient than the other, there is every reason to believe that the dynamical stresses in the other parts of the foot would be reduced; speaking generally the momentum of the descending masses is destroyed in a longer time and thus the impulsive force is less. There

is also another consideration: anyone who observes pedestrians in a city thoroughfare will see at once a difference in the gait of those wearing high heels and

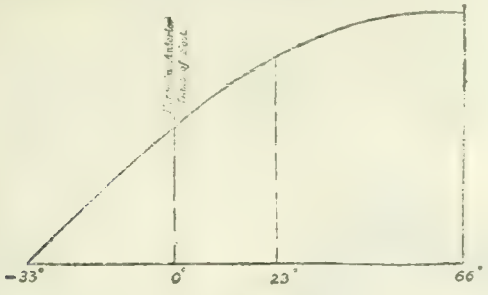


Fig. 4.

those wearing low; the high-heeled person seems to the eye to step more lightly, and this is confirmed by the ear of one who sits at a window in a quiet street and listens to the steps of the passers-by. This lightness of step artificially induced by the high heel involves a greater proportional stress on the anterior parts of the foot, which are, of course, supported by some of the calf muscles (tibialis posticus, etc.), and this would probably tend to maintain a degree of tone in these muscles, and almost certainly lessen the stress in the ligamentous fascia. Yet further, in the action of walking, the heel is raised largely by the action of the gastrocnemius. This muscle pulls on the os calcis, which in turn pulls on the ligamentous fascia. If the lifting action begins from a high heel, it is obvious that the stress in the ligamentous fascia due to this part of the motion must be less, for the weight of the body has then less moment about the toes, or, in less technical language, a smaller leverage.

Why the modern boot has been evolved with a heel thicker than the sole is a matter for speculation. The vanity of increased stature cannot be alone responsible, nor the advantages in raising the wearer out of the wet. The obvious advantage of a high heel in ascending a hill is more than neutralized in descending. Probably the reduction of jar on the heel and spine is an important factor; a high heel is capable of storing more strain energy than a low one. Thus it should not only lessen the shocks on the human frame, but, other things being the same, it will not be so highly stressed, and should thus last longer. This will be clearly grasped by those who understand why a wax candle may be projected through the panel of a door. The jarring action on the heel is easily perceived by walking on hard pavement in thinly-soled gymnasium shoes, taking long strides, so as to bring the heel down first.

An interesting paper by Mr. Dennis Cotterill on the treatment of flat-foot appeared in the *Edinburgh Medical Journal* of 1912.* In this paper the method described and recommended is that due to Mr. Robert Jones, of Liverpool, who, following Mr. Thomas, modifies the boots of the patient, making the soles and heels inclined transversely and in opposite directions. By this means and general exhortation the patient is induced to walk with his feet parallel, or nearly so. The argument for this method is practically entirely statical—namely, that by wedging over the boot a greater proportion of the load is thrown on to the shorter and stronger arches at the outside of the foot, and by inclining the toes inwards the resultant or virtual anterior limb of the pedal arch is shorter. These notions are, as far as they go, quite correct, but it would be irrational to suppose that the great majority of civilized people walk with out-turned feet for no good reason. By splaying the feet to a reasonable extent the base of support is widened, lateral stability is increased, and the control is much better; that is why a Swedish gymnastics instructor always recommends his pupils to land from a high jump with the feet inclined at 90 degrees so as to lessen the liability to spraining the ankle.

It is extremely difficult to see how purely statical effects could produce any appreciable benefit with the system recommended by Mr. Cotterill. The changes of stress consequent on such small changes of form would be very small indeed. Thus, as in the method of raising the heel, one is compelled to reject a statical explanation as insufficient. In the method of the high heel there are plausible dynamical considerations which might account for appreciable benefit to the patient, but the method of wedging the foot over is hard to justify dynamically. The only factor to account for the admitted efficacy of the method seems to be that of induced muscular tension, and this, if tenable, supports the employment of high heels too. Wedging the foot over and turning the toes in would induce a contraction of the tibialis posticus, and this would support the astragalus and the arch of the foot. Similarly, since by raising the heel the angles between the foot sole and the toes and between the foot sole and the tibia are both increased, the flexors of the foot would be brought into more active employment, and liability to flat-foot lessened.

It must not be thought that this article recommends the use of high heels universally. For long distance walking or rough country walking high heels would be absurd, because of the short strides which must be taken if the balance is to be convenient and sure. There is also the undoubted difficulty of avoiding undue pressure and constraint on the anterior part of the foot, but that is the bootmaker's problem. Our main conclusion is this, that for the ordinary inactive life of the drawing-room, office, and shop, high-heeled boots and shoes may be advantageous in giving to the feet a pleasant, braced-up feeling, quite different from that enjoyed or suffered by those who slither about in heel-less slippers.

Migrations from one to another branch of science are usually very difficult unless one has the advantage of expert help in those departments not one's own. In connexion with this inquiry I have been especially fortunate. To Mr. A. H. Miller, M.A., M.D., I am indebted for the suggestion of the problem, and to Mr. R. Cattley, M.B., B.Sc., for many instructive and interesting conversations. Mr. J. Kay Jamieson, M.B., C.M., Professor of Anatomy in the University of Leeds, took great trouble in making clear to me the essential structure of the foot, and Mr. J. C. Brash, M.A., M.B., B.Sc., Demonstrator of Anatomy in the University of Leeds, not only discussed the matter on every occasion most willingly, but dissected a foot for my especial benefit and instruction. These gentlemen I heartily thank.

DISCUSSION.

Mr. ROBERT JONES stated that the problem of flat-foot could not be solved merely by attention to the height of the heels. Undoubtedly certain cases of painful feet were alleviated by wearing high-heeled boots, and, furthermore, the use of sandals had been a factor in the production of flat-feet in children. High heels, however, tended to flatten the transverse arch, and to produce metatarsalgia, and failed in supplying the development of the muscles of the sole. The pain complained of by people changing suddenly from wearing high heels to wearing low ones was real, but it was equally true that pain was as marked when the low heels were suddenly substituted by high ones. Mr. Jones doubted the improvement in walk spoken of by Mr. Rowell as brought about by high heels. Nor did he agree that the abducted foot gait should be encouraged. Valgus could be artificially produced by training children to walk with their toes out-turned, and for this error the dancing mistress was largely responsible. The eversion of the foot was a complication which could only be met by so altering the footgear that body weight became transferred from the inner to the outer side of the tarsus. This relieved the ligaments and muscles of the sole from strain, and relaxed the internal lateral ligament of the ankle. In a condition such as flat foot it was impossible to work out a code of treatment by dynamics without studying the variants that played a part in the problem. For the cure of the condition it was fundamental that the feet should be parallel when walking, that the walk should be heel and toe; that body weight should be deflected from the inner side, and that exercises should be practised, designed to strengthen the invertors of the foot.

* Tilting the Soles of the Boots and its Use as a Means of Treatment in various Common Conditions. *Edinburgh Medical Journal*, N.S., viii. 1912, p. 111, et seq. My best thanks are due to Mr. J. C. Brash for having brought this paper to my notice.

THE SOLDIERS' FEET AND FOOTGEAR.

BY

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THE SOLDIERS' FEET.

THE soldier's foot has not only to support the whole weight of the body, but also to act as a buffer, and prevent shocks being transmitted to the knee and hip joints when jumping or doubling over rough ground. The Germans found that lifting the foot high when marching made the troops more surefooted, and that while before its adoption, 25 per cent. of the men stumbled, and 10 per cent. fell in a charge over rough ground, the new method practically eliminated such misfortunes. Any horseman will recognize this, for not only is it safer to canter than to trot on rough ground, but a horse that does not lift its feet is a danger anywhere, not only to himself, but to the rider.

The soldier's foot must be capable of standing the strain of long marches without becoming incapacitated by pain and loss of power. The medical officer should reject as unfit any recruit who suffers from the following conditions in a bad form:

1. Flat-foot.
2. Hallux valgus.
3. Hammer toe.
4. Ingrowing toenail.
5. Corns.
6. Bunions.

Some of these conditions can be cured so as to give a man a serviceable foot, but with others it is quite impossible. In the former case a recruit should not be accepted *until* he has undergone treatment, and been cured, while, in the latter, he should be unconditionally rejected.

1. *Flat-foot*, if of a slight degree, may be disregarded, as in many cases it does not get worse with long marching. Some medical officers refuse all cases of flat-foot, but in my opinion this is too drastic. I know a well-known quartermaster, rejected twenty-nine years ago by the 17th Lancers on account of a slight degree of flat-foot, who was accepted next day by the Grenadier Guards, and who assures me that he has never had any trouble with his feet from that day to this. In a great number of cases the healthy outdoor life of a soldier, coupled with the physical exercises and marches, tones up the muscles which support the arch. The formation and maintenance of the arches was fully discussed earlier in this paper; when the muscles and ligaments have yielded, the head of the astragalus and scaphoid may even rest upon the ground, on standing. The flat-footed person walks with the toes turned out, and the heels do not leave the ground, so that all elasticity in walking disappears. In a bad case a man complains of pain along the inner side of the foot, and in the calf on marching, and gets tired very quickly. I make it a rule to reject a man with flat-foot if he is quite unable to raise himself on his toes and restore the arch by the action of the muscles of the calf. If the flat-foot is only slight, tip-toe exercises, combined with massage of the deep muscles of the calf and sole of the foot, improve the condition. Mechanical supports are not to be encouraged in the soldier, though they may be of use in civil life. I am of opinion that careful lacing of the boots, so as not to retard too much the increasing convexity of the tarsus in the act of rising when walking, considerably helps matters, and a good plan is to tell the men to knot their laces low down (as for a shoe) and then to continue to lace less tightly in the upper holes. The heel and sole of the boot may be made continuous on the inner side, or the inner border may be raised so as to throw the foot on to its outer border.



Fig. 5.—Hallux valgus, showing bunion and deformity; A, bunion.

2. *Hallux valgus*, if in an advanced state, incapacitates a man for marching, for the great toe, being abducted at the metatarso-phalangeal joint, is compelled to pass either above or below the second toe, thus crowding the other toes together and making them liable to cross. The head of the first metatarsal bone is pressed upon by the boot and gives rise to a bunion.

It is not within the province of this paper to discuss the operative treatment of this deformity, but one may unhesitatingly say that a man with such a foot should be rejected. Slight cases may be treated by giving a boot with wide toes and a straight inner border, and by keeping the great toe in a straight line by mechanical means.

3. *Hammer Toe.*—In this condition the toe is flexed at the proximal phalangeal joint, on the top of which there is generally a corn. At the end of the toe, where it presses on the boot, another corn is often found, and these corns become exquisitely painful and prevent a man from marching.

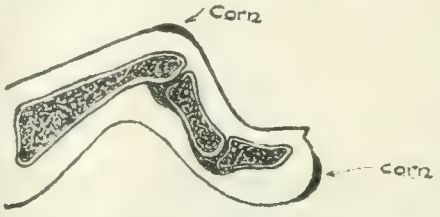


Fig. 6.—Hammer toe, showing deformity and favourite situation of corns.

Formerly the toe was amputated, but to-day the proximal phalangeal joint is excised or the toe straightened by section of the flexed tendon and the lateral ligaments at the first interphalangeal joint. If either of these treatments be adopted successfully there is no need to reject a man, but if operative treatment be refused he should be found unfit for service.

4. *Ingrowing Toenail.*—This is an extremely painful condition, caused by wearing boots with narrow toes. In a slight case the boots having been corrected, the nail should be cut square and a wedge-shaped piece taken from the centre, or the centre of the nail should be scraped and filed down and the pressure relieved by packing plugs of cotton-wool under the free ends and sides of the nail. If this does not relieve the symptoms, the nail should be removed by one of the recognized methods.

5. *Corns.*—Hard corns, caused by the pressure of tight boots, are most commonly found on the sides of the toes, under the tread, and on the heel. Soft corns, caused by dirt and sweat, are usually found between the toes. Corns are more painful in wet than in dry weather, and are said to "shoot," a condition due to a sudden increase of activity in the vascular and sensitive papillae, on the approach of damp weather. The treatment of corns may be divided into palliative and radical, but it should be remembered that if the boots fit properly without undue pressure the soldier should be free from them. If no chiropodist is at hand the corns may be rubbed down daily with pumice stone, and if tender, protected with a piece of stockingette plaster, stretched over the corn with a good margin. For the radical cure the area of corn is painted with tincture of iodine, and all the thickened epidermis is cleared away with a scapel, this being facilitated by making the skin tense with the left fingers. Then the concentrated apex or ridges, which are the actual cause of the pain, are lifted out with a sharp-pointed straight scalpel. Often there is a small adventitious bursa, which should also be removed, and an antiseptic dressing placed in the cavity. Circular plasters are seldom effective, as the portion on the distal side of the corn may press back in walking, and irritate, but it is advisable to pad with a crescent-shaped piece on the posterior aspect of the wound, and cover with a stockingette plaster.

6. *Bunions* are generally associated with hallux valgus, and, if accompanied by synovitis, prevent marching. To alleviate the pain a wedge-shaped felt pad should be worn between the great and second toes at the base, and, in addition, a crescent-shaped adhesive felt pad on the metatarsal aspect, posterior to the joint. This condition is greatly helped by a 1-in. zinc oxide strapping round the shafts of the metatarsal bones, sufficiently tight to hold them a little closer together, as with a bunion there is



Fig. 7.—B, Wedge-shaped piece of felt; C, bunion.

always a lateral expansion of these bones. This strapping should be put round slightly diagonally, encircling the foot twice and overlapping, so that the total width is 1½ in. Leslie's zincoplast is the best for this purpose, as it causes no irritation and can be worn for a fortnight without discomfort. Incipient bunions may be painted with iodine or rubbed with iodex; if there is much inflammation the joint can be quickly reduced by an application of antiphlogistine.

Sore Feet.

The disabilities of the foot already mentioned, although coming under the general heading of sore feet, as used in military parlance, do not constitute the ordinary variety met with after a march. Sore feet are of several varieties and degrees of severity, and, if promptly and properly treated, may be quickly cured. When the skin of the foot is irritated by the boot or sock either pressing or rubbing on it, or when, through lack of cleanliness, sweat and various germs collect on it, the foot becomes hot, swollen, and tender. If the condition is not suitably and quickly treated, blisters form, especially under the heel and above it, at the sides of the feet, between the toes, and at the anterior roots of the toes. If this in turn is neglected, there is a danger of the hard, horny skin being rubbed off, and the tender deep layer of the true skin being exposed, and if this is not treated there is every possibility of the deeper tissues being involved, and of an ulcer forming. The causes of sore and blistered feet after a march are:

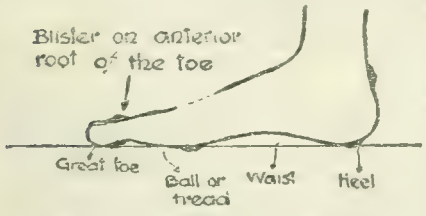


Fig. 3.—Common situation of blisters.

1. *Boots.*
   (*a*) Too tight, causing pressure.
   (*b*) Too loose, causing friction.
   (*c*) Too hard, through lack of oil or dubbin.
   (*d*) Shrunk, through getting wet.
   (*e*) Nail or seam inside boot.
   (*f*) Improperly laced boot.
2. *Socks.*
   (*a*) Too tight, causing compression of toes, or heel of sock getting under sole of foot.
   (*b*) Too loose, causing wrinkles.
   (*c*) Dirty socks.
   (*d*) Socks with holes.
   (*e*) Too thin and non-absorbent socks.
   (*f*) Badly darned socks.
3. *Feet.*
   (*a*) Dirty feet.
   (*b*) Sweaty feet.
   (*c*) Deformed feet.
4. *Accidental.*
   (*a*) Grit or foreign matter in boot.
   (*b*) Burn or scald when cooking.
   (*c*) Punctured wound from external object.
   (*d*) Weight, such as rifle, falling on foot.
   (*e*) Kick or stumble.
5. *Vasomotor.*
   (*a*) Frost-bite.
   (*b*) Chilblain.

Practically all these causes can be avoided if a little care be exercised, and it is seen that:

(*a*) The boots and socks fit properly.
(*b*) They are periodically inspected.
(*c*) The boot is kept soft and supple.
(*d*) The sock is kept clean and well darned.
(*e*) The feet are washed and thoroughly dried daily.
(*f*) There is a regular foot inspection.
(*g*) The chiropodist is consulted early.

In the paper on "Common Ailments in Camp" which I read this year at the annual meeting of the British Medical Association,[1] I said: "One of the greatest troubles in camp is blistered feet, and a large percentage of men is rendered unfit for duty for one or more days on this account. The men should be taught to see that their feet are washed and thoroughly dried every day after work is over, and if this is found to be impracticable, the feet should be thoroughly wiped with a wet towel, especially between the toes, and then dried. The socks should be greased on the outside with soap, and when they show a tendency to shrink they should be stretched and worn on the opposite feet. I would suggest that a regular foot inspection be conducted by the medical officer in conjunction with the company officers, so that all feet requiring attention can be treated and at the same time the boots and socks inspected." I have little to add to this except to put forward a few suggestions as to the best means to adopt to prevent the tender foot from blistering.

It cannot be denied that some men's feet blister more readily than others, and it is wise in such cases to try to harden the skin and make it less susceptible. When a man's feet are sore and inflamed, but not blistered, it is advisable for him not only to carry out all the rules laid down in this paper, but also regularly to do one of the following:

(*a*) Rub the feet night and morning with spirit, to which may be added 1 to 2 per cent. of salicylic acid.

(*b*) Paint the tender parts once or twice a day with either a saturated solution of picric acid, or a solution of chromic acid (2 to 3 grains to the ounce).

(*c*) After drying the feet, sprinkle with a powder composed of talc and salicylic acid (salicylic acid 2 grains, talc 1 oz.).

(*d*) Soak the feet in a bucket of cold water to which potassium permanganate, salt, alum, tannic acid, or saltpetre has been added.

Men who complain of excessive sweating of the feet should soak them daily in a solution of formalin and water (1 to 800), dry them, and dust them with zinc oxide or some other powder. Tender feet may be well greased with zinc or boracic ointment, or the soles of the feet may be soaped. When a man's feet are normally fatigued at the end of a long march, after he has washed and dried them, he will find great relief if he lies down and raises the feet by resting them against some firm object.

If, in spite of all these precautions, a blister forms, the fluid should be evacuated aseptically and the surplus skin, liable to cause pressure, cleared away. An antiseptic ointment should then be applied and the blister covered with stockingette plaster. As, after the heel, the most common situation for a blister is the plantar aspects of the fourth and fifth toes, it is in this case advisable to use animal wool round and under the toes to counteract the flexion which causes the pressure on these parts.

The commonest cause of *chilblains* is sitting over the fire with wet, cold boots, and these are best treated by restoring the circulation by gentle massage and by wearing warm footgear. Lead and opium plaster may be applied, or the internal administration of tincture of opium may act as a charm in some cases.

Frost-bites, caused by exposure to cold, have given the soldier trouble in the past, and will do so in the future if the circulation is not kept in a vigorous condition and the foot warmly clad. In treating any case of frost-bite a great amount of patience is necessary to restore the circulation gradually. If the toes are frost-bitten, it is advisable to do this before taking the soldier into a warm place, and on no account should he be brought near a fire until the circulation has been restored. Begin by rubbing the affected part gently with snow, and bathe the feet with water, increasing the temperature gradually until the circulation is fully restored, when the affected parts may be wrapped in cotton-wool or flannel.

One cannot leave the question of the soldiers' feet without mentioning the fact that the gonococcus is responsible for many foot disabilities in the army. The *fons et origo* of the trouble should be drastically treated and the serum injections resorted to, but a man with gonococcic arthritis or flat-foot should be rejected, as he will always be a danger to his unit. In no small measure the question of the marching power of a soldier depends upon the medical officer, for not only has he the power of rejecting an unsuitable man, but also he has the responsibility of seeing that the soldier keeps his feet in good order, and ready for efficient service. To do this means constant supervision and advice, and he should remember that there is no *deus ex machina* to remedy the disability immediately, when it occurs.

SUMMARY.

To make the soldier as perfect a marcher as is consistent with the human foot, I would, in addition to what is being done at present, suggest the following:

Feet.

(*a*) No recruit with any bad degree of foot deformity should be accepted as medically fit until the condition is cured.

(*b*) Every soldier, on enlistment, should be given a printed pamphlet explaining the importance of foot cleanliness, and he should be periodically lectured on it by an officer.

(*c*) Foot parades should be more thorough and more frequent.

(*d*) The battalion chiropodist should be more often and sooner consulted.

(*e*) It should be made *compulsory* for the feet to be washed after every long march.

(*f*) No medical officer should find any difficulty in obtaining adequate supplies of chromic and picric acids, formalin, and dusting powders, or any other drugs he considers necessary.

Boots.

(*a*) The army boot might be improved by allowing more depth over the toes. This could be accomplished by boxing up the anterior part of the vamp and having the end more rounded.

(*b*) Printed instructions and lectures should be given on the best means of keeping the boots in good condition.

(*c*) No man should be allowed to wear new boots until they have been well softened.

(*d*) The proper fitting of a boot should be considered an art and not a nuisance. Fully one half of the foot troubles are caused by careless or too rapid fitting.

(*e*) The boot should allow more ventilation of the foot. It is a debatable point which is the worse of the two evils, namely, the possibility of a little water percolating into the boot or the continuous saturation of the foot and sock with stale sweat. In my opinion a wet foot in free communication with the air is less likely to cause trouble than one which is rendered sodden, soft, and offensive by being bathed in its own sweat, without aëration. To give more ventilation, the tongue of the boot should not be attached to the uppers to the exclusion of all air, and the quarters should be perforated by ventilating holes so as to admit fresh air and allow the escape of foul emanations and gases arising from the heated and fatigued state of the foot.

Socks.

(*a*) These should be fitted as carefully as the boots.

(*b*) They should be issued *after* having been shrunk.

(*c*) They should be washed after a long march, and different pairs should be worn on alternate days. This should be compulsory.

It may be argued that many of these points are already known to the men, who have been lectured on them by their officers. Even so, it does not follow that they carry out what they are taught and know to be correct, any more than when a man is taught to be good he becomes a saint, or a gouty subject abstains from port because his medical adviser told him to do so. Further, we must remember that we are discussing the feet not only of the regular army but those of the Territorial Force and Kitchener's Army. If every soldier were taught to take as much care of his feet, boots, and socks as his rifle, and, in addition, were compelled to do so, sore feet would cease to give trouble. The civil surgeon may inquire, "Why all this toil for the triumph of an hour?" and my answer is "*Finis coronat opus.*" The crowning hour of success may be gained by men whose feet can carry them to victory, but can never be won by those who cry in despair, *Volo, non valeo.*

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, August 29th, 1914, p. 385.

DR. H. P. PICKERILL, Professor of Dentistry in the University of Otago, informs us that with the New Zealand Expeditionary Force coming to Europe are two dental lieutenants. These gentlemen were senior students at the Otago University, but on the outbreak of war were given special examinations, and thereafter granted special dental commissions.

INSECTS AND WAR:

VII.—*MITES: THE HARVEST MITE (Trombidium).*

BY A. E. SHIPLEY, Sc.D., F.R.S.,

MASTER OF CHRIST'S COLLEGE, CAMBRIDGE.

Natura in minimis maxime miranda.

LINNAEUS.

WE do not know what life is, but we can at any rate record its manifestations, and we know that it is always associated with an extremely complex substance called by Purkinje "protoplasm." This substance Huxley described as "the physical basis of life." Protoplasm, though we know of what elements it is composed, defies accurate analysis, and, indeed, is never the same for two minutes together. It is constantly changing, it is in a state of flux, and is, in effect, a stream into which matter is continuously entering and continuously leaving.

Protoplasm may be living, or it may be dead, and when dead it soon undergoes dissolution; but there is no life without protoplasm. Somewhere or other Dr. David Sharp has stated that out of the total amount of protoplasm "in being" in the world, the real volume of the life-material, at least one half is wrapped up in the body of insects. But insects only form one group out of the several which make up the Phylum *Arthropoda*, or those animals which are distinguished from others by possessing externally jointed legs—that is, jointed appendages. This phylum includes also the Crustacea, the multi-segmented Centipedes, and the Arachnids or spider-like animals.

Insects, like aeroplanes, dominate the air; the crustacea, like submarines, inhabit the water; the poet has passionately asked:

> Ah! who has seen the mailèd lobster rise,
> Clap her broad wings and soaring claim the skies?

But the answer is, in the language of those curious creatures the politicians, "in the negative." Crustaceans are essentially aquatic. On the other hand, centipedes and spiders are earth-loving animals, and some have unhappily developed parasitic or pseudo-parasitic habits.

The last-named subgroup, the Arachnids, comprise many subdivisions. There are the spiders, the harvest-men, the scorpions, the king-crabs, and so on. But one of the most numerous of the subdivisions of the group are the mites and ticks (*Acarina*). I have for years been trying to find some organ or structure shared by insects and mites and ticks, and not found in any other group of arthropods. If I could do this I would invent a long polysyllabic word—with lots of Greek in it—which would replace the word "insect" at the head of this article; it is, of course, hopelessly bad zoology to class Mites with Insects. These Acarines are for the most part small, and they differ from spiders in having no waist. In fact, the three divisions in which the body of an arachnid is divided—head, thorax, and abdomen—are indistinguishable in mites, the body forming an unconstricted whole. As a rule, these little creatures breathe, as do Insects, by tracheae, or, if these be absent, by the general surface of the body. They live for the most part on vegetable and animal juices, and their mouth parts are, as a rule, piercing and suctorial; but in some species the appendages of the mouth are capable of biting as well as piercing. The adults have typically eight legs. The larval stages are very numerous, and at times six distinct moults of the skin are recognizable. With few exceptions the larva emerges from the egg as a six-legged creature. In fact, mites undergo a metamorphosis



Fig. 1.—*Trombidium holosericeum*. Female, dorsal view. × 20.

which varies in complexity and in completeness in different groups, and it is often one of the larval stages which causes the greatest trouble to man.

One of these six-legged larvae has been long known as the harvest mite, under the name of *Leptus autumnalis*. But this is not a real species, and there is still considerable confusion as to what the exact status of *Leptus autumnalis*, the harvest mite, is. Probably the larvae of several species are involved, but it seems pretty certain that in many cases the larvae will grow up into a species of the genus *Trombidium holosericcum*, though a certain and at present unknown percentage of the larvae will grow up into *Trombidium something or other else*.



Fig. 2.—*Leptus autumnalis* = larva of *Trombidium holosericcum*. Ventral view. × 100.

They are minute bright-red little creatures of a beautiful satiny red, decorated here and there with blackish spots. The body of the adult is somewhat square, tapering slightly to the hinder end. Both legs and body are covered with red hairs. The eyes are borne on little pedicels—like lighthouses. The legs have six joints and end in two little claws. The male is usually smaller and more feeble than the female, the latter reaching a length of 3 to 4 mm. The adults are commonly met with in the spring or commencing summer. Apparently they nourish themselves on vegetable sap. The larval form of this species is undoubtedly one of the forms confused under the discarded name of *Leptus autumnalis*. When starving, the body is orbicular in outline, but it becomes oblong when it is fed, and in this case it may attain a length of ½ mm. Its colour is of a deep orange.

This harvest mite, or, as it is called in France, *le rouget*, is most troublesome at the end of summer or at the beginning of autumn, when it is found in enormous numbers in grass and amongst many other plants—gooseberries, raspberries, currants, haricot-beans, sorrel, and elderberries. From these plants it passes on to any warm-blooded animals; particularly it attacks small mammals, hares and rabbits; moles are often covered with them, but they leave their victim, should it be shot, so soon as the body chills. They are particularly common in Great Britain and in the centre and west of France, and in certain parts of Germany. These irritating little semi-parasites may be dislodged by the application of petrol or benzine, both very inflammable, and the itching they cause allayed by the application of acid or alcoholic lotions.

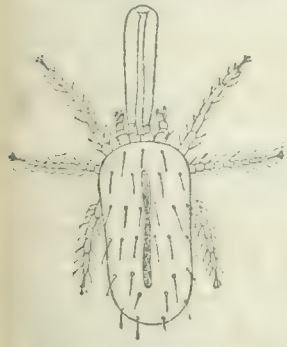


Fig. 3.—*Leptus autumnalis*, with the so-called proboscis. (After Gudden.) Magnified.

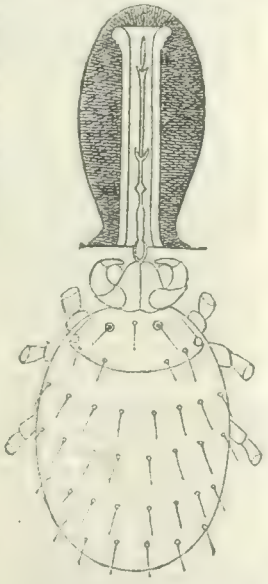


Fig. 4.—*Leptus autumnalis*, × 100. The so-called proboscis is formed around the hypopharynx sunk into the skin. (After Trouessart.)

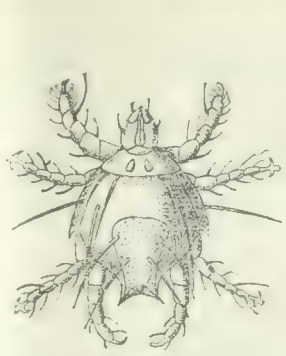


Fig. 5.—*Pediculoides ventricosus*. Male; ventral view. × 250.

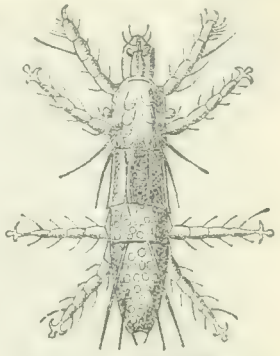


Fig. 6.—*Pediculoides ventricosus*. Female, before fertilization. × 225.

Men working in the fields are frequently attacked. During September the soldiers of the Sixth Division, stationed in and about Cambridge, suffered severely from their "bites." They mostly attacked the ankles, the wrists, and the neck, but they rapidly extend over the body. If they be checked by the presence of any stricture, such as a garter or wrist-band, they accumulate behind it, and the irritation is accentuated. The presence of their proboscis in the skin causes the surrounding tissues to harden and form a cylindrical tube.

The amount of trouble they cause varies very greatly in different people. Children and women with soft skins suffer as a rule most, but as happens in the case of other biting insects, certain individuals seem to be almost immune, whilst others suffer very considerably. The trouble is caused by the mite implanting its mouth parts in the skin, preferably in hair follicles or sweat glands. When it is once fixed it rarely moves. The body remains, of course, on the surface of the skin as a little reddish-orange point, scarcely perceptible unless many of them are congregated in the same position. The effect of their presence is to produce a swelling in the skin which may be as large as a split pea, accompanied by an intense itching and a smarting which banishes sleep. This leads to the patient's scratching, and this scratching is the departure-point of many troubles. Scoriated papules appear and eczematous patches, and when the mites are very numerous an erythema, named by Rubies *Erythema autumnale*, supervenes. The skin near the point of puncture swells, becomes red, sometimes almost purple, and irregular patches, which may be confluent, appear a centimetre in diameter.

These skin troubles, which may end in a kind of general-

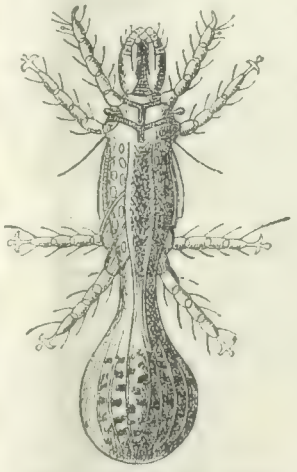


Fig. 7.—*Pediculoides ventricosus*, after fertilization; the abdomen has begun to swell. × 250.

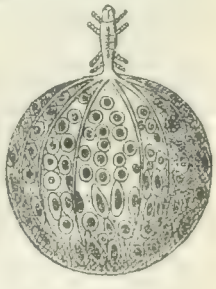


Fig. 8.—*Pediculoides ventricosus*, with abdomen fully swollen. × 40.

ized eruption, are accompanied by a rise of temperature and a certain, sometimes a high, degree of fever. Besides men, dogs and cats suffer from these pests, and in these domestic pets the parasites give rise to a miliary eruption.

Domestic cattle—sheep and horses—are also attacked. But, according to some authorities, poultry are not only attacked but killed by these parasites. The larvae apparently can only live a few days in the skin of the victim.

As far as is known at present the larvae of *Trombidium* convey no protozoal disease, but there is a terrifying little creature, known as the Kedana mite, which in some districts of Japan causes a serious illness, with a mortality of some 70 per cent. Apparently it does not act as an inoculating agent itself, but the papule surrounded by the red area which forms as a result of its bite changes to a pustule, and the lesion becomes the point of entrance of bacteria which produce the so called "river" or "flood" fever. If these mites be carefully removed the patient suffers no harm.

Another species of mite, *Pediculoides ventricosus*, lives in stalks of serials and is very apt to attack labourers who are dealing with grain. Their bites cause severe irritation, local swellings, reddening of the epidermis, and fever. In this particular species the female before she is fertilized has an elongated form 0.2 mm. in length and 0.07 mm. in breadth; but when fertilized the ovaries increase to such an extent that the posterior end of the body becomes spherical. In this respect it resembles that remarkable flea, the chigo or jigger. The larva is born with four legs and pairs almost immediately after emerging from the egg-shell.

A SIMPLE AND RAPID METHOD OF LOCALIZING BULLETS.

By FRANCIS HERNAMAN-JOHNSON, M.D.,

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A MEANS of localizing bullets which does not require the use of any special apparatus, nor involve the taking of radiographs, is often of value. A method of which I have made considerable use is the following. So far as I am concerned it is original, though it may, of course, have been described by others without my knowledge.

Suppose a bullet has lodged somewhere about the middle of the thigh. The patient is placed on an ordinary examination couch having the tube beneath. His feet are placed together, with toes pointing directly upwards. The *x* rays are turned on with a widely open diaphragm, and the general position of the bullet ascertained by the fluorescent screen.

The aperture is now gradually narrowed, and the tube moved about so that the image comes into the centre of the field, which, if the anticathode has been correctly centred, will be a perfect circle. This process is continued until the illuminated patch is not more than 1 in. in diameter. The image of the bullet is now vertically above the bullet itself.

The only special device necessary is now used. It consists of a metal ring having an internal diameter of about ¾ in., fixed to the end of a flat wooden handle 1 ft. in length (Fig. 3). The ring is slipped under the screen, and moved until its shadow encircles that of the bullet. A mark is made on the skin with silver nitrate in the centre of the ring, the screen being first removed, but care being taken not to displace the "ring-localizer."

Next, the screen is readjusted, and the ring is now slipped between the patient and the couch. The encircling position is again found, and a second mark made, this time on the skin of the lower aspect of the limb. If everything has been carried out properly, this second mark will be found vertically below the first.

I have tried to illustrate this diagrammatically in the accompanying figures, which represent a vertical section through the patient's limb, couch and tube, at right angles to their long axis. Z B (Fig. 1) is the vertical beam of rays passing through the narrow aperture X and casting a shadow of the bullet B, which is marked at C; A is the mark below the limb, obtained as above described. An incision commenced at C, and carried downwards at right angles to the surface along the line C A would eventually strike the bullet, but it is not yet possible to say at what distance below the surface it will be found.

To ascertain this the patient is rolled over on his side, so that the line A C is parallel with the plane of the couch—that is, B is made to move through an arc of 90 degrees. The original procedure is now repeated and two other marks are obtained, a line joining which, E D, cuts A C at right angles (Fig. 2).

The patient is now returned to his former position, and an inspection of the marks will enable one to judge within half an inch the distance at which B lies below the surface along the line C A.

Should the surgeon desire an exact quotation in inches, a strip of lead, thick enough to retain the shape into which it is bent, is moulded to the surface of the limb from E to D. A nick is made in it corresponding with the mark C. It is then placed on a flat surface, so that a line joining its extremities represents the chord E D. A vertical measurement with a ruler from the nick (C) gives the distance C B.

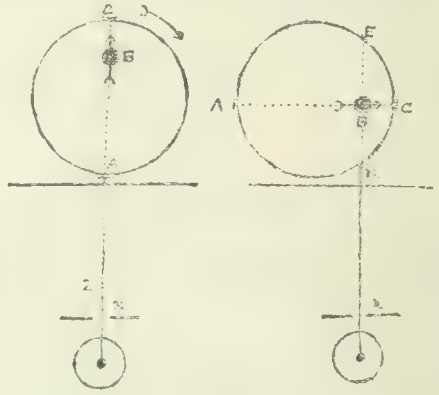


Fig. 1. Fig. 2.



Fig. 3.—Ring-localizer; scale ⅛.

The above method is not readily applicable to foreign bodies in the neighbourhood of the pelvis, as the transverse line is difficult to obtain. Here I find the simplest thing is to ascertain the vertical line as above, and then to take stereoscopic negatives. These, as a rule, enable one to get a sufficiently good idea of the depth for practical purposes.

Points essential to the success of the method are:

1. The beam of *x* rays must be vertical, and the shadow of the bullet must be manœuvred into the centre of the small illuminated field.
2. The "ring-localizer" must accurately encircle the bullet shadow.
3. The nitrate of silver marks must be placed at the centre of the ring. It is better to make dots for the vertical marks, and crosses for the horizontal, in order to avoid subsequent confusion.
4. Whenever the nature of the case permits, the patient should be operated on in one or other of the positions in which the localizing was carried out.
5. Lastly, wherever possible, the patient should be taken directly from the examining couch to the operating theatre. Bullets sometimes alter their position to some extent even in twenty-four hours, and undeserved discredit is thereby brought upon the art of the radiographer.

Although the procedure described depends entirely on screen examination, it is not dangerous to the operator. The small field makes it unnecessary for him to expose his eyes to a direct *x*-ray beam, and the handle of the "ring-localizer" does away with all risk to the fingers.

THE Registrar-General, Somerset House, London, W.C., has been entrusted with the duty of compiling a Central Register of all Belgian and other war refugees who have been received in the United Kingdom, and the secretaries of local committees formed for providing accommodation for refugees are asked to apply at once to him for a supply of forms upon which to record the particulars required. Letters sent to the Registrar-General, Somerset House, London, W.C., do not require to be stamped. The envelopes should be marked "War Refugees" in the top left-hand corner.

THE MEDICAL CARE OF LINES OF COMMUNICATION AT HOME.

By C. BREHMER HEALD, M.D.Cantab., D.P.H.,
TEMPORARY SURGEON, R.N.

Various extremely interesting contributions have recently been appearing in the pages of the British Medical Journal from the pens of both Regular and Territorial officers of the Royal Army Medical Corps dealing with different aspects of hygiene and health among troops. Several writers, notably Mr. Basil Hughes, have insisted on the necessity for taking simple but active steps to prevent minor ailments—such as constipation, diarrhoea, sore feet, etc. It is in connexion with these lesser conditions that I think perhaps my experience may be of interest to some and of use to others.

Shortly after the outbreak of war I found I had a week or two to wait before being appointed to a hospital ship, the fitting out of which had become delayed, and I happened one day to be standing on the station at home when someone addressed me as "Dr.," and the sergeant of the picket overhearing, asked if I would look at a man who had sprained his ankle. I of course did so. It then occurred to me to ask who was looking after the health and sanitation of the various pickets all down the line; and I was told that the only surgeon then working with the battalion, which had to cover fifty miles of line, was the Major R.A.M.C.(T.) at the battalion head quarters, and that he had more than he could do there, so that anything like regular visits was impossible. Recognizing that these Territorials, coming as they did from a densely populated district in London, would need careful preventive treatment if they were to be "hardened without cracking," I applied to the senior medical officer of the battalion for leave to visit each day as many of the isolated tents and huts as I could, until such time as I was called to my ship. This offer was most gratefully accepted, and I commenced work the following day, and for the first few days went only on foot with the officer of the different sections; later I was able to borrow a car, and more than doubled the distance of line looked after. I carried a rucksack, and it took several days to find out what was and what was not needed when visiting far from either hospital or chemist. As a matter of interest I have appended a list of the contents of the rucksack.

The day's work consisted in visiting, with the officer of the section, the tent or hut used by the picket guarding each bridge and culvert; when he had done his work the various points of medical interest were gone into, and gradually a definite scheme of inspection and questions built up. The average number of posts were about two to the mile.

At first, however, we found:

(*a*) Badly prepared latrines, either too shallow or with countless flies swarming over improperly covered evacuations; or too near the tent, or—and this was very common—in ditches leading directly to the bathing or drinking water; or the same pit being used both for evacuation and urination.

(*b*) Badly kept food, that is, meat exposed to flies or in close proximity to fires and sleeping places; dirty food boxes, refuse and rubbish hidden but not destroyed.

(*c*) Water kept where anything could fall into it, and water bottles never scalded out.

(*d*) Dishes and utensils cleaned in sand and with grass, and neither these nor the cloths for drying them ever boiled.

We found constipation, sore feet, minor injuries, sore throats and diarrhoea the most common cases for treatment; the first two accounting for about 60 per cent. of the whole.

The teeth were troublesome after the first week when there had been a considerable change in the weather. The cause of sudden inflammation in teeth which had probably been chronically septic for years was, I considered, due to a summation of changes in the life of these men and not to any one factor such as the weather. The men were made to purchase toothbrushes and tooth-powder and the non-commissioned officer of the tent made responsible for seeing that every one used them.

The following points were insisted on, one by one, to remove the dangers inherent under such conditions; thus the men were gradually trained without being muddled.

A Proper Latrine Scheme for Each Picket.—The instructions with regard to these varied widely; the railway might be running on an embankment or through a cutting, or the picket might be small or large; or, again, they might be in a station with regular sanitary arrangements. These instructions were based on the section on camp sanitation in Notter and Firth's *Hygiene*, and were found to work satisfactorily, especially when each man built his own latrine trench and was made responsible for it.

Meat safes were provided by voluntary workers; they were made of two rings of wire, an "S"-shaped meat hook, a cheap fly-proof cloth which allowed air to pass freely, and a running cord. These could be made for about half the price paid in shops, and were found effective in keeping the flies off and providing means for hanging the meat in a cool place. Food boxes were ordered to be scrubbed out and an incinerator built. It always remained necessary to probe the tent or hut for hidden débris, as also for signs of the men not using the latrines at night. All water was ordered to be boiled and set aside to cool with a cover on it; this precaution was partly taken on account of the certain knowledge one of the officers possessed of attempts to poison water supplies. Dishes were allowed to be cleaned in sand and grass, but then had to be boiled and the sand and grass thrown on the incinerator. Where this was not done cases of diarrhoea occurred, and I think that Mr. Basil Hughes is probably correct in his suggestion that the Gaertner bacillus was the responsible organism.

The men were asked the following questions, each separately, as it was found that less careful questioning resulted in unsatisfactory answers: (1) Were your bowels open this morning? Were they open yesterday? What time? (2) Are your feet sore? Foot inspection was taken every alternate day, and on this day teeth also were looked at. (3) Are you sleeping and feeding well? (4) Do you change your socks every night? (5) Are you getting a swim or bathe?

Then to the non-commissioned officer of the picket:

(*a*) Has anyone been complaining of anything?
(*b*) Are you satisfied with their health?

It may be noticed that the question "Have you anything to complain of?" was not asked. This was done purposely, as the majority of the men in the first flush of the war would have done anything rather than complain.

I want to make it clear that this routine was not built up in one or even two days, nor did the methods employed for treating cases at isolated and distant posts spring into being at once.

Constipation was treated by leaving with the non-commissioned officer about an ounce of magnesium sulphate and some strong pills and making him responsible for giving these at the proper time and in the proper quantity.

Sore Feet.—The care of the feet is so important that I propose giving a separate paragraph to this complaint, detailing the method that was found to give the most satisfactory results. The most important point is to treat for sore feet before the feet are sore. Feet that are unaccustomed to long marches but must endure them in the near future need air, suitable socks, and suitable boots. To secure these:

1. Wash well and dry carefully.
2. Leave feet exposed to open air for at least half an hour. (Both the above should be at first compulsory routine every day.)
3. Paint all feet with picric acid in alcohol when the skin flakes easily. Ten grains to the ounce can be used over blisters and open sores with remarkable effect, and I am indebted to one of the officers for suggesting its use. The further advantage picric acid has besides being hardening and antiseptic is that it shows clearly at the next foot inspection how thoroughly the feet have been painted.
4. Insist on the socks being changed before turning in; this point is of the greatest importance, as a sock damp from perspiration is certain to cause sore feet sooner or later, owing to its softening the skin like a fomentation. (Captain Scott and his party considered this one of the essential details for a successful march.) The majority of men when under canvas sleep in their socks, and there is no objection to this provided they change them.
5. Inspect the socks worn; many socks full of dye were used at first. See that every man has loose enough and heavy enough boots.

6. If the boots are hard they can be made fairly waterproof and quite soft in twenty-four hours; the suggestion of Mr. Basil Hughes that hard boots should be kept in castor oil for six days is hardly practicable. The following method was taught the writer by a Canadian game guide and was employed with great success:

Steep the boots for twelve to eighteen hours (less will do) in cold water completely covered. Take out, shake, and wipe off the superfluous water; do not attempt to dry at all. With some tow soaked in neatsfoot oil paint inside and out and on the soles, and particularly along the welts, and as soon as one layer has disappeared paint on another; the more often this painting process can be done the better. The boots should be smeared every two days to keep them pliable and waterproof. Should they commence to leak, another soaking in water is indicated, followed by more oil. It is unnecessary to use either powder or soap on the feet if the above instructions are carried out. The boots feel unpleasant at first, but do not chill the wearer. Small supplies of picric acid solution were left, when necessary, with the non-commissioned officer of the picket.

Minor injuries were treated chiefly with tincture of iodine and strapping used where possible.

Sore throats and *diarrhoea* were treated in the ordinary way—glycerin. hydrarg. perchlor. (1 in 500) being used for the former and hyd. cum creta for the latter. Owing to the kindness of a local dental surgeon we were able to have one good "tooth field day," carrying sterilizer, forceps, mouth lotion, cotton-wool, etc., round with us in a car and removing septic stumps only from the younger men. Even this limited field gave us more work than we could cope with. Those who refused this chance will probably regret it as the winter comes on.

Bathing.—One of my questions, it will be seen, was whether the man had had a swim. Places for swimming were within easy reach of the majority of the pickets, and getting the men to go meant that they had some free time, they got away from the line, they got a different kind of exercise, and they kept clean; all these points I considered of prime importance at that time.

Rest Stations.

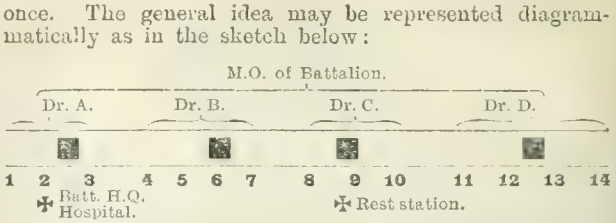
After about ten days the effects of this constant supervision began to show themselves in the men, and their gratitude and the kindness of the officers in assisting me makes me look back on these rounds as some of the most pleasant days I have ever spent. Even though starting at 9 a.m., one frequently did not return until 10 or 11 at night.

There remained, however, two gaps in this scheme: there was no provision for acute cases and for cases needing minor operations; nor was there any one immediately available to replace me as soon as I was called up to my ship. With the approval of the senior medical officer at head quarters I was able to devise and initiate a scheme for filling in these two gaps.

For the cases needing observation, minor operations and difficult dressings, a rest station was equipped and fitted; this was in close proximity to one of the stations on the line, and was intended to drain all cases for about nine miles either side of it. The patients were to arrive and return by train, the maximum stay in the rest station was to be two days, and if return to duty was still impossible, proper hospital accommodation was to be found for the patient. All cases likely to need prolonged treatment were to be transferred, immediately after being seen by the medical officer, to the nearest suitable hospital.

Sanitary Supervision.

The sanitary supervision and general health at each picket was to be carried out as follows: The line under consideration passed through villages and towns at frequent intervals, and in the district I am speaking of each of these had a Volunteer Aid Detachment. The commandants were communicated with, and their doctor visited and asked (1) to take over a definite piece of the line; (2) to put himself in touch with the senior medical officer and with the officer commanding the piece of line in his district, and to act under his orders; (3) to visit all tents and sheds occupied by the men, doing this with the officer commanding at times convenient to both; (4) to let each picket know at what hours he could be found in case of sudden illness; (5) to send minor cases to the rest station. All the doctors seen considered the scheme simple and workable, and were ready to put it into operation at once. The general idea may be represented diagrammatically as in the sketch below:



The figures represent the various pickets at bridges and culverts; the black squares, station with town or village.

It should be noted that I have no accurate information as to how far the above scheme has been successful, as I was appointed to my ship before the final details were in working order, and I have consequently been out of touch for some weeks, but I hear that the rest station has been working satisfactorily, and also some sections of the line.

It may be asked what are the advantages of such a scheme. They appear to me to be many: First, it provides a permanent organization with local knowledge, which can be used during the stay of each contingent, and dropped without expense when it leaves. Secondly, it makes it possible for a constant watch to be kept on the health and sanitation of all men, which, where the lines of communication are long, is impossible for the ordinary medical staff of a battalion. Thirdly, the regular detailed inspection puts the men into the way of looking after their own health, and protects them during the hardening process. Fourthly, the sanitary arrangements of successive pickets can be watched over both in the interests of the men and the neighbourhood, and, speaking from my brief experience, this watch cannot be too frequent or too careful. Fifthly, it puts a local society in touch with the officer of that particular section, and through him extras and comforts not supplied by head quarters can be given out; and promiscuous, and frequently harmful, presents stopped.

A medical officer of a battalion coming to guard long lines of railway or road communications in England would, I feel sure, be wise if he put himself in touch with the commandants of the Volunteer Aid Detachment, and set up some such organization working under his directions as long as the battalion remained there. The men who came under this scheme will become hardened sooner than those not so regularly inspected, and, moreover, will have learnt elementary but highly important lessons in the care of isolated sentry posts.

The Contents of the Rucksack.

1. The usual pocket case of instruments and thermometer.
2. A largish bottle of tincture of iodine.
3. A largish bottle of picric acid (10 grains to the ounce).
4. Some small empty bottles with labels for leaving in charge of the non-commissioned officer with either of (2) or (3) in them.
5. Best roller adhesive plaster.
6. Compressed bandages, dressings, and cotton-wool.
7. Bottles of hydrogen peroxide and glycerin. hyd. perchlor. (1 in 500).
8. Pills and magnesium sulphate, with spare boxes for leaving with non-commissioned officer.
9. Lead lotion, tape measure, triangular bandages.

PINEWOOD SAWDUST AS A SURGICAL DRESSING.

I.—BY RUSHTON PARKER, M.B., B.S., F.R.C.S.,
PROFESSOR OF SURGERY, UNIVERSITY OF LIVERPOOL.

I AM glad to confirm the good opinion of this material so well expressed by Mr. Cathcart in the JOURNAL of October 17th, 1914. Soon after it was originally proposed a development of it was the sublimated wood wool so much used since. But the latter substance, supposed to be a refinement on the sawdust, though it has its convenient uses as an absorbing mild antiseptic, is far inferior in efficacy and variety of use. As Mr. Cathcart truly says, the late Mr. Hugh Owen Thomas took it up, and I well remember the eagerness with which he first applied it, in

a perchloridized form, to many varieties of wound and open sore, and I have followed his example very often since. In recent wounds its utility is almost infinite, but to be convenient it must be applied properly. It may, of course, be enclosed in bags of muslin; but I have preferred to put it loose in a sheet of rag, and pin the latter round the part so as not to shed the sawdust. I have always used it thus perchloridized, and mention briefly three cases in which its value was most striking:

1. One of these occurred in 1887, a case of perineal lithotomy in a boy of 11. A large drawsheet, folded several times into a triangle, was pinned round the hips and between the thighs, as is done with a baby's napkin, enclosing plenty of the loose sawdust against the buttocks and genitals. The urine drained, without tube, into the sawdust, which was changed before it became wet enough to soak into the bed. It is only the wet or soiled portion that requires to be changed, and no washing of the part is needed.

2. The second, a most difficult case occurring in private practice in 1906, was one of gangrene beginning in the toe of a diabetic male patient aged 62, spreading eventually up the leg. At first I failed to keep down the overpowering smell, even with sublimated wood wool, which I used after other conventional dressings had been unsuccessful. The perchloridized sawdust immediately stopped all offensive odour. As the disease spread I laid open the integuments freely, and rubbed the sawdust into the exposed tissues. Here, also, a towel was pinned round the leg, and enclosed plenty of the material, which was changed where saturated—about once a day. There was no question of amputation in this case, and the patient passed, as expected, into fatal coma. But although no arrest of the gangrene was possible, the room and the diseased leg became sweet, and so continued till the patient's death.

3. The third I met with in August, 1909, when I was called by a medical friend to his mother, aged 92, who had had an ulcer of the right leg thirty years. She had been in bed three weeks, and the ulcer was 6 or 7 inches long by 1½ wide. It was being dressed frequently without benefit; but she had become delirious, and was supposed to be dying. The only intelligent interference I could suggest was the arrest of any possible septic absorption, in case the delirium was due to that. A towel containing plenty of the perchloridized sawdust was pinned round the leg, and examined once a day to remove the small soiled portion. No washing or wiping was done, and the greater portion—that unsoiled—was used as before, slight fresh additions being made over the ulcer. In a couple of days she became conscious; the sore gradually became clean, and after four or five months healed entirely; and she continued as well as her feeble old age permitted. In the last week of 1910 she had a stroke, followed by two others, and died on January 19th, 1911.

I do not know of any other dressing or conventional line of treatment by which the desired result could have been attained so quickly, easily, and cheaply, or, in fact, at all.

The crude sawdust should be sifted, as Mr. Cathcart says, through a riddle with ⅛-in. mesh, and dealt with as follows: Take of tar oil 2 quarts, hydrarg. perchlor. 120 grains, turmeric 2 oz., 4 gallons of water, and mix thoroughly with 4 pecks of the prepared sawdust. The turmeric gives an agreeable yellow colour, and the tar oil a fragrant odour. Any one can prepare the material for himself, but Messrs. R. Sumner and Co., wholesale druggists, Lord Street, Liverpool, keep it in suitable packets ready for use.

II.—By F. D. BENNETT, M.R.C.S.,
LONDON.

I should like to corroborate Mr. Charles Cathcart's experience of pinewood sawdust as a surgical dressing. My experience of its merits was obtained when medical officer of a hospital on the works during the building of the Manchester Ship Canal, Mr. Robert Jones and Mr. G. P. Newbolt being consulting surgeons. The severe nature of the injuries, owing frequently to accidents caused by high explosives when blasting, would, I should imagine, resemble in many cases the severe wounds caused by shrapnel one now hears and reads so much about. Many of the wounds when treated with sawdust yielded excellent results, limbs being saved which at the time of admission to hospital seemed hopeless.

This treatment seems especially suitable when time must be of such importance in dealing rapidly with a large number of wounded as must happen at the front. In the hospital mentioned sometimes as many as twenty-five cases were admitted, after a bad accident, at the same time. These were run up to the hospital surgery on a branch railway. One of the difficulties was to deal single-handed (assistance taking time to obtain) with so many at once, and this method of treatment proved most effectual and rapid. It gave immediate relief to the patient, and could be very easily removed for a more thorough examination when necessary.

For limbs where there was no fracture a gauze dressing, with ample sawdust in a towel to support it, provided immediate rest and comfort, as well as an absorbent and deodorizer for the injured part.

For cases of fractured limbs, primitive box splints with loose sawdust were supplied, and afforded immediate rest in position for the limb. The box splints and sawdust were easily changed when necessary, and the patient saved the pain and shock of the removal of adherent dressings, for the sawdust was easily removed by a stream of sterilized warm water.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF ACUTE GONORRHOEA IN THE MALE.

The interesting articles on this subject appearing in the British Medical Journal have made one point quite clear—that is, that there is still a difference of opinion as to the best method of treating this disease.

I think that much of this difference of opinion is due to the standard of cure adopted by the surgeon. It is a most dangerous practice to consider a patient cured because his discharge has been quickly stopped or obscured. Such a patient frequently has several attacks (cured, as he thinks) in the course of a year or two! Was he ever cured at all? In my experience the best treatment for gonorrhoea is for the surgeon to cleanse the urethra daily (twice daily at first) by irrigation with a weak permanganate solution, and then to administer an injection of argyrol himself. The patient should be seen daily, so that the effect of the treatment can be closely watched and modified or altered as desired. If all cases were so treated, I am convinced that there would be fewer "so-called cured" carriers of the disease at large.

London, S.W. Frederick H. Pickin.

STOMATITIS IN RELATION TO DIPHTHERIA.

Although primary diphtheria ulceration of the mouth is very rare, the importance of its recognition as a focus of infection may be illustrated by the following cases:

A schoolgirl, aged 9, was seen by me at the end of March for a condition of the mouth which had been persistent for two to three weeks since her return from home. The right cheek was much swollen, the skin glazed and shining, and a diffused purplish flush was obvious from the angle of the jaw to the corner of the mouth over the lower part of the face. The buccal mucous membrane showed extensive ulceration from the right anterior fauces to the middle line of the under lip. The ulcers were irregular in shape, the largest being the size of a half-penny. Their edges were not particularly undermined, but sloping, the surface covered by a bluish-white film, which also extended very slightly to the right tonsil. Removal by a swab left a raw bleeding surface. Microscopical examination showed numerous streptococci and staphylococci, spirilla, and rod-shaped bacilli, some showing polar staining. Numerous club-shaped involution forms were present, and mycotic organisms. The temperature and pulse were normal and the tongue coated, but the general condition was otherwise good. I was disposed to consider the possibility of diphtheria, and treatment consisted in touching the ulcers with 5 per cent. solution of silver nitrate, hot mouth washes of borax and permanganate alternately, and calomel internally. The ulcers healed in five to ten days. The case was isolated. There was no source of infection traceable.

Two days after the first examination I was called to see her room companion, aged 13, suffering from headache, vomiting, and sore throat. I found her looking extremely ill, with a temperature of 104°, frontal and occipital headache, much tenderness and swelling of the cervical glands,

and rigidity of the neck; the pulse was rapid and strong. Examination of the throat showed redness and swelling of the fauces, with a suspicious yellowish-white membrane on the right tonsil not detachable except by force. She was isolated, and the following day the membrane had spread to the soft palate, pharynx, and left tonsil; the throat was almost completely closed, a croupy cough was present, she vomited on any examination, and persistently hawked up quantities of viscous blood-stained sputum. Microscopical examination of a swab from the throat showed diphtheria bacilli, but I had no means of making cultures and had to depend on this and clinical evidence; 4,000 units antitoxin were given immediately, followed by 4,000 more in sixteen hours. Recovery was complete, despite threatened cardiac failure on the seventh day and somewhat abundant albumin in the urine in the second and third weeks. As she had been at school some weeks before developing diphtheria and the only possible known source of infection was her room companion, I considered the latter as responsible for carrying the disease, though remarkably free from toxic symptoms herself.

The importance of such cases, both in school inspection and general practice, seems to me to be necessary of emphasis.

L. DOROTHY PARSONS, M.D.

Church of England Mission,
Tai-an-fu, Shantung, N. China.

IONIZATION FOR BILHARZIOSIS.

As the condition of vesical and rectal bilharziosis is so intractable, and virtually unaffected by any generally practised treatment, anything promising relief from this troublesome condition is to be welcomed. Owing to the embedded situation of the parasite, and consequent difficulty of penetration of efficacious therapeutic agents that will not, by reason of their potency, at the same time prove harmful to the mucous membranes, it is not surprising that here, as in the somewhat analogous case of ringworm, the results of ordinary treatment are so hopelessly disappointing. By the modern device of causing chemical penetration through the agency of the constant current, I would suggest that a valuable and satisfactory means for dealing with bilharzial infections may be found by means of ionization; and I think this procedure might be given a fair and extended trial in this condition. The ionizing fluid having been introduced into the bladder or rectum and a suitably insulated electrode inserted, the ordinary technique is employed. The results of ionization for ringworm are also likely to improve so much with the advance of technique as to cause this method ultimately to supplant all others.

Kimberley, S.A. G. S. THOMPSON, F.R.C.S.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

HOSPITAL FOR WOMEN, SOHO SQUARE.

TWO SIMPLE OMENTAL CYSTS AND ONE SIMPLE OVARIAN CYST IN THE SAME PATIENT.

(By JAMES OLIVER, M.D., F.R.S.Edin.)

THE patient, aged 65, was sent to me by Dr. Percy Elliott, of Walthamstow, on June 24th last. She had that morning consulted Dr. Elliott on account of abdominal discomfort, which she had been told was indigestion, and from which she had suffered for years. Unlike some of the practitioners whom the patient had consulted, Dr. Elliott examined the abdomen and detected the tumour.

Palpation of the abdomen revealed in the right lower half a swelling of about the size of a fetal head; this swelling was fairly freely movable, but became tender when pushed into the left abdomen. The vaginal roof was markedly puckered, but through this there was felt in the pelvis what appeared to be a portion of the abdominal swelling.

On opening the abdomen in the mid-line there presented a thin-walled glistening cyst the size of a fetal head With a few snips of the scissors this cyst was enucleated intact from the lower border of the omentum. When this cyst was removed there presented another, similar but rather smaller, which with a few snips of the scissors was enucleated from a stretch of omentum attached to the bladder and the fundus uteri. After ligaturing and removing the portion of adherent omentum another cyst the size of a cocoa-nut was found in the right pelvis. This cyst was ovarian, and was removed after ligation of the mesovarium. The left ovary, which was cirrhotic and adherent in the pelvis, was also removed after ligation of the mesovarium. All three cysts were unilocular.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

AT a meeting of the Section of Obstetrics and Gynaecology on October 8th Mr. J. D. MALCOLM read a paper on *Intestinal fistula after abdominal operation upon the abdomen*. He discussed the condition sometimes arising after an abdominal section in which the surgeon believes that if the patient's bowels will move recovery will follow, but if the bowels will not move the patient will die. The symptoms were usually attributed to paralysis or paresis of the intestine, and this in turn was commonly believed to be due to septic peritonitis. Mr. Malcolm expressed the opinion that in many of these cases the cause of trouble was not a septic peritonitis but that the symptoms were due in part to a feebleness of peristaltic force, in part to some more or less definite obstruction of the intestine, and that the condition might be correctly described as one of acute intestinal stasis. When opium was given in full doses after every abdominal section most of the cases did well, but if no gases escaped from the anus the patient always died not later than the fifth day, and a slight spreading peritonitis was found after death. If in one of these cases a second operation was performed in the hope of finding an obstruction early on the fourth day or sooner, but when the symptoms were well developed, there was never any sign of spreading peritonitis in a typical case. Moreover, sometimes, if no second operation was undertaken, a patient, immensely distended and apparently moribund, would, without apparent cause, begin to pass gases from the rectum, and all the symptoms would be completely and rapidly resolved. It was argued that the peritonitis found after death, when death occurred, could not be the cause of the symptoms and that it was a consequence of the mode of death. The effect of modern treatment by substituting stimulation of the bowel and rational feeding for continuous administration of opium and starvation was pointed out, and records of cases were given in support of these views. The importance of not making a fistula unnecessarily was insisted upon, but the fact that this treatment would occasionally save a life was shown by the records given. The making of a fistula for the relief of distension was not likely to be successful in a case of septic peritonitis. If an early diagnosis could be made in a strong patient an immediate release of adhesions might give the most satisfactory results, but after the third day, if the patient was weak and if there were many adhesions, an extensive operation would almost certainly prove fatal, whereas a simple formation of a fistula might bring about a cure. The paper was discussed by Dr. TATE, Dr. BRIGGS, Dr. HUBERT ROBERTS, Dr. GILES, and Mrs. SCHARLIEB. Dr. H. RUSSELL ANDREWS recorded a case of severe bleeding after the menopause due to *Rupture of a vein in the endometrium*. Dr. ARTHUR GILES and Dr. CUTHBERT LOCKYER showed a case of *Pregnancy occurring within the ovary*. Mr. DONALD ROY communicated a case of *Puerperal eclampsia*, fatal from rupture of a large subcapsular haematoma of the liver into the peritoneal cavity. Other cases and specimens were shown.

THE Right Hon. Sir Christopher Nixon, a former President of the Royal College of Physicians in Ireland, left personal estate in the United Kingdom valued at £41,087.

Reviews.

GAS POISONING IN MINING AND OTHER INDUSTRIES.

In the past, before working miners knew anything of the composition of the air of mines, experience had taught them that varying atmospheres had different effects upon the men and different actions upon the flame of their lamps. They called these atmospheres "damps"—hence the term "fire damp," an inflammable atmosphere; "choke damp" or "black damp," which when inhaled causes a choking sensation; "sweet damp," when CO is breathed, partly on account of its sweetness; "white damp," the poisonous fume met with in underground fires; and "after damp," the poisonous air found in mines after an explosion.

As currents of air are driven through a coal mine the air becomes contaminated by the products of the respiration of men and ponies, by the unconsumed carbon of the lamps, by the use of explosives, and by emanations from the coal itself, so that the return air from a mine always contains eight to ten times more CO_2 than the intake air. Usually the amounts of CO_2 are uniformly and evenly added to the air, but occasionally there are sudden outbursts of the gas from the coal itself, so that men have been asphyxiated by the gas before they could reach the bottom of the shaft. Professor Glaister and Dr. Dale Logan, in *Gas Poisoning in Mining and Other Industries*,[1] deal with the various forms of "damps," and give in detail the symptoms caused by each. Miners when ill are prone to attribute their indisposition to working in bad air. Doubtless in many instances the indisposition may be the result of working in atmospheres deficient in oxygen. In such cases the symptoms are often slowly developed, and a warning is thereby given, but on other occasions the action of the poison is rapid, and the men are suddenly and fatally overpowered by gas. This is especially the case in the opening up of old workings. There is therefore necessity for great caution on the part of miners about to descend into old workings, disused shafts, and wells. Although methane or fire damp has of itself little or no injurious effect upon man, and is only harmful through lack of oxygen, yet there are instances on record of death having occurred through men breathing the gas in the mine. It was Thomas and Meyer who first showed that in the wake of explosions in coal mines CO is generated, so that when miners escape from the violence of an explosion they may yet be overcome by CO and fall victims to it.

One important requirement of mine ventilation is that the air shall be kept circulating. Cool air and movement of it favour the conditions of work for the men. The spontaneous firing of coal mines is discussed, and also its relation to oxidation of small coal. After a colliery explosion, miners who have survived the shock may suffer from laryngitis, bronchitis, and pneumonia. The nervous phenomena observed in chronic carbon-monoxide poisoning are detailed at length. The chapter devoted thereto forms a valuable contribution to the literature of the subject. Glaister and Logan's monograph ought to be extremely helpful to all persons whose duties bring them into contact with dangerous gases.

SURGICAL PHYSIOLOGY.

Few books on the relationship of surgery with cognate sciences aroused such interest as Mr. Rendle Short's volume on *The New Physiology in Surgical and General Practice*. It is evident that that interest showed itself in the practical manner of purchase, as we have now before us a third edition[2] only three years after the publication of the first. There are some changes to note. The first is the change in title to *The Newer Physiology*, hardly called for, we think, though the author makes it as "approximately half of the present volume is new." In this edition there are new chapters on vitamines and the genital glands; and "the articles on surgical shock, the digestive apparatus, the pituitary and pineal glands are largely rewritten." The chapter on vitamines is exceedingly interesting and well worthy of its place. Vitamines are bodies which appear to be essential constituents of a healthy dietary; their chemical constitution is unknown, but the recognition of their existence has opened up a new and very wide field of investigation. It seems probable that it is their absence that gives rise to beri-beri, scurvy, rickets, and all diseases of deficiency; even ordinary growth cannot proceed without them, though the constituents of the food be scientifically accurate in quantity and material. The social bearing of this question in Japan, China, Siam, the Malay States, the Philippines is pleasantly indicated in this chapter.

Surgical shock presents a never-ending problem. The chapter on this subject discusses the strictly modern theories of Crile and Mummery, Yandell Henderson, Cobbett, and Vale. The author does not venture to formulate a cut-and-dried theory. He suggests that the nociceptive impulses which bring about surgical shock do so by inhibiting or paralysing the nuclei in the fourth ventricle, and possibly in the cerebellum, which are continually sending impulses down the spinal cord, maintaining its functional activity and increasing muscular tone. When this inhibition or paralysis takes place blood pressure may fall, and the respiratory and perhaps also the vasomotor centre share in the depression of function. The chapter on the growth of bone is virtually a recognition of the truth of Macewen's theories on the function of periosteum; that on studies in digestion and absorption summarizes the work of the Pawlow school; those on haemorrhagic diathesis, acidosis, nerve injuries, cerebral localization indicate clearly the latest knowledge on all these subjects.

To many practitioners knowledge of physiology is a remote accomplishment, and their knowledge of the newer physiology is often fragmentary. This most excellent book will help greatly to revive practitioners' interest in the physiological foundations of their everyday work. Mr. Rendle Short has done the profession a real service in presenting it with this little volume. It is written with delightful freedom from textbook rigidity, and we strongly recommend its possessio to even the busiest, with the suggestion that it be perused as a book of pleasure and not as a task.

AMBULANCE HANDBOOKS.

The fact that Mr. Scott Riddell's *Manual of Ambulance*[3] has now reached a sixth edition is a sufficient tribute to its worth and a guarantee that its usefulness has been appreciated. It provides a complete course of ambulance instruction arranged by one of long experience as lecturer and examiner. After an introductory chapter on anatomy and physiology, bandages are discussed, then fractures, dislocations and sprains, haemorrhage, and wounds are treated of. Important chapters are those on ambulance transport and stretcher drill, and the after-treatment of ambulance cases. Those who have to organize and conduct ambulance classes will find ready assistance in the final chapter. The book is written in a eminently clear, terse style, and the headings are arranged so as readily to catch the eye. The pictures, however, are of unequal merit; some are excellent photographs, many are rather crude drawings which might easily be greatly improved. Even amateurs are disposed to be critical of illustrations, and may not accept the excuse occasionally bracketed "highly diagrammatic." But the pictures are very numerous—a commendable feature in such a work. We feel assured that the new edition will meet with the success of its predecessors.

First Aid in Accidents and Sudden Illnesses[4] is a new handbook, written by Dr. Duncan Macartney, surgeon to the Western Infirmary, Glasgow, for the St. Andrew's

[1] *Gas Poisoning in Mining and Other Industries.* By J. Glaister, M.D.Glasg., D.P.H.Camb., F.R.S.E., etc.; and D. Dale Logan, M.D.Glasg., D.P.H. Edinburgh: E. and S. Livingstone. 1914. (Demy 8vo, pp. 482; 2 plates, 36 figures, 2 plans. 10s. 6d. net.)

[2] *The Newer Physiology in Surgical and General Practice.* By A. Rendle Short, M.D., B.S., B. c.Lond., F.R.C.S.Eng. Third edition, revised and enlarged. Bristol: John Wright and Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent and Co. 1914. (Cr. 8vo, pp. 266. 5s. net.)

[3] *A Manual of Ambulance.* By J. S. Riddell, M.V.O., M.A., M.B., C.M. Sixth edition, much enlarged and specially prepared for the use of Voluntary Aid Detachments. London: C. Griffin and Co., Ltd. 1913. (Demy 8vo, pp. 270; 212 figures. 6s. net.)

[4] *First Aid in Accidents and Sudden Illnesses.* By D. Macartney, M.A., M.D. Glasgow: St. Andrew's Ambulance Association. 1914. (Fcap. 8vo, pp. 225; 24 plates, 90 figures.)

Ambulance Association. The author says that it is intended as an introduction to more advanced books, and especially to Sir George Beatson's; but it will be found very useful not only by pupils, but also by medical men who may be called upon to give lectures on first aid for the first time. The book is well written, and well illustrated by photographs and drawings, which are all really helpful. The photographs in particular are very well reproduced. A novel feature, so far as we are aware, is the introduction of a section on rescue work in mines, where the special precautions to be taken are mentioned, various forms of rescue apparatus are described, and a set of instructions for the guidance of a rescue corps given. For information on these subjects the author acknowledges his indebtedness to Mr. Kerr, consulting engineer for the Scottish Mineowners' Association. The volume has an indifferent table of contents, but a good index.

Dr. Finny's First Aid[5] is a much smaller volume, which has no table of contents, but again a good index. It is intended to be used as a handbook by ambulance students, and has blank pages interleaved. After a chapter on anatomy and physiology follow seven on injuries of various parts and organs, one on stretchers and transport of the injured, another on preparation for receiving the injured, and a final note on Esmarch's triangular bandage.

NOTES ON BOOKS.

The Secrets of the German War Office[6] reads like a collection of short stories founded on fact and strung together in the form of the reminiscences of a secret service agent of the German Government. How much is fact and how much fiction the reader must decide for himself. In July, 1912, a person stated to be a doctor was tried in Edinburgh under the name Armgaard Karl Graves, and sentenced to eighteen months' imprisonment as a spy. He had been arrested in April, and was eventually liberated in December, so that he was only in custody about nine months. The book is professedly written by him, but it is odd that he should apply an incorrect term to the presiding judge. The last two chapters are essays on the military machinery and foreign policy of Germany. The whole may be an example of the German press propaganda, of which so much has recently been heard. If so, it is a good deal more ingenious than most of their efforts. The publishers state that the manuscript was in their hands on June 1st last.

The Encyclopaedia Britannica Company[7] has issued the three remaining volumes of the set in which, as mentioned last week, it is reprinting certain historical articles published in the eleventh edition of the *Encyclopaedia Britannica*. The first of the new volumes contains the articles on the history of *Russia and the Balkan States* by Sir D. Mackenzie Wallace, Prince Kropotkin, Mr. C. Mijatovich, formerly Servian Minister in London, and Mr. J. D. Bourchier, correspondent of the *Times;* and the second, the *History of Austria-Hungary and Poland*, the articles on these subjects by Mr. H. Wickham Steed, Professor W. A. Phillips, and Mr. David Hannay. The sixth volume contains the articles on the *Wars of the Nineteenth Century* by Major-General C. W. Robinson, C.B., Colonel Maude, C.B., and Lieutenant-Colonel J. H. Verrinder Crowe. In addition to the history of the French revolutionary wars, the Napoleonic campaigns, and the Italian wars, it contains accounts of the Austro-Prussian war, the Franco-German war of 1870–71, the Russo-Turkish war of 1877–78, the Servian-Bulgarian war of 1885, the Spanish-American war of 1898, the South African war of 1899-1902, the Russo-Japanese war of 1904–5, and the Balkan war of 1912. The volume is adequately illustrated by maps and plans, and is perhaps the most immediately interesting of the series. The first article in it describes fighting over the same ground as is now the scene of conflict, and this is true also of the account of the later part of the campaign of 1814. The articles in the series of six volumes are all written by acknowledged authorities on the subjects treated, and they supply trustworthy information elucidating many points touching the great topic which is now the paramount interest in all our minds

[5] *Dr. Finny's First Aid: A Notebook for Ambulance Students.* By W. E. St. Lawrence Finny, M.D., M.Ch. London: T. Murby and Co. 1914. (Fcap. 8vo, pp. 33. 6d. net.)

[6] *The Secrets of the German War Office.* By Dr. Armgaard Karl Graves, late Spy to the German Government. London: T. Werner Laurie, Limited. 1914. (Cr. 8vo, pp. 182. 2s. net.)

[7] London: The Encyclopaedia Britannica Co., Ltd. 1914. (Price 2s. 6d. net each volume, or 12s. 6d. net for the six volumes.)

THE BRITISH PHARMACOPOEIA, 1914.

(Continued from page 721.)

Standards for Drugs and Chemicals.

Most of the changes that have been made in the pharmacopoeial standards of strength and purity have been in the direction of greater stringency. In a few cases the standard has been raised; in nearly all the requirements have been made more definite and precise, while quantitative tests have been extended to a good many articles for which they were not previously ordered. Taking original drugs first, assay processes for showing the presence of a definite minimum or a definite quantity of the principal active constituent or constituents, or some substance to which their value is chiefly due, are now required in sixteen more instances than formerly. These are as follows:

Original Drugs.

Aconite Root.—This is no longer limited to the root of plants cultivated in Britain; as no such root has been commercially obtainable for a long time, root grown in or imported through Germany has been regularly used, and this alteration merely legalizes the state of things that existed before the war. The new requirement is that the root shall yield not less than 0.4 per cent. of ether-soluble alkaloid when assayed by the process which is described. The exact determination of aconitine, the true active principle, is a matter of so much difficulty as to be scarcely practicable; on the other hand, the determination of the total alkaloid is of no value as an indication of activity, as the alkaloid may consist principally of the nearly inert aconine. Since the latter is not soluble in ether, the percentage of ether-soluble alkaloid is an approximate indication of the amount of aconitine probably present, but it is by no means a certain index of the activity of the drug. Since the preparations of aconite are standardized, and the root itself is never administered, the standardization of the latter does not appear to be of much importance; its chief effect is to secure that in the preparations there shall be something like a normal or average ratio between the amounts of ether-soluble alkaloid and extractive, since it is not permissible to use a root that is very low in alkaloid while probably containing the usual amount of extractive.

Belladonna Leaves.—It has already been noted that this drug now consists of the dried leaves, instead of the fresh leaves and branches; it is now required to be assayed and to yield not less than 0.3 per cent. of total alkaloid by the process described.

Cannabis Indica.—No definite active principle has yet been satisfactorily isolated from this drug, but its activity is approximately proportional to the amount of resin it contains. The amount of extract yielded to alcohol is now to be determined, and the drug is required to yield about 12½ per cent. in a single extraction by maceration for twenty-four hours. It is also required to contain not more than 15 per cent. of ash.

Gentian Root.—No assay of a definite active principle is practicable; the drug is now required to yield not less than about 33 per cent. of extract to cold water when macerated for twenty-four hours. It is also required to contain not more than 6 per cent. of ash.

Liquorice Root.—The value of this is roughly proportionate to the amount of extract which it yields; the drug is now required to yield about 10 per cent. of extract (dry) when extracted once with chloroform water by maceration for twenty-four hours. It is also required to contain not more than 6 per cent. of ash.

Ipecacuanha.—The preparations of ipecacuanha have been standardized since the last issue of the *Pharmacopoeia;* the drug itself is now required to be assayed and to contain not less than 2 per cent. of alkaloids. In this case there is the further requirement that the powdered drug, when used for other purposes than the production of standardized preparations, shall not contain more than 2 per cent. of alkaloids, a stronger powder being reduced to this strength by the addition of sugar of milk. The Cartagena root is still excluded. The limit for ash is 5 per cent.

Nux Vomica.—This is treated on the same principle as ipecacuanha—that is, the drug is required to contain not less than 1.25 per cent. of strychnine, and if its powder is

used for other purposes than the production of standardized preparations, it must not contain more than that proportion, being reduced in strength, if necessary, by the addition of sugar of milk.

Oil of Cajuput.—This is now required to contain not less than 45 per cent. of cineol, as shown by the prescribed test. The former requirement was merely that it should become semi-solid on being stirred with a third or half its volume of phosphoric acid, which allowed considerable variation in the cineol content.

Oil of Eucalyptus.—This is now required to contain not less than 55 per cent. of cineol, and the remarks made with regard to oil of cajuput apply here also.

Oil of Cloves.—Now required to contain not less than 85 per cent. of eugenol, as shown by the prescribed test. This takes the place of the statement that it forms a semi-solid yellowish mass when shaken with its own volume of strong solution of ammonia.

Oil of Lemon.—Required to contain not less than 4 per cent. of aldehydes calculated as citral, as shown by the prescribed test.

Oil of Peppermint.—Required to contain not less than 50 per cent. of total alcohols calculated as menthol, and not less than 5 per cent. of esters calculated as menthyl acetate.

Oil of Rosemary.—Required to contain not less than 10 per cent. of total alcohols calculated as borneol, and not less than 1.8 per cent. of esters calculated as bornyl acetate.

Oil of Sandal Wood.—Required to contain not less than 90 per cent. of alcohols calculated as santalol.

Volatile Oil of Mustard.—Required to contain not less than 92 per cent. (%) of allyl isothiocyanate, as shown by the prescribed process.

Prepared Storax.—Required to yield not less than 20 per cent. of cinnamic acid by the prescribed test.

Galenical Preparations.

Besides the various extracts, tinctures, etc., previously standardized, assay processes and a standard strength are now ordered in seven new cases, which are as follows:

Extract of Belladonna.—This dry extract is required to contain 1 per cent. of the alkaloids of the leaves. This is only a new requirement to a limited extent; the extract replaces the soft alcoholic extract, made from the root, which is standardized to 1 per cent. of alkaloid, and the green extract made from the leaves and not standardized. As the new extract is made from the leaves, it more nearly represents the latter.

Liquid Extract of Male Fern.—Now required to contain not less than 20 per cent. of filicin, as determined by the process described.

Liquid Extract of Hydrastis.—Required to contain 2 per cent. of hydrastine, as determined by the process described. The liquid extract is made with 60 per cent. alcohol instead of 45 per cent.

Extract of Henbane.—Now required to contain 0.3 per cent. of alkaloids.

Liniment of Aconite.—Now required to contain 0.2 per cent. of ether-soluble alkaloid.

Tincture of Aconite.—Required to contain 0.04 per cent. of ether-soluble alkaloid.

Vinum Ferri.—This is now made by macerating iron in sherry until the liquid, after filtering, contains not less than 0.125 nor more than 0.300 per cent. of iron, the limits being thus very wide.

Other Quantitative Tests.

Apart from standardization in regard to active constituents, there is a great extension of the use of quantitative tests for securing the requisite degree of purity. These need not be discussed here in detail, but a few examples will suffice.

Crude Drugs.

In a large number of cases limiting figures are given for the amount of ash that is permissible. All vegetable drugs, of course, contain some mineral matter, consisting of those elements absorbed from the soil by the plant in its growth; besides this, roots and rhizomes can never be obtained perfectly free from adherent soil, while gum resins which exude from incisions near the ground are very apt to be contaminated with earthy matter. It is necessary, however, that such care should be exercised in collection that the ash derived from this source shall not be excessive; and, in the case of drugs which are used in powder, an ash limit is also desirable for excluding adulteration with mineral matter.

The umbelliferous fruits are instances of drugs which should only contain the mineral matter naturally within them. The ash of anise is required not to exceed 11 per cent., of caraway 9 per cent., but no ash limit is given for dill fruit. The ash of senna leaves is not to exceed 12 per cent., but no limit is given for senna fruits or for digitalis leaves, although the latter are not infrequently used in powder as an ingredient of pills, and there is no assay for active principles. Among roots and underground stems the ash of hydrastis is not to exceed 11 per cent., jalap 6.5 per cent., rhubarb 15 per cent., ipecacuanha 5 per cent., serpentary 10 per cent., and other limits are given in other cases; but no figures are given for senega, taraxacum, and many others. Ammoniacum is not to contain more than 7 per cent. of ash, asafetida 15 per cent.; the latter is an instance of relaxation of stringency, the present limit being 10 per cent.; the same drug is only required to contain 50 per cent. of matter soluble in alcohol, against 65 per cent. at present demanded.

The absence of uniformity in the imposition of an ash limit for crude drugs is probably due to the compilers having incorporated such published figures as have been shown to be reasonable, without making an investigation as to what is a fair limit in those cases for which figures have not been published.

Fats and Oils.

The characters now given for these include in nearly all cases the acid value, saponification value, iodine value, and refractive index, besides the specific gravity which is usually given at present. The acid value is chiefly of use in showing the absence of rancidity, while the three other characters afford useful evidence of the identity and purity of the article in question. Substances of this class are therefore far more adequately characterized than hitherto.

Volatile Oils.

The characters now given for these include the optical rotation, and in many cases also the refractive index, as well as the specific gravity; special tests are also given in many cases. As a whole, volatile oils are far more adequately characterized than hitherto.

Other Organic Substances.

Acetic ether is now required to contain 90 per cent. of real ethyl acetate, as determined by the test which is described. Amyl nitrite is required to be of a higher standard than before, 7.9 volumes of nitric oxide being yielded by the same quantity which was formerly required to yield 6 volumes. Aloin is now required to leave no appreciable ash, and tests for its identification are given. A quantitative test for caffeine citrate is given, to show that it contains the proper proportion of caffeine. Many other cases occur in which the tests are extended, the new tests being either fully quantitative or of the nature of limit tests for particular impurities.

Chemicals.

Definite chemical substances, such as metallic salts or acids, are from their nature capable of being more accurately and definitely specified in regard to purity and strength than drugs or galenicals, and in this class of substances there is a considerable increase of quantitative tests. Certain widespread and important impurities, notably lead and arsenic, are to be tested for quantitatively in nearly every case, and figures are given for the limiting quantities permissible.

The fifth and sixth appendices, occupying together some twenty-three pages, are devoted respectively to detailed descriptions of the processes to be employed in testing for lead and for arsenic, together with the limits for the various official chemicals. This is a very great advance on what has been done before; the processes adopted for the tests are simple, and require no elaborate apparatus, but if carefully carried out they are capable of great accuracy. In the case of many other impurities, definite limit tests are given in the monograph on the appropriate substances. As a rule, under any chemical substance, a list is given of

impurities which are to be proved absent, or not present in more than slight traces; in addition, a definite percentage (commonly 99 per cent.) of the pure substance is required to be present. In some instances the quantitative test ordered only proves the proper proportion of one radicle, the acid or the basic, of a salt; and the proper proportion of the other is then secured by the requirement that a certain percentage of the pure substance must be present, the analyst being left to prove this by such other tests as his experience may direct.

On the whole, it can be said that the standards of strength and purity of the new *Pharmacopoeia*, and the tests ordered for securing them, mark a substantial advance, and are not unworthy of the authority of the work.

The pharmacy of the *Pharmacopoeia* will next be briefly discussed.

(To be continued.)

THE CULTIVATION AND COLLECTION OF MEDICINAL PLANTS IN ENGLAND.

The Board of Agriculture has issued an interesting leaflet on the cultivation and collection of medicinal plants in England. It points out that medicinal herbs have been cultivated in this country for centuries, and in the Middle Ages were grown in kitchen gardens attached to monastic establishments and the mansions of noblemen. At the present day materia medica (or drug) farms exist at Mitcham, Carshalton, Hitchin, Ampthill, Long Melford, Steppingley, Market Deeping, and Wisbech, but for many years the main source of British drugs has been mid-Europe, particularly Germany and Austria-Hungary. During recent years the acreage devoted to drug cultivation in Britain has been more and more restricted by competition with wild foreign products, and the result has been a slow but sure ousting of British grown drugs from the market.

The advent of a European war (the leaflet continues) has completely changed the situation, and an effort on the part of growers and drug merchants may largely secure for England the collection and cultivation for the future of medicinal plants which can for the present no longer be imported from Central Europe. Supplies of drugs, especially of belladonna leaves and root, are much in demand, but in the case of other Continental drugs grown in England the shortage is not so serious. The price of belladonna has risen seriously (more than 100 per cent.) since the outbreak of war, and as it takes at least two years to grow this drug in quantity the drug grown next year is likely to realize high prices. This applies in lesser degree to chamomile, dill, dandelion, and valerian, and it is believed that the prices of colchicum, digitalis, fennel, henbane, and stramonium must also be considerably affected.

The leaflet, however, points out that the limited outlet for most drugs makes overloading the market a comparatively easy matter, and any grower who proposes to devote attention to the cultivation of medicinal plants should give the matter careful consideration before embarking on it to any serious extent. By a number of growers, however, who can successfully raise good crops, handsome profits should, it is thought, be made in the near future.

The leaflet, No. 288, can be obtained free of charge and post free on application to the Secretary to the Board of Agriculture, Whitehall Place, London, S.W. A few notes taken from it will indicate its general character. In each case directions for cultivation are also given.

Aconite.—It is stated that the chief collecting centres for foreign aconite root are the Swiss Alps, Salzburg, North Tyrol and Vorarlberg. Swiss supplies (which have come via Germany) may be cut off as well as the others. Supplies of Japanese aconite root are plentiful, and Spanish root is also coming into the market, so that the demand for English aconite will probably be restricted. The price of the Continental root is about 50s. per cwt., and Japanese (usually ascribed to *A. Fischeri*, Reichb.) about 35s. per cwt., while English is ordinarily worth 2s. per lb. Cultivation of aconite has not paid in recent years, even with cultivated root four times the price of wild.

Belladonna.—The bulk of the world's supply of belladonna, it is stated, is derived from wild plants growing in quantity on waste stony places in Southern Europe. Only a little belladonna root is dug in England, the large supplies used being derived from the Continent. The Balkan war of 1912-13 interfered with the continuity of belladonna exports from Croatia and Slavonia in South Hungary, the chief centres for foreign belladonna. Stocks of roots and leaves made shorter supplies eke out until 1914, when prices rose owing to increasing scarcity. The root, which realized 45s. per cwt. in January, 1914, sold for 65s. in June, and on the outbreak of war the price immediately rose to 100s. per cwt., and before the end of August 150s. had been paid. Belladonna leaves from abroad sell at normal times for 45s. to 50s. per cwt., but at the end of August they were unobtainable at 1s. per pound.

Digitalis.—It is stated that the Continental supplies of digitalis leaves from Thuringia and the Harz mountains are stopped, but that there should be enough of the wild plant in England to satisfy home requirements if it can be collected. Dry wild leaves would be worth 35s. per cwt. and upwards. Unless these are gathered in considerable quantity there will be a shortage next year. The leaves are hand picked in the second year, from flowering plants, the yield being about one to two tons of fresh leaves per acre. Great care is necessary in collecting and drying quickly, and a reputation for care is necessary if the crop is to be sold at remunerative prices.

Hydrastis.—The leaflet states that the price of golden seal (*Hydrastis canadensis*) has risen from 5s. per lb. in 1905 to 20s. or more in September. Such a high price enables cultivation to be practised on a commercial scale both in America and in England, even with the great expense of artificial shading in order to simulate natural conditions. Cultivation of this drug might become a paying proposition to any one who could solve the problem of the correct conditions of shade and moisture. Several times the amount of drug now used would be absorbed for making fluid extract of hydrastis and the alkaloids hydrastine and hydrastinine.

Hyoscyamus.—The Board considers that the established drug farms will probably be able to meet the demand for henbane (*Hyoscyamus niger*). The official henbane leaves of the *British Pharmacopoeia* are the leaves and flowering tops of second year plants of biennial henbane, but the dry commercial leaves imported from Germany and Russia are derived from the wild annual. The plant might be grown next year to make good any shortage, if good germinable seed can be obtained. There will be a demand for dry leaves at enhanced prices next year.

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Continued from p. 722.)

Revival of the Order of St. John.

According to General Porter,[1] the fall of Napoleon and the restoration of the Bourbons in 1814 gave the suppressed French Knights of Malta the opportunity of a revival of which they at once took advantage. They assembled in chapter in Paris, and, "forming, as they did at that time, the most powerful branch of the Order still surviving, elected a permanent capitular commission, in which was vested plenary power to act as might seem best for the general interests of the fraternity. The creation of this capitular commission was confirmed by a Pontifical Bull issued by Pope Pius VII on the 10th August, 1814." It was also recognized by Louis XVIII. This commission was very active in stirring the Order into new life. Among other things, it considered the question of reviving the English *langue*. The commission placed itself in communication with Sir Robert Peat, D.D., Chaplain Extraordinary to George IV, and other Englishmen of position. The negotiations were successful, and articles of convention were executed on June 11th, 1826, and on August 24th and October 15th, 1827. In these the English people is referred to as follows:

> This brave and generous nation furnished formerly illustrious subjects who made part of the most formidable, the most valiant and the most renowned Chevaliers of this ancient sovereign order, and whose successors are now invited to raise that Christian and famous banner which was in former times the pride and glory of their ancestors, and who can again form part of this Order in climates and in countries the most fortunate and the most celebrated.

The articles of convention set forth that in the revival the French *langues* were acting with the concurrence and

[1] Whitworth Porter, Major-General, Royal Engineers: *A History of the Knights of Malta or the Order of St. John of Jerusalem.* Revised edition. London, 1883.

approval of those of Arragon and Castile, representing five out of the eight divisions of the Order. The French Knights decided that the business of the English *langue* should be conducted independently, and in particular that the funds of the English brethren should be under their own control. They further declared that, "to revive so honourable an institution, it is most necessary to act legally and according to the existing statutes, otherwise the Order would not be esteemed and respected; that the statutes must be taken by the Committee as its guide and direction in the work, and that from this foundation no departure could take place except as regards the modifications necessary owing to the religion of the United Kingdom." The Chevalier Philippe de Chastelain and Mr. Donald Currie were appointed delegates for formally inaugurating the revival, by deed dated December 14th, 1827. On January 24th, 1831, the Chevalier de Chastelain attended a meeting in London when the English *langue* was formally reorganized, and the Rev. Sir Robert Peat, D.D., Knight Grand Cross of the Royal Order of St. Stanislaus of Poland, and Chaplain Extraordinary to George IV, was invested with the functions and authority of Grand Prior of the revived English *langue*. The names of many English noblemen and gentlemen were then inscribed on the roll of the *langue*.

In 1834, acting under the advice of the Vice-Chancellor of England, Sir Launcelot Shadwell (who himself shortly after joined the Order), Sir Robert Peat sought to qualify for office, and at the same time to revive the charter of Philip and Mary, by taking the oath *de fideli administratione* in the Court of King's Bench. A copy of the oath, authenticated by the signature of the Lord Chief Justice, is in the archives of the *langue*. The following is the text:

"In the King's Bench I the Right Reverend Sir Robert Peat Knight Vicar of New Brentford in the County of Middlesex and Prior of the Sixth Language of the Sovereign Order of St. John of Jerusalem in London do make oath and say that I will faithfully truly carefully and strictly perform fulfil keep and obey the ancient Statutes of the said Sovereign Order as far as they are applicable to the government of the Sixth Language and in accordance with the other seven languages and that I will use the authority reposed in me and my best endeavours and exertions amongst the Brethren to keep the said Statutes inviolable, this deponent hereby qualifying himself to govern the said Sixth Language as Prior thereof under the provision of the Statute of the 4th and 5th of Philip and Mary in the case made and provided. (Signed) Robert Peat. Sworn at Guildhall in the City of London, this 24th day of February, 1834, before me (signed) T. Denman."

We have told the story in some detail because we think it is little known, and it has been too hastily assumed that the modern Order of St. John is merely a decorative body masquerading under a great name. The documents quoted show that there is a trickle of continuity between the old order and the new.

From the time of its revival, says Porter, the English *langue* has continued to grow in numbers and prosperity and has followed in the footsteps of the parent Order by the promotion of works of usefulness and mercy. Among other objects for which it has striven are the provision of nourishing diet under medical orders for hospital convalescents without regard to creed; the original institution in England of what is now known as the National Society for Aid to Sick and Wounded in War; the foundation and maintenance of cottage hospitals and convalescent homes; the provision of means of opportunities for the training of nurses for the sick poor, and the foundation of what is now known as the Metropolitan and National Society for training and supplying such nurses; the establishment of litters for the conveyance of sick and injured persons in the colliery and mining districts and in all large railway and other public departments and towns; the institution of the St. John Ambulance Association for instruction in the preliminary treatment of the injured in peace and the wounded in war; and the establishment of the British Hospice and Ophthalmic Dispensary at Jerusalem.

On May 14th, 1888, in recognition of the charitable work done by the fraternity along these various lines, Queen Victoria granted to them a Royal Charter of incorporation under their old style and title of "The Grand Priory of the Order of the Hospital of St. John of Jerusalem in England." Her Majesty became the Sovereign Head of the Order, and in July of the same year the late King Edward VII, then Prince of Wales, was installed Grand Prior. The ceremony took place in the Grand Hall in the old Gatehouse at Clerkenwell. This is the room in which Samuel Johnson had worked—too often, it is to be feared, *impransus*—for Cave, publisher of the *Gentleman's Magazine*.

The St. John Ambulance.[2]

In 1877 the St. John Ambulance came definitely into existence.

The first step towards a genuine revival of Hospitaller work in England was taken when the members of the Order removed their head quarters to the Gatehouse of the ancient Priory of Clerkenwell, which had been secured for their use by the foresight of Sir Edmund Lechmere. As a dilettante charitable association with chivalric traditions indeed, but only occupying temporary apartments under a roof which was not its own, an element of uncertainty pervaded both its inner organization and its external work; but the very *genius loci* of the old headquarters of the English *langue* seemed to breathe its inspiration into the proceedings of the Council under its own roof, and steady progress has since marked its history.[2]

In old days many of the distinguished guests of the Prior were lodged in the Gatehouse. Holbeache says:

The business of the great ambulance work of to-day may be actually proceeding in apartments where L'Isle Adam stayed on his memorable visit to King Henry VIII, and where most of the home concerns of the English *langue* with their tenants or dependants were transacted.

The progress of the association was largely helped by the medical profession. Sir Edward Sieveking, a Knight of Grace, was one of the most earnest supporters of the Order of St. John from his admission as an honorary associate in 1869. In 1887 he presided at a meeting of hospital physicians and surgeons at St. John's Gate, where approval of the objects of the Order was expressed, and resolutions unanimously passed that every effort should be made to make the work known.

The first centre of the St. John Ambulance was established at Woolwich; others were quickly formed in various parts of the country. Instruction in first aid to the injured was given, and certificates were issued after examination. Ambulance stations were established at exhibitions and in places where large crowds were gathered together. The great development of the Ambulance Department of itself was sufficient to justify the resuscitation of the Order of St. John in England. The institution became a national one, and branches were founded in India. When Queen Victoria granted a charter to the Order of St. John, the Ambulance Association was incorporated with it as one of the principal departments and was made subject to its laws and regulations, the management and finances, however, being kept independent.[3] On the outbreak of the South African war in 1899, Lord Knutsford and Sir John Furley represented the St. John Ambulance Association on the Central British Red Cross Committee. By the regulations of the Committee the Association was entrusted among other things with two special branches of work, the collection and dispatch to the seat of war of ambulance material, and the organization of the personnel. Vast quantities of material of all kinds were sent out for the use of the sick and wounded, and distributed first by Colonel Young, and later by Sir John Furley. The various centres of the Association vied with each other in the quantity and excellence of the comforts and so forth sent out. The Association also forwarded a sum of seven thousand three hundred and seventy pounds in cash, collected from its centres, branches and supporters.

The St. John Ambulance Brigade is an offshoot of the parent association, its distinguishing feature being that it is a voluntary organization for rendering first aid to the public in a systematic manner by members holding the certificate of the St. John Ambulance Association. The approximate number of men in the brigade at the end of June, 1901, was 6,500, and of these 1,313 were at that time serving in South Africa or on their way there.

(To be continued.)

[2] *The Order of the Hospital of St. John of Jerusalem.* By W. K. R. Bedford, M.A.Oxon., Genealogist of the Order; and Richard Holbeache, Lieutenant-Colonel, Librarian of the Order. London. 1902.

[3] St. John Ambulance Association, being the Ambulance Department of the Grand Priory of the Order of the Hospital of St. John of Jerusalem. Head offices: London, St. John's Gate, Clerkenwell, London, E.C.

British Medical Journal.

SATURDAY, OCTOBER 31st, 1914.

GERMAN "CULTURE" AND SCIENCE.

Frederick the Great said: "When I want a thing I take it, and find hosts of pedants to justify my action." Carlyle's questionable "hero" evidently knew the value of German culture. Bismarck, too, lost no opportunity of expressing his contempt for "professors." Of Treitschke, the preacher of the gospel of hatred for England, we are told by Norman Hapgood in *Harper's Weekly*, that "he had a natural tendency toward learning, but a natural tendency also toward using his facts to prove what he liked to believe." This characteristic is strikingly illustrated in the manifesto on the war which has been issued by ninety-three of the leading "intellectuals" in Germany. Among the names appended to this document are those of Professors von Behring, Czerny, August Bier, Haeckel, Ehrlich, Weismann, W. Wundt, and others who have been looked upon as leaders in medical science. If this kind of effusion is the product of "culture," it seems to us to be an exhibition of the German spirit even more deplorable than the burning of Louvain or the shelling of Rheims. These crimes of savagery may be partly explained as the acts of a brutalized soldiery. But that German learning in its highest development should lead men to ignore and misrepresent plain facts and insult the intelligence of the world by asking it to believe statements which can only be described as, like Falstaff's lies, "gross as a mountain, open, palpable," throws a fierce light on the mentality of the nation of which they are the intellectual leaders.

As the documents are of a political character, we do not propose to discuss their text. It is of importance, however, to point out that the authors do not seem to have taken the slightest trouble to make themselves acquainted with the facts as to the origin of the war; indeed, some of their statements are in direct conflict with the German case as presented in the official White Book. This being their method of controversy, it is natural that they should simply ignore the German Chancellor's confession of wrongdoing and his illuminating reference to a solemn treaty as a "scrap of paper." What interests us is the revelation afforded by the manifesto of the value of "culture." Either the professors know that they are putting forward untruths or they do not. If they do know this, how can we trust any other statements they may make? If they do not know it, then German "culture" as an instrument for the discovery of truth is utterly worthless—or worse, for it is a machine for the production of falsehood. We are more disposed, however, to believe that the German "intellectuals," like their master, Treitschke, have a natural tendency to use their facts to prove what they like to believe. Whether they are in good faith or not, the result of their amazing deliverance must be to discredit German science.

Dr. Victor C. Vaughan, President of the American Medical Association and Dean of the Department of Medicine and Surgery of the University of Michigan, has recently deplored in the New York *World* the loss to the world since German laboratories were exchanged for battlefields whence few will return. "The greatest scientific discoveries of the world," he says, "have been made in German laboratories." We venture to think that Dr. Vaughan exaggerates. It was not in German laboratories that vaccination, anaesthesia, or antisepsis was discovered. Bacteriology we owe to Pasteur, radium to Madame Curie. The list might be indefinitely extended. The German talent lies largely in applying discoveries made in other countries.

A reply to the German manifesto, at once dignified in the restraint of its tone and crushing in its plain recital of facts, has been made by a number of scholars and men of science representing different sides of British learning. It was drawn up by Professor Gilbert Murray, of Oxford, and among the signatories are Sir Clifford Allbutt, Sir Charles B. Ball, Sir Thomas Barlow, Sir William Watson Cheyne, Sir James Crichton-Browne, Sir Rickman Godlee, Dr. J. S. Haldane, Sir Wilmot Herringham, Professor J. N. Langley, Sir Donald MacAlister, Sir William Macewen, Sir Patrick Manson, Professor F. W. Mott, Sir William Osler, Sir Isambard Owen, Sir William Ramsay, Sir Ronald Ross, Professor C. S. Sherrington, Sir William Turner, and Sir Almroth Wright. It may be interesting to add M. Anatole France's opinion of the German professors' protest. "This manifesto," says the leading writer of France, "is a monstrous crevasse between Germany and the whole civilized Europe, an unbridgeable abyss. The only reply to make is to fire on the mass without scruple. These 'intellectuals,' glorifying and exulting Prussian militarism, show themselves to be more odious than the brutes whom they defend. The apologists for a crime are more culpable than the criminals. We must now make a new Europe, a harmonious Europe. It will be necessary to destroy the last army, the last fortress of the Hohenzollerns. After the defeat of the Germans we shall see, but for the moment our business is to conquer."

FRENCH SURGERY IN THIS WAR.

M. Tuffier, the distinguished surgeon to the Beaujon Hospital in Paris, who was commissioned by the French Minister of War to inspect the medical arrangements of the French army, read his report to the Académie de Médecine in Paris on October 13th. The period covered was from the last week of August to the end of September, and he discussed the conditions existing from the firing line, through the clearing hospitals, the railway stations where the wounded were entrained, or the junctions where the trains were marshalled to be sent to their final destination at some place—it might be very distant—where the particular base hospital into which the wounded were to be admitted was established. The general conception of the French plan for handling the wounded resembles that followed in the British, and, indeed, all other armies, but it will, of course, be understood that M. Tuffier's observations apply only to the French army.

Dealing with the first stage of the wounded man's *via dolorosa*, M. Tuffier paid a high tribute to the skill and conscientiousness, courage and endurance of the surgeons at the fighting front. He saw them at work within a few hundred yards of the firing line in barns and hay sheds, often roofless, into which the wounded had been collected. Tincture of iodine "parsimoniously" applied, an aseptic compress, a little cotton-wool, and a bandage were often sufficient to ensure the healing of simple wounds, and this first

dressing might not need to be renewed. Between August 24th and 29th he saw at the Achères railway station over 6,000 wounded from Charleroi, Namur, Catelet, and Mons—men, that is to say, who had travelled from the frontier to within a few miles of Paris, a three days' journey; two-thirds of them were sitting-up cases, and the excellence of the dressings and of the improvised splints for fractures was, M. Tuffier says, striking. In less than 1 per cent. was it necessary to adjust or replace them. Comparing the iron wire troughs and zinc splints used by the French with the padded wooden splints used by the Germans and in the British hospitals, he gave his preference to the latter, because they were simpler and smaller, and because a leg or an arm could be really immobilized with them, much better than with troughs.

In discussing clearing hospitals, M. Tuffier deals with a matter of principle which many surgeons attached to base hospitals at home have brought privately to our notice, and we therefore translate M. Tuffier's observations on this head. "The clearing hospital," he said, "is the first sieve; it sifts out the cases not fit to be moved—abdominal and chest wounds, fractures of the upper third of the femur, and haemorrhagic cases, that is to say, all the serious cases. . . . Such a hospital is a point of capital importance, and should have a special staff (*un personnel de choix*) of experienced operating surgeons capable of rapidly appreciating and carrying out every indication for operations which its equipment and organization justify. Delicate adaptation of individual capabilities, and judicious division of the work according to aptitude is necessary here, but unfortunately it is hardly possible to fulfil this desideratum. The hospital is close to the fighting line, and consequently is constantly liable to be abandoned or captured. If the line advances, the hospital becomes useless for its special purpose; if it retires, the hospital becomes untenable or is captured by the enemy. These conditions, of course, are not favourable to a great surgical organization. Yet what actually happens is most distressing; minute by minute men arrive suffering from wounds of every degree which must be examined and treated. To meet these imperious demands you have only a small hospital with an operating room often chosen at haphazard, and a very small number of surgeons."

Coming next to the transit by railway, M. Tuffier dismissed the luxurious ambulance trains with dressing rooms, pharmacies, and kitchen with the remark that they were only to be seen at international exhibitions. The choice during the time covered by his report really lay between trains made up of ordinary third class passenger carriages or of freight wagons; the latter were generally used because they could carry twice as many as the former. The conditions have since, we learn, been very greatly improved. Ambulance trains made up of ordinary passenger carriages ingeniously converted, and good trucks filled with cots, are now available in sufficient number, and, if not luxurious, provide the essentials of comfortable transit. They carry medical officers and nurses.

During the artillery duels in the early part of the campaign in the Vosges 400 or 500 wounded might come through the station at Épinal, but during the close fighting 4,000. It was essential to empty the clearing hospitals to be ready for the next day, and a single line of railway had to take up food, material, and ammunition; supply had to take precedence of the wounded, so that the only way to bring them down was in the empty freight trucks. He had ascertained that the medical service was not responsible for the make-up of the trains, but was responsible for the selection of base hospitals to which the wounded should be sent. But this responsibility had to be exercised under special conditions; the scene of operations and all the fortified towns had to be kept free from wounded, and often, therefore, they had to be sent long distances. He urged that canteens and nurses should be established at the railway stations all along the road to the base hospitals, but that the nurses in the stations should have strict injunctions not to yield to the request of patients to have their dressings removed and replaced.

With regard to tetanus, which, he said, is one of the most important complications of wounds in this war, he dismissed the suggestion that it was due to bringing the men down in trucks which had been used for horses, and agrees with the opinion which has already been expressed in this JOURNAL that it is in wounds soiled by earth, especially wounds of the extremities, that the infection most often establishes itself. He had observed some fifty cases, and the symptoms first appeared at varying dates—some as early as four or five days after the wound, others much later, after the patients had reached the auxiliary hospital at St. Germain, close to Paris. The proper treatment was preventive—by antiseptics at the earliest date, and the early removal of foreign bodies wherever possible, though in irregular and anfractuous wounds it might be very difficult to do this in the clearing hospitals. He therefore urged the early employment of antitetanus serum. Tetanus, he said, had its birth on the field of battle, and it was there that it must be attacked.

Emphysematous gangrene, which had been observed most often after shell wounds in which particles of clothing had been carried into the tissues, was difficult to treat successfully even if taken early. The actual cautery and large injections of hydrogen peroxide too often proved insufficient, and in the five cases he had seen in which amputation was performed, the operations were not successful in arresting the disease. For this reason he urged the earliest possible extraction of foreign bodies in such cases.

M. Tuffier stated certain general conclusions to which he had been brought. The first was that antisepsis was incontestably superior to asepsis; the second was that in the treatment of infected wounds there was nothing equal to drainage, which was the main point to be kept in view. The third was that in the treatment of wounds of the limbs the French Army Medical Service was right in being guided by the principles of conservative surgery provided that they were not carried too far. Each case must be judged on its own merits, for undiscriminating conservatism exposed the patient to the risk of emphysematous gangrene and acute septicaemia. The fourth was that it should be an absolute rule not to close wounds.

With regard to the relation of the gravity of wounds to the nature of the projectile, he arranged them in the order—bullet, shrapnel, shell. So grave were the wounds produced by the last-named, so liable to be followed by gangrenous septicaemias and by tetanus, that the immediate removal of fragments was indicated in every case in which extraction was easy. Otherwise as little as possible in the way of operation should be done at the front, the surgeon there contenting himself with getting the wounds as clean as possible. The chest wounds which reached the hospitals were, he said, remarkably benign, and cases of haemothorax calling for surgical intervention very rare.

M. Tuffier had a word to say about explosive bullets. He says that a large number of cases were shown to him in various hospitals in which large wounds of exit were supposed to be evidence of the use of such bullets. Every case, however, was, he said, an instance in which the bullet had struck a bone, and its envelope or a fragment of bone had been driven outwards. The fact was, he said, notorious among the surgeons on service, and, he added, "I saw a number of terrible examples among the wounded Germans." In order to prove the existence of prohibited bullets they must be found, he maintained, in the bandolier, or in the rifle magazine of the combatant.

TRANSPORT OF BRITISH WOUNDED IN FRANCE.

We have received during the last few days information which enables us to say that the arrangements for the removal of the British wounded from the fighting line to the base hospitals have now been thoroughly reorganized, and for several weeks have been working in a manner that may be described as satisfactory. The unfavourable conditions of railway transport described by Professor Tuffier in his address to the Académie de Médecine as existing in respect of the French wounded a month ago have also been remedied. Properly appointed ambulance trains have been established, and are now running regularly. Ordinary passenger trains have rapidly undergone a marvellous transformation. Among other alterations first-class compartments of corridor carriages have been converted into two-bed wards for lying down patients. Good accommodation has also been obtained by fitting cots in properly cleaned and disinfected freight wagons. In the north, where the battle of the coast is now going on, ambulance trains are running regularly up to the clearing hospitals, and there is, we are informed on the authority of a very competent witness, no congestion or undue suffering or hardship, although the wounded are arriving in great numbers. The ambulance trains are provided with kitchens and other comforts, and a good nursing staff. Motor ambulances are a great feature of the medical arrangements for the transport of wounded to the clearing hospitals and rail-head, and many of them are also utilized on the lines of communication. Many more could be utilized there, but the chief use of the motor ambulance is the rapid removal of the wounded from the field ambulance to the clearing hospital. It is found that the best and most humane method of transport from the clearing hospitals to the line of communication hospitals, and from the latter to the ships, is the ambulance train. For the work in the advance line—that is to say, between the field ambulances and the clearing hospital—motor ambulances should completely replace horse or hand drawn vehicles, but they should not be used as a rule as a substitute for trains when these are available. The correspondent from whom we have received this information states that he has seen very systematic work for dealing with large numbers of wounded in Manchuria—work quoted as the admiration of the world—but he is able confidently to assert that the work now going on where our fighting is hardest surpasses anything that has before been attempted.

THE BENEFICENT TRIUMPH OF THE MOTOR AMBULANCE.

We need hardly remind our readers that for many years past we have pleaded for the introduction of the motor ambulance in supersession of wheel-litters and horsed ambulances for the transport of the injured, and we cordially supported Sir William Collins in his efforts to introduce such a service for London, and in piloting through Parliament, for that purpose, his Metropolitan Ambulances Act, 1909. At the end of August we intimated that similar ambulances would probably be required for military service, where their success was likely to be as marked as it had been in civil work in large towns both here and abroad. Since that date it is not too much to say that the motor ambulance has come in with a mighty rush. Its suffering-saving capacities, and the earlier treatment which its prompt transport secures, have been abundantly demonstrated. An ounce of practice has outweighed pounds of theoretical objections which were previously forthcoming. The preferences on the part of police authorities for wheel-litters, municipal reactionaries' enthusiasm for workhouse cabs for the conveyance of victims of accidents, and parliamentary committees' vaticinations as to costly experiments have been blown to the winds. Sir Alfred Keogh and Sir Frederick Treves, on their return from a recent visit to the base hospitals, declare that "the need which transcends all other needs at this moment is an adequate supply of properly fitted motor ambulances." Mr. Massac Buist, in our issues of October 3rd and 10th, has called attention to important points in the adaptation of motor cars for ambulance purposes—the avoidance of overhang, the provision of sufficiently plangent springs, and a comparatively long wheel base; and these matters have engaged the attention of the British Red Cross Society and the Royal Automobile Club, which is co-operating in this good work. The excellent electric ambulances employed by the City Corporation have been the admiration of London citizens during the last seven years, and have given an object lesson in how to deal with the transport of the victims of accidents in streets or public places. On an average, we understand, only eight minutes elapse between the telephone summons and the deposit of the patient in hospital. Where electric power is available, and the gradients to be traversed are low, there is no doubt that such a type of ambulance is for urban districts superior to others. Thanks to the generosity of the Grand Duke Michael of Russia, the North-West of London has for two years been able to witness the beneficent work of a petrol driven motor ambulance attached to the Hampstead General Hospital. It is of 15.9 horse-power, climbs the heights of Hampstead and Highgate with ease, and consumes, we understand, about one gallon of petrol for every fifteen miles run. The motor ambulances tardily ordered by the London County Council, to the number of eight or nine, were to be delivered by the contractors this month. They are, we believe, of a novel and quite up-to-date type, largely devised by Lieutenant Sladen, chief of the London Fire Brigade, and are intended to avoid the use of stretchers. No doubt the motor ambulance, whose virtues have so suddenly found themselves acknowledged, is still in a stage of evolution, and the most serviceable form has not yet been finally determined. We have, indeed, heard recently of a combined electric and petrol ambulance, generating its own electric power and lighting as it goes. It would be necessary only to arrange for the utilization of such power for *x*-ray work and inside illumination in order to provide a true moving hospital. To abbreviate the interval between the infliction of the wound and the ministrations of the surgeon and to anaesthetize this interval as much as possible are the objects to be kept in view as well as the great services rendered by the motor ambulance. In this case "it is the pace that"—saves.

HOSPITAL SHIPS.

The hospital ship, though in its present form a novelty, has played a part in naval warfare on many occasions. Its history extends back to the seventeenth century. In the *Army and Navy Gazette* of October 10th the Rev. A. G.

Kealy, R.N., shows that the general idea that the *Maine*, which was wrecked some time ago, before the outbreak of the present war, was the first of seagoing hospital ships is erroneous. He gives the following record of the previous use of such vessels: In 1673 William Dampier, serving on board the *Royal Prince*, on falling sick two days before the action of August 11th, was sent on board the hospital ship. In 1692 Richard Allyn, chaplain of H.M.S. *Centurion*, gives in his list of ships engaged in the battle of La Hogue two hospital ships as attached to each squadron, the Red and Blue. In 1701 Sir George Rooke requested that the hospital ship might bring a good supply of Thames water for the fleet, and later ordered Captain Watkins to take aboard the hospital ship all such sick men as should be sent to him. In 1718 a hospital ship accompanied Sir George Byng when he sailed from Spithead, June 15th. In 1793 Cooper-Willyams, chaplain of H.M.S. *Boyne*, in his account of the campaign in the West Indies, in which the army acted with the fleet, says that after the Grenadiers had repulsed an attack in the Isle of Martinique the wounded were sent on board the *Roebuck*, the hospital ship of the fleet. Later on, when speaking of the hospital taken possession of at S. Pierre, Cooper-Willyams says: "This we found of infinite use for our sick and wounded, who were far better provided for here than they could be in the hospital ships." In 1794 a hospital ship was attached to Lord Howe's fleet off Ushant. In 1795 one was likewise attached to Lord Bridport's fleet off Belle Isle. Mr. Kealy can find no record of hospital ships having been used in the Crimean war in connexion with any of the fleets. He adds: "With regard to the *Maine*, with which we commenced, she was bought for naval service sometime after the South African war, and in 1902 Mr. Arnold-Forster said in Parliament that the policy of hospital ships for the navy had been deliberately adopted after a great deal of consideration by the Admiralty. The current *Navy List* contains the names of seven hospital ships carrying nursing sisters, whose presence at sea is a curious reversal of naval discipline."

SIR ROBERT SIMON.

We mentioned last May that Sir Robert Simon had resigned the position of physician to the General Hospital, Birmingham, after having served the hospital for thirty-five years. At a meeting in the board-room at the hospital on October 14th, before a large audience, his portrait by Mr. Edward S. Harper was presented to the hospital, and gratefully accepted by the Lord Mayor, who said that Sir Robert Simon was prominent in the long line of eminent men who through the last 140 years had gradually built up the very great reputation the General Hospital now possessed. Sir John Holder, as chairman of the House Committee, then presented a diamond tiara to Lady Simon as an acknowledgement of the governors' high appreciation of the devoted and distinguished services Sir Robert Simon had rendered to the hospital. Mr. Gilbert Barling, senior surgeon, then asked the Lord Mayor to present to Sir Robert Simon an album containing an illuminated resolution and a list of subscribers, together with the resolution of the Board of Management, which we published last May. The album having been formally presented, Sir Robert Simon said that after so many years' connexion with the hospital he found it a wrench to give up his association with it. He felt especial pride in knowing that his portrait would hang on the walls of the board-room, and concluded by saying that his work at the hospital had been lightened by the co-operation of the whole of his colleagues, than whom it would be impossible to find a set of men more devoted to the hospital, or more closely associated by the common bond of love for the institution they were so proud to serve.

A MEDICAL AVIATOR.

Dr. Emile Reymond, Member of the French Senate for the Loire, was a medical man by profession, and had won distinction as a surgeon. He held the rank of surgeon-major in the French army. But his heart was in aviation, the possibilities of which in military operations he had often defended in the Senate. Before the war he was President of the National Committee which bought aeroplanes, built sheds, and instructed pilots. He was most eager for service with the army aviation corps, and at his own request was attached to it for military service on the outbreak of the war. He was so successful as a flight observer that he was mentioned in dispatches. While making a reconnaissance over the German lines he was hit by a bullet and mortally wounded. He made a final effort to reach the French lines, but, his strength failing his machine fell between the two opposing armies. The Germans made a determined effort to capture him, but were driven off by the French. He was carried back to his own lines in a dying state, but insisted on giving a report of the results of his reconnaissance. Before his death, which took place a few hours later, the general commanding his division pinned on his breast the Cross of the Legion of Honour. The President of the French Republic sent the following telegram to Dr. Reymond's widow:

Please accept, madame, my respectful condolences in the loss which you have suffered. The heroic and glorious death of Dr. Reymond is a cruel blow to all his friends, of whom I was one, but the magnificent example of courage which he gave is an honour to the Parliament of France. I hope that this thought may be some consolation to you in your great sorrow.

Dr. Reymond is said to have had a greater influence than any other man in France on the development of military aviation, to which he first gave the name of "Fifth Arm."

ARMY SANITARY COMMITTEE.

The Army Sanitary Committee which, as we announced a fortnight ago, the Minister for War had decided to appoint to advise the Army Council on all matters connected with the health of the troops at home and abroad, has already held one meeting. It is constituted as follows: Brigadier-General F. J. Anderson, R.E. (chairman), Dr. Arthur Newsholme, C.B. (Medical Officer, Local Government Board), Colonel W. H. Horrocks, M.B., B.Sc. (Expert in Sanitation, Army Medical Advisory Board), Sir Frederick Treves, Bart., G.C.V.O., C.B., Dr. John Robertson (M.O.H., Birmingham), Dr Henry R. Kenwood (M.O.H., Bedfordshire and Stoke Newington, Civil Expert in Sanitation, Army Medical Advisory Board), and Major C. E. P. Fowler, F.R.C.S., R.A.M.C. (late Officer in Charge, School of Army Sanitation, Aldershot), with Mr. Edmond T. Gann, Secretary of the Army Medical Advisory Board, as Secretary.

THE WAR AND THE MEDICAL SCHOOLS.

London.

Inquiries recently made with regard to the number of new students who have entered at the various medical schools in London, and as to the number of senior students who are at present serving with the army, appear to show that the decline in the former has not on the whole been great.

St. Bartholomew's Hospital.

The entry of new students is considered to be as good as could be expected in the abnormal circumstances, but the medical school is about 50 per cent. below strength, owing to the fact that a few of the second year men, a certain number of the third year, and a great many of the fourth and fifth year students have accepted positions as dressers, etc.

Guy's Hospital.

We are informed that at Guy's Hospital the number of new students is well up to the average. For those students who had any clinical experience and were entitled to begin their clinical training special courses have been provided to qualify them for Red Cross work, and a great many of them have gone to the front. It had been generally realized by students and their parents that it

was better for students nearly at the end of their course to complete their training in order to be able to offer themselves, if need be, as fully qualified men. The secretary of the medical school points out that new students are usually received at ages below the minimum age of enlistment, and that consequently the war need not be expected to affect the numbers of new students to any extent. In the dental department the position is different; students begin their two years' clinical training at 21 years of age, and the entry of dental students has been affected by the war.

The London Hospital.

The London Hospital last year had what was considered a poor entry as regards the number of new students, and this was ascribed to the state of uncertainty brought about by the introduction of the Insurance Act and early difficulties in its administration. This year the figures of last year have been improved upon in spite of the fact that at the last moment fifteen whose names had been given in withdrew in order to enlist. Of students in their final years nearly eighty have left for service with Red Cross and similar units. Second and third year students have not gone to quite the same extent. So far the authorities of the medical school have taken no steps to withhold men from active service, although it is realized that the time may come when it will have to be urged that duties at home are more pressing and must have first claim. It has been found possible up to the present to man the hospital with house-physicians and house-surgeons, and it had not been necessary to draw upon men outside. Several teachers are away on active service, but the course of study is normal.

St. Thomas's Hospital.

At St. Thomas's, also, the point is made that new students are too young to enlist, and we are informed that the number of entrants is little, if at all, lower than the average of the last five years. Of late third and early fourth year men a great many have been accepted as dressers, so that the numbers in the school are lower than usual.

School of Medicine for Women.

On inquiry at the London Royal Free Hospital School of Medicine for Women, there is, we are informed, a record entry of students, the number being 56, which brings the total number of students to 212. Many of the more advanced students are taking service for periods of not longer than three months with private corps which are undertaking the care of the wounded. Former students of the Royal Free Hospital are largely represented on the staff of the Women's Hospital in Paris, which is conducted entirely by medical women. The Royal Free Hospital is also represented on the unit which has been in Antwerp and is about to go to the Continent again.

CAMBRIDGE.

We learn that the number of students proposing to study medicine who have come into residence at Cambridge in October is 64; last year the number was 116, in 1912 it was 110, and in 1911, 114. From the list of resident members of the university it appears that almost 50 per cent. are away, the percentage ranging in various colleges from 71 to 26. Those who have the responsibility of advising medical undergraduates have done everything in their power to keep medical students at their studies, and to some extent have succeeded. In this the university accepts the view of the General Medical Council and the War Office that a medical student should fulfil his course and become qualified at the earliest possible moment.

The members of the field ambulance section of the Officers' Training Corps will for the present devote most of their time to learning the necessary amount of infantry drill, proceeding later to the special work of their unit.

PARIS.

The Faculty of Medicine opened its doors for a short time last week for the purpose of holding the final examinations which ordinarily take place in the month of October, and is arranging for the commencement early next month of a certain number of lectures and classes in the school of medicine. These, however, merely cover the subjects of the first two years, the number of senior students able to follow their ordinary pursuits being too few to make it worth while to hold courses in the subjects of the third and fourth years.

THE WAR.

MEDICAL MATTERS IN FRANCE.

(From a Special Correspondent in Paris.)

CONSERVATIVE SURGERY.

In a recent note I made passing reference to certain cases which had left on my mind an impression that the experience of civilian hospitals was perhaps influencing treatment somewhat unduly. It seemed to me possible that the successes of peace time surgery were leading to overventuresomeness in the way of attempting to save shattered limbs. Having given vent to this half-formed view I ought perhaps to cite against it the fact that one of the strongest advocates of conservative treatment that I know is a man whose surgical training has been not civilian, but military. This is Dr. M. E. Delorme, who is a medical inspector general of the French army and a surgeon of such long experience that very great weight must be attached to his opinion. This, as expressed in his treatise on military surgery, is absolutely favourable to the conservative treatment of the kind of cases that most surgeons a decade or so ago would, reluctantly no doubt, but still unhesitatingly, have submitted to amputation. He is, indeed, so keen an advocate of the observance of conservative principles in military practice that on the outbreak of the present war he issued a kind of manifesto in their favour in the form of a communication to the Institute of France under the title of Conseils aux Chirurgiens. In view of his position in the army this statement would seem almost equivalent to an order so far as his junior colleagues are concerned, and he has since justified it in a summary attached to a review of a batch of over 700 cases. The patients in all these cases were prisoners of war, the survivors of a larger number of wounded left on the field when the Germans began their retiring movement after the battle of the Marne. Picked up by the French in circumstances which suggested that they were among the most serious cases and deemed by the German surgeons unfit to be sent to a German base hospital, they were sent to the citadel of Blaye, where Inspector-General Delorme went to organize a hospital for their benefit. The wounds were of all kinds, and most of them serious in themselves and septic to boot. This was not surprising, for though the Germans had not left them unattended and had applied first aid dressings and splints, six or seven days had elapsed since the men had been wounded, and meantime there had been no opportunity for changing the dressings. Dr. Delorme remained in charge for five days and then left after giving his junior colleagues precise instructions as to how each case was to be further treated. Meantime he had done all the operative work that seemed to him necessary, and in the way of amputations this was limited to the removal of a single finger. This fact Inspector-General Delorme holds to justify his previous teaching, namely, that the primary treatment of compound fractures and the like, however serious, should almost invariably be conservative. This may well be true, but it can hardly be said that the foregoing record is very convincing. The disadvantages of amputating become evident at once, those of conservative treatment not as a rule in five days but commonly not for several weeks. It may then be found either that the limb though saved is practically useless owing to nerve lesions or other circumstances, or that the risks of amputation have to be faced in a patient exhausted by long-continued suppuration and surgical fever. It may seem presumptuous for me to appear to oppose in a casual note of this kind the teaching and practice of so great an authority as Dr. Delorme, more especially as he is supported by a large number of distinguished civilian and military colleagues, but I have a valid excuse for pointing out that the possible arguments are not all on one side. Despite the fact that the tendency in favour of conservative treatment is exceedingly strong, I have seen a good many amputations, and certain circumstances have convinced me that when the war is over suggestions to the effect that A. lost his arm because he was under the treatment of B., and that the leg of C., which was equally badly injured, was saved thanks to D., will not be lacking. The real fact is that

the right treatment of severe compound fractures, however caused, is not a matter for safe generalizations. Every case must be treated on its own individual merits, the precise nature of the lesions, the present and future environment of the patient, and the apparent extent of his vital resistance all being taken into consideration.

Sick Transport.

The French have been by no means blind to the preventable evils arising from lack of sufficient ambulance trains and their blockage through other traffic to and from various bases. It was, indeed, partly in the hope of improving matters that until a comparatively short time ago permits to visit the front were freely issued to persons who had converted their automobiles into ambulances, and expressed themselves ready to take part in the work of bringing down the wounded to base and other hospitals. This partial remedy, however, was early seen to be not free from drawbacks—to some of which allusion was made in a previous note—and consequently the whole subject was taken in hand by the Minister of Public Works in counsel with the Director of the State railways of France. The result of their deliberations has been that a new service of ambulance trains has been put into operation. The new rolling stock, though not as thoroughly suited to its purpose as are carriages specially built for carrying sick soldiers, at least represents a very great improvement. The carriages are of two kinds—those intended for patients able to sit up and those for patients who must be kept lying down. The former are, in effect, ordinary corridor carriages, each arranged to accommodate forty wounded men, and the latter covered goods trucks, each capable of holding nine loaded stretchers. It is said that, so far as rolling stock is concerned, there is now provision for the simultaneous transport of over 68,000 wounded, the State lines being able to deal with 20,000, the Paris, Lyons, and Mediterranean Railway with 20,000, the Orleans Railway with 20,000, and the Midi Railway with 8,000. Each train is to carry a medical officer and a nurse, and will be equipped with everything necessary for the renewal of dressings. The Minister of Public Works is stated also to have in hand the question of utilizing on a large scale the canals and rivers of France for the purpose of transporting wounded men either to base hospitals or to their homes. The idea would seem to be to cover in a large number of barges and equip them in the style of the floating ambulances described in a recent note as having been provided by one of the branches of the Union des Femmes de France. Regarding the projects of that society I should correct a statement previously made. Though it is recognized that the use of self-propelling barges would present advantages, it is considered that it will be preferable on the whole to use ordinary barges and link a sufficient number of them together to form a hospital unit of 400 or 500 beds. Such a unit could be placed in charge of one or more medical officers and a staff of attendants and be towed gently along by means of a steam tug.

The Anglo-Franco-Belge Hospital.

Among the temporary hospitals in Paris which seem to me, on the whole, unlikely to move is that known as the Claridge, or Anglo-Franco-Belge. Most of its patients, perhaps, up to the present have been British, but recently it has been inspected by General Février, the head of the French army medical department in Paris, and its general organization and the character of the work it was doing met with his full approval. Consequently, none of its 80 beds are likely to remain empty long so soon as the present practical embargo on the entry of wounded into Paris is removed. General Février's approval of this institution is not surprising, for the whole of its arrangements are of a most workmanlike order. Nominally under the control of the Union des Femmes de France, it is in effect a free-lance institution, organized, officered, and maintained by persons interested in the suffragist movement in England. The principal medical officers are Dr. Flora Murray and Dr. Louisa Garrett Anderson, who have as their colleagues Drs. Hazel Cuthbert, Grace Judge, Emily Lazear, Blundy, and Jobson. On the subordinate staff are a varying number of fully trained nurses, the only males about the establishment, apart from the patients, being four orderlies. The uniform of the staff is a neat brown costume, with small close-fitting bonnets, and its business-like inconspicuousness might well be imitated by other ladies engaged in the same kind of work. If all I hear is true some of the costumes to be seen in the streets of London suggest the stage of a musical comedy theatre. Paris, too, suffered at the beginning of the war from an epidemic of this order but early revolted against it. Paris, indeed, at the present time is a model to London in more respects than one. However, this is not the subject on which I intended to write. The Anglo-Franco-Belge Hospital is commonly called the Claridge Hospital because it occupies the building of the Claridge Hostel, close to the Rond Point of the Champs Elysées. In respect of the airiness and brightness of its wards, it has no reason to envy any of its compeers, and the arrangements have been thoughtfully made to include a feature which, if not peculiar to this institution, I have not seen elsewhere. A large long room in the basement has been converted into a *chapelle ardente*, and presents at one end an altar, at the other chairs for the mourners, and in the middle a space for a coffin. It is kept tastefully decked, and on the day that I visited it looked very peaceful and beautiful, the light falling into the room through coloured glass in a fashion reminiscent of the famous antechamber of the chapel at Les Invalides. On one of the days that I visited this hospital a number of British patients were being sent home, and the fashion in which they bade their farewells left no doubt as to their opinion of the way in which they had been treated. In fact, if this institution were the sole British hospital in Paris the medical profession in Great Britain might still continue to regard itself as well represented. I should add, lest I forget it as I did last week, an observation in regard to the character of the nursing that I have seen at various hospitals. On several occasions I have been present at operations on patients who had only reached the hospital from the trenches a few hours previously; nevertheless, they were placed on the table absolutely clean. British nurses in Paris are, in short, justifying the esteem in which English nursing has long been held abroad.

Enteric Fever.

At the American Hospital I noted a water filter dependent for its operation on some form of electricity. The machinery being all covered in, and my guide through the building unversed in the subject, I was unable to ascertain what was the system employed. From its general construction, however, I concluded it to be a violet-ray sterilizer. If so, it is probably one of the same pattern that a young British airman officer informed me was being used by his corps. I mention the fact since it serves to illustrate the amount of care that is being taken to provide pure water for the troops. I have made careful inquiry as to the number of cases of enteric fever coming down from the front, and am able to state with assurance that there are at present very few, and that the Widal reaction is being applied in all cases deemed in the least degree of a suspicious character. One hopeful factor in the situation is that the British soldier seems thoroughly impressed with the need of abstaining from drinking any water other than that served out to him ready sterilized, or at all events, is much more docile in the matter than was his predecessor of fourteen years ago in South Africa. Those who served in that war will remember that it was practically impossible to prevent the soldiers drinking any and every water that was available when they were overcome with thirst. It is true that South Africa with its intensely dry climate and usually glaring sun was a much more thirst-provoking land than any part of France, but thirst in the present war has been common. A soldier from the fighting line, in fact, told me that he had only two things of which to complain: one was the difficulty of obtaining bread—which he added was lessening—and the other the impossibility of getting any but a very limited supply of drinking water. What he added regarding the latter trouble was rather interesting. He and his comrades, he said, dare not drink ordinary water because it was well known that the Germans had poisoned it. It appears, therefore, that the belief in the unscrupulousness of its methods that the German army has established is not without its advantages.

THE GERMAN INTELLECTUALS.

It is understood that at its next meeting, which will probably have taken place before this letter reaches England, the Academy of Medicine will decide on some definite step in regard to associates and honorary correspondents of German and Austrian nationality. A decision on the point seems to be inevitable, for, though the Academy is not one of the five constituents of the Institute of France, it is the official representative of French medicine, and guards its portals with the utmost care. Although divided into twelve sections, its ordinary members do not aggregate more than 110 all told. Its statutes permit of its electing twenty foreign associates and twenty-five foreign correspondents, and the roll of the former includes the names of W. C. von Roentgen, of Munich; E. von Behring, of Marburg; Emil Fischer, of Berlin; Paul Ehrlich, of Frankfort; and Friedrich Loeffler, of Greifswald, in Pomerania. On the list of foreign correspondents are Jaroslav Hlava, of Prague; Albert Adamkiewicz, Maurice Benedikt, and Ernest Ludwig, of Vienna; G. H. Erb, and A. Kossell, of Heidelberg; Paul Unna, of Hamburg, and W. Oskar Filehne and J. Hirschberg, of Berlin. Individually most members of the Academy of Medicine are overwhelmed with work at the present time, and for this reason, if for no other, they would doubtless have been glad to avoid any question of revising the foreign associates and correspondents roll. Its consideration has been forced upon them, however, by the manifesto addressed by the intellectuals of Germany to their fellows in neutral countries. This document, following as its issue did on the destruction of invaluable buildings and libraries, unnecessary slaughter of hundreds of innocent civilians, and various other exhibitions of German "kultur" in time of war, is viewed with the deepest indignation among the educated classes in France. Newspapers of all types have mentioned it almost daily since its appearance, and have endeavoured to forecast what action the *Institut*, which is the representative of educated thought in France, will take in respect of it. It seems a little doubtful whether the Institute of France as a whole will take any action in the matter, for seemingly it can only do so on the unanimous vote of its five constituent academies. One of these—that of science, which includes a small section representative of medicine—has in the past rather prided itself on standing aside from its fellows, and another—the French Academy—is not directly concerned, since up to the present it has never elected foreign associate members nor appointed foreign correspondents. It is, however, believed, or at all events hoped, that on the present occasion these two academies will fall in with the rest should any joint action be attempted. Meantime, l'Académie des Inscriptions et Belles Lettres, which is concerned with the study of great historic civilizations, the Academy of Moral and Political Science, and the Academy of Fine Arts have already passed resolutions which have been nominated *flétrissures*. This term, so far as it can be translated at all, may be taken as signifying, in the present connexion, a crushing rebuke to the intellectuals of Germany for publishing a totally unnecessary and misleading statement, and thus tacitly approving of the irreparable destruction of objects of immense interest to cultivated persons all over the world, and of numerous cruelties to women and children.

THE ACADEMY OF MEDICINE.

There are several vacancies in the various sections of the Académie de Médecine, and names of candidates for all of them have been put forward. At an ordinary meeting, however, on October 13th, the president reported that it had been decided by the council to defer all elections until the end of the war. At the same meeting it was resolved to give publicity to the fact that so soon as war was declared the Academy, in view of this circumstance, had adopted unanimously a series of resolutions relative thereto. One of these stated that the whole of its members placed their services at the disposition of Government, while the rest were to the effect that in the public interest the danger of a possible outbreak of small-pox as a consequence of the war should be forestalled by increased attention to revaccination; that to prevent any possible shortage of lymph on account of lack of calves the Vaccine Institute, which is under the general control of the Academy, should be taken over temporarily by the medical department of the Ministry of War; and that the general public should be encouraged to seek protection against enteric fever by the use of antityphoid serum.

CHANGES.

During the past fortnight or so there has been a distinct change in the atmosphere of Paris, both physical and moral, but it is not of such a character as to be susceptible of description in a couple of phrases. Meteorologically, the weather has been distinctly autumnal, cold days of drizzling rain alternating in triplets with a few brief hours of springlike sunshine. Autumnal, too—indeed, almost wintry—is the moral atmosphere, inasmuch as that the average Parisian, though he has lost neither his courage nor phenomenal calm, is becoming somewhat subdued. Still confident that there can only be one end to the war, proud of the performances of his own army, and gratefully and fully alive to the assistance that that army has received from the British and Belgian forces, he is nevertheless beginning to recognize that the war will be long, and views with a certain degree of heart-sinking the prospect of being unable to return to his normal existence for many months to come. On the other hand, there is a suggestion of spring in the fact that little by little the number of shopkeepers who think it worth while to reopen their premises is increasing, and that many more people are to be seen in the streets than was the case a few weeks ago. Among these a British soldier is becoming a rare object, and this is due to the greatest change of all. Comparatively few wounded of any nationality have been brought into Paris for a week or two past, and of British wounded practically none at all. Indeed, the British Red Cross and other hospitals officered and maintained by English-speaking folk are beginning to wonder whether they will not soon be directed to move out of Paris farther towards the north, whither the head quarters of the British Red Cross Society have already proceeded. It seems hardly likely, however, that all of them will be moved, or that in the case of any of them a change of station will take place rapidly; though the inflow of new patients has ceased, all of them still have many cases on their hands and in addition to finding a new home for themselves the hospitals must find also new quarters for their present inmates. Besides this several of them are catering quite as much for French as British patients. The American, the Majestic, and the Anglo-Franco-Belge hospitals are cases in point. There would probably also be some difficulty in finding suitable fresh quarters for so large and well elaborated an institution as the Astoria. This was the first of the four hospitals established under the aegis of the Red Cross Society in Paris, and the fact that it was ever established at all is a distinct feather in the cap of Dr. Leonard Robinson, Dr. Jarvis, and others connected with the Paris branch of the society in question. Foreseeing the need of a Paris branch Dr. Leonard Robinson applied, almost as soon as war started, for authority to establish one, and when no reply came from London he and his colleagues practically gambled on the chances of an authorization eventually arriving and set to work to lay the foundation of a hospital organization and provide other necessaries forthwith. They did this despite the fact that little assistance seemed likely to be forthcoming from the natural supporters of a Paris branch. Most of these—namely, the richer members of the British community in Paris—had left when the probability of Paris being invested first loomed on the horizon, and the amount of support on which Dr. Robinson and his colleagues were able to count with certainty was very limited. It was well indeed that they had the courage of their own convictions, for it was largely owing to the pioneer work of the nascent Paris branch that the parent body was able to do effective work on a larger scale immediately it reached the capital. Previously its career had been a series of disappointments, owing to its having been driven from pillar to post by the frequent changes of front and having had to abandon project after project. All supporters of the British Red Cross Society are therefore greatly indebted to those who took part in the foundation of the Paris branch. They have had an immense amount of work of all kinds thrown upon them, and they are unlikely to be able to slacken their efforts for some time to come.

MEDICAL ARRANGEMENTS IN THE NORTH OF FRANCE.

We have been favoured with a copy of a letter referring to the British medical arrangements in the north of France, written by a military medical officer of long experience, and are permitted to take the following extracts from it:

No praise (he says) is too great for the systematic work which is being done both in the field ambulances and clearing hospitals during the heavy fighting which has been going on. Every possible arrangement is being made for the comfort of the wounded. For example, at one of the dressing stations opened in a village estaminet the public room had been very comfortably prepared for severely wounded, a central stove with a cheery fire and hot coffee making a great contrast with the cold, drizzly, dismal weather outside to which the men were being exposed in the attack. In an adjoining house of a well-to-do French family one of the bedrooms had the bed beautifully ready with clean sheets and blankets, the fire lighted, and the whole effect that of a cheery bedroom at home. This was kept for the reception of any seriously wounded officer. I mention these incidents merely to give a picture of the kind of thing that is going on under the R.A.M.C. under the enemy's guns in what is practically an encounter battle. From the dressing stations to the clearing hospitals which were opened about five miles back motor ambulances were constantly running, and the wounded got back almost as fast as they could be dressed. One clearing hospital associated with the field ambulances was opened in an extensive seminary for young ladies. The building was fitted with every sanitary convenience, and had rows of cubicles, each with a neat little cot. The girls had only been turned out of the building a couple of days before, and, in consequence of all this useful equipment, a really bright hospital was ready in no time. I cannot imagine anything more comfortably arranged in a hospital of such a transitory nature and so near the fighting line. You may be satisfied, and everybody at home may be satisfied, that any tales intended to cause anxiety to those who have friends and relatives at the front are wicked and untrue.

General and stationary hospitals at the base are, the writer states, usually housed in luxurious hotels and casinos. In several which he visited he found that though the personnel and equipment had only been there a day or two, all was got ready with great rapidity; most of the buildings were already full of wounded. There appears to be very little sickness.

"Nobody here," he concludes, "seems capable of understanding how the idea got about that there was anything approaching a breakdown of the medical arrangements. The whole system is full of life, zeal, initiative, and vigour. It is capable of bearing a much greater strain than any to which it has yet been put."

A CLEARING HOSPITAL.

We have received an outline of the work of a British clearing hospital established at a small village at the rear of the fighting line on the Aisne. When first established it had five medical officers and the help of a French lady who had had some training in nursing. Its organization steadily improved, and when in full swing it had five special reserve medical officers, or civil surgeons, including a bacteriologist, and three Red Cross nurses. The village church was used as the reception hospital, and cases as received from the front by motor ambulances or lorries were sorted into bad, sitting, and sick, which were placed in different parts of the church. The village hospital of two wards, already properly equipped with beds and bedding, was taken over and used for bad cases. Four houses and certain convenient outbuildings were also taken over and fitted up with beds and other equipment obtained from neighbouring country houses. Altogether fairly adequate provision was made for between 200 and 300 wounded and sick. During the first week nearly 4,000 wounded—British, French and German—came down. The motor ambulances (Wolseley's) were of very good pattern, and were used for bringing down the wounded to the village, and also for transporting them to the rail-head; in some cases they were used for taking serious cases to Paris direct. The ambulances held four lying down and went to Paris in charge of a medical officer, but as the roads were bad, a train was preferred when one could be obtained, as was usually the case later on. A rough rule was made that in cases of wounds of the head and chest or severe wounds of the leg, the patient should not be moved if conditions permitted his detention, as such cases bore the journey badly and did much better in the village.

When the British force removed from the region the clearing hospital was ready to move also, and its departure was hastened by the fact that one afternoon it was shelled for several hours, most of the shells being apparently directed on the church, which, as has been said, was being used for the reception of wounded when first brought down.

At this time, in addition to the ordinary wounded, the hospital had charge of seven women who had been hit while attending the wounded in neighbouring villages. One of these women who had suffered a severe shell wound of the skull, exposing the brain, died. In another case it was necessary to amputate the foot; in a third, a rifle bullet had entered in the back to the right of the vertebral column, and had probably damaged the ureter; the patient developed signs of pelvic peritonitis, but it was found possible to move her to the ambulance train, and it is believed that she eventually did well.

The general line of treatment followed at the front and at the hospital was the application of iodine to the skin followed by dry dressings. Other antiseptics than iodine were not generally used; instruments were boiled. Most of the cases in which amputation was necessary did well, but in some, where the men had lain out long before they were brought to the field ambulance and hospital, malignant oedema had set in and amputation proved useless. There were few abdominal injuries; they did badly. The hospital had the services of a bacteriologist whose assistance was very valuable, particularly in the detection of typhoid fever, of which some 30 cases, chiefly from the British forces, were admitted. After the hospital had been established for some time injections of antitetanus serum became the rule. At the clearing hospitals in the north of France all the wounded, we are informed, are receiving an injection of antitetanic serum as a routine prophylactic measure. A German ambulance, very well fitted up and containing dressings and drugs, was brought into the village, and its supplies utilized to supplement those already available. Among the duties undertaken by the clearing hospital was medical attendance on the ordinary inhabitants of the village, who numbered about 200. A civil surgeon was told off for this duty, and during part of the time had the assistance of a German medical officer who had been taken prisoner.

INDIAN EXPEDITIONARY FORCE.

A British military medical officer in France who has seen a good deal of one of the Indian Divisions tells us that, from what he has observed of the billeting of its field ambulances, he came to the conclusion that the Indians would very soon become experts in making themselves comfortable in the French houses. The building assigned as a stationary and general hospital for Indians should, he thinks, in time become a fairly comfortable hospital, and he expresses the hope that the standard of comfort and brightness will be made equal to that of the British hospitals. One of the Indian hospital ships which he visited he describes as most luxurious, no element of comfort being lacking. It is, he says, "in every respect equal, if not better, than the British hospital ships, one of which I saw alongside the Indian one."

A HOSPITAL YACHT.

The turbine yacht *Albion*, 1,700 tons, Captain Thomas Derham, Lieutenant R.N.R., has been generously placed at the disposal of the War Office after being very cleverly converted into a hospital yacht by the owner, Mr. H. Loeffler, R.T.Y.C. The staff consists of Lieutenant-Colonel A. B. Cottell, F.R.C.S.Edin., R.A.M.C. (retired), as Principal Medical Officer, Mr E. P. Scott, M.R.C.S., L.R.C.P., as operator, and Mr. G. A. Lilly, M.R.C.S., L.R.C.P., B.S.Cantab., as physician and anaesthetist. Miss M. S. Ram is acting matron, and Sister C. R. Millar, of the

Q.A.I.M.N.S., and Miss A. McCulloch, Miss F. M. Steel, from the Royal Sussex County Hospital, Brighton, Miss F. N. Hobbs and Miss I. Pope from the Royal Infirmary, Bristol, and Miss G. Penley, private nurse, and Miss M. H. Cottell, British Red Cross Society, act as sisters, and two privates of the R.A.M.C. as ward orderlies. The crew and stewards assist in cleaning the wards and lifting the stretcher cases.

The yacht had previously been accepted by the Admiralty as a hospital yacht, official number 9, and was employed by them from August 19th to September 14th. She was then placed in reserve, and, as the War Office was anxious to obtain her services, she was placed at its disposal. Her accommodation for wounded and sick consists of 26 beds, and she can take up to 30 cases on deck on mattresses if the weather is suitable, as she is fitted with wooden bulwarks, shutters, and fore and aft canvas screens. She is fully equipped for any operation, and has a commodious dispensary.

Her coal capacity enables her to make ten voyages out and back without the dirt, discomfort, and delay of re-coaling, and, owing to the good arrangements, she can disembark her patients and return for more in two hours.

She left Southampton for Boulogne on her first trip on October 16th, and the first wounded were embarked next day—3 officers and 23 men cot cases and 30 on deck. These were straight from a hospital train, and most were severely wounded and needed re-dressing. There were some minor operations, and one amputation of the arm for malignant gangrene. The next batch of wounded was embarked on October 19th, when the yacht carried 9 officers, 19 men, and 4 Germans; these also mostly required re-dressing or change of splints.

On October 21st 13 officers and 27 men, amongst them the Duke of Teck and the Duke of Roxburgh, were embarked from the same port. There were 5 cases which needed an operation requiring general anaesthesia.

On October 24th the yacht carried 26 cot cases and 6 deck cases—the usual gunshot injuries. All the patients carried, with the one exception of the man with malignant gangrene, have been disembarked in much improved condition. The facilities for operating have been more than valuable, and limbs have been saved by timely surgical interference.

All the staff and the crew have worked ungrudgingly and well.

AUSTRALIAN VOLUNTARY HOSPITAL.

Roentgen Ray Work.

Mr. Herschel Harris, M.B., Ch.M., Sydney, sends us some notes on the work of the *x* ray department of the Australian Voluntary Hospital, under the control of Colonel Eames, C.B., which was early in the field. It was first established at St. Nazaire, where the main part of its work was carried on in a large house which had been occupied by a medical man as a private hospital; a large school building alongside was used as an annexe. Two basement rooms in the house were assigned to the *x*-ray department. Electric current was supplied from accumulators. Within twelve hours the hospital, as well as a tent-hospital pitched on a vacant piece of land adjoining the gardens, were practically filled with wounded. Within seven hours after the cases containing the *x*-ray apparatus were delivered it was set up and ready for use, and several patients were immediately radiographed and operated upon. Two ordinary small kitchen tables were procured in the town which could be placed end to end or separated to allow a stretcher to be placed between them. These were very useful, and quite as convenient as most of the elaborate tables; the tube could be employed above or below, as desired.

With an able volunteer assistant, Mr. Harris was able to do much useful work, sometimes as many as thirty cases being rayed in one day. In only seven of the first 200 cases were rifle bullets found. By far the greater number had fragments of shell varying in size from a pin's head to pieces 2 in. square. In most instances the shrapnel had carried into the wound a piece of the garment traversed by it, and this was usually discovered at the subsequent operation for the removal of the foreign body. A large number of fractures came under observation, and in some cases the shrapnel was present amidst the fragments of shattered bone. The comminution in some cases was appalling, and often large pieces of bone had completely disappeared. The shell fragments apparently caused more havoc than other projectiles.

Some most remarkable cases came under observation. One was that of a man who was hit in the right shoulder by a shrapnel bullet which traversed the right lung, diaphragm, liver, and intestine, and was discovered in the pelvis. It was traced for several hours passing along the intestines, and subsequently the patient passed the fragment, and returned home cured. Mr. Thring, of Sydney, intends to report this case fully later on.

One man who was shot in the thigh found the head of the bullet in his trousers, and the casing was subsequently removed from the wound. The femur was frightfully shattered in this case. Nothing in the shape of Dum-Dum bullets has been met with.

Generally a rough localization was satisfactory, for at operation it was usually found that a large sinus led to the foreign body, which could then be detected by sounding with a steel instrument such as a long pair of forceps. The shrapnel bullets—the size of small marbles—were found at variable distances from the entrance wound. Sometimes they appeared to have travelled for some distance along the planes of cellular tissue. Colonel Eames procured a large horse ambulance to carry the *x*-ray apparatus, and Mr. Harris obtained a small dynamo and engine which will enable the hospital to manufacture its own electricity in future. Thus equipped, it will be prepared to work at practically a moment's notice on the field. In most cases radiographs were taken and printed copies made of all cases of interest.

THE BRITISH RED CROSS SOCIETY.

Severe Pressure upon the Organization.

Pressure upon the organization of the British Red Cross Society has been increasingly severe for several days past, and it is felt that the course of affairs has amply justified the policy of paying regard, first and foremost, to the needs of British wounded. To have embarked, during a period when pressure was less great, upon any extensive plans for aiding the French medical organization would have been extremely undesirable as likely to lead to almost insuperable difficulties. Meanwhile good progress has been made by the French army medical department, much better organization prevails, and the work is less in arrear. Six surgeons and twelve dressers have been sent by the British Red Cross Society to Rennes this week to help with the French wounded. This brings the number of surgeons so engaged to at least thirty, but it is expected that from now onwards the French will require less help from the British society. The society claims that there has been no urgent call to which it has not responded. The need of the moment is for dressers, of whom the supply seems scanty.

Work in France.

There are a great number of British wounded at Boulogne, where, in order to cope with the pressure, 100 orderlies, 12 dressers, and other personnel have been sent. The society's very large fleet of motor ambulances is working in and about Boulogne. The first British Red Cross hospital train is now in readiness, and 5 surgeons and 20 nurses have been sent to take charge of it. Two other hospital trains are being prepared. Mr. Graham White has placed a yacht at the disposal of the society for the transport of stores, etc. A hospital ship is also being prepared for service.

Emergency Corps of Surgeons.

The new departure noted last week of sending a body of surgeons and nurses to assist the R.A.M.C. officers in landing the wounded at the ports continues to be most useful. The corps has done good service already at Dover, Folkestone, and Southampton. An additional service is now provided by the society—namely, an emergency corps of surgeons and nurses to assist the staff of any hospital passing through a period of great pressure during the reception of a large number of wounded. The emergency corps, which remains until the patients are satisfactorily settled in the wards, has been able to render most valuable help.

Help for Servia.

Having received, as we noted recently, an appeal for help from Servia, the society this week dispatched six surgeons and twelve orderlies with large stores to that distant battle area. The unit makes the journey in the Admiralty transport *Dongola*, and is detailed to the port of Salonika, whence it will go up country. The leader of the party is Dr. Barrie, who served in the South African war and the Chinese rebellion.

THE HOME HOSPITALS AND THE WAR.

THE 2ND EASTERN GENERAL HOSPITAL, BRIGHTON.

Two more convoys of wounded have been received at the 2nd Eastern General Hospital, the first—numbering about fifty—from Bethune, near Lille, the second—120 in number, and of Belgian nationality—from the coast fighting now going on. The former were only wounded on a Tuesday, but so rapid was their transport that they were admitted to the Brighton Territorial Hospital sixty hours later. Many of the injuries received by those at Bethune were very serious, but those of the Belgians were, in the great majority of instances, not very bad. The following are examples of cases under treatment:

Shrapnel Wound of Back: Injury to Rectum: Paralysis of Bladder.

This man was struck by shrapnel in the lower part of the back on Tuesday. On admission on Friday, sixty hours later, he complained of bad abdominal pain. The lower half of the abdomen was very much distended, and the distension was clearly due to a full bladder. He had not passed water since he was shot, but urine had dribbled from the over-distended organ. A catheter was passed at once and a large amount of water withdrawn. He still had paralysis of the bladder necessitating the regular use of a catheter, but as he has no sign of paralysis of motion or sensation this is probably due to concussion of the bladder centre and not to any injury of the cord. The wound in the back discharges faeces, showing that it communicates with the rectum, which was evidently wounded by the shrapnel bullet.

Amputations for Severe Gunshot Wounds.

Three amputations have been necessary, one of the arm and two of the leg, all for compound fracture of joints. In the first case, notes of which have already appeared in these columns, the subclavian artery had been ligatured for secondary haemorrhage, but in spite of this repeated losses of blood had occurred, so weakening the man that it was clear that nothing short of amputation gave him a chance. He had been advised this some time before but had declined. The arm was removed at the shoulder, and it was found that the joint was completely smashed, the bone being in pieces and freely suppurating. His condition is still extremely grave. This case is a good illustration of the value of the dictum of the old military surgeons: "Always amputate for secondary haemorrhage from a gunshot wound. If the ligature of the main artery is successful in averting haemorrhage, you get gangrene. If you do not get gangrene, you fail to check the bleeding."

The two other cases were very similar. Both men had smashed knee-joints from bullet wounds. In each case attempts had been made to save the limb, but the wounds had become very septic, and the temperature rose in one case to over 105° F. Nothing was left but amputation, which in each case was carried out at about the middle of the thigh. The two men are doing well.

Rifle Bullet Wound of the Head, Neck, and Chest: Death from Secondary Haemorrhage and Exhaustion.

This patient was shot in the nose, the bullet entering at the left hand top corner of that organ, passing downwards through the hard palate, and then down the right side of the neck. On admission he was haggard, worn, and emaciated, and plainly very ill. He had a sloughing wound of the hard and soft palate, dividing them completely, in fact his mouth looked as if he had had a badly performed operation for cleft palate, which had got very septic. He was coughing up large quantities of thick, purulent expectoration, there was slight surgical emphysema of the top of the right side of the chest, and his right arm was more or less paralysed. He said he was unable to swallow anything. He was treated by frequent hydrogen peroxide spraying for the mouth, and fed by getting him to lie on his side, take fluid into the hollow of his mouth, and allowing it to trickle down. This answered admirably, and he soon began to get quite a quantity of food down. He picked up well after a few days. *X* rays located the bullet behind the sterno-clavicular articulation of the right side, just over the innominate artery. There were no abnormal signs in the lung. As he was improving it was decided not to remove the bullet, but to wait and watch the course of events. The paralysis quickly improved, so much so that there could not have been any very serious lesion of the cords of the brachial plexus. On the eighth day after receiving his wounds a large slough separated from the palate and the parts looked quite nicely. In a few hours there was excessive haemorrhage from the palate which ceased spontaneously. This recurred a few hours later, and was arrested by plugging, but he died from exhaustion a few hours later.

The course of the bullet was evidently as follows: It struck the top of the nose obliquely on the left side, passed through the palate a little to the right of the middle line, then down the right side of the neck, concussing the cords of the plexus, and finally lodged in the upper part of the right side of the chest, slightly wounding the apex of the lung in its course.

Multiple Shrapnel Wounds.

One man had as many as twelve wounds on his body, arms, legs, neck, and chest, from a shower of shrapnel. None of them was very serious; the case is mentioned simply on account of the number of injuries.

Compound Fracture of the Femur.

This man was shot through the leg, the bullet striking the femur, and then passing through the thigh, causing a large spiral fracture of the middle of the shaft of the bone. He arrived with his field dressing on, and his rifle and some trenching tools as splints. He was put up with a long Liston splint and extension, and so far seems to be doing fairly well; but unfortunately the bullet wound is septic.

Compound Fracture of Humerus.

This man, a wounded Belgian from the coast, was found to have two septic wounds of the upper arm, and two of the forearm. The humerus was broken in its upper end and also in its lower. The condition of the arm is so bad that probably it will require amputation, though as the man's general condition is quite good, an attempt is being made to save it.

Two Cases of Bullet Wounds of the Lung.

In both these cases the men were shot through the chest, the bullet remaining in the lung. They both had pyrexia, the temperature reaching about 103° F., and both had a good deal of muco-purulent expectoration. It was decided, in view of the great risk of hunting for bullets in the lung, to watch these cases, and see if improvement ensued, before undertaking any operation.

Wound of Genitals.

This man was struck by a bullet which carried off the end of the penis, laid open one side of the scrotum, and then traversed the inner side of the thigh. The whole wound was sloughy on admission, but is now clearing up nicely.

Bullet Wound of the Brain.

This patient was shot by a rifle bullet, which left a compound fracture of the frontal region of the skull, with a septic wound through which the brain was protruding. It was impossible to do much in this case, but some loose pieces of bone and the protruding brain were removed, and the man is doing quite nicely.

The number of operations performed in the theatre so far is 135. In addition, a good many minor operations were undertaken in the wards. The operations include 27 cases of extraction of bullets, 20 for the radical cure of hernia, 6 for haemorrhoids, 4 for varicose veins, 3 for hydrocele, 12 for appendicitis, 3 for loose cartilage in the knee, 11 for removal of tonsils, 4 cases of trephining, 1 of short-circuiting, 1 for mastoid disease, 2 for secondary haemorrhage, 1 of amputation of the arm, 2 of amputation of the leg, 1 of amputation of the finger, 2 of amputation of the toe, 3 for varicocele, 1 for empyema, 4 of perineal section, 1 of excision of the eyeball, and various others. With the exception of one case trephined for bullet wound of the skull, there has been no fatal case following operation.

NOTES.

CHURCH ARMY WAR FUND.

AN appeal for £20,000 towards his special war fund was made by Prebendary Carlile at a meeting of the Church Army held at the Hampstead Conservatoire on October 22nd. Lady Jellicoe, who presided, said that our sailors and soldiers were hourly facing hardships and perils at the front, and it would be a great support to them to know that those at home were also trying to play their part by doing what they could for the country in its hour of need. She rejoiced to know that the Church Army was responding to the call, for in addition to a war hospital at Caen it had organized recreation tents and church rooms for the troops, and was looking after a great number of Belgian refugees. A letter was read from Millicent Duchess of Sutherland, stating that what was most needed at the present moment was an adequate organization of ambulances and hospitals both at the front and at home. France and Belgium had suffered terribly from inadequate organization, and what had struck her most forcibly whilst with the Germans was their first-class powers in

this direction. She felt sure that the British, who had done nobly so far, would use the necessary method and perseverance to meet the needs that now faced them, and laid stress on the self sacrifice of the individual and the power of organization of ambulances and hospitals both at home and abroad. The meeting concluded with an interesting address on the hospital work of the Church Army in the north of France. A speaker, who had gone over to Caen only two or three weeks after the establishment of the Church Army hospital in that town, said that he had been amazed at the efficiency and completeness of its arrangements. Everything worked like clockwork. He had been present at the arrival of a batch of some fifty badly wounded men, some of whom had spent two or three days in a hospital train and were on the verge of collapse from pain and exhaustion. In the shortest possible space of time they were comfortably in bed with their wounds dressed, and within a couple of days were as bright and contented as it was possible for them to be. He had been particularly struck by their uncomplaining endurance and by the touching gratitude they showed for all that was done for them; and if he left France with an increased detestation of the horrors of war he had also left it with a tremendous admiration for the brave men who were upholding the national prestige across the Channel.

Motor Ambulances for the Front.

We published last week the announcement of the gift of a motor ambulance by the panel practitioners of London, and of motor ambulances from a fund raised by an appeal by medical men in Oxford. We now have pleasure in mentioning that the same movement is being carried out in other parts of the country.

The Council of the Surrey Branch of the British Medical Association is making an appeal to the profession in the county to subscribe for a motor ambulance. Promises amounting to £200 were very quickly received, and also an offer from a doctor to act as driver. All doctors in Surrey who wish to subscribe to the gift should send their cheques without delay to Mr. Cecil P. Laukester, Honorary Secretary, Surrey Branch, 1, Rectory Place, Guildford.

An appeal, signed by, among others, the President of the Yorkshire Branch of the British Medical Association and the Chairmen of the Local Medical and Panel Committees of the North, East, and West Ridings, has been made to the medical profession in Yorkshire to contribute £1,000 primarily for the object of supplying motor ambulances where they may be needed, but also for other Red Cross and ambulance work designed to lessen the sufferings of those who are fighting the nation's battles.

Field Ambulances (Reserve).

1st East Anglian Field Ambulance (Reserve.)

Captain Francis Ward, R.A.M.C.T., Drill Hall, Woodbridge Road, Ipswich, states that there are three vacancies for officers in the 1st East Anglian Field Ambulance (Reserve). In addition to the usual training, each section is being trained to work as a motor ambulance and cycle section. Only competent medical men possessing motor bicycles need apply.

1st Reserve Welsh Field Ambulance.

Major Howard Jones, 1st Reserve Welsh Field Ambulance (Ebbw Vale), states that there are vacancies in that unit for lieutenants.

Field Ambulance Officers and Civil Practice.

The following correspondence, following on a suggestion of the Dundee Division that medical officers while stationed in Dundee should be permitted to attend to their civil practice when not required for military duty, may be useful to other districts where practitioners have difficulty in accepting commissions in Field Ambulance Reserve units. As the commanding officer is primarily concerned with the efficiency of his unit, it will be well to form a cautious estimate of the amount of time available for civil work.

From the City of Dundee Territorial Force Association,
To Head Quarters, Scottish Command.

October 13th, 1914.

Sir,—I am directed to forward attached correspondence for your favourable consideration and necessary action. The Association is of opinion that medical officers could well attend to their practice while stationed in Dundee, and strongly recommend accordingly.—(Signed) JNO. VAIR, Major (Secretary).

[REPLY.]

October 14th, 1914.

I see no reason why the medical officers who join the reserve unit of the 3rd Highland Field Ambulance (T.F.) should withdraw from all civil practice. The medical needs of the civil population must be attended to. When not required for duty they can attend to their civil duties.—(Signed) G. O. BOURKE, Surgeon-General, D.D.M.S. Scottish Command.

FURTHER CASUALTIES IN THE MEDICAL SERVICES.

ROYAL NAVY.

Prisoner of War.

Greig, Staff Surgeon Louis L., M.B., R.N.

ARMY.

Wounded.

Dillon, Lieutenant H. de C.
Porter, Captain R. E., R.A.M.C.
Stewart, Captain P. S., R.A.M.C.

Prisoners of War.

Corbett, Captain D. M., R.A.M.C.
Rees, Captain G. H., R.A.M.C. (previously reported missing).

Missing.

Jackson, Lieutenant J. L., R.A.M.C.
Johnson, Captain B., R.A.M.C.

WEST AFRICAN MEDICAL STAFF.

Prisoners of War.

Lindsay, Dr. J. (in Cameroon).
Trumper, Dr. W. A. (in Cameroon).

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND SALFORD.

The Insurance Act: Medical Benefit.

In April last the Manchester Insurance Committee appointed a special subcommittee to inquire into the working of the Manchester system of medical benefit. It will be remembered that under the Manchester system the panel doctors receive payment from the pooled sums available for medical benefit in proportion to the number of attendances actually rendered, and the Panel Committee holds itself responsible for the efficient treatment of the insured. During last year and the earlier part of the present year there were numerous complaints that the Manchester system lent itself to a number of abuses which were less liable to occur under the capitation system, the principal charges being that, in order to raise the number of their visits and consultations, the panel doctors encouraged patients to remain on sick list longer than was necessary, giving certificates for sickness benefit without sufficiently strict examination, and prescribing so lavishly that the drug fund was not adequate to meet the chemists' bills.

Mr. W. Davies, Chairman of the Insurance Committee, was elected chairman of the committee of inquiry, and, after holding seventeen meetings and hearing a number of witnesses, the committee has now issued its report. The committee expresses regret that in spite of the number of complaints which had been made by approved societies, more witnesses representative of the societies had not offered to give evidence, but from the material at its disposal the committee concludes that the allegations of slipshod diagnosis owing to large practices induced by the system were "practically unsubstantiated." It believes that in the earlier months, soon after medical benefit commenced, the antagonistic attitude of the doctors towards the approved societies and the absence of checks on over-attendance had led to lax certification and excessive sickness claims, but for some time past now these abuses have been diminishing, and are likely still further to diminish in the future. The committee expresses the hope that there is no ground for the complaint that insurance patients are treated differently from private patients, as it would view with marked disapproval any invidious distinction of patients or differentiation of treatment. On the whole, the committee believes that the Manchester system provides an adequate medical service, and that insured persons receive adequate attendance and treatment, that the system is more satisfactory than the capitation system to the insured, and, owing to the greater

influence of the Local Medical and Panel Committees, can be made more advantageous to approved societies. It is also of opinion that the establishment of a whole-time or salaried service is not at present practicable, though the appointment of a few whole-time officers with the requisite facilities for specialized treatment would improve the present system.

The report was presented to the Insurance Committee at a special meeting held on October 20th, and after some discussion an amendment was proposed recommending the adoption of a whole-time salaried service. This, however, received but little support and it was eventually resolved to recommend the continuance of the present system for the year 1915, the resolution expressing the opinion that insured persons under this system are receiving adequate medical treatment.

At the monthly meeting of the Salford Insurance Committee it was stated that the Salford committee of enquiry on the lines of the Manchester Committee was not yet prepared with any report, but it was understood that there had been the same difficulty as in Manchester, as very few of the approved societies which were loud in their complaints some months ago had seen fit to offer any evidence on which a reliable judgement one way or the other could be based.

With regard to the dispute between the Salford Panel and Pharmaceutical Committees about the charges of over-prescribing against about sixteen of the panel practitioners, the Insurance Committee expressed its regret that it had not up to then received any official report since the matter was referred back to these two committees, though it is pretty well understood that the two committees have not been able to arrive at any agreement.

The Manchester University and the Belgian Refugees.

The Senate of the Manchester University has recently sent through the Belgian authorities an address of sympathy to the University of Louvain. The address, which was in Latin and English, reminds the University of Louvain that three years ago the Manchester University had congratulated it on the seventieth anniversary of its second foundation, and though at this moment the enemy is still trampling on the ruins of its buildings, the time is not far off when they will pay the penalty which they have incurred. After complimentary reference to the past history of the Louvain university, the address proceeds to say that "if you, our colleagues of Louvain, or other teachers also banished from Belgium, will come with your families and accept the hospitality which we are proud to offer, be sure that we shall count it an honour." In order to carry out in a practical manner this offer, a meeting of members of the senate has been held, and a "Manchester University Committee" was constituted for the purpose of receiving Belgian professors and teachers. Mrs. Weiss, wife of the Vice-Chancellor, was appointed chairman, with Professor Conway, chairman of the executive committee, Mr. E. Fiddes, treasurer, and Professor Unwin and Mrs. Lapworth, honorary secretaries. In addition to the Vice-Chancellor, Professor Weiss, a large number of the university professors are members of the committee, which hopes to work in friendly co-operation with the general Manchester and London committees. Its immediate object is to find out those of the exiles who would like private hospitality and to secure it for them as guests, and secondly to fit up a house or houses for those who wish to live together, and to make reasonable provision for their needs. The secretaries of the committee will be pleased to hear from any Belgian exiles who belong to the teaching profession.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Presentation to Dr. William Bartley.

Last week, in the Temperance Hall, Ballybay, Dr. Bartley met a committee representative of his friends in the neighbourhood, and received an expression of good will on the occasion of his marriage, accompanied by a canteen case, silver salver, an illuminated address, and a cheque. The Chairman bore testimony to the regard and esteem in which Dr. Bartley was held by the whole community. Dr. Bartley made a suitable reply, in which he referred to the invariable kindness he had received from the people of Ballybay and surrounding districts.

Royal College of Physicians.

Dr. E. MacDowel Cosgrave, who has just been elected President of the College of Physicians, has been a Fellow of the College since 1887. He graduated M.B., Ch.B.Dubl. in 1876, and M.D. in 1878. For many years past he has been Professor of Biology in the Royal College of Surgeons in Ireland. He is the author of the St. John Ambulance textbook, *Hints and Helps for Home Nursing and Hygiene*.

Vaccination.

At the last weekly meeting of the board of guardians of the South Dublin Union the following letter was read from the Secretary of the Local Government Board:

> I am directed by the Local Government Board for Ireland to state that the board of guardians should at the present juncture pay special attention to the carrying out of vaccination in their union, so as to be in a condition of preparedness to meet an epidemic of small-pox should that disease unfortunately be conveyed to this country. The Board are of opinion that there is now a very real and imminent danger of an outbreak of the disease, and they have to inform the guardians that the outbreak which followed the Franco Prussian war of 1870 was not only of practically world-wide diffusion, but was also of marked intensity and malignity. Successful infant vaccination and successful revaccination are the precautionary measures that can be taken to guard against a visitation of the disease, and the guardians are the authority in each union entrusted by Parliament with the duty of promoting the vaccination of the people.

It was proposed and seconded:

> That the provisions of the Vaccination Acts, revaccination and the importance of revaccination, be put into force without further delay, and that the relieving officers be instructed to prosecute in every case of neglect to carry out same.

One member of the board mentioned that both her parents had died during the epidemic which followed the Franco-Prussian war because they had not been revaccinated. The resolution was carried on a division by 21 votes to 12. A notice of motion was handed in to rescind the resolution.

India.

[*FROM OUR SPECIAL CORRESPONDENT.*]

Bengal Council of Medical Registration.

The *Calcutta Gazette* of September 23rd notifies the appointments made by the Bengal Government to the newly constituted Bengal Council of Medical Registration as follows:

President: Surgeon-General G. F. A. Harris, Inspector-General of Civil Hospitals, Bengal. *Members:* Lieutenant-Colonel W. J. Buchanan, C.I.E., Inspector-General of Prisons, Bengal; Lieutenant-Colonel E. A. R. Newman, Civil Surgeon, 24th Parganas; Lieutenant-Colonel F. O'Kinealy, Surgeon-Superintendent, Presidency European General Hospital; Lieutenant-Colonel J. T. Calvert, Principal and Professor of Medicine, Medical College, Calcutta, and first physician, Medical College Hospital; Lieutenant-Colonel C. R. Stevens, Professor of Clinical and Operative Surgery, Medical College, and surgeon to the College Hospital; Major D. McCay, Professor of Physiology, Medical College; and Rai Upendra Nath Brahmachari, Bahadur, Teacher of Medicine, Campbell Medical School, Calcutta. All except the last named, who is a member of the Provincial Medical Service, are officers of the Indian Medical Service. The names of the elected members of the council are not given; presumably they have not yet been chosen.

The Health of the Punjab.

The report of the Sanitary Commissioner of the Punjab for 1913 shows a rising birth-rate, but not, unfortunately, a falling death-rate. All the same, there were three births for every two deaths, but the rate of infant mortality was very high—about 230 per 1,000 births. This waste of life is receiving serious attention, but it is mainly a question of education—education of midwives, education of mothers in the principles of hygiene, and education of the public

at large, so that prejudices may be removed. The rural death-rate still remains considerably below the urban, but it is noteworthy that the urban rate has fallen markedly in the last decade or so, and there seems justification for the conclusion that improved drainage and water supply, better facilities for medical advice and treatment, and growing enlightenment and knowledge of hygienic principles have had something to do with the result. It is not possible to assume that the last named factor has yet become a very powerful agent for good when we learn that efforts to combat a cholera epidemic were impeded by the opposition of the people, especially in the towns; that vaccination, even where compulsory, is not vigorously enforced; that plague preventive measures are rarely acceptable, except in time of severe epidemic. Progress has, however, been made in recent years, and with the larger financial grants that are now possible, and the development of organized programmes of work, it is hoped that the spread of enlightenment will be more rapid in the future than in the past. The Lieutenant-Governor, in his remarks on the report, emphasizes the fact that the sanitation of a town or village does not depend merely on improved drainage and purer water, and by efficient conservancy and scavenging; the voluntary co-operation of the people themselves is essential for any radical improvement in the health of the province.

Correspondence.

TREATMENT OF TORTICOLLIS.

Sir,—In your issue of October 17th, 1914, Mr. Paul Bernard Roth, writing on the subject of scarring after the open operation for section of the sterno-mastoid just above the clavicle, says, "a writer on this subject makes light of the annoyance of a resulting scar, and then describes a new incision of his own for avoiding it." It was only when I referred to the list of references at the foot of the article that I discovered the writer was myself. If Mr. Roth will refer to *Deformities*, second edition, vol. i, pp. 69 and 70, he will find that so far from making light of scarring after the horizontal incision, I said:

> As the patient grows, the cicatrix grows too; so that what is quite a small mark in the child is considerable in the adult, and keloid is apt further to complicate matters. The broadening of the horizontal scar made in childhood is often very extensive, owing to the pull on the parts, especially in carrying out manipulations, and the suture-scars are very prominent.

The second remark made by Mr. Paul Bernard Roth, to which I wish to refer, is as follows: "and then he [the writer] describes a new incision of his own for avoiding it. Probably, when the new incision has been tested by time, the resulting scar will be as bad as ever." On the subject of this oblique incision I have remarked in the same work that "prolonged observation of a scar (following the oblique incision) shows that it becomes a thin line and does not widen." The word "prolonged" here refers to cases which have been seen as long as ten years after the operation.

It is a pity that Mr. Paul Bernard Roth, if he desired to criticize my writings, should not have put my name in the body of his article; and further, that he should have not only failed to follow the text in *Deformities*, but also have suppressed my statements on the subject at issue.—I am, etc.,

London, W., Oct. 21st. A. H. Tubby.

RHEUMATOID ARTHRITIS.

Sir,—I have read Dr. Durward Brown's article on rheumatoid arthritis in the British Medical Journal, October 17th, 1914, p. 666. I am delighted to find that he has adopted the methods of treatment Drs. P. W. Latham, R. Jones Llewellyn, and I, as well as many others, have advocated for many years. I refer particularly to blisters near the cervical and lumbar enlargements of the spinal cord and the administration internally of thyroid extract. These are very powerful remedies and as their action is general and not specific they may be used in other ailments as well.

Dr. Brown, I notice, put blisters on the dorsal region, but says nothing about the cervical. I am of opinion that it is most important to treat the cervical region before the lumbar.

He very justly asks why separate infection and affection of the spinal cord when the one is the result of the other? I am most strongly of opinion that there can be no degeneration of the cord apart from infection. Even when traumatism is a factor germs attack the weak spot. Also that in all cases of arthritis there is some degeneration of the spinal cord. Slight in some cases I admit, but enough to be a factor.

He asks why one should blister when one can ionize. One cannot always ionize because one may not possess the necessary apparatus. Then there is the exudation that results from blistering. This is a most important point, the value of which few seem to realize. Also the hyperaemia produced by blistering is greater than of ionization, unless the latter is pushed to the point of burning the skin. I am quite sure that if Dr. Brown will persevere with spinal counter-irritation and the administration of thyroid extract he will find he has stolen a long march on those medical men who do not use them.—I am, etc.,

Bournemouth, Oct. 24th. W. J. Midelton.

Medico-Legal.

THE SALVARSAN PATENTS.

Further proceedings have taken place at the Patent Office, London, with reference to applications to avoid or suspend the German patents in respect of salvarsan, under legislation passed on the outbreak of the war. We noted in the Journal of September 26th, p. 558, an application by Messrs. Burroughs, Wellcome, and Co., for the suspension of the salvarsan patents in their favour, and the request has since been granted.

On October 12th Mr. Ellis applied, on behalf of Messrs. Bresillon and Co., for the suspension of the patents in their favour. It was explained that the firm obtained its supplies from Paris, where a considerable quantity was made at two separate laboratories, and could be obtained immediately permission was given to import. Messrs. Bresillon would agree to the payment of royalty out of the net profits on a basis fixed by the Board of Trade. It was not desired to use the name salvarsan or neo-salvarsan, but to sell the product under the names "ampsalis" and "soupsalis." Supplies could be provided at the price at which salvarsan was sold before the war. The two French makers were well-known firms, and their names would be a guarantee of proper manufacture.

In reply to the Comptroller (Mr. W. Temple Franks), Mr. Ellis said the product could be tested in this country from a sample of a quantity imported.

The Comptroller: We were told that the product was tested by Ehrlich as a security of safety.

Mr. Ellis: We should be prepared to submit the samples to any test to which salvarsan is subjected in this country. He added that he was not clear whether, as it was desired to sell a product made outside the United Kingdom, the application could be entertained.

The Comptroller replied that it was not an absolute bar in this case, because, although it was desired to encourage trade in this country, it might be necessary to secure supplies from anywhere.

Mr. Gray, K.C., on behalf of Messrs. Meister, Lucius and Bruning, the holders of the salvarsan patents, submitted that there was no evidence that the Paris firm was competent to manufacture. The law required that applicants should themselves manufacture the patented article. A licence to import would prevent the substance being made in this country. On the question of price, he remarked that the infringer of a patent was always able to make a cheaper product, as he was not saddled with the heavy initial expenses of invention.

In reply to the Comptroller, who remarked that in the public interest it was hardly desirable that the manufacture should be in the hands of monopolists who might fix any price they pleased, Mr. Gray said that the present price was not excessive; there had been no increase since the war.

On October 23rd the proceedings were continued, when Messrs. Poulenc Frères, of Paris, made application for the suspension of the patents in their favour. Mr. Potts (of Messrs. W. P. Thompson and Co., patent agents of Liverpool), who appeared on their behalf, stated that the firm were French manufacturing chemists of repute. As a patent for a pharmaceutical product was not granted under French law Messrs. Poulenc Frères had been engaged in the manufacture of salvarsan since its discovery and claimed to have made various improvements in the mode of preparation. The firm supplied the Paris hospitals, L'Institut Pasteur, and the Ministry for War and Marine, as well as many provincial hospitals. The preparation was known in France as "dioxyarseno-benzene." Extracts were read from several French medical journals, purporting to show that the preparation had a toxicity exactly equal to that of salvarsan, while its therapeutic value was even superior. The plant at Messrs. Poulenc Frères had a large output, and the quantity could be doubled if necessary. At the final stage the preparation was only

worked up in very small quantities and a sample sufficient for a dose for a human being was injected intravenously into a rabbit. If the rabbit did not live forty-eight hours the whole sample was rejected. The firm was ready to submit the product to any further test.

In reply to the Comptroller, who remarked that the fact that the firm did not propose to manufacture in this country created a difficulty, Mr. Potts said it was proposed to manufacture here when times were quieter. Every consignment passed at one important stage through the hands of one man, so that at present it was more satisfactory to manufacture in one place.

Letters were read and evidence was called to show that there was a shortage of salvarsan in this country and that the price had risen considerably.

In reply to the Comptroller, Mr. Potts said Messrs. Poulenc Frères would be prepared to pay a reasonable royalty. He urged that the licence should be for the whole length of the patent. Messrs. Poulenc Frères's alternative process of manufacture would be a good ground for a compulsory licence for the whole term of the patent. They asked for a licence to sell in this country and to manufacture here later.

Mr. Gray, on behalf of Messrs. Meister, Lucius, and Bruning, said that the firm was prepared to supply salvarsan in sufficient quantity, but if the Board of Trade was in any doubt as to whether the firm was in a position to do, it was not for him to say that some one else should not be given permission to manufacture. Enormous harm might be done by having an impure supply of the preparation or by having variations in dosage. A licence to manufacture abroad must be determined at the end of the war, otherwise the rights of the patentees would be unfairly affected. He asked that, in view of the merits of the invention, the royalties should be made as high as possible. He could not see why Messrs. Bresillon and Co. wanted a licence when they proposed to buy from Messrs. Poulenc Frères.

Mr Ellis intimated that if Messrs. Poulenc Frères obtained a licence Messrs. Bresillon would withdraw their application.

Mr. Potts said his clients were prepared to sell at the price obtaining before the war—namely, 10s. a dose, and to pay a royalty at the rate of 10 per cent.

The Comptroller thought that the product should be submitted to a test in this country, and, Mr. Potts agreeing, the Comptroller remarked that perhaps arrangements could be made with a public body.

The court stated that it would make a recommendation to the Board of Trade.

HYOSCINE AND MENTAL HEALING.

Mr. Justice Rowlatt, in sentencing Orlando Edgar Miller, a lecturer on "higher thought" and "faith healing," sometimes erroneously described as a Christian Scientist, to three months' imprisonment in the second division, said, according to the report in the *Times*: "This conviction, in my judgement, is a very important one, because it shows, and I hope it will show to all others who, with no knowledge or with a little knowledge which is more dangerous than complete ignorance, undertake to deal with dangerous poisons, that in spite of the rhetoric which may be brought to bear on these occasions and all the tall talk about other cures and a wonderful system of mental treatment and the unity of the infinite and all that sort of stuff, when a British jury finds that people have been subjected to the influence of deadly poisons by incompetent people it will go straight to the business mark and say it is manslaughter." The medical evidence in the case was to the effect that death was due to paralysis of the stomach set up by the administration of hyoscine (British Medical Journal, July 18th, p. 156, and October 3rd, 1914, p. 607). The defendant called a number of witnesses to testify to the efficacy of the treatment; several former patients stated that they were cured of consumption and tuberculosis by it.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

The following degrees have been conferred:

M.D.—R. F. Higgin.

M.B., B.C.—L. E. S. Sharp, C. G. H. Moore.

The following candidates have passed in the examination indicated:

D.P.H. *(Both Parts)*.—E. Bach, J. L. Bocarro, J. M. Davidson, L. L. Fyfe, H. D. Gimi, I. J. Khaw Oo Kek, J. McC. Lang, R. C. Malhotra, B. P. Mozoomdar, *W. H. Peacock, R. N. Roy, †A. G. G. Thompson.

* Distinguished in the practical application of Sanitary Science and Pathology. † Distinguished in Bacteriology.

UNIVERSITY OF GLASGOW.

The following candidates have been approved at the examinations indicated:

Final.—*A. D. Brown, *D. MacC. Blair, *D. C. Bowie, *A. M. Davidson, *J. Donald, *R. G. Letters, *W. B. M'Queen, *A. W. M'Rorie, *A. S. Strachan, †Lydia I. H. Torrance, *W. G. W. Harrison, *J. G. Harrower, M. Hyman, †Alice M'Glashan, *J. Stewart, *J. S. Young, *A. F. M'Millan, N. Morris, *J. C. Knox, *J. M. Macfie, *W. F. Shanks, *J. S. Martin, *W. Adams, *H. Stuart, †F. C. Logan.

* Passed with distinction in one or more subjects.
† Under old and new regulations.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on October 21st Mr. J. W. B. Hodsdon was elected President for the ensuing year. Mr. Hodsdon has been a member of Council and the Representative of the College on the General Medical Council for a number of years.

The following gentlemen having passed the requisite examinations were admitted Fellows:

T. S. Allen, A. J. Ballantine, N. H. Bolton, H. H. Davis, H. E. K. Fretz, W. G. Goudie, D. L. Graham, J. D. Gunn, D. J. Guthrie, A. J. G. Hunter, J. B. D. Hunter, F. G. Lloyd, R. M. Manwaring-White, F. L. Nash-Wortham, J. W. Pell, G. A. Platt, E. L. Reid, J. W. Richardson, S. J. Simpson, L. J. Thompson, D. B. Walshe, R. E. Walker, and W. Q. Wood.

Obituary.

Dr. William Haldane, of Bridge of Allan, Stirlingshire, who has recently died, was born at that place in 1847. He received his school education in Stirling, and then proceeded to the University of Edinburgh, later migrating to Glasgow, where he graduated M.B. and C.M. in 1872. Afterwards he held the office of resident physician in the Glasgow Royal Infirmary under Sir Thomas M'Call Anderson, and was subsequently assistant to the Professor of Clinical Medicine in that university. He was also house-surgeon to the Glasgow Lock Hospital. Becoming M.D. in 1876, he was admitted to the Fellowship of the Faculty of Physicians and Surgeons of Glasgow in the same year. He became a Member of the Royal College of Edinburgh in 1894, and a Fellow in the following year. Dr. Haldane commenced practice in Braemar, where he enjoyed the confidence of the late King Edward VII, then Prince of Wales. More than thirty-five years ago he returned to his native place, where he soon got a large practice. He was Vice-President of the British Balneological and Climatological Society. In Bridge of Allan he took a great interest in local affairs. He was a J.P. for the county of Stirling, and was for many years chairman of the school board, of the water company, and other public bodies. He acted as surgeon-major in the volunteers. He was the author of a paper on Bridge of Allan as a health resort which appeared in the *Scottish Medical Journal* in 1898, and of other contributions to medical journals. Dr. Haldane was held in the highest esteem both by the public among whom he worked and by his professional brethren. He leaves a widow and family.

The death of Archibald Mitchell, M.B., C.M.Edin., on October 18th, at the early age of 42, has caused profound sorrow to his brother practitioners and many friends. A slight attack of influenza paved the way for acute lobar pneumonia, which caused his death. During the thirteen years in which he was in practice in Ilford he upheld the best traditions of the profession. Without being brilliant in any particular branch of medicine he combined sound knowledge and well-balanced judgement, which made his opinion much valued by his fellow practitioners. A truly charming character, his Scottish upbringing perhaps helped Nature to endow him with the absolute unselfishness which characterized him. No petty or personal motives ever influenced his judgements. During the unhappy weeks preceding the launching of the Insurance Act this singleness of purpose and devotion to others had full scope and won the gratitude and respect of all the medical men in the district. With these characteristics he combined a charm of manner, a quiet humour, and a keen interest in things outside his profession which made him beloved by his friends. His work was always thorough. The Ilford Emergency Hospital owes him much, as also does the Ilford Scottish Association. The profession in Ilford is poorer for his death.

Lieutenant-Colonel Andrew Arthur Macrobin, R.A.M.C. (retired), died at Kensington on October 14th, and was buried at Kensington Cemetery, Hanwell, on October 17th. He was educated at Aberdeen, where he graduated M.B. and C.M. in 1866, and entered the army as assistant-surgeon on March 31st, 1868. In March 1873 he became surgeon, in 1880 surgeon-major, and in 1888 attained the rank of lieutenant-colonel, retiring on April 13th, 1898. He served in the Franco-German war of

1870-71, in a British ambulance with the German armies, and received the German steel war medal. He served also in the Ashanti war of 1874, when he was present in the battles of Amoaful and Ordahsu, and at the capture of Kumasi, receiving the medal and clasp.

Medical News.

OWING to the necessary curtailment of the number of pages in the weekly issues of the BRITISH MEDICAL JOURNAL and SUPPLEMENT, all correspondents are particularly requested to write as succinctly as possible.

WE are asked to state that thermogene is not a German product. It was invented by a Belgian chemist, Mr. Charles Vanderbroeck of Brussels, and was acquired fourteen years ago by the present proprietors. It is entirely British owned, and British made by British labour at the company's factories in Sussex.

OWING to the war, it has been decided to postpone the dinner of the London (Royal Free Hospital) School of Medicine for Women usually held on the second Wednesday in December.

A MEETING in aid of the Army and Navy Male Nurses' Association will be held by the kind permission of Mr. and Mrs. Donald Armour at 89, Harley Street, on Wednesday next at 3 p.m.

SIR W. WATSON CHEYNE, President of the Royal College of Surgeons, will open a discussion on Surgical Experiences of the Present War, at the meeting of the Medical Society of London on Monday, November 16th. The paper by Mr. Austen, announced to be read on that day, has been postponed owing to his absence on active service.

THE Bradshaw Lecture before the Royal College of Physicians of London will be delivered by Dr. Nestor Tirard on November 3rd, and will consist of clinical contributions to the study of glycosuria. The FitzPatrick Lectures, on leper houses and mediaeval hospitals, will be delivered by Dr. C. A. Mercier on November 5th and 10th.

THE Master of Christ's College, Cambridge, states that the University is taking in Belgian students from all Belgian universities, and a committee is endeavouring to organize systematic teaching in French and Flemish, and also hospitality. There are already some fifty students and more than twenty professors in residence. Though the resources of the committee are limited, no student need be kept away by want of means. The Master of Magdalen states that there are a number of Belgian professors at Oxford, including nine from Louvain, that a Belgian Students' Committee has been formed, and that it is intended to give facilities to professors and students for free admission to University institutions and lectures.

IN consequence of the war the Council Club of the Royal College of Surgeons decided not to hold its usual dinner this quarter, but sent instead a cheque for 30 guineas as a contribution to the Royal Medical Benevolent Fund. Many dinners and festivals of the kind will be abandoned, and it is hoped that as far as the medical profession is concerned this generous and thoughtful example will be followed. The medical profession will certainly be hit hard by the war in many ways, and already special demands upon the Fund are being made, of which the following is but one example: A young doctor, only seven years in practice, volunteered. He was killed in the field within the first week of the war, and has left a widow and two children in great temporary distress.

WE are informed that a special exhibition of objects and relics associated with naval and military surgery, nursing and ambulance is being arranged at the Wellcome Historical Medical Museum in Wigmore Street. The collection will include miniatures, portraits, prints, autograph letters, commissions, and relics of famous naval and military surgeons, surgical instruments and appliances used in naval and military surgery in bygone times, and medical and surgical chests, cases and cabinets used in war time. Pictures, prints, and drawings of field ambulance work, military hospitals, appliances, and equipments will also be on view. The curator will be glad to hear from medical practitioners who may be willing to lend relics, instruments, or objects of a similar character. Any objects lent will be treated with the greatest care, and insured against loss or damage. Particulars and descriptions of loans should be addressed to the curator, the Wellcome Historical Medical Museum, 54A, Wigmore Street, London, W.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

J. A. asks for advice in the treatment of a woman, aged 38, whose fifth child is 12 months old. Six months ago oedema of the legs came on suddenly and has increased since in spite of treatment by, among other substances, suprarenin, thyroid extract, hexamethylene, pituitary extract, digitalis, diuretics, and an autogenous vaccine. It now invades the buttocks and there is ascites. The heart sounds are feeble. The urine (2½ pints in twenty-four hours) is strongly alkaline and contains 1.7 per cent. of albumin (serum albumin and serum globulin) associated with large quantities of basic sodium phosphate and calcium carbonate; no sugar; urea 2 per cent. Cultures of urine show the presence of staphylococci and *Bacillus coli*. There are no casts.

ANSWERS.

T. J.—Under the agreement our correspondent is precluded from all professional practice within the borough. In the circumstances, however, it is improbable that his late partner, if approached on the subject, would refuse him permission to act as honorary surgeon to the hospital for Belgian refugees.

LETTERS, NOTES, ETC.

SURSUM CORDA.

To Those who guide the destinies of Earth
Let us give thanks and praise to-day
That on this realm we love They have imposed
A task tremendous and sublime.

O royal privilege, immortal boon
To hazard all upon the faith we share.
Secure of honour, doubtful all beside,
To give ourselves, our lovers or our sons
For England, Belgium, France, the World!

What have we done to merit this award?
It seemed that we had lost our ancient might,
Our ancient manhood, lapped in Plenty's bower.
But we were not abandoned by the Gods,
All things conspired to prove us dedicate,
Britannia's brow predestined to achieve
This crown of anguish and of chivalry.

If we must fall, how otherwise than thus
Would we have chosen that our sun should set?
What prouder pageantry of doom than this
That fills the world with flame could heart desire

Only we shall not fall, we shall prevail,
Marching with our allies to victory,
Trampling the fierce aggressors underfoot,
Sweeping their stealthy commerce from the seas,
Aye and their battleships, presumptuous grown
Since all too long their menace we endured.

We must prevail, however huge the cost
In maimed and mangled bodies, broken hearts,
Demolished shrines, burnt homesteads, ravaged fields.
These are the currency of warfare. See!
Invisible Watchers tier on tier arrayed
Hang on the issue, knowing here at stake
The priceless gains of toilsome centuries
In all that lifts us nearer to Themselves.

Hail hallowed Sword, ploughshare of Destiny!
Without thee nothing prospers long on earth,
Nor can our heaven-aspiring dreams take root
Until the blood of heroes waters them.
Therefore we know that when the war-clouds lift,
Out of the carnage, wreckage, wrath, despair
The soul of Man shall rise with strength renewed
To assail the ramparts of Divinity.

CHARLES J. WHITBY (Bath).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

SOME OBSERVATIONS ON THE SIGNIFICANCE OF BLOOD-PRESSURE READINGS IN MAN.

BY

J. A. MacWILLIAM, M.D.,

PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF ABERDEEN;

AND

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LECTURER ON EXPERIMENTAL PHYSIOLOGY, UNIVERSITY OF ABERDEEN.

(From the Physiological Laboratory.)

DIFFERENT opinions are held as regards the practical value of blood-pressure estimations in elucidating the actual conditions of the circulation. It may be stated with confidence that a single estimation of systolic or obliteration pressure, using the first reading obtained, is in some cases open to serious fallacy—apart altogether from psychical disturbances, etc.—even as an estimate of the maximum (systolic) pressure obtaining at that time in the artery under examination.

In former communications we urged the importance of using *continued* local pressure as an aid to correct estimation of the systolic pressure in certain abnormal conditions of the arterial system, an addition to the usual method.[4 5]

But the systolic pressure, even if accurately gauged, gives very insufficient evidence as to what is going on in the circulation. For example, in cases of complete heart-block, where very high systolic readings may be obtained, the mean blood pressure is low and the blood flow is very defective, as shown in various ways, including manifestations of cerebral disturbance from cerebral anaemia, etc. Here the systolic estimation would fallaciously rate the "blood pressure" as being above normal. Again, in cases of slow cardiac failure the systolic pressure may be about the normal level, while the circulation is very inadequately carried on, as evidenced by obvious signs (cyanosis, dyspnoea, etc.).

Diastolic Pressure.

The importance of estimating the minimal or diastolic pressure is now becoming more generally recognized, and with the easy applicability of the auditory method there is no difficulty in the way of its routine use.

Apart from the influence of aortic diastolic pressure in determining (*a*) the strain upon the closed aortic valves, and (*b*) the resistance to the opening of these valves by the ventricular systole, the distending force of load which it imposes on the arterial tube is of prime importance. The properties of the arterial wall are such as to show relatively great effects from long-continued tension as compared with the transient application of distending force, as in the brief rises of pressure that constitute the systolic waves. Experiments upon excised surviving arteries demonstrate very strikingly the different degrees of yielding of the vascular wall in the two cases, especially in a tonically contracted artery.[3]

As long as the diastolic pressure remains low, even with very high systolic readings, the tendency to the giving way of vessels (cerebral haemorrhage, etc.) seems to be relatively slight—for example, in aortic regurgitation.

The greater proneness of the leg arteries to degeneration is especially associated, in all probability, with the high diastolic pressure in the erect position, rather than with the concomitant increase in the systolic level, which is also induced by the influence of gravity.

The evidence available at present is insufficient to show in what measure the injurious effects of an excessive diastolic pressure are to be attributed (*a*) to the influence of mechanical strain upon the tissue elements of the arterial wall, and (*b*) to the influence of a high distending pressure on the flow of blood and lymph in the walls of the arterial tube.

Much requires to be done to elucidate the relations of increased or diminished expansion, depending either on alterations in the tone of the arterial muscle or in variations in the intra-arterial pressure, on the blood flow in the capillaries of the vasa vasorum and on the lymph flow; also the relations of hypermyotrophy and atrophy of the media and hypertrophy of the intima to the intra-arterial pressure, as well as to the various toxic influences that are known to affect the nutrition of the vessels.

Is hypermyotrophy a response to increased internal pressure, comparable with some forms of cardiac hypertrophy developed in certain conditions? Is the diastolic pressure the one that is of primary importance in this connexion?

In regard to various conditions which may exercise a special influence on the diastolic pressure, variations in peripheral resistance are most important, a low diastolic pressure naturally resulting from defective peripheral resistance, and vice versa, unless the heart action is much altered. Apart from alteration in peripheral resistance, quickening of the heart rate *tends* to raise the diastolic pressure by diminishing the time for outflow through the periphery between the pulse beats, and the converse holds with a slowed heart; that is, the diastolic pressure is lowered, with an increase in the range between the systolic and diastolic levels (pulse pressure). It must not, however, be assumed that a slow pulse rate is necessarily associated with a low diastolic pressure. Compensating adjustment in the vascular mechanism often keeps the diastolic pressure quite up to a normal or even heightened level with a slow heart beat, in spite of the lowering tendency of the latter. And the diastolic pressure may be very low with a very quick heart beat, for example, with very defective peripheral resistance, lessened inflow into the heart, etc.

In doing blood-pressure estimations we find it desirable to determine the diastolic index while the armlet pressure is being raised; in some (rare) cases where arm compression leads to a marked rise of blood pressure, the diastolic reading taken with a rising armlet pressure may differ from that obtained during the lowering of the armlet pressure (after determining the systolic index) by as much as 20 mm. This was especially the case when simultaneous estimations were made in the two arms. But a decided effect was sometimes observed when only one arm was tested. Comparison of the diastolic values with rising and falling armlet pressures may thus give important indications of the liability of the arterial pressure to vary in an abnormal way, when a large artery is closed, as in the process of systolic estimation.

As regards the impressions derived from *digital* examination of the pulse, we have found the impression gained as to (*a*) the tension in the vessel within the beats (diastolic pressure), and (*b*) the extent of the change at systole (pulse pressure) to be specially fallacious in some cases—apparently more deceptive than the impression as to the compressibility of the pulse (systolic pressure). An enormous pulse pressure (for example, 120 mm. in a case of aortic regurgitation) may be present, as shown by measurement of the systolic and diastolic pressures, when the finger fails to give any adequate conception of such a pressure wave along the artery. And the measured diastolic pressure may be very high when the impression given by digital examination is that it is rather low.

Some Points in Relation to the Auditory Method.

In former papers we urged the importance of the auditory (auscultatory) method as a simple and accurate means of estimating the diastolic or minimum pressure as well as the systolic or maximum pressure, and our further experience of this method has entirely borne out all that we have said in this connexion.[6] It is clear that if the study of blood pressure is to be successfully applied to elucidate the circulatory conditions in man in health and disease, the examination must include routine estimation of systolic and diastolic pressures with computation of the pulse pressure; such estimation by the auditory method is easy and expeditious, and must replace the very inadequate procedure of systolic estimation alone, as well as the use of the oscillatory method for diastolic estimation.

The term "diastolic" pressure is used in the same sense as "minimum" pressure, to indicate the pressure at the deepest part of the trough between the systolic waves. Of course the arterial pressure varies much at different phases of the period of cardiac diastole, so that there are different levels of pressure at different points in the diastolic interval. The same applies to the period of systole. But, as by common consent the term "systolic pressure" is applied to the highest level resulting from

the cardiac systole, so the term "diastolic" pressure designates the lowest point to which the pressure falls between the pulse-beats.

In regard to the *rationale* of the auditory method to the recognition of systolic pressure, no difficulty arises. But in regard to the use of this method for diastolic pressure estimation, the question may be raised as to how the sound produced in the systolic phase and depending upon the systole can serve as an index of diastolic pressure. The answer is that, though the sound is actually elicited by the systolic wave, its occurrence or non-occurrence and its character when present, are determined by the intra-arterial pressure existing during the diastolic phase and its relation to the external or armlet pressure. If the intra-arterial diastolic pressure stands in such a relation to the armlet pressure that some distortion of the arterial tube from the circular form—that is, some flattening—occurs during diastole, then the loud clear tone is heard. On the other hand, when the relation is such that the intra-arterial diastolic pressure is not sufficiently below the level of the armlet pressure to ensure some flattening between the pulse beats, the sound, if audible at all, is dull in character. The change (during the lowering of the armlet pressure) from the clear to the dull and weaker sound, occurring as soon as the external and internal pressures are approximately equal, constitutes the index of diastolic pressure. In addition to the lines of evidence (as to the correctness of this index) stated in our former papers (study of circulatory schema, comparison with oscillatory method, etc.), we may add the direct experimental test carried out by us in conjunction with Dr. J. R. Murray.[6] Using anaesthetized large animals (sheep), we measured the systolic and diastolic pressures in one carotid artery by means of valved manometers (maximum and minimum) connected with a cannula inserted into the artery at the root of the neck on the proximal (cardiac) side of an armlet which was placed round the neck. The armlet being inflated in the usual way, the actual intra-arterial pressures were read off by one observer on the valved manometers, while simultaneous estimations were made by the auditory method by another observer; the auditory tambour (phonendoscope) was placed over the other carotid on the distal side of the armlet. These simultaneous readings by different observers (changing places from time to time) showed remarkably close correspondence; the auditory indications proved a strikingly accurate guide to the actual intra-arterial pressures as measured by the valved manometers. Such observations were carried out while the levels of blood pressure (systolic and diastolic) were made to vary widely—raised by compression of the abdomen, lowered by amyl nitrite, excess of chloroform, etc., also at very different rates of heart beat, etc. In all such conditions the accuracy of the auditory indications remained unimpaired.

Relation of Systolic and Diastolic Values to Efficiency of Circulation.

When systolic and diastolic pressures have been estimated and found to be at normal or approximately normal levels, with a normal rate of heart-beat, is this sufficient to prove that the circulation is proceeding in normal fashion? In the great majority of cases presenting the normal features referred to, it is the case that the blood flow is proceeding normally. But there are exceptional conditions where, with normal systolic and diastolic pressures, the mass movement of the blood is gravely defective, and the results are evident in the patent signs of circulatory defect—dyspnoea, pallor, or lividity, etc. Though the pressures may be normal, the volume of the arterial stream may be abnormally small, giving rise to circulatory defect. A small output of the heart with a suitable adjustment of the peripheral resistance by constriction of arterioles (necessary to maintain the aortic pressure in presence of the small output of the left ventricle) may establish a condition in which normal or not far from normal pressure readings may be accompanied by very deficient mass movement of the blood. The circulation has in this case been reduced to a smaller size than is compatible with the needs of the animal. The arterial stream may be seriously lacking in volume while showing readings of systolic and diastolic pressure that are not far from normal. With such defective volume the capillary flow is seriously reduced on account of the deficient mass movement of the blood, the small cardiac output being associated with narrowing of the peripheral outlet from the excessive contraction of arterioles which is necessary to maintain the aortic pressure in presence of the small output of the left ventricle.

In children and in small animals the volume of the arterial stream is, of course, very small as compared with the adult man, while the normal relation of peripheral resistance is related to the cardiac output in such a way that the aortic pressures may be pretty similar. The latter pressures in the aorta being maintained without any undue constriction of arterioles, the capillary circulation is a perfectly efficient one, and the mass movement of the blood is rapid. The smaller volume of the arterial stream is adapted to the smaller capillary field to be supplied. With the enormously large capillary field of the adult person a great reduction in the volume of the arterial stream, even with pressures up to the normal, means a serious defect in the capillary stream and the mass movement of the blood in the circulation—hence, signs of circulatory inadequacy. On the other hand, the volume of the arterial stream may be normal, while the circulation is still inadequate; in this case a pressure defect will be evident—abnormally low systolic or diastolic readings or a small pulse pressure. With deficient pressure values a reduced volume of arterial stream would of course imply a still more serious deficiency in the circulation.

Common Readings in Defective Circulations.

The more common conditions, when the circulation is defective, are: (*a*) Low systolic and diastolic readings (as in haemorrhage, shock, etc.), or (*b*) a systolic pressure which may be normal or even higher, attended by an abnormally high level of diastolic pressure, as in some cases of slow cardiac failure. Here the peripheral resistance is increased, keeping up the systolic pressure, notwithstanding a poor cardiac output, but this involves a high diastolic pressure—that is, a small pulse pressure and associated defective movement of the blood. The rate of the heart beat has, of course, to be taken into account in connexion with the pulse pressure. The defective pulse pressure is here of great significance and at once shows the true state of the circulation, whereas the systolic reading taken alone would give an entirely false indication.

It is clear that estimation of the systolic and diastolic pressures with the concomitant determination of the pulse pressure yields data of great importance and value, the precise significance of which in different conditions will, no doubt, become much greater with increasing knowledge. But while this is the case, such estimations must on no account be regarded as superseding or rendering unnecessary the use of other sources of information regarding the condition of the circulation—for example, obvious signs such as pallor, lividity, defective volume of arterial pulse, venous turgescence, dyspnoea, etc. Error from misuse of the results of blood pressure estimation, by blind adherence to mechanical standards, is easily avoided by common-sense application of other obvious signs taken in correlation with the blood pressure data.

Discrepancies in Systolic Readings from Different Limbs.

In a former paper we described the occasional presence of large discrepancies between the systolic readings obtained from different limbs, apparently due to abnormal local conditions.* The higher readings may be greatly reduced by the application of continued local compression, as already described, and in this way the divergent readings may be harmonized, the same readings being then obtained from all the limbs; further local compression may then cause no further lowering of the systolic values. As already stated, it is only in *some* abnormal arteries that such results are obtained; in the majority of thickened arteries practically correct readings are obtained without the preliminary use of continued local compression. The effects of local compression are not dependent on the production of an ischaemic condition of the limb. The closure of the brachial artery—by digital pressure as employed—leads, of course, to

* In this connexion we specifically exclude the cases of arm-leg differences associated with aortic regurgitation.

more or less pronounced stasis in the limb, but not to ischaemia. The latter condition, induced by the application of an Esmarch bandage, was found by Hill[1] and his collaborators to lead to reduced systolic readings for some time after the obstruction to the arterial flow was removed. This holds good in a normal limb as well as under abnormal conditions.

This observation deals with very different conditions from those present in the use of local compression. Local compression, as we employ it, leads to no alteration in the subsequent systolic reading either in normal persons or in the majority of pathological conditions. We have repeated this observation very frequently and with constant results. A pressure reading was first taken from the two arms. One arm was then subjected to repeated compression (for example, twenty times), or, as is preferable, closure of the brachial artery by digital pressure was maintained for three minutes in the area of application of the armlet, the latter being loosened and slipped down on to the forearm or removed altogether. At the end of the period of closure the armlet, reapplied to the upper arm, gave, in the normal subject, a reading which, when compared with one made from the other arm, showed no discrepancy. Comparison with a (second) reading from the other arm which has not been subjected to continued or frequently repeated compression is, of course, essential, as the actual pressure in the arterial system might have undergone some alteration during the period occupied in the observations. The procedure of local compression clearly induces no change in systolic readings in ordinary conditions of the vascular system; this is also true of the great majority of abnormal conditions.

It is only in a small minority of cases with thickened and contracted arteries that a notable reduction of the systolic reading is induced by local compression as described. We have not observed such reduction in any case where there was not evidence of abnormality in the arteries. In cases where divergent readings have been obtained from different limbs, local compression has an equalizing effect. Repetition of the local compression does not induce an indefinite reduction of the readings—not below the level found in a normal or soft artery.

Parallelism between Results from Excised Arteries and Human Limbs.

A long series of experiments (conducted in association with Dr. J. E. Kesson[4]) on excised arteries tested in different conditions in a circulatory schema showed a remarkable parallelism as regards the results of continued compression with those described above. With relaxed arteries (normal or thickened) the "systolic" reading was practically the same before and after continued compression, whereas with powerfully contracted and thickened arteries the subsequent reading was greatly reduced—down to the level of that obtained with relaxed vessels. The continued compression induced relaxation at the compressed part, as was evident on direct examination of the artery, which was soft and easily distensible at that part, in marked contrast to the firm and resistant adjoining parts which had not been subjected to compression. This reduction in the resistance of the arterial wall was temporary; after a time, varying according to circumstances, recovery occurred more or less completely; the contraction and resistance to compression returned, causing the external (obliteration) pressure to be again an over-estimate of the systolic pressure within the artery by the amount of the resistance to compression offered by the arterial wall. Similarly, in the human subject, when the systolic reading had been reduced by continued local compression of the thickened artery, recovery occurred after a time, and the original systolic value was restored; in some cases this restoration was watched and found to occur with remarkable precision in observations repeated from time to time on the same patient over a period of many months. But in most cases the extra resistance, as indicated by the result of local compression, varied considerably from time to time in the same person.

The striking resemblance in the results got from resistant excised arteries and those sometimes obtained from human limbs naturally suggested the possibility or probability of a similar explanation being applicable in the two cases. But it is to be noted that while the parallelism between the results from excised arteries and from the living subject is a perfectly definite and very striking one as regards the nature of the changes in pressure readings, the actual amounts of the alterations in the readings differ widely in the two classes of observations; in other words, there is a very close correspondence in the *kind* of change which occurs in each case, but a great difference in the *degree* of such change.

The alterations induced by continued compression in the human limb are, in some cases in which they are very extensive, very much greater in amount than could be predicated from the study of excised arteries. We have always borne this consideration in mind; in the first paper on the subject from this laboratory we adverted to this, and pointed out that it was impossible to account for the extensive variations in the systolic readings from different limbs sometimes met with, unless one assumed the existence of such enormous resistances as are to be met with in the powerfully contracted thick-walled arteries like the carotid of the ox or the metacarpal or metatarsal of the horse, examined under abnormal conditions calculated to give the maximum resistance, at room temperature, or under the influence of barium chloride, etc. Palpation of arteries in the living subjects under examination has not in our experience given evidence of such extremely resistant characters as were present in the excised arteries above referred to; we have never believed that the great differences in pressure readings in different limbs depended simply on the extra pressure required to distort the circular tube and bring it into a flattened position. There is, we believe, another factor which we have not so far described—resistance, due, as far as is known, to contraction of the arterial muscle acting in another way than simply by opposing the flattening of the circular tube, but in effect constituting a local resistance to the obliteration of the pulse in the artery compressed by the armlet; this depends on certain special features in the form of closure of the vessel when compressed by external pressure.

Resistance to Compression in Excised Arteries.

In an artery like the sheep's carotid, comparable in size and thickness of wall with the human brachial, contraction of moderate amount made very little difference to the pressure readings; this accords with evidence derived from other sources in showing that the normal tone of the brachial artery, and even a markedly increased tone, have no appreciable disturbing effect on blood pressure estimation. Even with extreme contraction, induced by mechanical stimulation at room temperature, use of barium chloride, etc., the resistance offered by the carotid of the sheep in these abnormal conditions, widely removed from those present in the human body—for example, 35 mm.—has not reached anything like the values sometimes observed in the differences between the human limbs in certain conditions (cases of aortic regurgitation are excluded). We conclude, then, that variations in the amount of contraction, such as occur in the normal brachial artery of man, are of no serious import in regard to blood-pressure estimation.

Janeway and Park[2] conclude that resistance of the arterial wall due to muscular contraction may be a source of error in blood-pressure estimations, so far supporting the view long held by Russell[3] to this effect. Janeway and Park think that such error should not be more than 30 mm. in the human brachial artery.

Higher resistance values were naturally obtained from such large thick-walled tubes as the carotid of the ox with its powerful muscular coat. The values obtained from a vessel so different in dimensions from the human brachial could not be applied without qualification to the latter. And even with the ox carotid, differences (apparently due to local causes) as large as those sometimes found in the human limbs were observed only under extremely abnormal conditions; application of these results without qualification to the human vascular system would be wholly unwarrantable.

But these observations refer to normal arteries, and, as has been already stated, the differences in man have been noticed by us only in the presence of abnormal conditions of the arterial system.

In pathological arteries from the legs of old horses we recorded very high degrees of resistance to compression, the resistance depending on the presence of enormously

powerful contraction of the thick muscular coat. But the characters of such arteries on palpation are very different from anything we have felt in human limbs, and it is obviously not permissible to assume the presence of any such amounts of contraction in man.

Mode of Closure of Artery under External Pressure.

A good many years ago von Recklinghausen [7] suggested a different form of closure under external pressure in sclerosed arteries as compared with normal ones, the latter being evenly flattened by external pressure and completely occluded (see the figure c), while in the former the walls of the tube become apposed at the middle part, while chinks still remained open at the sides (B). The fact



A B C

A indicates the circular form of the uncompressed artery; B represents the peculiar form of closure (with chinks at the sides) described in the text; C shows the ordinary form of closure.

that different kinds of tubes may undergo one or other form of closure is a fact that is very easily demonstrable. This hypothesis has, however, not gained currency as accounting for differences in pressure readings. It does not explain why *all* thick sclerosed arteries do not give different readings as compared with others in the same individual that are relatively normal. And it would not account for the effects of continued compression already described as occurring in some sclerosed arteries while absent in the great majority.

There is evidently another factor concerned, and we find reason to believe that muscular contraction constitutes such; that is, that the determination of the peculiar form of closure above referred to depends on an influence exercised by contraction of the muscular coat of a sclerosed artery under certain conditions. Powerful muscular contraction is not at all necessary. An amount of contraction that is soon overcome by external pressure of an extent sufficient to flatten the tube and bring its walls in apposition is able to determine the persistence of chinks at the sides through which the pulse can still be transmitted; a more or less considerable amount of additional external pressure is needed to close the chinks sufficiently to obliterate the pulse.

The occurrence of different pressure readings in different limbs and variations in the amount of such differences at different times are capable of explanation as being due to variations in the contraction present. The effects of continued or repeated compression—reduction of the readings with subsequent recovery, etc.—are similarly explicable as depending on the demonstrated influence of compression in temporarily removing the tonic contraction, which is again restored after a time, with concomitant restoration of the pressure values. The same explanation applies to the facts that local compression tends to equalize the diverse values which may be obtained from different limbs at the first test, and that local compression (even if repeated) does not reduce the reading below the level obtained with a soft artery.

The view here stated differs from that of von Recklinghausen in postulating activity of the arterial muscle as an essential factor, in addition to the presence of certain structural alterations in the sclerosed artery; it differs from that of Russell (who has long urged the importance of hypertonus in normal and sclerosed arteries), inasmuch as the latter seems to regard the muscular resistance as simply opposing flattening, not as determining a special form of closure.

An Illustrative Case.

If the pressure readings from two limbs differ markedly on account of the occurrence of a special form of closure in one artery as compared with the other, the pulse persisting much longer in one than in the other, it might be possible to elicit special evidence bearing upon the different conditions. Such we have sometimes observed definitely; indeed, it was the encountering of certain facts in comparative and simultaneous estimations on different limbs, in some cases giving widely different systolic readings, that led us to regard the above-described mechanism as an operative one; the way in which it harmonized with other facts was sufficiently obvious.

In the following case, examined with Dr. J. R. Murray, these phenomena were very striking. The patient had no aortic regurgitation, but the arm-leg difference in the systolic readings was very marked. At the first test the (simultaneous) obliteration values were 115 for the upper arm and 198 for the leg. But a very marked change was recognizable in the leg artery at 116 mm.—that is, at the obliteration level in the arm. The pulse in the leg, though not abolished, was very notably cut down in volume; it persisted as a pulse of small volume with very little alteration till it became obliterated—at a much higher level.

Repeated compression was tried and was found to give marked lowering in the leg readings at successive tests—namely, 198, 186, 168, 149, 148 mm. A similar change occurred in the relation of the points of disappearance and reappearance of the pulse in successive observations. At first, when the armlet pressure was raised sufficiently to obliterate the pulse, kept at this level for some time and then lowered, the pulse did not reappear until a very much lower level had been reached—154 mm.—as compared with 198. The armlet pressure, run up again, gave disappearance of the pulse at 182 and reappearance at 152. The armlet pressure was then lowered to zero for some time; the next compression gave disappearance at 186 and reappearance at 155. At a later compression the pulse disappeared at 168 and reappeared at 166. There was thus a progressive diminution of both the actual obliteration level and of the difference between the points of disappearance and reappearance.

The arm readings behaved in a strikingly different way. There was no appreciable difference (a very few millimetres) between the points of disappearance and reappearance of the pulse, and the readings remained steady at about 115 to 116 throughout the series of observations, while the leg readings were showing extensive changes: this indicates that the aortic systolic pressure remained unchanged. It was easy in repeated observations to predicate the arm values by noting the very definite change in volume in the leg artery, as already described.

In this case diastolic pressure estimation by the auditory and oscillatory (Pachon) methods gave similar values—75 to 85 mm.—in arm and leg, varying little at the beginning and end of the series of observations.

It is noteworthy that the systolic readings were much higher with the armlet on the calf of the leg than when on the thigh; the latter often nearly agreed with the arm.

We conclude from such results that the systolic pressure was really the same in the arm and leg, despite the fact that a very much higher armlet pressure was required to obliterate the pulse in the leg, though the latter pulse was strikingly cut down—to one of very small volume, which persisted until the compressing armlet pressure had been raised much higher. We interpret this result as being due to a different form of closure in the arm and leg arteries respectively, and we regard the leg arteries as the ones in which the behaviour of the tube under compression was peculiar. There is, of course, the question as to whether the abnormality is in the arm or the leg—that is, whether complete occlusion is abnormally difficult in the leg or abnormally easy in the arm; either of these would obviously cause a discrepancy in the readings, the intra-arterial pressure being similar in both arm and leg.

There is clear evidence that the abnormality is in the leg. The arm readings remained constant, being unaffected by repeated or continued compression, while the leg readings changed very strikingly, being enormously reduced by repeated or continued compression; the leg readings could thus be brought down towards equality with the arm readings, but showed no further reduction—below the arm value—on further compression. And after a time the leg readings recovered their great predominance over the arm values.

These phenomena fit in exactly with the conception of a peculiar form of closure of the leg arteries when compressed by the "armlet," central parts being brought into

apposition a considerable time before the lateral chinks are closed; the pulse continues to be transmitted until a more or less considerable excess of external pressure has been applied, over and above what is needed to stop the transmission of the pulse in a normal artery. The effects of continued or repeated compression in reducing the readings in such an artery find an obvious explanation in their demonstrated influence in reducing the resistance of the arterial wall by temporarily diminishing or annulling the contraction present, and so removing a factor concerned in inducing the peculiar form of closure above described in a sclerosed artery.

Resistance to Compression of Excised Arteries.

In view of the foregoing results, it may be asked whether the high resistance to compression recorded in strongly contracted surviving arteries, possessing thick muscular coats, is associated with a similar peculiarity in the mode of closure under external pressure or whether it is simply due to the direct resistance presented (by the rigid muscle) against distortion of the tube from the circular form.

The excised arteries in which very high resistances were encountered were always powerfully contracted, with rigid muscular coats and a very small lumen. The use of the term "contraction" in this connexion may be ambiguous; it may mean that the action of the (shortened) muscular fibres may be such as to reduce the lumen to very small dimensions; or, on the other hand, the muscle may be "contracted" and rigid while the lumen is not very small—for example, in presence of high internal pressure, under the influence of cold, etc.; in the latter case, the muscle may be firmer and more resistant without being much shortened.

In the case of a strongly contracted artery with a very small lumen, there is no evidence that the peculiar form above described ever occurs in such a way as to allow persistent passage of the pulse wave through lateral chinks. The small lumen seems always to close by a simple apposition of the walls of the tube.

We conclude that the excess of external pressure over internal pressure which is necessary to obliterate the pulse under those conditions is due to the direct resistance to distortion of the rigid muscular walls of the tube. But, as already stated, we find no ground for assuming the existence of anything resembling this degree of muscular rigidity in the vessels of the living subjects. At the same time, the presence of contraction — that is, muscular resistance — is very important in human arteries when associated with certain abnormal structural conditions, determining the occurrence of special features in the process of closure of the vessel by external pressure, and thus leading to different readings of obliteration pressure that do not correspond with differences in the actual systolic pressure.*

References.

[1] Hill, Flack, and McQueen, *Proc. Roy. Soc.*, 1914, lxxxvii, 255. [2] Janeway and Park, *Arch. of Intern. Med.*, 1910, vi, 586. [3] MacWilliam, *Proc. Roy Soc.*, 1902, lxx, 109. [4] MacWilliam and Kesson, *Heart*, 1913, iv, 279. [5] MacWilliam and Melvin, *Heart*, 1914, v, 153; British Medical Journal, March 28th, 1914. [6] MacWilliam, Melvin, and Murray, *Proc. Physiol. Soc.*, March 14th, 1914. [7] von Recklinghausen, *Arch. f. exper. Pathol. u. Pharmak.*, 1901, xlvi, 104. [8] Russell, *Arterial Hypertonus, Sclerosis, and Blood Pressure*, 1908, 87; British Medical Journal, 1912, i, 659.

* By "closure" is meant such a degree of occlusion as is necessary to stop the transmission of the pulse wave as tested on the peripheral side.

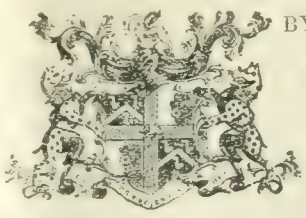
Ed. Sergent and L. Négre have reported to the Society of Biology the results of the examination of the stools of sixty-seven pilgrims returned to North Africa from Mecca; they included thirty-six returned to Algiers and thirty-one to Morocco. Thirteen (10 per cent.) had dysenteric bacilli of the Flexner type in their intestines. The examination of the stools of a certain number of natives resident in the neighbourhood of Algiers who had not been to Mecca gave a negative result. In three of the returned pilgrims (4.5 per cent.) cholera vibrios were found in the intestines, and in two instances the vibrios presented all the true characters of the cholera vibrio. The pilgrims were all in good health, and the observations show that among those returning from Mecca there are carriers who escape existing sanitary measures. An abstract of the paper is published in the *Bulletin de l'Office International d'Hygiène Publique* for August, 1914.

THE BARBER-SURGEONS' COMPANY.

An Address delivered to the Hunterian Society of London.

By THOMAS GLOVER LYON, M.A., M.D.,

President; Second Warden to the Barbers' Company, 1914.



Arms of the Company.

By the kind hospitality of the Worshipful Company of Barbers, the Hunterian Society is now privileged to hold its meetings in a place associated for centuries with the medical profession.

In the year 1461 a corporation which had been solicited by Thomas Morsted, Chirurgien to Henry IV, was granted to Jacques de Fries, his physician, and John Hobbes, his surgeon, by Edward IV, in the names of St. Cosmo and St. Damianus, brothers, physicians and martyrs. This corporation was called the Company of Barber-Surgeons of London, and received authority over all practising the same arts in and about the metropolis.

In spite of this charter, however, many unqualified persons continued to practise. There is an interesting account of how quacks were punished in the minutes of the Company. In the fifth year of the reign of Richard III one Roger Clark was prosecuted for quackery, having given a piece of parchment rolled up and said to be inscribed with the words of a charm, to be used round the neck against fever. The culprit was convicted and sentenced to the following peculiar punishment: He was "led through the middle of the city with trumpet and pipe, he riding on a horse without a saddle, the said parchment and a whetstone for his lies being hung about the neck, and an urinal being hung before him and another behind."

Up to the reign of Henry VIII barbery and surgery were practised by the same individual, but even during this period members of the Company specialized in one branch or the other. Many of those favouring surgery went to the wars either in England or on the Continent. These were often financed by the barbers, who received a share of the large fees paid by the nobles and other wealthy men for surgical attendance. One can imagine how competent men were sought after, and how great were the sufferings of those who were unable to secure their services, by the following quotation from Gale:

> I remember when I was in the Wars at Muttrel (Montreuil), in the time of that most famous prince Henry VIII, there was a great rabblement that looked upon themselves to be surgeons, some were sow gelders and some horse doctors, with tinkers and cobblers. . . . But when the Duke of Norfolk, who was the General, saw how the people did die and that of small wounds, he sent for me and certain other surgeons, commanding us to make search how these men came to their deaths, whether it was by the grievousness of their wounds or by lack of knowledge of these so-called surgeons. . . . In the end this rabblement were committed to the Marshalsea, and threatened by His Grace to be hanged for their worthy deeds except they would declare the truth who they were and of what occupation, and in the end they did confess themselves to be as I have declared to you.

In the third year of Henry VIII's reign (1512), a licensing body was created, whose approval was necessary before anyone could practise as a physician or surgeon in the City of London or within seven miles of it. This consisted of the Bishop of London, or Dean of St. Paul's, aided by four doctors of physic, and for surgery other persons of discretion "experts in this faculty." In spite of the existence of this body, in the thirty-second year of Henry VIII's reign (1541), the Barber-Surgeon Company was united to another company, the Company of Surgeons, by Act of Parliament. This Act divided the members of the Company into barbers and surgeons; the barbers were not allowed to practise surgery except bleeding and drawing of teeth, and the surgeons were not to practise barbery or shaving. The art of surgery to which the charter of 1541 refers comprised the care of "bruises, hurts, and other infirmities, the letting of blood and the drawing of teeth." There has always existed an antagonism

between physicians and surgeons, and we can imagine the words "other infirmities" led to frequent disputes. The same charter gives power to the governing body of the Company to make "statutes and ordinances for the wholesome government, superintendence and correction of the said mysteries, according to the necessities of the case." Power still remains in the Master of this Company to order to prison members who may have misbehaved themselves. The following appears in the minutes of the Company:

17th November, 1635. This day Wm. Kellett, being called here in Court for not makeing presentacon of one Mr. Kinnersleys maide that died in his charge, he saied here in Court that Mr. Doctor Harvye being called to the patient did upon his vew of the patient saie, that by the meanes of a boulster the tumor on the temporall muskle would be discussed and his opinion was that there was no fracture but the vomiteing came by reason of the fouleness of the Stomacke, and to that purpose p'scribed physick by Briscoe the Apothecarye, soe the patient died by ill practice, the fracture being neglected and the Company not called to the vew.

The Mr. Doctor Harvye here mentioned appears to be no other than the discoverer of the circulation of the blood. If a severe case was "presented" to the authorities of the Company, the Master and Wardens visited the case without fee and arranged the treatment in consultation with the surgeons who had presented the case. Supervision and inspection is also given to the Company of "all kinds of instruments, plaisters, and other medicines and their recipes, by such barbers and surgeons given and applied and used for our liege men and curing and healing their wounds, bruises, hurts and such kind of infirmities." Here we get the words, "such kind of infirmities," still a somewhat indefinite expression. This charter also exempts practitioners from serving on juries and other like duties.



Grace Cup presented by Henry VIII.



The "Royal Oak" (Boscobel) Cup, presented by Charles II.

The method of procedure required of those wishing to become surgeons was as follows: The candidate was first apprenticed to a surgeon, a member of the Company, for five or seven years, and took up the freedom of the Company. Then, after a *viva voce* examination at the Hall, a preliminary certificate to practise for three years was granted. After three years of practice to the satisfaction of the authorities, a final certificate was granted, which enabled the Bishop's Seal confirmatory to be obtained. A silver spoon, engraved with the donor's name, was presented to the Company by all persons passing the examination, but out of many hundreds which must have been presented, only one—given by Jonathan Cheynell—remains. It is interesting to note that an apprentice undertook to devote the whole of his time to his master's service, except such as was given to Divine worship.

The charter of Henry VIII allotted the bodies of four criminals to the Company for dissection, but other bodies were purchased privately. The beadles of the Company used to proceed to the gallows to claim the four bodies, and often had to fight the relations of the culprit for possession. Sometimes in these unseemly brawls the clothing of the corpse was torn, and the Company possesses receipts by the hangman for sums in compensation for the damage done.

Regarding the possibility of resuscitation after hanging, we find records relating to two cases. In Stow's *Annales* there is a story to the following effect:

A man hanged at St. Thomas Watering on February 20th, 1587, was cut down, stripped of his apparel, laid naked in a chest, thrown in a car, and brought through Southwark to the Barbers' Hall. The chest being open to the weather, extremely cold, he was found to be alive, and lived till February 23rd, and then died.

Apparently arising out of this incident, the following minute occurs in the Company's books, July 13th, 1587:

If any body shall revive and come to life, the charges about the same body shall be sustained by the person or persons who shall happen to bring home the body.

The second instance is recorded as follows by Mr. Joseph Wheeler, Clerk to the Company, in a rough minute:

November 23rd, 1740. This day Will Duell, who had been indited at the Old Bailey for a Rape and had received sentence of death for the same, was carried to Tyburn in order to be executed, where having been hung for some time was cutt down, and brought to the Company's Hall in order to be dissected, where he had not been five minutes before life appeared in him, and being let blood and other means used for his recovery, in less than two hours he sat upright, drank some warm wine, and looked round him before he was carried back to Newgate, which was about twelve of the clock at night. He several times pronounced distinctly the word Don't when anybody touched him, though was thought to be mostly insensible of ought but pain, which in great measure he endured by his most violent moanings, and was after in strong convulsions in the bowels which he then expressed by applying his hands to this part. The Sheriff, having ordered him back to Newgate, he was carried in a blanket, putt into a coach, was seemingly much composed and quiet, not making any manner of noise. Within three days time he recovered sufficiently to converse and eat and drink very freely, but never could give any reasonable account of what had passed. He afterwards obtained a reprieve in order to be transported for life, which he was accordingly in his 16th year.

It is alleged that Duell changed his name to Deverel, and becoming a prosperous man, gave to the Company a handsome screen.

When we consider the limited scope of the "mystery" over which the Company had control, it is not surprising to find that with the growth of surgery there arose the necessity for a body which would take a more comprehensive attitude towards this branch of the profession. Why the barber-surgeons did not reconstitute themselves according to the needs of the time I am unable to say, but as surgery advanced any alliance with barbery would naturally become strained. Moreover, municipal institutions, for some reason or other, have never succeeded in controlling and developing the higher branches of education. Sir Thomas Gresham intended to found a university connected with the corporate life of the City, but this object was never attained. It thus came to pass that in 1745 the control of the surgical practice of London and the education of practitioners, together with endowments attached to the latter, were alienated from the Barber-Surgeons, and vested in a new corporation, the College of Surgeons of London, which body in 1843 was styled the Royal College of Surgeons of England. In spite of the circumstances under which the new body was founded, the most cordial relations have existed between the old Company and the College of Surgeons. Many members of the College have joined the livery

of the Company, have been elected to the Court of Assistants, and passed the Chair, and at the Company's banquets the President of the Royal College of Surgeons, when present, is always the most honoured guest. The old Company, thereafter called the Company of Barbers, retained the Hall, together with the records and the works of art contained in it. The members of the Barbers' Company regard the custody of these treasures to be their special privilege and duty. Every opportunity for inspection is given to those who are likely to be appreciative, and probably no works of art receive more serious attention. Visitors have often expressed their satisfaction at being able to examine the pictures away from the chilling atmosphere of a public gallery, and to handle the cups instead of gazing at them in glass cases.

The site of the Hall, which originally included an extensive herbal garden, is chiefly interesting on account of its proximity to one of the residences of William Shakespeare, who lived, between 1598 and 1607, at the corner of Monkwell Street and Silver Street, and there wrote seven of his plays. He appears as a witness in the Court of Chancery in favour of his landlord's daughter, who had married an apprentice of her father's, the suit being for payment of a promised dowry. The present hall is part of a pile of buildings which included a large banqueting hall and lecture theatre, designed by Inigo Jones, whose portrait by Vandyck hangs in the hall. The lecture theatre was elliptical in shape, and the ceiling was decorated with the signs of the Zodiac. Against its walls hung the skeletons of two murderers. The table, of peculiar shape, used in this theatre for the display of anatomical specimens is preserved. The building survived the Great Fire of London in 1666, owing to the fact that it was surrounded by a large garden. The large hall and theatre were demolished only recently to make way for warehouses. The hall in which the Society is permitted to meet was the council chamber, and in it examinations were held. The ceiling is adorned with—or shall we say disfigured by?—several anatomical objects, and is a good specimen of the heavy decoration of the period.

The Company's coat of arms was granted by Elizabeth, and is a modification of a former grant by Henry VI. The actual grant of arms is a fine specimen of heraldic emblazonment. The interesting points of this coat from our standpoint are the flewmes or scrapers in two of the quarterings, representing the barbers, and the so-called spatter or spatta, encased in a rose and crown in two other quarters. This spatter is said to be a spatula, but I should say that it is a knife with a spearhead-shaped blade to represent the surgeons. The supporters are two lynxes, to typify the observant acumen which should be a characteristic of a surgeon. The granting of arms to a body of men who were exempt from military service must have presented to the King-at-Arms a humorous aspect, which I cannot help thinking he has slyly indicated in the crest or sign to be worn on the helmet in battle. He describes this as an Opinacus, but others have irreverently referred to it as the Barbers' Flying Jackass. It has the body and legs of a lion, the neck and head of an eagle, the wings of a griffin, and the tail of a camel. Truly, in Trinculo's words, "a most ridiculous monster."

Amongst the numerous treasures possessed by the Company is the gilt silver cup presented to it by Henry VIII. It is said by Mr. Stanley Gardiner, an authority on such subjects, to be the only personal relic of this monarch existing. It is a most beautiful specimen, graceful though simple in design, and of exquisite workmanship. It is ornamented with heraldic designs connected with the House of Tudor, including the rose and portcullis. Hanging round the bowl are little bells, the use of which was probably to call attention when the cup required replenishing. The picture of Henry VIII granting a charter to the Company in 1541 is a fine specimen of Holbein's work—at least, as far as the King's figure goes, and probably the most true to life of any portraits of Henry VIII. Holbein's portraits are all characterized by a photographic fidelity to life, and in this instance the painter was free from any obligation to please the original. Arrogance, sensuality, and cruelty, combined with high and broad-minded intellectual powers, determination, and generosity, are, I think, all expressed in the face and figure of the King. All the personages in the picture were celebrities, but three, I think, are worthy of special mention. John Chambre, immediately on the King's right, was a man of many parts. He, like the old monks, combined the callings of physician and priest. He was physician to Henry VIII, and as Archdeacon of Bedford was one of the Convocation in 1536, when the Articles of Religion were framed. He was one of the founders of the College of Physicians. Dr. Butts, the second to the King's right, was the Dr. Butts mentioned in Shakespeare's Henry VIII. He attended Anne Boleyn through a serious illness, and was sent by the King to Cardinal Wolsey when the latter was taken ill after his disgrace. Butts preserved to the last the regard of this fickle monarch, who made him valuable grants of land. Thomas Vicary, to whom the King is giving the charter, was Master of the Company five times, and was Sergeant-Surgeon to Henry VIII, Edward VI, Mary, and Elizabeth. He was chief surgeon at St. Bartholomew's Hospital, and was author of the first work on anatomy published in English. It was entitled *The Englishman's Treasure*. Many have tried to acquire this famous picture, amongst others Samuel Pepys, who attempted to buy it for £200, and being told it was worth at least £1,000, remarked, "It is not a pleasant though a good picture." I may add that lately a would-be purchaser has added two noughts to Pepys's offer, and has received the answer, "This picture is not for sale."

A tankard which Charles I, at the instance of Thomas Fothergill, presented to the Company, is a contrast to a flagon of the time of the Commonwealth presented by Thomas Collins, professor of surgery. It always seems to me that the elegance of the Cavalier and the stolidity of the Roundhead are impressed upon the one and the other of these handsome pieces. The famous Boscobel cup was presented to the Company by Charles II at the petition of John Knight, surgeon to the King. This is the gem of the Company's collection, and in its lightness and grace, and even in its appearance of instability, is to my mind characteristic of the early Restoration. Its stem is in the shape of the trunk of an oak, somewhat twisted; the handle of the lid is a crown, and the usual little bells hang round the bowl. To four cups, presented by Edward Arris, founder of the Arrisian lectures, a melancholy history is attached, four men having been executed for a theft of them from the hall. Unpretentious like their donor, they are excellent in their simplicity. Of the pictures on these walls not already mentioned, one by Walker, sometimes called the English Vandyck, shows that remarkable man Sir Charles Scarborough giving a demonstration in anatomy, assisted by Edward Arris. Sir Charles was physician to Charles II, James II, and William III. He was a great mathematician, and applied for the first time the principles of mechanics to explain the action of the muscles. Sir Charles was a physician of the candid school, and is said to have remarked to the Duchess of Portsmouth: "Madame, you must eat less, use exercise, take physic, or be sick."

Scarborough assisted William Harvey in his book *De Generatione Animalium*. He was acting as surgeon in attendance to the Duke of York, afterwards James II, on board the frigate *Gloucester*, when it was wrecked on the Well Sands. He was picked up while struggling in the water, and never recovered from the effects of the cold and exposure. There is a second portrait of Edward Arris, this time a full-length one. When the surgeons parted from the barbers they took with them the endowment connected with the Arrisian lectures, but this money was somehow merged in the general funds of the new society or was misappropriated, and so the lectureship became an honorary one. This being pointed out to the council, the sum of the endowment was once more set aside to re-endow the lectureship. The initiative in this matter was taken by a past master of the Barbers' Company, Sir John Tweedy. A fine punchbowl was given by Queen Anne in acknowledgement of the services rendered by the Company in examining surgeons for the army and navy. A Sergeant-Surgeon of Queen Anne, Sir Charles Bernard, whose portrait hangs in the hall, was instrumental in obtaining this gift.

Amongst other works of art owned by the Company is the beautiful firescreen, a fine piece of ornamental ironwork presented by Sir John Tweedy and designed by Lady Tweedy. The waterman's badge and the banners formerly carried on the Company's state barge are also worthy of note.

During its career the Hunterian Society has had many habitations, but none will compare with our present sumptuous meeting place. I think I cannot more fitly conclude this address than by expressing the gratitude of the Society to our kind hosts the Worshipful Company of Barbers, and by repeating the time-honoured sentiment, "Root and branch, may it flourish for ever."

INSECTS AND WAR:

VIII.—*MITES* (PART II)

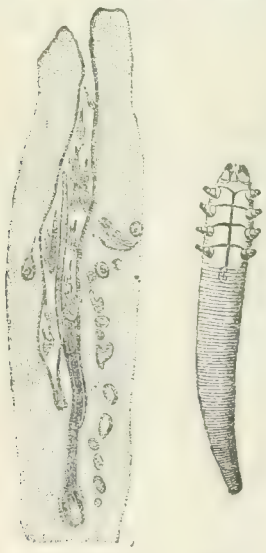
(Demodex; Sarcoptes; Endo-parasitic Mites).

BY A. E. SHIPLEY, Sc.D., F.R.S.,
MASTER OF CHRIST'S COLLEGE, CAMBRIDGE.

Say what the use, were finer optics giv'n,
T' inspect a mite, not comprehend the heav'n.
POPE, *Essay on Man.*

Demodex.

WE have seen that the harvest mite is wont to insert its head into the skin of human beings, but other mites show less restraint and insert their whole bodies. One of these, the well-known *Demodex folliculorum*, is, according to Guiart and Grimbert, "le plus commun des parasites de l'homme et nous en sommes presque tous porteurs." Without taking quite so gloomy a view, *Demodex* is undoubtedly widely distributed in the skin of mankind and of other mammals. There are differences of opinion as to whether this form should be split up into numerous species, or subspecies, according to the genus of the mammals upon which it lives. We, at any rate, will confine our attention to the human kind (Fig. 1) and so avoid losing ourselves in the tortuous maze of synonymy and the arid discussion of a meticulous classification so dear to the analytical German mind. To us a *Demodex* shall be a *Demodex*, and we will leave it at that.



a *b*

Fig. 1.—*(a) Demodex* in hair follicle of dog. *(b) Demodex folliculorum* (highly magnified).

Unlike the majority of mites, *Demodex* is a good deal longer than it is broad. But even for a mite it is very small, and shows signs of bodily degradation associated with its parasitic habit of life. Its shape is adapted to its habitat, which is the sebaceous glands of the skin. The long abdomen appears to be segmented, but the annulations are not true segments. The legs are reduced to conical stumps. The male is 300 μ long and 40 μ* broad across the cephalothorax. The female is, as usual, larger, measuring 380 μ in length by 45 μ in breadth. The minute larvae have, as is so often the case with mites, but three pairs of legs and are 60 to 100 μ in length.

This parasite, which lives on all parts of the skin of the human body, is perhaps most commonly seen on the nose and in the passages leading into the ear. It can be expressed by firmly pressing over the black spot which indicates its presence on the skin of the nose or elsewhere any small cylindrical tube, such as a watch-key. When expressed it is not always easy to see, as coming away with it is a mass of sebaceous matter which can best be dissolved off with oil on the microscopic slide. Whether this particular parasite causes much disease is not known. But in some cases it is certainly associated with acne and other skin disorders, and as it is also found in hair follicles, it may possibly destroy the hair. It is apparently spread by personal contact.

* A μ = 1.000th of a millimetre.

The Itch Mite.

A much more serious trouble is due to *Sarcoptes scabiei*, often called the Acarus, which gives rise to the disease known in England as the "itch" and in France as the "*gale*." *Sarcoptes scabiei* in both sexes is but little longer than broad. The female (Fig. 2) is, as always, larger



Fig. 2.—*Sarcoptes scabiei.* Female. × 180. Ventral view. (From Bourguignon.)

than the male. These mites are shaped very much like a microscopic tortoise, of a pearly grey colour, passing at parts into a rusty brown. Of the four pairs of legs two run forward close to the head, and two point backwards. The integument is semi-transparent and strengthened by

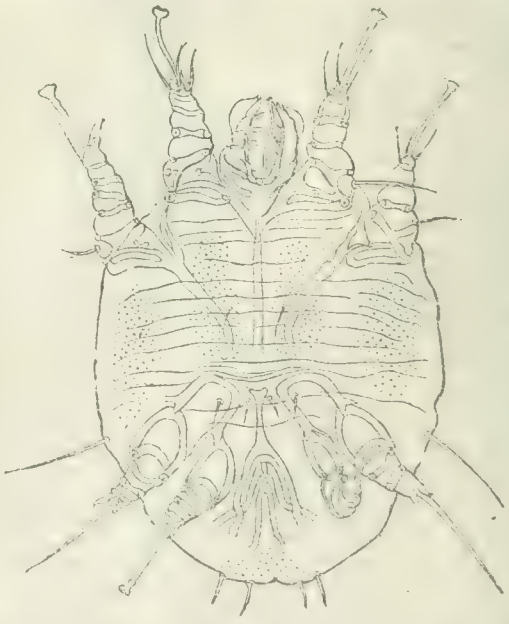


Fig. 3.—*Sarcoptes scabiei.* Male. × 300. Ventral view. The sucker on the fourth leg on the right is accidentally folded over the third leg. (From Bourguignon.)

parallel folds and bears many little bilateral symmetrical protuberances and scales. There are also certain hairs which have some systematic value (Fig. 3). The male is usually recognized by the fact that its third pair of legs terminates in a long hair, whilst the other legs end in a pedunculated sucker. He measures 200 to 235 μ in

length, by 145 to 190 μ in breadth. By preference he lives under the scales which the presence of the parasite produce on the host. The female is markedly larger than the male, measuring 330 to 450 μ in length by 250 to 350 μ in breadth. Her two anterior legs end in stalked suckers, whilst the two posterior end in hairs. The legs, like Malvolio's, are curiously "cross-gartered" by chitinous bars and rings, as is shown in Fig. 4.



Fig. 4.—One of the legs of *Sarcoptes scabiei*, × about 450, showing the stalked sucker and the curious "cross-gartering."

At first she promenades about with the male on the surface of the human skin. When they have paired the female begins to tunnel in the epidermis. The poor male, having been used, dies. As the mother-mite tunnels she begins to lay eggs, leaving them one by one behind her as she burrows deeper and deeper. Hence those that are nearer the entrance of the tunnel are always more advanced in age and development than those further in. She always works head forward, and as her tunnel is but slightly bigger than the breadth of her body, she cannot turn round, and she is prevented from retreating backwards by the backward hairs or spines of her body (Fig. 5). Hence she burrows always forward until she has dug her own grave at the far end of her excavation.

She is said to live two or three months and to lay one or two eggs a day. Hence one female is enough to infect a single host. The egg is, relatively to the size of the mother, enormous, its length being 150 μ and its width 100 μ. The egg is hatched out after three to six days and the young larva is hexapodous—that is, as is so usual in acarines, six-legged. It escapes from the burrow on to the skin and soon tunnels into the epidermis of its host, where it moults and transforms about the ninth day into a four-legged nymph. At the end of another six days the mites moult again, and at this period one can distinguish nymphs of two sizes, the larger female and the smaller male.

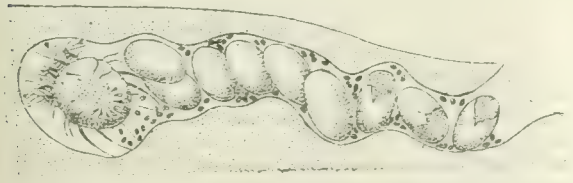


Fig. 5.—A diagrammatic view of the tunnel made by the female of *Sarcoptes scabiei*, with the eggs she has laid behind her as she burrows deeper and deeper. The black dots represent the excrement.

Within a month after hatching the *Sarcoptes* has become adult and the sexes are occupied in seeking each other on the surface of the skin, and it is in this stage that they are easily passed by personal contact from one individual to another.

Many animals suffer from *Sarcoptes*, and the fact that this genus can be transferred to man from the horse, the ox, the sheep, the goat, the dog, the cat, the camel, the lion, etc., is a slight argument in favour of their being one species. There is another undoubtedly distinct species which causes serious epidemics, especially in Norway, but that is hardly likely to enter into the scope of these papers.

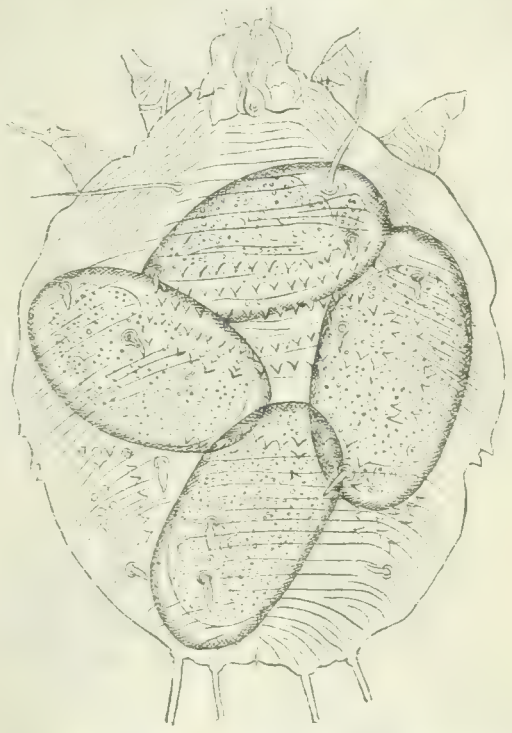


Fig. 6.—A female *Sarcoptes scabiei*, with four eggs in different stages of development; × about 180.

Sarcoptes scabiei, the itch mite, is, however, a cause of serious trouble in an army "in being." The tunnel or gallery in which the female mite burrows is the only lesion produced directly by the parasite. To the naked eye it presents a little whitish or greyish line, in which the length varies from some millimetres to one or even three centimetres, the longer ones occurring most frequently on the hands or wrists. It is of course open at one end, and ends in a *cul-de-sac*, which is slightly swollen, and here it is the female has taken up her abode. She is visible as a small white, brilliant spot. Besides the wrist, the inner faces of the fingers, and the interdigital areas are most commonly affected, and the palms of the hands.

If there is any doubt as to the cause of the existence of these tunnels, a diagnosis can easily be verified by extracting the mite. With the point of a needle, held almost parallel with the skin, the tunnel can be slit open, and when the point has reached the inner end the mite is very apt to seize it with its suckers, and can be so withdrawn, and, if not, it can easily be picked out. It can then be examined in a drop of diluted glycerine under a microscope.

I am no doctor, and I am proving but a poor zoologist in writing about mites under the title of "Insects and War," hence I venture to refer the readers of the BRITISH MEDICAL JOURNAL to the article on scabies in the *Encyclopaedia Medica* by Dr. G. Pernet and to quote the following paragraphs from Dr. H. Radcliffe Crocker's *Diseases of the Skin*, third edition, vol. ii:

Symptoms and Pathology.—The clinical picture of scabies is made up of two elements: the burrows, or cuniculi, and the attendant inflammation excited directly by the *Acarus scabiei*; and indirectly, the lesions produced by scratching, and the modifying influences of pressure, friction, etc. The result is a great multiformity of lesions, which, combined with their distribution, is in itself suggestive of the nature of the disease, and enables a practised eye to detect a well-marked case at a glance.

When the skin is first penetrated by the acarus, inflammation is often set up, and a papule, vesicle, or pustule is the

consequence. These papules or small vesicles, individually indistinguishable from eczema vesicles, are the most common form of eruption, but the inflammatory symptoms are absent in many burrows. The tract extends and forms a sinuous, irregular, or rarely straight line, which in very clean people is white, but, as a rule, is brownish or blackish from dirt being entangled in the slightly roughened epidermis; the length of these burrows is generally from an eighth to half an inch, but occasionally much longer, Hebra having noticed one four inches long. When a pustule is formed, part of the burrow lies in the roof, but the acarus is always well beyond the pustule or vesicle, or if there is none, lies at the far end, and with a lens may often be discerned as a white speck in the epidermis. The degree and number of inflammatory lesions vary much; there may be no inflammation at all about many burrows, or the whole hand, especially in children, may be covered by pustules, vesicles, or papules, and, indeed, a pustular eruption on the hands is always strongly suggestive of scabies; there is, however, no grouping or arrangement of any of the eruptions, as in eczema, the lesions being scattered about irregularly. It must be remembered that burrows are not always present, from various causes. If the disease is recent it may not have got beyond the papular or vesicular stage, while in washerwomen, bricklayers, or others whose hands are constantly soaked in water or alkaline fluids, or who have to scrub their hands violently, the burrows become destroyed. The eruptions due to scratching have already been described in the descriptions of the "scratched skin," and comprise excoriations, erythema in parallel lines, eczema, impetigines or so-called ecthymatous eruptions and wheals, and the

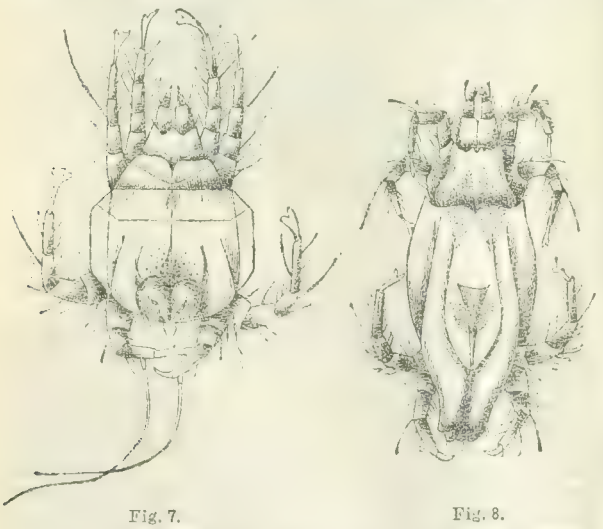


Fig. 7. Fig. 8.

Nephrophages sanguinarius (enlarged). Fig. 7: Male, ventral surface. Fig. 8: Female, dorsal aspect. (After Miyake and Scriba.)

inflammatory scab-topped papules often left after the subsidence of the wheals, especially in children. In carmen, cobblers, tailors, and others who sit on hard boards for hours together, pustular and scabbed eruptions, situated over the ischial tuberosities, are so abundant and constant as to be practically diagnostic of scabies in such people. Similar eruptions may be seen where there is friction from trusses, belts, etc.

Treatment.—I use in private practice, after the preliminary soaking and scrubbing, naphthol 15 parts, cret. prep. 10 parts, sap. mollis 50 parts, adipis 100 parts, as recommended by Kaposi, well rubbed in. For infants it can be used half-strength, and I omit the soft soap. I can speak of it in the highest praise. It is effectual, has no smell, and is not liable to irritate the skin, as sulphur does. It is, however, too expensive for public practice. Nephritis has occurred from its over-use, but I have never seen any bad symptoms. Another remedy less likely to irritate the skin than sulphur is balsam of Peru, of which the vapour alone is said to be fatal to the acari. The balsam is rubbed in for twenty minutes every night, a night shirt impregnated with the drug is worn, and in the morning an ordinary soap-and-water bath is taken. Hallopeau has recorded cases of ulceration of the skin produced by it.

Colonel Allcock says that the best treatment for the itch "consists in the free use of soap and hot water and the liberal application of sulphur ointment, continued for several days. Some prefer baths of potassa sulphurata (1 oz. of the salt to 4 gallons of water). Clothing and bedding should be fumigated with sulphur or baked."

Endo-parasitic Mites.

Certain little mites whose appearance is as repellent as their name, for they are known as *Nephrophages sanguinarius*, were recorded by two Japanese observers twenty years ago as coming away in the urine of a Japanese patient who was suffering from various bladder troubles. As the mites were in all cases dead, the Japanese doctors thought that they must have been endo-parasites of the kidney. They were found day after day for a week or more, and they were found also in the water with which the bladder had been washed out, but always dead. It is, of course, possible that the Japanese doctors were right in their surmise, but the best that can be said for the case is that it is "not proven" (Figs. 7 and 8). These awful-looking little mites are said to have two large eyes, and legs of five segments and of equal length. Their colour is greenish to brownish yellow. Undoubtedly there are many mites which live as endo-parasites; certain members of the group Analgesinae, such as *Laminosioptes gallinarum*, live in the intramuscular and subcutaneous tissue of fowls, and *Cytoleichus sarcoptioides* in their air sacs. I have myself found one of these species in the pigeon, so that it is by no means beyond the bounds of human possibility that *Nephrophages sanguinarius* really lived in the tissues of the Japanese; very strange things live in the tissues of some Japanese.

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF STATE MEDICINE AND MEDICAL JURISPRUDENCE.

Professor MATTHEW HAY, M.D., LL.D., President.

OPENING REMARKS BY THE PRESIDENT.

IT must be to many of us a matter of some surprise that the Section over which I have had the honour of being invited to preside should continue to combine within it two subjects on the whole so different as medical jurisprudence and State medicine, as they are usually understood. I grant that both are largely concerned with an endeavour to track and rout or punish the enemies of man—in the one case his human and in the other his bacterial enemies—and I must also admit that the combination of the subjects is still met with in the chairs or lectureships in these subjects in a few of our medical schools, and notably in Scotland. But the two subjects have in recent times drifted far apart, and only a few medical men like myself remain attached to both, in practice and in teaching. I am glad to be able to say, in the interests of both subjects, that the combination will in this university altogether cease when I relinquish my chair, and that in the earlier part of the present month our university court has appointed within the still dual department a full time lecturer in public health, and has thus realized a wish that I have long cherished.

But the Association has at this and the meeting of last year taken a somewhat different method of lightening the combination. They have carved a large slice from a juicy part of the State medicine joint and set it on a plate of its own, and, with the facility in nomenclature peculiar to the table, have named it "medical sociology." I am not going to complain. I would only suggest that perhaps by another year those who control these matters may have contrived to define more clearly which part of State medicine they propose thus to detach. Perhaps the title of "State medicine" might go with the abstracted part, and the more appropriate designation of "preventive medicine" be given to the remanent mother stock. This would, however, still leave the somewhat incongruous conjunction of medical jurisprudence and public health. But medical jurisprudence is, as usually treated at medical meetings, a small subject with rather limited interests, and I fear must continue to shelter itself under the wing of some bigger brother. Which brother is the difficulty.

Familiar as I have occasion to be with both medical jurisprudence and preventive medicine, I cannot help at times contrasting the attitude of the public mind towards, on the one hand, the hunting down and the extermination of the murderer of a single human life, and towards, on the other hand, the discovery and removal of the cause of an epidemic of disease by which hundreds of human lives may be perishing. If some imaginary statistician could be got to count all the words devoted in the public press of the civilized world to the accounts of the beginning, course, and ending of such a murder case as, say, the Crippen case, and similarly to the accounts of the tragedy of some holocaust of human life such as was witnessed in quite recent years in India when some two or three millions of persons died of plague, none of us would be surprised to find that, thus measured, a single murder excited apparently far more human interest and attention than a devouring pestilence. The striking contrast is not greatly to the credit of civilization.

Yet if the particular case in medical jurisprudence, if only tragic enough, appeals more strongly to the ordinary human mind than the particular case in hygiene, we are in these days certainly not without many general appeals and addresses to us in health matters. I feel, therefore, the more free in the limited time at my disposal to devote the remainder of my remarks to medical jurisprudence, and especially to the chief subject in it—the criminal. I am frankly glad that in our time there is a steadily growing desire to see justice done to the criminal, but not quite the kind of justice which such a phrase would have implied 100 years ago. The modern study of lunacy, since lunacy began to be recognized as a disease or a physiological defect and not as some sort of demoniacal possession, has led to an infinitely more humane and just treatment of the ordinary lunatic, and has as a side issue led also to a closer study and understanding of the psychology and genesis of the criminal. I have no wish to be regarded as a fatalist, but I agree with those who hold that each of us, physically, mentally, and morally, is in the main what our parentage and our environment have made us. And if we view the criminal from such a standpoint as I maintain we should, and predict we shall, the more we advance in civilization, then we shall find ourselves becoming more and more accustomed to talk of the treatment of the criminal and less of his punishment. It is largely due to the teachings of medical science in its broadest sense that such views are now being extensively held, and have begun in some measure to be acted on in our legal procedure, although I may be pardoned for saying that the legal profession, through its judicial heads, has accepted such views with much, but perhaps excusable, caution. The public are now becoming alive to this side of the question in criminality, as much from their education by the biologist and the sociologist as from the teachings of medical men. America led the way a considerable number of years ago, and we are now rapidly following, our latest step being the Mental Deficiency Act, which, if whole-heartedly worked throughout the country, cannot fail to introduce a new era in the treatment of defectives, intellectual and moral, and to lessen crime, both directly and indirectly.

In a community of ideal civilization all measures for dealing with crime would aim at its prevention and not at its punishment. If prevention required detention or segregation of the criminal, detention would be practised, and continued in grosser offences for such time, whether months or years, or even a lifetime, as would be necessary for the proper treatment of the criminal or for the public protection; but the detention would be characterized by the humaner treatment now everywhere found in our lunatic asylums, and even now noticeable in our prisons. We have within the last few centuries of the world's progress got rid, in most countries, of nearly all the barbarities of punishment which characterized a long series of preceding centuries. And yet in such countries it is, I believe, true generally to say that serious crime was never less rampant than now. It is a mistake to suppose that the more cruel the punishment the greater will be the deterrent to crime. The one barbarity remaining to us in this and some other countries, in which in other matters the modern humane and scientific view is being increasingly held, is the death sentence. It would not be difficult to show, if time permitted, that it is no deterrent of deliberate murder. Its only justification, in my opinion, is the eugenic one, but the eugenic end could be otherwise attained.

Gentlemen, if you ask me along what lines medical jurisprudence in recent years has made its greatest and most beneficent advance, I answer unhesitatingly that it is in our changed attitude towards the criminal. As with disease, so also with crime, prevention is better than cure. And in this saying the union of State medicine and medical jurisprudence may, after all, find justification.

DISCUSSION ON THE REFORM OF THE VITAL STATISTICS OF THE NATION;

WITH SPECIAL REFERENCE TO DEATH CERTIFICATION.

OPENING PAPERS.

I.—Sir Victor Horsley, F.R.S., F.R.C.S.

The condition of our national statistics as regards life and death merits the earnest attention of every one and naturally the medical profession in the first place. The British Medical Association has always taken a leading and very initiatory part in dealing with this subject, but, unfortunately, the statesmen charged with the duty of providing our vital statistics have never realized their immense significance to public health. Consequently the proposals of the Association have been passed by unheeded. Of course, one reason for official inertia is the oft-recurring one of expense, and here again, until the advent of Mr. Lloyd George, no Chancellor of the Exchequer has ever apparently been cognizant of what health means to a people. But there is another reason, namely, that the medical profession has been exceedingly remiss in not furnishing the Government departments with a classification of diseases of real scientific value. What is called the *Nomenclature of Diseases* prepared by a joint committee appointed by the Royal College of Physicians of London, bearing its imprimatur, and on which unfortunately the Registrar-General relies,[1] is essentially ridiculous in its terminology if it is to be employed as an aggregate of the causes of death, for it is not a nomenclature of diseases but a list of symptoms. For instance, the following are actually put down as diseases:

Hiccough	Vomiting
Hyperaesthesia	Stiff Joint
Trance	Delirum
Vomica	Lumbago

etc., etc.

There is a definitive difference between a "disease" and a "symptom" which apparently has not yet been fully recognized by the College of Physicians. The direct result of the use of this volume is to be seen in the almost useless lists of "diseases" contained in the Registrar-General's returns of deaths in England and Wales,* and also even those agreed upon between the different European peoples, and known as the International Lists. Of course every one recognizes that there is an essential difficulty in this matter owing to the incessant progress of pathological science. Those who have been educated with a certain terminology cannot easily acquire a new one, and yet as pathological science is continually progressing, so of necessity the terminology alters. Scientific discoveries, however, simplify and make more distinct the direct causes of death, which fact is gradually appreciated, and made use of by the profession at large. If it were not so, the subject of the nomenclature of diseases would be in a much more unfavourable state than it is even now. This point is one which I laid before the Venereal Diseases Commission, but it seems to me so essential to the future of public health in this country, and for the matter of that in the empire, that it must be dealt with by our Association. As I have already stated, the responsibility for our false statistics really lies to a very large extent with the authors of the volume *Nomenclature of Diseases* (so called) because by it the profession has been led or encouraged to employ expressions which on the face of it are hopelessly inaccurate.

To give an example out of a very large number, one of the worst instances is a "cause of death" called "hysteria,

* Practically adopted in Scotland and Ireland.

neuralgia, neuritis." These "diseases" are stated by the Registrar-General to have caused the deaths of 160 males and 398 females in 1911—that is to say, no less than 558 persons; of these 57 are stated to have died of "hysteria, neuralgia, and sciatica," however incredible it may appear, and no less than 501 of "neuritis." Of course the "neuritis" cases are really deaths due to alcohol, and, as shown in Table LXVIII (Registrar-General's Report, p. lxxxvi), in some 80 cases the practitioner certifying did venture to risk his professional practice and add the real cause of death—namely, alcohol—to what was essentially an absurd one.

The moral responsibility for the present situation, therefore, would seem to rest considerably on the profession, and a thorough reform of the volume of the College of Physicians must consequently be taken in hand by the British Medical Association. This is no new task for the profession. The late Dr. Sykes, M.O.H. for St. Pancras, insisted on the reform of this *Nomenclature of Diseases* when giving evidence to the Select Committee on Death Certification twenty-one years ago. That Committee (1893), however, reported in a very uncertain manner on the whole subject, and consequently produced little or no effect on death certification and none at all on the preliminary nomenclature or definition of diseases, which has only been slightly altered by the general progress of knowledge and the efflux of time.

My first proposal, therefore, is that our Association should move in this matter and produce a real Nomenclature of Diseases from which all the old loose terms and archaic names are expunged. I am well aware of the great difficulty that will be experienced in getting the help of workers on this point, because the attention of the profession is so fully occupied, and until the great general and social questions affecting us at the present day have to some extent been settled, active reforms in medical scientific terminology will doubtless have to wait. The Public Health Service of the nation will, however, proportionately suffer by such delay.

Let us turn now to the question of direct confidential certification of death. Exactly ten years ago the British Medical Association formulated its views on the certification of death, and drew up specific principles, according to which, in its opinion, certification of death, to be of any real value, should be guided. These principles are contained in a first draft form in the Report on this subject laid by the Medico-Political Committee before the Representative Meeting in 1904 (Minutes, 1904, R.M., p. 76). That draft contained the following clauses:

3. The medical practitioner shall transmit to the Registrar direct the certificate in a sealed envelope.
4. The certificate shall be a confidential document subject to the discretion of the Registrar-General.

In addition the Committee's report provided that not only should the practitioner be required to view the body after death, but that he should be paid a fee for the certificate, and, finally, that in addition there should be an arrangement made for an autopsy being performed (in any uncertain case) at the cost of the State. This last point led in 1904 to the report being referred for further consideration, and at the Representative Meeting in the following year the whole subject was again reported upon, and the report finally approved. This Report of 1905 provided that the certificate of the fact of death and of the cause of death should be separate documents. Thus the British Medical Association's scheme was quite complete. Its principles had been laid fully before the Registrar-General on February 23rd, 1904, by a deputation headed by Mr. Andrew Clark, then Chairman of the Council, and including Dr. Greenwood, Dr. Heron, Sir Victor Horsley, Dr. O'Sullivan, Dr. Whitaker, and Mr. Elliston; Dr. Bateman attended in representation of the Medical Defence Union. Although the deputation fully explained to the Registrar-General the urgent necessity of altering the system of death certification because the national death statistics were so utterly untrustworthy, nothing was done, the Association's proposals were pigeon-holed and completely forgotten, indeed, there is evidence that nothing would have been done had it not been for the fact of the Royal Commission on Venereal Diseases being appointed. That Commission naturally required to know how many deaths really occurred in the nation from venereal diseases, the certification of which is notoriously as worthless as that of alcohol. Dr. Stevenson, to whom I am obliged for very kindly supplementing the official abstract of his evidence, stated to the Commission that he strongly advocated a general system of confidential certification under which certificates of the cause of death would not be handed over to the surviving relatives.[2]

I gave evidence to the Royal Commission on March 27th and explained the position of the Association on this point. The evidence of the Commission has of course not yet been published,* but the abbreviated official report in the press of that evidence is correct, except that it does not lay sufficient stress on the great primary importance of *confidential* death certification or refer to the fact that the origination of this reform in this country was entirely due to the British Medical Association.[3]

I should like now to make quite short reference to what has been done abroad, and I will take as examples the cases of France and Switzerland. In the history of this subject the most interesting contributions are those of Bertillon and Brouardel in France as follows:

The system adopted thirty years ago by the Municipality of Paris was devised by Bertillon[4] to preserve the confidential character of the certificate of death. The certificate furnished by the medical practitioner is numbered and kept secret by the Registration Office as follows. On notice of a death the civil authority sends to the practitioner a form for the cause of death which is denominated by the number only. The *numbered* form giving the facts of the cause of death is then sent to the Statistical Bureau.

Brouardel[5] in 1888 found two sources of gross errors in the national vital statistics of France.

1. Apathy of many medical practitioners towards vital statistics, and therefore carelessness in certification.
2. Impossibility of attaining accuracy owing to risk of revealing professional "secrets," for example, alcoholism, syphilis, etc., in filling up existing certificates.

The Association des Médecins de France, on May 3rd, 1886, adopted a scheme of regulations by which the certificate of death is transmitted by the medical practitioner who attended the deceased in a sealed envelope to the chairman of the Health Committee of the district. All the records are then preserved in the office of the medical officer of health for the whole department (county). In this way the confidential character of the registration has been secured for many years in France.

The other example I would quote is that of Switzerland; for the simplest and at the same time the most complete is the Swiss system. The practitioner is furnished by the civil authorities with a form the upper part of which is detachable, and contains only the name of the deceased and a series number. This part is torn off and placed in a distinctive envelope by the practitioner in attendance, and must be delivered to the local registrar within forty-eight hours. The rest of the serially-numbered form contains spaces for the details of the cause of death, with a space wherein the practitioner can note the sanitary and social conditions of the dwelling of the deceased. This part is placed in a separate coloured envelope and sent with the other to the local registrar, who, however, forwards this second one unopened to the Central Health Statistical Bureau. The practitioner is remunerated for his certification.

There is no doubt that the Swiss system is in every respect worthy of our imitation, and none the less that it has for a number of years successfully carried into practice the principles agreed to by the British Medical Association ten years ago.

The next direction in which our vital statistics can be improved is the completion of certain legislative reforms, which are partly accomplished, but to perfect which a good deal remains to be done. One of the most important of these is certainly the notification of births. Unfortunately this fundamental principle of public health has been to a large extent hindered by two administrative errors, against both of which the British Medical Association protested, but, as usual, its protestations were not heeded by the Government officials. Thus, in the first place, the Act was only permissive, not compulsory; and in the second place, it made no provision for the

* Since this paper was read the said evidence has been published, namely, Cd. 7475.

remuneration of the practitioner who was called upon to do the work of the State. Where it has been adopted it has proved of the utmost value in assisting to reduce infantile mortality; therefore its operation ought to be made universal. If this is done, then the question of a proper fee for such notification would naturally be settled at the same time.

Closely associated with this reform of the notification of births is that of the certification of stillbirths, which the British Medical Association pressed for in 1905 through the Representative Meeting (Minutes, 1905, p. 110). This would secure for the nation national statistics on a subject on which it has practically no information—namely, antenatal conditions, which are to a large extent responsible for the high infantile mortality, and in any case are of immense importance in the difficult subject of national deterioration and its prevention.

Summary.

A study of this whole subject shows that very fundamental reforms are immediately necessary in our system of national statistical administration, quite apart from the item of certification of death. In the first place, the office of the Registrar-General ought to be completely reconstituted as a sub-office of a Ministry of Public Health. At the present moment it is in effect a sub-office of the Local Government Board, but it cannot be said to be sufficiently co-ordinated with that Department; in fact, it never can be an adequate part of the public health system of our country until it is an essential portion of a Ministry of Public Health, which will unite the three existing and inco-ordinate branches of public health work—namely, the Local Government Board branch, Public Health and Poor Law just referred to, the Board of Education branch, and the Home Office (Factories, etc.)* branch. In the second place, the Registrar-General must be some one who has received a medical education and thoroughly understands the biological problems of vital statistics.

In spite of the rebuffs of its work and the studied neglect of its proposals, the British Medical Association will, I believe, accomplish this national work, and thereby add another to the many benefits it has conferred on an apparently non-appreciative public.

References.

[1] See "Suggestions to Medical Practitioners respecting Certificates of Cause of Death," October, 1911. [2] British Medical Journal, ii, 1913, p. 1392. [3] Ibid., vol. i, 1914, p. 923. [4] *Gazette des Hôpitaux*, April 22nd, 1883. [5] Déclaration des Causes de Décès, *Annales d'Hygiène Publique*, 1888, T. xix, p. 522.

II.—William Bruce, M.D.,

M.O.H. Dingwall.

Dr. Bruce said that, though he had carefully perused the evidence as given in the Report of the Foster Parliamentary Committee (1893) on medical certification of the cause of death, he did not propose to enter at any length into the criminal side of the subject, which was there dealt with as the main reason for reform. He would limit himself chiefly to the public health aspect of the question. He thought it might be taken as granted that every one qualified to discuss the question of the reliability of medical death certificates knew that these certificates were not at present absolute proof of the fact that death had actually occurred. Such a certificate was, legally speaking, useless. It was valuable only for statistical purposes as showing the mortality of certain diseases incident to certain ages, occupations, etc., in certain localities compared with the results of a like nature in other registration districts. If these figures were to be of substantial value from the point of view of public health every effort should be made to make sure they were as correct as possible. Was any attempt made, except, perhaps, in notifiable infectious diseases, to secure perfect accuracy? To compel the medical attendant without fee or even thanks to fill up the usual certificate might well be little more than a farce in too many cases. He did not accuse his medical brethren of moral delinquency, but it could not, he thought, be disputed, that a considerable proportion even of British certificates were granted on insufficient grounds. As to the means by which the character of these documents could be improved, he suggested that if the blank certificate with the name and address of the medical attendant were sent in the first instance to the medical officer of health of the district and through the medical officer of health, for particulars of the cause of death, transmitted to the medical attendant with instructions to be returned to him (and not to the local registrar), it would be open to the medical officer of health to get further information from the medical attendant, if he deemed it to be necessary, before finally deciding as to the real cause of death to be entered in his register. A copy of the entries in this register would be sent periodically to the Registrar-General for statistical purposes. The course suggested offered the following advantages:

Increased value of facts as ascertained.
Secrecy.
Certification of death having actually occurred.
Information of non-notifiable infectious disease having made its appearance in his district.

Where the medical attendant had reason to believe there might have been foul play, he could explain his suspicions to the medical officer of health (with whom he should be on the most confidential footing), and in this way save himself from the odium of interference by letting the medical officer of health decide whether he should communicate his suspicions to the proper legal authorities or not.

The statistical value of certification would be increased if vague terms such as "debility," "old age," "failure of heart's action," "alcohol," "peritonitis," "heart disease," "bronchitis," were amplified. In this connexion he referred to the parallel case of pulmonary tuberculosis notification, where the bald certificate needed in practice to be supplemented if it was to be of much value. With regard to secrecy, practitioners were often afraid to trust local registrars, who were in a position to give, and indeed might be compelled to give, practically to the public at large, copies of the cause of death as certified. Doctors accordingly avoided the use of such terms as "cancer" "puerperal fever," "tuberculosis," and most certainly specific diseases such as "syphilis." Were the medical man assured that his certificates would be confidential it would be much more trustworthy. Early notice of death and its cause would often prove of much value to the medical officer of health by giving him the chance of isolating contacts and disinfecting premises in non-notifiable diseases.

Non-certified cases of death ought to be followed up by the medical officer of health, as in Glasgow and, he believed, in Edinburgh.

Dr. Bruce concluded by presenting the following table showing the present mode of certification and his suggestions for reform. Aware of the difficulty of carrying out changes in a long-established system, he had made the procedure to vary as little as possible from that now in use.

Present Mode of Procedure.	*Suggested Mode of Procedure.*
1. Registration of a death must take place within 7 days of death.	1. Registration to be effected within *24 hours* of death.
2. On the statement of a "qualified informant" given to the local registrar he enters the name of the dead person with particulars of age, sex, etc., and residence in his register.	2. No change.
3. A blank medical certificate of the cause of death is forwarded by the registrar to the medical attendant.	3. No change.
4. The medical attendant returns the completed certificate (under penalty) to the local registrar within 14 days of its receipt, who enters a copy of it in his register.	4. The medical attendant fills up the cause of death and returns the completed certificate to the M.O.H. within 24 hours of receipt.
5. Where there is no medical attendant the local registrar makes the best of any information he can get and enters it in his register. Failing evidence he sets the case down as uncertified. If he suspects foul play he directs the attention of the coroner in England or the procurator-fiscal in Scotland to the case.	5. The M.O.H. instructs the sanitary inspector to visit the residence of the dead person (*a*) to ascertain to the fact of death having taken place; (*b*) to report as to environment, and send report forthwith to the M.O.H.

* See also the *Times*, April 13th, 1914.

6. A copy of entry in his register is supplied by the registrar on payment of a fee.

6. The M.O.H. may refer to the medical attendant for further information on payment of a fee of 2s. 6d.

7. Where there is no medical attendant the M.O.H., after inquiry, if he suspects foul play, refers further investigation to the coroner in England or the procurator-fiscal in Scotland.

8. The M.O.H. shall keep a register of the causes of all deaths, so far as ascertained by him, and make such returns as may be required by the Registrar-General.

9. The M.O.H., on payment of a fee of 2s. 6d., shall hand copies of registration to the informant or other party interested in the fact of death.

BURIAL CERTIFICATES.

Present Rules.

1. The local registrar grants orders for burial on production of a medical certificate of cause of death or in default of such certificate, after inquiry he allows burial to take place, reporting such cases to Registrar-General.

Suggested Rules.

1. The local registrar shall furnish the informant with a blank order for burial, which must be signed by the M.O.H. in order to be effective when produced to the cemetery authority for interment.

2. This order shall be returned after burial to the M.O.H. by the cemetery authority.

III.—JAMES C. DUNLOP, M.D.,

Superintendent of Statistics, General Register House, Edinburgh.

I HAVE listened with great interest to the communications made by Sir Victor Horsley and Dr. Bruce, and while in agreement with some of what was said by them, I am in disagreement on several points. Sir Victor Horsley severely criticizes the *Nomenclature of Diseases*, a work for which the Royal College of Physicians of London is responsible. That work is no doubt imperfect, and as one engaged in the work of the classification of causes of death I would welcome a more perfect volume. But such perfection is hard to obtain. The description of the cause of death in death certificates, though on the whole wonderfully good, is often faulty, and very considerable improvement is possible. As instances of bad certificates, bad in various ways, I may submit the following:

Shock, result of hard labour.
Pulmonary bronchitis.
Asthenic exacerbation, heart failure.
Affection of stomach and bowels.
Senile decay, duration six years, five months, and twenty-two days.
Inward convulsions.
Natural causes, supposed.
Intestinal hydrocephalus.
Pneumococcal poisoning.
Pneumonia seven days, congestion of lungs four days.
Natural causes, or the result of falling into a ditch at the side of the railway.
Probable cause of death asphyxia, the usual result of drowning.
Pneumotyphus (by inquiry found to be a death from typhoid fever complicated by pneumonia).
Asthenia during life.
Typhous pneumonia (subsequently reported as latent pneumonia of typhoid type).
Placenta praevia fifteen years.
Pernicious anaemia, albuminuria.
Apparently spasm of windpipe.
Asphyxia three hours.
Tonsillo-laryngo-tracheo-bronchitis.
Probably decapitation.
Phthisis, outcome of cab accident.
Senile decay five days.
Cerebral enteritis.

I give these examples of bad and even absurd certificates as curiosities; they must not be taken as being in any way a fair sample of causes of death as registered. They are merely pickings out of some hundreds of thousands of certificates, and in no way whatever give any reasonable indication of the goodness or badness of the vast majority of the death certificates received. I think I am safe in asserting that 99 in 100 of the certificates received were well and carefully worded and efficiently met the requirements of registration. There are some bad ones, perhaps too many, but they constitute a minority.

Sir Victor Horsley passes on to discuss the difficult question of whether the medical certification of death should be confidential, and makes three suggestions, (1) that the certificate should be sent to the registrar and not given to the informant, (2) that it should be strictly confidential, and (3) that the name of the person and the fact of death should be reported on one schedule while the cause should be reported on another, the two schedules being traceable one to the other by numbering. I may point out that in Scotland the medical certifier is not required to hand his certificate to the informant, but his duty is to transmit it to the registrar. This has been so since registration was instituted in 1855, and no doubt has much to commend it, but it may interest Sir Victor Horsley and others holding his views to know that the majority of medical men in Scotland find the most convenient way of transmitting the certificates to the registrars is by handing them for that purpose to the informants. In considering the question as to whether medical certification should or should not be confidential, one should bear in mind what registration is. It is not an administrative machinery for the production of vital statistics, but an administrative machinery for making and keeping records of the most important events in the lives of individuals, their births, their marriages, and their deaths. Such is the great primary function of registration, and not the preparation of vital statistics. The vital statistics are a by-product of registration, one whose utility and importance cannot be exaggerated, one which simply could not be dispensed with, but, for all that, their preparation was not the only—and perhaps not even the most important—of the functions served by national registration. Bearing that fact in mind, one should consider the other requirements of registration as the preparation of the statistics, and should not advocate radical changes of registration for the purpose of improving the statistics if those radical changes would interfere with the primary functions of registration. Personally I do not like the idea of confidential certification, for I hold that a death register would be incomplete without a statement of the cause of death, and the inclusion of such a statement in what was a public document would be impossible were the certificates treated as confidential.

Sir Victor Horsley advises "certification" of stillbirths. By this I suppose he implies their registration. I disagree with him here also. It is a subject of statistical interest only, and not one calling for public record, and as such would be more reasonably dealt with by notification to medical officers of health than by recording in permanent registers.

One other suggestion of Sir Victor Horsley with which I also disagree is that the Registrar-General should be a medical man. The preparation of vital statistics is only one of his many duties, and though medical knowledge is most desirable for that duty, other special training is very essential for his other duties. For instance, there are points of law, more especially of marriage law, referred to him for decision. In Scotland, by statute the Registrar-General must be an advocate of not less than ten years' standing, and I personally would be very sorry to see that limitation removed.

I disagree with Dr. Bruce's suggestion that the registration of the cause of death should be taken away from the Registrar-General and put on medical officers of health, and fail to see either how death registration or vital statistics would be improved thereby. Whether the registrars' offices should be in closer touch with the public health administration, or even combined with some medical offices—say those of parish medical officers—is a matter which in my opinion is worth consideration, but I am unhesitatingly opposed to the transfer of the registration of the cause of death from national registers to local registers kept by medical officers of health.

IV.—A. K. CHALMERS, M.D.,

Medical Officer of Health, Glasgow.

THE writer of the *Manual of the International List of Causes of Death*, issued by the Census Bureau of the United States, observes in his introductory paragraphs

that the remarkable progress of what is known as the international classification of diseases and causes of death "could only be explained by the fact that there was a wider recognized need for national and international uniformity of classification, and that the system proposed fairly well met the demands . . . and proved capable of progressive development as these demands changed with the advance of medical knowledge.

"As late as 1893," he continues, "no two countries in the world employed precisely the same forms and methods of statistical classification of causes of death, and this lack of uniformity rendered statistical results incomparable. . . . At a session of the International Statistical Institute at Chicago in that year Dr. Bertillon presented, on behalf of a special committee appointed for the purpose, a draft classification for international use. This draft was promptly adopted, and subsequent resolutions suggested the propriety of keeping the classification abreast of scientific progress by means of a decennial revision. Two sessions of the International Commission held in Paris in 1900, and again in 1909, bring the list to the point which it has now reached."

So far the history of the movement, as outlined in the manual to which I have referred, but for our present purpose the interest begins in two recent changes in the method of tabulating the data on which the vital statistics of Scotland are based. These changes may be described as:

(1) The substitution of the public health administrative area for the registration district, or group of districts, as the geographical unit; and
(2) The introduction of a system of transferring births and deaths from the place of their occurrence to that of the usual place of residence of the mother or of the deceased person.

It is at this point that the revision of the *International List of Causes of Death* lends stimulus to the movement for uniformity and emphasis to the need for applying it on some readily understood plan.

According to the Registrar-General of England there are no fewer than 200 "unauthorized, indefinite, and otherwise undesirable terms" more or less commonly used in death certification. In place of this the International List provides 189 separate classes of subtitles arranged in fourteen principal groups in the following manner:

I. General diseases, containing ...	59	classes of subtitles.
II. Diseases of nervous system and of organs of special sense, with ...	17	,, ,,
III. Diseases of circulatory system, with	9	,, ,,
IV. Diseases of respiratory system, with	13	,, ,,
V. Diseases of digestive system, with ...	20	,, ,,
VI. Non-venereal diseases of the genito-urinary system, with	15	,, ,,
VII. The puerperal state, with	8	,, ,,
VIII. Diseases of the skin and cellular tissue, with	4	,, ,,
IX. Diseases of the bones and organs of locomotion, with	4	,, ,,
X. Malformation, with...	1	,, ,,
XI. Diseases of early infancy, with ...	3	,, ,,
XII. Senility, with	1	,, ,,
XIII. External causes, wounds, poisonings, etc., with...	32	,, ,,
XIV. Ill-defined diseases, with	3	,, ,,

Dr. Bertillon's estimate that this list was already adopted by Governments representing 212 millions of people was formed before its adoption in this country, and there seems reasonable likelihood that during the present decade its use will have extended to all countries where registration of vital statistics is systematically carried out.

The importance of this to the progress of medical research, and especially to the progress of preventive medicine, cannot well be over-estimated. It will discount hasty generalization based on limited data gathered from restricted areas. Interest in the geographical distribution of disease will be quickened, and knowledge of fluctuations in prevalence under different local conditions cannot but add to our knowledge of the natural history of disease.

The International Committee of 1900 issued certain rules to guide the selection of the class into which the death should be placed, when, as occurs in about one-half the cases, two or more diseases are jointly stated as the cause thereof. These have not been universally adopted, the reason in England being that they would involve a break in the continuity of the statistical returns without compensating advantages. Following, however, the example of the United States Census Bureau, the English Registrar-General has issued a *Manual* with rules for guidance in the selection of the dominant disease in such cases, so that it may be said that a beginning has been made in the process of adaptation which will in time produce a greater uniformity than now exists.

The order of preference in the selection of causes when two or more are jointly stated as the cause of death is indicated in Rule 3 as: (1) Violence, (2) general diseases, (3) local diseases, (4) ill-defined causes of death. For diseases or conditions associated with early infancy and old age special instructions are given. Difficulty in selection may sometimes arise between a general and a local disease, but the chief difficulties are likely to occur when one of two local diseases must be selected, and the following samples may serve as illustrations. They have not been taken at random, but are selected because of differences in the numbers tabulated under particular groups by the Registrar-General on the one hand, and locally, using the English *Manual* as a guide.

1. *Deaths associated with rickets*, such as bronchopneumonia, bronchitis, or meningitis. According to Rule 5 of the English *Manual* the general disease "rickets" would, in these circumstances, be selected as the group to which the death belongs. Our local figures suggest that in Scotland the local disease is preferred by the Registrar-General.

2. *Valvular Diseases of the Heart; Rheumatism.*—Rheumatism as a term is starred in the rules, and consequently is subject to further inquiry by the Registrar-General. The supplementary information thus obtained would in all probability determine whether the disease is to be included among *general* diseases under rheumatic fever, or allocated to *local* diseases—in this case the diseases of circulation.

3. *Gastro-enteritis, and Meningitis.*—When both diseases are mentioned without duration, the death would, I think, according to the English *Manual*, fall into diarrhoea and enteritis as a local disease of the digestive system, being the first disease shown, while meningitis in Scotland would, I think, be taken in preference to diarrhoea. A similar observation may also, I think, be made regarding gastro-enteritis and pneumonia, the latter being preferred in Scotland. On the other hand, bronchitis and congestion of the lungs occurring in combination with epidemic diarrhoea would, according to Rule 9, Column "A," be regarded in England as a disease of the digestive system, and I am not sure that the same grouping would not be adopted in Scotland in this case.

I should explain that our practice, down to and including 1912, in dealing with certificates containing two causes of death, was to take that which was first stated, save where one of them was an infectious disease.

For 1913 we have endeavoured to follow the rules in use in the General Register Office, England, for the selection of one from two or more jointly stated causes of death, and a few samples of the results will supply illustration of the need for obtaining some definite guide for the construction of local returns.

Cause of Death.	Old Method (Local Classification).	New Method (Local Application of Rules of English *Manual*).	Registrar-General (Scotland).
Influenza	71	92	32
Pneumonia	1,612	1,615	1,777
Bronchitis	1,153	1,092	1,267
Other respiratory diseases	293	295	261
Diarrhoea and enteritis...	753	833	751
Circulatory diseases ...	2,047	1,814	1,496
Cerebral haemorrhage (apoplexy)	744	733	879
Meningitis (not tuberculous)	199	206	236
Cancer...	979	996	1,056

Before considering these in detail it is well to remember that local classifications of causes of death, and more especially of causes of death through affections of the various physiological systems, can scarcely ever agree

numerically with classifications carried out in the Central Register Offices, for the reason that so many of them are starred for reference to the certifying practitioner for further information, and that this information, which may affect the final placing of the particular death, is not communicated to the medical officer of health.

Apart from this, however, the illustrations quoted will serve to show how far we are at present from being able to avoid two sets of mortality figures for the same area. The total deaths will correspond in number, as will also the number of deaths from many of the infectious diseases, but there is something more than a risk that discrepancies in the other groupings will be frequent and considerable.

If, for example, one takes the figures for influenza and pneumonia in the foregoing list there is an excess of 102 in the total, but 60 of those might be explained by a transference from influenza to pneumonia. Similarly, if one compares the relative prevalence of both diseases in Ireland and Scotland and includes other forms of respiratory diseases there would appear to be differences in method of classification which suggest that pneumonia in Scotland is relatively more fatal than in Ireland, while the other diseases of respiration are less so. Taking as illustration the male deaths between 1906–11 in both countries, one finds a fair degree of similarity in their annual numbers ascribed to influenza, pneumonia, and other respiratory diseases taken together; but influenza would appear to be rapidly decreasing as a cause of death in Scotland, while its prevalence in Ireland, as well as England, is fairly maintained. There is more than a passing interest in the question, for pneumonia has been increasing in Scotland during the whole period of active sanitation, and in the last decade had a rate of 145 per 100,000 compared with 90 in the Seventies decade.

In view of this discrepancy, one turns to the International List, where influenza is included among the general diseases of Group I; while pneumonia of all forms, save tuberculous, is grouped under diseases of the respiratory system as a local disease. And among the rules adopted in England for selecting one from two or more jointly stated causes of death is one stating that, with a few exceptions, of which pneumonia is not one, any general disease is to be preferred to any local disease, so that where influenza and pneumonia are both stated death would be ascribed to the former. We know that the term "influenza" is often loosely applied, and there is undoubtedly a good deal to be said for selecting any definitely-stated disease in preference thereto, but the object of the International List is to promote uniformity in tabulation, and a common agreement between central and local authorities as to the application of the list is highly desirable.

I select cancer as the next illustration of discrepancy. The difference here shown is + 69, as returned by the Registrar-General, and probably results from the number of starred forms regarding which further information is sought by the Registrar-General from the certifying practitioner. As in all cases when the subtitle is starred for further inquiry, the result of which may, as here, displace the cause of death from one group of causes to another, the medical officer of health should be informed of the result of the inquiry if it necessitates any change of grouping, such as I have indicated.

Diseases of the organs of circulation and cerebral haemorrhage present difference in opposite directions, the local figure for the former being considerably in excess of the Registrar-General's, while that for cerebral haemorrhage is less. Both are local diseases, but the rule (10) under which they fall is likely to lead to many interpretations. When any form of heart disease and cerebral haemorrhage are jointly stated preference is to be given to the former, and this has been rigidly adhered to locally so that part of the difference may thus be explained.

The object of the International List is to secure a uniform basis for international comparisons. The first step in the process is to secure uniformity in national and local returns. In Scotland we have no manual similar to those I have mentioned as guiding the selection in England and in the United States. If, in addition to such a manual, additional information obtained regarding the starred entries in the list were communicated to the medical officer of health, or alternately the Registrar-General were to obtain such information through the medical officer, many of the discrepancies which seem to me inseparable from the present method would, I think, become rapidly reduced.

DISCUSSION.

Dr. JAMES C. DUNLOP said that the instructions as to the selection of the principal cause of death from two or more stated causes set forth in the *Manual of the International List of Causes of Death as Adapted in England and Wales* differed in some essential details from those in use elsewhere, which may be styled the "International Instructions" (see p. 8 of that manual). In the Scottish tabulation more attention had been paid to the recommendations of the International Commission than to the rulings of the English office. The conference suggested by Dr. Chalmers between medical officers of health and the officials of the Registrar-General's office to discuss this matter would be welcomed by the Registrar-General.

Dr. BOYD (Pretoria) considered that the present system of death certification was most unsatisfactory, chiefly because it was in the hands of laymen—the local registrars. It ought to be in the hands of the medical officers of health, who were in close touch with medical practitioners. Under that arrangement there would be less likelihood of leakage than under the present system, and it would also be easier to deal with cases having a possible criminal aspect.

Dr. MCCOLL (Tamworth) considered that the fact of death only should be returned to the local registrar, and the real cause of death to the medical officer of health, if he was a whole-time officer.

Dr. MURRAY (Stornoway) objected to the term "old age" as a cause of death. It would be as reasonable to speak of "young age" as the cause of death from infantile troubles.

Dr. LAFFAN (Cashel) put in a plea for more frequent *post-mortem* examinations prior to death certification.

Sir VICTOR HORSLEY, in reply, said that he had never taken part in any discussion which proved the truth of what he had advanced more than this one. Dr. Chalmers's paper was a striking proof that the present system of death certification was a complete chaos. He moved the following resolution, which was seconded by Dr. BRUCE, and carried unanimously:

> That the British Medical Association reaffirms its opinion that extensive reforms in the administration of the national statistics of life and death are urgently needed, especially the immediate institution of a confidential system of death certification, and the Association therefore calls on the Government to introduce legislation to effect this essential change in the Public Health Service.

LEGAL INVESTIGATION OF CAUSES OF DEATH IN SCOTLAND.

By W. G. AITCHISON ROBERTSON, M.D., D.Sc., F.R.C.P.E.,
Lecturer on Medical Jurisprudence and Public Health, Royal College of Surgeons, Edinburgh.

THE General Registration Act of 1854 as amended by the Act of 1860 is that under which the registration of deaths is carried out in Scotland.

In ordinary circumstances the medical attendant on the deceased is bound under a penalty of £2 to furnish to the registrar of the district or parish in which the death took place a certificate stating that he attended the deceased, and giving the date on which he last saw him alive and also the date and cause of the death. This certificate must be transmitted to the registrar within seven days of the death. If the registrar has received no certificate by the end of this period, he must transmit to the medical attendant a written or printed requisition, together with a form of the certificate, and the latter must be filled up by the medical attendant and returned within three days. This certificate of death may either be handed by the medical attendant to a near relative of the deceased, or it may be sent directly to the registrar.

In the case of a sudden death, or when death has followed on a long illness, if the medical practitioner

knows that the deceased had suffered from a grave malady, and if he is satisfied that this was the cause of death, he may grant a certificate even though he may not have seen the deceased for a very considerable time previous to his death. On the other hand, the medical attendant may refuse to give a certificate of death if he is not satisfied as to its cause—as, for example, in cases of sudden or unexpected death, and death under what he considers suspicious circumstances, death from violence, etc.

Apart altogether from any medical certificate of death, the registrar may be satisfied with the explanation as to the cause of death as given by the qualified informant or relative of the deceased and may on this information grant an order for burial.

In many cases in which the medical attendant feels disinclined to grant a certificate of death he may refer the case to the surgeon of police, and the latter, after investigation, may give a certificate stating the cause of death. Again, either the medical attendant or the registrar, if not satisfied as to the cause of death, may refer the case to the procurator fiscal.

In every case of suspicious death the police first make inquiries, and these form precognitions of witnesses, which must be handed to the procurator fiscal, who then sets on foot an inquiry and examines witnesses privately to find how the deceased came by his death, and if any culpability exists. If these investigations satisfy him, he may then give a certificate to the registrar stating the cause of death. Generally, however, before doing so he asks a medical practitioner to furnish him with a medical certificate based on an external inspection of the body alone. In cases of graver suspicion, however, the procurator fiscal usually instructs two medical men to make a *post-mortem* examination of the body and to supply him with a report as to the cause of death.

The procurator fiscal then sends either a report of the case or the precognitions themselves to the Lord Advocate at the Crown Office in Edinburgh. The Lord Advocate or one of his deputy advocates goes over these, and either stops further proceedings or, on the other hand, public prosecution may follow.

Many persons die without having had the benefit of medical attendance, and this is especially true in regard to the outlying country districts of Scotland. These are known as *uncertified deaths*, and while in large cities these may amount only to 1 per cent., in counties like Ross and Cromarty or Inverness they may amount to 30 or 40 per cent. If we contrast the Scottish with the English methods we may find points of advantage and disadvantage in both.

Date of Certificate.

First as regards the time allowed for certification of the cause of death. In Scotland this is seven days, with three days extra in cases in which the medical man has forgotten to transmit the certificate; in England the period is five days after death, or five days after the jury have brought in their verdict in cases in which a coroner's inquiry has been held. In my opinion these periods are too long. It would be much better if every case of death were certified within twenty-four hours, It is only before burial that proper investigations as to the cause of death can be made, and we know how seldom the authorities grant orders for exhumation. It is just as easy (or as difficult) to certify the cause of death within twenty-four hours as it is to notify a case of infectious disease, and as medical men comply with the law in the latter case, they would soon be educated to comply with it in the former case. The earlier the information regarding a suspicious death is given, the more likely are we to obtain a true idea of the cause of it. In Scotland there may legally be an interval of eleven days between the death and receipt of the certificate—a period much too long to enable proper inquiries regarding the death to be made.

Transmission of Certificate.

Then as regards the handing of the certificate of death to a relative. This ought not to be the custom. The certificate ought to be a confidential document and should be transmitted by the medical attendant directly to the registrar. If this were done, I think it would conduce to greater statistical exactitude. If the relatives of the deceased have access to the certificate (and we know how inquisitive they are to find out what the medical attendant has put as the cause of death), then in very many cases the certificate will not bear the true cause of death. We would not willingly shock the feelings of the relatives by putting down, for example, that death was due to syphilis or delirium tremens. In order to spare their feelings, or not to turn them away from us as patients, the cause of death may be put down as uraemia or pneumonia, while in reality these may only have been secondary causes. We desire as great certainty as may be in the registration of the causes of death, and this can only be obtained in such cases by non-publicity. As one cannot treat certain cases differently from the whole, then in every case the certificate of death should be a privileged document handed directly by the signatory to the registrar. Only in this way will we obtain a more trustworthy certification of death.

Certificate after Long-past Attendance.

Then as regards the granting of a certificate by a medical man who knew the deceased professionally, but who may not have attended him for a long period previous to his death. Obviously this is very irregular. In many cases the cause of death given must be wrong, and thus grave statistical errors, which are incapable of proof, arise. Such a signed certificate is, in truth, little if at all better than an uncertified death. The illness from which the deceased suffered, and which was known to the signatory, may not have been the cause of death at all. A long chronic illness may have little to do with the death of the individual. People with advanced mitral heart disease may have been confined to bed for long, and yet may die from such a disease as cerebral apoplexy, acute influenza, or even from an accident. Again, such laxity in granting a certificate may allow of crimes being overlooked. Police records show many cases in which false statements have been made to medical practitioners regarding the death of one of their old patients, and a certificate of death has been obtained, so allowing the supposedly dead person to draw insurance money payable at his death.

No medical man should ever grant a certificate of death unless he has been attending the deceased very recently—say within one week—so that he may be able definitely to state the cause of death.

Of course, to refuse to grant a certificate to the relatives of an old patient would in many cases appear a very hard proceeding, but if this time limit were laid down by law, no blame could be put on the medical man, who would only be acting in accordance with the legal enactment. I should think that a certificate of death granted with the added words "as I am informed," would invalidate it altogether; yet I understand many such are accepted by registrars.

Fact of Death.

It is the usual custom in death certification for the medical attendant to grant such without his having seen the dead body. He may have seen the patient one, two, or three days previous to his death, and he may have diagnosed the illness accurately, and so fills in the certificate as to the cause of death. Surely this is not proper. The medical attendant cannot certify to a death which he has not himself witnessed, or to a dead body which he has not seen, and yet such certificates are filled up merely on hearsay evidence of some relative or friend who comes for the certificate. Before we can legally grant a certificate testifying to the death of an individual, we ought to verify the fact. By actual inspection alone can this be done, and the statements of relatives or friends cannot be accepted as proof. If this is true in respect of certificates granted by a practitioner who has been in regular attendance on the deceased, *a fortiori* is it true when many days or weeks have elapsed since the certifier has seen the deceased. Though we may have seen a patient yesterday, and may have thoroughly recognized his disease, he may not really have died from it to-day. I remember a case of this kind: a patient was suffering from pneumonia; his friends came to tell me that he had died suddenly, and I might have granted a certificate of death from pneumonia. On inspecting the body, however, I noted the remarkable pallor, and, examining it, found that death had been caused by cut throat, the patient in his delirium having

got up, seized a razor, and so ended his life. The friends, thinking that their carelessness in attending him was culpable, had tried to suppress the fact of suicide.

Another case I remember to have read of was that of a girl who lived with her invalid father in the country. She was engaged to be married to a dissolute young man. The father suffered from bronchitis, and the girl frequently went to the doctor for medicine. One day she appeared with the news that her father had died, and asked for a certificate of death, which the doctor granted. It was only when the undertaker's men were putting the body in the coffin that they discovered that deceased's head had been battered in. Later it transpired that the young woman had done this in a fit of passion.

I have no doubt in my own mind that many crimes have remained undetected by reason of this negligence in certification.

Before a medical man grants a certificate of death he should himself act the part of the French *médecin vérificateur*, and should inspect the dead body. By this means he will be able to determine that death has really taken place, and so will do away with a danger which is to many an ever-present terror, and one which is exaggerated to a morbid degree by certain individuals—I mean the risk of premature burial. He will also be able in many cases to determine what the cause of death has been, or, if he is not satisfied in his own mind, he may refuse a certificate and refer the case to the authorities.

Uncertified Deaths.

As regards uncertified deaths and the power of the registrar as to satisfying himself as to the cause of death on information given to him by the qualified informer, I cannot but think that there is too great laxity here. His powers of granting a burial order on the unsworn and unverified statement of the informer relative to the death are too wide. In my opinion it puts too great a responsibility on the registrar. We may take it for granted that many of them are men of experience, tact, and acumen, but there must always be a certain number who are careless in their duty or facile and impressionable. The qualified informant narrates a likely story to cover up, it may be, a case of gross neglect, or it may even be of crime, and the registrar may accept it as true without making any inquiry. The vast majority of uncertified deaths occurs amongst illegitimate infants under 1 month old. This in itself would point to a great amount of undiscovered crime, perhaps crime difficult to prove, but none the less existent. Again, a large proportion of uncertified deaths occurs after the age of 80 years, where, again, death may have been hastened by neglect in the way of warmth, food, and general attention.

It is ridiculous to imagine that a man who has had no medical or legal training can find out the most likely cause of death in the case of uncertified deaths. We all know how difficult it may be for us to determine the true cause of death, and yet the registrar is allowed on his sole authority to grant burial orders when he is satisfied as to a death having, in his opinion, occurred from natural causes. The evidence given by certain registrars before the Committee on Death Certification (1893) shows on what shallow and insufficient grounds these deaths were accepted as natural. As there are about 12,000 uncertified deaths every year in England and Wales, these must throw a great additional burden on the registrars, and in many cases only a skilled medical or legal man could determine whether an informant was telling the truth or not.

Suspicious Deaths.

Then, again, the entirely private investigation of the procurator fiscal into cases of suspicious death does not lead to accuracy of diagnosis regarding the cause of death. In many cases the procurator fiscal gives no instruction regarding the medical examination of the dead body. He rests satisfied with what he has found out regarding the death in his precognition of witnesses. He remains the sole judge as to the cause of death, and if he is satisfied the case goes no further, and he gives a certificate as to the death to the registrar.

Mistakes as to the true cause of death must often be made either by the registrar or the procurator fiscal. They have no medical skill, and so cannot cross-examine the informant as a medical man would in order to elucidate the real cause of death. Apart altogether from the risk of crime remaining undiscovered, the errors which must accrue to statistical inquiries into the causes of death must be enormously increased by the certificates granted by either of these two officials. To take, for example, the case of children reported to have died from teething, prematurity, diarrhoea, convulsions, etc., it is in many cases a mere begging of the question to grant certificates on such premises.

Without departing from the privacy of the procurator fiscal's inquiry, it would be desirable, in my opinion, that he should associate himself with a medical man (preferably an expert) in the investigation of any suspicious death. This should be done during the precognition of witnesses and would be altogether independent of the *post-mortem* report, should an autopsy have been performed. The inquiry, after all, has to deal much more with a medical than with a legal question. The object of it is to determine how the individual came by his death, and a medical man is surely at least as well fitted to determine this as a lawyer.

In my opinion, as much, if not a good deal more, information is obtained in a private inquiry conducted as I have indicated than is obtained in a public investigation conducted under more or less disadvantageous circumstances by the coroner. Witnesses often do not conduct themselves nearly so well when giving evidence in public as they do when giving information privately and not on oath. Nor is this difficult to understand; the crowd of eager listeners, the presence of the reporters, and the distracting character of the place, put all but the expert witness out of full control of his faculties, and I feel sure that the contradictory statements often made by witnesses are not nearly so much due to endeavours to conceal the truth as to excitement.

As regards those deaths which under present circumstances are uncertified, I think great benefit, not only to our public health authorities, but to the officers of justice, would accrue if all deaths were duly certified by a medical man. For this purpose in large cities and towns the duty of certifying the cause of death in those cases in which no medical attendant has been present might be placed on the police surgeons, and in rural districts the medical officer of health might undertake it. Should any case appear to these examiners suspicious it could be referred to the police authorities for fuller investigation.

THE NECESSITY FOR REFORMING THE CORONER'S INQUEST.

By J. C. McWALTER, M.D., LL.D.,
Dublin.

DR. McWALTER, after reviewing the history of the coroner's office and enumerating his duties, dealt with the need for reforms. He said that the following reforms were so manifestly necessary that they needed only to be enumerated in order to receive universal sanction:

1. As regards qualifications, the holder should be a registered medical practitioner, who is also a barrister or LL.B., or a solicitor who is on the *Medical Register*.

2. As regards election—the office being an important non-political post, should not be by popular election, whether by vote of freeholders or by the Municipal Council.

3. As regards payment, this should be, not per inquest, but per annum, subject to revision. Where revision of salary is provided for, periodically, a claim for increment should not rest merely in an increased number of inquests, but regard should be paid to the number of witnesses, and the number of hours engaged, etc.

4. A capable coroner's clerk should always be provided. He should be able to supply shorthand notes.

5. The coroner should have the power, independent of the jury, of having a *post-mortem* examination performed and paid for. He should also be able to get the views of necessary experts.

6. The coroner should have the power in university towns or the like to utilize the material of the inquest for the purpose of teaching medical jurisprudence. This science in England is in a childish and absurd position.

7. Questions of criminal negligence, which now involve several trials, should so be dealt with that a series of inquiries cannot be held on the same question.

8. Where a coroner's inquest tends to resolve itself into an inquiry fixing responsibility for damages, the coroner should have definite powers to confine such inquiry to simple investigations of fact bearing on the immediate cause of death.

9. In no cases are poor and illiterate people so unhappy and unprovided for as in cases of inquest concerning the sudden death of perhaps the chief support of the family, and the coroner should have power, when he thinks fit, to assign a solicitor to look after the interests of the family afflicted if they are too poor to do so.

10. Every uncertified case of death should *prima facie* be the subject of a coroner's inquest, but the coroner should have discretion not to hold the inquest when he thought fit.

11. A legal assessor should be available for every coroner in cases where he thought such help desirable.

12. Where the publication of certain parts of the proceedings might work injustice, the coroner should have power to restrain their publication, subject to appeal.

Reviews.

DISEASES OF THE DIGESTIVE SYSTEM.

A second edition of Professor Saundby's small book on *The Treatment of Diseases of the Digestive System*[1] has recently appeared. It has been revised throughout, and enlarged by an appendix on dietetics containing useful information about test meals, diets, and food values. It is based on the author's personal experience, and contains a great quantity of sensible practical advice. Dr. Saundby is not one of those who feel bound to recommend the latest thing in treatment or the last-published fancies of the experts in disorders of the digestion. He adopts a more conservative line throughout in the treatments he recommends, while at the same time keeping his eyes open for the real advances that are so slowly made in the therapeutics of the alimentary tract and the study of its physiology and bacteriology. A very useful chapter towards the end of the volume gives an excellent but brief description of the chief symptomatic diseases—headache, insomnia, glycosuria, skin eruptions, and the like—that may depend upon affections of the gastro-intestinal system. A couple of dozen serviceable formulae are printed at the end of the book, which may be cordially recommended to the attention of all practitioners of medicine.

We had occasion only eighteen months ago to notice favourably Mr. H. J. Paterson's book on *The Surgery of the Stomach*,[2] so that little requires to be said on the issue of a second edition except to indicate the gratification the author must feel at the rapid absorption of the first. New features and additions are not many. The stereoscopic method of illustrating the pictures of operations has been introduced, and is highly recommended by the author. This method has been employed very effectively from time to time since the pioneering work of Sir J. Mackenzie Davidson, some examples of which were published in our columns a good many years ago. Plates illustrative of the use of x rays in diagnosis find a place in the edition, and we could have wished that more had been introduced, as there is much diagnostic value in this method, and there is still a big field for work in correlating symptoms and radiographic findings. Patients find a bismuth oxychloride or barium sulphate meal an easy thing to tackle, whereas a test meal removed by the stomach tube is to many an unpleasant business. Mr. Paterson has made a special study of the physiological effects of gastro-jejunostomy, and it is natural for him to embody in the work his view that the operation does not depend for its success on drainage, but on altered physiological conditions. In the chapter on infantile pyloric stenosis we are surprised to find no reference to the work of J. H. Nicoll, published in 1906. He found that pyloroplasty was eminently suitable for these cases. Mr. Paterson prefers gastro-jejunostomy. We are glad to be able to repeat our praise of this work, which is thoroughly up to date, accurate, and complete.

Judging by the number of textbooks issued, all showing a considerable degree of merit and an adequate knowledge of recent methods of diagnosis and treatment, the diseases of the digestive system are receiving a large amount of attention from our colleagues in the United States. In his volume on the *Diagnosis and Treatment of Digestive Diseases*[3] Professor George M. Niles, of the Atlanta Medical College, has endeavoured to give "concise and intelligible descriptions of the various tests used in studying the gastric contents, intestinal juices and faeces, and of the methods for determining the position, size, and motility of the stomach and other abdominal viscera, a statement of the diagnostic means employed in the recognition of digestive diseases, and finally an exhaustive discussion of their general and special treatment." The first part of the book is devoted to generalities, such as diagnostic methods and the means for local and general treatment, diet and drugs; in the second, which occupies only two-fifths of the whole, special diagnosis and treatment are considered. This method leads to a certain amount of repetition, and is scarcely consistent with the conciseness which the preface lays down as desirable. For example, intestinal parasites are discussed in the former part of the book on pp. 79 to 103, on pp. 370–71, and, finally, on pp. 557 to 569. The first deals with the etiology and diagnosis of parasites, the second with the drugs used against them, and the third repeats all these, although it deals at greater length with methods of treatment. The name of Professor Ewald has been long associated with the test breakfast of rusk or bread and weak tea or water, so that to describe under this name a meal of bread and meat is misleading. It is hardly accurate to say that maltose does not ferment with yeast, as many yeasts contain the necessary enzyme maltase. On p. 103 the author recommends that in examining the faeces for the ova of the hook-worm "a small dose of thymol should be followed by oil," although on pp. 371 and 569 he warns against the administration of oil after thymol, on account of the danger of dissolving the drug, and thereby promoting its absorption; we should suppose a saline purge would be as effective in bringing away any ova present. On p. 111 he recommends glycerine for lubricating a stomach tube, but on p. 175 he says plain water is by far the best for this purpose, "the supremacy of water admits of no argument"—a statement with which we entirely agree. The author's directions and methods are generally good, and his photographs illustrating the method of passing a stomach tube and the position of the physician and of the patient are just as they should be. He is in accord with most physicians in his caution respecting operative interference for gastric haemorrhage, in the use of stomach massage, and his conservative attitude regarding nephropexy. He is right in deprecating the prejudice against drinking water with meals, although condemning the excessive use of iced water. The late Mr. Lowell taught us to be careful in criticizing the use by Americans of unfamiliar words, which are often good but forgotten English, yet when the author speaks of "downcast, complaining, and *sordid* people" we are puzzled, since the word *sordid*, as used here, generally conveys a moral reflection; even in its original meaning of dirty it would not necessarily be appropriate to describe patients who are suffering from mental and physical depression. Is the author quite fair to Professor Chittenden in accusing him of being in opposition to "all the world," when we remember that the diet of the peasantry of Europe, including until recently those in England, Scotland, and Ireland, approximated more closely to the Chittenden standard than to that of Atwater and Voit? Moreover he ignores the evidence which Hindhede has published in support of the low protein diet. We fear English experience does not uphold his opinion that the prolonged use of calcined magnesia is not a cause of intestinal concretions, as when Gregory's powder was a popular domestic remedy these concretions were by no means uncommon. The book is abundantly illustrated and contains many useful tables, but the copy sent us has part of the index interposed among the text.

[1] *The Treatment of Diseases of the Digestive System.* Second edition. By R. Saundby, M.D., M.Sc., LL.D., F.R.C.P.Lond. London: C. Griffin and Co., Ltd. 1914. (Post 8vo, pp. 191. 4s. net.)

[2] *The Surgery of the Stomach: A Handbook of Diagnosis and Treatment.* By H. J. Paterson, M.A., M.C., M.B.Cantab., F.R.C.S.Lond. Second edition, revised. London: J. Nisbet and Co., Ltd. 1914. (Med. 8vo, pp. 355; 51 plates, 15 illustrations in the text. 15s. net.)

[3] *The Diagnosis and Treatment of Digestive Diseases. A Practical Treatise for Students and Practitioners of Medicine.* By G. M. Niles, M.D. London: Henry Kimpton. 1914. (Med. 8vo, pp. 609; 1 plate, 86 figures. Cloth, 21s. net; Roxburgh binding, gilt top, 25s. net.)

Professor CHARLES G. STOCKTON, of the University of Buffalo, the author of a volume on *Diseases of the Stomach*,[4] is not a specialist in this department, but he thinks that his experience of twenty-five years as a teacher and practitioner, and the special attention he has given during that time to abdominal diseases, justifies him in writing it, all the more as diseases of the stomach are so intimately connected with other departments of medicine that a general physician is able to take a broader view of the question than one who confines his attention to a narrow speciality. We hardly think it was necessary for the author to spend time in combating supposed views of the inutility of gastric digestion, and we doubt whether such extreme opinions as he seeks to controvert are entertained in any responsible quarters, for it is one thing to recognize that the stomach is not an indispensable organ, but quite another to maintain that it is useless. The book is well written and abundantly illustrated, but there is a certain amount of unnecessary repetition; for example, conditions described in Chapter IX, on functional derangements of digestion, are repeated in Chapters XVIII and XIX, and other subjects dealt with in Chapter VIII are described again later on. We note that the author appears to believe in the value of charcoal as an absorbent of stomach gases, although Ewald pointed out many years ago that charcoal has this action only when it is dry, a condition in which it can hardly continue when it has been swallowed. Professor Stockton's treatment appears to us to be rather excessive, and we doubt whether the use of the stomach tube is really justifiable or useful as a routine practice in either peptic ulcer or chronic gastritis. The author adds to the interest of his book by publishing a good many cases, and we have no doubt it will be greatly appreciated by many readers, among whom we include ourselves, who prefer it to many more rigidly systematic treatises.

NOTES ON BOOKS.

THE little book on *Practical Pathology*,[5] by Dr. J. MILLER, is essentially one for the student of medicine. After an introductory chapter, the author deals with the equipment which a pathologist needs in making an autopsy, and the methods of procedure which he may adopt. The technique recommended is sound, and the best in all but exceptional circumstances. The *post-mortem* appearances to be found in the various tissues and organs in different diseases are next described, and are correlated with the changes occurring in the other tissues and organs of the body. Such an arrangement has the distinct advantage of summarizing the appearances found throughout the body as the result of each particular disease. The size of the book precludes more than a short description of the outstanding features of the morbid anatomy of each. Short accounts are given of the clinical symptoms of some of the conditions found, but these are of necessity so brief, and restricted to so few of them, that it is questionable whether it would not have been wiser to omit them. Very short descriptions of histological appearance are also included. The last chapter deals with points to be remembered in performing autopsies in cases having a medico-legal bearing. This chapter might be more useful if it were extended, for its instructions are insufficient to satisfy the requirements of such an examination. No account, for example, is given of the morbid anatomical conditions found after death from drowning, hanging, criminal abortion, and many other of the common causes which lead to judicial inquiry. A useful appendix deals with such subjects as the treatment of specimens for mounting, methods of staining, making of blood films, and bacteriological and cytological examinations. The illustrations are grouped together at the end of the volume, and, with a few exceptions, are very good. The frontispiece—a coloured plate showing the staining reactions of certain diseased structures—is excellent. The book is the outcome of a praiseworthy endeavour to group all the essential changes found after death—an endeavour which, considering the space available, is highly successful. It should prove very useful to the student.

[4] *Diseases of the Stomach and their Relation to Other Diseases.* By Charles G. Stockton, M.D. New York and London: D. Appleton and Co. 1914. (Roy. 8vo, pp. 809; 5 plates, 22 radiograms, 65 figures. 25s. net.)

[5] *Practical Pathology, including Morbid Anatomy and Post-mortem Technique.* By J. Miller, M.D., D.Sc., F.R.C.P.E. Edinburgh Medical Series. London: A. and C. Black. 1914. (Cr. 8vo, pp. 459; 109 figures, 1 plate. 7s. 6d. net.)

MEDICAL AND SURGICAL APPLIANCES.

Broncho-Oesophagoscope.

SIR WILLIAM MILLIGAN (Manchester) writes that the form of broncho-oesophagoscope illustrated in the drawing is so designed that the inner or extension tube is extended by means of a screw adjustment, on the principle of the coarse adjustment of a microscope, and is constructed in such a manner that its lumen is not interfered with by the mechanism adopted. In this way the inaccurate and clumsy method at present in use of forcibly pushing forward the inner tube is avoided and a smooth, even and gliding motion substituted. The instrument may be fitted to an ordinary handle, as shown, or to the handle of a Brüning's electroscope. A detachable slotted funnel, blackened upon its inner aspect, fixed to the proximal end of the outer tube, is provided when indirect illumination is employed, the object of the slot being to permit of the deep introduction of instruments with handles. To this funnel is attached a small tube, through which an anaesthetic may be administered. Tubes of different sizes are required for use with patients of various ages. The instrument is made by Messrs. Allen and Hanburys.



THE WAR AND THE MEDICAL SCHOOLS.

WE publish below notes of the result of further inquiries as to the effect of the war upon the entry at medical schools this year.

LONDON.

King's College Hospital Medical School.

At King's College the Secretary informed a representative of the JOURNAL that, as regards men due to come to the school for their advanced studies, none had been able to attend, all having entered the service of the country, either as surgeon probationers or in some other capacity. Since the outbreak of the war as many students as possible had obtained qualifications, and the majority of them had joined the Royal Army Medical Corps. The authorities of the school were in accord with the War Office, urging every present student to obtain his qualification at the earliest possible moment, in order that he might be of the utmost service to the country. Students were enlisting to some extent, but such a course was strongly deprecated in the case of those in any degree advanced in their medical studies. Mr. Kelway mentioned the death of one of the King's College Hospital students, Second Lieutenant Sidney Howard Hodges, who was killed in action at Lille. He was an exceptionally brilliant student, graduating B.Sc. before he was 23. Between thirty and forty members of the staff and students of the medical school, we were informed, were at present in the service of the country, either at home or abroad. Of the students some were at the front, some were at Malta, and others were in the naval service.

Mr. Kelway gave it as his impression that the full effect of the present situation would be felt seriously in the course of a year or two. The great shortage of students in the universities would influence some of the London medical schools, and in the long run the population would be affected.

There had been accessions of foreign students which might balance to some extent the shortage of home students; Russians who had begun their education in Germany and had reached a comparatively advanced stage, were endeavouring to complete their education in England, but with very inadequate knowledge of the language. Japanese and students of other nationalities were in similar plight. Mr. Kelway said the school was being carried on upon the usual lines, though necessarily the staff was somewhat curtailed.

King's College.

Professor Waterston, at King's College, informed us that there was an excellent entry of new students in medicine, the number being about fifty, a total about the same as last year or slightly larger. The college contained a number of refugee students, though not many in medicine. There were, however, Russian and Japanese students who had been working in Berlin or Switzerland, and Belgians from Ghent, Liége, and Brussels, also advanced students from Paris. All these were being entertained as the guests of the College. Many could talk very little English, and some of the students acted as interpreters. The experience was a novel one for the teaching staff; he found himself speaking to one group in English and to the next in French, while the Russian students could only be approached through the German language. Professor Waterston said that King's College had now 150 students in the preliminary and intermediate subjects.

University College Hospital Medical School.

The Dean (Dr. G. F. Blacker) reported a definite diminution in new students. There was, he said, a very marked shortage of men to do the work in the hospitals because so many fourth or fifth year students had gone to the front. It was difficult to find clerks and dressers and impossible to get residents. At least one hospital in London was considering the advisability of appointing women as residents, so great was the scarcity of men for any vacant position. Hospitals in the provinces were advertising for residents, and were willing to accept foreign graduates unable to speak English at all readily, men who in ordinary circumstances would not be selected for such positions. A number of Belgian and Russian students had been admitted to the medical school, also some from Paris. During the last ten years the experience at University College Medical School had been a steady increase; this year there had been a definite fall in the numbers. The position could only be attributed to abnormal conditions and must have affected other schools similarly. Seventy of the students had gone to the front and more were going, and for the first time in the history of the hospital the prospect of getting men from outside for resident appointments had had to be contemplated, although this course had not yet been adopted. Dr. Blacker believed the economic factor would be found to have some effect in restricting the entry of new students into the medical schools, and in the college he understood that the numbers of those taking the preliminary course were a little less than the normal.

University College.

This impression was confirmed on inquiry of the Provost, who said the entries were lower than usual. Those embarking upon the medical course numbered about 40, whereas the total was usually over 50. In the whole college nearly 350 men were away; the engineering faculty was most affected, classes having diminished from 40 and 50 members to 7 and 11. The decrease on the medical side was about 20 per cent.

St. Mary's Hospital Medical School.

So many students and members of the staff of this hospital and school offered their services to the country in various capacities on the outbreak of war that those in charge were faced with very considerable difficulties. Now, however, with the help of many substitutes, work is being carried on as usual both in the hospital and medical school. The number of new students shows a decrease, but the entry is 75 per cent. of the average, which, in all the circumstances, is considered very satisfactory. St. Mary's prides itself on the fact that it is represented on three out of the four London Territorial general hospitals, and that the commanding officers of two of them are St. Mary's men. The *Hospital Gazette* publishes a list, extending to several pages, of past and present students who are serving with the naval and military forces.

SCOTLAND.

University of Aberdeen.

Addressing, last week, a mass meeting of Aberdeen students, called to consider the formation of a reserve company of the 4th Battalion Gordon Highlanders, Principal George Adam Smith made a special reference to the position of medical students in regard to enlistment. In the case of those who were in their fifth, sixth, or, it might be, seventh year of study (laughter), he said that a petition had been presented for a final examination at Christmas in order that these students might qualify to take up commissions in the Royal Army Medical Corps. The authorities were under very strict ordinances in the matter, and the General Medical Council intimated that it would look with disfavour on any abbreviation of the ordinary course which it regarded as the minimum. Another reason for not abbreviating the studies of fifth and sixth year students was that the Director-General Army Medical Services stated that he had from 1,000 to 1,200 applications from fully qualified practitioners, and only a small proportion of these were likely to be called upon within the next seven months. Therefore there would be little or no chance, even if arrangements were made for students to qualify by Christmas, of their getting any positions before the following summer. Accordingly the Senatus had decided to take no action with regard to holding a final medical examination at Christmas, and this view was shared by the Universities of Glasgow and Edinburgh.

THE BRITISH PHARMACOPOEIA, 1914.

(Concluded from page 760.)

PHARMACY.

THERE are no very striking changes in the pharmacy of the new *Pharmacopoeia*, though there are fairly numerous alterations of a minor order of importance. It is somewhat surprising to find so few additions which fall under this head; as regards some of the forms of medicines which have come into wide use in recent years, such as capsules, cachets, granules, tablets, ampoules, etc., a paragraph in the preface—nearly identical with a paragraph in the preface in the *British Pharmacopoeia*, 1898—states that it has not been thought desirable to introduce these, but that when such forms are prescribed the drugs themselves must respond to the official characters and tests. It is, of course, obvious that nothing would be gained by putting cachets into the pharmacopoeia; but in the case of capsules and tablets, where some vehicle or excipient or lubricant must usually be added, there would appear to be quite as good reason for a number of formulae being official as for the pills, or the "lamellae" or discs for eye medication. Effervescing granules are official in a few cases, such as caffein citrate, lithium citrate, etc., and the list might well have been somewhat extended.

There is also a considerable and growing class of medicaments the preparation of which belongs to pharmacy in the wider sense, which it is somewhat surprising to find unrepresented in the pharmacopoeia—namely, antiserums and vaccines. Even animal extracts are not included, and the only two official substances prepared from animal glands, apart from the digestives pepsin and pancreatic solution, are dry thyroid and adrenalin.

In regard to the preparation of galenicals, changes are somewhat numerous and indicate a pretty thorough revision. The method of describing certain standard processes in an appendix and only referring to them in the text is again adopted and carried a little further. The percolation process for the preparation of tinctures has been modified somewhat; the material to be exhausted was formerly moistened with the menstruum and allowed to stand for twenty-four hours, then packed in a percolator and the menstruum passed slowly through it; the directions are now to moisten with the menstruum and allow to stand for four hours only, then pack in a percolator, add more menstruum until it forms a layer above the drug, and then allow to stand for twenty-four hours with the orifice closed, after which percolation is allowed to proceed. The object of the first soaking is to allow the drug to swell before being packed, in order that it may not choke the percolator by subsequent swelling, and four hours is no doubt enough for this. The second soaking allows the menstruum to exert its solvent action right into the interior of the particles of drug.

The process of repercolation is now relegated to the appendix; in this process a quantity of drug is divided into five equal parts, which are percolated separately, the percolate from the first being used for the second, the percolate from this for the third, and so on.

The preparation of discs, of which four are official—atropine, cocaine, homatropine, and physostigmine—is now described in an appendix. The basis is made of gelatine, glycerine, and water; the requisite proportion of medicament to base is ordered in the text in each case.

In only one case has a pure active principle taken the place of a crude drug throughout a whole set of galenicals. This case is that of cantharidin, already alluded to. Cantharides has been omitted altogether, and cantharidin is described as obtained from various species of Cantharis or of Mylabris. The tincture, ointment, two plasters, vinegar, blistering liquid, and blistering collodion are all affected by the change. Another change, somewhat of the same nature, is the omission of the gum-resin of scammony, and the use of scammony resin where the gum-resin was formerly ordered, as in compound tincture of jalap.

There has been a general revision of the strengths of alcohol necessary or best for the exhaustion of different drugs, and the alcoholic strengths of ten tinctures have been altered, some very considerably. The bases of the ointments have also been revised, and changes are made in thirteen cases; in many instances the change consists in the use of paraffin in place of some less stable substance, such as oil or lard, but in a few cases the change is in the reverse direction, prepared or benzoated lard taking the place of paraffin, as in iodoform ointment and ammoniated mercury ointment.

Analytical Processes and Tests.

The analytical processes of the *Pharmacopoeia* may be divided into two sections, namely, the assay of drugs and galenical preparations for the percentage of active principles contained in them, and the testing of chemical substances both qualitatively and quantitatively, to ensure the proper strength and purity. In regard to the former, it has already been mentioned that the number of drugs to be assayed and standardized has been substantially increased. A detailed discussion of the assay processes would be out of place here, but it may be said that the processes adopted appear to be in general well chosen. Some processes of the present *Pharmacopoeia* which are unsatisfactory have been improved; for example, in the assay of liquid extract of nux vomica, the present method of separation of strychnine and brucine (since only the former is wanted) is to precipitate the strychnine as ferrocyanide, and wash free from brucine, but this can only be done by also washing away some of the strychnine, and a correct result can only be obtained in this way by chance. In actual practice analysts have long since discarded this method, and decompose the brucine with nitric acid; this method has now been adopted both for the drug itself and its preparations.

In connexion with standardized drugs, besides the percentage of active principle which is required to be present, a figure is given which is called the "limit of error, in excess or defect." A paragraph in Appendix VII is as follows: "Successive assays of the same substance may yield numerical results varying within narrow limits, which are taken to be the range of 'error.' When an average of successive assays shows a deviation from the prescribed standard greater or less than the 'limit of error,' the preparation does not conform to the requirements of the *British Pharmacopoeia*." The meaning of this is not very clear; if the deviation is *greater* than the permitted limit of error, the preparation is clearly too weak or too strong, but it may be *less* than the limit of error, and then the preparation is certainly not outside the requirements. There appears also to be some confusion between the variation of successive assays, which is defined as "error," and the deviation of the actual strength of the preparation from the standard, which is what is concerned in the "limit of error."

The chemical examination of fixed oils and fats and volatile oils involves the determination of a number of constants such as saponification value, iodine value, ester value, percentage of alcohols, refractive index, etc., and adequate directions for making these determinations in a uniform manner are given in Appendices VII and VIII.

In the directions for testing chemical substances for purity and strength there is a great improvement over the present *Pharmacopoeia*. Far more tests are made quantitative, or of the nature of limit tests, especially for the more serious impurities. In particular, in a very large number of cases limits are given for the amounts of lead and arsenic which may be passed. The processes by which these impurities are to be determined are fully described in two of the appendices, and are excellent processes for the purpose. Some criticisms might be advanced in regard to the specification of the impurities to be tested for in particular cases, but details on this matter would not be of interest here, and in general such instructions show a marked improvement on those which they will supplant.

Abbreviated Names.

A new departure is to be found in Appendix XVII, which consists of a list of abbreviations for the names of official substances. The list is put forward simply as showing the abbreviated names adopted in the index, with the full names for which they stand; but it is stated in the preface that it "will probably be found useful to dispensers and others, especially those in foreign countries, who have to interpret the abbreviations occurring in the prescriptions of British practitioners." The majority of those given are such as are commonly employed, but perhaps the abbreviating goes a little too far in such as "emp. res.," "lin. sap.," "zinc. oleost.," while somewhat different syllables would probably be chosen instead of "acid picr.," "liq. pic. carbon.," etc.

Preparations for Tropical and Subtropical Parts.

Appendix XII contains a list of alterations in composition of galenicals which are sanctioned for use in tropical, subtropical, and other parts of the empire. Aromatic waters may be made by triturating the corresponding oil with twice its weight of calcium phosphate and 500 times its volume of distilled water, and filtering; the products are distinguished as aquae olei anethi, anisi, etc. The bases of plasters, suppositories, and ointments may be varied in such a way as to give the necessary consistence in hot climates; liquid extracts and syrupus rhoeados may have the proportion of alcohol increased up to stated limits, where they would otherwise be liable to ferment. Dried lemon peel may be substituted for fresh where the latter cannot be obtained, and in certain specified divisions of the empire arachis oil or sesame oil may be substituted for olive oil in preparations.

Alternative drugs, such as urginea for scilla, kaladana for jalap, etc., with their preparations, are incorporated in the body of the text, and must be ordered under their own official names.

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Continued from p. 761.)

BRITISH RED CROSS SOCIETY.

THE British Red Cross Society is the result of a combination of several bodies formed for the rendering of voluntary aid to the sick and wounded in war. The movement set on foot by Henri Dunant in the early Sixties gave a great impetus to the development of the work of the revived Order of St. John. In 1868 a few members of that order formed themselves into a provisional committee with a view to the establishment of a National Red Cross Society similar to those which had already been organized in other countries. The members of this committee were General Sir John St. George, Sir Edmund Lechmere, Lord Eliot (afterwards Earl of St. Germains), the Rev. W. B. L. Hawkins, Mr. J. A. Pearson, Sir John Furley, and Captain Burgess. Sir John Furley states[1] that on the outbreak of the Franco-Prussian war in 1870 he asked Colonel Loyd-Lindsay, afterwards Lord Wantage, if he would help in forming a British Red Cross Society. The response was so immediate and emphatic that the British National Aid Society, with Queen Victoria as its patron, at once sprang into existence. Provincial and ladies' committees and subcommittees were formed in every part of the country to work in conjunction with the Central Executive Committee, of which the Prince

[1] *In Peace and War: Autobiographical Sketches.* London. 1905.

of Wales, afterwards Edward VII, was the president. After the Sixth International Conference of Red Cross Societies held in Vienna in 1897, representatives of the National Society for Aid to the Sick and Wounded in War, of the St. John Ambulance Association, and the Army Nursing Service Reserve, were invited by Lord Lansdowne, then Secretary of State for War, to take part in an informal conference to consider the advantages that would arise in time of war if these societies were brought into touch with the Army Medical Service in time of peace. The result was the formation of the Central British Red Cross Committee. Lord Wantage was elected chairman, Sir John Furley honorary treasurer, and Major Macpherson, R.A.M.C., who had represented the British Government at Geneva in 1864, honorary secretary. On January 19th, 1899, the Secretary of State for War notified his official recognition of the committee. On August 10th, 1899, the Princess of Wales, now Queen Alexandra, graciously consented to become its president. On November 27th, 1902, the Foreign Office notified all foreign Chancelleries that the Central British Red Cross Committee was the only body authorized to deal with Red Cross matters throughout the empire.

Central British Red Cross Council.

In May, 1904, the name of the committee was altered to the "Central British Red Cross Council." The Council was finally composed of three representatives of the National Aid Society, with two representatives of the St. John Ambulance Association, the Army Nursing Service Reserve, and the St. Andrew's Ambulance Association respectively, three representatives of the War Office, and one of the Admiralty. The chairman was Lord Knutsford, the honorary treasurer Sir John Furley, and the honorary secretary Major T. McCulloch, R.A.M.C. The work done by the Central British Red Cross Council in the South African war is set forth in an official pamphlet issued in 1902, entitled *Report by the Central British Red Cross Committee on Voluntary Red Cross Organizations in Aid of the Sick and Wounded during the South African War.* In that campaign valuable assistance was also given by the St. John Ambulance Association, the St. Andrew's Ambulance Association, and the Army Nursing Service Reserve, the last named body being under the personal direction of H.R.H. the Princess Christian.

The British Red Cross Society was incorporated on September 3rd, 1908, His Majesty the King being Patron, Queen Alexandra, President; Lord Rothschild, Chairman of the Council; and Sir Frederick Treves, Chairman of the Executive Committee. Now Sir Frederick Treves is Vice-Chairman of the Council, while the Hon. Arthur L. Stanley is Chairman, and Mr. E. A. Ridsdale Vice-Chairman of the Executive Committee. The Admiralty and War Office have granted their official recognition to the British Red Cross Society as the organization responsible for the Red Cross movement throughout the empire, and have agreed that in time of war all voluntary offers of assistance made in Great Britain and Ireland shall reach them only through the channel of the society, other than those coming from, or already arranged with, the Ambulance Department of the Order of St. John and St. Andrew's Ambulance Association for the supply of personnel. It is one of the objects of the British Red Cross Society to examine, systematize, and co-ordinate all offers of help, and, by preventing waste and overlapping, to render them of the utmost possible value. It is essential that all proposals of aid shall be in exact accord with the requirements of those departments of the navy and army which are responsible for the care of the sick and wounded in war. Voluntary aid, it is pointed out in the official pamphlet already quoted, unless it precisely accords in every detail with the requirements of the naval and military authorities, is a doubtful advantage or even an actual hindrance. It should be borne in mind by the charitable public that voluntary aid associations, however perfectly organized, are not entitled to recognition, protection, or neutrality under the terms of the Geneva Convention, and in the theatre of war have only such status as the belligerents may choose to accord them as an act of grace. The work of the British Red Cross at home comprises the encouragement of the formation of Voluntary Aid Detachments, and the training of their members in first aid, home nursing and sanitation, and as stretcher-bearers, sanitary attendants, hospital orderlies, nurses, cooks, etc. It is the body recognized by the War Office for this purpose in connexion with the medical organization of the Territorial Forces, and the County Associations of the Territorial Force are recommended to delegate the formation and organization of Voluntary Aid Detachments to the British Red Cross Society. In June last the British Red Cross Society had registered at the War Office 1,741 Voluntary Aid Detachments with a total personnel of 50,517.

JOINT COMMITTEE.

It was announced on October 23rd that on the recommendation of H.R.H. the Duke of Connaught, Grand Prior of the Order, His Majesty the King, as Sovereign Head, and Her Majesty the Queen, as President of the Ladies' Committee of the Order of St. John of Jerusalem in England, and Queen Alexandra, as President of the British Red Cross Society, had expressed their approval of the immediate formation of a Joint Committee of the two organizations, which shall sit throughout the war, to secure co-ordination and united action in work which is common to both bodies. The committee has been constituted as follows:

Appointed by the Order of St. John of Jerusalem.

Adeline Duchess of Bedford (Chairman of the Special Committee of Ladies of the Order).
Lady Perrott (Honorary Secretary of the Special Committee of Ladies of the Order).
The Chancellor (Colonel Sir Herbert Jekyll, K.C.M.G.).
The Secretary-General (Colonel Sir Herbert Charles Perrott, Bart., C.B.).
The Director of the Ambulance Department (the Earl of Plymouth, C.B.).
The Assistant-Director of the Ambulance Department (Lieutenant-Colonel Sir Richard Carnac Temple, Bart., C.I.E.).
Sir John Hewett, G.C.S.I., C.I.E. (Chairman of the Indian Subcommittee of the Ladies' Committee of the Order).
The Right Honourable Sir Claude Macdonald, G.C.M.G., G.C.V.O., etc. (Chairman of the Foreign Aid Subcommittee of the Ladies' Committee of the Order).

Appointed by the British Red Cross Society.

The Marchioness of Lansdowne.
Georgina Countess of Dudley.
Sir William Edmund Garstin, G.C.M.G.
Sir Robert Arundell Hudson (Chairman of Finance Committee).
Sir Walter Roper Lawrence, G.C.I.E.
Edward A. Ridsdale, Esq., F.G.S. (Vice-Chairman of Executive Committee).
The Hon. Arthur L. Stanley, M.V.O., M.P. (Chairman of Executive Committee).
Sir Frederick Treves, Bart., G.C.V.O., C.B., etc. (Vice-Chairman of Council).

It is understood that the first Chairman of the Joint Committee will be the Hon. Arthur Stanley, and the first Vice-Chairman, Sir Herbert Perrott.

For years there was some friction between the Red Cross Society and the St. John Ambulance Association, and in the early part of the present year the King approved the appointment by the Secretary of State for War of a committee to inquire into their relations.[2] It would be inexpedient to discuss the differences which then existed between the two bodies, especially as the war has brought about an adjustment. In a letter which appeared in the *Times* of October 23rd the Committee of the Red Cross Society says:

> We are seeking in every way we can to perfect our organization at home and abroad in order that we may adequately fulfil our duty to the public as the channel through which their generosity reaches those who are wounded in their country's cause. To this end we have come to an agreement with the St. John Ambulance Association for joint action in common work, which must necessarily increase the usefulness and efficiency of both bodies.

Sir Arthur Sloggett, Director-General of the Army Medical Department, is acting as Chief Commissioner both for the Order of St. John and for the British Red Cross Society. He is assisted by Sir Savile Crossley as Assistant Chief Commissioner.

(To be continued.)

[2] BRITISH MEDICAL JOURNAL, March 21st, 1914.

THE Greenville Board of Health, South Carolina, has decided to include malaria and pellagra among notifiable diseases.

British Medical Journal.

SATURDAY, NOVEMBER 7TH, 1914.

MEDICAL ARRANGEMENTS IN NORTHERN FRANCE.

THE position this JOURNAL occupies as the organ of a great Association is so well recognized that we should scarcely be accused of boasting if we claimed to be exceptionally well informed as to the medical aspects of the present great war. Members of the Association are to be found in every British camp and in every military hospital, whether great or small, both at home and abroad. The result is that we receive a large amount of information from a great variety of sources. Much of it is mainly of medical interest, but not a little of that received during the past ten days has a direct bearing on rumours recently current, of such a kind that they must tend to increase the anxieties of those who have relatives and dear friends at the front, and to disturb all those who are anxious that everything that is humanly possible shall be done to alleviate the suffering and assist the recovery of men and officers wounded while engaged in the service of the country.

Some of these rumours are thoughtlessly set afloat by quite irresponsible persons, and others, though equally groundless, gain currency in a blameless but quite comprehensible fashion. Many persons now in England have on journeys home from abroad passed through towns where base and other hospitals are established and have seen at stations or on quays rows of stretchers, each laden with a wounded man, lying in the open air. Such persons have either not had time or have had no opportunity of taking more than a passing glimpse at them, and have gone off with an impression that they have been left unattended. It is obvious that when wounded men are being entrained and detrained, embarked and disembarked, the work must be carried out in an orderly manner; to attempt to handle all the wounded simultaneously during these transfers would inevitably lead to confusion and cause unnecessary suffering and risk to them.

Other stories relate to events which happened either during the retreat from Mons or in the desperate fighting which took place when the Germans were being driven back towards the Aisne. At that time the British and French troops were intermingled, and the wounded of both countries were either being brought down from the front in the very imperfect rolling stock of the French railways over very long distances and very slowly, or were being carried off from the dressing stations in automobiles by private individuals to their own houses, and thus placed out of the reach of the authorities. In many of the stories relating to the sufferings of these men there was unhappily a considerable basis of truth, and they only became misleading when they were passed on from mouth to mouth as if they were representative of what is now going on.

Further stories relate to the arrival in England of wounded men still wearing their blood-stained, mud-soaked clothes, and presenting no evidence of ever having had any attention whatever paid to their wounds. We have traced some of these stories to their source, and have found that they relate to Belgian troops, who were hurried straight on board, either at Antwerp or Ostend, on the fall of the former place, there being no alternative between shipping them away forthwith or allowing them to fall into the hands of the Germans.

Other rumours are of a different order. They are based on comments made by the medical officers of hospitals at home on the condition of the patients arriving from the front for treatment at the institutions to which these officers are attached. These comments are to the effect that the patients arrive either when practically convalescent or with wounds gravely infected. These comments are absolutely accurate so far as they go, but the inference sometimes drawn from them we believe to be ill-founded.

The facts are held to suggest that the medical arrangements at the front are inadequate, and that in particular a much larger number of skilled surgeons is required. Careful consideration of the information in our possession has convinced us that neither of these suggestions is at the present time well founded. The general arrangements for the care of the troops at the front are very complete and very carefully thought out, and every development of modern medical and surgical knowledge is brought into play. The direction of the medical affairs of the army is fortunately in the hands of men who are of great administrative experience and follow Lord Kitchener's example in scorning red tape. A prolonged inquiry into what is being done by them has satisfied us that they have spared no effort to guard the troops against undue sickness, to secure the comfort of the sick and wounded so far as this is humanly possible, and to provide everything that can help them towards a rapid recovery.

As regards the supply of men of special surgical ability, this seems now to be adequate so far as the needs of the British troops are concerned. The number of medical men of admitted surgical skill now at work in France in one or other capacity is indeed remarkable, and the only misfortune is that at the present moment the whole of the talent that they represent could not at once be brought to bear in the corner of Northern France where the British force is now engaged. This, however, has been a passing phase. The transfer of "a certain fraction of our troops from its former line facing north, on the east of Paris, to its present position facing east, in the north-west corner of France," described by the eye-witness at general head quarters has, of course, included the Army Medical Service and its auxiliaries. Already the arrangements for the local treatment of the more seriously wounded, and the transport to England in hospital ships of those deemed fit to travel, are of a satisfactory kind. They in nowise tend to retard the recovery of the wounded men. The suggestion which it appears has been made that the early transfer of cases to England is a cause of death among the wounded cannot be based on real knowledge of the fashion in which the wounded are being brought over. The ships in which they are being transported are real hospitals, and, so far as their environment therein is concerned, there is no reason why the wounded men should not, if the conditions demanded it, begin and complete their treatment satisfactorily on board these ships.

The opportunities afforded by this war for surgical work of the highest kind are very small. The wounds are of a novel character, inflicted by

weapons which have not been used before in any war in which Great Britain has been engaged. They are received in a soil long subject to intensive cultivation, and this likewise is new to the history of modern warfare. The result is that they are infected from the very beginning in quite a peculiar bacteriological fashion, which will be found described in some notes from a special correspondent elsewhere in this issue. At the beginning the mistake was made in regard to their treatment—mainly, however, by French surgeons—of applying twentieth century technique and experience to lesions which, if they have any analogues at all, are of an eighteenth century character. They differ essentially from injuries to be seen in this country, and consequently the practices common in great civilian hospitals have had to be abandoned in favour of the methods employed by Lister in early days. The opportunity for the more detailed and delicate methods of modern surgery does not arrive until a later stage, when shortened and contracted limbs have to be extended, stumps remodelled so as better to bear an artificial limb, nerves sutured, and fragments of missiles sought for and removed the extraction of which, for example from the skull, would in the first instance have been impolitic.

The foregoing statements apply exclusively to the British wounded and to the British arrangements. So far as the French are concerned, we believe that more surgeons are required.

In conclusion, we venture to advise all those who are interested in the subject to be exceedingly chary of accepting as well-founded any rumours that they may hear of a kind unfavourable to the medical men at work in any part of France.

GERMAN EXPERIENCE OF BULLET WOUNDS.

In the Journal for October 24th we published a paper by Surgeon-General W. F. Stevenson, whose dispassionate discussion of the use of "dum-dum" bullets should do much to enable the facts to be seen in their true light. He insisted that civil surgeons, inexperienced in military surgery, were apt, whatever their nationality, to accuse their enemies of using "dum-dum" bullets solely on the ground that the wound of exit was large and ragged. An equally charitable and impartial view of such bullet wounds is taken by Professor P. Kraske, who has published his experiences in the *Feldaerztliche Beilage* of the *Muenchener medizinische Wochenschrift* for September 1st. He was attached to one of the German armies in France, and saw about 600 wounded from the battles of August 9th and 10th. Most of the wounds were due to rifle bullets, and in respect of shape, size, and degree there was no difference between the wounds of the Germans and French. Most of the wounds had been inflicted at a range of 400 to 600 metres, and there was, therefore, seldom any sign of the so-called "explosive" effects of the bullets. There was neither time nor opportunity for the use of the *x* rays, and exact localization of internal injuries was therefore not always feasible. As a rule, wounds of the bones of the lower limbs were quite simple, and the same could be said of wounds of the trunk. Of about 30 cases of wounds of the chest, the majority were unaccompanied by haemoptysis, and yet the lungs had obviously been wounded, for there were haematothorax, pneumothorax, or subcutaneous emphysema, which in some cases extended to the scrotum and thighs.

In several cases of abdominal injury the liver was wounded, and undoubtedly in some of these there was neither severe haemorrhage nor concomitant injury to the intestines. In one case, in which a bullet wound was inflicted at a range of only a few yards, the whole of the abdominal wall was lacerated to an extraordinary degree. The wounds of entry and exit were about 25 cm. apart, and the parietal peritoneum was torn over a wide area, yet the bullet had not penetrated the peritoneal cavity and the intestines had escaped injury. In another case a bullet fired at close range had entered the abdomen and passed out by the lumbar region, leaving a wound as large as a plate, through which a coil of small intestine protruded. Laparotomies were often performed for bullet wounds of the abdomen. Though, in Professor Kraske's opinion, the operation was in most cases necessary, it was often unavoidably delayed, and when performed twenty to twenty-four hours after the infliction of the wound, peritonitis had often already set in, and the prognosis was rendered unfavourable. In three cases, however (in two of which there were multiple perforations of the small intestine), the general condition was so satisfactory on the third day after the operation that the prognosis was good. Wounds of the intestine were often multiple and smooth, and it was possible to close them with a simple suture.

The "explosive" effects of rifle bullets were, he says, greatest in wounds of the head. These naturally were often fatal, but cases were also observed in which, though the bullet had gone right through the brain, the general condition was satisfactory, and there were scarcely any nerve symptoms. In one case a bullet had passed through the calva ia to the right of the middle line, traversing the right cerebral lobe, dividing the optic nerve, and escaping in front of the ear. Yet the patient's general condition was satisfactory and there were no cerebral symptoms. The absence of an explosive effect in this case was attributed to low velocity. In only two out of twenty cases of bullet wounds of the head was the right side hit, and this greater vulnerability of the left side of the head was doubtless due to the soldiers' habit of lying in the firing line with the head turned to the right. The position of the left hand and arm in the act of firing probably also explained the frequency with which they were wounded as compared with the right hand and arm. Among many strange lesions was one of the tongue, a bullet having passed through it from one side to the other without injuring any bone.

Wounds inflicted at close quarters were relatively rare, but were also, as a rule, more serious. In such cases, even when only the soft tissues had been traversed, extensive lacerations and large openings were observed at the wound of exit. Wounds inflicted by weapons other than the rifle and revolver were rare, and Professor Kraske conjectures that the French shrapnel burst at too great a height to be very effective. He notes that the penetrating effect of shrapnel bullets is often so slight that in some cases they were found just under the skin. From four-fifths to five-sixths of all wounds affected the limbs, and in three cases the knee-joint had been shot without the bones being demonstrably injured. On the whole, Professor Kraske considered the treatment of the wounded more satisfactory than he had anticipated it would be. First-aid dressings were so efficient that, contrary to expectation, pain, inflammation, and fever did not usually supervene.

THE POSITION OF BELGIAN MEDICAL MEN AND PHARMACISTS.

A meeting was held on Wednesday afternoon, November 4th, at the offices of the British Medical Association, to consider the position of the Belgian medical men and pharmacists, whose professional position has been involved in the utter ruin which has fallen upon their country and has destroyed the whole machinery of the medical profession and its adjuncts. The meeting was convened by the editors of the *Lancet* and the British Medical Journal, in response to representations made by a provisional Belgian committee, whose representative, Professor C. Jacobs, is now in London. There were present at the meeting: Sir Thomas Barlow, Bart., Sir Rickman Godlee, Bart., Sir Frederic Eve, Sir William Bennett, Dr. Frederick Taylor, Dr. Meredith Townsend, Dr. H. A. Des Voeux, Dr. George Ogilvie; Dr. Alfred Cox, Medical Secretary, and Mr. Guy Elliston, Financial Secretary, of the British Medical Association; Dr. S. Squire Sprigge, Dr. Dawson Williams; Mr. E. T. Neathercoat, Vice-President, and Mr. W. J. Woolcock, Secretary, of the Pharmaceutical Society; Mr. F. Pilkington Sergeant, Mr. A. J. Chater, and Mr. A. Hagon. Sir Rickman Godlee took the chair, and after a brief explanation of the position by Professor Jacobs, the following committee was appointed, with power to add to their number, to make an early report on the procedure to be adopted: Sir Thomas Barlow, President of the Royal College of Physicians of London; Sir Watson Cheyne, President, and Sir Frederic Eve, Vice-President, of the Royal College of Surgeons of England; Dr. Meredith Townsend, Master of the Apothecaries' Company; Sir Rickman Godlee; Dr. Frederick Taylor, President of the Royal Society of Medicine; Mr. T. Jenner Verrall, Chairman of Representative Meetings of the British Medical Association; Dr. Des Voeux; Mr. E. T. Neathercoat, Vice-President, and Mr. Woolcock, Secretary, of the Pharmaceutical Society. Dr. Sprigge was appointed Secretary and Dr. H. A. Des Voeux Treasurer. The instructions of the meeting to the committee were (1) to communicate with the Belgian Minister and the authorities of the Belgian Relief Fund; (2) to apply to America and other countries if desirable for assistance in the raising of any fund; and (3) to report generally.

THE HUXLEY LECTURE.

The Huxley lecture at Charing Cross Hospital was delivered by Sir Ronald Ross on November 2nd. Before proceeding to the main subject of his address, which discussed recent advances in science and their bearing on medicine and surgery, with special reference to malaria and the transmission of diseases, he paid a well conceived tribute to Huxley, who, Sir Ronald Ross said, was not only the bulldog of Darwin, and the interpreter of Darwin's profundities to the world, but also a patient and passionate investigator and a patient and dispassionate thinker regarding phenomena. But, the lecturer continued, Huxley was still more: he was a philosopher possessing all the very first qualities required for true philosophy. The clarity of his style was itself a guarantee of the genuineness and completeness of his thought. Secondly, his mind was fiercely critical in its search for truth, and he accepted nothing as fact which he himself had not endeavoured to probe to the depths. Thirdly, no one has ever doubted that his aim was, not to astonish or to defeat or to persuade, so much as to reach the actual truth of every matter with which he dealt. He would have been delighted, had he lived, to recognize the bearing of recent advances in science on the medicine of the tropics. Sir Ronald Ross devoted the main part of his lecture to tracing the history of the modern application of parasitology to etiology and pathology, dealing in particular with the growth of knowledge with regard to filaria, piroplasma, and the malarial organisms. He sketched his own researches, the full history of which had, he said, been given in his Nobel lecture.[1] It was only after several years' work that he recognized that the malarial infection was carried by a certain genus of mosquitos only, not by *Culex* or *Stegomyia*, but by the anophelines. He made the observation that the spores of the analogous malarial parasites of birds which he had already recognized in *Culex* entered the insect's salivary or poison glands. This led to the disclosure of the full truth, namely, that the parasites were not only taken from man by the mosquitos, as Manson had supposed, and not only put into man by the mosquitos, as King supposed, but that both hypotheses were true, the insects carrying the parasites directly from man to man. Summarizing the results obtained, he said that from the time of the Romans it was known that the malarial fevers were connected with marshes and stagnant water in warm countries. Later, when it was seen that the disease was not confined to the proximity of marshes, the theorists conceived that there was a telluric poison which caused malaria and was especially abundant in damp places. All this was a very general proposition; and in order to prevent the disease, it was necessary to undertake very extensive drainage. The new knowledge obtained rendered it possible to particularize the exact route of infection. It was now known that the poison was not spread uniformly in the air of warm countries, but was always contained in the minute bodies of certain insects, and more than that, in the still more minute salivary glands of those creatures. The discovery of the full life-cycle of the parasites made it possible not only to predicate the route of infection, but to determine exactly which species of mosquitos were concerned, and to study the habits of the inculpated species. The genera *Culex* and *Stegomyia*, which it was found did not carry the malarial parasite, breed most commonly in artificial collections of water around houses, the anophelines breed principally in natural collections of water such as marshes, puddles, streamlets, and the edges of lakes, ponds and rivers. These observations showed the way to other inquiries which cleared up the epidemiology of yellow fever, sleeping sickness, tick fever, plague, and might possibly throw light on that of dengue, Mediterranean fever, and measles.

MENTAL AND NERVOUS SHOCK AMONG THE WOUNDED.

We hope the public will give Lord Knutsford the £10,000 for which he is asking. Among the men who are coming home are some, wounded or unwounded, who are suffering from severe mental or nervous shock. In addition to exposure and the severe strain and tension of the fighting line, the depressing effect of the horrible sights and sounds of modern battlefields have to be reckoned with. Officers returned wounded say, for example, that the rending clang of a bursting shell produces a special kind of auditory impression which in time becomes very oppressive and almost physically painful. It is not surprising that there are a good many men suffering from mental and nervous shock, and it is true that such cases are not suitable for general hospitals. They require rest and quiet under special medical care. It is proposed to get a large quiet house in London and a convalescent home in the country. The scheme has received the sanction of the War Office, and the following is a list, arranged alphabetically, of the names of physicians who are willing to help and form a committee of management: Dr. Stanley Bousfield, Dr. Milne Bramwell, Dr. Douglas Bryan, Dr. F. W. A. Bryden, Dr. A. G. Buchanan, Dr. J. Campbell McClure, Dr. James Collier, Dr. Maurice Craig, Dr. David Forsyth, Dr. Bernard Hart, Dr. T. B. Hyslop, Dr. E. T. Jensen, Dr. Ernest Jones, Dr. Constance Long, Professor

[1] *Journal of the Royal Army Medical Corps*, 1905.

W. McDougal, Dr. Crichton Miller, Dr. T. W. Mitchell, Dr. Heatly Spencer, Dr. Purves Stewart, Dr. Lloyd Tuckey, Dr. Aldren Turner, Dr. Hugh Wingfield, and Dr. Maurice Wright.

COMPENSATION FOR EYE INJURIES.

Workmen's compensation in injuries of the eye was the subject of a discussion opened by Dr. William Robertson of Sunderland at the Ophthalmological Congress at Oxford last July. As soon as the Act came into force he was appointed by a mutual insurance company to examine every case of injury as soon after the accident as possible. He found that most of the men were honest in their claims; many exaggerated their disability, some unconsciously, others consciously, and received compensation for longer periods than was necessary; but the number who deliberately made fraudulent claims did not amount to more than 1 per cent. of those hurt. The most difficult problem which presents itself is the occurrence of traumatic neuroses and of malingering after eye injuries. The ophthalmic surgeon may himself have a clear conception of the relation which exists between the actual injury and the nervous symptoms complained of by the workman, but if he be not very careful he may fail to convince the court. The increasing length of time the applicants are off work and the number who complain of traumatic neurosis is to be attributed in large measure to the payment of compensation weekly instead of a lump sum. The immediate results of an accident, apart from the local lesion, are shock or acute hysteria. The late results which concern us more closely are neurasthenia and chronic hysteria. A very large proportion of the eye cases which come before us present the symptoms of chronic neurasthenia. Although these men are not actually malingerers, it is notorious that in many cases no actual physical injury has been sustained, and that rapid recovery usually follows the receipt of a lump sum in compensation. The condition has a psychic basis and is due to fright and to the mental attitude towards the subject of compensation. The ocular neurasthenic complains of dazzling, lacrymation, and light phenomena, such as fluttering fiery balls, and muscae volitantes, or he says that objects disappear and that his eyes get rapidly fatigued. The difference between these claimants who make much out of little is in marked contrast to an ordinary patient who is anxious to get well. The hysteric often shows contraction of the fields and inversion of colour fields. In making a report upon such a workman it is well to consider the subject under three heads: The applicant's statement, the account of the condition found on examination, and the opinion formed upon the case. The applicant's statement should contain a clear but brief account of the accident, of what the patient did immediately afterwards, and when he first sought medical aid. The results of the examination should as far as possible be set forth in non-technical language. A sharp look-out should be kept for causes of inability to work other than those claimed. The opinion should include a statement as to the connexion between the alleged accident and the actual condition of the eye. An opinion must be given as to whether as a result of the accident the workman is wholly, partially, or not at all disabled from work, and an estimate made of the probable duration of any disability. Dr. Robertson considered the problem of the one-eyed. Even when the remaining eye is normal the central vision of one eye is somewhat less than that of both together, and one-sixth of the visual field and stereoscopic vision is lost. The various tests for binocular vision were described and critically discussed and the diaphragm test was recommended. It is necessary to consider each individual case upon its merits with especial reference to the man's occupation; thus loss of visual field would be serious in the case of a cabdriver but would not prevent a watchmaker from earning full wages.

BELGIAN REFUGEES' DISPENSARY.

A dispensary has been opened at 265, Strand, W.C., under the auspices of the War Refugees' Committee, for the medical treatment of sick Belgian refugees. In the earlier days of the exodus assistance was given at the Aldwych Rink by the 4th London Voluntary Aid Detachment of the British Red Cross Society, under the commandant, Miss Davenport, with such volunteered medical aid as the occasion required. But with the enormous influx of refugees, many of whom only speak Flemish, it was found imperative to organize the medical relief, to secure separate quarters, and to enlist the co-operation of Belgian doctors, many of whom have found asylum in this country. Accordingly, on October 20th a meeting of doctors who had already been giving their services was held, by the invitation of Dr. J. H. Philpot, at 61, Chester Square, S.W., at which the following were present: Dr. H. A. Des Vœux, Dr. Kielemoes (Melle), Dr. D. F. Maunsell, Dr. Clément Philippe (Brussels), Dr. Victor Philippe (Brussels), Dr. J. H. Philpot, Dr. Austin Philpot, and Miss Davenport. It was resolved that those present should constitute themselves a provisional committee with Dr. J. H. Philpot as chairman and Miss Davenport as secretary, which, with the authorization of the War Refugees' Committee, should undertake the management of the Refugees' Dispensary, and arrangements were made for a continuous service of consultations daily from 10 a.m. to 1 p.m. and 2 p.m. to 6 p.m., and on Sundays from 10 to 11 a.m. The War Refugees' Committee has accepted these arrangements, and the dispensary, though in rather cramped quarters, is now in full working order, with an efficient staff of nurses belonging to the above-named detachment of the Red Cross. The general expenses of the institution are borne by the War Refugees' Committee, but liberal donations have been made by friends of the movement in order that medicines and dressings may be supplied free. Many Belgian doctors now in London, some of whom are well-known specialists, have inscribed their names at the dispensary and offered their assistance for consultation in special cases. Persons desiring to offer hospitality to Belgian doctors can, we are informed, obtain information by addressing the Secretary of the Dispensary.

INTERNATIONAL CONGRESS TRANSACTIONS IN THE LIBRARY OF THE ASSOCIATION.

It was announced in our issue of September 26th that the Library of the British Medical Association had then received certain additional parts towards completing its set of the *Transactions* of the Seventeenth International Congress of Medicine. The Librarian is pleased to acknowledge gifts from Dr. F. E. Batten of Section XI (parts i and ii), Neuropathology, and from Dr. H. C. Bastian Section III (part ii), General Pathology and Pathological Anatomy. Twelve volumes have thus far been received—namely, those dealing with Sections III (part ii), VI, VII, VIIa (part ii), XI, XIII, XXIII, and the General Volume. The Librarian will be grateful for any of the remaining volumes.

At the celebration of the twenty-fifth anniversary of the foundation of Johns Hopkins Hospital, held in October at Baltimore, a portrait of Sir William Osler by Mr. Sargent was presented to the institution.

The new *Army List* issued this week presents a considerable contrast to the last which was issued in August and contained information only of conditions as they existed before the war. Not only is the new volume more bulky, but the arrangement is in many parts different, and the information to be extracted not always very illuminating. It has been "corrected generally to about the beginning of October." It contains skeleton staffs for the divisions and brigades of the 1st and 2nd and 3rd new armies, but there is no definite indication of the areas to which the units are allotted.

THE WAR.

MEDICAL ARRANGEMENTS OF THE BRITISH EXPEDITIONARY FORCE.

[*From a Special Correspondent in Northern France.*]

WOUND CHARACTERISTICS.

I DO not often see English papers, but when I do it sometimes seems to me that even now the British public does not realize that what is going on in France and Belgium at the present time is a war and not a game played according to definite rules, with every move foreseen. They seem to forget sometimes that at least a million men on each side are trying to kill one another with singularly efficient weapons; that in the course of the struggle the survivors are constantly moving from place to place; and that meantime they have to be fed, kept fully supplied with ammunition, and the wounded and dead removed out of the way as rapidly as possible.

At any rate, it is quite certain to my mind that the majority of the public and many members of the medical profession have but a very slight idea of the nature of the wounds that are being received in this war by the combatants on both sides, and of the circumstances in which medical men engaged at the front have to deal with the cases placed in their charge. Some of the wounds—indeed, a considerable proportion—are relatively slight, but many others—possibly a majority—are of almost incredible severity. To me what seems remarkable is not that deaths take place, nor that tetanus and emphysematous or gas gangrene occur, but that any considerable portion of men so wounded ever reach home at all. Some of the lesions, especially those of the trunk and lower limbs, are so extensive and grave as to lead one to wonder how the patients were ever got out of the fighting line alive, and then sadly to conclude, though often quite erroneously, that at any rate they will never get any further than the base or other fairly distant hospital at which they come under final treatment. They are of such a kind that, if seen at home in civil life, they would create a buzz of excitement among the whole staff of the institution to which they were admitted. Furthermore, not only are the wounds of the utmost gravity on account of the extent and the nature of the lesions produced, but they are infected from the very beginning, that is to say, the wound and the infection are caused simultaneously.

It should be added that the infection is of so peculiar a character that two bacteriologists of very great experience who are now working in Northern France have informed me that the conditions are totally novel to them. In infected wounds as seen in civil life in England and elsewhere, organisms of the staphylococci and streptococci families are almost exclusively present. In the wounds seen in France the very reverse is the case. Ordinary pus organisms seem to be, initially at any rate, prevented from gaining any foothold by the extraordinary quantity of anaërobic organisms, such as the tetanus bacillus, the *Bacillus aërogenes capsulatus*, and the bacillus of malignant oedema. It is only after a considerable time, and sometimes not at all, that ordinary pus begins to form. The reason of this bacteriological peculiarity of the wounds is not that they have failed to receive early treatment, but the nature of the country in which the men are fighting. The soil of France, as also that of Belgium, is cultivated to a degree unknown in Great Britain. It has been thoroughly and steadily manured for an untold number of years, and consequently teems with tetanus and other anaërobic organisms which inhabit the intestines of the higher animals. In trenches dug out of this soil the men stand for hours and get their clothing and hands caked with mud. It is not surprising, therefore, that when hit by a missile the latter carries in with it millions of anaërobes. This is one of the circumstances which it would seem is not appreciated at home, the result being that the grave infections from which so large a proportion of all the wounded suffer are quite wrongly written down as the result of lack of early treatment.

TRAIN TRANSPORT.

Equally inadequate appears to be the conception of the circumstances in which these cases have to be handled. Of late they have arrived in Paris in ones and twos, but at an earlier date in Paris, and at the present time in the seaport from which I am writing, they are arriving by dozens each day. When I say dozens, I am thinking of individual hospitals; if the aggregate experience of all the hospitals were in question, the daily number would have to be multiplied many times over. Having said this I add, since I do not wish to figure as an alarmist, that the wounded now reaching the town from which I write represent the greater proportion of the total collected during or at the end of each day's war operations at the front, and that among them there are many patients not of British nationality. All these patients are being conveyed to the base in circumstances very much more favourable to their recovery than at an earlier stage of the war. The time occupied on the journey is much shorter, and the conveyances used, instead of being mere trucks, are in the nature of travelling hospitals. Each is provided with a staff of not less than three surgeons, four women nurses, a number of sick-bay orderlies, and all the requirements for changing dressings, and even, if necessary, for the performance of operations, by running the train into a siding for the time being. The feeding of the patients during their transit is also adequate, each train being provided with one or more kitchens.

It is regrettable, of course, that seriously wounded men should have to be moved by train at all, but moving them by train is infinitely preferable to carrying them long distances over badly laid roads in fast moving automobile ambulances on journeys of many hours. Practically, however, the men seem to stand these journeys remarkably well, and to suffer much less than might be expected. Probably the reason is that when moved they are suffering more or less from the nerve exhaustion consequent on their previous labours and the initial shock of their wounds. At all events, it can be said that those who are being wounded in such numbers at the present time are a great deal better off than their predecessors earlier in the campaign.

The work on these trains, I should add, is exceedingly hard. From the moment they begin to load up with wounded at the rail head to the moment when they have at length handed over all the wounded to the base hospital the train staff is ceaselessly at work, the opportunities for meals or a little sleep being rare and irregular. For the most part, too, their time during the intervals between journeys is well occupied by attending to such matters as train cleansing, the provision of fresh linen, the handing over of accoutrements, and reprovisioning. Still, matters have improved to some extent for the staff as well as greatly for the wounded. Some of the train staffs were habitually on duty earlier in the war for as many as

three nights and days in succession—that is to say, the journeys with loads of wounded lasted that time, and the journeys up to the front again were seldom much shorter. The provision of reasonably comfortable accommodation for the responsible and subordinate staff is one of the points that the builders of hospital trains should take into consideration more fully than they appear hitherto to have done. Mere multiplication of the number of officers, nurses, and men employed on train duty does not meet the needs of the situation.

Sea Transport.

The town from which I am writing has, I am told, completely changed in appearance in the last fortnight or so. Earlier in the war it was a military base of some importance, but soon after the British troops got actually to work it subsided more or less into its normal condition. Now that the British troops are fighting no longer in the centre of Northern France, but on the Belgian frontier and in Flanders, it has become the principal hospital base. Consequently there are so many khaki-clad individuals of one kind and another to be seen around the quays that one might almost imagine that these rather than the black-coated passers-by were the normal inhabitants of the town. The transformation must have been very rapid, for four large army hospitals, as well as one Indian hospital and more than one hospital working under the aegis of the British Red Cross Society, have been in operation in the area for at least a week; yet despite this there is little to suggest that they have only recently set up their tents.

The word "tent" is used metaphorically, for as a matter of fact all these hospitals are established in large many-roomed buildings. One of the army hospitals, for instance, has for its home a well known casino. To those of us who have visited it in more peaceful times and played therein *petits chevaux* the change of appearance is remarkable. One of the advantages of the utilization of this building is the fact that all its rooms are excellently lighted and perfectly ventilated. Owing to the very large number of wounded that are reaching this base the pressure on these hospitals is at present very great; but this is not likely to last long, for there are at least ten other large hospitals ready to move into proximity with this base so soon as military considerations permit this to be done. Meantime those already established are able to do their work efficiently, despite the pressure to which they are subjected, thanks to the fact that this base is an important port to and from which and England hospital ships ply daily.

The general plan seems to be for the hospital ships to take home only patients who have already been under treatment in one or other of the base hospitals, but when the wounds of the men brought down from the front are comparatively slight they appear to be sent on board forthwith. The system, in fact, seems to be for the principal medical officer at this base to be warned a few hours in advance that a train is on the way and for him to be ready with his staff to meet it and decide in consultation with the train medical officers which cases shall be sent home and which transferred to the shore hospitals. He has, of course, with him a statement showing exactly how many beds are instantly available, or can be got ready in each institution in the town. The fact that patients can be sent home not only enables the hospitals at this base to do their work efficiently, but is of immense advantage to the men themselves. Subconsciously the thought of every wounded man appears to be a desire for home, and it is a perfectly conscious thought on the part of those who are wounded in such fashion that they are well able to think out the situation for themselves. This is not because they are dissatisfied with their treatment, but because a desire for home is a kind of natural instinct to every human creature in distress, and especially to a man who has been separated from his friends for many weeks.

There might be a good deal to be said against their transfer in this fashion if the vessels in which they were taken were mere tugs or cross-channel boats, but this is not the case. On the contrary, the boats used are nearly all of them very large vessels withdrawn for the purpose from the transatlantic passenger trade. To fit them for their present purpose bulkheads have been removed, so that instead of their internal accommodation being split up into more or less small cabins the space between decks has been transformed into large wards. They are well lighted and ventilated, and provided with lifts, operation theatres, and all other necessaries. I am informed that, thanks to their size, no Channel weather hitherto experienced has been able to disturb their stability, and that the average passage is about ten hours. So far as the interest of the patients is concerned, the passage might last ten weeks, for these ships are hospitals in the fullest sense of the term. Apart from the nature of their arrangement and equipment, each of them is staffed with a very large number of surgeons, trained women nurses, and orderlies, and there is no reason whatever why the treatment of patients, however greatly wounded, should not be conducted on one of them from first to last.

Personnel.

There are some well-known faces to be seen at this port just now, two of them being bacteriologists of world-wide fame, namely, Sir William Leishman and Sir Almroth Wright. The former has been abroad for some weeks, and the latter arrived, I understand, a few days ago. Apart from visiting the hospitals themselves they have daily reported to them direct by the officers concerned any cases in which treatment coming within the field of bacteriology might be beneficial, or the bacteriological study of which might possibly prove of assistance. Both seem to find their present occupation exceedingly interesting, and though research work, as that term is usually understood, does not, I fancy, come within their direct duties, conversations with them left upon my mind the impression that some valuable additions to existing knowledge on bacteriological subjects are not unlikely to result from their own work and from that of several less well known bacteriologists who are on the professional staff of the Expeditionary Force. Other faces to be seen are those of two equally well known men who commenced their duties abroad about the same time as Sir Almroth Wright. These are Sir John Rose Bradford and Sir Wilmot Herringham. Their work, I understand, is to act as consulting physicians to the various hospitals, and to exercise general supervision over the medical as distinct from the surgical part of the work. Whether they will both remain here I do not know. As, however, this port is, and seems likely to remain, the principal hospital base for some time to come, one of them, I should think, is likely to remain within its area, the other visiting by motor car or otherwise any other base at which there are patients as to whose treatment the advice of a pure physician is esteemed likely to be useful. All four officers will no doubt, too, act as advisers to the Principal Medical Officer of the Expeditionary Force in regard to any special medical questions that may arise from time to time.

I have also seen two well-known London surgeons who are acting as consulting surgeons to the forces. These are Mr. Makins of St. Thomas's, and Mr. Burghard of King's, both of whom hold rank as full colonels on the Army Medical Staff. The third consulting surgeon, whom

I did not see as he is working further north, is Sir Anthony Bowlby of St. Bartholomew's. The two former have each had assigned to them one half of the military area of Boulogne and act as consultants to the hospitals therein. They also at times, I understand, perform operations themselves. With one of them who had only recently arrived I had an opportunity of conversing, and he expressed regret that the conditions prevailing in France were not better understood by his colleagues at home. Were this the case comments on the condition of cases arriving in London such as he had heard before his departure, both among medical men and the general public, would not be made. I heard also that four or five other surgeons selected from the staffs of London hospitals were daily expected. Why they are coming is not very clear to me, for there is already a profusion of British surgical talent in France.

The army hospitals themselves have far larger professional staffs than would be the case if official regulations were observed, and, thanks to the system of specialization introduced in the Royal Army Medical Corps some ten years ago, the staff of each of them includes at least one man who is a thoroughly skilled and experienced operating surgeon. Furthermore, of the many men who have been enlisted as temporary lieutenants, a large proportion are by no means youngsters, and those selected for service abroad seem usually to be men of at least considerable surgical experience. A good many of them are Fellows of the Royal College of Surgeons of England.

The way, indeed, in which medical men of excellent attainments have streamed abroad to occupy quite inconspicuous positions in the hospitals and the way in which I have seen them doing their work makes me proud to be able to rank myself as one of their colleagues. I am speaking now not only of the army hospitals and the semi-civilian workers therein, but also of the voluntary hospitals. All of these that I have hitherto seen are possessed of staffs which any well-advised, well-managed hospital in Great Britain of equivalent size would gladly accept as a whole in substitution for their present staffs if necessity arose.

I should add that at the present time many of these voluntary hospitals, as well as a good many army hospitals, are established at places where their staffs find comparatively little to do; this is because the tide of war has ebbed away from them and the stream of patients has ceased, but as military considerations make it possible most of them are being moved up north. The hospital line has, in fact, already been advanced to some extent, and when the change has been completed every need in the way of clinical and operative surgical ability will be very fully met so far as the British troops are concerned. The result, I suppose, will be that a majority of the wounded will be kept under treatment in France for a longer time than is the case at present, but for reasons already indicated in a previous note, I am by no means clear that this will be any distinct advantage to them.

I have said nothing in this note about nursing, though in previous letters I think I have made it clear that the British Red Cross Society seems to have at its command a perfectly inexhaustible supply of thoroughly trained women as well as St. John Ambulance orderlies. They are so numerous, in fact, that some of them have been employed, for the first time, I believe, in British warfare, at hospitals within a few miles of the firing line.

NOTES ON 150 CASES OF WOUNDED FRENCH, BELGIANS, AND GERMANS.

By Albert Wilson, M.D.,
London.

I spent October at Dieppe visiting various hospitals, and was given the charge of one large hotel under French military control (Hospital 37), containing about 100 beds. As a result of my experience I would enunciate the principle that the main object of military surgery is not to make things worse. I cannot make interesting statistics of my 157 cases, but a few general observations may be useful.

Dressings.

The French surgeons rely chiefly on strong tincture of iodine and hydrogen peroxide. The former is applied at once, and very freely into the wound, however deep. It may seem drastic, but such is not the case, considering the exposure to septic conditions from clothes, and tetanus from the soil, not to mention the lowering of vitality from exposure. Nevertheless, it is apt to send the temperature up, even to 103° F., and usually causes malaise, often sickness, and in some cases a petechial rash. Hydrogen peroxide is employed freely for washing and syringing afterwards, on the theory that it combats the tetanus bacillus, which is anaërobic.

Unfortunately, this amount of preliminary treatment is insufficient, and the wounds become very septic and sloughy, owing partly to the contusions and lacerations, which lower the vitality of the tissues.

I was very limited for dressing materials, but I made a mixture of 1 part of iodoform with 3 of salicylic acid powder for dusting from a pepper castor. The result was most satisfactory. Thus in one case a shell had carried away the patient's haversack, and inflicted a wound 4½ in. wide, 11½ in. long, and 1½ in. deep—it was a vast gaping slough. In three days it was clean, and by strapping, in three weeks it was 1½ in. wide and superficial. It was very painful, but an injection of eucaine removed all sensation during dressing. Potassium permanganate was a favorite dressing.

On the other hand, aseptic surgery is a distinct failure. It must be antiseptic. Weak carbolic (1 in 40) or weak mercurial solutions are the best. In bad cases cyanide gauze is preferable to aseptic gauze. I have seen failures under aseptic surgery, and a limb sacrificed which by careful antiseptic cleansing would probably have been saved.

Wounds.

Bullet wounds (*Balle*) present endless variety. The entry is sometimes round and small, but may be oval, if the bullet struck somewhat obliquely. The exit varies also, from a slit to a hole much larger than that of entry. It is often difficult to decide which is entry and which is exit. I usually asked the patient to put himself in the same position as when struck. The tracks vary much. The most wonderful case was one shown by Major Gouillard. The bullet entered the back on the left side behind the heart and came out between the fourth and fifth rib, inside the mammary line. It must have passed round the chest; but the direct route was through the heart.

Many men were struck behind or in the side between the ribs. In some cases the bullet came out without entering the ribs. In two of my cases they remained inside. In one case in which it caused pain it lay at the base of the right lung. Most of these cases spit blood for about a day and then have bronchopneumonia, but eventually do well.

The following case was very severe. A bullet, thought to be explosive or dum-dum, entered the upper third of the forearm (in the attitude of firing), inflicting a large wound 5 in. long, 3 in. wide, splintering the ulna. The military authorities say that such wounds are caused by ordinary bullets fired at a distance of about 40 yards. The exit was about 2 in. square. It looked like a large crucial incision, and admitted three fingers. There was a large hernia of muscle from the outer wound, a smaller hernia from the inner wound. The wounds were very offensive. In two or three days they were clean, and six days later I removed the fragments of bone, the longest measuring 3 in. I slightly shaved one protrusion of muscle, which I consider was a mistake, as in a fortnight all muscle got into place, and was covered by granulations. There was a gap of 3 in. between the ends of the ulna. A week later I examined under chloroform, and found that granulations covered most of the previously bare bone. It was trimmed up with forceps, and after three weeks was doing well.

In another case the bullet entered above the pubes, 3 in. to the right of the middle line. The man was in the trenches two nights and one day after being wounded, and had only two apples to subsist on. He said he passed blood after the injury. The wound, which was very septic, was enlarged. I found the horizontal ramus of the left pubis perforated and smashed, and removed the spicules, but could not trace the bullet in the thigh. A skiagram was taken of the pelvis, but showed nothing. I then had the thigh radiographed, and found the bullet on a level with

the great trochanter pointing outwards, as if fixed in the inner aspect of the femur. The wound was still more or less septic, but the patient was doing well. The bladder was uninjured. The wisest course to follow in this case will be to leave the bullet till it approaches the skin. Searching for bullets which cause no irritation is a fundamental error. It is often difficult, even with a skiagram, to locate the missile exactly, especially if a fragment.

In another case a bullet struck the tibia 2½ in. above the malleolus, causing a groove along the bone. On the fibula side there were two superficial wounds, as if from a fragment of shell, but this could not have been the case, as there was no artillery firing. The tibia, which was broken, was set in plaster. Five weeks later a skiagram when taken showed an oblique fracture from below upwards and backwards at the junction of the lower and middle thirds. How did the fracture occur? The bullet wounds were half-way between the fracture and the end of the bone. The man walked two metres after he was struck, and then his "ankle gave way." The method of bullets is strange.

In another case a ball entered the middle of the right buttock. The wound healed, but pain continued in the right groin. As there was no wound of exit, a skiagram was taken; it showed the bullet in the pelvis, pointing toward the lower lumbar vertebra. How did it get there?

In yet another case a ball entered 4 in. to the right of the twelfth dorsal vertebra, and came out 1½ in. above the right nipple. This man was very ill with broncho-pneumonia and haematemesis. The temperature went up to 102.9 F.

Shell Fragments and Shrapnel.

Wounds produced by shrapnel and by fragments of shell, being rough and jagged, cause much irritation and pain. They must be carefully located and removed, and are often difficult to find. The wounds they produce are always very lacerated, even when superficial. They do well, however, as a rule, but must be rubbed up with iodine. At times, however, they are troublesome. I had two artillerymen, each struck in the back by the same shell, with wounds about 4 in. across. One was superficial, the other had a pocket running 7 in. under the lumbar fascia into the pelvis. This man had a temperature varying from 101° to 104° F.

One Belgian from Dixmude was wounded in the left foot. The shrapnel entered at the root of the third and fourth toe, tore up the whole sole to the instep, and curved back again nearly to the great toe. There was a great protrusion of tendon and muscle. The wound suggested a Syme amputation, but having seen these hernia recede I dressed it and it did well, although putrid at first.

Air Concussion.

The following is a case of injury to the internal ear from the explosion of a "105" shell. The man was slightly wounded in the knee with shrapnel, and had synovitis. There was a wall between the soldier and the explosion. The left membrana tympani was ruptured; there was bleeding from the ear, and blood came into the throat. This occurred on October 8th. I saw him three days later; during the whole of the interval he had been in the train. He could not hear a watch, even applied to the left half of the skull. Conversation 4 or 5 ft. off was only heard if very loud. A watch placed on the middle line of the skull was heard on the right side.

After the accident he had giddiness, with a sense of rotation to the right. This passed off, but he had nystagmus looking laterally, most when to the right side; not at all when looking up or down. Romberg's sign was not present. On October 26th all symptoms except deafness had subsided; he could catch words of loud conversation 6 or 8 ft. off. Probably there was haemorrhage in the labyrinth.

Air concussion acts often like a heavy solid blow, causing pain and bruising to soft parts. It was common to find tenderness of the lumbar region, or of a shoulder, or intense headache. Pain was an important factor; the soldiers call it rheumatism. Other effects of explosion without wound occurred from flinging the man 10 or 15 ft. in the air. One man fell on his shoulder and had a large haematoma under the deltoid.

The nerve-racking effects of explosion are worthy of notice. In one case a Belgian officer had pain in his left leg, and what might be called "neurasthenia." After some days' rest, though he walked erect, he could only step 6 or 8 in. at a time and one step every three seconds. Another man was so exhausted that his life was in danger; the pulse was 42, on the next day 48, and then 52. I had to get his mate to shout at him. Sensation was almost gone in the legs, but he could after three seconds feel a hard pinch in the arm. The knee-jerks were normal, and the pupils reacted normally. These cases form a nerve group by themselves, diagnosed and named accurately "*faiblesse*." They get well with rest.

Stage fright occurred in a youth of 17, a "*volontier*," who had slain two Germans in trenches and taken about forty prisoners (probably willing ones). He almost cried with fear, but after two days in bed insisted on returning to the front.

Occasionally men are dumb, but they understand all that is said to them. I saw one such case. They recover after a few days' rest. Of one case, a deaf-mute, the following particulars were given to me by his physician, an alienist.

A native of Paris, aged 23, a sergeant. His mother was of neurotic family. As a boy he was either sad or "bizarre" but always refined and intelligent. When the war began he was excited, ambitious, and courageous. During a battle at Compiegne, after an explosion of a shell (*obus*), he suddenly stopped speaking, and ceased fighting as if stunned. In the fracas his companions carried him to a barn, where he lay for a day. A wounded soldier being placed beside him gave him some bread, which he devoured voraciously. After this he clung to his companion, and was therefore removed with him to Dieppe. There was complete mutism and cerebral deafness. Words had no significance, but if a noise was made he turned in that direction. He was an electrician, and showed much interest in lamps and wiring, yet he had no appreciation of a bunch of keys. He appeared to know his mother, but there was no communication between them. He followed the soldier about like a dog. He was sent home after a month's rest quite unchanged.

Tetanus.

I had one case of tetanus following a superficial shrapnel wound. There was stiffness of the jaws, pain in the scaleni and the muscles at the back of the neck, stiffness and pain in the lumbar region, rigidity of the calves, and the toes were in extension. Dr. Gilbert Hare administered 20 c.cm. of tetanus antitoxin on October 16th, 17th, 23rd, and 29th. Every dose did good, and on October 23rd his jaw opened freely, the cramps were less frequent, but pain and rigidity in the neck were severe. Any effort to eat solids fixed the jaws.

I saw a Frenchman with tetanus, which developed three weeks after a superficial wound. He died in forty-eight hours, in spite of antitoxin. He had a rise of temperature during the last twenty hours. A German with putrid compound fracture of the thigh died after repeated injections of large quantities of antitoxin. I saw 5 cases which had been cured by antitoxin. Each had been treated with 20 c.cm. at once. Three cases had a second dose on the eighth day. Two cases had three injections, the second on the third day, and the final injection, of 10 c.cm. only, on the tenth day. There was some rise of temperature at the beginning in these cases. One case began three or four days after the wound, the other cases sixteen to twenty-two days after. They presented no symptoms some three to five weeks after the attacks began. It is of interest to note the small dosage, as some authorities advise very large doses at short intervals.

It might have been expected that some of the large gaping wounds would be specially exposed to tetanus, but this is not the case. I think it is an unfortunate mistake to give antitetanus serum prophylactically until the serum is as abundant as the water in the Channel. On the other hand, at the first warning—stiffness, rigidity, pain, either in jaw, neck, back, or limbs, it should be given whether in doubt or not.

I do not think psychologists will get many cases, although shock plays a great part. Such cases as I had improved rapidly with rest and good cheer and watching their brave companions. Lowered vitality plays a great part; rest and stimulants seem required.

I must add a word about wounded German prisoners, of whom I saw about eighty. They are very badly wounded by the French artillery—more seriously than the French.

They were very starved and exhausted, and had a high mortality. There were several compound fractures, some requiring amputation. Consequently the mortality was high. But the French attend to them as carefully as to their own, and I had it from several of them that they were more than satisfied with their treatment.

THE HOME HOSPITALS AND THE WAR.

THE WOUNDED IN AND AROUND EDINBURGH.

A FIFTH trainload of wounded arrived in Edinburgh on October 24th, the majority of the soldiers being from the Ypres district; they were transferred by motor cars and ambulances to the Craigleith Military Hospital. They numbered 100; 20 cases were seriously wounded, and 10 were "medical" cases due to exposure in the trenches. Accommodation for 50 wounded soldiers has been provided by Mr. and Mrs. T. A. Nelson, who have transformed part of their house, St. Leonards, into a home hospital. Thirty-four of the beds are at present occupied by soldiers who have received treatment at Craigleith, and are now convalescent. The staff consists of a resident doctor—Dr. Balfour Gourlay—a matron, six nurses, and six orderlies. Colonel R. G. Wardlaw Ramsay, of Whitehill, has also placed Whitehill House, Hawthornden, Midlothian, at the disposal of the Red Cross Society for the accommodation of wounded soldiers.

PRINCESS LOUISE HOSPITAL, ROSENEATH.

H.R.H. Princess Louise, Duchess of Argyll, is having the hospital at the Ferry, Roseneath, renovated and prepared for the reception of soldiers who have suffered in the war. This is merely the continuation of a good work which the Princess has been carrying on for many years. During the Boer war, and since, many a "war-broken soldier" has found a haven of rest and the best of treatment in the comfortable quarters provided at Roseneath. Her Royal Highness has not only secured skilled medical attendance (Sir William Macewen, the distinguished surgeon, is at the head of the staff), but she has given her close personal attention to the comfort and well-being of the patients. No doubt many an old soldier bears in his heart a grateful memory of his residence at Roseneath, and the personal kindness of the gracious lady who paid such frequent visits to cheer the sufferers and see to their comfort. The hospital is situated at the mouth of the Gare Loch, amid beautiful scenery, and is a charming place, even in winter.

SCOTTISH WOMEN'S HOSPITAL FOR FOREIGN SERVICE.

The Committee of the Scottish Women's Hospital for Foreign Service announces that its first hospital unit is now made up, and will be ready to start for Serbia, where the need is great, in about a fortnight. A number of motor ambulances, an ambulance barge, and convertible cars have been offered to the hospital; *x*-ray apparatus is being appealed for.

DUBLIN.

Early last week a hospital ship arrived at Queenstown from the north of France with over 700 wounded officers and men on board. More than half were rapidly distributed among the hospitals in the south of Ireland—Cork, Fermoy, Waterford, and Limerick. On October 27th, 254 wounded officers and men arrived by two ambulance trains in Dublin, and were immediately distributed among the Dublin hospitals: the more severely wounded and the stretcher cases were taken to Dr. Steevens's Hospital as being the nearest to the railway terminus. A large proportion of the wounds were in the hands and feet; many of them, either due to shrapnel or rifle bullets, showing an explosive effect from contact with the bones, with severe destructive effects. The majority of those who were severely injured had received an injection of antitetanic serum before they left France; the wounds had been inflicted from one week to ten days before their arrival in Ireland. Two cases, however, died of tetanus in Cork within forty-eight hours of being landed from the hospital ship. According to the latest reports, all the cases in Dublin are doing well, and it is expected that within the next few days it will be possible to remove several of the more slightly wounded to the convalescent homes which have been already prepared for this purpose in the neighbourhood.

2ND LONDON GENERAL HOSPITAL.

Since the outbreak of war, upwards of 2,000 men have passed through the 2nd London Territorial General Hospital at Chelsea, and its sections established at St. Thomas's and the Great Northern Hospitals. At the present moment the number of beds occupied is 520 at Chelsea, 200 for men and 23 for officers at St. Thomas's Hospital, and 65 at the Great Northern Hospital, making a total of 803 beds. The 2nd London Territorial Hospital, therefore, considerably exceeds the minimum establishment contemplated by the War Office. As the men recover they are drafted to convalescent homes, or, in the majority of cases, to their own homes. In the first days of the war the War Office had an excellent plan of a central register of convalescent homes, and the commandant of a hospital on application could usually have allotted to a patient a home near his place of origin. If a patient needed special treatment during convalescence, he was allotted to a special institution. Now, however, that procedure has been altered, and commandants receive a list of convalescent homes and are left to make their own arrangements for sending convalescents away.

Early last week a convoy of very seriously wounded men came to the hospital; several, after being wounded, had been lying out in the open, without food, without water, and without dressings, for four days. Some had been wounded prisoners in the hands of the Germans and had been retaken by our own troops. In some cases those who had been in the hands of the Germans said they were very well treated, especially when under the care of the German medical department. On the other hand, some soldiers said they had been very badly treated, and that the first thing the ordinary German soldier did when he got a prisoner was to eat all the food the prisoner had with him. The German soldier always asked first for English bread—perhaps an indication of indifferent bread in the German army. In several instances, also, the Germans took away the British soldiers' greatcoats, whether for disguise or for additional warmth did not appear.

Two men who came in with shrapnel wounds had been lying in the mud for nearly four days unsuccoured. One had the upper part of his left chest crushed in, the left pleural cavity was filled with blood clot and pus. The wound was very septic, and the man was deeply jaundiced, emaciated, and delirious, with high fever. Nevertheless he is now recovering. The one proceeding that seemed to give him relief was tipping him up and emptying a large quantity of discharge from his chest. The second man had a very bad compound fracture of the arm, which was septic. The arm was amputated, and he began to improve, but, two or three days later, he suddenly collapsed and died. Another man, to whom Lieutenant-Colonel Callender, the officer commanding the hospital, spoke in the train before he was taken out, did not appear to be ill. He said he had a wound in the abdomen, but he was not in pain, and was puzzled because he only had one wound, and yet his "guts" were coming out. When admitted to the ward he was found to have a bullet wound in the upper part of the abdomen. A large mushroom-shaped portion of omentum was protruding. Although in a septic condition, the man had no pain and no fever, and when the omentum had been cleaned by boracic fomentations for a few days it was removed and the wound closed. The man is now doing well.

Another patient, wounded in the loin, had been lying out for three or four days untended. When he reached the hospital he had acute septic peritonitis and the abdomen was full of gases of decomposition and pus. He was operated upon, but after five days collapsed and died. Only one case of tetanus had been observed; the only symptom was trismus, which came on fourteen days after the injury. He appeared to be recovering when he developed pneumonia, which caused death. Another man, with a very large wound of the thigh, developed gangrene of the limb, complicated by diabetes. He died very rapidly.

In several instances compound fractures of the femur and humerus had been shown by the *x* rays to be comminuted to the last degree, but under treatment good union had been obtained, the limbs being now in use in several cases. From the *x*-ray picture these fractures would have been thought hopeless, and the limb utterly

shattered; in more than one case it seemed that amputation would be inevitable, but postponement had resulted in the limb being saved.

A sad case at present in the hospital was that of a man shot through the head. The sight of both eyes was destroyed. In other cases of wounds of the head the brain was exposed, and the wound was septic. One patient in this state died of cerebral meningitis; another somewhat similarly wounded is recovering.

It was, remarked Colonel Callender, reassuring to note that very few cases of sickness were received, either from the expeditionary or the home forces. Only one case of enteric fever had been received from the front and one from the home forces. Cases of dysentery had been received both from home and the front, but it had always been in men who had acquired it previously in India or somewhere in the tropics. There had been no diseases due to climate, except rheumatism, caused apparently by working in wet trenches.

There have been one or two cases of mental derangement in officers. One had headache, insomnia, and delusions of persecution; another had almost complete loss of memory; neither had any bodily injury. It was curious, going round the wards at night, to notice that quite a number of men talked in their sleep—always about the war. They apparently thought themselves again in the trenches and being attacked. As regards mental conditions generally, there was a complete absence of depression, and a complaint of any kind was seldom heard. The men were extraordinarily cheery; this national characteristic came out prominently. A Scotsman with nine bullet wounds spent most of the day amusing his comrades in the ward by playing very well indeed upon a penny whistle!

Colonel Callender added that the general administration of the hospital had gone smoothly, though the work was hard. Much labour was involved in the filling in of documents in respect of each patient. Six documents were necessary for every wounded officer.

1st Southern General Hospital, Birmingham.

The 1st Southern General Hospital, established in the University Buildings, Edgbaston, Birmingham, has accommodation for 520 patients, and has accomplished a large amount of work since the war commenced. About 1,400 patients have been treated; considerably more than half have been from the Expeditionary Force, 200 have been Belgian wounded soldiers, and the remainder soldiers from the Territorial Force. The work has been chiefly surgical, and in addition to small operations in the wards, about 250 operations have been performed. The wounds have healed remarkably well, and the rapid improvement after a few days in the hospital has been really wonderful. Two cases of tetanus have occurred; both are recovering. There have been six deaths—a very small number, considering that many very serious cases were received. The *x*-ray department has been very busy localizing bullets and pieces of shrapnel, and examining fractures. Over 450 *x*-ray examinations have been made. The General Hospital, Birmingham, has kindly lent its portable *x*-ray apparatus, which is most efficient. The work on the medical side has been very light in comparison with that on the surgical.

Everything in the hospital is running smoothly. Visitors are not permitted except in special circumstances, but the relatives and friends of patients are allowed to visit them on Wednesday and Sunday from 2 to 4, and at other times if the patients are very ill. Often after a fresh batch of patients has arrived there are some visitors who come from a distance, and these are permitted to see the wounded at other times than on the visiting days. It is found that this arrangement works very well. The discipline of the patients and the men of the R.A.M.C.(T.) is excellent.

An increased amount of work falls on the administrative officers of the hospital, as it is part of their duty to send out the patients as soon as they are fit to move to the smaller civil hospitals or to convalescent homes. While the patients are in these smaller hospitals and homes they are still controlled by the central hospital, where all their movements have to be recorded, and arrangements made for their return to their dépôts, etc.

THE BRITISH RED CROSS SOCIETY.

A Period of Severe Pressure.

Sir Frederick Treves informs us that for several days past the pressure upon the British Red Cross organization has been exceedingly severe; more so than at any previous period since the war began. In eight days nearly 10,000 wounded soldiers were removed from trains to hospitals. Sir Frederick said a number of surgeons had been sent to Boulogne in the last ten days, but during that time three batches of orderlies, each 50 strong, had been sent to the same port. The R.A.M.C., in Sir Frederick's opinion, had coped with the great rush in an admirable way; the work could not have been better done. The service was exceedingly well equipped in every particular.

Help for the Allies.

The British Red Cross Society is still rendering considerable help to the French. A large party of doctors and dressers has been sent to Rennes, and another to Calais to supplement the work amongst the French wounded. The Society has also been the means of sending a party of surgeons to Dunkirk to help the Belgians. There are, however, a great many private persons assisting with the treatment of Belgian wounded. Sympathy with the Belgians is so strongly felt in this country that many private expeditions to help them have been equipped. The call for aid from the British Red Cross Society, therefore, has not been very urgent. The plan of keeping a staff of surgeons always in readiness at head quarters for an urgent call has enabled help to be given in response to all demands with a rapidity which has caused some surprise.

Conveyance of the Wounded.

The first British Red Cross hospital train will be running this week; it will convey nearly 500 wounded in a single journey. Motor ambulances are being placed in the field as rapidly as possible; the need is now for liberal funds to meet the heavy running expenses.

FURTHER CASUALTIES IN THE MEDICAL SERVICE.

Army.

Killed.

Since the list of casualties published in our issue of October 31st the names of eight officers of the Royal Army Medical Corps, and one medical man serving as motor cyclist dispatch rider appear among the killed, and one other officer of the Royal Army Medical Corps has died.

Captain Michael Joseph Lochrin, R.A.M.C., took the Licence of the Dublin Colleges in 1904, entered the R.A.M.C. as lieutenant on July 30th, 1906, and became captain on January 30th, 1910. He was recently stationed at Aldershot.

Captain Rupert Henry Nolan, R.A.M.C., was educated at University College, London, took the M.R.C.S. and L.R.C.P.Lond. in 1908, and after serving as assistant medical officer to the London County Council Asylum at Banstead, got his first commission as lieutenant on January 30th, 1909, becoming captain on July 30th, 1912. He had recently gone through a course at the R.A.M. College.

Captain Richard Dominic O'Connor, R.A.M.C., was killed in action on October 25th in the battle of the coast. He was born in 1884, the third son of the late Mr. F. W. O'Connor, F.R.C.S.I., of Limerick. He was educated at Clongowes Wood College and at St. Bartholomew's Hospital. He took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1907, and entered the R.A.M.C. as lieutenant on January 28th, 1907. He became captain on July 28th, 1910. He was recently stationed at Multan.

Lieutenant George Henry Chisnall, R.A.M.C., attached to the 1st Battalion Cameron Highlanders, died of shell fire wounds at Poperinghe, Belgium, on October 24th, aged 28. He was the son of Mr. C. N. Chisnall, of Frating Abbey, Essex, was educated at London Hospital, and qualified in 1908. He took the degrees of M.B. and B.S.Lond. in 1910, and was also F.R.C.S.Eng. A member

of the teaching staff of his school has sent the following tribute to his memory:

Perhaps in nothing is the waste of war more apparent than in the loss of those who, after long years of patient study, have slowly perfected themselves in the art of healing only to be blindly crushed at the very outset of their career.

The thoughts of many at the London Hospital must have yielded some such reflection on hearing of Chisnall's death. Not only was Chisnall, as his academic distinctions prove, a student of outstanding ability—he combined with a very thoughtful temperament an originality of outlook, an industry, and a tenacity of purpose which persuaded his many friends that he would some day take high position in his profession. The essay on "Fractures of the Upper Part of the Humerus and their Treatment," with which he won the Jonathan Hutchinson Prize at his College, was regarded as an earnest of a steady outflow of original work in the future. Personally he was noted for an imperturbable serenity of mind and a geniality of manner which made him beloved by all who knew him.

Having held almost all the resident appointments in the gift of the London Hospital, he volunteered for service in the Royal Army Medical Corps at the beginning of the war. There only remains to us a memory, and a hope that after all Death may not be the gaunt spectre we imagine. To the Greeks it will be remembered θάνατος was a thoughtful youth of not unkindly aspect; right in so much, perhaps they were also right in this.

Lieutenant Reginald Edward Porter, R.A.M.C., was educated at London Hospital. He took the diplomas of M.R.C.S. and L.R.C.P., and the degrees of M.B. and B.S.Lond. in 1911. After serving as house-surgeon of the Royal Free Hospital, he entered the R.A.M.C. on July 26th, 1912, one place above Lieutenant Shields. He was recently stationed at Limerick.

Lieutenant David Wylie Rintoul, R.A.M.C., was killed in action on October 21st. He was 25 years old, the elder son of Mr. D. Rintoul, of Clifton. He was educated at Dundee and St. Andrews, and took the degrees of M.B. and Ch.B. at the University of St. Andrews in 1912. On June 1st, 1913, he was appointed lieutenant in the 3rd South Midland Field Ambulance (Territorial), stationed at Bristol; and got his commission as lieutenant in the R.A.M.C. on January 30th, 1914, having only recently finished his course of training and been confirmed in the army when the war broke out.

Lieutenant Henry John Sladen Shields, R.A.M.C., was killed in action on October 26th. He was the son of the Rev. A. J. Shields, of Thornford Rectory, Sherborne, Dorset, and was educated at Loretto, Jesus College, Cambridge, where he was stroke of the university boat, and the Middlesex Hospital. He took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1912, the M.B. and B.S.Camb. in 1914, and entered the army on July 26th, 1912. He was recently stationed at Pirbright Camp. When the British Expeditionary Force left England he was attached to the Royal Irish Guards; and on September 10th was reported missing in the retreat from Mons, but rejoined a few days later.

Dr. Sidney Nelson Crowther was killed in action on October 18th, while acting as a motor cyclist dispatch rider. He took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1903. He had filled the posts of Prosector at the Royal College of Surgeons, senior house-physician at Westminster Hospital, and assistant medical officer at Brookwood Asylum, before he was appointed senior medical officer of the Surrey County Asylum at Netherne, Merstham, the post he held when he enlisted for service in the war. He was 39 years old.

Death by Accident.

Lieutenant Douglas Wardleworth, R.A.M.C., was accidently drowned at Havre on October 24th. It was a fine morning and he went to bathe. He was seen to dive, but never rose again, and though two of his colleagues went to his assistance, the body was not found until later about a hundred yards from the spot where he had disappeared. Dr. Wardleworth had not been feeling well for some days, and a *post-mortem* examination showed that death was due to heart failure. He was educated at Owens College, Manchester, took the M.B. and Ch.B.Vict. in 1905, and after serving as house-surgeon to the Royal Hospital, Salford, and house-physician to the Royal Infirmary, Manchester, went into practice at Sheringham, Norfolk. He had been gazetted temporary lieutenant in the R.A.M.C. so recently as October.

Wounded.

Hayman, Lieutenant J. R., R.A.M.C. (Reserve).

Prisoner of War.

Field, Captain S., R.A.M.C. (reported missing on September 26th).

NOTES.

PREVENTION OF TYPHOID IN HOME CAMPS.

WE have received the following letter from Dr. Christopher Childs, D.P.H., who worked with Dr. Victor Vaughan, the only surviving member of the U.S.A. Army Commission, in preparing its report upon the typhoid outbreaks among the U.S.A. volunteer camps during the Spanish-American war:

Prevention of Typhoid in our Home Camps.

Sir,—Attention has frequently been called in your JOURNAL and elsewhere to this matter, and yet it seems desirable to press home and repeat several facts in connexion with it.

In all military expeditions, where the soldiers have been encamped in one place for more than two or three months at a time, typhoid fever has invariably broken out and generally spread with epidemic violence.

Examination of the annual army medical reports from the time of the Crimean war shows that this has been the case with our own troops in whatever quarter of the globe our army has taken the field and occupied fixed camps for any length of time. Similar evidence is forthcoming from the records of wars carried on by other nations.

Apparently the impression is general that our typhoid epidemics in the South African war were more severe and extensive than usual. Such is not the case. The epidemics during some of our Egyptian expeditions were far more intense. The Germans, when besieging Metz during the Franco-German war, suffered more severely. So also did the U.S.A. Volunteers in their selected encampments in their own country during the Spanish-American war. You gave an account of the conclusions reached by the able Commissioners, who were appointed to investigate the cause and course of these epidemics, in the BRITISH MEDICAL JOURNAL of September 19th, 1914, p. 510, and a fuller account was published in the BRITISH MEDICAL JOURNAL of July 13th, 1905, p. 137. The statement which concerns us chiefly at present is this—that, out of some 100,000 troops under their observation, about 20 per cent. were infected with typhoid fever during five months, and about 1.5 per cent. died.

At present we are informed that there are 600,000 Territorials, recruits, and other troops encamped or billeted in different parts of the United Kingdom. Fortunately, there are various factors which would prevent such immense losses among them by sickness and death as occurred in the U.S.A. camps. In the first place, the typhoid morbidity and mortality in this country are far less than they were in the U.S.A. at that time. Consequently the number of typhoid first-cases introduced from our general population into the camps must be far fewer. Secondly, our camp sanitation is and will be far more perfect, and the seasonal influence more favourable. Thirdly, a large proportion of these troops will have received the protection of antityphoid inoculation.

But there are also other preventive measures which are plainly indicated by the evidence contained in the report of the U.S.A. Commission. The facts so carefully collected and correlated by them compelled them to conclude that water and the other generally reputed vehicles of typhoid infection were not important factors in the spread of the epidemics, but that the infection was chiefly conveyed from man to man and tent to tent. They made an exhaustive examination of many thousand cases of diarrhœa, "simple continued fever," etc., and were convinced that many of these were in fact cases of incubating or ambulatory typhoid. Such cases are, from various circumstances, constantly overlooked, but are probably the source of much of the infection which experience shows is apt to spread through military camps, unless special and systematic measures are taken for their detection. This is, no doubt, the most important lesson to be learnt from the evidence of the Commission.

Preventive inoculation may reduce the individual susceptibility of the troops to a minimum, but for the prevention of camp infection in our own country (where there

ought to be no difficulty in insuring a supply of pure water, milk, etc.), the most important measure is the detection and separation of these first cases of typhoid.

To carry out and record such observations amongst troops engaged in actual warfare may be very difficult, but it is obvious that the difficulty would be vastly decreased in the case of camps in our own country, where cases of a suspicious character might be separated, put under special observation, and tested bacteriologically with the aid, if necessary, of local bacteriological laboratories. In this way much of the typhoid infection might be cut off at its source.

It might be expected, on *a priori* grounds, that typhoid fever would be directly infectious in military encampments. The age of the soldier corresponds nearly with the age of typhoid susceptibility. A man suffering from the disease in the incubating or ambulatory stage will bring myriads of the disease germs into the tent day after day, infecting the tent itself, the bedding, the soil within and around the tent, and the companions with whom he is frequently in close contact. All these considerations call for the organization of systematic detection, disinfection, and separation of these first cases.

If these preventive measures, together with others mentioned above, are carried out efficiently and systematically, it may assuredly be hoped that with the help of antityphoid inoculation the typhoid invasions which otherwise threaten our home camps may be reduced to a practical minimum.

At some future time it will be of high interest and importance to compare the progress and development of typhoid invasion of our home camps (if it occurs) with that of the U.S.A. Volunteers. Our camp affords a unique opportunity for making systematic etiological investigations, such as has never occurred before, and will not, we may hope, occur again. To the epidemiologist who is keenly interested in the natural history—the etiology—of typhoid epidemics to neglect such a chance will seem simply criminal.

No doubt a commission will be appointed to make a special investigation of the progress, arrest, or development of typhoid in the encampments, and executive as well as medical officers are aware of the need of detecting first cases as early as possible. But it would be well that the rank and file and also the general public should be made acquainted with this source of infection which hitherto has not been generally recognized, in order that they may render intelligent help in carrying out the measures for the prevention of infection.—Yours faithfully,

CHRISTOPHER CHILDS, M.D., D.P.H.

October 27th, 1914.

Wreck of the Hospital Ship "Rohilla."

The hospital ship *Rohilla*, Captain Neilson, was wrecked off Whitby on Friday, October 30th, with considerable loss of life. The last survivors were taken off on Sunday morning. Fortunately there were no patients on board at the time, but she carried a large medical staff. The following is a corrected list of the medical officers who were on board:

The Fleet Surgeon, E. C. Lomas, D.S.O., R.N., in medical charge.
Surgeon S. L. Maclean, R.N. Reserve.
Surgeons, R.N.V.R.: T. C. L. Jones, H. L. Murray, A. E. W. Hird, L. S. Ashcroft.
Temporary Surgeon, R.N.: T. H. Cresswell.
Civilian Dental Surgeon: F. W. Paul.
Nursing Sisters: Miss M. B. Bennett, Miss M. B. Bennington, Miss M. B. Paterson, Miss M. L. Hocking.

All have been saved.

There was a large number of R.N. Sick Berth Staff and R.N. Auxiliary Sick Berth Staff on board, and a considerable number have been drowned, but the total is not yet known.

Mr. Littler Jones, who is surgeon to the Liverpool Royal Infirmary, in giving evidence at the inquest, said that he had joined the ship early in August. Captain Neilson had commanded all the time and discipline had been good. The ship struck at about 4 a.m. on October 30th; the weather was very heavy. The ship's starboard lifeboat was launched successfully, but the line it took parted; the crew of the boat was landed. The Whitby lifeboat arrived shortly after daybreak. The captain of the *Rohilla* ordered the women to go first, then the doctors, sick attendants, and crew and officers, the captain himself being the last to be rescued. Mr. Jones thanked the Whitby inhabitants, high and low, rich and poor, for all they had done for the rescued. Evidence was given by the second coxswain of the Whitby lifeboat that with a motor lifeboat at Whitby no lives would have been lost.

"French Flag Nursing Corps."

A committee formed in this country through the instrumentality of Sir Thomas Barclay, formerly president of the British Chamber of Commerce in Paris, has received a communication from the French Minister for War asking for 300 fully-trained British nurses to take service in the French military hospitals in the regions of Rouen, Le Mans, Rennes, and Nantes. The committee has been authorized to select the nurses and to undertake the necessary organization of "the French Flag Nursing Corps." The French Ministry of War (Service de Santé Section) has undertaken all financial responsibility for the nurses' salaries, travelling expenses, etc., the preliminary financial arrangements being in the hands of the French Consulate in London. Suitable provision has also been made for the supervision and comfort of the nurses.

One detachment of nurses has already been sent to Rouen, and are at work in the military hospitals in that city, and further detachments are being sent out weekly as required. Applications from fully-qualified nurses, particularly from those who can speak French, may be sent to the President of the Committee, Lady Barclay, 60, Nevern Square, London, S.W., or to the Treasurer, Mrs. Bedford Fenwick, 431, Oxford Street, W. The medical advisers of the committee are Drs. R. Murray Leslie and J. Dundas Grant.

The St. John Ambulance Department.

Appeal to Girls.

A special committee of ladies, acting with the European War Fund formed by the Ambulance Department of the Order of St. John of Jerusalem in England, has issued an appeal for funds. In order to extend its work among the wounded in the war, it appeals to the girls of England to give their personal services, and to help in collecting the money required by means of a shilling subscription. It stated that already, under the auspices of the Order of St. John of Jerusalem in England, 150 hospitals and convalescent homes have been established and staffed, and that over 5,500 orderlies have been dispatched to the expeditionary forces, or to the ships and naval and military hospitals, in addition to doctors and nurses. Large quantities of medical stores and supplies have been sent out to the sick and wounded; a number of motor ambulances are being dispatched to France, and a dépôt for the convenience of troops has been established at Southampton, where they can obtain food and medical assistance day and night. The offices of the fund are at Marconi House, Strand, London, W.C.

Convalescents.

The Swiss authorities have issued a statement to the effect that the Federal Council has recently had under consideration the question of whether wounded soldiers belonging to any of the belligerent armies who desire to complete their convalescence at a Swiss health resort are liable to arrest and internment. The Council has decided that, provided such wounded persons cross the Swiss frontier in plain clothes, it is no part of the duty of the local authorities to make inquiries as to their status. On the contrary, the Council desires to be of service to all the belligerent countries by offering every possible facility to those who desire to visit Switzerland for the purpose of renewing their health.

Field Ambulance (Reserve).

3rd Welsh Field Ambulance (Reserve).

Captain E. Brice, R.A.M.C.T., officer commanding the 3rd Welsh Field Ambulance (Reserve), asks us to state that it is in need of medical officers. Communications should be addressed to him at the Drill Hall, Swansea.

The Legion of Honour.

The *London Gazette* for November 3rd announces that the President of the French Republic has, with the approval of His Majesty the King, bestowed the decoration of the Legion of Honour on a number of British officers for gallantry during operations between August 21st and 30th. The list includes the following officers of the Royal Army Medical Corps—one of them, Captain

H. S. Ranken, was killed before the honour could be announced. *Croix d'Officier:* Major S. L. Cummins. *Croix de Chevalier:* Captain S. E. Lewis, Captain J. T. McEntire, Captain H. S. Ranken.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

ULSTER MEDICAL SOCIETY.

THE opening meeting of the winter session was held in the Medical Institute, Belfast, on October 29th. The outgoing president, Mr. A. B. Mitchell, F.R.C.S.I., took the chair, and introduced his successor, Dr. J. S. Morrow, Belfast, who delivered his inaugural address. After referring to the deaths of Dr. Henry O'Neill, Dr. John Gorman, and Dr. James C. Ferguson, and to the Fellows and Members who were at the front or had offered themselves and were in training, Dr. Morrow went on to deal with the main subject of his address, which was disease in its medico-legal relations to accident. He divided the cases first from a legal point of view, according to the Act under which they came, and then from a medical point of view; and, drawing on his long and extensive experience as medical referee to one of the largest shipbuilding firms in the world and to other firms, he gave a most interesting and instructive review of the subject, illustrated by many cases which had come under his own observation.

Sir John Byers proposed in a happy vein a vote of thanks to Mr. Mitchell for his able conduct in the chair last year and his kind hospitality, and to Dr. Morrow for his fresh and welcome address, which combined both the scientific, the clinical, the legal, and the common sense aspects. This was seconded by Professor Sinclair, and passed by acclamation.

SCARLATINA IN BELFAST.

There has again been a rise in the scarlatina rate in Belfast. The disease has been epidemic in Belfast since 1909, and each winter has seen an exacerbation; already this year 1,800 cases have been notified, and 277 new cases have occurred within the last four weeks. The Health Committee is spending £60,000 a year, or 10d. in the £. The Purdysburn Fever Hospital is well equipped, well officered, well nursed; the committee appointed temporarily two medical officers last year to investigate the disease. It is argued that isolation and fever hospitals seem to spread the disease; but, of course, the epidemic might have been still more severe if these means of prevention had not existed. Diphtheria is also increasing. Typhoid fever, formerly rampant in Belfast, is now by comparison nearly extinct. Can nothing be done for the other zymotic diseases?

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

THE MIDWIVES SUPERVISING COMMITTEE.

FROM the report of the Manchester Midwives Supervising Committee for 1913 it appears that there were in that year 178 midwives practicing in Manchester, of whom about 80 per cent. were certified. During the year 507 inspection visits were paid to midwives by the executive medical officer, about 80 of the visits being in connexion with cases of puerperal fever or other infectious diseases which had occurred. In addition to this, the mode of practice of 51 of the midwives was investigated in the homes of their patients. In 75 instances the midwives were suspended from practice in connexion with puerperal fever cases, though generally the suspension was only for a few hours until personal disinfection had been carried out. In 22 other instances midwives were suspended owing to various conditions in order to prevent infection of patients. There can be little doubt that the efficient inspection of the midwives has succeeded in obtaining a most satisfactory midwives' service in Manchester.

The records show that midwives advised that a medical practitioner should be sent for in accordance with the Midwives Act, in 2,596 cases. Of these, 77 were for miscarriages or unusual features of pregnancy, 237 for abnormal symptoms during the lying-in period, and 1,301 for difficulties at confinements. Of the last-named class, 404 were for tedious labour and 385 for rupture of perineum. In 981 cases medical aid had to be summoned for the infants, and of these 402 were cases of inflammation of the eyes or eyelids. Though medical aid was thus called in in so many cases, only 519 claims for fees were sent in to the Supervising Committee by the medical attendants. These claims were considered by the Medical Subcommittee, and payment made in 439 cases, amounting to £240. Of the 80 cases rejected as not fulfilling the conditions on which the committee pays medical fees, in 57 the income of the family was above the scale; in 11 the patients themselves paid the fees, while in 6 they could not be traced owing to late application for the fee being made. In the year 1912 the sum paid to medical men summoned by midwives was £535, and the decrease was due to the fact that from April 1st a large number of the payments were modified in respect of deposit contributors under the National Insurance Act. In consequence, however, of the alterations made by Section 14 (4) of the Insurance Act, 1913, with regard to medical fees, the Supervising Committee decided to revert to its former arrangements, and in future fees varying from 2s. 6d. to £1 1s., according to the nature of the case, will be paid to medical men summoned by midwives in respect of patients where the family income does not exceed 23s. a week for man and wife. Where there are already children in the family the income limit will be raised 2s. for each child, so that, for example, the fee will be paid by the committee where the total income of a man and wife with seven children does not exceed 37s. a week. The lowest fee of 2s. 6d. is for a simple visit to the newborn child, while the maximum fee of a guinea has to cover any operative measures necessary at labour or cases of secondary *post-partum* haemorrhage or puerperal fever.

During the year 124 cases of puerperal fever were notified, of which 24 occurred after miscarriages; the total number of fatal cases was 21. In 45 cases the onset of fever occurred within the first four days, in 52 from the fourth to the eighth day, in 11 from the eighth to the tenth day, and in 16 on or after the tenth day. In 51 cases, of which 5 died, midwives alone were present at the confinement; in 18, of which 5 died, both doctor and midwife, were present; and in 55, of which 11 died, doctors alone were present at the confinements. The total births registered for the year were 19,052, and midwives attended at 12,251, or rather over 64 per cent. From this it is evident that there is a higher percentage of puerperal fever among the confinements attended by doctors alone than among the midwives' cases with a much higher death-rate. This is partly accounted for by the fact that the doctors' cases are more frequently treated during the whole course of the illness in homes which are often far from sanitary, while the midwives' cases are more generally sent to Monsall Hospital, where the most efficient sanitary conditions are obtainable. On comparing the figures for 1911 before the Insurance Act came into operation, it appears that in spite of the maternity benefit now payable, there is still a tendency to an increase in the percentage of confinements attended by midwives as compared with those attended by doctors.

Considerable attention has been paid to the question of stillbirths. The total number of stillbirths of which there is any record was 695; this includes 401 in the practice of doctors and 294 in the practice of midwives. The causes are, of course, often obscure, but apart from accident or abnormality or definite illness of the mother, the report states that it has seemed reasonable to credit 5 cases to specific disease, 19 to drink in a marked degree in one or both parents, and 16 to drug taking to procure abortion. There is only too much ground for believing that the last-named cause will account for a much higher number of stillbirths than stated, as the trade in the so-called "female remedies" in the Manchester district is enormous, and in many cases inquiry is difficult and only likely to meet with refusal to confess or absolute denial.

The report concludes with an account of the work of

the two special nurses appointed by the Supervising Committee, one for septic work and the other for non-septic work; in addition, there are two ophthalmic nurses. The work of all the nurses has been much appreciated by both medical practitioners and midwives.

Correspondence.

ANTISEPSIS AND ASEPSIS IN WAR.

SIR,—Professor Tuffier is well known in this country, where the excellence of his work and the soundness of his judgement are justly recognized. It must, therefore, be a source of much satisfaction to Lister's most faithful followers to read in your last number that M. Tuffier, in his report of his inspection of the medical arrangements of the French army, read before the Académie on October 13th, stated, as the first of his general conclusions, "that antisepsis was incontestably superior to asepsis."

Some of us fear that, in the present war, the modern enthusiasm—I had almost said craze—for what is called aseptic, as opposed to antiseptic, treatment of wounds will to a large extent nullify the effects of Lister's teaching. We know that this would have been his own opinion. Aseptic gauze and sterilized water are broken reeds to trust to as compared with a trustworthy antiseptic dressing and carbolic acid, by preference pure, for the first purification of a wound which is possibly infected with the organisms of tetanus or spreading gangrene.

This is written in the hope that it will be read by some of those who may be called to the front, where battles are being waged upon highly cultivated land reeking with these organisms, some of the most resistant to strong antiseptics. I would remind them that in Lister's early compound fracture cases the wounds were treated rather freely with undiluted carbolic acid without any evil result following. They should also bear in mind that mixtures of carbolic acid or corrosive sublimate with blood or serum are very much less potent than solutions of the same strength in water. It is therefore most important to make the wound as dry as possible before starting the process of disinfection. If iodine is employed a saturated watery solution is the best to use; the addition of alcohol, as in the tincture, much diminishes the effect.

Some day, no doubt, the virtues of antisepsis will be rediscovered or reannounced. There are signs, such as Professor Tuffier's strong pronouncement, that the time is not far distant, if it has not already arrived.

I should like to add an urgent appeal in favour of an immediate prophylactic dose of antitetanic serum in all suspicious cases, however slight the wound. If this be combined with vigorous antiseptic purification, it may be confidently anticipated that many lives will be saved.—I am, etc.,

London, W., Nov. 1st. RICKMAN J. GODLEE.

CARE OF THE WOUNDED.

Sir,—May I suggest that our Association is worthy of something better than the anonymous statement on page 769 of your last issue? Surely we ought to have a Special Commissioner present with the forces and reporting fully on the care of the wounded. It is well known that nothing has ever exceeded the devotion and efficiency of the R.A.M.C. personnel, of which the severe losses they have suffered is sufficient proof, but that has nothing to do with the question whether this exceedingly wealthy nation has made the fullest possible provision for the treatment of the wounded after the first dressing on the field. I consider that it has not.

Your correspondent gives a description painfully like those of "Eye Witness," whereas the condition in which the wounded have arrived up to now, shows quite clearly in the opinion of many of us, that in consequence of the enormous numbers of wounded suddenly brought in to the field and base hospitals in France it has been impossible for the surgical and nursing staff to cleanse the patients, to attend to their comforts, and, above all, to sufficiently frequently change the dressings as should have been done, particularly in view of the special dangers to septic infection in this campaign.

As regards the base hospitals, of course the Royal Army Medical Corps has been subjected to great difficulty and confusion caused by strategically necessary changes of bases, but considering that Calais, Boulogne, and Havre are only a few hours from London, a much larger medical and nursing staff could have secured far better conditions than those which at present exist.

I observe that your correspondent refers to motor ambulances. In my opinion it is also not creditable to the nation that private subscriptions should have been set up in order to provide such absolutely essential means of transport of our wounded. Indeed, it is stated that an offer to the War Office of such motor ambulances was originally refused. But, however this may be, it is quite clear that in the first weeks the transport was chiefly by trains, which took days to reach the coast, and here again, in consequence of undermanning in both the medical and nursing staff, a great deal of unnecessary suffering and probably loss of life has occurred.

Unless we have a full and frank record of the work in this campaign military medicine will lose invaluable experience, but what is much more serious our country will lose invaluable lives.—I am, etc.,

London, W., Nov. 4th. VICTOR HORSLEY.

P.S.—As though the conditions surrounding wounds in the present campaign were not sufficiently complicated, there has now been shown to me a memorandum purporting to be issued by the War Office and prepared by Sir Rickman J. Godlee, Bart., in which the terrible proposal is made to swab out recent wounds with pure liquid carbolic acid!

RED CROSS WORK IN FRANCE.

SIR,—Having spent some time at Dieppe at a base hospital, I think I can give some useful information about doctors and nurses. Nurses, however capable, seem unable to get work. One reason which I have received personally is that the British Red Cross take untrained though influential ladies. This has created a very sore feeling, and naturally so. When I left Dieppe some of the upper ten were busy sifting these rumours, either to discover or to cover. Considering the vast sums the British Red Cross receives, the matter should not rest where it is. With its worthy past every one wishes well to the British Red Cross, and it would be a disaster if it became the machine of a faction, or one route to a tinsel glory.

The Croix Rouge Française is poor but very earnest, and doing excellent work with very little money. I visited their head quarters at Dieppe at the Casino. They had some very bad cases, which came in about September 19th—compound fractures of the thigh, etc. Their surgeons are good. This organization will place either surgeons or nurses, but those who apply must not expect "Légions d'Honneur," but only good honest hard work. The London address is 53, Redcliffe Gardens, W.

I joined the French military service, applying to Major Gouillard, who was in control, and I was appointed to a hotel of 80 beds. Everything worked splendidly. In these hospitals a number of French ladies give their services free and freely. I had also two English nurses. I would recommend this entrée as the best. The French rather feel that some of the English want to boss it over there, and there is friction in places. Extreme courtesy is a very essential lubricant in France. They are the most delightful people to work with.

There is at present so much confusion and small rivalry between the various organizations, that all work which cannot be attached to and placed under the direction of the Royal Army Medical Corps should be attached to the French medical military service (head quarters now at Rouen). There is also a good deal of disorganization in the transport of the wounded. I had men from Arras and district who had been five days in the train. Some of the cases were on stretchers. Last week one of my men was wounded at Dixmude in the arm, and not dressed for twenty hours—and then at Calais. From Calais he went to Cherbourg, eighteen hours by sea; and from Cherbourg to Dieppe by rail twenty-two hours. The long journeys are due partly to other trains bringing up troops; but as serious and simple cases are mixed it would be well to have more union amongst the surgeons at the front, who would then send milder cases to Dieppe, Havre, Cherbourg, and England. What, then, about serious cases? I consider

that we should send out twenty or thirty well recognized operators, who should have well-equipped motor vans, and would be able to deal with grave cases at a near but safe distance behind the firing line. There are many cases lost in the first few hours for want of surgical skill and judgement of the best quality. I was told of many cases where main arteries wanted ligaturing, and so on.—I am, etc.,

London, W., Nov. 3rd. ALBERT WILSON, M.D.

ENTERIC AND CHOLERA INOCULATIONS WITH MIXED VACCINES.

SIR,—Sir W. Leishman, Professor Dreyer, Dr. Ainley Walker, and others have emphasized in your columns the importance of antityphoid inoculations. While completely agreeing with these authorities, I would suggest that a mixed typhoid + paratyphoid A + paratyphoid B vaccine should be used instead of simple typhoid vaccine, the reason being that paratyphoid A and B are by no means rare in those parts of the Continent where operations of war are taking place.

The objection raised against the use of this mixed vaccine is that it will probably give a much less amount of immunization for true typhoid than does simple typhoid vaccine, and that paratyphoid A and B, being diseases of much less importance than true typhoid, it would be a mistake to run such a risk. This belief is, I venture to say, incorrect. Experiments I have made in mixed vaccines in the lower animals in 1902, and in man since 1905, have, I think I may venture to say, demonstrated that animals inoculated with three different species of bacteria produce agglutinins and immune bodies for all of them, and that the amount of agglutinins and immune bodies for each germ is practically the same as in control animals inoculated with one species only.[1] I may add that the mixed typhoid + paratyphoid A + paratyphoid B vaccine has been used in man in Ceylon continuously since 1905 with very good results, and that such combined vaccination has been recently introduced into the Japanese Marine Service by Kabeshima[2] with great success.

Details of the preparation of a mixed typhoid + paratyphoid A + paratyphoid B vaccine may be found in an article of mine published in this JOURNAL (December, 1913). It is prepared on a large scale by the Serum Institute of Berne (Switzerland).

If cholera, too, as is by no means improbable, should make its appearance, I would strongly advise the use of the mixed "cholera + typhoid + paratyphoid A + paratyphoid B vaccine," which I have used fairly extensively in Ceylon with satisfactory results. This vaccine consists of a carbolized emulsion of typhoid, paratyphoid A, and paratyphoid B bacilli and cholera vibrios. It is prepared as follows: Agar cultures twenty-four hours old are used; the growth of the typhoid agar cultures is washed off with 0.75 per cent. salt solution containing 0.5 per cent. carbolic acid, is stored at room temperature eighteen to twenty-four hours, and then tested for sterility and standardized in such a way that 1 c.cm. of this carbolized typhoid vaccine will contain approximately 2,000 million of typhoid bacilli. The same procedure is carried out with paratyphoid A and paratyphoid B, but these two vaccines are standardized to contain 1,000 million germs per cubic centimetre. The same technique is used to prepare the cholera vaccine, but this vaccine is standardized in such a way as to contain 4,000 million per cubic centimetre. After having prepared, standardized, and tested for sterility these four different vaccines, they are mixed together in equal parts. The mixed vaccine will therefore contain per cubic centimetre:

Typhoid	500,000
Paratyphoid A	250,000
Paratyphoid B	250,000
Cholera	1,000,000

This mixed vaccine is, therefore, merely a carbolized emulsion of the various germs, no heating being used, as the presence of 0.5 per cent. of carbolic acid is sufficient to kill the bacteria. Ten minims, or about 0.6 c.cm., is given subcutaneously in the arm the first time, and double the dose the second time, a week later. It is of advantage, whenever possible, to give a third inoculation (same dose as the second) two weeks after the first. The reaction is not very severe and the inoculated persons are generally fit for work twenty-four to thirty-six hours after inoculation.

The use of this and other mixed vaccines has been found of advantage in Ceylon, as it is in this way possible to give a certain degree of contemporaneous immunity for several different maladies. Moreover, in my experience, very few people will submit themselves to the discomfort of repeated injections—which would extend over a period of several weeks—in order to be inoculated against three or four different diseases.—I am, etc.,

Colombo, Ceylon, Sept. 30th. ALDO CASTELLANI.

[1] In rabbits no good results are obtained by using more than three species of bacteria, but in man satisfactory results may be obtained by inoculating four and even five species.

[2] *Centralbl. f. Bakt.*, June, 1914.

IODINE IN SKIN WOUNDS.

SIR,—The war has brought the subject of wound treatment into prominence. While opinion has not yet crystallized on the question of the best form of treatment for the wounds of warfare there is evident in certain quarters a tendency to advocate in military surgery the "iodine treatment" of wounds, which (a revival of an old method) is at present fashionable in civil practice. On the value of the iodine method in military surgery I offer no opinion. Against its routine use in civil practice I am in protest, both in operation and accident cases.

Operation Cases.

At the Brighton meeting of the Association I read a paper on the Surgery of Childhood,[1] in which occurs this passage:

> The practice of not preparing the part for operation until the patient is under anaesthetics on the table receives full support from the results of operations in a children's out-patient clinic where preliminary preparation is impracticable. Further, the experience of operating through skin merely washed with soap and water, followed by methylated spirit, in young children, tends to the attempt to simplify the process of preparation in adults.

Such simple preparation I have often used in adults as well as children. During the past year in my clinic in the Western Infirmary, Glasgow, we have tested it systematically. Cases of the same nature (hernia, hydrocele, gastro-enterostomy, etc.), that is, "clean" cases, have been arranged in pairs for operation without preliminary preparation. Each pair has been washed with soap and water and dried with sterilized gauze, after which one case has been washed with spirit and the other painted with iodine before and after operation. Over a large number of cases the results have been uniform. No case of sepsis has occurred. The use of iodine in clean operation cases would appear to involve needless expenditure of time and money.

Accident Cases.

There can be no question that a large number of simple accident cases painted and dressed with iodine heal perfectly. So do a large number of accident cases treated with dry sterilized dressings, with or without spirit. Accurate comparative tests of the iodine and spirit methods are not possible, but at least the application of iodine in these cases appears harmless.

In lacerated and soiled accident wounds, however, routine treatment by the iodine method cannot be regarded as harmless. In such cases the rapidly drying iodine paint locks up, to incubate in the damaged tissues under a crust of iodine and blood clot, germs which would otherwise escape with the oozing blood into the dry sterilized dressing to lie there inert till the dressing is changed. Further, from what one sees of the ultimate stages of many cases it is difficult to avoid the conclusion that the minds responsible for the primary treatment have been so imbued with the idea that iodine is a germicide and will "disinfect" a dirty wound as to have lost sight of the fact that many accident wounds are not suited to any form of primary dry dressing, iodine or other. To substitute, as a *primary* measure in such cases, iodine paint for a careful search for embedded earth, shreds of cloth, etc., the cutting away of tags of damaged tissues, and the removal of impurities by the use of the douche, limb bath, or wet dressings is to court sepsis.

Iodine may have its uses in surgery. Time will show.

[1] BRITISH MEDICAL JOURNAL, September 27th, 1913.

The present routine and somewhat indiscriminate use of it appears to be opposed to the principles of modern aseptic surgery.—I am, etc.,

Glasgow, Nov. 3rd. JAS. H. NICOLL, M.B.

FEVER AND WAR.

SIR,—It is generally recognized that in time of war the risk of decimation of the fighting strength by the human enemy alone is often incomparably less than is the risk of disablement by invisible bacterial hosts. This applies to bacterial infection of wounds as well as to epidemic disease. Thanks, however, to the efficiency of our own Army Medical Department, there are good grounds for hoping that in the present crisis the experience of previous campaigns as regards infections of all kinds amongst the British units may be reversed. In this connexion it is only necessary to mention the splendid efforts which have been made under the guidance of Sir William Leishman, Sir Almroth Wright, and others to lessen the incidence of medical and surgical infection by vaccination. Recent statements by the Director-General of the Army Medical Department as to the satisfactory nature of the health of our troops in this respect after three months of war, and of preparation for war, abundantly justify the hope that these efforts will not have been in vain. Prevention, the greatest of all the auxiliaries of medicine, promises, indeed, amply to repay the genius of organization which has given it birth. Nevertheless, even in the British units there are inevitably some, and there will certainly be more, who have slipped through the mesh of prevention, and have become infected cases, either in the medical or the surgical sense. And to those of our Allies whose preventive efforts have been for one reason or another unavoidably discounted the bacterial peril may at any moment present greater terrors than the Teutonic onslaught.

The cardinal feature of systemic bacterial invasion from septic wounds or from epidemic disease is fever. Continued fever in adult man spells systemic infection, and to this rule there are few, if any, exceptions. For all practical purposes it is indeed a sure and certain sign that the time for prevention has gone by. Full understanding, therefore, of the true meaning of continued fever is the master key to problems presented by established infection, under whatsoever guise it appears. In the case of the epidemic scourges of the camp, such as enteric, plague, typhus, and the like, the significance of continued fever, especially when severe, is in no danger of being missed. In these, the gravity of known septicaemia is fully recognized, and this also applies to serious cases of surgical sepsis. On the other hand, the significance of lesser degrees of fever, such, for example, as may obtain in early stages of surgical sepsis, is frequently misunderstood. Too often the fever in such cases is variously ascribed to reflex irritation, absorption of hypothetical toxins, pus formation, or other shibboleths of the past. The result is that frequently no attempts are made to determine the true cause of the fever by examining the bacteriological content of the blood. And even in cases of high continued fever this examination is by no means always carried out as a routine procedure. It used to be taught that bacteriaemia is a relatively rare condition, and that septicaemia, or the multiplication in the blood stream of organisms that have gained access thereto, is a condition of fatal import. We now know that this teaching was unsound. Septicaemic cases frequently recover—a fact to which the returns of typhoid and pneumonia recoveries are faithful witnesses. And pathogenic bacteriaemia is extremely common. The point, however, on which I wish to insist is that prolonged clinical and experimental research has convinced me that continued fever in the adult is generally, if not always, due to bacteriaemia, by which I mean the presence of living organisms in the blood. And every case of pathogenic bacteriaemia thus defined is potentially one of septicaemia. The dividing line between a feverish cold in the head and irretrievable disaster is always perilously thin. And this is as true of continued fever, however slight, associated with septic wounds caused by weapons of war and by dirt as it is of epidemic disease, however trifling.

The moral, therefore, is that every case of continued fever, whether occurring in medical or surgical practice, should be at the earliest practicable moment submitted to a searching bacteriological investigation, especially of the the blood. This is necessary both for purposes of diagnosis and of treatment, and especially of vaccine treatment. To wait for the advent of a swinging temperature, profuse sweating, and other signs of grave intoxication is to wait too long. In mild or severe cases of surgical fever it is not sufficient to examine by cultural methods the discharge from wounds, and to prepare vaccines from the varied flora grown, in the hope of hitting off the organisms that have entered the blood stream and are causing the fever. Nor, if fever persists, however slight in degree, is it sufficient to devote attention to the cleansing and disinfection of surface areas of sepsis. In all such cases early cultural examination of the blood should be attempted, and in many of them the results of carrying out a routine procedure of this nature will come as a revelation.

Unfortunately, however, the high bactericidal power of the blood often leads to disappointing cultural results in cases in which bacteriaemia has not yet led to the establishment of a blood-fast race. In these cases examination of the urine for evidence of its infection from the blood stream often unmasks the fever-producing organism, and in so doing provides the instrument for its destruction. In enteric fever, plague, undulant fever, and other diseases we have long recognized haemic infections of the urine with the respective organisms concerned. And, as I have recently shown, this list may be indefinitely extended to numerous morbid conditions, accompanied by fever from slight to severe. Incidentally these haemic infections of the urine in all grades of fever go far towards justifying the dogmatic statement that the essence of continued fever in the adult is the circulation in the blood of living pathogenic organisms.

Hence to bacteriological examination of the blood in continued fever should be added bacteriological examination of the urine, and experience has taught me that time so spent is well spent.

To many no doubt this appeal for routine bacteriological examination of the blood and urine in all cases of continued fever, whether mild or severe, whether occurring in medical practice or surgical, is quite superfluous. A great deal of invaluable work of the kind is admittedly being carried out in many places. On the other hand, there is unquestionably room for wide extension, if one may judge from the number of cases of continued fever in which one is asked to find the cause. On the threshhold of a war that may be greatly prolonged, it is at least our duty to see that every hospital and nursing home that is being used for military or naval purposes shall be generously equipped in laboratory installation and expert personnel. If our large metropolitan and provincial hospitals now serving the forces are already well dowered in this respect, there should be the less excuse for not meeting the legitimate demand of less favoured houses. For this purpose the fortuitous aid of neighbouring laboratories of research, where other work is being carried on, is insufficient; if hospital funds are inadequate to maintain independent, and if possible resident, bacteriological assistants, funds should be obtained by appeal. For it is only by intimate personal contact of pathologists with hospital staffs and their patients that the best results can be obtained.—I am, etc.,

London, W., Oct. 28th. EDWARD C. HORT.

SLEEPING SICKNESS.

SIR,—Your leading article, prompted by a statement from the medical men of the Livingstonia Mission, with which it appeared in a recent number of the BRITISH MEDICAL JOURNAL, is most opportune.

One is loath to send a communication to you which contains no new contribution to knowledge. However, the circumstances under which your leading article and the statement of the medical men who have practised their profession for so long in Central Africa are published, impel me to put on record once again the entire agreement of my experience of sleeping sickness with all that your editorial and the Livingstonia Mission maintain. The facts recorded there, and the deductions resulting from those facts, accord completely with the views at which those working in the Liverpool School have arrived as a result of their studies on trypanosomiasis. These

views have been amplified, completed, and confirmed abundantly by other workers.

That the measures which accurate knowledge of the disease dictates have not been enforced can only be ascribed to that slowly-acting spirit of British administration which demands most complete proof of the necessity of any measure before it is enforced, and never secures the enforcement of any measure until the demand for its enforcement assumes the proportions of a popular outcry. It is for the purpose of adding my voice to an outcry which may possibly secure reasonable action, that entire accordance with the views maintained in the editorial and in the statement of the medical men at the Livingstonia Mission is here recorded.—I am, etc.,

J. L. TODD.

Department of Parasitology, McGill University, Montreal, Oct. 22nd.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE CALENDAR FOR 1914.

"OUR world has passed away, in wantonness o'erthrown," says Kipling, but the current *Calendar* was in print before the peace, which but three months since seemed secure, had been violated. Hence it includes no record of the emergency arrangements for the examination of candidates. In the chronological register of Fellows we are glad to find that Mr. Barwell and Mr. Bryant still head the list. There are now 1,641 Fellows of the College. Only one, Mr. Arthur Barker, F.R.C.S.I., of University College Hospital, was elected *ad eundem*; 4 were made Fellows by election, 27 were elected as Members of twenty years' standing: 1, Miss Eleanor Davies-Colley, is a Fellow by examination under the Medical Act of 1876, which allows women to receive the diploma, but without conferring on them the privilege of the franchise, whilst 1,608 are Fellows by examination. The total number of Fellows has increased by 52, the total number of Members (17,161) by 35, the ratio being rather unusual. Of the suppressed diploma of Licentiates in Midwifery there remain 268 members of the profession who hold it, 19 less, we regret to say, than last year.

The licentiates in dental surgery number 2,635, which is 76 more than in July, 1913. There are 848 diplomates in public health, an increase of 62, whilst there are 17 diplomates in tropical medicine and hygiene, 4 more than last year, but only 8 are Fellows or Members of the College of Surgeons. This diploma is granted conjointly with the College of Physicians.

Mr. Victor Plarr, the librarian, reports that during 1913–14, July to June inclusive, the library was opened on 273 days, and the number of readers who signed their names was 8,804, the average being 32 daily. The gross income of the college, exclusive of the income from trust funds, amounts to £26,833, an increase of £819, whilst the expenditure in respect of revenue for the past year is £21,425, a decrease of £836 since July, 1913. Probably for the first time the year's expenditure on books has reached the figure of £1,000.

UNIVERSITY OF EDINBURGH.

AT the half-yearly meeting on October 30th of the General Council of the University of Edinburgh, under the presidency of Principal Sir William Turner, there was not much distinctively medical business transacted. It was intimated, however, that among the changes in the university staff were the appointments of Dr. John Thomson as lecturer on diseases of children, of Dr. F. D. Boyd as a senior lecturer on clinical medicine, and of Mr. James M. Graham as lecturer in surgical pathology. It was stated that the war had markedly affected both the teaching power of the university and its complement of students, for twelve members of the staff (lecturers and assistants) were serving with His Majesty's Forces, and the number of matriculated students for the academic year 1914–15 was fully 700 less than at the corresponding date last year. It might reasonably be assumed that the great majority of them were serving with the naval or military forces of the Crown. A roll of honour was being prepared. Already five members of the council had laid down their lives in the cause of their country. These were all medicals, to wit, Drs. John Crocket, H. J. Hopps, J. L. Huggan, A. E. Turnbull, and J. H. D. Watson.

On October 24th Lord Kitchener was unanimously elected Lord Rector of Edinburgh University for the period of three years. But for the war there would have been the customary contest, the Unionists and Liberals having both selected their candidates although neither of them was in the medical profession. On the outbreak of hostilities, however, the political candidates were, with their own acquiescence, withdrawn, and Lord Kitchener's election was not opposed. A telegram was received from Lord Kitchener stating that he was very grateful, and felt much honoured by his unanimous election. He assured the university that even in the press of work at the War Office he would not be unmindful of its interests.

UNIVERSITY OF ST. ANDREWS.

AT its meeting on October 24th University Court intimated its opinion that it was the duty of every able-bodied man student to join the Officers' Training Corps.

A letter was read from Professor Musgrove offering as a gift to the university his anatomical museum for use in the anatomy department at the Bute Medical Buildings, St. Andrews. The Court accepted Professor Musgrove's valuable collection with very hearty thanks, and expressed the opinion that it would be of very great service to the teaching of anatomy of St. Andrews.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved at the examinations indicated:

FIRST M.B. (B., Botany; Z., Zoology; P., Physics; C., Chemistry).—T. A. J. Aitchison (P.), J. S. Aitken (B., P.), J. L. Anderson (B., P.), T. Anderson (B., P.), J. Barlow (B., P.), B. Barrowman (B., P.), R. Bethune (B., P.), A. S. Bisset (B., Z., C.), A. Black (B., P.), D. MacC. Blair (B., P.), S. B. Borthwick (B., P., C.), D. C. Bowie (B., Z., P.), R. R. S. Bowker (B., P.), E. T. Boyle (Z., C.), A. D. Brown (B., P., C.), M. J. Cahalane (B., P.), J. P. Chisholm (B., Z., C.), M. B. Clark (C.), H. A. Cochrane (B., P., C.), A. C. Connell (B., P.), J. S. Cook (B.), G. M. Cooper (B., P.), J. L. Cowan (B., P.), E. M. E. Cumming (Z., C.), A. M. Davidson (B., P.), D. R. F. Davidson (B., P., C.), J. Donald (B., P.), J. C. Dow (B.), A. B. S. Drysdale (B., P.), W. W. Ferguson (B., P.), A. B. Ferrie, M.A. (B., P.), D. Finlayson (B., P., C.), R. A. Forsyth (B., P.), A. D. Fraser (B., P.), G. K. Fulton (P.), M. F. Gibson (B., P.), W. Gibson (B., P.), J. S. M'L. Gray (B., P.), W. Guy (P., C.), J. A. Hamilton (C.), W. Harrison (B., P.), J. G. Harrower (P., P.), A. Henderson (B., P.), J. Hewitt (B., P.), T. J. Honeyman (P.), J. Hood (B., P.), T. O. Howie (B., P.), T. Hutchison (B., P.), M. Hyman (B., P.), J. Irving (B., P.), R. P. Jack (B., P.), J. Johnston (B., P.), W. Jope (B., Z., P.), G. M'C. Kennedy (B., P.), A. A. Kirkland (B., P.), W. M. Knox (B., C.), J. C. Laurie (B., P.), R. G. Letters (B., P.), B. Levine (B., P.), A. C. Lindsay (B., P.), D. M. Lindsay (B., P.), J. Lipschitz (B., Z., P.), A. J. Macartney (Z.), S. G. M'Clelland (Z., P., C.), D. MacColl (Z., C.), A. B. Macdonald (Z.), W. D. Macfarlane (B., P.), W. M. MacFarlane (B., P.), S. W. M'Ghee (P.), R. T. M'Gibbon (B., Z., P., C.), J. A. C. MacGregor (B., P.), W. S. M'Intyre (C.), A. Mackay (B., Z.), J. W. Mackay, M.A. (C.), P. A. Mackay (B., P.), R. MacI. M'Kean (C.), A. A. M'Laughland (C.), A. H. M'Lean (B., P.), A. Maclean (B., Z., C.), D. Maclean (P., C.), N. A. MacLean (B., P.), W. S. L. M'Leish (C.), W. M'Linden (B., P.), W. B. M'Queen (B., P.), A. W. M'Rorie (B., P.), J. Matheson (P.), J. M. Melvin (P.), J. G. Miller (B., P., C.), J. H. Miller (P.), K. S. Miller (Z., P., C.), M. S. Molema (B., P.), N. M'E. Montgomery (P.), W. Moore (B., Z., P., C.), J. W. Morton (B., P.), W. Napier (B., P.), G. Nelson (B., P.), B. F. Niblock (B., P.), J. Nicol (B., P.), J. Nicolson, M.A. (B., Z., P.), J. L. Oluwole (B., P.), J. Paterson (B., P.), N. B. Peacock (P.), J. W. Peden (B., P.), B. T. Pelham (Z.), R. J. Peters (B., P.), A. G. Petrie (Z., C.), J. Pollock (B., P.), J. B. Potter (B., Z., P., C.), R. U. Qureshi (B., C.), D. Reid (B., P.), A. Riddell (C.), J. M. Ritchie (B., P.), A. Robertson (B., P.), G. M. Robertson (B.), H. A. Ross (B., P.), R. P. Smith (B., P.), P. Speed (B., Z., P., C.), T. Stark (B., P., C.), H. W. J. Steen (P.), J. Stevenson (Z., C.), R. M. Stevenson (C.), A. S. B. Stewart (B., P.), J. Stewart (B., Z., P., C.), A. S. Strachan, M.A., B.Sc. (Z.), J. T. Taylor (C.), E. J. T. Thompson (B., C.), J. Todd (P.), J. L. Turpie (B., P.), M. F. Turpie (B., P., C.), A. S. van Coller (Z., C.), J. C. Vaughan (B., P.), A. R. Waddell (P.), H. D. Wallace (B., P.), J. A. Walls (P.), H. Wands (B., P., C.), D. M. Watson (B., P., C.), J. C. Watt (B., P.), R. K. Watt (B., P.), J. T. Wilson (B., P.), J. W. Wilson (B.), G. M. Wishart (B., P.), J. S. Young (Z., C.), Helen F. Allinson (P.), Ellen D. Anderson (B., P.), Helen C. Cameron (B., P.), Mary T. L. Clark (B., P.), Margharita M. L. Couper (B., P.), Charlotte A. Douglas (B., P.), Grace A. Fleming (B., P.), Jane E. Hanson (B., P., C.), Janet W. Hepburn (B., P.), Helen Hogg (B., P.), Margaret Logan (B., P.), Elizabeth C. Loudon (B., P.), Mary J. Macdonald (B., P.), Alice M'Elwee (B., P.), Alice M'Glashan (B., P.), Evelyn C. M'D. M'Gregor (B., P.), Maud E. D. Mackinnon (B., P.), Mabel M. Maclean (B., P.), Margaret G. M'Vey (B., P., C.), Muriel M. M'Walter (B., P.), Florence F. M. Milne (B., Z., C.), Georgina Murdoch (B., P.), Kathleen Nicol (Z., C.), Elizabeth P. Y. Paterson (B., P., C.), Vida J. Perry (P.), Louise E. Pigeon (B., P.), Margaret I. Prangnell (B., Z., C.), Agnes P. Routledge (P.), Marjory N. Scanlan (B., Z., P.), Jane E. Shortt (B., P.), Margaret M. C. Steedman (B., P., C.), Dorothea H. Suttie (Z., P., C.), Lydia I. H. Torrance (Z.).

SECOND AND THIRD M.B.: (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics).—W. Adams (A., P.), R. Aitken (A., P.), G. W. Allan (A., P.), J. Ashforth (A., P.), A. B. Austin (A.), J. W. W. Baillie (A., P.), W. Baird (M.), J. E. Bannen (M.), M. N. Bhattacharjie (M.), T. Blackwood (M.), J. Bradford (A., P.), A. G. Brand (A.), J. P. Broom (M.), A. C. Brown (M.), H. D. Brown (M.), J. A. Buchanan (M.), S. E. A. Buckley (M.), R. S. Caldwell (A., P.), D. Cameron (M.), W. J. S. Cameron (A., P.), J. MacD. Clark (P., M.), D. Clyde (M.), A. F. Cook (M.), A. S. Cook (M.), W. G. Cook (M.), H. L. Coulthard (A., P.), J. S. Craig (A., P.), J. Crerar (M.), H. A. Cruickshank (A., P.), R. Cunningham (M.), G. del Pino (A., P., M.), M. Devers (A., P.), A. Dick (A., P.), S. N. Dykes (M.), W. Edgar (A.), J. P. Fleming (A., P.), T. Forrest (A., P.), W. W. Forsyth (A., P.), L. L. Fotheringham (M.), R. J. L. Fraser (A., P.), J. B. D. Galbraith (A., P.), L. M. Gemmell (A.), A. B. Gibson (A., P.), W. H. Gibson (M.), J. G. Gilmour (M.), W. H. Gordon, M.A. (A., P.), G. O. Grant (A., P.), T. Gray (M.), W. R. D. Hamilton (A., P.), D. Heard (M.), S. J. Henderson (M.), J. Hislop (A., P.), H. F. Hollis (A., P.), J. R. R. Holms (A., P.), E. P. Irving (A., P.), J. Joels (A., P.), S. Johnstone (M.), W. H. Kerr, M.A. (A., P.), F. C. Logan (M.), K. M'Alpine (A., P.), P. Macdiarmid (M.), N. Mackillop (A., P.), D. J. Mackinnon (A., P.), J. W. Maclean (M.), P. M'Luskie (A., P.), A. F. M'Millan (M.), J.

Marshall (A., P.), J. S. Martin, M.A. (A., P.), G. M. Miller (M.), A. S. Miller (A., P.), D. S. Mitchell (A., P.), J. Moffat (A.), D. J. Nicol (A., P.), W. Nicolson (A., P.), J. A. Paterson (M.), G. Pearson (A., P.), H. Robertson, M.A. (A., P.), R. Rodger (M.), J. Ll. Rowlands (A.), A. M'A. Scott (M.), H. B. Sergeant (A., P.), J. Shaw (A., P.), J. H. Shearer (A., P.), T. R. Sinclair (M.), A. W. Smith (A., P.), C. L. Somerville (A., P.), J. Steel (M.), J. Steele (M.), A. R. Steinberg (M.), P. A. Stewart (A.), H. Stuart, M.A. (A., P.), G. C. Swanson (M.), D. Taylor (A., P.), H. W. Torrance (M.), W. H. Wallace (A., P.), R. R. Waters (M.), R. S. Weir (M.), J. P. White (A., P.), R. Wiggins (A., P.), G. Young (A., P.), W. Young (A., P.), Janetta M. Alexander (A., P.), Maud C. Cairney (M.), Winifred J. Crawford (M.), Jean M. Frew (A., P.), Margaret O'R. Gallagher (A.), Jessie C. Gilchrist (M.), Margaret H. Glen (A., P.), Jean L. Hamilton (M.), Alison M. Hunter (A., P.), Grace L. Hunter (A., P.), Elizabeth C. M'Haffie, M.A. (P.), Robina S. Mackinnon (A., P.), Jessie B. Maclachlan (A., P.), Lilias Maclay (A., P.), Mary A. MacL. MacLean (M.), Margaret K. Mitchell (M.), May I. T. Reid (A., P.), Jessie N. Robertson (A., P.), Mary Scott (M.), Jane Stalker (M.), Marion Watson (A., P.), Mary MacL. Weir, M.A. (A., P.), Alison E. Wilson (M.).

3RD AND FOURTH M.B.†(P., Pathology; M., Medical Jurisprudence and Public Health).—W. D. Allan (P.), W. Baird (P.), J. E. Bannen (P.), T. Blackwood (P.), A. C. Brown (P.), H. D. Brown (P.), J. A. Buchanan (P.), S. E. A. Buckley (P.), D. Cameron (P.), D. Campbell, M.A., B.Sc. (P.), D. S. Campbell (M.), W. Campbell (P., M.), M. W. Cantor, B.Sc. (P., M.), J. Chalmers (P.), D. Clyde (P.), W. K. Connell (P.), A. F. Cook (P.), A. S. Cook (P.), W. G. Cook (P.), J. N. Cruickshank (P.), J. F. Cunningham, M.A. (M.), R. Cunningham (P.), A. Dick (M.), R. S. Dickie (P., M.), W. Donald (M.), S. N. Dykes (P.), L. L. Fotheringham (P.), M. M. Frew (P.), D. G. Gardiner (M.), R. S. Gibson, B.Sc. (M.), N. W. Gilchrist (M.), S. J. Henderson (P.), W. Y. Jamieson (P., M.), S. Johnstone (P.), G. Kirkhope (P.), J. C. Knox, B.Sc. (M.), R. Kyle (P., M.) J. A. Leiper (P.), R. Lindsay, M.A. (P.), H. L. M'Cormick (P., M.), D. K. MacDougall (P.), D. M'Farlane (M.), J. W. Macfarlane (P.), J. M. Macfie (M.), J. MacInnes (P.), J. M. MacKay (P.), K. S. Macky (P.), A. F. M'Millan (P.), D. M'Neill (P., M.), E. J. MacPhail (P.), N. Morris, B.Sc. (P., M.), A. Morton (P.), J. H. Murray (M.), W. O'Brien (P.), A. W. Panton (P.), T. S. Paterson (M.), J. H. Paul, M.A., B.Sc. (P., M.), W. J. Poole (M.), W. B. Primrose (M.), J. K. Rennie, B.Sc. (M.), J. Richardson (P.), R. Rodger (P.), G. W. Ronaldson (P.), A. F. Ross (P.), K. M'A. Ross (P.), A. M'A. Scott (P.), W. F. Shanks (M.), J. Steel (P.), J. Steele (P.), A. R. Steinberg (P.), W. M. Stewart (P.), J. Stirling, B.Sc. (M.), G. C. Swanson (P.), R. Taylor (P.), H. W. Torrance (P.), J. D. Watson (P., M.), W. J. C. Watt (P.), R. J. Wilson (P., M.), Christina B. Buchanan (P.), Maud C. Cairney (P.), Ann K. Cormack (M.), Winifred J. Crawford (P.), Jane B. Davidson (P.), Jessie C. Gilchrist (P.), Jean L. Hamilton (P.), Janet F. Henderson (M.), Helen I. W. Kerr (P.), Dorothy M'Cubbin (P., M.), Mary A. MacL. Maclean (P.), Effie C. M'Vie (P., M.), Elizabeth S. Martin (P.), Margaret K. Mitchell (P.), Jancy L. Munro (M.), Helen Y. Murdoch, M.A. (P.), Mary H. Routledge (P.), Mary Scott (P.), Mary I. Sinclair (M.), Jane Stalker (P.), Alison E. Wilson (P.), Marion B. D. Wilson (P.),

† Old or New Ordinances.

NATIONAL UNIVERSITY OF IRELAND.

THE Senate met on October 29th.

The late Sir Christopher Nixon.

The following resolution was adopted unanimously:

The Senate hereby records its deep regret at the death of the Right Hon. Sir Christopher Nixon, Bart., M.D., LL.D., who as Vice-Chancellor of the University and as its representative upon the General Medical Council and other public bodies has rendered invaluable and unfailing service to the advancement of the University since its inception; and the Senate desires to offer to Lady Nixon and the other members of her family its most sincere sympathy with them in their bereavement.

Appointments.

Sir Arthur Chance, F.R.C.S.I., has been appointed to be a member of the Senate, and Dr. Joseph F. O'Carroll a representative of the Senate on the governing body of University College, Dublin.

The following were appointed to the offices indicated:

Soaghan, P. MacEnri (John P. Henry), M.D., M.A., B.Ch., D.P.H., Professorship of Ophthalmology and Otology, University College, Galway; Miss Adeline English, M.B., Lectureship in Mental Disease, University College, Galway; Professor Brereton, Lectureship in Operative Surgery, University College, Galway; Joseph F. O'Carroll, M.D., F.R.C.P.I., Professorship in Medicine, University College, Dublin.

A Travelling Studentship Examination in Medicine (Physiology) has been awarded to Michael T. MacMahon, M.Sc., M.B., B.Ch., B.A.O., of University College, Dublin, and the Dr. Henry Hutchinson Stewart Medical Scholarship has been awarded to Patrick T. Murphy, of University College, Cork.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Thursday, October 29th, Sir Thomas Barlow, Bart., K.C.V.O., the President, being in the chair.

Admission of Members.

The following gentlemen, having passed the required examination, were admitted Members of the College:

Philip Heinrich Barr, M.B.Camb., L.R.C.P.; Vraspillai Gabriel, L.R.C.P.; Alfred Howell, M.D.Lond., L.R.C.P.; Ernest Rivaz Hunt, M.D.Camb., L.R.C.P.; Hugh Basil Greaves Newham, L.R.C.P.; James Herbert Rhodes, M.B.Lond., L.R.C.P.

Licences Granted.

Licences to practise physic were granted to sixty-seven gentlemen who had passed the requisite examinations.

Jenks Scholar.

It was reported that Mr. J. D. M. Cardell had been appointed the 22nd Jenks Scholar.

Harvey.

The gift by Sir R. Douglas Powell of a photograph of the painting by Yeames of Harvey at the battle of Edgehill, was accepted with the thanks of the College.

Venereal Diseases.

It was resolved that the President of the College should become, *ex officio*, a member of an Advisory Board to the National Council for Combating Venereal Diseases.

Sale of Narcotics.

A further report was received from the Censors Board concerning restrictions in the sale of opium and other narcotics. The Board recommended that Clause 4 of their original report, which clause was referred back to the Board at the Quarterly July College, should read as follows:

4. That with regard to prescriptions which, when fully made up, contain 1 per cent. (1 grain in 110 minims, which is approximately 4.5 grains to the fluid ounce) or more of the alkaloids in question, and in the case of every preparation intended for subcutaneous use, the doctor should state in his prescription the number of doses to be supplied. The prescription should not be dispensed more than once unless at each renewal it is fully signed and dated by a qualified medical practitioner.

The report was adopted.

Colonial, Indian, and Foreign Universities.

The Committee of Management reported that the Committee had had under consideration the existing regulation as to the admission to the final examination of students of Colonial, Indian, and foreign universities recognized by the Board. It was considered that the present requirement was a hardship. A recommendation of the Committee that Clause IV should be altered to read as follows was adopted:

IV. Members of Colonial, Indian, or foreign universities who shall have passed such an examination or examinations at their universities for the Degree of Doctor or Bachelor of Medicine or Surgery as shall comprise the subjects of the first and second examinations of the Examining Board in England, and who shall have completed the curriculum of medical study required by the regulations of the Board, will, two years after having passed such examinations, be eligible for admission to the third or final examination of the Board; any candidates so admitted to examination will be required to pay a fee of twenty guineas; and any such candidates who shall have passed the third or final examination shall, on the further payment of not less than twenty guineas, and subject to the by-laws of each college, be entitled to receive the Licence of the Royal College of Physicians of London and the Diploma of Member of the Royal College of Surgeons of England.

Prince of Wales's Fund.

On the recommendation of the Finance Committee the College resolved to contribute 200 guineas to the Prince of Wales's Fund for relief of distress caused by the war.

Committee of Management.

Dr. J. A. Ormerod was re-elected a member of the Committee of Management.

After some further formal business the President dissolved the Comitia.

CONJOINT BOARD IN SCOTLAND.

THE following have passed in the examinations indicated:

First Examination.—Mahmoud A. K. Mofreh, W. B. Lawson, A. B. MacDougall, E. E. Bronstorph, and Hassan A. Madwar, and two passed in Physics and three in Biology.

Second Examination.—J. B. Minford, N. J. Laubscher, H. Morley, R. Woodside, F. Jones, J. L. West, P. Vertannes, W. U. D. Longford, C. Pullan, G. M. S. Lindsay, and three passed in Anatomy, and five in Physiology.

Third Examination.—E. P. Dewar, G. T. Makhijani, Y. N. Kadam, C. E. Meryon, J. R. B. Robb, W. G. Bowie, M. A. White, A. E. Elliott, and three passed in Materia Medica.

Final Examination.—A. B. Hawkins, F. W. Heyworth, N. H. Brewster, W. H. O'Grady, J. R. Fleming, G. C. S. Perera, W. C. Fraser, A. E. James, L. O. Woinman, A. A. Murison, J. Martin, G. L. Pierce, W. S. O'Loughlin, Khusru R. Mehta, and four passed in Medicine, ten in Surgery, twelve in Midwifery, and eleven in Medical Jurisprudence.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the examinations indicated:

SURGERY.—*†J. A. A. Boddy, *†M. M. Burt, *†P. H. Burton, *W. Brown *C. H. Fischel, *†J. Stephenson.

MEDICINE.—†W. Brown, *H. H. Fairfax, †C. H. Fischel, *N. W. Rawlings, *†G. Robinson, *†J. Stephenson, *†W. C. S. Wood, †A. K. S. Wyborn.

FORENSIC MEDICINE.—W. Andrew, C. E. Clark, A. J. Fradersdorff, N. Hoffmeister, G. Robinson, J. Stephenson, W. C. S. Wood.

MIDWIFERY.—A. U. L. Bennett, M. M. Burt, C. S. Dodson, J. Stephenson, W. C. S. Wood.

* Section I. † Section II.

The diploma of the Society has been granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery: P. H. Burton and J. Stephenson.

The Services.

PAY AND ALLOWANCES.

WE have received inquiries and representations with regard to the pay of medical officers of the R.A.M.C.(T.), and, as far as we have been able to ascertain, the following are the facts:

It would appear that during an ordinary camp training a captain in the R.A.M.C.(T.) was entitled to:

	s.	d.	
Regimental pay	15	6	a day.
Mess allowance	4	0	,,
Field allowance	3	6	,,
Half lodging allowance	1	1½	,,
Total	£1	4	1½

Less income tax deducted from his regimental pay and half lodging allowance.

Under present conditions a captain in the R.A.M.C.(T.) is entitled to:

	s.	d.	
Regimental pay	15	6	a day.
Rations, or in lieu thereof a sum of ...	2	0	,,
Field allowance, if not provided with lodging and attendance ..! ...	3	6	,,
Total	£1	1	0

Less income tax, but *plus* 3d. which can be paid for the use of a hut or shelter for him.

The regulation with regard to field allowances (Section 15, paragraph 472) states that field allowances are "granted to officers and warrant officers in aid of the expenses caused by their being placed under canvas, or, when during mobilization, manœuvres, or military training, they are accommodated in war shelters, temporary hutments, or quarters equipped according to the scales for officers' tents in standing camps, laid down in the Equipment Regulations, Part I. The allowance is not issuable in respect of active service to staff officers in receipt of consolidated rates of pay, nor to officers paid at the same consolidated rates and under the same conditions."

The volunteer surgeon recently enlisted receives in the new army £1 4s. 6d. per diem *plus* rations and shelter and a gratuity at the end of the war.

INDIAN MEDICAL SERVICE.

A GOOD service pension of £100 per annum has been conferred upon Surgeon-General T. Grainger, C.B.; Surgeon-General G. F. A. Harris, C.S.I., V.H.S.

Medico-Legal.

KEATS *v.* BRACEY-WRIGHT AND ANOTHER.

Before Mr. Justice Bray and a Special Jury.

THE re-trial of this libel action—the jury having disagreed at the previous hearing in March last—began on October 13th, 1914, and lasted five days. The action was brought by Dr. W. C. J. Keats, medical superintendent of the Camberwell Infirmary, against Mrs. C. A. R. Bracey-Wright (also known as the Countess de Lormet) and Mr. W. H. C. Bracey-Wright, her son, to recover damages for alleged libel. The defendants pleaded that the statements complained of were true in substance and in fact, and that the opinions expressed were fair comments on matters of public interest. They also pleaded that the occasion of publication was privileged.

Mr. McCall, K.C., and Mr. A. Neilson, instructed by Messrs. Le Brasseur and Oakley for the London and Counties Medical Protection Society, Limited, appeared for the plaintiff, and Mr. Cecil Walsh, K.C., and Mr. Simey for the defendants.

The alleged libels complained of by the plaintiff were published in an election address issued by the defendants during their candidature for election to the Camberwell Board of Guardians and in a leaflet circulated by them. The allegations made against the plaintiff were that as medical superintendent of the infirmary he had been concerned in the flogging of child patients with what was described as a five-tailed lash, and that a practice of flogging convalescent children prevailed at the infirmary. The jury returned a verdict for Dr. Keats with £300 damages.

CONVICTION OF UNQUALIFIED PRACTITIONER.

ON October 28th, at the Sheffield City Police Court, Robert Reginald Stanley Renton was at the instance of the Medical Defence Union charged under Section 40 of the Medical Act, 1858, with falsely pretending that he was a physician and surgeon. According to the report in the *Sheffield Daily Telegraph*, an inquest was held on August 31st with regard to the death of a woman with whom the defendant had been living; it appeared that he had prescribed for the woman, but that there was no suspicion about the medicine ordered. In giving evidence the defendant had stated that he was an unregistered dentist. The police found on the door of the house where he resided a plate describing him as "R. Renton, B.A., M.B., L.M., physician and surgeon." Another plate on the premises bore the words "R. Renton, the Dental Surgery Branch." Further inquiries showed that the defendant had practised dentistry at Liverpool under the name of R. S. Renton, and appeared to have attended several persons in the character of medical adviser. After the inquest he joined the army, and was now a sergeant in the Bedfordshire Infantry. The defendant, who expressed his regret at what had happened, denied that he had absconded when the inquest was over, and stated that, having previously been in the army, he rejoined. The Bench imposed a fine of £20, or two months' imprisonment.

Obituary.

GEORGE RYDING MARSH, M.D.,

LATE CHAIRMAN, BRIGHTON DIVISION, BRITISH MEDICAL ASSOCIATION.

DR. GEORGE RYDING MARSH died on October 24th, at Hove, in his 57th year. He was the son of the late Dr. J. C. Lory Marsh, a well-known medical practitioner of Nottingham, and one of the founders of the Royal Sanitary Institute. An accident in boyhood resulted in tuberculous disease of the spine, and though he recovered from this illness, the history of his subsequent life was that of a successful struggle against physical weakness and indifferent health. He received his medical education at Guy's Hospital, and in spite of delicacy had a highly successful course, taking prizes in his first, second, and third years. He graduated M.B.Lond. with honours in 1881, and M.D. in 1887. On leaving Guy's he became house-surgeon to the Royal Surrey County Hospital, and subsequently to the Royal Alexandra Hospital for Children at Brighton. On resigning the latter appointment, he started in practice at Hove, where he achieved considerable reputation as a surgeon, and gained the confidence and affection of a large circle of patients. He was for twenty-three years honorary surgeon to the Brighton and Hove Dispensary, and on the opening of the Carr-Burton Hospital became a member of the visiting staff, and devoted himself with much skill and industry to the extension of the work of that institution.

He was one of the most useful and hard-working members of the Brighton Division of the British Medical Association; in 1904, the year following its formation, he became honorary secretary, an office which he held until, in 1911, he became vice-chairman, and, in 1912, chairman of the Division. The year 1912–1913 was unusually trying, for it was the chairman's duty to preside at the many important, and sometimes stormy, meetings preceding the passing into law of the Insurance Act. Besides this, the preparation for the annual meeting which was held in Brighton in 1913 threw a large amount of work and responsibility upon the shoulders of a man who was already in failing health.

It was characteristic of Ryding Marsh that, when in the early part of 1913 he became aware of symptoms pointing to a recrudescence of his old complaint, he came to the deliberate conclusion that treatment would not be likely to effect a permanent cure, and therefore decided to go on quietly with his work so long as his health enabled him to do so. To this decision he firmly adhered, visiting his patients until increasing weakness prevented him getting into his car, and even then continuing to receive patients at his house.

The last year of his life was passed resting patiently and cheerfully in bed, bearing the burden of pain and failure of strength without complaint, and never failing to take a keen interest in his profession and in the welfare of his former patients.

ALEXANDER HAY HILL McMURTRY, M.D., M.CH., R.U.I., L.M.GLASG.,

BELFAST.

IT was with great regret that the announcement of the death of Dr. McMurtry was received in Belfast; he had been in failing health for a year or so, and had been confined to bed for a few weeks with cardiac trouble before the end came on the morning of October 18th.

Dr. McMurtry was 71 years old; he was born in Ballymore, and, after an excellent schooling, entered the old

Queen's College in 1860, where he won the entrance classical scholarship; during his medical course he gained numerous prizes, and held the Malcolm Exhibition in the old Royal Hospital; in 1864 he took the degree of M.D. with second class honours, and shortly afterwards commenced private practice in Belfast, where he worked uninterruptedly.

Dr. McMurtry had a large practice; he was much beloved and respected by his patients, and trusted as few medical men are; he was cultured in the true sense of the word, well read, and a good linguist. He was an ardent tectotaler, and contributed both to the medical societies and lay press many articles, all characterized by sound common sense and scientific knowledge; the first anti-alcohol manifesto from the medical profession in the United Kingdom was issued at his suggestion almost fifty years ago, although the initiative was taken by Mr. Robert Rec, of the National Temperance League, London. Dr. McMurtry was for his whole professional life a logical, strenuous, and consistent opponent of the use of alcohol as a beverage; this steadfastness of purpose and fixity of character and resolution would alone constitute a claim to a high place in our estimation. The profession and the public want such men; some may regret that he did not strike higher in his efforts, that his ambition was not equal to his powers. Few men, however, have died so respected and so beloved.

He leaves a widow, six daughters, and one son, with whom much sympathy is felt.

J. HERBERT SIMPSON, M.D.,

CONSULTING MEDICAL OFFICER, RUGBY HOSPITAL.

On October 22nd there passed away, at Rugby, Dr. James Herbert Simpson, who was for thirty-five years one of the leading general practitioners in the Midlands. He was born in Yorkshire sixty-four years ago, and educated at St. Bartholomew's and Aberdeen University, where he graduated M.B., B.C. in 1876. In that year he settled in Rugby as partner to the late Dr. S. B. Bucknill, a name honourably associated with Rugby for many generations. Dr. Simpson graduated M.D.Aberd. in 1878 and took the diplomas of M.R.C.S. and L.S.A. in 1876.

He was a man who earned for himself, by his own personal merits and conscientious devotion to his profession, the love, respect, and esteem of a large number of people, both rich and poor, in Rugby and the immediate neighbourhood, where he built up a large practice. He was a type of the best class of general practitioner, extremely methodical in all his transactions, punctual in his work, sound in business, and thoroughly upright. He was one of the early pioneers of the St. John Ambulance Association, and his work in connexion with that society and the London and North-Western Railway (to which he was surgeon) will long be remembered.

He was also a zealous Freemason, was Past Master of the Lodge of Rectitude, No. 502, Past Grand Warden of Warwickshire, and a generous contributor to the Royal Masonic Benevolent Institution.

Four years ago his health gave way and he was reluctantly compelled to give up practice.

He is survived by one daughter and two sons, one of whom is a master at Rugby School and the other at Tonbridge School.

Dr. Herbert E. Rayner, who died after a short illness at Brighton, retired nearly two years ago from active professional work after a breakdown in health. He had so far recovered, however, that a few days before his death he had offered himself to the War Office for medical service at the front. Dr. Rayner, who was in his 50th year, was a student of the London Hospital, and took the diplomas of L.R.C.P. and M.R.C.S. in 1885 and of F.R.C.S. in 1891. He was house-physician and clinical assistant in the out-patient department of the London Hospital and afterwards surgical registrar and anaesthetist at the Hospital for Sick Children, Great Ormond Street, and clinical assistant at the Royal Ophthalmic Hospital at Moorfields. Dr. Rayner had a large practice at Camberley and took an active part in the public life of that district. For three consecutive years (1899–1902) he was chairman of the Frimley Urban District Council, and during that time was chairman of the Sanitary Committee. On the completion of his period of office he retired from the Council. He re entered it in 1905, and once more became its chairman in 1911, an office he continued to hold till he gave up practice in 1913. He was at one time medical officer and public vaccinator for the Frimley district. Dr. Rayner was one of the best all-round sportsmen in the district; he was the founder of the Camberley Hospital Football Cup Competition, and donor of the handsome "Rayner" Challenge Cup, one of the best football trophies in England. The Committee of the Cottage Hospital recognized his generosity by naming after him a bed at the institution. Dr. Rayner was also a vice-president of the Camberley and Yorktown Football Club, and the now defunct Camberley St. George's Football Club. He had himself, in his younger days, been a strenuous player, and before he took up his residence at Camberley was one of the founders of a West of England football club which has since developed into one of the leading professional clubs. He was an enthusiastic cricketer, a keen motorist, and fond of yachting. As a medical man Dr. Rayner was much beloved by his patients, and his cheerful manner always did much to brighten the sick room. He leaves a widow and family, for whom the greatest sympathy is felt in their bereavement. At the funeral, which was largely attended although it took place in a heavy downpour of rain, the district council and other local public institutions were represented.

We regret to have to record the death of Dr. Wallis, which occurred at Leiston, Suffolk, on October 27th. Edward Darby Wallis was born at Bodmin, Cornwall, in 1847, and after passing through University College took the diploma of M.R.C.S. In 1872 he went to Suffolk, where he spent the whole of his professional life. He held several public appointments, including that of medical officer of health to the Leiston Urban District Council, and was honorary surgeon to the Aldenham and Thorpe Convalescent Home. He leaves a widow and seven children, one of whom is a lieutenant in the R.A.M.C., and is now serving at the front. The funeral took place at Leiston, when there was a large and representative gathering to testify to the high esteem long enjoyed by Dr. Wallis.

Medical News.

Dr. J. G. Gordon-Munn, M.D., F.R.S.E., of Heigham Hall, Norwich, and Weybourne Court, Norfolk, has been selected as the new Lord Mayor of Norwich for the coming year. Dr. Gordon-Munn is the first medical Lord Mayor of Norwich, though Sir Peter Eade, M.D., F.R.C.P., filled the office of Mayor in 1893.

Dr. W. J. Howarth, Medical Officer of Health for the City of London, will read a paper at the meeting of the Society of Medical Officers of Health on November 13th on the marking of meat. Dr. Howarth will discuss directions in which the administrative measures with regard to the examination of meat can be improved.

The new University of Frankfort has been formally opened, notwithstanding the war. Among the appointments to the medical faculty are the following: Excellenz Paul Ehrlich to the chair of experimental therapeutics; Karl Herxheimer to that of dermato-syphilography; Ludwig Edinger to that of neurology; and Ludwig Rehn to that of clinical surgery. The total number of professors in the faculty is fifteen.

It is announced that the award of the Nobel prizes for medicine, literature, chemistry, and physics will be postponed till next year. When will the Peace Prize be awarded? It is proposed in future to make the formal distribution of the prizes every year in June instead of December 10th, the anniversary of M. Nobel's death, when the awards will merely be announced.

We have received from Mr. H. K. Lewis, of 136, Gower Street, London, a "List of Medical Journals" conveniently grouped under subjects and giving the subscription rates. It was compiled and printed before the European crisis became acute, and journals issued in enemy countries cannot at present be supplied. Though the list includes nearly 300 names, only the leading publications are included.

The work of the Dundee Medical Service, set up to take the work of practitioners on military service, during

the eight weeks to the end of the quarter, was as follows: Cases attended at home, 1,539; confinements, 60; attendances at the central consulting-rooms (daily average), 113. The number of medical hours at the consulting-rooms was 614, and the number of hours' work estimated for the visits, 1,026, giving a total of 1,640 hours. The amount distributed in payment, excluding confinements, was £408. The expenses to date amount to £54 4s. 7d. (telephones, £19 4s. 9d.; wages, etc., £24 15s.; stationery, etc., £11 4s. 10d.). About 40 per cent. of the profession are now on military service. Those who remain are each making over ten extra visits daily.

A CERTAIN number of Belgian professors and a growing number of students from Louvain, Liége, Ghent, and Brussels are now in Cambridge, and although it has proved impossible for the Louvain University to transfer its corporate and official existence to Cambridge, unofficial courses have been instituted, combining, as far as possible, systematic instruction on the lines of the Belgian Universities with the individual requirements of refugee students. In view of the appeal issued by the Belgian Government for volunteers, it has been decided, in consultation with the Belgian Government, that only such students as are physically unfit for military service or have been rejected for other reasons by the Belgian authorities, and are in possession of a certificate to that effect, can be accepted by the hospitality and academic committees.

AT the autumn meeting of the Midland and Northern Division of the Medico-Psychological Association held at Wye House, Buxton, by invitation of Dr. Graeme Dickson, on October 22nd, Dr. R. C. Stewart opened a discussion on Restraint in Mental Disease. He considered briefly mechanical restraint, the use of single rooms, the question of locked doors in asylums, and the treatment by sedatives. He was of opinion that everything that took away the feeling of restraint tended to benefit the patient. During the discussion it was generally agreed that the difficulty of finding a suitable means of restraint arose in chronic cases. The use of verandahs and sleeping out of doors for noisy patients were considered beneficial. The various forms of sedatives in use were mentioned, and special reference was made to the use of bromides.

THE Professional Classes War Relief Council has been formed to give assistance to men and women of the professional classes who have been severely embarrassed by the war. The chief forms of assistance which it has been decided to give are connected with training for productive work, education of children, and maternity aid. The council has already a maternity nursing home at 13, Prince's Gate, a beautiful house kindly lent for the purpose by Mr. J. Pierpont Morgan. The home has a voluntary medical staff of many well-known medical men and women, and a voluntary nursing staff of certificated nurses. It is hoped that in time similar homes may be established in the provinces. The council also proposes to give help by way of supplying free maternity nurses, arranging for free medical attendance, and providing maternity necessaries. The committee under which the scheme is working has Mrs. Scharlieb, M.D., as chairman, and among the members are Sir Francis Champneys and Dr. Samuel West, Treasurer of the Royal Medical Benevolent Fund.

THE Government Committee for the Relief of Distress has issued a circular to local representative committees suggesting that women members of the committee should be detailed to interview expectant and nursing mothers, and that no discrimination should be made between married and unmarried. If assistance is found to be necessary, care should be taken that the women are supplied with proper nourishment and to make certain that the women themselves benefit by it. It is suggested that local representative committees should utilize the machinery of existing organizations for the provision of meals, defraying the actual cost of meals so supplied. Where medical assistance is required the case should for this purpose be referred to the local sanitary authority which is empowered to supply such assistance. All maternity cases should be recommended to attend maternity centres when such have been established. The Central Committee on Women's Employment is arranging, as an experiment, for the training of a number of women as household helps, and a grant in aid of this scheme has been made from the Queen's Fund. It is suggested that local representative committees should consider the advisability of organizing such a scheme in their districts. The secretary of the Government Committee is Mr. A. V. Symonds, Local Government Board, Whitehall, S.W. The Subcommittee for London has issued a model scheme for administering relief adopted by subcommittees in the metropolitan area.

Letters, Notes, and Answers.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Attology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

J. (Manchester) asks for suggestions for the treatment of syringomyelia, with great pain in arms and feet and progressive inability in walking.

M.B. asks for information as to non-operative treatment of a case of enlarged non-malignant prostate in a man, aged 60. Can *x* rays or high-frequency currents, he asks, be trusted, and are they advisable? Is such treatment painful and prolonged?

M.B. would like information on treatment (medicinal and dietetic) of a case of periodic attacks of perihepatitis in a professional man, aged 37, who is an abstainer, has never been abroad, and has never had syphilis. The usual remedies only give temporary relief. There is pain over the region of the liver, worse at night; he has heavy breath during attacks, and is losing flesh; he suffers also from dilated stomach.

ANSWERS.

BREAD FOR DIABETICS.

M.—Brusson Jeune diabetic bread must not be regarded as a remedy for diabetes, or as possessed of any therapeutic properties that would be likely to make its use effect a reduction in the quantity of sugar. Its advantage is that each roll contains a known quantity of starch equal to about 500 grains, so that if a patient is being allowed a diet containing a definite quantity of carbohydrate food as is the modern method of dieting, these rolls are convenient; they are well made and are palatable. For example, a patient may be allowed 1,500 grains of carbohydrate daily, which may be obtained by allowing him—

1 Brusson Jeune roll ...	...	500 grains
1 pint of milk ...	...	400 ,,
½ lb. of potatoes ...	...	400 ,,

In addition he may get a little carbohydrate from green vegetables, or perhaps from such fruit as a baked apple, which would make it up to about 1,500 grains. The minor fluctuations that occur in the amount of sugar excreted by a diabetic often depend upon other conditions—apart from diet. The Brusson Jeune rolls now being made in England are practically identical with those formerly made in France, but they can only be recommended if their use is strictly limited as above described to the amount of carbohydrate which it is desired to allow in any given case.

LETTERS, NOTES, ETC.

THE PRACTITIONER AND THE NEW "PHARMACOPOEIA."

DR. WM. V. FURLONG (Dublin) writes: Dr. McWalter has quite rightly drawn attention to the interference with the present strengths of some of the most important tinctures in the present *Pharmacopoeia*, and no doubt any such interference will be very serious, both to the prescriber and his patients. If there were any object to be gained by this alteration one would quite understand it, but the same thing happened in the *Pharmacopoeia* of 1898, where the strengths were altered from the former edition, and few pharmacists would refer to the date of their prescriptions to modify the tinctures. Accordingly it will be uncertain whether the patient gets the dose intended or not, and in this state of uncertainty many may prefer to order definite quantities of the drug itself, in tablet form, fearing to trust the uncertainty of changing *Pharmacopoeias*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE BORDERLAND OF DISEASE.

BY

GUTHRIE RANKIN, M.D., F.R.C.P.,

PHYSICIAN TO THE DREADNOUGHT AND ROYAL WATERLOO HOSPITALS.

THE cure of disease, as it presents itself to us in hospital practice, is, for the most part, concerned either with acute infective or inflammatory processes, or with established organic changes which may admit of compensatory improvement or arrest of progression, but often connote either a hopeless prognosis or a lame and partial recovery. The ordinary hospital patient, in fact, only seeks admission when driven to it by one of two sets of circumstances—an illness of acute onset which alarms him from the outset, or a chronic disturbance of health, which patching-up processes at home, often over a considerable length of time, have failed to relieve. It thus comes about that in the daily routine of ward work we see very few patients, other than those suffering from acute disorders, who are not victims of the end-products of disease. They become inmates of a hospital, in many instances, when the most hopeful opportunities for arresting or curing the malady from which they suffer are past and gone. Unwillingness to give up their work or their domestic duties; dislike of discipline and hospital routine; and a careless indifference to symptoms which, though inconvenient and long-lasting, do not entirely incapacitate them, make the large bulk of our working-class population continue to depend upon a bottle of medicine or a box of pills until sheer inability to get about compels them at last to seek shelter and rest in a hospital or infirmary. Among the leisured and wealthy classes who, by paying the requisite fee, can command professional service at any time, and in that large section of the population whose members are able nowadays, under the conditions of the recent Insurance Act, to summon the aid of the panel doctor on any excuse, however trivial, if it interferes with the comfort and convenience of everyday life, ample opportunity is offered for the investigation of disturbed health processes in their early manifestations. In a vast proportion of patients belonging to these classes, however, the minor ailments are, in such large measure, either unimportant or imaginary that they fail to arrest attention, and are apt to be dealt with perfunctorily and without any clear-sighted intuition as to their bearing upon hereditary predisposition or prospective possibility. This casual attention to minor ailments is explained and to some extent condoned by the experience of every panel or club doctor that capitation payments on insurance principles mean the creation of a desire on the part of the contributors to get something back for their money, and consequently an endless appeal, not so much for advice and guidance as for a tangible return for their outlays in the form of medicine, pills, liniments, and what-not. The easiest plan of alleviation, and that which gives least trouble and at the same time satisfies the patient, is an empiric prescription or a bottle from a stock mixture, accompanied by the confident assurance that the disability is a passing one and of no importance.

It is true that our knowledge of functional disturbance is still primitive, and that its more thorough investigation is seriously handicapped by the large number of subjective ailments which apparently have no appreciable organic or functional change to account for them, but if the class of patient who comes only to secure his "pound of flesh" be eliminated, is it not possible that too little heed is given in many instances to mental and emotional irregularities which, if discovered, would be illuminating and explanatory? Is it not nowadays more necessary than ever before that the functional and neurotic departures from health should be dealt with systematically, and that closer scrutiny and more detailed investigation, either in the hospital or in the patient's home, should be given to all obscure and rebellious ailments which do not yield, within reasonable time, to simple methods of treatment? It is obvious that there must be a cause for every discomfort that drives an ordinary and honest person to consult a doctor or to consent to a course of treatment. Something in that individual's state of health has become disarranged so that the normal balance, upon which perfect comfort as regards health depends, is disturbed. It matters not whether we are able to locate the origin of the trouble or not; it exists, and it is the first duty of the medical practitioner to endeavour to restore such economic stability as will enable the client who consults him to go back to the affairs of everyday life freed from any signs or symptoms that remind him he is mortal, and reasonably assured that, with proper precautions, recurrence may be avoided. Just as in questions of public health it is becoming more fully recognized that preventive measures are more valuable and economical than curative processes, so must it ultimately emerge in the case of the individual that he will come to concern himself far more with keeping than, as he now does, with getting well. This trend of events is already foreshadowed in the promulgation of a science of eugenics, which, however much it may at the moment suffer from the impracticability that in many directions is the price of over-enthusiasm, is yet a movement calculated to frustrate the invasion of many diseases by providing the individual with a soil on which morbific germs will find it difficult to thrive, or even to exist. The durability of the human mechanism must have a limit, but there is no reason why the average length of life should not be materially increased if the contributory circumstances of disease were better understood and combated. The exceptional men and women who live to reach a century or more of existence prove that the capacity of the human body for carrying on its functions over such a length of years is a determinable fact. It requires only a sufficiently wise insight into questions of incidence, and a more rigidly scientific control of all the circumstances inimical to perfect health which advancing civilization, increasing luxury, and restless ambition bring in their train, to make a century of life the rule rather than the exception of human existence.

Probably one of the first directions in which a drastic change is necessary before such a desirable amelioration in the conditions and duration of the individual life can be achieved is a revised system of tuition for medical students. As educational methods are at present arranged, the only practical knowledge of disease which the undergraduate meets with and the only clinical evidence which is brought before him of ill-health is the material chosen from the wards of his hospital, or from its *post-mortem* rooms and pathological museums, to illustrate the ravages of which disease is capable when it has become a firmly established condition in the life, or a demonstrable cause of the death, of the patient chosen for illustration. Structural changes in any organ which admit of physical signs to verify the text-book description, or some unusual variety of disease which has a sensational interest because of its rarity are eagerly seized upon by most clinical teachers as the texts from which their educational sermons are preached. But necessary and valuable though all such instruction is, it only illustrates, after all, the damage which disease inflicts—a damage which, in many instances, is beyond repair, and at best is typical of an end-process that has scarred the patient and left him a less perfect machine than it found him. Of the conditions which preceded his illness, the circumstances upon which probably the first departure from normal health depended, the proclivities to disease to which his inheritance and upbringing exposed him, and the intimate habits of his life which brought him within the danger zone, the student learns little or nothing. In the acute infections, which form a very small item in his hospital experience, he may see a case through all its stages and witness either a fatal issue or a complete recovery. In the event of recovery, what does he know, or what is he taught, of the future risks that such a patient ought to be warned against? If death ensues he may have demonstrated to him in the *post-mortem* room the havoc wrought by this particular disease, and this is knowledge which is all-essential for his future guidance; but if the illness ends in recovery his opportunities for additional experience cease with the discharge of the patient from hospital. He has watched the man through an acute illness, and has seen him sent home with the satisfactory assurance, duly recorded for statistical purposes on his history sheet, that he is "cured" or "improved," but his information ends there, whereas for future usefulness it is just where it ought to begin. Is the patient who is discharged after pneumonia as "cured" really as good as he was before, or has

his illness paved the way for a succession of after-effects which render him no longer a first-class life? Is it quite certain that the case of enteric fever, who was labelled "cured" when he left the hospital, does not subsequently develop evidences of imperfect metabolism, or of biliary disturbances to which he was formerly a stranger, or that he does not remain an unconscious carrier of his ailment to those with whom he is associated in domestic or civil life? What guarantee is there that the child "cured" of chorea will not have a recurrent attack within six months, or slowly develop an insidious mitral disorder that will ultimately unfit her for active work and usefulness? Many similar illustrations might be quoted, but these are sufficiently graphic to fortify my contention that the education at present offered in our hospitals is faulty and in want of serious revision. Attendance in the out-patient room where minor ailments are the rule is, I am fully aware, a compulsory part of the curriculum, but every doctor need only appeal to his personal recollections to realize how little attention is given to the disorders which mostly present themselves there for treatment. Who of us ever bothered over the examples of indigestion, chronic rheumatism, simple cold, mild tonsillitis, constipation, diarrhoea, or the hundred and one other trivialities which constitute the bulk of the practice in the out-patient room or dispensary? They were all too commonplace and insignificant to be worth either time or attention. What drew the student crowd was a major operation by a chief who had a way all his own of carrying it out; or, on the medical side, some extremely rare case which it had required all the clinical ingenuity of a distinguished professor to diagnose and all his dialectic skill to demonstrate.

But if these imperfections of tuition during the undergraduate career of future members of our profession constitute a flaw which prevents the raw material being worked up to something more near its possibility of perfection before it is stamped with a seal of competency and launched forth to cure the ills and prevent the woes of humanity, what is to be said for the few who aspire to occupy positions in the higher ranks of professional service? So far as the young surgeon is concerned, the present system of advancement may have something to commend it because his hospital affords him the necessary opportunities for the practice of his handicraft and the acquisition of manipulative dexterity. But what about the young physician? The present process by which he aspires in time to become a consultant is one which binds him hard and fast to the practice of his hospital, and to it alone. In the course of many years he plods through the various steps of progression from house-physician to a place on the medical staff. His upbringing has been such as to debar him from any familiarity with the minor ailments of the average work-aday life or the management of the sick in their own homes, and has therefore afforded him no opportunity for intimate acquaintance with the preliminaries of disease or with the difficulties of its guidance and control outside of a hospital. He has, in short, acquired no knowledge of general practice, and yet it is from that source of revenue he hopes to draw his income. The old-fashioned apprenticeship system had its faults, but something like it will require to be re-established if the public is to retain the confidence it ought to have in those from whom it seeks a confirmatory—and presumably an experienced—opinion.

For any man who desires to be an accomplished exponent of the art of medicine it is from these minor ailments that he ought to learn his business. They belong to what I have ventured to describe as the borderland of disease, and it is in this area of petty foes that success is to be sought if a general invasion or a territorial conquest is to be avoided.

A homely, everyday illustration presents itself in the case of the infant whose fretfulness, sleeplessness, and general malnutrition prompt its mother early to seek medical advice. If the sign-posts are intelligently read, a skilful adjustment of the child's diet may preserve it from rickets with all its subsequent penalties and deformities; or from convulsions with their dreaded sequelae; or from marasmus with its fatal possibilities.

To all who have reached the goal-posts of experience and are able to estimate retrospectively the value of clinical observation, it must be a matter of genuine regret that we have so often failed to estimate at its true value the "writing on the wall" which has frequently been, in the light of subsequent developments, the earliest evidence that the Angel of Death had entered upon his campaign of relentless activity and instituted his earliest insidious attacks upon the ramparts of health. At the moment we did not appreciate the full significance of the small disabilities which seemed to be mere ripples on the surface of the placid stream of unbroken and reliable health, but as the months and years have passed on evidence has accumulated and compelled us to recognize that we have confused the "post" with the "propter" or alternatively the "propter" with the "post," and have failed to grasp the true inner significance of these early phenomena, whose real meaning cannot be mistaken when illuminated by the fuller evidence of pathological tissue change. The following examples, taken at random from my own borderland experience, will recall to others many similar clinical memories.

A lady of 48 years of age, who had enjoyed a life of unbroken health, came to see me many years ago complaining of recurring attacks of tightness in her chest and oppression of breathing, especially after exertion. She was the mother of three children and, in addition to her domestic duties, had always taken an active and leading part in the social life of her day. She was energetic, restless, and distinctively neurasthenic. She had no evidence of organic disease, but her pulse was always one of moderately plus tension, and though her heart was normal in size and its valves perfectly competent, there was a distinctive accentuation of the second aortic sound. When she reached the menopause she suffered much from flushings and other evidences of vasomotor instability, her neurasthenic tendencies became more pronounced, and the attacks of chest oppression were more frequent and somewhat more severe. They never caused her serious alarm, and the firm opinion of the many physicians she consulted was that her recurring discomfort was pseudo-anginal in type, dependent upon an unstable nervous system temporarily aggravated by her climacteric and free from any serious risk to life. One afternoon while walking leisurely in the park she suddenly experienced a more than usually severe attack similar to many she had previously gone through. She went home by hansom, and before reaching her house was comparatively comfortable, though not completely free from pain. She ate some luncheon and then retired to her room to rest, having in the meantime telephoned to ask me to look in upon her during the afternoon. When I arrived I found her lying on her bed partially undressed, but complaining of nothing worse than a continuing slight sensation of tightness in her chest, which made her glad to have her corsets undone for greater freedom in breathing. Her pulse was full, regular, and numbered 64. On auscultation, the only physical fact of consequence was the accentuated second aortic sound, which seemed no different from what it had been on many previous occasions when her chest had been examined. As I was leaving her room, she suddenly exclaimed, "The pain is coming again," and by the time I reached her bedside she was cyanosed, and within two or three minutes she was dead. Permission was given for a partial *post-mortem* examination, when it was found that she had a congenital narrowing of the right coronary artery, with early sclerotic changes in the aortic arch as well as in both coronary arteries and in the wall of the left ventricle. The circumstances of her health-history justified the confident opinions that had been given during life, and no known methods of investigation could have discovered the congenital fault from which she suffered, but the subjective manifestations meant, in her case, no mere functional disturbance, but a veritable organic lesion undeclared by physical signs. Though the borderland could not be explored by present methods of investigation so as to reveal the true meaning of her symptoms, the lesson of such an experience must surely be a warning against over-confidence in the generally accepted unimportance of what is described as false angina.

Another class of patient whose broken health declares itself through the circulatory system, and who often comes to us for help when his symptoms are still confined to the borderland country, is a familiar visitor to all our

consulting-rooms. He is usually a man of gouty habit of body, who has reached his fifth decade along the roadway of a strenuous, ambitious life, who has "burned the candle at both ends" for many years in a daily round of ceaseless endeavour to reach the top of his tree both professionally and socially. He has worked hard day in and day out, and has found his relaxation in active devotion to sports and convivialities. He has paid large tribute to Mammon, and has also worshipped at the shrines of Venus and Bacchus. He has been what is called a successful man of the world, and has eventually reached that stage in his life-journey when he must reckon with waning energies and declining powers of recuperation. His health record has been one of such unbroken success that he has had no personal experience of the "ills to which flesh is heir" and has probably never consulted a doctor. But inexorable Fate at length finds him out and ominous headaches, palpitations, shortness of breath on exertion, and an unaccountable sense of weariedness and inertia drive him to seek advice. The following is a typical example of this oft-repeated record:

A vigorous, enterprising, gouty type of man who had lived every hour of his life without having been ill, save once in his 30th year when he suffered from pneumonia, began to find when he was 56 years of age that he occasionally rose with a slight headache, which disappeared after breakfast; that he sometimes waked about 3 o'clock in the morning with an unpleasant sense of abdominal distension and accompanying palpitation; that the usual exercise to which he was accustomed produced unwonted fatigue, and that sudden effort gave rise to slight dyspnœa and a passing unpleasant sensation of vertigo; that he was compelled to get up once or twice every night to pass water, and that he was developing an impatience of temper to which in his earlier years he had been a complete stranger. None of these ominous warnings gave him the least alarm, and he brushed aside the repeated suggestions offered by his wife that he should see a doctor. He attributed all his discomforts to his liver—the usual *bête noire* of every variety of physical malaise—and endeavoured to correct them by a blue pill followed by a morning saline draught sufficient to set up a temporary diarrhœa. In passing it may be asked, Why does humanity pin its faith so implicitly to aperient medication? No matter what the disability may be, nine people out of ten endeavour to correct it by a dose taken at their own hand, and in most instances apportion the value of their self-chosen remedy to the violence with which it acts. The gentleman whose case I am now relating rapidly became a slave to his favourite pill, and lulled any suspicions he may have had about his health into a sense of security by periodically providing for a drastic clearing out of his bowel, without any attempt to modify his ordinary habits of life. For a time his plan of self-medication seemed to answer, but ultimately, when he was 58 years of age, he began to realize that his pill was losing its charm, and that his troubles were gradually becoming more pronounced and a source of increasing annoyance. Very much against his own inclination he was then persuaded to seek advice, and here is a short account of his condition when he presented himself for investigation: "A stout, florid man, of 58 years of age, prematurely grey, and to appearance older than his years; obviously hampered in his breathing by even slight exertion, with morning cough, hawking, headache, and nausea; troubled with frequency of micturition, especially at night; and disturbed by increasing imperfections in his digestion and a constant sense of languor and weariedness, for which he could in no way account. On examination his liver was found to be enlarged and tender; his heart was hypertrophied, sufficiently to displace a thrusting apex-beat outside the nipple line, and on auscultation revealed a short systolic murmur in the aortic region with a loudly accentuated second sound, and an occasional dropped beat; his arteries were thickened and tortuous, and the sphygmomanometer recorded a tension of 180 mm. of mercury; his urine was pale in colour, with a density of 1026, and contained a faint haze of albumin, together with sugar to the extent of 1.75 per cent.; his knee-jerks, though present, were feeble, and a fine tremor could be detected in his muscles when they were put on the strain." Some weeks after this examination the patient began to suffer from mild attacks of cardiac asthma, accompanied subsequently by a passing sense of constriction in his chest. Ultimately, after a long day of unwise exertion, followed by a public dinner at which he made a speech, he retired to bed completely tired out, woke from his sleep about 2 in the morning with a severe headache and feeling of sickness, which terminated in an apoplectic seizure. From this he partially recovered, but it proved the prelude to another of greater severity some weeks later, to which he succumbed. Here was a clear history of at least two years, during which invaluable borderland symptoms were allowed to pass unheeded and the golden opportunity for staving off terminal disaster irrevocably lost.

In the pulmonary system cases occur constantly in which misinterpretation of, or neglect to search for, the explanation of early and often unobtrusive signs allows the enemy to gain full possession, whereas he might have been kept at bay or defeated if he had been resolutely opposed while he was still merely a borderland foe. Here is a graphic case that came under my own investigation only a few months ago. A man of 43 years of age who occupied an important position in one of our great public services, had been troubled with a slight but persistent cough for six months. He saw a doctor from time to time and complained of the annoyance which this cough caused him. Knowing that he smoked a great deal and was dyspeptic, the doctor regarded the cough as unimportant and assured him it was entirely due to tobacco and an inactive liver. Despite this assurance, however, the cough continued with increasing persistence, and the sufferer became alarmed when he found that he was unable to sleep at night on account of it, was gradually losing flesh, and beyond all was so tired out from his day's duty that, as he expressed it, he felt every evening that he was completely "played out." This was the story with which he came to me and it was one which at once aroused suspicions. On examination there was no evidence of disease in his heart, nervous system, or abdominal viscera. His tongue was coated and his pharynx granular, both conditions doubtless due in great measure to his tobacco. When his lungs were examined, there were very few physical signs, but the left chest, when seen in profile, expanded less freely than the right; on gentle percussion the note on that side was correspondingly flat, and the respiratory murmur was wavy and bronchial in quality, especially over the second and third interspaces close to the sternal border. Behind there was impairment of the breath sounds over the supraspinous fossa, and after coughing there came a suspicion of one or two small moist râles. Throughout the lower lobe an occasional creaky râle could be heard, but there was free air entry from apex to base, and no suspicion of dullness anywhere. The right lung was without physical signs except in front, where, from the clavicle to the level of the third rib, the breathing was harsh, with the expiratory part of the murmur ominously prolonged. These physical signs, though indeterminate, were, in the light of the accompanying symptoms, disturbing, and the patient was advised to have a skiagram of his chest taken, and also to have his sputum examined bacteriologically. The skiagram showed a mottled shadowing in both upper lobes, much more marked on the left side than on the right, with a deeper density of shadow, and with long streaks radiating downwards throughout the whole upper lobe of the lung. The sputum was found to contain tubercle bacilli in large numbers, and at a second examination, four days after the first, the suspicious sounds in the supraspinous fossa had become so pronounced as to leave no doubt as to their true nature. The patient at once gave up his work and went into a sanatorium, where he is now undergoing the usual course of treatment. This is a case which illustrates how much misled we may be if, in early cases of phthisis, we trust to the evidence of subjective symptoms or of physical signs alone. *X*-ray examination helps the diagnosis in many obscure cases, and ought never to be omitted when the circumstances are suspicious. In this instance the evidence of the sputum was all that was necessary to clinch the diagnosis, but there are lots of cases in which, if the stage be sufficiently early, there may be no sputum, or where such as there is contains no tuberculous organisms. And it is in such circumstances that treatment offers the best chances of success, so that again we have, from an example of this kind, evidence of the superlative value of

borderland manifestations. But another lesson is to be derived from this case: the borderland symptoms were referred to a doctor, who was consulted again and again, but who jumped at conclusions that because of the patient's habits he had contracted a cough which he said was "a reflex from his liver." He omitted to auscultate his chest, to ask to see the sputum, or to inquire into the progress of events so far as they concerned the general nutrition of the sick man. More mistakes, as we all know, are made from lack of painstaking than from want of knowledge, and this case is a regrettable example of mischief that might have been curtailed by being earlier discovered had this scrap of common knowledge been borne in mind.

(To be continued.)

OUR PRESENT KNOWLEDGE OF THE THYROID GLAND;

*WITH A PRELIMINARY REPORT ON A CASE OF THYROID GRAFTING.**

By MARCUS MAMOURIAN, F.R.C.S.E.,

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THE work that has been done on the thyroid gland within recent years has acquired enormous dimensions, but, remarkably enough, the clinical, operative, and pathological observations and physiological investigations constitute a perfectly congruous study of wide practical applicability and interest which concerns almost every branch of medical science.

In a comprehensive survey of this subject it is of advantage to refer, first of all, to a few developmental points.

1. *Development.*

The thyroid gland is said to have a double origin. The main portion arises from the base of the tongue and grows downwards into the neck, where it bifurcates. This pharyngeal bud or projection is, to begin with, a tube—which suggests the probability of the secretion being poured into the mouth in antenatal life—and is known as the thyroglossal duct. Out of the bifurcated end are formed the isthmus and the larger portions of the lobes, the lesser segments of which were thought to originate from the fourth branchial arches, but this view of an "epiblastic contribution" is not now generally accepted. In course of time the hyoid bone is developed across the duct, which thus becomes divided into a lingual and a thyroid section and ultimately obliterated, the meatus of the lingual portion remaining as the familiar foramen caecum, and the thyroid part occasionally surviving as the so-called pyramidal lobe. In some instances a mass or masses of thyroid substance fail to coalesce with the main gland, and are known as "accessory thyroids." Our study of the development of the thyroid not only throws light upon the anatomical peculiarities already indicated, but it also explains certain pathological conditions which are met with in the neck, such as the vascular tumour which grows at the base of the tongue (lingual thyroid) and the cysts in the middle line of the neck, both being thyroglossal in origin, and which are liable to be mistaken for the cystic enlargements of the hyoid bursae and dermoids, but the latter are rarely situated mesially, as they are attached, as a rule, to the great cornu of the hyoid, the styloid, or the mastoid processes.

2. *Anatomy.*

The important fact to bear in mind is that the gland is tied down to the trachea by cervical fascia (the surgical capsule); hence the liability of the windpipe to compressional changes and the diagnostic importance of the act of swallowing. With the exception of giant goitres, which, owing to their size, impede tracheal movements, fixation here, as in the breast, is indicative of malignancy, and more definitely so if there be aphonia. The inferior thyroid arteries are of primary surgical importance owing to their intimate relationship with the recurrent laryngeal nerves, which are liable to be torn or included in the ligatures for these vessels.

Physiology.

The physiology of the thyroid gland is a chapter of absorbing interest. It presents for consideration functions of the most intricate order by means of an internal secretion, which has eluded the efforts of many investigators to analyse or identify it definitely. We are all familiar with the microscopical appearances of a section of the gland—the spheroid vesicles lined with columnar epithelium and filled with colloid material. A noteworthy feature is that, with the exception of the colloid substance, the gland shows no other sign of secretory activity, and no secretion or its active ingredients have been isolated or their presence proved in the veins or the efferent lymphatics of the gland. For all that, there can be no doubt of the great rôle that the thyroid plays in animal economy, and Dreschel's opinion to the effect "that it secretes a complex material which subserves more than one essential function" is doubtless correct and conforms to the present conception of glandular secretions in general, which are looked upon as influencing metabolism by acting as excitants or stimuli (hormones) to some or as agents of control or inhibition to other organs. It is now conclusively proved that the thyroid has a profound influence on the metabolism of growth, specially with regard to calcium and nervous tissues; that it affects sexual functions, as evidenced by its increased activity during menstruation, pregnancy, and lactation and the retrogressive changes observed in the genitalia in experimental thyroid inefficiency; that it is concerned in the glycogenic work of the liver by its inhibitory action upon the pancreas, the pancreatic hormone being the principal stimulus to the sugar-producing cells of the liver; further, it influences the circulation by virtue of its vaso-dilator property, and the fact that the gland receives part of its blood supply from two cerebral vessels (the vertebrals) points to the probability of its having a bearing on intracranial blood pressure. There is also what Gley terms its neurochemical relationship with the other ductless glands, the parathyroids, the pituitary, the suprarenals, the ovaries, and the thymus, which is pretty constantly in a condition of hyperplasia in cases of Graves's disease.

Such substances as have been chemically obtained have not shown the potency of the gland extract, and of which may be mentioned Bubnow's thyro-protein, which acts in the manner of an enzyme; Fraenkel's thyro-antitoxin—a significant term suggestive of the view, now held by many workers, that the thyroid secretion possesses the property of neutralizing toxins, and that in Graves's disease this defensive element is absent or impaired; Roos and Bauman's thyro-iodine, which also contains a trace of phosphorus. In Hutchinson's opinion the iodine and phosphorus containing substance is the active one.

3. *Pharmacology and Therapeutics of the Gland Extract.*

Allusion has already been made to the vaso-dilator effect of the gland's secretion. Accordingly, the extract lowers the blood pressure. It produces tachycardia, diuresis, and its prolonged administration brings on glycosuria. It causes a mononuclear leucocytosis (a condition present in Graves's disease, and which becomes reduced after the ligation of the vessels or hemisection of the gland). No true exophthalmos has ever been produced.

Thyroid medication may be said to occupy the foremost place in organotherapy. The brilliant results obtained by the exhibition of this drug in myxoedema are well known. In some rare instances, however, it fails to act, and then the question of other measures arises. In this connexion the following notes on a case of congenital myxoedema may be of interest: "E. H., 4 years of age, a typical cretin (Fig. 1), was brought to the Ashton Infirmary early in 1907. For about three years he was treated with thyroid extract without intermission. He came under my care in January, 1910, and I continued the treatment for over six months, prescribing 20 grains of the dry extract per day. Neither his physical nor mental condition underwent any appreciable change. I then decided to try grafting. I had a sheep killed in hospital while the patient was being anaesthetized. I removed the thyroid, placed it in hot saline, and after incising it in several places planted it into the child's omentum, which I scarified with a needle.

* Delivered to the Twenty Club, March, 1914.

Now this case has made wonderful headway, as shown in the photograph (Fig. 2) recently taken (four years after operation). The boy has entirely lost his repulsive countenance, and looks pleasant and intelligent. He can now read and write, tell the time, and recognize coinage. I have had excellent reports of him from his teacher. He has grown to the extent of 10 inches in four years. Since the operation he has very occasionally had a 5-grain tablet owing to a stutter which he develops at times, and which, according to the observation of the boy's mother, completely disappears when a small dose of the extract is given. Thyroid grafting has been carried out by many surgeons, notably by Bircher, Horsley, Payer, the Mayos, and others, the favourite sites being the subcutaneous tissue, the spleen, and recently Kocher has advocated the medullary cavity of the tibia. No one, however, so far as I know, has hitherto utilized the omentum, which by virtue of its vascularity strikes me as eminently suited for all kinds of grafts, be they thyroid or ovarian.



Fig. 1.

In parenchymatous goitres, especially those associated with myxoedema, there is no better treatment than thyroid extract. No case should be submitted to operation without a trial of this remedy in preference to iodine and iodides, which bring about local adhesions and render the work of the surgeon more difficult. Thyroid extract is a potent remedy in cases of nocturnal incontinence in children, in obesity; but in the latter condition its use is not free from risk, as, in addition to its depressing effects upon the circulation, it may cause wastage of albuminous substances. It has been recommended in the treatment of rheumatoid arthritis, spasmodic torticollis, and adenoids. It has been used successfully in recurrent mammary cancer. Could it be, one is tempted to ask, by inducing over-production of pancreatic enzymes which Beard regards as the only scientific cure of malignant disease? I am convinced that in many cases of cancer large doses of thyroid have an inhibitory influence upon the growth. The extract has a field of usefulness in cardio-renal conditions with high arterial tension, especially when the nitrite group of drugs has proved of no avail. It has been used in dermatology in conditions characterized by keratosis and in post-operative tetany (but the parathyroid extract is to be preferred). It is one of the most useful drugs in gynaecological conditions, notably menstrual derangements, and as a preventive of an early menopause. Its employment in Graves's disease has proved worse than useless.



Fig. 3.

4. *Pathology and Treatment.*

Myxoedema.—Reference has already been made to this condition, which results from congenital absence, atrophy or parenchymatous degeneration of the gland. Three types are recognized—(*a*) the infantile, with its interesting geographical distribution, (*b*) the adult (Gull's disease), and (*c*) the post-operative. There is no difficulty, as a rule, in recognizing a typical cretin with the stunted body, bloated face, flat nose, puffy eyelids, the scanty hair, and the striking mental sluggishness. In Gull's disease the changes are more or less similar, but the localized distribution of the oedema, as in the hands, the neck, etc., might be mistaken for diffuse lipomatosis. It may be pointed out that the tumefaction of the subcutaneous tissue is not a true oedema but a hyperplasia of connective tissue rich in mucin and therefore embryonic in type.



Fig. 2.

Thyroiditis.—The thyroid is seldom attacked by inflammatory conditions, but may become secondarily infected in the course of certain fevers, specially in pneumonia and typhoid.

Malignant Disease (rarely met with).—The gland may be the seat of either carcinoma or sarcoma. Sometimes the metastases of definite thyroid gland cancers consist of normal thyroid tissue by way of atavism (De Quervain). The metastatic growths show a selective preference for the osseous system.

Goitre.—This term is applied generally to enlarged thyroids, but enlargement may be brought about by a variety of structural changes; thus we have the parenchymatous (cystic or colloid), the fibrous adenomatous, and the vascular—terms which are descriptions in themselves. There is no correlation between the dimensions that the gland may attain and the constitutional effects produced. Thus, we may have goitre and myxoedema, goitre and Graves's disease, and Graves's disease or myxoedema without goitre. Puzzling as these differences may appear, they are easily understood by the aid of the microscope, and the work of Wilson and McArty of the Mayo clinic has helped in explaining these seeming anomalies of thyroid pathology. As a rule each lobe is visibly hypertrophied. Sometimes the isthmus is the prominent part. One is liable to be misled however, by retrotracheal, retroclavicular and retrosternal enlargements; the latter have been mistaken for mediastinal tumours. Osler and Packard have reported a case of a cystic accessory thyroid filling the entire right pleura. Pressure effects are not always dependent upon size. The firm fibrous goitre may reduce the tracheal lumen to a mere chink. In cases of intractable asthma or paroxysmal dyspnoea it is worth while to bear this in mind.

The sudden development of a thyroid tumour points to haemorrhage in the gland substance. A parenchymatous

goitre may acquire enormous dimensions which may produce marked congestion of the veins of the face, chest and upper extremities, and which may lead to actual thrombosis. If a goitre is producing respiratory embarrassment, the sooner operation is undertaken the better.

Graves's Disease.—The cardinal signs of exophthalmos, tachycardia, and tremor make the diagnosis of this condition easy. The ocular signs are well known. The etiology of the disease is obscure. The main issues are (*a*) that it is a neurosis, (*b*) that it is the result of perverted secretion or hypersecretion, (*c*) that it is due to sepsis. Pathologists have described haemorrhages in the fourth ventricle. If these haemorrhages were a constant feature we may be justified in assuming that the glycosuria of Graves resulted from a medullary lesion analagous to Claude Bernard's puncture of the fourth ventricle. Amongst the noteworthy features of this condition we have the cutaneous manifestations, which may take the form of pruritus, leucoderma, or of a pigmentation akin to that of Addison's disease; the unsusceptibility of these patients to cold, the occurrence of oedema, both simple and angioneurotic, and of intractable vomiting and diarrhoea. Singularly enough, in the glycosuria of Graves, as in diabetes, the patellar reflexes are lost.

The relation of hyperthyroid states to tuberculosis has been studied by Professor G. R. Murray, who holds the view that there is some sort of antagonism between the two conditions, as these patients rarely die from tuberculosis, and even if a focus be present it remains quiescent as long as the hyperthyroidism continues. The case which he mentioned in his presidential address at Brighton was operated on by me. There can be no doubt that, after the removal of the major portion of the gland, the patient, who had had the disease for over twelve years, succumbed to acute phthisis.

The treatment of Graves's disease still remains on an unsatisfactory basis. The bulk of the cases are still being treated with bromides and iodides. Kocher thinks well of phosphorus, and the Mayos and Thurstan Holland of *x* rays. The late A. Gibson claimed to have cured most of his cases by suprarenal gland extract, but the experience of others is very disappointing. Moebius's serum has not been a success. Pychlau recently reported a case which was cured by the administration of the milk of a thyroidectomized woman. Sir Thomas Fraser used to speak of marriage as having a curative influence on adolescent female exophthalmics. Good results have been obtained by antiseptic medication of the bowel and the elimination of all sources of sepsis. The excision or short-circuiting of the colon is not a measure likely to meet with general acceptance.

Surgery can claim the most brilliant and the most lasting results, but in this connexion we must bear in mind that institutional life, *x*-ray exposures, and tonic medication contribute to no small extent to the recovery of these patients. Crile's anoci-association method has a useful field in this condition in which "psychic strain" is a pronounced characteristic. Kocher favours the plan of ligating the vessels at successive sittings. Most surgeons prefer the removal of one lobe with the isthmus. One or both vessels of the remaining lobe may be ligatured later if the improvement after hemithyroidectomy is not satisfactory. Halsted has recommended the excision of practically the whole gland, leaving merely a strip on each side to maintain the blood supply to the parathyroids.

I have noticed that exophthalmic subjects, thin or even emaciated as they are as a rule, put on fat to an extraordinary extent after operation (Fig. 3). I have never seen complete recession of the eyes after operation or other treatment. Drs. Bythell and Barclay of Manchester assure me that they have obtained complete disappearance of exophthalmos by *x*-ray treatment alone.

THE *Journal of the American Medical Association* lately called attention to a two year graduate course offered by the University of Minnesota for the training of doctors who desire to specialize in ophthalmology. This course is analogous to the graduate courses offered by several medical schools for the training of health officers. It is thought probable that similar courses will be established for the training of those who wish to limit their practice to other special provinces of medicine.

NICOLLE AND BLAIZOT'S VACCINE IN THE TREATMENT OF GONORRHOEA.

BY

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THIS vaccine, which goes by the name of "Dmegon," was prepared by MM. Ch. Nicolle and L. Blaizot, of the Pasteur Institute, Tunis, and placed on the market as a stable, non-toxic vaccine for use in all cases of gonorrhoea. In October, 1913,[1] they maintained its superiority over the vaccines in ordinary use.

The drawbacks to the use of the latter, and of gonococcal vaccines in particular, where results have been far from uniform or encouraging, had led them to seek a means of overcoming these defects. In their opinion the two chief obstacles to the success of vaccine-therapy are the present crude methods of sterilizing the living cultures, and the more or less constant toxicity of all vaccines, but more especially of gonococcal vaccines. Even Besredka's method of sensitizing has failed, according to them, to abolish this toxicity.

They stated that, as the result of a year and a half's work, they had succeeded in entirely suppressing the toxicity of gonococcal vaccines, and claimed by their new method of sterilizing to have prepared a vaccine in which the organismal elements are conserved practically in the same condition as obtains in the living culture—in other words, that their vaccine was non-toxic and stable. How this was attained was not at first divulged; the authors merely stated that the toxicity had been abolished by growing the organisms on a special medium, while stability had been achieved by the use of a special solution as lethal vehicle.

Their personal statistics up to that time covered some 200 cases, including 24 cases of ophthalmia, 3 of rheumatism, 25 of orchitis, and 127 cases of acute and chronic urethritis. They stated that ophthalmia was cured after a few injections, sometimes after one, an injection being given each day; that in acute orchitis the pain disappeared in a few hours, or at most within a day or two after the first injection, fever declined, and the patient was able almost at once to resume his daily occupation; and that gonorrhoeal rheumatism rapidly cleared up under two to eight injections. The most striking case was one where a woman, bed-ridden for eight months, was able to come for the eighth injection. In acute urethritis the symptoms, they stated, cleared up with equal rapidity. The discharge ceased later, but in many cases it had disappeared after the third injection. They recommended that the injections, which were repeated every two days, should be continued till seven or eight had been given. Simultaneous local treatment had a favourable effect. None of the acute cases under prompt treatment developed any extra-urethral complications. Old-standing gleets (a year and a half) had been cured by this vaccine, the injections being given every three or four days.

Truly these are wonderful results and all obtained without provoking any untoward or disagreeable reaction! Beyond these facts, however, nothing was known about this vaccine till in November, 1913, Nicolle and Blaizot[2] revealed their secret.

Vaccines prepared in the usual way are damaged by the coagulating effect of heat, and are unstable because they undergo later a process of autolysis. To obviate these disadvantages the authors make use of a fluoride solution since fluorides have been shown by other workers not to possess the property of coagulating albumin.

Method of Preparation.

The organisms are suspended in a 0.7 per cent. solution of sodium fluoride in which they die after a variable time depending on the temperature and species. For instance, gonococci die after forty-eight hours' exposure in an ice-chest to the action of the fluoride. The authors claim that the organisms remain practically unaltered and, since the solution retards autolysis, long preserve their morphological and staining characters. The fluoride is also said to aid in diminishing the toxicity. The latter, however, is mainly brought about by growing the gonococci on special culture media which at first consisted of: Broth 100, urea 0.4, glucose 2, phosphate of ammonia 0.5, agar 1.5.

To this in tubes of 5 c.cm. each are added 0.5 c.cm. rabbit serum. The gonococcus is first grown on this and, by sub-

culture on successive media less and less rich in serum, it is trained to grow on the above medium minus the serum.

A twenty-four hours' growth is then scraped off, suspended in the fluoride solution and repeatedly washed and centrifuged in order to obtain well isolated organisms.

Since gonococcal vaccines, as ordinarily prepared, yield very inconstant and disappointing results, the authors sought for and claim to have found another organism frequently found along with the gonococcus. To this organism they give the name "Synococcus." The latter closely resembles the gonococcus, but grows easily on serum-free media, produces an orange pigment, and is Gram-positive. It provokes no reaction, but possesses the same curative effect as the gonococcus. They suggest that it is related in some way to the gonococcus, and that ordinary gonococcal vaccines owe their lack of success to a failure to recognize the important part played by this new organism.

Their vaccine, then, consists of one part of gonococcus to 9 parts of the synococcus, and, since it is given in doses of 0.5 c.cm. containing 250 million of cocci, it follows that only 25 million consist of gonococci proper, while the other 225 million are "synococci."

In the directions for the employment of the vaccine it is recommended that the 0.50 should be diluted with 1.50 c.cm. physiological saline, supplied in a separate ampoule, and the 2 c.cm. injected deeply into the muscles. This is preferable to subcutaneous injection owing to the slightly caustic action of the fluoride. In the instructions, however, no reaction is said to follow either method, while intravenous injection is decried, as it is likely to determine a febrile reaction. The above summarizes the main facts known about the vaccine, together with the claims advanced by the authors. The next question that arises is, How far have these claims been justified? In order to answer it I have collected as many published references as I could find, and to these I add a very brief account of 4 cases which have been treated with this vaccine in the out-patient department of the Royal Berkshire Hospital, Reading.

I omit reference to the few cases chosen from among the 200 mentioned by Nicolle and Blaizot in their communication, as well as those published by their colleague, Remlinger[3] of Tunis.

Bar and Lequex[4] give their experience with the vaccine whose nature at that time was unknown to them. Their series includes:

A case of purulent ophthalmia in a child 4 days old cured by one injection of 2½ drops.

Four cases of salpingitis in non-puerperal women:

1. Cured in fifteen days by four doses of 10 drops each.
2. Cured in seventeen days by three injections; both of these cases were of moderate severity.
3. Cured after seven injections, although previously she could not be examined owing to pain.
4. Double salpingitis; right tube cleared up after three injections. Operation, performed later, showed that the left tube was still affected, and gonococci were demonstrated in it.

The same authors state that slight anuria of a few hours' duration was occasionally observed, and once they noticed an urticarial rash. Some of the patients complained of a fairly acute pain at the site of injection, which might last some four or five hours, and even recur after some days.

Masson[5] reported a case of salpingitis cured by the injection of antimeningococcal serum. Sauvage[6] tried this new vaccine on a little girl, the subject of acute vulvovaginitis, who four days after infection developed peritonitis; 1.0 c.cm. of the vaccine was given on the third day after the onset of peritoneal symptoms, and the same dose was repeated on each of the two subsequent days without any effect. Laparotomy was performed, and gonococci were subsequently shown to be present in the tube.

Troisfontaines[7] mentions 5 cases. In 3, men with acute epididymitis occurring in the course of chronic gonorrhoea, the most striking effect of the vaccine administered subcutaneously was the disappearance of the pain and swelling either immediately or after two injections. The vaccine did not influence the discharge, and gonococci were found at the end of the so-called cure as at the beginning. Two cases of gonorrhoeal arthritis in women were cured by three injections.

Broussegoutte[8] employed the intravenous method of administering the vaccine, without any untoward results, in 3 cases:

1. Cystitis and prostatitis cured after injections of the vaccine combined with rigorous local treatment.
2. Urethritis cured in the same way.
3. Case of acute orchitis, which rapidly lost all pain after receiving the vaccine, but an abundant discharge returned, which contained numerous gonococci. In this case only two injections were given.

C. and H. Fromaget[9] record a case of purulent ophthalmia treated with this vaccine for four days. After the second injection there was a recrudescence of the trouble, and recourse was then had to silver nitrate in addition to the vaccine. Cure was effected at the end of eight days after three injections had been given. Leuret[10] reports 3 cases:

1. Gonorrhoea, contracted about two months before, which had not cleared up under the usual classic remedies, was cured after three injections, with complete disappearance of the discharge.
2. Gonorrhoeal arthritis of four months' duration, cured after four injections. The first injection was followed by slight febrile reaction and headache, thought to be influenzal in character.
3. Gonorrhoea and arthritis of nearly three months' standing, almost cured in nine days after four injections.

Mauriac[11] mentions 4 cases: 2 had urethritis, 1 suppurating arthritis of the knee, and 1 epididymitis. The arthritis rapidly cleared up, and after 3 injections the patient was able to walk. Mauriac has noted pain the day following the injection, and sometimes a slight general reaction with temperature. He goes on to say that the effect of the vaccine on the discharge appears to be nil, though the gonococcus appears to be more sensitive to the action of antiseptics. Fieux[12] has treated two patients suffering from an acute exacerbation during the course of a chronic affection (salpingitis) with good results. He records one failure, a case of ophthalmia neonatorum treated on the fourth day.

Dr. Wansey Bayly,[13] in a recent article in this JOURNAL, states that in his limited experience some cases benefited, but he was not much impressed with its merits.

The following are brief notes of the cases at the Royal Berkshire Hospital:

1. Female, infected two months before, received eight injections, one every two days, into the muscles. Result: Severe local pain after each inoculation, together with headache and malaise; vaginal discharge considerably diminished, but still present.
2. Female; vaginal discharge of three to four months' duration, untreated; now received nine injections, as in Case 1, and was instructed to wash external genitals with weak antiseptic. Result: Discharge rapidly diminished and apparently disappeared; following the ninth injection, however, her temperature rose, a pustular eruption appeared on the body and subcutaneous nodules on the shins. On recovery she was examined again, and a copious discharge, containing gonococci, was found.
3. Male, infected eleven months before, treated in the classical way till only a "morning drop" remained. Treatment: Four injections, one every third day; after a week's rest seven further injections were given with the same spacing, sometimes intramuscularly, sometimes subcutaneously. Result: Headache and dizziness after the first four injections, coming on towards evening and lasting a few hours. The discharge remained uninfluenced and gonococci were still plentiful.
4. Male, infected twenty-two months before, treated in usual way, together with stock vaccines; slight morning discharge, however, remained obstinate. Hospital treatment: Four injections of the Nicolle and Blaizot vaccine on alternate days, followed by a week's rest. Another five injections were then given with same spacing. Result: Slight headache on one occasion, but at the end of the treatment the discharge had actually increased and gonococci were still present.

From a consideration of these cases it must be admitted that the vaccine has not completely fulfilled the claims of the authors and their colleagues.

It is true that the number of published observations made by independent workers is comparatively small. I do not, of course, include the cases referred to but not published in detail by Nicolle and Blaizot, nor do I include Remlinger's. These, we are told, were successful cases. The others which I have summarized number 29, and of these only 15 are reported as definite cures. Several of the patients showed signs of undoubted general disturbance such as is common after the use of ordinary vaccines. Judging from these reports the vaccine does not always cure and is not always atoxic. Of course it may be urged by the supporters of the vaccine that in some of these cases a sufficient number of doses was not given. In the 4 cases reported here for the first time the average number of doses said to be necessary for a cure was exceeded and in one case the only result was an increase in the discharge. Moreover, each dose costs

5 francs. The majority of the cases, however, according to the reports, seem to have benefited, and probably the most striking effect of the vaccine has been the rapid manner in which it appears to have relieved pain in cases of arthritis and orchitis. Whether it will always act in this way in the hands of other workers remains still to be seen. Several cases of a similar nature have cleared up as rapidly after the injection of antimeningococcal serum.

Another feature is the ease and rapidity with which ophthalmia cleared up, but a sufficient number of cases have not yet been recorded. If it proves to be a constant character of the vaccine, we have a very potent weapon with which to combat a disease which, as a nation, we are endeavouring to control.

An interesting question is how far the cases of urethritis as reported cured are actually infection-free or whether the disease has merely been rendered latent. This is a point not brought out in the cases recorded.

As regards the fluoride vehicle, I doubt if it can have much effect in reducing toxicity. Lately I have been preparing vaccines in this way, and have found that the focal and general reactions respectively have been as marked as those produced by the injection of autogenous vaccines prepared by one of the older methods. In any case there is one objection to the use of fluoride solutions where rapidity of preparation is an essential. Gonococci, according to the authors, are only killed after forty-eight hours' exposure to the solution in an ice chest, and the length of time necessary to sterilize a given organism depends on the temperature and the species, but it depends also on the concentration of organisms in the vaccine. I find that the greater the number of organisms present per cubic centimetre the longer is the exposure necessary to effect complete sterilization. For instance, a vaccine containing 1,600 million of staphylococci per cubic centimetre still gave a growth after six days' exposure at room temperature. In such cases, therefore, we must adopt one of the older methods for the sterilization of the preliminary doses at any rate. As regards the constituents of the vaccine, the toxicity of one of them, the gonococcus, is said to be reduced in the manner described. But this organism represents only one-tenth of the total number of organisms present, since there are only 25 million present in each dose.

Moreover, while the synococcus provokes no reaction on inoculation, according to Nicolle and Blaizot, it nevertheless possesses the same curative action as the gonococci themselves. If this be so it seems at first sight unnecessary to go through the elaborate process of reducing the toxicity of the gonococci proper when present in such small number or even to include them at all.

What exactly the "synococcus" is, and what relation, if any, it bears to the gonococcus proper, is not clear, but the suggestion is that in gonorrhoea we are dealing not with a single strain but with a group of organisms all more or less related to one another—not at all an unlikely thing. On the other hand, the synococcus may be related in no way to the gonococcus proper except in so far as their symbiosis may modify the course of the disease. In other words, one must take account not merely of the main causal organism but also of other organisms in symbiosis which may considerably modify its effect and character. It would be interesting to know if the authors have used the gonococcus alone after modifying its toxicity in the method they advocate and in the same doses, and if the same effect could not be got in this way, leaving out altogether the synococcus.

These are some of the questions that arise in connexion with this preparation. Meanwhile, one must remain sceptical until a sufficient number of cases can be investigated and a little more of scientific value is known about the vaccine. This ought to be a matter of a short time only since there are no contraindications to its use, and the administration can easily be carried out by the general practitioner, no special bacteriological knowledge being necessary for its proper control. As for the route by which it is administered, it would appear from the cases recorded that it may be given either under the skin, into the muscles, or directly into a vein. Contrary to what the authors say, subcutaneous inoculation may be painless, intramuscular injections may be followed by severe pain, while no ill effects seem to attend intravenous inoculation.

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BLOOD PLATELETS IN THE TREATMENT OF DISEASE.

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(*Preliminary Note.*)

THE employment of blood platelets together with the plasma in which they are suspended has given such very satisfactory results in the treatment of a large variety of morbid conditions that I think it well to publish this short preliminary note upon the methods of preparation, the technique, and results of administration.

I have employed blood platelets therapeutically in three definite ways. In the first the blood platelets are isolated from a person in perfect health, the absence of specific disease being determined by means of the Wassermann test, and of tuberculosis by means of von Pirquet's cuti-reaction; the platelets so obtained are used parenterally in varying amounts according to indication, in order to reinforce the powers of the body against the different local and general diseases due to bacteria.

In addition to satisfactory clinical results following the administration of blood platelets, determinations of the opsonic and phagocytic index, quantitative agglutinin tests, as well as complement deviation reactions, indicate that after each of such injections there is a very marked rise of the antibody content of the blood.

The different immunity reactions applied to the platelets and their containing plasma, more especially when applied thereto after recovery from microbic disease or after preliminary vaccine injection, indicate that they contain a very large part of the different antibodies produced in response to bacterial invasion of the organism. In addition to germ-caused diseases, the exhibition of blood platelets has been found satisfactory in cases of deep-seated haemorrhage, such as haemoptysis, haematemesis, and renal haemorrhage.

A second way in which I have employed blood platelets therapeutically in the treatment of bacterial disease has been as follows:

The specific organism is isolated from a patient and with a vaccine made therefrom a healthy friend receives several injections until the various opsonic or agglutinin reactions indicate that this person's serum has a high antibacterial content to this particular organism. The blood platelets and their plasma are then obtained and used in the treatment of the original case. The employment of stock instead of autogenous vaccines has also given good results and effects a considerable saving of time. I have also used platelets isolated from patients who have passed through an attack of bacterial disease, such as those due to staphylococci, streptococci, and pneumococci. In such cases I have made the opsonic index my guide and have only used the platelets isolated from patients whose opsonic index is high.

A third method, used in cases in which the toxaemia is not extreme, such as chronic ulcers, furunculosis, acne, and tuberculosis, has been to sensitize vaccines obtained by isolating the organism from the patient's lesions by means of the platelets and their plasma. In addition to good clinical results obtained therewith, the completeness of the sensitization can be gathered from the very slight local reaction which follows their employment.

The usual technique I have used for the preparation of such sensitized vaccines has been to make an emulsion of the organism in as small a quantity of saline solution as possible, usually 5 c.cm. This emulsion I have generally exposed to a temperature of 60° C. for half an hour in order to kill the organisms; in certain cases that has been effected by adding 1 per cent. phenol after sensitization is complete.

The emulsion is added to the platelets, and their plasma under sterile paraffin, and exposed to a temperature of

37° C. for ten hours. The organisms are then separated and washed free of all plasma and suspended in as small a quantity of normal saline as possible. They are then preserved in amber-coloured ampoules upon ice in a refrigerator, being diluted immediately before use. I have usually standardized the vaccine immediately after resuspension in normal saline.

If the indications are to use platelets alone, they are obtained by allowing them to sediment by gravity after separation of the red and white corpuscles by centrifugalization. The white deposits of platelets which form at the bottom of each tube are then shaken up with 1 or 2 c.cm. of the plasma left in the tube after removal of the rest by means of a sterile pipette. I have generally used for a single injection the platelets isolated from 30 to 40 c.cm. of blood, and in cases of deep-seated haemorrhage where such an injection of platelets has been administered the resulting cessation of bleeding which rapidly follows has often been remarkable.

The methods of preparation unfortunately require time, labour, and the conveniences of a fairly well equipped laboratory, but the results have been so satisfactory that they more than repay one for the labour entailed.

Technique.

The plasma, with its platelets, is isolated in the following manner, with, of course, all due precautions to ensure the perfect sterility of all the apparatus, tubes, and media employed:

Sterile small test tubes 8 cm. long and 1 cm. in diameter are sterilized by pouring into them 1 to 2 c.cm. of sterile liquid paraffin, the liquid paraffin being employed in order to line the inside of the tubes, so as to prevent the platelets from adhering to the surface of the glass wall of the tube.

After a Record syringe has been sterilized by means of hot liquid paraffin, 4 c.cm. of the paraffin are retained in the syringe and all air excluded; 8 c.cm. of normal saline, containing 1 per cent. pure sodium citrate, is sucked up into the syringe, care still being taken to exclude air, as to the surface of the air bubbles the platelets tend to adhere.

When the paraffin and saline citrate solutions have reached the temperature of the body, this temperature is maintained in an incubator. The maintenance of the body temperature is advisable, as, in addition to facilitating isolation of the platelets by causing them to retain the rapid movements of their processes, which to a certain extent oppose the centrifugal forces that throw down the red and white corpuscles when centrifugalized, the moving apparently living platelets seem to give better results than after their movements have been slowed by exposure to the temperature of the air.

After a vein of the forearm or at the bend of the elbow has been made prominent by means of a tourniquet around the arm above the elbow, the needle of the syringe is plunged into the vein and 8 c.cm. of blood slowly withdrawn into the saline citrate solution. After withdrawal of the needle from the vein the syringe is slowly rotated in order thoroughly to mix the blood and saline citrate solution. The first few drops of blood are rejected, as some clotting may have taken place in the needle which would tend to destroy the whole specimen. The intermixture of the blood with the saline citrate solution of a higher surface tension seems to cause the red blood corpuscles to render up their platelets to the plasma.

The blood and saline citrate solution is then slowly syringed into the small sterilized tubes, so that it lies under the 1 to 2 c.cm. of liquid paraffin which they contain and which is at body temperature, as the tubes are kept in an incubator at 37° C. until required. In this way the platelets are not allowed to come into contact with the glass, to which the majority of platelets would otherwise adhere and consequently be lost.

These small tubes are then placed in the boats of a centrifuge, surrounded by liquid paraffin at 37° C., and with the hand centrifuge I employ rapidly centrifugalized for five minutes. The living platelets with their flagella beating the plasma to a certain extent oppose the centrifugal force, and at the end of the time stated are found floating in the cloudy supernatant fluid.

Where large quantities of platelets have to be isolated I generally employ an electric centrifuge rotated at about the same speed for the same time.

As a rule the platelets are found quite free from red or white cells; if any remain they can be separated after decantation either by centrifugalization or by sedimentation by gravity.

When the cloudy plasma has been decanted by means of a paraffin lined pipette into other similar tubes under paraffin, it is examined by the trypan red-paroleine method which I have described elsewhere for the presence of platelets and their number. The platelets and their plasma are administered by a Record syringe which has been sterilized by hot liquid paraffin, the liquid paraffin fulfilling two services—namely, sterilizing the syringe and needle and lining the piston and glass of the syringe so that the blood platelets are thereby prevented from adhering thereto.

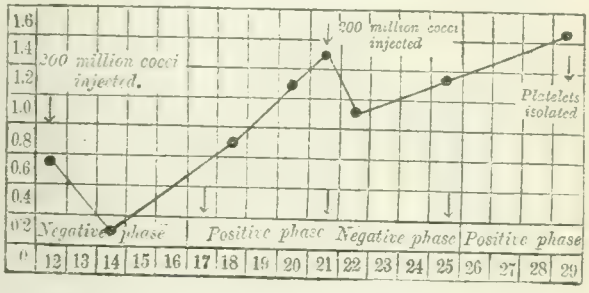
The platelets and their plasma are drawn up from under the liquid paraffin by means of a sterile filler attached to the syringe the inside of which has previously been sterilized by hot liquid paraffin.

The needle, previously sterilized by hot paraffin, is fixed to the syringe and the contents are administered hypodermically at a convenient site, the skin at the point of puncture being previously sterilized by painting with tincture of iodine.

Though good results are obtained from small doses of platelets and their plasma, such as from 1 to 5 c.cm., I have in particular cases, according to the indications, by means of 20 c.cm. Record syringes, administered as much as 30 to 40 c.cm. directly into the connective tissues under the skin between the shoulder blades. During an experience of many hundreds of injections, varying from 1 c.cm. to 40 c.cm., I have never yet seen any untoward result apart from a slight reddening of the skin for a few centimetres around the puncture which clears up in from twenty-four to thirty-six hours. The patients have never complained of any pain as an immediate or after result of the injections, and in the majority of cases the hyperaemia of the skin is simply accompanied by a slight sensation of itching.

When vaccines are administered either with the platelets or after sensitization by means of the platelets and their plasma, more definite local signs are the result, but never so marked or so intense as when the vaccine alone is injected.

Where preliminary vaccine treatment of a donor by means of a stock vaccine or an autogenous vaccine prepared from the causal organism obtained from the patient is undertaken, I have almost invariably followed the course of the immunity reaction by means of the opsonic index, agglutinin reactions, etc., and have abstracted the blood when the index is at its highest point.



Advantage has also been taken of the cumulative action of vaccines when their dose is properly spaced. Two doses are given successively so as to raise the patient's index by successive steps to a higher level of immunity. Such accumulative action following two properly spaced doses of *Staphylococcus pyogenes aureus* can be noted in the accompanying diagram, the doses in each case being 200 million cocci at an interval of ten days.

After the administration of tuberculin the platelets are obtained during the positive phase, between the fourth and seventh day after, and in the case of staphylococci between the sixth and tenth day after.

Having been fortunate enough to be able to treat with platelets a large number of acute and chronic pulmonary conditions, as well as numerous cases of the secondary infection in phthisis, I have found that for the organisms noted below the most suitable time for isolation of the platelets is, as a rule, as follows:

Diplococcus pneumoniae,	platelets withdrawn		5th	day after	injection.
Micrococcus catarrhalis	,,	,,	3rd	,,	,,
Friedländer's bacillus	,,	,,	8th	,,	,,
Bacillus influenzae	,,	,,	2nd	,,	,,
Streptococcus pyogenes	,,	,,	3rd	,,	,,
Bacillus septus	,,	,,	6th	,,	,,
Bacillus pertussis	,,	,,	3rd	,,	,,

Regular estimations of the opsonic index in certain of these cases have shown that when the platelets are withdrawn after the above interval following the vaccine injection the best immunizing response is obtained.

I hope shortly to deal with the clinical history of my cases.

THE late Mr. Oliver H. Fowler, in practice for many years at Cirencester, left estate value £29,031.

ON account of the war the Executive Committee for the Organization of the Second Eugenics Congress has decided that it will be impossible to hold it as arranged in New York in September, 1915.

INSECTS AND WAR:

IX.—*TICKS.*

By A. E. SHIPLEY, Sc.D., F.R.S.,
MASTER OF CHRIST'S COLLEGE, CAMBRIDGE.

A waterleche or a tyke hath neuer ynow, tyl it brestyth.
Jacob's Well, 1440.

Ticks are mites "writ large," and until about the beginning of this century they were regarded with what one might call mild disgust and regret. Now, however, that they have been proved to play a part, and a very important part, in the dissemination of disease, we have come to regard them, as Calverley said we should regard the decalogue, "with feelings of reverence mingled with awe."

The body of a tick is covered with a tough, smooth or crinkled skin, capable of any amount of extension. Until they have fed they are flattened in shape, but after a meal of blood they very soon lose the outlines of a Don Quixote and attain those of a Sancho Panza. In the adult the legs are eight in number and have six segments ending in two claws and sometimes in suckers. Some have eyes and some have no eyes. The most formidable part of their armour is, however, the mouth parts, consisting of the cutting and tearing chelicerae, the tactile pedipalps, and the piercing probe which they stick into our bodies. This consists of a median hypostome, an outgrowth of the ventral part of the mouth, with recurved teeth. On each side are a pair of four-jointed palpi and a pair of slender two-jointed cutting chelicerae encased in a finely-toothed membranous sheath. This sheath is an outgrowth of the upper part of the mouth, and when the chelicerae have cut a way into the flesh, and the rostrum is inserted, the sheath with the rostrum forms a tube up which the blood is sucked by the sucking pharynx. It is the teeth on the hypostome, and not the chelicerae, which anchor the ticks to their prey.



Fig. 1.—Evolution of *Argas persicus*. 1, the egg; 2, the six-legged larva; 3, the same gorged; 4, an unfed nymph; 5, nymph gorged.

Ticks, as they affect the soldier, may be divided into two families. The *Argasidae*, which are usually associated with human dwellings, fowl-houses, dovecotes, and so on, and are more commonly parasitic on fowls than on cattle or human beings. The members of this group hide away in crevices and corners during the day, and come out at night and feed, for "their deeds are evil."

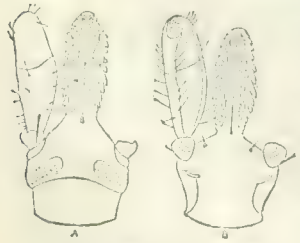


Fig. 2.—*Ixodes ricinus*. Mouth parts of the female, A, seen from the dorsal, B, from the ventral surface. The median, dotted, portion of the left hand figure is the sheath; the toothed portion the rostrum. The lateral process is the pedipalpus. × 35. (After Nuttall and Warburton.)

Argas persicus, known to travellers as the "teigne de miana," is of an oval form, of brownish-red colour. The male measures 4 to 5 mm. in length by 3 mm. in breadth; the female 7 to 10 mm. in length by 5 to 6 mm. in breadth. This creature frequents the northern parts of Persia, and occurs in many other warm countries. In South Africa it is known as the *Tampan* and *Wandlius*, where it is mainly a fowl parasite. In Persia it is very much dreaded, though probably the effects of its bite are due to the unsuitable treatment the punctured skin receives and the consequent invasion of the tissues by septic bacteria. In South Africa it is frequently fatal to fowls, especially to chickens, but the death is there believed to be due to the loss of blood.

We have not yet explained that ticks pass through several stages as they advance from the egg to the adult. The larval stage of *A. persicus* will remain on its host for five days. It then leaves, and moults in retirement. After the moulting it visits its host by night and remains on it for about an hour. This second stage, known as the nymph stage, moults twice, and the female in each stage becomes much distended with blood—"gorged," as the saying is. With each moult it becomes larger, but otherwise does not alter much in appearance. The adult female also, like the nymph, visits the host from time to time, and between these visits deposits eggs in great quantities in sheltered crevices, some 50 to 100 being deposited at once. *Argas reflexus*, the "marginated tick," is yellow and white—the Papal colours. It is common near dovecotes and pigeon-houses, and often attacks people sleeping in their neighbourhood. Its bite causes much irritation, and sometimes leads to vesicles and ulcers. At one time it was common in Canterbury Cathedral, and so worried the worshippers that it took all the eloquence of the "Very Reverend the Dean" to overcome its repellent powers.



Fig. 3.—*Argas reflexus*, female. On the left the dorsal view of a specimen laying eggs; on the right a ventral view of the same.

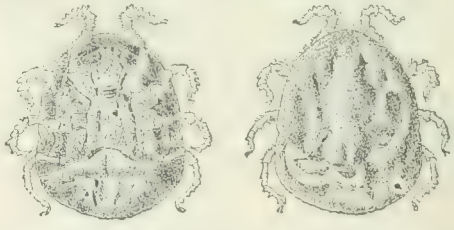


Fig. 4.—*Ornithodorus moubata*, an unfed female. To the left a ventral, to the right a dorsal view, showing the crimped skin.

Another species, *Argas chinche*, is extremely troublesome to the natives of the temperate parts of Columbia.

Ornithodorus moubata (= *O. savigneyei*), sometimes known as the "tampan," occurs pretty often in South Africa, and was a cause of considerable trouble to our troops during the South African war. It lives normally in the shade of vegetation, but frequently invades the native huts. It is catholic in its taste and attacks most mammals, and it has a decided preference for men. In Uganda the natives frequently die from its bites—dying of so-called "tick fever." I myself once assisted in identifying two ticks in the nymph stage taken in Cambridge from the ear of an American visitor to this country who had been camping out in Arizona shortly before his arrival. This tick turned out to be a species of *Ornithodorus megnini*, which, as a rule, attacks the horse, the ass, and the ox about the ears. But it frequently attacks man, and is well known in the United States, infesting the ears of children. An allied species, *O. turicata*, proves fatal to fowls in the Southern States and in Mexico, and is very harmful to human beings. The chief harm that these ticks do is to transmit protozoal diseases to man and other animals.



Fig. 5.—*Ornithodorus moubata*. Female, gorged, seen in profile.

A very few ticks are said to be pathogenetic, but by far the greater part lay fertilized eggs, and lay them in

considerable numbers, and the eggs are agglutinated together in solid little masses, by the sticky secretion of a cephalic gland, which opens below the rostrum. The eggs are small and elliptical, and are laid to the number of many thousands. The young tick, which is usually born with but three pairs of legs, hatches out in a few days if the weather be warm, or a few weeks should it prove cold. A certain amount of moisture must be present, or the eggs are apt to dry up. These masses of eggs are laid on the ground under herbs or grass, or on leaves. The issuing six-legged embryos larvae, like the young of other animals, are very agile, climbing on to leaves and herbage, and waiting with their front legs eagerly stretched out for the passage of the host upon which they desire to settle. Of course, not one in a thousand succeeds, and it is terrible to think of the amount of unsatisfied desire which must be going on in the tick world! The rest perish miserably. Those that do succeed attach themselves to the skin of the host, and thrust their rostrum and sucking tube into the hole already prepared by the cutting chelicerae. They suck the blood, and when gorged fall to the earth, or in some cases remain on the host in a state of inertia or apparent syncope. Soon, however, the gorged larva moults, and gives rise to the first nymph—an eight-legged creature. This one affixes itself anew upon a host, either upon the same or another one, again gorges itself, and in all points resembles the adult, except from the fact that the sexual orifice has not yet appeared. After some days the first nymph moults, and this again remains either on the host or it falls to the ground. In some cases there are two nymph forms. But as a rule the first nymph gives rise by a second moult to the adult form, which again for the third time regains a host. The adults are now ripe for pairing, and the male having enlarged the orifice of the oviduct by inserting its rostrum, deposits therein a spermatophore or capsule full of spermatozoa. The female is often successively fertilized by several males.



Fig. 6.—*Ixodes ricinus*. The male is inserting its rostrum in the female genital duct before depositing its spermatophore. ×6. (From Brumpt.)

In many cases the male dies after fertilization. The female swells enormously when gorged, sometimes becoming as large as a filbert, or even a small walnut. These ticks are seldom parasites of one particular host, but attack many mammals indifferently. They have many natural enemies, amongst the most important of which are certain hemipterous insects whose female attacks the nymph of the *Ixodes*, and lays within the body of the tick a number of eggs which develop inside the nymph until they reach the adult stage, when they make their escape through an orifice generally at the hind end, leaving behind them the dead body of their host. Three species of such hemipterous insects are known, parasitic on ticks, of these *Ixodiphagus caucurtei* is ubiquitous. It attacks all kinds of ticks, but especially *Dermacentor venustus*.



Fig. 7.—*Ixodiphagus caucurtei* laying eggs in the nymph of *Ixodes ricinus*. × 20

Ixodes ricinus, of a brownish colour in the male, is very common in England and, indeed, almost everywhere. The female is yellow and flattened, somewhat resembling a grain of rice. It is the well-known dog tick, but it attacks oxen, especially goats, deer, horses, and man. It also attacks the grouse, and is particularly common in some parts of Great Britain. It is impossible to rid certain areas of these troublesome guests. In some cases they produce tumours and introduce bacteria, and in cattle it introduces an organism known as *Babesia bovis*, which is the cause of haematuria in oxen. *Dermacentor venustus* transmits Rocky Mountain fever, which is common in certain parts of the States. The fever is accompanied with pains in the joints and muscles and an eruption on the surface of the skin, appearing first on the wrists and forehead, and invading in time all parts of the body, followed by a scaling of the skin during a period of convalescence. In Montana the mortality caused by this disease is very high, varying in different years from 33 to 75 per cent. In Idaho it only attains a mortality of 4 per cent.

Ornithodorus moubata inoculates man with a spirochaete (*Spirochaeta duttoni*) which is the agent of the African tick fever or relapsing fever. One of the curiosities about the organisms transmitted by ticks is that they live through the whole cycle of the tick's life. If they are taken in by the larva they are only transmissible by the following larval stage. If they are taken in by the nymph they are only transmissible when again the nymph stage is met with, and the same is true of the adult. Think what such a protozoon must have seen! The fertilization of the egg by the spermatozoon, the fusion of the nuclei, the breaking up of the egg into segments, the gradual building up of the tissues of the larva, the sudden inrush of the host's blood when the larva is safely fixed, the moulting, the changes in the nymph, the development of the generative organs, the formation of the eggs! What a textbook of embryology and anatomy it could write if only it had descriptive powers! If I may paraphrase Kipling:

Think where 'e's been,
Think what 'e's seen,
Think of his future,
And Gawd save the Queen!

C

EPIDEMIC POLIOMYELITIS.

BY

ARTHUR A. PIM, F.R.C.S.E.,

BEAMINSTER, DORSET.

In August and September of this year there was in this town and the surrounding country an outbreak of poliomyelitis, and an account of the types of the disease observed may be of interest and possibly some service to readers of the British Medical Journal.

During the hot weather in August a number of children, whose ages ranged between 1½ and 16 years, were taken suddenly ill. The symptoms in all cases were nearly the same: the temperature was high, sometimes reaching 104°, the tongue was furred, the breath offensive, and there was in all cases obstinate constipation, which was frequently only relieved by enemata. The majority of the children complained of pains in the back and limbs, and in all cases in which pain appeared early paralysis of some muscles or groups of muscles followed in from one to seven days. In one child the paralysis affected all the muscles of the trunk and limbs, and respiration was entirely diaphragmatic.

There were, however, a number of other cases in which early pain was entirely absent, but the other symptoms were present which later, generally at the end of seven to ten days, sometimes after a day or two of apparently complete recovery, developed acute sciatica; in no case was the sciatica accompanied or followed by paralysis of any muscle. There were also a certain number of other children who exhibited the early symptoms — of rise of temperature, furred tongue, and constipation — who recovered completely without any after-effects.

In only one case did I note the preparalytic twitchings regarded by Colliver of Los Angeles as pathognomonic of the disease. A period of incubation has, I believe, never yet been determined for poliomyelitis, but it is suggestive that two children who developed the disease after leaving the town did so on the eighth day after departure.

The cases were widely scattered, and although in two instances more than one child was attacked in one house, the development of the disease was practically simultaneous. The distribution of poliomyelitis by flies and dust has been suggested, but a very striking fact was that in the poorest and dirtiest street of the town no case appeared. In one case the evidence in favour of infection having been conveyed by an earth closet used by a child, who developed the disease, was considerable.

Dr. MacClaren, one of the medical officers for the county, has drawn my attention to the probability of the

infection having been conveyed by four parents, who worked together in the same shop, to a child of each living in entirely separate parts of the town. The fact that this shop was a butcher's might suggest a field for investigation.

The treatment adopted was evacuation of the bowels followed by large doses of salol, and spraying the mouth, nose, and throat, not only of the patient, but of all contacts, with solutions of hydrargyri peroxidi or potassium permanganate.

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.

J. Scott Riddell, M.V.O., M.B., C.M., President.

THE TREATMENT OF CERTAIN CASES OF APPENDIX ABSCESS.

By C. Max Page, M.S., F.R.C.S.

If one reviews the voluminous current literature on the treatment of acute appendicitis it is noteworthy that the opinion of the majority of observers on the surgical treatment in the early days of an attack is practically the same, whereas the rules laid down for the treatment of localized acute appendicitis (including abscess) are very varied, not only in relation to the proper time for operation, but as to its technique.

Statistical reports support the common conviction that surgical interference at any time in the first forty-eight hours of an acute attack is the right line to adopt. The same view is taken if, at a late stage of the disease, a case presents signs of definitely spreading or general peritonitis, but until every practitioner and patient is convinced of the soundness of immediate operation, cases continue to come under the care of a surgeon for the first time after the third day of the disease; and it is in relation to the treatment of some types of this class of case that I wish to make certain criticisms of the commonly adopted treatment.

At St. Thomas's Hospital, from the reports of which institution I propose to draw most of my figures, it has in recent years been customary to operate on cases of localized appendicitis at any stage of the disease, when the presence of an inflammatory mass and the level of the temperature suggest the possibility of suppuration; it will be admitted that it is impossible to say definitely from clinical and blood examination whether a case of acute localized appendicitis of from five to six days' standing will resolve or lead to abscess formation, or even whether there is pus present in the centre of an inflammatory mass or not. The appendix is removed if this is possible without too great disturbance of the surrounding structures, and if pus is found the cavity is drained. If the inflammatory mass had involved the anterior parietal peritoneum the results are good and complications seldom ensue. If however the general peritoneal cavity was not shut off, and the same line of treatment be carried out, a spreading peritonitis from the disturbed area is liable to ensue. The end result in such instances may occasionally be death from peritonitis, more often it entails a prolonged convalescence with the possibility of residual abscess formation.

The likelihood of such a complication arising from operations involving the transperitoneal opening up of an infective focus is well recognized, and in order to avoid it different procedures are advocated. The two commonest are:

1. That practised at St. Thomas's Hospital and advised by Murphy and others—namely, after opening the abdomen, to carefully pack off the surrounding peritoneal cavity with gauze plugs, deal with the infective focus and sponge out the abscess. The plugs are then removed and the abdominal wall sewn up except where a drain is left down to the infected area.

2. To lay the abdominal wall freely open, and, after opening the cavity, pack it completely with gauze and leave the abdominal wound open.[1]

There are other methods in less common use, Sonnenburg,[2] in his classical monograph, and several other German surgeons advocate draining such cases via the pericolic cellular tissues in the loin, the peritoneum being stripped away from the anterior and lateral walls, a drainage tube is brought out along the line of approach. Maylard[3] swabs out the abscess cavity with pure carbolic acid, sprinkles it with iodoform and closes the abdominal wound, leaving an aperture for a small draining tube.

As already stated, the first of the above methods is the one that has been used in general for the cases for which I propose to quote figures. Criticism of the other methods I shall not attempt here, though I shall quote figures showing the results of some of them.

I maintain that if the resistance of a patient is such that he is able to definitely localize a peritoneal infection, that patient should not subsequently suffer from spreading or general peritonitis. If he does, it is in nine cases out of ten due to mechanical causes, which should be avoidable.

The figures I am able to put forward show that a good number of appendix abscess cases do suffer from spread of the infection after operation.

The following table shows the mortality at St. Thomas's Hospital from appendix abscess for the years 1909 to 1913.[4]

Appendix Abscess, 1909–13, St. Thomas's Hospital.

	Cases.	Deaths.
1909	66	6
1910	91	4
1911	71	6
1912	81	2
1913	50	7
Total	359	25 = 6.9 per cent.

That this death-rate is not above the average is shown by the following figures taken from various sources.

Source.	Cases.	Deaths.	Mortality.
Burgess, British Medical Journal, 1912, p. 415	107*	2	1.86%
	106†	8	7.59%
Fromme, *Zeit. f. Chir.*, 1912, vol. cxix, p. 552	32	1	3.1 %
Krogius, *Arch. f. klin. Chir.*, 1911, Bd. 95, p. 759	120	26	18.0 %
McWilliams, *Med. and Surg. Rep.*, 1912, Presby. Hosp., N.Y., p. 445	60	14	23.3 %
Merkens, *Zeit. f. Chir.*, 1911	97	10	10 0 %
Mutch, *Guy's Hosp. Rep.*, 1910	180	18	10.0 %
Richardson, British Medical Journal, 1912	299	12	4 0 %
Vick, *St. Bart's Hosp. Rep.*, 1912 ...	27	2	7.4 %

* Appendix removed. † Appendix not removed.

An analysis of the cause of death in the cases quoted from *St. Thomas's Hospital Reports* is given. The following table gives the total results:

Cause of Death in Twenty-five Fatal Cases of Appendix Abscess, St. Thomas's Hospital, 1909–13.

General peritonitis	17
Intestinal obstruction	4
Portal pyaemia	3
Erysipelas	1

In the reports of 1911–13 particulars are given of the method of operation in the fatal cases, to the effect that of the 12 cases dying from general peritonitis in those years the abscess was opened across the peritoneum in 10.

This proves, as far as figures can, that the technique I have described for the treatment of abscesses not adherent to the anterior abdominal wall is unsatisfactory. To emphasize this I may quote the figures given in the 1912

report, which show that these cases treated in this way, when not fatal, have a higher incidence of complications and a long convalescence.

In 12 cases out of a total for the year of 81, the abscess, though well localized, was not adherent to the anterior abdominal wall. Ten of these 12 cases suffered from residual abscess formation; the other 2, as already stated, died.

The inference to be drawn from these figures, I think, is that operation has been undertaken at a stage while the contents were extremely virulent and dangerous to the peritoneum of the patient not already involved in the inflammation. Some investigations made by A. G. Gardner confirm this.

In the course of a research into the inflammatory peritoneal exudates he found that aggressins—that is, substances found in the course of bacterial multiplication in the body and which inhibit the action of the phagocytes—are present in the pus of recently formed appendix abscesses. He makes the following statement: "My experiments strongly suggest that it is a dangerous proceeding to break through the wall of an abscess containing aggressive pus, and thereby to put its cavity into communication with uninfected peritoneum. For such a proceeding does not merely open a channel of bacterial infection, which the healthy peritoneum might be expected to resist, but it also admits the escape of a fluid which is capable of paralyzing the defences of the cells with which it comes in contact."

From clinical experience it is well recognized that the contents of an appendix abscess are extremely virulent from about the fifth to the tenth day.[5]

To remove the risk of operation at this stage one of two courses is open: (1) To wait till between the tenth and fourteenth day before operating, so that it will seldom be necessary to evacuate an abscess across the general peritoneal cavity, and in any event the pus will be sterile or relatively non-virulent; (2) to operate in such a fashion that the pus in the abscess cannot possibly come in contact with uninfected peritoneum.

The former line can be adopted in a certain number of cases, but I do not think it is satisfactory as a routine method; it does not deal with the pain and the disadvantage of leaving a septic focus undrained for a considerable period. It also involves the slight risk of spontaneous rupture of the abscess into the general peritoneal cavity.

With regard to a safe operative method, in a series of cases I have carried out, with excellent results, a conservative and, I believe, old-fashioned operation. If on opening the abdomen the abscess is found not to be shut off from the general peritoneal cavity, no attempt is made to open the cavity or do anything further; a cigarette drain of medium size is put down to the outer side of the inflammatory mass and the wound sutured.

Abdominal hot-air baths or, if they are not available, hot fomentations are then applied to the abdomen.

Spontaneous discharge of the abscess occasionally occurs along the tube; in a surprising number of cases, however, the inflammatory swelling subsides without any pus appearing.

If the temperature keeps up and the pain persists after the second or third day, the tube is removed and a finger inserted along its track under gas, and in this way the abscess can usually be broken into. At this stage adhesions around the line of the drainage tube remove the risk of infecting the peritoneum.

The following abstracts from the notes of my cases will give a clearer idea of the results of this method of treatment. The abstracts are taken from a series of 112 cases of appendix abscess treated by myself, Mr. B. C. Maybury, or Mr. Rouquette, and extend over the years 1909–14. The operations were carried out on behalf of various members of the St. Thomas's Hospital staff, and I am indebted to them for permission to make use of the material.

Operation.	Number.	Deaths.
Type A.—Cases of localized abscess opened across the open general peritoneal cavity	25	3
Type B.—Similar cases treated by conservative operation (described above)	19	0

Statistical Abstract of 23 Non-fatal Cases Treated by Operation Type A, and 12 Cases by Operation Type B.

	Opened Transperitoneally.	Conservative Operation.
Average day of operation after onset of attack	8.8	8.2*
Number of days in hospital after operation	48	15.05
Signs of extension of peritonitis present in	14	0
Secondary abscess formation (operation)	10	0
Secondary local peritoneal swelling (spontaneously subsiding)	2	0
Average time temperature remained above 99° F.	17.7 days	5.1 days
Faecal fistula formation (temporary in all cases)	6	0
Sinus (present on leaving hospital)	4	0

* One case, the history of which was indefinite and extended over four weeks, has not been included.

The 3 fatal cases occurring after treatment of Type A all died from general peritonitis, according to *post-mortem* examination. All were females, aged respectively 16, 27, and 50. The respective intervals between the onset of the attack and operation were twelve, four, and ten days. Death ensued in thirteen, three and four days after operation.

One cannot dogmatize on a small series of figures such as these, but the short convalescent period and absence of complications in the cases in which the conservative type of operation was adopted is very striking.

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[1] Cheyne and Burghard, *Manual of Surgical Treatment*, vol. iv. [2] Sonnenburg, *Pathologie u. Therapie d. Perityphlitis*, sixth edition, 1908. [3] *Trans. Med.-Chir. Soc. of Glasgow*, vol. x, p. 103. [4] *St. Thomas's Hospital Reports*. [5] Beatson, *Lancet*, 1912, p. 1253; H. H. Brown, *Lancet*, March 15th, 1913; Fromme, loc. cit.

SOME PRACTICAL CONSIDERATIONS IN THE DIAGNOSIS AND TREATMENT OF ABSCESS OF THE CEREBELLUM.

By Sir William Milligan, M.D.,

Consulting Surgeon, Manchester Ear Hospital; Aurist and Laryngologist, Royal Infirmary, Manchester; Lecturer upon Diseases of the Ear, the Victoria University of Manchester.

(*Abstract.*)

The decades from 10 to 20 and from 20 to 30 provide the largest number of cases of abscess of the cerebellum.

Males are affected twice as frequently as females, and abscess upon the left side is twice as frequent as abscess upon the right side.

The great majority of chronic cases are secondary to labyrinthine suppuration, the aqueductus vestibuli being the actual route of infection in nearly 30 per cent.

Of clinical indications of cerebellar disease, nystagmus is one of the most important. In labyrinthine suppuration it is first directed towards the affected side and subsequently towards the sound side. It remains towards the sound side throughout the course of the disease and decreases *pari passu* with the destruction of the labyrinth.

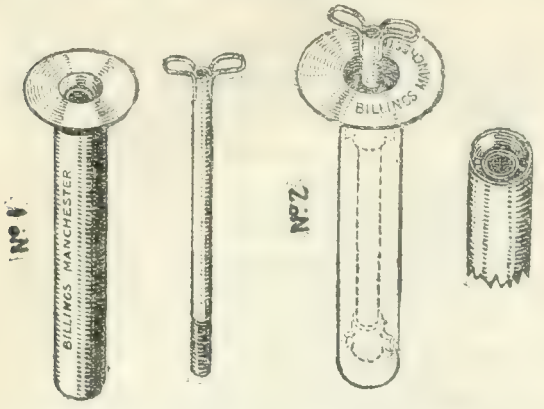
Cerebellar nystagmus is directed first towards the sound side and subsequently towards the affected side. It increases with the progress of suppuration within the cerebellum.

To test the function of the labyrinth the caloric test is the most convenient and can be applied with the patient sitting up or lying in bed. To fix the position of the eyes a goniometer is useful.

Speaking generally, exploration for cerebellar abscess should be made through the posterior antral wall in the space between the internal auditory meatus and the sigmoid sinus groove.

Counter-drainage behind the "groove" is a valuable measure and much facilitates after-treatment. Prior to operation the withdrawal of a small quantity of cerebrospinal fluid is advisable to lessen existing intracranial tension and to prevent sudden respiratory or cardiac failure.

For the drainage of chronic abscesses the author uses a special form of drainage tube (see Fig. 1), a tube within



a tube, so constructed that the inner tube may be removed without disturbing the position of the outer tube.

Operative Results Obtained during the Past Ten Years.
Number of cases operated upon—27.

Males ...	17	Right side ...	7	Cured	17
Females ...	10	Left side... ...	20	Died	10

DISCUSSION.

Mr. W. G. Spencer (London) asked if in acute cases with cerebral tension and meningitis it would not be better to remove more bone behind the lateral sinus, and so do away with the necessity for the tube. The objection to this procedure was the risk of formation of hernia, but the important advantage would be the saving of the patient's life in the meantime.

Sir William Milligan, in reply, said that although many of the acute cases were the result of direct infection from lateral sinus thrombosis, it was better to open all cases through the antral wall in front of the sinus. It was true that the opening could not be so big as through the posterior route behind the sinus. Before operating intracranial tension could be relieved by lumbar puncture; thereafter, in both classes of cases, the abscess was best reached through the antral wall, because cerebellar abscess was almost invariably found below that point. In reply to another question, he pointed out that nystagmus could be produced in any one; it was a normal physiological function. If the tympanic membrane were intact nystagmus could be produced in thirty to forty seconds; if the membrane were gone and the labyrinth normal, the sign was produced very much quicker—in about ten seconds.

ON THE TREATMENT OF VESICAL PAPILLOMATA BY THE HIGH-FREQUENCY CURRENT.

By Andrew Fullerton, M.Ch., F.R.C.S.Irel.,
Honorary Surgeon in Charge of Out-patients to the Royal Victoria Hospital and the Belfast Hospital for Sick Children.

The method of treatment by the high-frequency current has not as yet had a very general acceptance by British surgeons. The method was suggested by Edwin Beer in 1912, and up to the present the total number of cases reported does not amount to much over 200, the large majority having been under the care of American surgeons. E. S. Judd[1] says:

The employment of the high-frequency current is one of the most useful adjuncts in the treatment of these tumours. We have used this method of treatment in 17 cases. This number includes 11 cases of recurrence after previous operations done in our clinic and elsewhere. The patient longest under observation since treatment by the high-frequency current was seen after fifteen months. In this case there is no evidence of recurrence. Five patients have been examined one year after treatment, and in none was there any sign of recurrence. . . . We have found the villous growths on small pedicles the most favourable type for treatment by the high-frequency current.

Dr. Lewis Wine, in a more recent communication, published in the *Clinics of John B. Murphy* of April, 1914, states:

In 31 cases treated by the high-frequency current through the cystoscope I have had only one recurrence, and that was in a patient who refused to follow directions. He did not report for treatment regularly; he was a high liver, and indulged in a considerable amount of alcohol. In this case the recurrence was not malignant, and fulguration has entirely cleared up the condition.

Last year, in the Urological Section of the International Congress of Medicine, held in London, a portable outfit was demonstrated to the members by Loewenstein of Berlin, and it is with this apparatus that I have treated the cases I am about to mention. Two electrodes are supplied with this coil—one a broad, flat electrode, protected by webbing, for application to the suprapubic region, and the other a modified ureteral catheter containing a central wire which terminates at the business end of the catheter in an acorn-shaped platinum point. The patient is prepared as for cystoscopy, and the large electrode, well moistened with saline, is pressed firmly on the lower part of his abdomen. The cystoscope, with the modified ureteral catheter in position, is introduced into the bladder, the latter having previously been filled with fluid in the ordinary way. The intravesical electrode is now manipulated through the cystoscope like a ureteral catheter so that it buries itself in the papilloma about to be treated, and the current is turned on. Immediately a stream of sparks issues from the platinum point and cauterization is begun. As this proceeds the tendrils of the papilloma are seen to crumple up, and after a few seconds coagulated portions of the tumour adhere to the platinum point. It may be necessary to remove the electrode in order to clear away the adherent coagula before continuing the operation. After a few minutes, the superficial part of the tumour becomes converted into a white more or less homogeneous mass obscuring the central or deep part of the growth. For several days the patient passes coagulated remains of his tumour, and it is well to wait until these have cleared away from the urine before attempting a further application. The exact limits of the destructive process will then be visible.

In my own cases I have allowed an interval of a fortnight to elapse between one treatment and the next. Whatever remains of the papilloma after separation of sloughs is now treated in the same way until all trace of the growth is gone. Probably three or four or even more applications may be necessary. The area of the bladder from which the growth has been removed is finally lightly treated with the spark in order to prevent recurrence. I have noticed that the patients complain of rather acute pain when the electrode approaches the bladder wall, but that the tendrils of the papilloma may be destroyed with little discomfort. In the intervals between the applications the patient suffers no pain, but free haemorrhage may take place. No anaesthetic is administered, and the patient may be allowed to get about during the course of his treatment. I have to report two cases successfully dealt with by this method.

H. P., a male aged 54, was sent to me at the Royal Victoria Hospital by Dr. Patton of Belfast. The patient had had no trouble with his urine until seven weeks previously, when he noticed blood in it. He had to make water every two hours during the day, but was not disturbed at night. The patient was cystoscoped on June 16th, 1913. At the base of the bladder, a little to the left, there was a small papilloma, subsessile, with seaweed-like tendrils, and about the size of the last joint of my little finger. I did not see the patient again until January 12th, 1914, when I discovered a second papilloma behind the one just mentioned and about the same size. I may have missed this at my previous examination seven months before. The current was applied in the way I have just described to both papillomata. On January 27th the posterior papilloma was replaced by a blood-stained area, and the anterior one was reduced in size. The current was again applied, and the remains of this growth were destroyed. On February 11th there was no trace of the posterior papilloma, and the site of the anterior was occupied by a white area like a patch of snow. As a precautionary measure the spark was lightly applied to and around this area.

The patient was lost sight of until June 29th, 1914, when he attended at my request for examination. His urine was quite clear, and he could retain for seven or eight hours. After the most careful examination with the cystoscope, I was unable to discover any trace of papillomatous growth in any part of his bladder. Thus, after five months this patient remains free from recurrence, although he really had only two applications of the current.

When I saw this patient in January, 1914, he was anaemic, wasted, weak, and ill, and was suffering from bronchitis, so that a severe operation was out of the question. His appearance at the last visit was greatly improved, and he was at work every day.

The second case was that of a married lady, aged 62, referred to me by Dr. Darling of Lurgan. For about a year she had been having intermittent painless haematuria, the attacks coming on at intervals of three weeks. Occasionally a few clots were passed. The attacks of bleeding were of very short duration, lasting for part of a day, or a day, at a time. She had no other symptoms whatever. I first saw her on April 8th, 1914. The urine was then quite clear, and her general condition was excellent. On cystoscopic examination I found, well to the right of the right ureteric orifice, a soft pink papillated mass, about the size of a small marble. This was subsessile, and was composed of minute finger-shaped processes. Extending from the main growth as far as the ureteric orifice there was a fringe of fine villi, like sprouting blades of grass. To the left of the left ureteric orifice, and well out from it, was a small papilloma, about the size of a large pea. On the posterior wall there was another commencing papilloma. The bleeding had evidently come from the largest growth, which showed an area of ecchymosis at one part.

With the current the main portion of the right-sided papilloma was destroyed, and, moving the electrode along towards the ureteric orifice, the villous fringe was cauterized. On May 7th examination showed a seared area leading downwards and inwards towards the right ureteric orifice. This area was lined on either side by a little hedge of villi which had escaped destruction on the former occasion. The small papilloma on the left and the villi just referred to were dealt with at this visit. After this sitting the patient had a little bleeding, and mentioned the fact that she had for a few days passed small pieces of a whitish soft material.

On May 19th the cystoscope showed at the areas last touched patches of redness with greyish-black centres. The third application was now made, and the remains of the largest papilloma, that on the right side, were destroyed. On June 2nd the site of the right-sided papilloma was represented by a whitish raised area with some black dots in it. This area was further treated. The site of the small left papilloma was now seen to be filling in by indrawing of the mucous membrane, which was red and swollen around it. The patient bled rather severely for ten days after this visit.

On June 23rd all traces of papillomatous growth were gone and there only remained a white slough on the right side. A light application of the spark was made around this area as a precaution against any trace of growth having been left behind. A recent examination shows a normal bladder. In this patient four applications were apparently sufficient to destroy the papillomata. She complained of a good deal of pain when the electrode touched the bladder wall. In the intervals between her visits she was quite free from pain. She came up from the country for each application and returned by the next available train, all the time carrying on her usual duties. If this case had been operated on by suprapubic cystotomy it would have been impossible to have seen the small outlying villi near the right ureter. These could only have been seen while floating in water under good light, as villi of the small intestine are frequently examined. Hence the likelihood of recurrence after an open operation.

I would suggest that a fair trial should be given to the high-frequency current; for it should be of great service in the treatment of small papillomata easily reached through the cystoscope, and for the destruction of recurrences in the early stage. All patients who have had operations for vesical growths should be examined every few months for several years, when treatment by this method may be sufficient to stamp out the disease.

As to the mode of action of the current, I believe that it acts simply as a cautery, and that there is no specific electrical action produced. The method is easy of application, accurate in picking out the smallest visible villi, practically without risk to the patient's life, and convenient in that he can attend to his ordinary duties during the treatment. One great advantage of this method, to my mind, is that the villous processes are destroyed, and are therefore unable to graft themselves on to fresh places on the bladder wall.

REFERENCE.

[1] *Journ. Amer. Med. Assoc.*, November 16th, 1912.

OPERATIVE TREATMENT OF ABDOMINAL ANEURYSM.

By W. I. de Courcy Wheeler, F.R.C.S.I.,

Visiting Surgeon, Mercer's Hospital, Dublin.

(*Synopsis.*)

Mr. de C. Wheeler in an extemporary communication drew attention to the subject of abdominal aneurysm, and to some points in connexion with the operative treatment of cases in which this condition existed. Among symptoms of the condition, that of pain was, in his experience, the most pronounced, and two factors, he believed, played the main part in its causation; the first of these was stretching of the post-parietal peritoneum, and the second, the heaving and tugging on the peritoneum which took place at each pulsation of the aneurysm.

In regard to operative measures, he was opposed to electrolysis, which seemed to him to introduce both a risk of sepsis and an increased probability of the occurrence of embolism. The measure he preferred was the utilization of Colt's apparatus. In using this it was important to make sure that the end of the trocar was lying free in the lumen of the aneurysm: this would be shown to be the case by there being free return of blood through the cannula. Unless this precaution were taken there was a danger that the introduction of the wire would prove ineffectual, because instead of being passed into the lumen where it could do its work, it had been pushed into a part of the sac already filled with laminated clots. It was also well to place the patient in the Mayo Robson gall-bladder position, for this brought the aneurysm well foward, and thus facilitated the operation.

Mr. Wheeler also stated that he had used the measures indicated with success in three cases, which he intended to describe in detail at a later date. Before operation was undertaken they were given a course of salvarsan and mercury, and immediately prior to operation injections of horse serum were made. In one of the patients the sac eventually ruptured, but the point at which it ruptured was remote from the place at which the wire had been introduced, and the whole occurrence was secondary to an attack of intestinal obstruction. Of the other two cases, one was alive and well when last seen four years after the operation, and the other, when seen nine months after his operation, was not only alive and well, but had been passed as sound for service in the Naval Reserve, and subsequently took up active employment as a chauffeur.

Mr. Wheeler acknowledged the assistance and information he had obtained through the courtesy of Mr. D'Arcy Power and Dr. Colt.

DEMONSTRATION.

NOTES ON SOME APPLIANCES.

By Ernest W. Hey Groves, M.S., F.R.C.S.,

Surgeon to the Bristol General Hospital.

Mr. Hey Groves demonstrated a series of appliances, and in connexion with them made the following among other observations:

A Fixation Apparatus for Fractures.—I have on several occasions drawn attention to the excellent results which can be obtained in fractures of the leg by the use of two transfixing pins, above and below the site of injury, clamped together by extension rods which lie on each side of the limb.

I have always pointed out that it is essential for the success of this double transfixion appliance that the two transfixing pins should be passed through the limb in an exactly parallel direction. Hitherto I have been content with using a bar of metal pierced by many parallel holes as a guide, through which the pins are passed. But Messrs. Down Bros. have now suggested and made for me a device which obviates the necessity for a separate instrument. It consists in making at each end of the outside extension bar a socket $\frac{3}{4}$ in. long which exactly fits the pin. Both extension bars are fitted with a fine and a coarse adjustment in length, so as to vary between 9 and 15 in. In applying the apparatus the limb is strongly extended and held in correct anatomical position; the extension bar with the sockets is adjusted as to length so that the sockets lie over the points that the limb is to be perforated; it is firmly held against the outer surface of the leg, and the two pins are then driven right through the bones after passing through the sockets. Each pin has a bradawl point and a detachable handle, which makes it serve as its own drill.

When both pins are in position, the inner extension bar is adjusted and the whole frame is complete. The screw adjustment with which each extension bar is provided enables a very great force to be applied in the

length of the limb, and this force can be used gradually day by day until all overlapping has been reduced.

The simplicity of the application of this apparatus as well as its great efficiency makes it of great service in cases of open or of comminuted fracture of the leg bones, and particularly in those involving the ankle-joint. In the latter case the os calcis takes the transfixion of the lower pin.

It is only necessary for the apparatus to remain in position for about three to four weeks, during which time the patient is up on crutches. It permits the free application of massage and of movements.

Tapped Plates with Converging Screws.—That a simple plate fixed to the outside of a bone by a series of "wood" screws is an absolutely inefficient fixation appliance has been demonstrated both by experiment and by clinical experience. Therefore whenever possible the fractures of long bones which necessitate operative treatment must be transfixed by bolts which hold the plate to the whole thickness of the bone by a broad head or flange. But there are some cases, notably that of the humerus, where it is not desirable to bare the bone on three surfaces in the way demanded by the bolted plate method. For such conditions I have shown that a curved or quadrant plate bearing "metal" screws tapped in its own substance is very efficient. I am showing you now some very simple narrow plates which require the minimum exposure of the bone, but which embody the same principle. They are curved to fit the surface of cylinders ½ in. to 1 in. in diameter, and they have series of holes near their edges which are tapped to take ⅛ in. screws.

The plate is temporarily clamped on to the bone, and holes are bored with a simple drill which just clears the metal ($\frac{7}{64}$ in.) Then metal screws, with self-tapping points, are put into the plate, the thread of which holds them in position and so obviates the necessity of a special screwdriver. They are driven into the bone, in which they cut their own thread. When the screws are all in position they form two converging series lying in two different radii of the bone cylinder. This not only greatly increases the strength of the fixation, but as the screws are fixed in the plate and enter the bone at a converging angle, they cannot become loose nor drop out of place, as happens so commonly with the simple plates and screws.

Modification of the Bolted Plates.—When I showed this method last spring, several surgeons in speaking to me about it objected to the way in which the heads of the bolts and the nuts formed outstanding projections. We have now overcome this objection; when the bolts are screwed home there is no projecting head at either end. The nuts, instead of being adjusted by a spanner, are round, and are cut like screw heads; they are tightened by a tubular screwdriver, which fits over the projecting end of the bolt. This end is cut off when the nut has been finally adjusted.

A New Circular Saw for Bone Work.—The most important subject in the conservative reconstruction of bones is undoubtedly that of the bone graft. Both for the cutting of a graft and for the shaping of the socket in which this is to lie a powerful motor-driven saw is often necessary. Those in common use are open to the objection that they cannot be used upon a bone which lies at the bottom of a deep wound. This is because the small saw blade is at right angles to the shaft which propels it, and the latter, by its contact with the soft parts, prevents the saw working except upon a projecting bone. The saw which I am showing you works by means of a bevelled cog, parallel with the handle or cable, and it therefore can work at the very bottom of a wound of any depth without interference with the soft parts.

Possibly these small details of technique may be thought by some too trivial to be worthy of attention, but I am convinced that all who have worked much at the conservative surgery of bones will agree that it is upon such little points of technique that the possibilities of accurate cutting, fitting, and fixing the bones depend for success.

The Fowler Position.—After dwelling on the advantage of the Fowler position after operation and the reasons of its utility, Mr. Hey Groves showed a model of an apparatus for securing this position, which will be found figured in *A Textbook for Nurses*, by himself and Dr. Fortescue-Brickdale. There was, he pointed out, many specially constructed beds by which the same sitting position could be secured, but the apparatus shown had the advantage of being capable of being fitted on to the frame of any ordinary bedstead. It consisted, he said, of two parts: one a frame which elevated the trunk, and the other over which the legs were bent, so that the patient could not slip down in the bed. There were no rigid bars across the middle of the back to cause discomfort when the patient was lying flat. The body and leg portions of the apparatus were clamped on to the bed frame 8 inches apart, so that when in use this space accommodated the patient's buttocks. The whole apparatus lay between the bed-frame and the mattress, and could be adjusted in position at a moment's notice when required. He had used this bed-frame for the last seven years both at the General Hospital, the Cossham Hospital, and at a private nursing home, and it had been of such invaluable service that he ventured now to bring it to the notice of the profession in the hope that others might find it useful.

(The bed-frames are made for Mr. Hey Groves by Messrs. Hodges, of 104, St. Thomas Street, Bristol, and the price is 27s. 6d. In ordering it is necessary to state the exact outside width of the bedstead and the thickness of the side bars of the bed-frame.)

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF TETANUS.

Pure Carbolic Acid.

THE reading of Dr. Alfred MacConkey's paper on tetanus[1] recalls to my mind two cases treated by myself and one under the care of Dr. Fotheringham, which was treated by him in a similar manner at my suggestion. They were cases, it is true, which were late in developing, and which, unfortunately, had not been recognized until their condition was desperate, and, while we used antitetanic serum, we felt that the disease was too far advanced for the serum to have much effect. In addition, I injected into the site of infection pure carbolic acid 2 parts, in glycerine 1 part, in an endeavour to bring about a coagulation necrosis at the site and try to prevent the absorption of fresh toxin.

The patients also received intramuscular injections of 1 drachm of pure carbolic with 1 drachm of glycerine every four hours, first in one pectoral region and then in the other, and in the groins or thighs. One patient took 9 drachms of pure carbolic acid in this way before showing any signs of carboluria. As soon as the carboluria disappeared the treatment was resumed.

Of course one is aware of the fact that the carbolic acid would have no effect on the toxin and a doubtful effect on the tetanus bacillus, but it does induce an enormous leucocytosis, as is clearly shown in Fotheringham's case.[2]

All three of these cases recovered, and I mention the fact hoping that some poor fellow, whose symptoms have not been recognized sufficiently early for antitoxin to be of much use, may have an extra chance.

Toronto. F. N. G. STARR.

Intracerebral Injections of Antitoxic Serum.

TETANUS has played such havoc among the wounded that I feel that I ought to draw attention to the very remarkable success which followed intracerebral injections in a case under my care some few years ago.

The patient, an officer in the Royal Horse Artillery, was thrown from a dogcart and fell upon his knees on the road. He sustained a lacerated wound over the tubercle of the tibia and the ligamentum patellae of the left knee. The wound was at once washed out with hyd. perchloride lotion and an antiseptic dressing applied by an officer of the Royal Army Medical Corps.

On the ninth day a little stiffness of the jaw muscles appeared. On the tenth day I saw him for the first time in consultation. There was then definite rigidity of the jaws. Under anaesthesia the wound was freely excised and rubbed with pure carbolic acid, 30 c.cm. of antitoxin administered hypodermically and 20 grains of potassium bromide and chloral hydrate ordered to be given by the rectum every four hours.

[1] BRITISH MEDICAL JOURNAL, October 10th, 1914.
[2] *Canadian Medical Association Journal*, October, 1914.

On the following day the injections of antitoxin (30 c.cm.) were repeated morning and evening.

On the next day, the twelfth after the accident and the fourth since first appearance of symptoms, his condition was in every way much worse. There was opisthotonos, firm rigidity of jaws, and a tendency to convulsions. The subcutaneous injections of antitoxin were repeated in large doses, but no tendency to improvement was noted. At 2 p.m. on this day Mr. Swinford Edwards, of London, saw him in consultation with me. On entering the patient's room a very severe general convulsion came on, involving respiratory muscles. He became intensely cyanosed and unconscious. The attack lasted about five minutes. It was obvious that a few more attacks of this kind would be fatal, and the case appeared to be quite hopeless. Mr. Swinford Edwards suggested that as a last resource we should try the effect of intracerebral injection of the serum, and agreed to perform the injection at once. The patient was anaesthetized with chloroform, the head shaved, and the scalp sterilized. A point was selected midway between the right external angular process and the centre of the middle line from bregma to occiput. A small flap half an inch in diameter was turned down and the bone penetrated with a bradawl. Through the aperture the needle of the syringe was inserted for a depth of 2 in. from the skull, so that the point was well in the centrum ovale; 20 c.cm. of serum were injected very slowly, a few drops every half-minute, so that half an hour was taken up by the actual injection. The effect was marvellous; during the rest of the day he had no more convulsions and was much more comfortable.

The improvement lasted during the whole of the following day, but as he then began to go back a little—slight convulsions reappearing—I repeated the dose, injecting the serum through the same puncture with the same precautions.

He complained of severe headache for the next two days, but a steady improvement was maintained until complete convalescence. He was subsequently able to resume his military duties.

Daily subcutaneous injections of antitoxin were continued for a few days after the intracerebral injection and of bromide and chloral by the rectum, but I am quite certain that he owed his recovery to the intracerebral injections, and I am sure Mr. Swinford Edwards would endorse this.

At the same time I think it probable that the large amount of serum given subcutaneously helped the intracerebral injection to produce the extraordinary effect. I think this method should certainly be tried whenever possible, and should be accompanied by intravenous injections of serum.

Ipswich. HERBERT H. BROWN, M.D., F.R.C.S.

BISMUTH SUBGALLATE GAUZE IN THE TREATMENT OF WOUNDS.

MAY I bring to the notice of the profession, many of whom are now engaged in the treatment of our wounded men, the great value of bismuth subgallate gauze in the treatment of suppurating and infected wounds? In an article published in the *Lancet*, June 28th, 1913, I wrote:

> It serves all the purposes for which iodoform gauze used to be advocated. It is definitely inimical to sapraemic infection, and quickly abolishes the fetor of foully septic wounds. I use it for packing suppurating cavities and sinuses, and dressing granulating sores, and certainly find that it checks and shortens suppuration.

Further experience of it has only served to confirm my previous opinion, and I can confidently assert that any surgeon who tries it will not be disappointed. Its bright primrose colour serves to distinguish it at once, an advantage that gauze prepared with the colourless salts of bismuth does not possess. It is further non-volatile and (unlike iodoform gauze, for instance), is therefore sterilizable.

Messrs. Burroughs, Wellcome and Co. have placed it on the market at my suggestion. But it is easily and quickly prepared by immersing and kneading ordinary gauze, previously just moistened with water, in an emulsion of the salt in a mixture of 1 part of glycerine with 2 parts of spirit. By using moistened gauze an even diffusion of the emulsion is rapidly attained. Lengths of one yard or four yards are most convenient for use. The only data required are (1) the weight of the dry gauze, dividing which by 10 gives the amount of the salt required for 10 per cent. gauze, and (2) for economy in materials, the exact quantity of glycerine and spirit which the gauze will take up. This is arrived at by an experimental test with water, the length of gauze being first saturated and then squeezed dry, the amount of fluid being collected and measured. After drying and sterilization it is ready for use.

I may also add that as it appears to me to be ideal in meeting the requirements of a reliable and permanent first field dressing, I have asked Messrs. Burroughs, Wellcome and Co. to prepare such a packet, and anyone who may be interested in it should communicate with them.

E. A. R. NEWMAN,
Calcutta. Lieutenant-Colonel I.M.S.

DERMATITIS VENENATA.

THE apparent infectiousness of the dermatitis venenata due to rungus described by Dr. Hornsey (BRITISH MEDICAL JOURNAL, April 4th, 1914, p. 759), can be explained by the transmission of a minute quantity of the original poison, and I should like to narrate the following experience in support of that view.

In October, 1912, I saw a man with a dry erythema followed by coarse desquamation of the opposing surfaces of the right forefinger and thumb and the corresponding interdigital space. Two days previously he had been weeding in his garden and described the prevalent weed; when shown an illustration of knot-grass (*Polygonum aviculare*) he recognized it. Knowing the acridity of the plant, I told him it was the cause, and prescribed ung. glyc. plumbi subacet. ʒij and suggested that he might prove the correctness of my opinion by next year testing his susceptibility, which might possibly be increased. His susceptibility to the poison was proved before the return of the plant. Five months later he returned with a small cut on the forearm, surrounded by a zone of erythema the size of a five shilling piece. When asked what he had applied to the wound, he said he had used the ointment which he had been given for the "eczema" on his hand, and when told that some of the poison must have been carried from the surface of the ointment he suggested that a rash on his chest and back had been caused in the same way. He had undressed after using the ointment without washing his hands, and it was customary with him to give his chest and back a scratching after taking off his vest. Both the chest and back showed broad lines of erythema where the fingers had been drawn across.

When one thinks of the small quantity of poison that could be carried from the two days' old, frequently washed localized erythema to the ointment and of the further dilution which would occur in the reinoculation from the ointment to the skin, the apparent contagiousness of a dermatitis due to such a powerful poison as described by Dr. Hornsey can be understood.

Alsager, Cheshire. G. W. LLOYD, M.B., B.S.Lond.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

DORSET AND WEST HANTS BRANCH.

THE autumn meeting of the Branch was held at the Mont Dore Hotel, Bournemouth, on October 21st, the President, Mr. H. H. DU BOULAY, being in the chair.

Uterine Haemorrhage.—Dr. ELEANOR C. BOND, in opening a discussion on this subject, referred to it first in its physiological aspect and briefly reviewed some of the theories of the production and control of menstruation. Pathological conditions which brought about excessive and irregular uterine haemorrhage were considered under the heads of functional irregularities, fibrositis, and simple and malignant tumours. The PRESIDENT emphasized the importance of early diagnosis in malignant disease of the uterus, and commented on the tendency to put off the evil day of operation too long. Dr. MAHOMED raised the question as to whether the menstrual flow could be correctly called haemorrhage seeing that several important constituents of the blood, such as fibrin and fibrinogen, were absent from it. Having

regard to the natural process of arrest of haemorrhage from the uterus by the contraction of its muscular coat, he also raised the question as to why fibroids caused haemorrhage seeing that they contained so much muscular tissue. Dr. Saberton, speaking of the value of intensive *x*-ray treatment in the therapeutics of fibroids, cited two cases in which they had been remarkably successful.

Case I.—A patient, aged 41, with a fibroid reaching to within half an inch of the umbilicus and suffering from excessive menstruation, daily haemorrhage and a discharge. After three months' treatment her doctor reported great diminution in the mass of the uterus with cessation of the haemorrhage and discharge. Treatment was stopped and three months later the patient reported herself as feeling quite well. There had been no recurrence of the haemorrhage and the menses had ceased.

Case II.—A patient with a large fibroid and severe haemorrhage, which had reduced her to the last stages of anaemia and exhaustion, operation being consequently out of the question. Application of the rays was made twice weekly, and two months later the patient was much stronger and the haemorrhage considerably less. Improvement continued without further treatment, and the patient is now, nine months later, in good health.

Dr. Saberton thought that the beneficial effect of the rays was due to their action on the ovaries and on the embryonic cells of the fibroid. He did not advocate *x*-ray treatment in every case. The drawbacks were the length of time—usually six to seven months—occupied in the treatment and the possible production of peritoneal adhesions causing difficulty later, should operation eventually become necessary. Dr. Lys took exception to Dr. Bond's statement that ergot was of little use in the treatment of uterine haemorrhage. He thought that in nine cases out of ten it would control the haemorrhage, and that it might be taken for years without any ill effect. Mr. Simmons cited a case in which, after supravaginal hysterectomy for fibroids, the haemorrhage still continuing, *x* rays caused a cessation of the haemorrhage. He thought that as the exact action of the rays was not fully understood, it was wise to hesitate before recommending them. Was it certain that the action of the rays was limited to the tissues requiring treatment, and that it did not go further, and act deleteriously on healthy tissues? He thought that the latter was the case, and that the adhesions formed complicated subsequent operative interference. Mr. Ramsay laid stress on the importance, in treating uterine haemorrhage, of never being content until the cause was known. He instanced the case of a girl of 17 with a history of repeated uterine haemorrhages since puberty. Examination under an anaesthetic revealed an ovarian tumour whose existence had not been suspected. He agreed with Mr. Simmons that *x*-ray treatment could only be recommended in the treatment of fibroids if further experience proved its value. At present he doubted its utility; in some cases it produced sterility owing to its action on the ovaries, and also symptoms resulting from insufficiency, or absence, of the ovarian secretion. A drawback to *x*-ray treatment was that the patient still retained the fibroids, and consequently ran the risk of future haemorrhage or symptoms resulting from degeneration. Dr. Midelton, speaking of the etiology of endometritis and other pathological conditions of the uterus, expressed the opinion that they might often be due to germs from some previous infection lingering in the system, and instanced scarlet fever as a possible factor. He praised thyroid extract in the treatment of uterine conditions when associated with chilblains and other signs of thyroid insufficiency. Adrenalin was, he said, valuable in the treatment of fibroids when combined with ergot. Dr. Bond, in replying, said she was doubtful as to the advisability of *x* rays in the treatment of fibroids, but would recommend them in cases of haemorrhage that were unsuitable for or refused operation. Ergot, she maintained, was of very little value, while surgery offered a certain cure.

Abdominal Cases.—Mr. Norman Flower (Yeovil) read notes of two cases of interest.

Case I. *Chronic Pancreatitis simulating Gall Stones.*—Mrs. R., aged 40, gave a history of recurring attacks of abdominal pain during several years, with jaundice and tenderness over the gall bladder. At the operation no stones were found, but the pancreas was found to be uniformly enlarged and hard. Cholecystenterostomy was done, with a favourable result, fourteen days later the patient being up, with only a trace of jaundice remaining. Before operation the urine yielded a decided indican reaction, and sugar was present to the extent of 3.4 parts per 1,000. Cammidge "C" reaction, which unfortunately was not done before the operation, was afterwards found to be negative. In view of the long history and the general enlargement of the pancreas, a diagnosis of interstitial pancreatitis seemed more probable than that of a neoplasm.

Commenting on the case, Mr. Flower pointed out that a single negative Cammidge reaction did not exclude chronic pancreatitis, as the reaction was only given when active degenerative changes in the gland were actually going on. Cirrhosis due to past inflammation did not therefore cause a reaction, which was only given in about 25 per cent. of cases of cancer of the pancreas. A short reference to the alternative procedures of cholecyst-gastrostomy, cholecyst-jejunostomy, and cholecyst-colostomy was made. The first proceeding did not cause the discomfort that might be expected, and had been carried out several times in patients whose ages varied from 6 to 60 years with satisfactory results. The second operation had as a drawback the tendency to the production of a kink in the jejunum at the level of the stoma. The third was the easiest proceeding, but the risk of infection of the bile passages by the *Bacillus coli* introduced a grave element of danger.

Case II. *Reflex Gastric Symptoms from an Appendix Lesion.*—Mrs. S., aged 55, with a long-standing history of mucous colitis and chronic constipation, had suffered for five months from loss of appetite, epigastric pain, and abdominal tenderness. Examination revealed a small lump in the epigastrium, not invariably present, and often gradually disappearing under the surgeon's hand. *X*-ray examination showed that the stomach emptied itself with great rapidity, that the pylorus was abnormally relaxed, and that there was no delay in the passage through the colon. Gastric analysis demonstrated only 0.109 per cent. active HCl. On the probability of an early growth of the stomach being present operation was undertaken, but the only lesion found was an appendix containing three concretions. This was removed, and progress had been satisfactory; the epigastric tumour had never since been detected.

Mr. Flower referred to Mr. Sherren's recent article in the *British Journal of Surgery*, and remarked that the case seemed to fall into Mr. Sherren's second group—namely, those in which the symptoms were the result of ileal obstruction rather than of irregular action of the pyloric segment of the stomach. In these the conditions found were a flabby stomach with a widely relaxed pylorus, a large duodenum, and a low gastric acidity. It also possessed to an exceptional degree the irritability which in his first group Mr. Sherren associated with excess of acid, the evidence of this being the epigastric tumour, the result of muscular contraction of the stomach, and in this point lay the interest of the case.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Operative Treatment of Tumours of Caecum and Colon.

At a meeting of this society on October 26th, the President, Sir J. Bland-Sutton, being in the chair, a discussion was held on the operative treatment of tumours of the caecum and colon, especially in relation to immediate resection,' colostomy combined with secondary resection, and short-circuiting.

Mr. H. J. Waring, who opened the discussion, dealt with malignant disease of the caecum. This, he said, was usually a columnar-celled carcinoma of the exuberant type, and less commonly an annular scirrhous growth tending to produce at a comparatively early stage intestinal obstruction. A small proportion of the neoplasms of the caecum were sarcomata. When compared with carcinomata in other parts of the body carcinoma of the caecum and other portions of the colon were less malignant. This was especially so when the neoplasm was of the adeno-carcinomatous type, and extended into the lumen of the bowel as a cauliflower-like protuberance. With regard to frequency, he had found that among 107 cases of malignant disease of the large intestine (excluding the rectum), 17 were examples of carcinoma of the caecum. He detailed the forms of treatment which he would adopt for different types and stages of the disease.

Mr. James Sherren divided his remarks into treatment of the tumours of the pelvic colon and those of the descending, including the iliac colon. The pelvic colon

was the most common site in the large intestine for the development of carcinoma, the descending colon the rarest. Thus, among 376 cases of carcinoma of the colon, 211 were of the pelvic colon, 20 of the descending colon; 40 per cent. were operated upon for acute obstruction. In cases with urgent obstruction free drainage of the intestine was indicated, but primary resection should never be carried out. Unless compelled by disaster to the caecum, he considered preliminary caecostomy an unwise procedure. He did not favour operations in which the growth was exteriorized and removed at the original operation, and the closure of limbs left to a later stage. After excision of the growth in dealing with large intestine completely covered by peritoneum, end-to-end anastomosis by suture had proved perfectly satisfactory. It was wise, however, to leave a tube in for a few days. In every case in which the peritoneal covering of the gut was incomplete, lateral anastomosis was to be adopted. When the carcinoma affected the lowest part of the pelvic colon, anastomosis by invagination was the most satisfactory. His practice in the treatment of carcinoma of the pelvic and descending colon might be summed up shortly thus: In all cases of acute obstruction colostomy should be carried out, left iliac if the growth be in the pelvic colon, transverse if in the descending. In resection the lymphatic area draining the affected gut should be removed. Continuity should be established by end-to-end suture if the gut had a complete peritoneal covering, by lateral anastomosis if incomplete, sufficient room being obtained by mobilization.

Mr. E. M. Corner spoke especially of growths of the transverse colon. Clinically they exhibited, he said, these characteristics: absence of symptoms which warned the patient, the unannounced onset of acute intestinal obstruction, and the presence of a small annular growth. The intestinal obstruction should be relieved first. Having done this, the anastomosis might be made near the site of the excised carcinoma where possible, by oblique or circular enterorrhaphy. If too little transverse colon remained to allow of an end-to-end anastomosis being done the best procedure was to close the ends of the bowel, cut off the caput coli with the appendix, and anastomose by implanting the caecum into the upper rectum or sigmoid.

Mr. H. W. Carson continued the discussion. He referred to the importance when excising the gut of removing the most distal glands, for these might contain carcinomatous cells, whilst those nearer the bowel were apparently free from growth. The method of relieving the obstruction which he preferred was excision of the growth with the formation of an artificial anus, if the growth was free from adhesions. If there was difficulty in delivering the growth through the wound, he preferred a colostomy in the neighbourhood of the growth rather than at a distance.

After Mr. G. E. Gask, Mr. Swinford Edwards, Dr. Herbert French, and the President had spoken, Mr. Corner, Mr. Sherren, and Mr. Waring replied.

Reviews.

THE LABYRINTH OF THE EAR.

At a time when the problems of the labyrinth of the ear occupy the centre of interest in the otological world a book on *The Labyrinth*,[1] described as "an aid to the study of inflammations of the internal ear," comes most opportunely. Dr. Alfred Braun, of New York, and Dr. Isidore Friesner, also of New York, in producing their work have kept in mind the importance of having a groundwork upon which to base any further study or investigation of this fascinating subject, and also that such a groundwork must consist of those basic truths regarding labyrinthine disease which have thus far been established beyond doubt. They have divided the book in which they present these truths into six chapters; the first three deal respectively with the anatomy, the physiology, and the methods of examination of the internal ear, and more than half of the volume wisely has been given up to this part of the subject; the remainder describe the pathology, the symptoms of labyrinthitis and its treatment.

Despite the amount that has been written and said within recent years about labyrinthine inflammations, our present knowledge of the subject is still in the developmental stage; and our experience of the operative treatment of labyrinthitis is undoubtedly in the experimental stage. The last chapter of this work, in which the treatment is discussed, sets out some sound general principles, which in view of the remarkable increase in the number of cases of labyrinthectomy and labyrinthotomy brought forward within recent years are not untimely. The opening sentence of this chapter reminds us that "a large number of cases of labyrinthine disease recover without treatment." Whilst fully recognizing that labyrinthitis is an extremely serious condition, the following paragraph may none the less be cited:

> It is of the utmost importance to positively establish our diagnosis before operating on a case of labyrinthine disease. For to place a normal labyrinth into open communication with an infected middle-ear cavity invites certain infection of the labyrinthine contents. In a diseased labyrinth, on the other hand, inflammatory adhesions have, in most cases, shut off the infected labyrinth cavity from the intracranial lymph spaces before operation.

Those who wish to study the complex problems of the labyrinth in the light of recent research will find this book a useful compendium, and to those who wish to pursue the matter further the bibliography appended to the book will be very helpful. In the bibliography the authors wisely have made no attempt to mention every work written on the subject, but have referred only to the publications used in the preparation of their book. In the same way, on those topics regarding which there is still considerable difference of opinion, they have made no attempt to state all the opinions, since this would only tend to confuse the reader. Attention has been confined to the hypotheses which seemed to be most plausible.

The work is illustrated with fifty figures in the text and thirty-four half tones on thirty-two plates. The illustrations for the most part are original and made by one of the authors. The typography throughout is good and appears to be remarkably free from errors.

VOLCANIC ACTION AND DISEASE.

Dr. Johnston-Lavis shortly before his death published in book form the essay on the *Effects of Volcanic Action in the Production of Diseases*,[2] which was awarded the triennial Parkin prize of the Royal College of Physicians of Edinburgh. The work epitomizes the present state of knowledge, to which Dr. Johnston-Lavis himself made several contributions. In the first two chapters the main physical and chemical facts are discussed, while in the third and following chapter the effects upon man and other animals are considered. Where death is the result of being overwhelmed by lava streams it is in almost all cases, Dr. Johnston-Lavis thinks, due to stupidity or carelessness; but when, as in the Soufrière eruption, there is a discharge of highly heated solid stones and dust by a blast of hot gases the case is different. In the Soufrière eruption the hot blast travelled at the rate of thirty miles an hour, and killed all it reached. The author mentions the famous case of the elder Pliny, and rightly questions whether the true cause of death may not have been apoplexy or heart failure accelerated by heat, dust, and excitement. The actual words of the younger Pliny—who says of his uncle's end, "Ut ego colligo, crassiore caligine spiritu obstructo clausoque stomacho, qui illi natura invalidus et angustus et frequenter aestuans erat"—support this opinion.

Several writers are quoted as to the supposed causal relation between outbreaks of epidemic disease and the occurrence of volcanic eruptions, the most interesting citation being a description of epidemic pneumonia in the neighbourhood of Vesuvius following the eruption of 1754, contained in a letter of Dr. Jean Vivinzio addressed to Padre de la Torre. It is justly pointed out by the author that the connexion in many cases may have been accidental, and that in none can the influence have been other than indirect.

[1] *The Labyrinth: An Aid to the Study of Inflammations of the Internal Ear.* By A. Braun, M.D., and I. Friesner, M.D. London: Rebman, Limited. 1913. (Sup. roy. 8vo, pp. 250; 50 figures, 32 plates. 17s. 6d. net.)

[2] *On the Effects of Volcanic Action in the Production of Epidemic Diseases in the Animal and in the Vegetable Creation, and in the Production of Hurricanes and Abnormal Atmospherical Vicissitudes.* By H. J. Johnston-Lavis, M.D., D.Ch., M.R.C.S.Eng., L.S.A.Lond., F.G.S. London: John Bale, Sons, and Danielsson, Ltd. 1914. (Cr. 8vo, pp. 67. 3s. net.)

With respect to the influence of volcanoes upon plant life, the author remarks that although direct injury to vegetation by the fall of dust and lapilli may be done, the complete destruction of worms, snails, insects, and parasitic fungi must be set against such losses.

The supposed significance of volcanic eruptions from the epidemiological point of view was part and parcel of a system of thought which attributed so many harmful effects to a corruption of the air, and with the passing of that system the subject has lost some of its importance. But the actual phenomena are so striking, and the calamities due directly and indirectly to volcanic eruptions so overwhelming that the subject must always be of interest, and Dr. Johnston-Lavis's book deserves to find a wide circle of readers.

NOTES ON BOOKS.

THE little work on *Tropical Hygiene for Anglo-Indians and Indians*[3] by Sir PARDEY LUKIS and Major BLACKHAM has quickly reached a second edition, and deservedly so. The work has been carefully revised and in many instances largely rewritten. Times change so quickly now that this is necessary. The book contains twelve chapters, as follows: (1) The communicable diseases of the tropics. (2) Malaria, yellow fever, kala-azar and sand-fly fever. (3) Air and ventilation in hot countries. (4) Water and water supplies in the tropics. (5) Food in the tropics. (6) Clothing in the tropics. (7) Houses and their surroundings in the tropics. (8) The disposal of refuse in the tropics. (9) Insects and disease in the tropics. (10) Disinfectants and disinfection in the tropics. (11) The disposal of the dead in hot countries. (12) The climate of the tropics. A glance at the above shows that everything of importance for the civilian in India is included, and a careful study of the pages of the work should do much to prevent many of the maladies so common there. Clearly written and clearly printed, the contents should be easily assimilated. The book can be heartily recommended.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the committee thirty-seven cases were considered and grants amounting to £303 voted to thirty-two of the applicants. The following is a summary of the cases relieved:

Daughter, aged 42, of M.R.C.S.Eng. who practised at Shrewsbury. Training for rescue work. Mother died recently and the little income she had was only for life. Applicant required a little help until able to commence work. Voted £5.

Widow, aged 42, of L.R.C.P. and S.Irel. who practised in Ireland and Australia. Usually earns her own living as a teacher of languages, was in Berlin at a post when the war broke out and had to return to England without her belongings or money. She proposed to go to Madrid, where she could obtain work. Previous grant £10. Voted £5 as gift and £7 as a loan.

Widow, aged 66, of M.R.C.S.Eng. who practised at Notting Hill. Has five daughters, one a trained nurse who has had to give up her post to nurse her mother, who is suffering from malignant disease in the breast. Try to make a little by letting room. Relieved fourteen times, £176. Voted £5.

M.R.C.S., aged 81, who practised at West Kensington. Has the old age pension and a pension from another charity. Is blind. Has four children, the eldest of whom is practically blind and the others unable to help. Relieved twice, £14. Case referred for further inquiry and the sum of £5 placed at the disposal of the visitor.

Widow, aged 63, of M.B.Glasg. who practised at Carnarvon. Unable to work and only income £16 from investments and 5s. per week temporarily from brother. Three children married and unable to help. Relieved twice, £12. Voted £12 in twelve instalments.

Widow, aged 46, of L.S.A.Eng. who practised at Leyton. Left with five daughters, ages 9 to 16 years. Very delicate and only able to do very light work. Hopes to take in paying guests and wishes to remove to a more suitable house. Voted £10 towards removal expenses.

Widow, aged 39, of L.R.C.S. and P.Ire. who practised in Monmouthshire and New South Wales. Acts as working housekeeper at about £15 per year, and her youngest child is allowed to live with her. Eldest child, aged 12 years, adopted by grandparents. Wants assistance towards the education of daughter, aged 11 years. £10 voted through the Guild who were also going to assist.

[3] *Tropical Hygiene for Anglo-Indians and Indians.* By the Hon. Surgeon-General Sir Pardey Lukis, K.C.S.I., and Major R. J. Blackham, C.I.E., R.A.M.C. Second edition, thoroughly revised and largely rewritten. Calcutta and Simla: Thacker, Spink and Co.; London: W. Thacker and Co. 1914. (Cr. 8vo, pp. 276; 44 figures. 4s. 6d. net.)

Widow, aged 67, of M.B., B.S.Lond. who practised at Islington. Only very limited means. Eldest son used to help, but owing to the falling off of his business unable to continue. Endeavouring to obtain an Epsom College pension. Voted £12 in twelve instalments.

Daughter, aged 48, of M.D.Glasg. who practised at Glasgow. Endeavours to make a living by letting rooms at a seaside resort, but owing to short season in consequence of the war is unable to meet her expenses. Voted £10.

Daughter, aged 35, of M.R.C.S. who practised at Streatham. Very delicate, and only a few pounds per annum from an investment. Supplements this by painting, but no market for pictures at present. Voted £5.

Widow, aged 58, of L.R.C.P.Dubl. who practised in London. Endeavours to make a living by taking boarders and nursing mental cases, but in consequence of recent illness has not been able to attend to this thoroughly. Voted £10.

Daughter, aged 56, of M.R.C.S.Eng. who through ill health was unable to practise. She is suffering from carcinoma of the breast and too ill to work. Only income £16 10s. per annum. Voted £12 in twelve instalments.

Widow, aged 60, of M.D.Glasg. who practised at Burnham and was an annuitant of the Fund. She is a confirmed invalid and unable to help herself. Only small income provided by friends. Voted £12 in twelve instalments.

Widow, aged 35, of M.R.C.S.Eng. who practised at Bexhill-on-Sea. One child 4 months old. Left totally unprovided for. Voted £3 and the case referred for report.

Widow, aged 35, of M.R.C.S.Eng. who practised at Monmouth and was killed at the front. Widow left with two children, 3½ and 1 year. Voted £25.

Widow, aged 58, of M.R.C.S.I. who practised at Newnham-on-Severn and died two years ago, leaving widow and family penniless. Two daughters, one of whom is a nurse at the front, and one son at the front. Only income 15s. per week allowed by children. Relieved once, £10. Voted £10 in two instalments.

Widow, aged 42, of M.B.Edin. who practised at Sheffield. Health very bad and unable to obtain suitable employment. One son being educated by grandparents. Promise of light work when a little stronger. Relieved once, £10. Voted £10.

Widow, aged 49, of M.R.C.S. who practised at Bexhill. Tries to earn a living by taking boarders, but it requires six to make it pay and only has three at present. Two daughters ages 19 and 10½, eldest a clerk, who is only able to contribute £12 per annum. Relieved twice, £20. Voted £10.

Daughter, aged 60, of M.R.C.S.Eng. who practised at Hackney. Applicant is blind. Only income an annuity from another society and £12 from friends. Relieved four times, £34. Voted £12 in twelve instalments.

Daughter, aged 61, of M.D.Lond. who practised in London. Is quite blind. Only income a pension of £20 from the Blind Society. Relieved twice, £18. Voted £12 in twelve instalments.

Widow, aged 65, of L.R.C.P.Edin. who practised at Port Carlisle. Suffers from cardiac asthma, and recently operated on for carcinoma of the breast. Left without any means, and of the five children only youngest daughter able to help with 10s., for which she has her board. Relieved once, £12. Voted £12 in twelve instalments and referred to the Guild.

Widow, aged 59, of M.D.Dubl. who practised at Acton. Endeavours to earn living by taking boarders, but has not been successful lately. Son who usually pays rent for her unable to continue owing to war. Relieved once, £10. Voted £5.

Widow, aged 55, of M.R.C.S. who practised at Kensington. Successfully earned a living of late by taking boarders, but the four she recently had have all joined the army, so she is now without. Relieved once, £10. Voted £10 in two instalments and referred to the Guild.

Widow, aged 63, of M.R.C.S.Eng. who practised at Newtown, N. Wales. Very poor health and heart trouble. Eldest son abroad has in the past paid her rent, but is now unable to do so on account of ill health. Six children, the youngest unable to work on account of ill health, and the others unable to help. Relieved six times, £55. Voted £13.

Daughter, aged 52, of L.R.C.P.Lond. who practised at Birmingham. Endeavours to make a living by letting rooms, but, owing to short season, has not made much this year. Eyesight very bad. Relieved three times, £32. Voted £12 in twelve instalments.

Daughter, aged 55 years, of M.R.C.S.Eng. who practised in London. Suffers from chronic glaucoma and general bad health. Only income £24 per year. Relieved six times, £55. Voted £12 in twelve instalments.

Widow, aged 52, of L.R.C.S.Edin. who practised on the West Coast of Africa. Endeavours to earn a living by letting rooms and nursing. One invalid daughter at home and two sons abroad unable to assist. Relieved three times, £36. Voted £12 in twelve instalments.

Daughter, aged 63, of M.R.C.S.Eng. who practised at Keynsham. All money lost by the foreclosure of mortgagees. Tries to earn a little by painting, but has found it difficult recently in obtaining clients. Relieved once, £12. Voted £18 in twelve instalments.

Widow, aged 55, of M.R.C.S.Eng. who practised at Donhead and who had been a recipient of help from the Fund. Unable to work; has one daughter unable to assist. Since husband's death a sister has assisted her, but cannot now continue. Voted £2, and referred to the Guild for report.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

THE INDIAN MEDICAL SERVICE.

THE NEWLY PUBLISHED DISPATCHES.

Five years ago, in 1909, the Indian Government published the correspondence which had taken place between it and Lord Morley, then Secretary of State for India, on the constitution and recruitment of the Indian Medical Service. The most important papers were a dispatch from the Government of India, dated August 20th, 1908, and the reply, dated December 11th, 1908, from the Secretary of State, in which Lord Morley strongly urged upon the Indian Government the promotion of the growth of an independent medical profession in India by throwing open to private practitioners a number of the civil appointments then (and now) held by members of the Indian Medical Service, and raised strong objections to any increase in the numerical strength of that service. This correspondence created considerable interest at the time, and gave rise to a good deal of discussion in the British Medical Journal, the *Lancet*, and the *Indian Medical Gazette*.

The Government of India consulted all the provincial governments on the subject. It was generally understood that these governments had unanimously objected to the proposals, and, after Lord Morley's connexion with India ceased, the matter appeared to have been tacitly dropped. Further correspondence on these proposals, between the Home and Indian Governments, has taken place during the last four years, and this correspondence has now been published in the *Gazette of India* for August 1st, 1914, where it fills twenty-one folio pages.

Lord Morley's Dispatches.

Lord Morley's first dispatch called attention to previous communications, in 1899-1900, from Lord George Hamilton, then Secretary of State for India, in which he remarked upon the increase in numbers of the Indian Medical Service between 1884 and 1899. We have not the exact figures of the strength of the service in these two years, but undoubtedly a considerable increase in number did then take place. What appears to have been altogether overlooked, however, is the reason for that increase. In January, 1882, the strength of the whole service, for all three Presidencies—Bengal, Madras, and Bombay—was 688. In 1882 a large number of regiments of the Indian army were disbanded. Recruiting for the service was cut down to the lowest possible limit; for some years only five admissions were made at each half-yearly examination, and by January, 1886, the numbers had sunk to 603, the lowest touched for almost a century past. During the next ten years new regiments were raised in the place of those disbanded in 1882, and by the end of the century the strength of the Indian Medical Service had considerably increased. In January, 1914, the numbers were 770. But even this number, large as it may seem, is considerably less than the strength sanctioned half a century earlier. After the suppression of the Mutiny the amalgamation of the Indian Medical Service with the medical department of the British army was for long under consideration, and for four and a half years no new admissions to the Indian Medical Service took place. When the proposed amalgamation was finally negatived the future constitution of the Indian Medical Service was discussed in a military letter from the Secretary of State, dated November 7th, 1864, and in the seventeenth and eighteenth paragraphs of that letter the number of 861 was sanctioned as the strength of the Indian Medical Service. That number was never actually attained; but in July, 1861, the actual strength of the service was 819. Over fifty years have passed since 1861. Upper Burma and British Baluchistan have been annexed, and the number of appointments under the Foreign department on the Indian frontier and in Persia has been considerably increased, while one new branch of the medical service—the bacteriological department—is entirely a creation of the last fifteen years. Yet the strength of the Indian Medical Service has diminished from 819 to 770, and is now some 6 per cent. less than it was fifty-three years ago.

Dispatch from the Government of India, 1910.

The most important item in the correspondence now published is a dispatch from the Government of India (Home Department, Sany.-Medl., No. 21, of November 17th, 1910) and recently presented to Parliament as a White Paper (Cd. 7547). It is of great length, and the briefest summary must occupy a considerable space. The first two parargaphs refer to Lord George Hamilton's dispatches of fifteen years ago, and the increase in the numbers of the Indian Medical Service which had then recently taken place. In the third it is stated that the primary question then raised was the advisability of substituting unofficial for official medical men; that the Secretary of State advocated the encouragement of European medical men to settle in India; and that the replacement of European civil surgeons by Indian practitioners was only a secondary consideration. The fourth paragraph is one of the most important in the whole paper. The Government of India states that when its dispatch of August 20th, 1908, was written it had not yet consulted local governments; that it had gravely underestimated the objections to the transfer of appointments from the Indian Medical Service to other hands; and that it now felt bound to recede from the position then taken up.

> "In 1908 we pointed out that about one-third of the civil appointments now held by the Indian Medical Service do not form any part of the war reserve, and that consequently there would be no objection, from a military point of view, to their transfer to medical men not belonging to that service. Starting from that premise, we concluded that, subject to certain specified conditions, a considerable number of the appointments not included in the war reserve might gradually be transferred to medical men not belonging to the Indian Medical Service. We had not at that time had the advantage of the opinions of local governments, and we regret to find that we gravely underestimated the objections, on other grounds than those connected with the requirements of the Indian army in time of war, to the transfer of appointments which we contemplated. We have now given the whole question our most careful consideration in the light of the opinions of local governments. We recognize most fully the importance of encouraging the growth of a private medical profession and the impossibility of the Indian Medical Service being expanded so as to meet all the medical needs of India. But we feel bound to recede from the position which we previously took up, because, on further consideration of the question, we are convinced that the mere transfer of a certain number of Government appointments from the Indian Medical Service to private practitioners would do practically nothing to encourage the growth of an independent profession; that most of the civil appointments now held by the Indian Medical Service could not suitably be given to men not in regular Government service, with whom their private practice would be the first consideration, and that the retention of a considerable number of superior medical appointments for the Indian Medical Service is essential, not only in the interests of administrative efficiency, but also for the purpose of making the service itself attractive to able medical men. In short, while we adhere to the views previously expressed—that it is impracticable to provide from the Indian Medical Service for the growing needs, beyond the ordinary administrative duties, of the country in respect of medical relief—we hold strongly that the appointments now held by officers of the Indian Medical Service are required strictly for ordinary administrative duties, which cannot suitably be performed by men otherwise recruited."

Paragraph 5 states that outside large towns there is no demand for medical men qualified on the European system.

Paragraph 6 is also of much importance; it gives the means which the Government of India thinks most suitable for adoption in order to assist the development of an independent medical profession. These are:

(*a*) Provision of more medical schools.

(*b*) Throwing open posts of house-physician and house-surgeon in large general hospitals to men not in Government service.

(*c*) Encouragement, under due supervision, of private medical schools.
(*d*) Demonstration of advantages of Western medical science.
(*e*) Association of private practitioners with the staff of Government hospitals as honorary physicians and surgeons.
(*f*) Checking the abuse of hospitals by patients able to pay.

It is interesting to see that this last complaint, so commonly made in England, is also put forward in India. Every civil surgeon knows that such abuse of hospitals by well-to-do patients is more common in India than in England, though doubtless with more excuse.

Paragraph 7 speaks of the necessity for registration of duly qualified practitioners, and for the publication of a medical register; while paragraph 8 states that medical certificates from registered medical men may in future be accepted without countersignature.

Paragraph 10 quotes some opinions of local governments on the whole subject; and paragraph 11 asserts the agreement of the supreme Government with these opinions.

Paragraph 12 emphasizes the importance of not doing anything to lower the attractiveness of the Indian Medical Service, and paragraph 13 notes the falling off in the number and quality of the candidates for that service. It is acknowledged that Lord Morley's dispatches of 1907–8 have given rise to widespread uneasiness, and this point is emphasized by quotations from the three medical journals above mentioned.

The next three paragraphs speak of the difficulties of the policy proposed by Lord Morley, of the lack of qualified Indians, and of the impracticability of recruiting European medical men in India, and state that the promotion of civil assistant surgeons is the only practicable method of carrying out this policy.

Paragraph 17 insists on the necessity of providing European medical attendance for the European servants of Government.

Paragraphs 18 and 19 recount the civil appointments held by members of the Indian Medical Service, including special appointments, and paragraph 20 recalls that the late Decentralization Commission, which sat and took evidence some five years ago, reported that the establishment of a separate civil medical service was inadvisable. Paragraph 21 states that the civil appointments held by the Indian Medical Service cannot be reduced in number.

The Conclusions of the Government of India.

Paragraph 22 recapitulates the whole subject, and is of such importance that we quote its summary in full.

"We sum up our conclusions as follows:

"1. An independent medical profession trained on Western lines is steadily growing up in India, but it has yet to overcome its universal rival in the form of the *kaviraj*, *hakim*, *vaid*, *ojha*, and the like, who are trained according to indigenous methods, and whom the mass of the population still trust.

"2. Government can do much to encourage an independent medical profession in the various ways enumerated in this dispatch.

"3. The giving up of a few appointments to private medical practitioners will have no appreciable effect on the development of an independent medical profession, and might, on the contrary, tend to hinder a healthy development.

"4. The present policy of reduction, which was inaugurated without previous reference to the local governments, has already given rise to considerable uneasiness in professional circles, and, if carried further, is likely to cause a decided deterioration in the Indian Medical Service.

"5. The bulk of the civil surgeoncies must be manned by officers of the Indian Medical Service, exceptions being made in favour of civil assistant surgeons.

"6. The Government medical colleges and schools must, in the main, be manned by officers of the Indian Medical Service, but a few professorial posts can be made available to locally recruited men.

"7. European medical men cannot be expected to establish themselves in this country, except in cities and large towns and in special areas where there is a large European population, and it is, generally speaking, undesirable to recruit from among them.

"8. When European medical men are required, they should usually be recruited in the Indian Medical Service. Indians and Europeans recruited locally in special cases should be employed on special terms."

Paragraphs 23 and 24 complain of the difficulty of carrying out Lord Morley's order that no increase in the civil cadre of the Indian Medical Service should be permitted, and recommend the withdrawal of that order. Paragraph 25 states the impossibility of recruiting men locally to fill bacteriological appointments. Paragraphs 26 to 28 again summarize the previous arguments, and refer to the extravagance of the claims put forward by some Indian medical men in memorials submitted last year to the Public Service Commission.

DISPATCH OF SECRETARY OF STATE, 1912.

The dispatch summarized above was answered by one from the present Secretary of State for India, Lord Crewe, dated November 22nd, 1912, which agrees that the constitution of the Indian Medical Service must remain unchanged, and withdraws the order that no increase in the number of civil appointments may be made; it also suggests that military assistant surgeons should no longer be promoted to civil surgeoncies.

DISPATCH OF THE GOVERNMENT OF INDIA, 1914.

In a short dispatch (Home Department, No. 2 Medl. of March 5th, 1914) the Indian Government repeats the advantages, to India and to the army, of the appointment of a certain number of selected military assistant surgeons as civil surgeons; and in the third and concluding paragraph states, in the following words, that some increase in the strength of the Indian Medical Service is inevitable.

> "3. There are several proposals pending before us for an increase of the civil cadre of the Indian Medical Service, which we shall hereafter submit separately for Your Lordship's orders. In all these cases we hope that we will be able to show that, looking to the work to be done, the services of Indian Medical Service officers are indispensable. In view of the growing medical needs of the country which necessitate the employment of a larger staff of medical officers, some expansion of the Indian Medical Service is inevitable, and such expansion should not, in our opinion, be regarded from a different standpoint from the enlargement of any other cadre in response to the development of the work to be performed."

LETTER OF GOVERNMENT OF INDIA TO PROVINCIAL GOVERNMENTS.

The last paper is a letter, dated May 23rd, 1913, from the Government of India to the provincial governments on the subject of medical registration and the suppression of bogus degrees and diplomas.

MOTOR AMBULANCE DEVELOPMENTS.

BY H. MASSAC BUIST.

THE NEED FOR STANDARDIZATION.

A STUDY of the miscellaneous efforts that are being made with the common and wholly laudable aim of further relieving suffering by the provision of adequate supplies of motor ambulances for our forces at the front, suggests the urgency for cohesion and centralization. Too many appeals are being made. To judge from not a few examples of what has materialized, it must regretfully be concluded that in a vast number of cases ambulances of a kind, certainly not the most suitable, have been produced. Far from the trouble of overhang—to which attention was drawn in these columns many weeks ago—being overcome, later examples seem to point to the fact that in many cases stocks of short wheelbase chassis have been "worked off" and fitted with ambulance bodies, two-

thirds of which project beyond the back axle. Were all the efforts centralized and supervised by one authority, there would be no opportunity for any mistakes of this sort to occur—far less to be repeated—because anybody who was trying to "work off" chassis of unsuitable length would be checkmated before his plans had materialized.

In the meanwhile the British Red Cross Society, which is dealing with this matter in a really businesslike fashion, has not been content with mere theorizing as to what is or is not a suitable type of motor ambulance. It has made very careful study of how the first machines sent out answer under the actual conditions of field service in France and Belgium. As the result of this study, which has produced much knowledge concerning the possibilities of the motor ambulance, the Society has modified the specification of its requirements, with results that are portrayed in practical form in *Cooper's Vehicle Journal*. That organ has been requested by the Society and by the Engineering Department of the Royal Automobile Club that examines its chassis and complete ambulances before they are sent abroad, to print drawings of the types of body now approved. These embody the Red Cross Society's modified standard specifications, the drawings being supplied, together with all particulars, by the journal in question at 104, Long Acre, London, to motorists who offer their cars for ambulance work. Before giving orders to local coachmakers, therefore, particular care should be taken that these specifications are faithfully adhered to, because all the modifications embodied in them are the result of experience on active service in France. The designs, moreover, are suitable to various forms of chassis and sizes of motor ambulances, some being for two, others for four stretcher bodies.

Supported in Place of Suspended Stretchers.

The chief point of departure in the modified design is that the stretchers are supported and are no longer suspended. Methods of spring support or suspension have been discarded. The lower stretchers rest on the floorboard of the vehicle, and the upper on ledges, shelf fashion. The central pillars supporting the two inner ledges are carried quite down to the floor of the well of the car.

Experience at the front has confirmed what was written in these columns in anticipation at the outbreak of war concerning the disadvantages of overhang. This has been found to cause very appreciable trouble in early vehicles. Hence it is the more to be regretted that later ones sent by some organizations to the front have this fault in very pronounced degree.

In the new designs the Royal Automobile Club's engineers have stipulated that four-stretcher bodies may be fitted only to chassis affording a minimum length of 6 ft. 3 in. from the steering wheel to the centre of the back axle. Thus, in the modified design now approved by the British Red Cross Society, the overhang, that is to say the projection of the ambulance behind the back axle, in no case exceeds 2 ft. 9 in. Even that is too much for the ideal. Unfortunately, we have in large measure to improvise our motor ambulance service for this war; therefore we have to make the best use possible of the chassis available.

Ambulance Bodies Last Only Two Months.

The necessity for good suspension and reduction of vibration will, perhaps, be better realized in this country when it is stated that the work which the ambulances have to do at the front is so rough that it is not expected that the wearing life of the coachwork will be much longer than a couple of months. This does not mean that each motor ambulance is utterly done with in that period. On the contrary, after slight readjustment, the chassis are good for very much more service. But the coachwork springs and warps, therefore new motor ambulance bodies are needed very frequently. Medical men can do good work by bringing some of these facts to the notice of those they encounter who are interesting themselves in this splendid effort to save valuable lives and reduce suffering to a minimum. Each chassis sent to the front should be capable of being fitted with a succession of new bodies as each is rendered unsuitable by the racket of active service conditions.

Types of Chassis Needed.

It should also be widely understood that there are nothing like a sufficient number of motor ambulances for the immediate needs of the campaign. The information as to the rapidity with which these vehicles wear out will make it abundantly plain that redoubled efforts must be made to increase the number of motor ambulances. In some districts omnibus chassis have to be employed for carrying the worst cases. Considering the rough nature of the country often to be traversed, it will be appreciated that vehicles so hardly sprung are scarcely ideal for the purpose.

In the beginning certain well-meaning folk seemed to have the idea that any old chassis they could spare was good enough; whereas the truth is that it is no use sending out a chassis other than one in thoroughly sound condition, of modern design and thoroughly standardized type, so that there may be no difficulty about spare parts for any minor feature of it that may develop a defect.

As far as chassis are concerned, the ideal method would be to employ as small a variety of types as possible, each convoy being made up of a common type of chassis so that the travelling workshop that ought to be provided with every convoy would only have to carry sets of parts for one sort of chassis. In this respect the problem is exactly the same that obtains in regard to other portions of the mechanical transport services, including those of the ammunition and commissariat columns and the motor equipment of the Royal Flying Corps. Undoubtedly, in future warfare, we shall have a standardized type of chassis for ambulance work only. That type will be reproduced in every example employed by a given army in a campaign. This will enormously simplify the problem of stores and spares. The campaign has already illustrated in quite other branches of motoring than ambulances that by far the greatest wastage of motor vehicles is sustained merely through multiplicity of types. Often chassis are to be found abandoned on the roads in the most extraordinary numbers for need of some little part that has failed, which weighs only a few pounds, which often costs only a few shillings, but a spare example of which does not happen to be available, therefore a vehicle costing anything up to £750 is perforce cast on one side. These are among the valuable lessons of the war we are learning by which to profit not only as the campaign progresses, but also, and in more absolute fashion, in our equipment for future campaigns. Of course, should the campaign be much prolonged, such a misfortune might itself provide the margin of time in which to produce a complete equipment of motor ambulances designed throughout in the light of actual experience in the field. In the meantime the manner in which the war is spreading is such as to leave no leisure for designing and building motor ambulance chassis as chassis; therefore the most intelligent compromises possible must be made by putting the most suitable sorts of ambulance bodies on the likeliest varieties of touring-car chassis.

During the three weeks ending November 5th ten cases of plague and nine deaths from the disease occurred at Mauritius.

The past and present members of the scientific staff of the Rockefeller Institute for Medical Research, New York, gave a dinner to Dr. Simon Flexner on October 16th in celebration of the tenth anniversary of the opening of the laboratories under his direction. Dr. S. J. Meltzer presided, and a short address engrossed on parchment and signed by the members of the staff, was presented to Dr. Flexner. Among the speakers were Dr. W. H. Welch, Dr. Hideyo Noguchi, Dr. Jacques Loeb, and Dr. Flexner.

A free public issue is now being made by the British Fire Prevention Committee of the necessary "Fire Warnings" for emergency hospitals, convalescent homes and refugee hostels. They are small red posters measuring 8 in. by 20 in., embodying useful reminders and hints as to matches, smoking, illuminants, open fires, stoves, the use of spirit, celluloid, etc. Copies are supplied upon written application to the Registrar of the Committee, 8, Waterloo Place, Pall Mall, S.W., stating the number of beds or number of refugees which the applicant has to deal with. Summarized translations in the Flemish and French languages, on posters of a somewhat smaller size, will also be provided on request.

British Medical Journal.

SATURDAY, NOVEMBER 14TH, 1914.

THE INDIAN MEDICAL SERVICE.

THE correspondence which has passed between the Government of India and the Secretary of State for India at home during the last four years has at length been published in the *Indian Gazette*, and has been presented to Parliament in a White Paper. From the summary which we give in another column it will be seen that the policy embodied in the letter which Lord Morley, when Secretary of State for India, addressed to the Government of India in 1908 has been definitively abandoned. The conclusions at which the Government of India has arrived in paragraph 22 of its dispatch of November 17th, 1910, are set out in full elsewhere. They were accepted by the Secretary of State on November 22nd, 1912, and are those to which an unbiassed and dispassionate survey of the whole subject necessarily lead; they will, we believe, be acceptable to the Indian Medical Service and to the medical profession as a whole. They appear to grant all that has been urged for the I.M.S. as regards its services to India and its claims upon the Indian Government.

The pity of it is that these papers were not published long ago. A year after the publication of the correspondence of 1908 the Indian Government had discovered that a mistake had been made, and two years later the Secretary of State endorsed its conclusions. The new papers are dated four and two years ago respectively. Yet, as far as was known to the public and to the medical profession, until the very recent publication of this later correspondence the suggestions of 1908 still held the field. Four years have passed since the admission was made that the former suggestions had "given rise to widespread uneasiness," and had caused a serious difficulty in recruiting for the I.M.S. During these four years this difficulty in recruiting has gone from bad to worse, as shown by the results of recent examinations. Truly "the evil that men do lives after them."

It is not likely that the publication of this correspondence can make much difference at present in the way of stimulating recruiting for the I.M.S., and we understand that it is not proposed to hold the examination which in the ordinary course would have taken place in January. While England is engaged in a life and death struggle on the Continent, the demand for young, newly qualified men for service with the armies at the seat of war is very great. This demand is one which appeals with greatest force to the class of men who might otherwise enter the I.M.S., the class who are specially needed in and suited to that service. While the war lasts no great improvement in recruiting for the I.M.S. can be expected; but when it is over a large number of the young men who have received temporary commissions in the R.A.M.C. will return to civil life, as that corps, with its present establishment or with any probable increase therein, will not be able to find room permanently for more than a fraction of the recent accessions to its strength. Sixty years ago, in the Crimean war, the Army Medical Department recruited temporarily large numbers of young doctors, the majority of whom left the army on the conclusion of the war. Many of them entered the I.M.S. during the next few years. History sometimes repeats itself, and when peace is re-established in Europe the I.M.S. will again, we hope, under the assurances now given and with the liberal terms which the service offers, find no difficulty in filling its ranks with men well up to the standard of their predecessors.

SAFEGUARDING THE HEALTH OF TROOPS AT HOME.

THE Local Government Board in Scotland has issued a circular letter to clerks of counties, district committees, and towns, and to medical officers of health, calling attention to the duties which it falls to the last-named officers to perform in order to fulfil the requirements expressed in the circular issued by order of the Army Council on October 10th to general officers commanding in chief. The Army Council's letter was printed in the JOURNAL of October 24th, page 730, and the circular letter of the Local Government Board in Scotland is a very practical exposition of the assistance which medical officers of health can give in many directions to the military authorities.

The circular letter now issued by the Board is in extension of a previous letter circulated on September 10th. The new letter, which is dated November 10th, states that the duties of a medical officer of health of a district or burgh in which troops are quartered should include in the first place inquiring for, and bringing to the notice of the local authority, any conditions in which sanitary services can be rendered by them to the military population—for example, by extending water mains, opening or extending sewers, providing latrines or baths, providing hospital accommodation for cases of infectious disease, disinfecting clothing and blankets, destruction of refuse, and making special arrangements for scavenging. Reports on these matters, it is stated, should be dealt with as urgent, and special meetings of the local authority should be called to consider them if necessary. Medical officers of health should also inspect billets systematically, as well as camps or other places solely in military occupation, as regards the water supply, methods of disposal or removal of all solid and liquid refuse, general cleanliness, and for the prevention of exposure to infection. They should take action by making recommendations to the military authorities, or by reports to the local authority, or otherwise, with a view to the removal of any dangerous or objectionable conditions, and should give information to the medical officer with the troops as to the local cases of infectious disease as soon as they come to knowledge, and as to any localities, premises, bathing places, etc., which on health grounds should not be frequented by the soldiers. In some districts troops will need to be cautioned against the consumption of sewage-polluted shellfish. It is also the duty of medical officers of health to ascertain what hospital provision is available for cases of infectious disease among troops in the district, and to assist in making arrangements for such provision, existing civil resources being made available to the greatest practicable extent for infectious cases among troops, care being taken not to diminish the accommodation for the civil population unduly. The circular points out that the assistance desired by the War Office in respect of the establishment of billets is of great importance, and that when a medical officer of health

of any local authority learns, by an official intimation or otherwise, that billeting is likely in his district, he should at once communicate with the chief constable or superintendent of police, and obtain from him any further information of impending billeting which he may possess.

A medical officer of health is instructed, should he find it necessary to make formal written recommendations, to address them to the Deputy Director of Medical Services, Scottish Command, Edinburgh, but it is indicated that such written communications should usually be restricted to matters of importance in which the medical officer of health, after local inquiry and conference, finds it necessary to put his advice on record. He is further requested to furnish copies of all such formal written recommendations to the Local Government Board.

With regard to expenses, the Board says that it does not consider it necessary or even desirable that all items of expenditure directly or indirectly resulting from sanitary services rendered to troops should be separately computed and made the subject of charges to military authorities. It recognizes, however, that cases must arise in which charges have to be made and that delay may occur in settling the nature and amount of the charge; but necessary sanitary work should not be postponed on this account, and the Board is prepared to advise local authorities in cases of difficulty which may arise under this head.

POSITION OF BELGIAN MEDICAL MEN AND PHARMACISTS.

A meeting of the Committee appointed on November 4th, as reported in the Journal of last week, to consider the position of Belgian medical men and pharmacists whose professional positions have been involved in the ruin that has fallen upon their country and has destroyed the whole machinery of the medical profession and its adjuncts, was held at the office of the British Medical Association on the following evening. Sir Rickman Godlee was in the chair, and the other members present were Sir Thomas Barlow, President of the Royal College of Physicians; Sir Watson Cheyne, President, and Sir Frederic Eve, Vice-President, of the Royal College of Surgeons of England; Dr. Meredith Townsend, Master of the Apothecaries' Society; Dr. Frederick Taylor, President of the Royal Society of Medicine; Mr. E. T. Neathercoat, Vice-President of the Pharmaceutical Society; Dr. Des Voeux, Treasurer, and Dr. Squire Sprigge, Secretary of the Committee. The information before the Committee was to the effect that in a large number of instances, if not in all, the enemy had appropriated the doctors' instruments and the pharmacists' drugs. A general desire was expressed to do anything possible to enable the medical profession in Belgium to resume its duties. The subject was discussed in a very sympathetic spirit, but it was felt that in the present military position, and in view of the fact that almost the whole of Belgium was at the moment in the occupation of the German forces, it was very difficult to ensure that assistance in money or kind should be utilized for the purpose in view, and for the assistance of the doctors it was desired to aid. The decisions of a meeting of the Committee summoned for last Thursday evening will be noted in our next issue. Dr. Des Voeux, Treasurer of the Committee, has received a letter from a meeting of Belgian medical men in London which took place recently, expressing their thanks for the sympathetic reception they have had from their English colleagues. The Committee of the London School of Tropical Medicine has decided to offer the hospitality of the school to Belgian medical graduates who may find themselves stranded in this country. The authorities will therefore be glad to hear from any Belgian doctor who would like to reside in the hostel attached to the school and partake of such cheer as they are able to offer. In addition, such graduates would be afforded an opportunity of attending the classes in the school. Application should be made to the Secretary, Mr. P. Michelli, C.M.G. The Belgian Government has appointed an official committee to watch over the interests of Belgian refugees in the United Kingdom. It will work in close co-operation with the Departmental Committee recently appointed to the same end, but its functions will be mainly consultative. It will render aid to the various organizations in this country for the assistance of Belgians, but will not collect subscriptions or receive gifts. The president of the committee is M. Berryer, Belgian Minister of the Interior, and the Honorary Secretary is M. Davignon, Winchester House, St. James's Square. Mr. Millard Shaler, who recently went to Brussels on behalf of the Commission for Relief in Belgium, reported that people were pouring back into Antwerp, and that between that city and Malines the destruction of habitations in every town and hamlet was practically universal. Distress is also said to be very great in the Ardennes, and it is stated that in Liége, where the annual budget is 14 million francs, the war contribution and requisitions amounted to 50 million francs, and that the industrial population is entirely out of work, and cannot earn its food. It is evident that such conditions among the population must react very injuriously upon the economic position of the medical and pharmaceutical professions in Belgium even were it not that in many instances their houses and shops have been destroyed.

THE PREVENTION OF VENEREAL DISEASES.

The movement against venereal diseases, like all other social efforts, has necessarily been to some extent damped owing to the war. It is none the less true that the need for action has been enhanced and not diminished by war conditions, and this not only by reason of the aggregation at the present time of soldiers in camps of varying size, where temptations are often exceedingly obvious, but also on account of the fact that a great war has invariably brought in its train a pronounced increase of these forms of disease. The organization of effort in this direction falls naturally under two categories—military and civil. As far as the former is concerned, there is good reason to believe that the military authorities are getting the matter well in hand, and there can be no doubt that, if they should find any difficulty in meeting the demand, they could obtain the willing service of medical volunteers in the various districts. But the organization, as far as the army is concerned, may be left with entire confidence to the army authorities. In this matter, however, the military and civil problems are closely interwoven, and on the civil side there is room for a carefully organized effort both by the civil authorities and by voluntary organization. For this reason we welcome the formation of the National Council for Combating Venereal Diseases, at a meeting held last Wednesday at the house of the Royal Society of Medicine; the Council, which comprises both medical and non-medical members, is in touch with the Committee of the Liverpool Medical Institution, appointed in May of this year, which is already doing active work of a similar nature in that part of England. Dr. McKenna, of this Committee, has produced a useful brochure on the dangers of venereal disease, suitable for distribution to soldiers; while the inaugural address at Liverpool by Dr. Charles Macalister will repay study, being a clear and plain exposition of the facts and how to deal with them. The military authorities will welcome any civil movement which helps to lighten their task; it is only

necessary that co-operation towards a common goal should have no savour of interference. The success of the whole enterprise must largely depend on the wisdom and tact of the organizers and workers. We can only express our satisfaction that the inaugural meeting of the National Council has not been postponed to the end of the war, since there is a wide field of utility for it here and now.

THE BREAD OF OUR TROOPS.

IN the *Times* for November 3rd a letter appeared, criticizing the bread supplied to our soldiers, and stating that the flour of which it is made "consists of a great excess of starch good for heat producing only, and protein of a peculiarly indigestible kind." The writer asserted that the "army buyers are ignorant of the fact that by getting a slightly more expensive flour they would obtain six or seven more good loaves per sack, so that even their apparent economy is a false one." He wrote of the bread as "admittedly nasty and scientifically unwholesome," and alleged that "the stuff is barely fit for making coarse biscuits, and in normal times is used solely for pig food." This letter, if based on real facts, might be justifiable, but from inquiries made and from personal inspection we are able to state that although it is impossible to assert that bread of an inferior quality may not have been supplied somewhere or at some time, yet it is on the whole of excellent quality. The letter was promptly answered by an officer writing from Lulworth Camp, who says: "Here we have the ordinary ration bread in our mess, and better bread I have never eaten." An officer writing to us from Essex, speaking of the bread, says: "I always eat it, and find it quite good; there is not the slightest discontent in our division about the quality of the flour you may rest assured about our rations, for when the men themselves do not complain there is not much wrong." A lieutenant quartermaster R.A.M.C.(T.), who in peace times was known to us as a very intelligent pharmaceutical chemist, writes: "My experience of this branch of the service is that the Army Service Corps officers are excellent judges of the quality of the supplies purchased. I am sending you herewith a sample of the bread, and you will see it is of excellent quality. Although the statements in the letter to the *Times* may be true with regard to some particular unit in some particular district it will not apply to the army at large." Let us take the writer's statements separately. He complains that seconds flour makes a bread that is indigestible, and consists of a great excess of starch. Dr. R. Hutchison states that "Seconds flour yields a bread which is richer in protein than the product of most blends"; consequently, so far from containing an excess of starch it contains less. Dr. Hutchison also states: "A very white loaf means a loaf in which the starch is at a maximum and protein at a minimum," and that is certainly not desirable. Moreover, the comparatively recent investigations which have shown the importance of the so-called vitamines, which apparently inhere in rice to the husk of the grain, should make us careful not to dogmatize as to the superiority of flour from which a certain amount of the not unimportant envelope of the grain has been scrupulously excluded. With regard to the writer's contention that white flour would be more economical because it makes a larger number of loaves, it is quite true that the volume of bread that can be made from white flour is larger, but the actual quantity of food is not thereby increased. There can be no justification for speaking of the bread made of seconds flour as admittedly nasty and scientifically unwholesome, or only fit for feeding pigs. In so writing the author of the letter shows some ignorance; writing as a supposed expert his letter is calculated to stir up discontent where none exists, and to embarrass the work of a department which we are convinced is as a rule performing its duties under considerable difficulties with great zeal, ability, and discretion.

RADIATION DOSAGE.

SIR ALFRED PEARCE GOULD, who is the new President of the Roentgen Society, delivered an interesting address from the chair of that body at the inaugural meeting of the session on November 3rd. The trend of his remarks was to deprecate a tendency among radiologists to carry over into the sphere of *x*-ray therapeutics the ideas and even the terms which belonged quite properly to *x*-ray physics. He instanced the term "milligram hour" as one which was coming into use in treatment; although some similar expression might quite accurately be used in radiography, when dealing with living cells such an expression became gravely misleading. It was not at all the same thing for a living cell to be exposed to 1 mg. of radium for 100 hours as it was for that same cell to be exposed to 100 mg. of radium for one hour. The living cell introduced considerations which threw to the winds the mathematical formulae current and effective in physics. It did matter very much from the point of view of ultimate effect whether a tube of radium was left in a growth for forty-eight hours continuously, or the same tube of radium was introduced for a series of shorter periods totalling forty-eight hours. It was necessary, therefore, to be very cautious in speaking of the "dose" of *x* rays or radium. Personally he did not believe that it was the intensity of *x* rays or of the gamma radiations of radium which governed the therapeutic effects. Intensity of ray action was undoubtedly of great assistance on the photographic side of *x*-ray work, but in *x*-ray therapeutics there was some controlling factor other than intensity. No fewer than 605 unsuccessful preparations had to be made before it was discovered what dose of arsenic would link on to the protoplasm of the spirochaete so as to render it inert, and the effective dose, when it was forthcoming in the form of salvarsan, was shown to depend, not upon any question of amount, but upon the particular form in which the preparation was presented to the spirochaete. It was possible, he thought, to institute an analogy between Ehrlich's discovery and radiation dosage. Sir Alfred instanced a patient he had recently treated for a cauliflower epithelioma of the tongue. Operation was contra-indicated, and a tube of radium was placed under the base of the growth for twenty-four hours, with the result that, seventeen days later, the whole growth had disappeared as completely as though it had been shaved away. That same tube of radium had been put into many epitheliomas of the tongue, for the same time, and by the same hand, but in no case with so speedy and complete a result. He could not help thinking that in the particular cells there was something which exactly fitted into or corresponded with the rays, linking on to them as hand linked with hand, and bringing about the destruction of the malignant tissue.

RED TAPE FOR WOUNDS.

WE have red tape in abundance in our Government departments, and it has been freely used to strangle civilian enthusiasm even in the form of offers of help for the wounded. But we do not think that a story told by M. Clemenceau could be matched by any circumlocution office now existing in this country. It must be remembered that M. Clemenceau, besides being a statesman of the first rank who not many years ago held the office of President du Conseil, equivalent to Prime Minister, of France, is a doctor of medicine who has been in actual practice. His criticism of some of the arrangements for the care of the French wounded brought down upon his head the thunderbolts of the censorship. His paper *L'Homme Libre*, was suppressed, but like Achilles he defied the lightning of the official Jupiter and at once reappeared with a new paper appropriately called *L'Homme Enchaîné*. But M. Clemenceau rattles his chains vigorously, and still asks awkward

questions as to the provision for the wounded in Paris. In the issue of November 6th he tells the story to which we have referred. A non-commissioned officer was wounded by a shell in the neck. He managed to extract the splinter of metal, and as all the officers of his company were killed or wounded, he insisted on remaining in the fighting line in command of his men. Some days later a severe attack of furunculosis, evidently a sequel of his wound, compelled him to go to hospital. In time he rejoined his dépôt, where he was informed that his injury could not be counted as a wound received in action. This meant the loss of fifty francs of pay for not having applied for treatment as soon as he had received his wound. But, as if to add insult to injury, the authorities in their wisdom further decided that as the furunculosis did not come under the head of an injury received in the service, the unfortunate *sous-off.* must pay the cost of his maintenance and treatment in the hospital. Surely the force of red tape could no further go than to make a man pay for the privilege of being wounded on the battlefield in defence of his country!

We have to announce with sincere regret, which will be shared by a large circle of friends and former pupils, the death, on November 8th, of Mr. C. B. Lockwood, Consulting Surgeon to St. Bartholomew's Hospital. It was due to septicaemia contracted at an operation for septic peritonitis.

New regulations have been issued by the War Office with regard to the equipment of Field Ambulances. In future the transport will consist of seven motor ambulances and three horse-drawn. This information will be of interest to those who are now engaged in organizing field ambulances, and we would advise them to apply to the Secretary of the War Office for a copy of the new document in which all details with regard to the personnel and equipment of field ambulances are fully set forth.

The seventh annual general meeting of the Army and Navy Male Nurses' Co-operation was held at 89, Harley Street, on November 4th, when Lord Howe, who represented Queen Alexandra, took the chair. The annual report, presented by Sir Dyce Duckworth, stated that during the past year the Co-operation had employed 90 nurses and had nursed 312 patients; the confidential reports from the friends and relatives of the patients had in every case been excellent. The war, however, had made a considerable difference to the Co-operation; the majority of its members were reservists, and a large number were already at the front, and consequently for some time to come there would be many less at the service of the public. This must mean loss of income, and for the first time in its existence the Co-operation found itself forced to appeal for funds to enable it to carry on its work. The committee had been advised to fill the gaps left by those members who were on active service with civilians, but there was a strong feeling against employing men for whose training the Co-operation had not been responsible. The Co-operation was doing good work for the State in providing employment for discharged soldiers and sailors, and it was doing good work for the public in supplying it with fully trained and competent male nurses. The committee was fully resolved not to close the Co-operation if it could possibly be avoided, and looked with confidence to the generosity of the public to enable it to carry on this excellent work. Mr. Sankey, who presented the financial report, said that the Co-operation had never been intended as a charity, but as a society for giving work to the trained nurses of either service. A proportion of the fees received by its members was always made over to the society, whose position improved so rapidly that during the last three years it had been nearly self-supporting. The accounts to June last showed a fall of £35 in the annual income, and since then the receipts had fallen to about half the usual amount. The annual expenditure of the Co-operation amounted roughly to about £850, of which £450 were covered by the commissions received from the nurses, and a sum of between £300 and £400 was needed to make up the deficit for the current year.

THE WAR.

THE MANAGEMENT OF THE BRITISH WOUNDED IN FRANCE.

Sir Richard Havelock Charles, G.C.V.O., Sergeant-Surgeon to the King, has furnished us, at our request, with the following brief note on observations made during a recent visit to Northern France:

Sir Trevredyn Wynne and I were sent to France by the Indian Soldiers' Fund Committee of the St. John Ambulance in order to find out with a seeing eye and a hearing ear the condition of affairs relative to the state of the wounded and the ambulance transport at the front.

We were provided with the necessary papers, by the use of which we were enabled to visit wheresoever we desired without let or hindrance. We covered in our tour upwards of 1,100 miles. We saw the men of the British forces marched to the trenches, we were at the trenches, we saw the wounded removed from these and brought to the field ambulance. We noted the manner in which they were received at the field ambulance and their treatment there. We noted the great rapidity with which they were removed from the field ambulance to the clearing hospital. We saw a clearing hospital situated in a girls' school, a building of upwards of four stories. A clearing hospital, it may be stated, is supposed to receive 200 cases, but there were nearer 800 than 700 cases in it at the time of our visit, and 1,500 had passed through it the day before. We saw the wounded laid out in rows with injuries of all degrees of severity; we talked to the men, and from none of them did we have a complaint, or hear a moan, or a groan. We saw the officer in command of that clearing hospital, who had been up all night, still going, and meeting the emergencies and the strain of work with a cheerful eye, a smiling face, and a sympathetic Irish brogue. His personality was an asset throughout these wards filled with injured soldiers. In a very large room adapted for dressing the wounded we spent some considerable time, we saw the routine, and noted the arrangements by which exhausted men could receive sustenance as well as attention to their injuries. I have no hesitation in saying that there was less delay there than there is to be met with in London at any time during peace at the extern department of any large hospital. We met here Sir Anthony Bowlby and Sir William Leishman hard at work and with plenty to do. We saw the transport of the wounded from the clearing hospital to the ambulance train; we inspected the ambulance trains. We saw the arrival of the invalids at the general hospitals, transferred thither by the motor ambulances. We noted the overwhelming work going on in these hospitals. We saw in these hospitals devoted men and women doing their best to meet, and succeeding in doing so, such a condition of affairs as has never occurred in any previous war.

At present tetanus seems to have stopped, and gangrene is in comparative abeyance. For the surgeon of common sense the principles of antiseptic surgery seemed to be demanded by the conditions at the front. Pure aseptic surgery would be an absolute danger. I would like here to state the feelings of admiration and regard which I hold for the British soldier. I would say it is an honour to be a British soldier, and it is an honour to have charge of them. It is possible in such an immense field of operations to cavil at and find fault with supposed shortcomings. With a desire truthfully to comfort the fathers, mothers, sisters and sweethearts of the brave men who are at the front, having read grumbles in the press, having heard complaints from people who have never been there, I wish now to place on record the things which I have seen with my own eyes and which I had heard with my ears. I am neither ignorant of the vicissitudes of travel nor of the difficulties that may arise in camp life. Experience has taught me to appreciate those who work well, and my past life has frequently put me in conditions where energy, promptitude, and assiduity were essential. "Not ignorant of evil," I desire now to add my meed—my small meed—of praise to the work of the army doctor.

Another object in our tour was to determine some plan by which "comforts" could be with certainty brought to the man in the fighting ranks. We have made our report to the Indian Soldiers' Fund Committee of the St. John Ambulance Association, which committee has adopted our recommendations, and there is every prospect, as far as the Indian soldier is concerned, that the little presents and comforts which his friends in England send to him will by this means promptly arrive at the destination.

MEDICAL ARRANGEMENTS OF THE BRITISH EXPEDITIONARY FORCE.

[From a Special Correspondent in Northern France.]

I HAVE now been at the principal British hospital base in France for about ten days, and almost feel as if I could have described it more easily, if less accurately, within a couple of hours of my first arrival at its station. But in this I am not peculiar; some people, indeed, seem so happily constituted that they are able to draw impressive pictures of what is going on within its area without ever having visited it even for two minutes. I did, as a matter of fact, supply you with a description of this base in its medical aspects about four days after my arrival, and, looking up the record of what I then said, it would seem that, kaleidoscopic as appear the changes from day to day, the general picture remains unaltered. In fact, to bring it up to date, all that is required is merely to retouch the higher lights. The suggestion of that picture was that, although the hospital trains were bringing down the wounded in very large numbers, the needs of the situation were fully met by the arrangements at this base. They were, in fact, met even more fully than I knew to be the case at the time I wrote. In other words, there are more hospitals than those I then described, and more men of distinguished surgical ability engaged in the conduct of the work connected with them than those to whom my last letter made reference. Sooner or later I hope to be able to send you a complete list; at present this is impossible.

As for the number of the wounded and the character of their lesions, these may be described as practically unaltered, despite the fact that to others who have been out for a long time, as well as to myself, the proportion of very extensive injuries—leaving out of count, of course, those producing immediate or very rapid death—seems smaller than it was among the wounded reaching Paris from the battlefields south of the Aisne. But this is a point on which it is very easy to be mistaken, so I merely record the impression, and for the sake of our soldiers hope that eventually proof of its accuracy may be forthcoming. There is one statement, however, that can be made with rather more assurance. "Gas gangrene" and tetanus both still occur, but the number of cases in which they make their dreaded appearance is less considerable than in Paris a few weeks ago. Whether this statement is true of the wounded among the French and Belgian troops, as well as of our own wounded, I am unable to say, since I have not recently had an opportunity of visiting any French military hospital. Indeed, so far as I am aware, there are none in this particular area.

The prevalence of gas gangrene among the wounded in this war has been explained on so many different theories that it is almost futile to attempt to account for its apparent relative disappearance. The fact that the fighting line is more mobile than it was when the British troops were approximately in its centre on the Aisne valley, and that in effect the base hospital line is much closer up than before, has been adduced in this connexion. It is also to be borne in mind, however, that during the past three weeks or so there has been comparatively little rain; the weather, indeed, is remarkably fine for the time of year, and the trenches and their surroundings are drier. They are drier also, as a whole, for a further reason—namely, that many of them are dug in sandy soil; consequently, the men are less plastered with mud than the earlier wounded. This favourable factor in the general environment of the men may obviously cease to operate at any moment, and it will be interesting to note the effect of any definite change in the meteorological and other environmental conditions.

As for tetanus, consideration of its relative prevalence is influenced by the fact that even at the beginning there was great irregularity in its incidence. I learnt, for instance, when in Paris, from a distinguished French surgeon working in one of the larger civilian hospitals, that he had recently had placed under his treatment at practically the same time men from two different convoys, and that among the patients belonging to the one he had had only a single case of tetanus from beginning to end of their treatment, while among those belonging to the other over a dozen cases had occurred within a few days of their arrival. It would be easy, however, to attach undue weight to this irregularity, and taking as a basis the combined experience of the many hospitals established since this port became a hospital base between two and three weeks ago, it seems to me indubitable that the tenanus ratio has diminished from what it was when I was in Paris. According to the calendar this is really only a short time ago, but mentally it seems months. For most people out here the days are so full that what happened last week seems like ancient history.

Before ending this note I should like to add that the *moral* of the men continues to be admirable, and their physical condition, apart from their wounds, is usually remarkable. Frequently on removing the dressing from the wound of a man who has just arrived from the front, one is astonished to find how grave and extensive are his lesions. I use the plural, for it may almost be said that multiple wounds are the rule rather than the exception. Except when the thorax or abdomen has been penetrated, there is commonly nothing in the patient's face to suggest a seriously injured man. They recall to my mind the peasants with whom I used to be familiar many years ago in the near East. These were always fighting among themselves with blunderbuss-like guns and daggers, but recovered from the severe surgical injuries caused with astonishing ease. Surgically, in short, these pugnacious, vendetta-loving peasants and mountaineers exhibited the most remarkable vitality. They were not impressed by the gravity of their wounds, seemed to suffer relatively little pain, maintained their spirits, and frequently recovered from apparently irremediable injury. Medically, it was far otherwise. Very slight illnesses destroyed their *moral*, and they often succumbed to quite trifling maladies. Here the analogy ceases, for our soldiers, though they belong to a much higher type of man and show the same courage and resistance when seriously wounded, do not, as far as I have been able to observe, lose heart even when attacked by medical disorders. Their capacity for resistance is another matter, and at present I am not prepared to express any opinion on the point. For so far the amount of disease has been singularly small.

SEPTIC INFECTIONS OF WOUNDS.

From what has been said to me by some recent arrivals and from other sources of information, I conclude that there is on your side of the water a very deep-seated belief to the effect that the marked septicity of many of the wounds seen in England is due to the lesions not having received proper attention over here, and that in its turn the latter circumstance is due to the lack of an adequate number of skilled surgeons.

I made some remarks bearing more or less directly on this point in a previous letter, but, in view of the absolute erroneousness of both conceptions and of the unfairness to all concerned of their being allowed to secure continued currency, I must be forgiven if I repeat myself in endeavouring to bring out the true facts. Briefly stated they are as follows: The septicity of the lesions has been directly due to the environment of the men at the moment they receive their wounds; no means exist by which it could be prevented, nor any practical way in which it could be brought to an end with rapidity, and the general arrangements for dealing with all wounds, whether septic or otherwise, include a very ample supply of skilled surgeons and plenty of subordinate trained workers. I propose to adduce the proofs of these statements and further deal with them in separate notes.

The septicity in question is initially, at any rate, of a special character; it is due to the action of spore-bearing anaërobic bacteria, which are at present in enormous numbers, and for some days as a rule entirely prevent the growth of ordinary pyogenetic micro-organisms. The first

two of these statements are facts demonstrable by any competent bacteriologist, and demonstrated on a great number of occasions. The third is to some extent an assumption, but I have been assured of its accuracy by two workers whose authority and judgement few practical men would question. These spore-bearing anaërobes are present in the wounds because the soil of north-western France and of southern Belgium has been subjected to intensive cultivation—which includes the free and constant use of animal manures—for at least twenty years, and with this soil the clothes and persons of our troops in the advanced line have been habitually contaminated. This was inevitable, for they were fighting in trenches by day, digging them or repairing them by night, and sleeping in them or near them, and on the bare ground, during their brief intervals of rest. Nor were their officers in materially better case, for, as a private soldier mentioned to me incidentally only to-day, and with a kind of pride and satisfaction, they are sharing the labours and hardships of their men to the full. Neither one class of soldier nor the other could possibly prevent his clothing becoming impregnated with earth even if it were dry; indeed, about the only complaint that one ever hears from a man fresh from the firing line is that he could rarely get a good wash. Teeming, therefore, as was the soil with anaërobes and contaminated with the former as are the men's clothes, it is inevitable that every wound caused by a relatively slow travelling missile should be instantly, and for the time being, irremediably infected. I say "irremediably," because even from the point of view of a bacteriologist there are few ways in which a spore-bearing micro-organism can be killed with certainty and real rapidity, and none of them could be utilized when such bacteria are lying amid living tissues. Still more absolutely true is this statement if those tissues are not pure surface tissues, but the bundles of deep-lying muscles, the sheaths of nerves and arteries, periosteum and the internal structure of cancellous and long bones. In fact, the majority of the shell wounds caused in the present war cannot usually be ridded even of their initial supply of germs, nor growth of the latter arrested by the surgeon, for several days, if ever. Small as may be the external wound its internal surface is extensive and irregular. Not seldom is it difficult even to get out of its interstices a relatively enormous foreign body such as a shrapnel bullet, a fragment of shell casing, or a scrap of the sheathing of a rifle bullet. At any rate, I have several times seen a French surgeon of indisputable skill abandon the attempt as being better not further pursued, even in cases in which the foreign body had been located on the *x*-ray screen. Obviously, therefore, it must be more difficult still to make certain of the removal of morsels of clothing, which cast no shadow; or to get out organisms so minute as to be capable of hiding in hundreds behind a single thread of nerve tissue or muscle fibre, and possessed of such vitality as to resist a 5 per cent. carbolic solution or any other bactericide in use. In fact, as a surgical acquaintance put it one day, the only way to cleanse thoroughly many of the shell wounds to be seen would be to dissect out the whole of the subdermal tissues, and leave 6 or 7 in. or more of a limb represented by nothing but the skin.

Possibly the nature and inevitableness of this septicity will be still better realized if I illustrate it by recital of a case. I take the very first septic case that I happened to see this morning, and do so because its history was readily obtainable. Frequently it is far otherwise. This patient had been struck by a large fragment of shell. He was at the moment out of range of all but heavy gun fire, so there was no difficulty in reaching him. Consequently he was removed to a field ambulance for treatment almost as soon as his first-aid dressing had been applied. At the field ambulance he received attention from one of the medical officers in charge, and was then sent to the connected clearing hospital, reaching it within a few hours of the receipt of his wound. There not only was his wound re-examined, but in order to facilitate its thorough cleansing, so far as this was surgically possible, the process was conducted while the patient was under a general anaesthetic. At this clearing hospital the patient was detained for two nights, the wound being dressed anew meanwhile, and after an eight-hour journey he reached the base hospital, at which I saw him on the evening of the third day after that on which he had been wounded. Unlike many shell wounds, the lesion was perfectly simple, that is to say, there was no bone broken and a relatively small, though jagged, external wound did not conceal a huge irregular cavity. The shell had done its best, so to speak, to undo its own evil deeds—that is to say, though it had caused a very large flesh wound it had opened it up freely from end to end. Here there was a lesion which, from its nature and the skilled and constant attention that it had received right from the beginning, might reasonably have been expected to be found in a favourable condition. Yet this was not the case. Though the patient was cheery, he was febrile, and the peculiar smell caused by the presence of the anaërobes that I have described was readily perceptible. Furthermore, though there was nothing that most surgeons would describe as gangrene present, there were many patches of tissue which were black, and when these were portions of muscle it was observed that the necrotic process extended far below the general wound surface. Comment on this case is superfluous, for obviously it supports very fully what has been said in the earlier part of this note. To myself, who have seen any number of such cases and know the abilities of the men through whose hands they pass, it seems wholly incorrect to ascribe their occurrence to lack of proper provision for their treatment.

THE INDIAN SOLDIERS' FUND.

The Indian force has arrived in Europe fully equipped with all the necessaries of war, and complete arrangements have been made for field ambulances, base hospitals, and the like. The Indian Soldiers' Fund, which was instituted under the auspices of the Order of St. John of Jerusalem, is intended to supplement the Government provision just as the British Red Cross is furnishing from voluntary sources hospitals, ambulances, nurses, and comforts to British troops in Europe. The head quarters of the Fund are at 1, Carlton House Terrace, S.W., but gifts of clothes or comforts may be sent direct to the Warehouse Subcommittee, 29, Somerset Street, W. The chairman of the committee in this country is Sir John Hewett, G.C.S.I., and the vice-chairman Colonel Sir Trevredyn Wynne, K.C.S.I.

The Fund has, in response to a recent appeal, already received £75,000. The appeal was endorsed by Lord Roberts, who, in a letter dated October 9th, said that it had two objects: "The first is to provide for our Indian soldiers, who may be wounded or fall sick in this war, a hospital in a warm climate, in which they will be able to regain health and strength, so as to return either to the front completely cured, or to their own country happy and in good spirits. The second is to provide comforts for the Indian soldiers while in the field, and to replace the warm clothing with which they will start fully supplied, but in regard to which losses must inevitably occur."

Surgeon-General Sir Havelock Charles, who is a member of the committee, and Colonel Sir Trevredyn Wynne recently visited France as commissioners for the Fund, in order to make arrangements to ensure that the gifts shall reach the units. It has been arranged to appoint agents at the port and at the rail-head, and that motor lorries bearing the name of the Fund shall run from the rail-head to the divisional head quarters, and thence to the regiments, where the gifts will be handed over to the officer in command, by whom they will be distributed. The lorries will not run under the protection of the Red Cross, but will take the chances of war.

In an interesting report of their tour of inspection, during which they covered some eleven hundred miles and visited every part of the field of operations from the extreme front to the base, the Commissioners state that the wounded are receiving every possible care and attention, but that there is a large field for voluntary aid in ambulance work supplementing the regular ambulance arrangements, but working under the direction of the regular army medical services. It appears that the British Red Cross, while supplying ambulance cars ready for work, takes no initiative in their use. Cars are kept in a dépôt until such time as the local regular medical officer sends a requisition to the society. The required number of cars are then handed over to the medical officers and remain in

their charge as long as they are wanted, being maintained and supplied with petrol and oil by the military authorities. Sir J. Willcocks, the general officer commanding the Indian forces, warmly approved of the proposals of the Indian Soldiers' Fund, and gave every facility for organizing the work of carrying the stores from the port to the rail-head, and there distributing them, as described, by motor lorries. Part of the personnel will be two motor cyclists, who will be employed to let regiments know where the supply lorries are and ascertain what is wanted. The offer of General Sir Alfred Gaselee, formerly in command of the northern army, India, to go to France to make the preliminary arrangements, has been accepted, and it is expected that any difficulties in detail of organization will easily be overcome.

The medical service of the Indian Expeditionary Force has of course its own personnel and equipment. Clearing hospitals and a stationary hospital, which may be a section of a general hospital, putting up some 200 beds will necessarily be established in the rear of the force in the country in which it is engaged, but the question of where the main base hospital should be established is one which is receiving anxious consideration. At the present time a general hospital for 500 beds has been established in two hotels at Forest Gate and Balmer Lawn near Brockenhurst in the New Forest. A hut hospital for 500 beds is being established in Brockenhurst Park which has been placed at the disposal of the authorities through the kindness of Mrs. Morant, and another 500 beds will be provided on ground adjoining the Forest Gate Hotel. The surgical work at the hospitals will be carried out by officers of the Indian Medical Service, who, as civil surgeons in India, have held important hospital appointments. Sir Havelock Charles has inspected and approved of the site in Brockenhurst Park, and has reported that the huts, including drainage, repairs, lighting, and heating, will be supplied free by the War Office, and will probably be ready within six weeks. The staff will consist of—

Ten medical officers—namely, a senior surgeon, a senior physician, and eight others, and an assistant surgeon. Dressers: It is believed that Indian senior students from Edinburgh would give their services in this capacity. Thirty orderlies furnished by the St. John Ambulance Association; 28 nurses, consisting of a matron, 2 assistants, and 25 ordinary nurses, most to speak Hindustani; 2 dispensers, 2 storekeepers, 4 clerks; and, from India, 8 cooks, 6 bhishtis, 20 sweepers, 5 havildars; total, about 113.

The duties of nurses will be confined to the general supervision of the cleanliness of the wards, orderliness of beds, and the distribution of food and medicines to the exclusion of dressing cases and any menial work.

The estimated cost to the Fund of the hospital, including the establishment, for a year is £50,000. Pending the establishment of the hut hospitals at Brockenhurst camp it is proposed to lend the staff of the Committee's hospital to the War Office at the hospitals at Balmer Lawn and Forest Gate, where such help is likely to be needed immediately.

It is not, however, considered expedient that the policy of bringing wounded or sick Indians to this country to convalesce should be a permanent arrangement. On this head medical opinion is at one with that expressed by Lord Roberts in the letter quoted above. The Indian is not accustomed to our cloudy winter, and eventually it will probably be found wisest to establish general hospitals in France, and a base hospital in Egypt. The Prince of Wales Museum, Bombay, will, it is stated, be temporarily used as a base hospital for Indian troops returning to India from the front, and, with the Viceroy's permission, will be named the Lady Hardinge Base Hospital. The whole expense of its establishment and upkeep will be borne by the Bombay branch of the Imperial Relief Fund, and the women's branch of the same fund. The officer in charge will be Lieutenant-Colonel J. G. Hojel, M.B.Dublin, Bombay Medical Service, Surgeon-in-charge of the Gokuldas Tejpal Hospital, Bombay.

THE WAY HOME OF THE WOUNDED MAN.

[By One who has Travelled It.]

A man may be wounded in the firing line—that is, in the trenches—or on the open road. In the latter case he will probably be directed to the nearest ambulance, but in the former should first pass through the hands of his regimental medical officer. In either case he will be sent on by the field ambulance to the clearing hospital, from there to the ambulance train, and so to the base hospital. The stages of medical treatment are as follows (in full):

1. First field dressing (applied in the trenches).
2. Regimental aid post (regimental medical officer).
3. Field ambulance (advanced dressing station).
4. Clearing hospital.
5. Ambulance train.
6. Base hospital.
7. Ambulance ship.
8. Ambulance train.
9. General hospital (London or provinces).

It is the purpose of these notes to consider briefly some of these stages with reference to the time occupied in transit and the facilities for medical treatment, and, finally, to adduce some arguments in favour of attempts at curtailing their number.

The First Field Dressing.

This is carried by every soldier attached to his tunic. It is composed of two small packets in a canvas cover. In each packet is a pad of antiseptic gauze and a bandage. The bandage is sewn to the gauze to facilitate application, and full instructions are given on the outside. The German field dressing is very similar, but the French contains aseptic and not antiseptic gauze. This dressing the man applies himself, or has applied by some one near by. It is often applied very well, and in that case is left undisturbed, at least until the clearing hospital is reached. It is too small for any but the least severe wounds of entry and exit, as it only measures 4 by 3 in. The gauze can be opened out into a much larger and more useful pad, but the soldier does not do this.

After being wounded the man may, if he is able, leave the firing line at once, but this may prove impossible from the nature of the wound or of the military situation. On the whole more leave at once than would be expected, and occasionally are wounded again in so doing. If unable to leave, they are fetched by the regimental stretcher bearers or by the bearers of the field ambulance. The activities of the two overlap, and stages two and three are run together in two ways—namely, by the stretcher bearers of the field ambulance being sent up past the regimental post to the firing line (or even in front of it) and by the wounded coming straight to the ambulance without passing through the hands of the regimental officer.

The Regimental Aid Post.

The site of this is selected by the regimental M.O. and is in theory placed in a position offering some cover and as near the firing line as is reasonably safe. It is supposed to be near a road so that the ambulance may send wagons to fetch the wounded under cover of night. As a matter of fact no position anywhere near the firing line is at all safe owing to the intensity of the shell fire—it is not now a matter of avoiding only rifle fire—and night offers little cover since the battle is not infrequently as fierce after dark as in the day. It is, however, usually possible to select a site on or near a road and also to obtain some such cover as is afforded by a roof which is efficacious against rifle fire and also against any but very low bursting shrapnel. It may be noted that any building so placed that it is likely to harbour members of the fighting forces is very apt to be shelled. But the writer during three months in the field has neither seen nor heard anything to suggest that the Red Cross is deliberately fired on, nor has he met with any evidence that the wounded are badly treated by our enemies. If, as is sometimes the case, the regimental M.O. is required to be in the trenches, his usefulness is very much curtailed. At the aid post splints and tourniquets can be affixed to such as need them, and as well as the supply of suitable material allows. Morphine can be given to those in need of it, for example, abdominal wounds, which seem to cause more pain and mental distress than any others. The first field dressing can be replaced by one more adequate, and the wounded man made more or less comfortable. The regimental M.O. carries his medical equipment on a two-wheeled cart. It is obvious that this cannot always follow the firing line during the fighting; in such cases the facilities at the aid post are much reduced.

The regimental M.O. can direct such cases as are able to walk to the nearest ambulance, can order them to be forthwith carried there by his stretcher bearers (he starts the

campaign with eight stretchers and sixteen bearers), or can send a message to the field ambulance asking them to send up bearers or wagons.

The Field Ambulance.

On the receipt of such a message or on getting information from any source as to the location of wounded men, the field ambulance may send for them. For choice horsed wagons should be sent, as stretcher carrying is very hard work and extremely slow. Moreover, fewer people can be dealt with in this way. An ambulance has eighteen stretchers with its advanced post (we are here dealing only with the advanced post of the ambulance) and six bearers to each, thus enabling eighteen cases to be carried a considerable distance, but only at the rate of about a mile an hour. Its wagons can carry forty over the same distance in a shorter time, and can often carry more than forty, inasmuch as many cases unable to walk are able to sit up in a wagon. A single wagon holds four cases on stretchers but thirteen sitting up (one on the box). It cannot, however, be used if cross country work is required owing to the ditches and raised roads.

The journey to the ambulance is usually a short one—not more than a mile—and, however it be accomplished, should not prove very fatiguing for the wounded. At the ambulance the wounded man can usually get some hot drink, operations of urgency can be performed, and more morphine given if required. Amputations are the only operations undertaken in practice, and these only when there is no other way of dealing with a limb.

The ambulance—to put it bluntly—repacks the man for further transport, and takes his name, etc., for the official returns. It also acts as a collecting station for the wounded from the various regiments in its area. From a purely medical point of view, it does little for the patient that might not have already been done, and it interposes a delay and a change from wagon to wagon or otherwise which cannot be said to be in the best interests of the patient.

Sometimes it is practicable to bring motor ambulances up to the ambulance, but more often it is not. In the latter case the journey to the clearing hospital is continued on foot or in horsed wagons, according to the severity of the wound. Occasionally the change from horse to motor ambulance may be made *en route*, presumably with the idea of sparing the horses and releasing the horsed wagons for further use. Against the bringing of motor ambulances right up to the field ambulance or even to the regimental aid post, it is urged that they require head lights at night, and also that if they break down they are more difficult to move out of the way, and may obstruct the passage of troops. These reasons are not quite convincing.

The Clearing Hospital.

This unit can provide attention for the worst cases, but as a rule can give no attention to the light or moderately severe wounds. It is an administrative rather than a medical unit, and is concerned in the collection of wounded from three field ambulances and their forwarding to railhead. The latter is usually in the same town, but not always. It sends on only such numbers as can be forthwith put on an ambulance train. The writer gathered that it had no means of rationing the wounded, and during his stay in one such hospital certainly provided most, but not all, of his own food, as did some eight other officers present with him. Some of these had been at the hospital for three days. It is fair to state that this was at a time of great pressure on the accommodation available, and thus in somewhat exceptional circumstances. This difficulty in rationing the wounded is felt all down the stages to the ambulance train, and the provisioning for meeting it does not seem to be systematized. Too much reliance seems to be placed on the official supposition that the wounded man brings with him any unconsumed portion of his day's ration. He very seldom does anything of the sort. In the same way, he seldom brings the reserve ration which he is supposed to carry.

The wounded man will seldom if ever reach the clearing hospital earlier than twelve hours after being hit, and may occupy as much as thirty-six hours in getting there. In some cases it will be longer than that. He may expect to spend at least one night there.

The Ambulance Train.

The ambulance train comes up to rail-head, and is met by motor wagons containing the wounded. It may be mentioned that all control of the railways rests with the French, even in areas which can only be concerned with our troops. This is undoubtedly necessary for the adequate working of a large system, but may in effect lead to delay to our ambulance trains, which can neither be foreseen or avoided. In any case the wounded man will probably not leave the ambulance train until the morning of the day following that on which he entered it, or for an equivalent period. It requires some considerable time to load and unload a train with wounded.

An ambulance train has a staff of three medical officers, and also sisters and R.A.M.C. personnel. The writer has travelled in two such trains and has seen others. In one of these stretchers were placed three deep—that is, one above the other—and this seemed to preclude any really adequate attention to any of the three. Nor was there, in fact, sufficient space between them (this, of course, is governed by the width of the rolling stock available for conversion into ambulance carriages). In a train on this side of the Channel beds were arranged in place of slings for stretchers, and these were convenient, but presumably entailed moving the patients from the stretchers.

The Base Hospital.

The base hospital, or rather the moment for adequate medical treatment, would hardly be reached until sixty hours after being wounded. If the patient is transferred direct to the hospital ship from the train the time taken is, perhaps, a little longer. The writer reached the ambulance at about midday on September 29th, and the base hospital about midday on the 31st. This is only forty-eight hours, but others met by him had occupied much longer on the same journey. At the same time, the experience of one journey cannot be taken as entitling him to make broad generalizations in regard to the time occupied, and these here stated are submitted only with reserve.

It has been suggested in the writer's hearing that possibly the medical men are in some way to blame for the infrequent dressings which some cases seem to have had. He would therefore state that even amongst those most aggrieved at the delays of the journey he has heard nothing but praise for the medical men concerned and sympathy in the difficulties they had to overcome.

Conclusions.

With the further stages of the journey the writer is not now concerned except to state that slight wounds might possibly not be dressed again before London was reached, but that in this case it would probably be due to the tendency of the slightly wounded to wander into any place except that in which they could be asked if their wounds had been recently dressed again. This was especially the case on board ship.

The following conclusions seem to the writer to emerge—namely:

1. That at none of the stages dealt with is the organization sufficiently elastic to cope with an unexpectedly large number of wounded without injustice to some. He himself was sent from the field ambulance in a wagon that did not belong to that ambulance, was housed outside the clearing hospital in a building occupied hastily in the emergency, could not lie down in the ambulance train owing to four cases being in a carriage (ordinary first class), slept on the floor on his own valise at the base hospital, had another in his cabin on the boat, and finally slept in a room intended for one only at a nursing home with two others. No complaint is made—on the contrary, one is only too pleased to have any place at all in which one can exist comfortably—but the pertinent fact does emerge that where not even adequate housing is provided it is likely that medical treatment will prove difficult or impossible.

2. The time occupied, and in particular the frequent changes from one conveyance to another, are inimical to the wounded. On the journey the writer travelled in one horsed wagon, four motor cars, two trains, and an Atlantic liner. In the same time he came under the care of seven different medical officers attached to seven different administrative units. This obviously gives great

opportunity for the overlooking of essential facts in the proper care of individual cases.

Is there any remedy, or is this the best that can be devised? Obviously only those at the head of affairs are really in a position to decide such a question, but it is nevertheless one which has frequently been discussed by the writer with those concerned in its practical working. Hence it is, perhaps, permissible to make a suggestion.

It seems to the writer that the objections urged against the bringing of motor wagons right up to the regimental aid post are not insuperable. A horsed wagon can and does go so far, and from the patients' point of view it matters little which sort he is upset out of, if it comes to that, or in which he experiences the jolting inseparable from well-worn roads. That motors can pass all these roads is certain from the fact that staff cars and supply lorries do so, and also armoured motor cars and motor cycles. Nor is the writer convinced that it is necessary for a motor car to carry head lights when near the firing line. Every other vehicle gets out of the difficulty by going very slowly, and, if need be, by having a guide to walk in front.

Once on a motor car there is no very apparent reason why the wounded man should not be conveyed straight to the base. The motor has also the advantage that it can take any road it wishes, and could go straight to a base even if the latter were not actually an important railway centre. This would perhaps render available various large buildings in the neighbourhood of towns at present too full of hospitals and yet with insufficient beds for the wounded. Thus the now necessary restriction of base hospitals to railway termini would be avoided.

Many cases are brought to this country only by the time that they are fit to return. These might be dealt with on the other side of the Channel, for a regimental aid post if fortified with some of the field ambulance personnel, that is to say, with perhaps an extra medical officer, should be able to classify very many such cases while actually loading them into motor wagons. They could then be sent to base dépôts which need partake very little of the nature of a hospital and very much of that of a convalescent home.

Finally it might be necessary in any such scheme to provide with each fleet of, say, fifty motors, one of larger size which would carry some medical equipment and could be used as a "surgery" if need arose.

If motor cars are more liable to be injured by rifle fire than horsed wagons (and a horse is very easily wounded), it should be possible to provide light armouring over the vital parts. Most motor cars have a bonnet, which is in effect light armour.

These suggestions are admittedly made from a partial knowledge of the difficulties to which they might give rise if adopted, but the writer can speak with experience of the difficulties and dangers which they are designed to overcome, and is convinced that these latter still require some more comprehensive effort to meet them. It is true that matters have much improved since the earlier days of the war and since the battle of the Aisne, but much remains to be done. The multiplication of stages—at each of which the wounded man's name, religion, etc., are duly entered on another official form—in the way home of the wounded seems to be the greatest difficulty of all, and the one most calling for attention.

THE HOSPITALS FOR SICK AND WOUNDED IN PARIS.

[From our Correspondent in Paris.]

General Conditions.

The wounded soldiers received into the hospitals are, almost without exception, in excellent physical condition. The number of medical cases encountered in the military hospitals is very small compared with the number of wounded, and the epidemics so disastrous to many other campaigns have not hitherto occurred in the present conflict. One seldom sees a case either of typhoid fever or dysentery, and it was recently stated by an authority here that the proportion of such cases seemed to be even smaller than in times of peace.

For the past month or so in Paris the number of wounded has been steadily diminishing, the French authorities adopting, as far as possible, a territorial distribution. In consequence of the movement of the British troops towards the coast the greater part of the British Red Cross staff, formerly stationed about Paris, has moved to Rouen, Boulogne, Calais, and other towns about that district. The British hospitals in Paris still have many patients, the greater part being those who were wounded at the battles of the Aisne and Marne. As soon as they are convalescent they are sent from Paris either to the base or directly home to England. Most of the convalescents are evacuated by means of ambulance trains, but a more pleasant method has recently been introduced, that of floating them down the Seine in specially equipped yachts and barges. Closer to the actual fighting one would imagine that the hospital accommodation was severely taxed, but at Rouen a few days ago I ascertained that there was equipment for three large temporary hospitals not yet in use, but which could be ready in a few days should occasion arise.

Tetanus.

The incidence of tetanus, so remarkable in the earlier part of this war, seems to have somewhat diminished. The greatest number of cases of this disease which I have observed here came from the districts north-east of Paris, about the valleys of the Marne and the Aisne. Whether the diminution is due to the transfer of the armies to another district, or to the improvement of the early treatment of wounds, it is too early to discuss. A very elaborate but concise form for recording statistics of tetanus has been prepared and circulated to all the military hospitals by Dr. Bazy.

It is believed that the death-rate in the present outbreak of tetanus will be markedly lower than is usually recorded in textbooks. If this prove to be the case the reduction will certainly not be due to any single mode of treatment, as each hospital seems to have its own particular method. For the most part the use of the antiserum has been dispensed with after the appearance of the disease, strong sedatives of various kinds being then most in favour. Lately, however, there has been an increase in the use of intraspinal injections of serum, occasionally combined with magnesium sulphate, after the appearance of symptoms.

In discussing "gaseous gangrene," Dr. Delorme asserts that large incisions and amputations are too often resorted to. "Experience has proved," he says, "that nothing is so toxic to the bacillus of gaseous gangrene as hydrogen peroxide." His method of treatment is as follows: Above the swollen, discoloured, and emphysematous part of the limb affected, a circular row of injections of hydrogen peroxide is made into the subcutaneous cellular tissue, at intervals of about half an inch. A second circle of injections is then made an inch or so higher up the limb, the points of the second injections being opposite the intervals of those of the first injections. By this means he hopes to form a barrier against the further invasion of the bacilli. If necessary, these injections can be repeated the following day, or even on the same day, either above or below the original injections, according to whether or not the gangrene has advanced or receded. Should the tension of the limb become so great that gangrene by compression of the vessels is feared, it is necessary then to incise the aponeurotic envelopes, and the incisions should be followed by irrigation with hydrogen peroxide. The prophylaxis of gaseous gangrene may be summed up in the rapid transport of the wounded from the field of battle, the early extraction of foreign bodies, and adequate disinfection, especially with hydrogen peroxide.

Typhoid and Cholera Vaccines.

Up to the present the prophylactic injections of typhoid vaccine seem to have been a great success. At the Pasteur Institute large quantities of cholera vaccine are now being prepared, most of which, I believe, is being sent to Servia. During the recent campaign in the Balkans this vaccine was used by the Servians with great success.

FRENCH WOUNDED FROM SOME EARLY ACTIONS.

Experiences of a British Doctor in a French Town.

The first batch of 250 wounded from the French forces on the frontier arrived at 2 a.m. and the local doctors, who had organized themselves into a committee, were there to receive them with an adequate staff of volunteer bearers. The first step was to throw open each compartment or luggage van, requesting those able to walk to come forth, thus leaving room to get at the more gravely wounded. The latter were mostly in the luggage vans and cattle trucks, some lying on straw on the floor, others on suspended stretchers on which they were conveyed to the waiting-rooms. The proportion of grave to slight wounds in this convoy, which came from one of the earlier actions near the frontier, varied from 10 to 15 per per cent., but this did not show the real proportion on the battlefield, because the gravest cases of all do not get beyond the nearest hospital; further the convoy comprised cases of illness as well as wounds. There were plenty of willing helpers to assist in transferring the bad cases to the motors and conveyances awaiting them outside the station. In order to secure an equable distribution among the various hospital centres (for there were ten of them), numbered cards had been prepared—for instance, "Municipal 1 to 50"—so that no one centre could be overcrowded. The less gravely wounded were dispatched on foot in charge of a guide.

The distribution took about an hour, whereupon we set to work to attend to the poor fellows, some of whom had been in the train three or four days without any surgical attention after the first dressing and with very little food, solid or liquid, beyond an odd cup of chocolate or beef-tea provided by benevolent townsfolk at intermediate stations. Arrangements have been improved since, and the wounded are no longer exposed to these unnecessary vicissitudes. It had been arranged that the principal civil hospital in the town should receive the graver cases, so that it was 10.30 that morning before the 46 patients had been dressed and put to bed.

By far the majority of the wounds in this convoy were inflicted by fragments of shell and shrapnel, not 10 per cent. being bullet wounds. The shrapnel ball is the shape and size of a small marble, and, like the shell, carries in bits of clothing with it. The proportion of bullet and shell wounds, however, varied in each batch, though in every instance the effects of artillery fire predominated. The aperture of exit of some of the bullet wounds was so extensively lacerated as to suggest the dum-dum bogey, but in all probability the damage was wrought by splintering of the bone, or by the bullet impinging on the bone and wobbling. The parts affected by the shrapnel and shell wounds were principally the buttocks, backs of thighs and calves. We had two chest wounds—the bullet going right through—and they both did well, though one developed pyohaemothorax, which had to be drained through a splintered scapula.

It should be borne in mind that when men are wounded and fall in a hotly contested field of operations, perpetually swept by shot and shell, it may not be possible to pick them up for many hours or even days. I have heard of cases in which three, four, or even five days have elapsed before they could receive assistance. As it is, the mortality among the bearers is very high; in one instance, of half a dozen who sallied forth to fetch in the wounded, only three returned. This is sure to be the case when firing takes place at such long ranges as to render it impossible to distinguish between combatants and non-combatants.

Then, too, life in the trenches is insanitary in the extreme, and soldiers in the fighting line may be unable to wash or change linen for days or weeks. What with the forced marches, exposure, and the total absence of facilities for self-cleansing, the wounded are often in a lamentably dirty condition, their plight being aggravated by a long, tedious journey by rail. It is therefore not surprising that practically every wound was septic on arrival; indeed, some were in an advanced stage of putrefaction. In two cases in the first convoy the huge contused lacerated wounds were infested by worms—sturdy, ivory-white, nimble parasites, firm to the touch and capable of jumping a foot or so; in fact, like magnified cheese mites, which, indeed, they closely resembled.

The nursing was done by volunteers, male and female, who might or might not have gone through a summary course of instruction in their duties, so that to begin with there was a certain confusion due to lack of experience and method. After a few days, the unsuitable aids having been eliminated, things settled down into a routine and worked smoothly enough, the surgeons attending to the severer cases and the nurses dressing the minor injuries.

The following is an example of a fairly common history. A man was wounded on a Sunday morning (bullet in right buttock) and was at once taken to a house not far away and dressed (pocket dressing). There he remained until 11 at night when he was placed on a cart and after several changes was taken to a temporary hospital, a couple of miles to the rear, where he passed that and the following night. At 7 a.m. on Tuesday he was placed in a train which went six miles and then waited in a siding for ten hours "out of sight, out of mind." Then by easy—very easy— stages it proceeded on its journey leaving some of the graver cases en route; it arrived at its destination on Thursday morning. The bullet had splintered the ilium, passing through it into the pelvic cavity, where it could be seen in the radiogram lying behind the caecum quite out of reach except from the front; as the foreign body gave rise to no abdominal symptoms it was left alone and after a good deal of suppuration the track leading to the aperture of entry gradually healed.

It is not surprising in the circumstances that the numerous cases of compound comminuted fractures of the long bones gave us a great deal of trouble, owing to extensive cellulitis, profuse suppuration with blue, horribly offensive pus, leading in two instances to secondary haemorrhage, necessitating amputation, which proved fatal from shock and exhaustion.

As all the wounds were septic on arrival the first step was to cleanse them thoroughly with dilute mercury perchloride, potassium permanganate, or iodine solutions; to remove necrosed tissues and foreign bodies (fragments of clothing, splinters of bone, bits of shell, etc.), to insert sutures when required, and to apply a plain dressing of sterile gauze.

Abdominal Wounds.

Dr. Duvernay showed me an interesting case.

A soldier, 25 years of age, was wounded on September 8th, at 8 a.m. His company was making a bayonet charge, and when about 500 yards from the enemy's trenches he was struck by a fragment of shell in the belly. He fell to the ground, and, on getting up, a bullet hit him in the left axilla. He fell on his knees, and crawled into a ditch, where he waited till fighting ceased at nightfall, when he dragged himself, a few feet at a time, towards the French lines, which he reached at midnight.

The abdominal wound, half way between the anterior iliac spine and the umbilicus, inflicted by a bit of shell, ran downwards and backwards, the aperture of exit being in the upper gluteal region. It was painted with tincture of iodine and left undisturbed; it healed without any reaction or complication.

The other wound was caused by a bullet which entered the left axilla, passed through the upper part of the thorax, coming out four fingerbreadths from the manubrium sterni, fracturing the first rib and sternum on its way; it then penetrated the neck, and came out on the other side after a superficial course. Here again no serious mischief was done, and he suffered no inconvenience beyond a little pain on moving the neck and some discomfort on swallowing.

The patient was evidently born under a lucky star, but it is worthy of remark, as bearing on the absence of injury to the pelvic viscera, that for three days he had had nothing to eat except a few berries, so that his intestines were empty, especially as he had had an evacuation that same morning. The case shows, moreover, the advantage of abstaining from any exploration and unnecessary manipulation in penetrating wounds of the abdomen.

An infantry soldier was shot in the back, the bullet entering at the junction of the upper third with the lower two-thirds of the sacrum, on a line running to the posterior superior spine of the ilium. When the man came under Dr. Whitling's observation he was very ill, with a high temperature. On examination under chloroform a large track was discovered passing through the muscles to a hole in the body of the ilium, which was badly splintered. It was evident that the missile had passed through it into the interior of the pelvis. There was a good deal of necrosis, with pus having a faecal odour. Dr. Whitling cleared away several large fragments of necrosed bone from the sacrum and from the body of the ilium, and introduced a drainage tube.

The man did very well for a week, when suddenly his

temperature rose to 104° F., and he had a good deal of pain in the gluteal region with slight tenderness in front, in the region of the caecum. There was, however, no dullness nor muscular rigidity in that region though the dressings had a faecal odour throughout. A second operation was undertaken under chloroform, still from behind, because the abdominal symptoms did not seem marked enough to justify intervention from the front. Necrosed bone was cleared away, and a good deal more from the sacrum, which proved to be more extensively injured than had been anticipated. Following up the track of the missile a hole, 1¼ in. in diameter, was gouged right through the ilium. This gave issue to much foul pus with a faecal odour. Even then no missile could be detected with finger or probe. Later on a radiogram showed that the missile, a fragment of shell, was lying nearly 2 in. below the opening in the ilium. A large drainage tube, ¾ in. in diameter, was introduced through the hole in the bone, and the patient began to improve at once.

This patient was seen by Inspector-General Professor Delorme, who expressed his satisfaction that no attempt had been made to remove the missile, which was apparently becoming encapsuled. It was plain that the posterior surface of the colon or caecum had been opened extraperitoneally, as shown by the escape of faecal matter through the wound. The patient made an excellent recovery without any further rise of temperature.

Bullet behind the Larynx.

In another case a man was admitted with a very stiff neck and great difficulty in swallowing. Later a huge swelling formed on the right side beneath the jaw. This was opened and the symptoms cleared up. He was able to go home, although the sinus had not ceased discharging. The missile remains *in situ*. A radiogram showed that it lay in a plane posterior to the larynx, apparently in front of the spine.

Pyohaemothorax.

A young soldier received a bullet in the right scapular region traversing the chest, wounding the liver and coming out low down on the left thorax.

He had a formidable haemothorax with surgical emphysema on the left side, but was doing well, when a bulging swelling formed over the site of entry, now thoroughly healed up, and his temperature rose to 103°. Dr. Whitling found that this swelling was a pyohaemothorax communicating with a cavity in the lung, as shown by the fact that by pressure it could be squeezed back into the latter. On opening the swelling, pus and air escaped, and the sound passed some 8 in. along a track leading into the lung substance, which, on the patient being sick, gave issue to a considerable quantity of pus and blood. A drainage tube was passed into the cavity through the splintered scapula, and the man made a perfect recovery without another bad symptom.

Fractures.

Dr. H. Forestier, surgeon to one of the auxiliary hospitals, showed me a patient whose left thigh had been fractured just below the trochanter by a bullet.

The wound had become septic from the aperture of exit on the outer side of the limb and a large abscess formed. The suppuration was so copious that it was necessary to renew the dressing daily, a very painful process, and to the detriment of consolidation of the comminuted bone. In these circumstances it occurred to Dr. Forestier to establish siphonage of the wound by means of a long rubber tube which went to the bottom of the wound cavity. In this way it ceased to be necessary to take the limb out of the gutter splint for the purpose of dressing, and consolidation made more progress in a week than it had previously done in twenty-two days, in fact on the thirty-fifth day the limb could safely be rotated and abducted.

Dr. Forestier also showed me the radiogram of a much comminuted fracture of the humerus below the surgical neck caused by a bullet at 20 metres distance. There was a small free splinter of bone in the centre, but both wounds were small and escaped infection, so that repair took place much more promptly than was anticipated. A month after receipt of the injury the man was able to rotate and abduct the limb one half of the normal scope.

Tetanus.

Dr. Forestier has had 5 cases of tetanus in his service out of 74 wounded (32 seriously). Of these 5 cases 2 occurred in the subjects of grave wounds, and 3 in wounds of medium severity. The disease supervened, in one on the fifth and in the others on the sixth and seventh days from the receipt of injury. Two of them had been injected with antitetanic serum on arrival—that is, three days after infliction of the wound. The first case was that of a man wounded by a fragment of shell in the thigh, with formation of diffuse abscess. The first symptoms of tetanus came on twenty-four hours after admission, and he died thirty-six hours later. The second, who had a trivial wound of the leg by shell, only presented trismus for five days; he progressively improved, a limited contracture of the wounded leg (equinus) was still present on the thirtieth day of the disease. The treatment adopted comprised Bottini's method (injections of solutions of carbolic acid), intraspinal injections of magnesium sulphate, intravenous injections of sodium persulphate, and the administration of large doses of chloral, chloroform, and morphine, but, except in the case mentioned above, proved unavailing.

Antityphoid Vaccination.

Dr. Goddard, who has just vaccinated several hundred men against typhoid, mentioned to me some interesting details concerning the reaction at various ages. Of 200 men between 20 and 25 years of age, one only complained of feeling unwell on the following morning. He had a temperature of 38.5° C., but his indisposition only lasted twenty-four hours. It was quite otherwise with reservists between 25 and 35 years of age, of whom fully 60 per cent. felt ill, and had temperatures running as high as 39.5° C. So marked was the reaction, local and general, in the latter that he thought it inadvisable to vaccinate any of the territorial soldiers aged from 35 upwards.

"Traumatic Hysteria."

A good example of "traumatic hysteria" occurred in an officer, a highly nervous subject, who, while retreating with his men through a wood, was thrown down by an explosion seven or eight yards away. He only sustained a few bruises of the right leg, but he says that some blood escaped from his ears and that he was deaf for a quarter of an hour. He had to be supported by a couple of his men because he felt so giddy. On reaching the nearest village he collapsed and was put to bed. When he came to he had a good deal of pain in the back of the neck and gradually developed paralysis of both lower limbs, most marked on the left, with loss of sensation to heat and cold and touch on the left side. There was fugitive amnesia and a difficulty in moving the tongue. He also noted diminution of visual acuity, especially in the left eye. These symptoms cleared up in the course of six weeks and he has now returned to the front.

Another instance belonging to the same category was that of a soldier who received a blow on the left temporal region from a bit of shell on August 26th. This left him unconscious for twenty-four hours, and when he reached an ambulance at Nancy he complained of marked giddiness, and was found to be nearly blind.

He was transferred to an auxiliary hospital on October 1st. On admission he presented, 8 cm. above the top of the ear and 4 cm. behind the median line of the tragus, a depressed scar prolonged by a furrow upwards (fissure of bone) which could be felt to pulsate. In exactly the same situation on the other side was a pink, star-shaped, non-tender scar. There was some paresis of the right upper limb, but nothing to note in respect of the bladder or rectum. The patellar reflexes were normal. Ophthalmoscopic examination showed the fundus of the eye to be normal on both sides, with hypermetropia 3 D. on the left and 2 D. on the right side. The pupillary reactions and corneal sensibility were normal, and ocular movements intact. There was no diplopia and no hemianopsia. Vision: right, ½; left, ⅓. In the absence of any ocular lesions these signs and symptoms seem to point to hystero-traumatism.

THE HOME HOSPITALS AND THE WAR.

3RD NORTHERN GENERAL HOSPITAL (T.F.).

SHEFFIELD.

THE general hospitals in Great Britain were primarily organized for the Territorial Forces of the country, but while they have dealt with the sick and injured coming from the various Territorial camps, this has been a comparatively small and unimportant part of the work they have been and are doing. Thus, of the 1,543 men admitted to this hospital since the outbreak of hostilities, only 419 have come from Territorial camps, while the remaining 1,124 have arrived from overseas. They included 348 Belgian wounded. Whatever may be the ultimate verdict arrived at on Lord Haldane's scheme for a Territorial army, there is already abundant evidence to show that his Territorial hospitals have been a huge success. At the

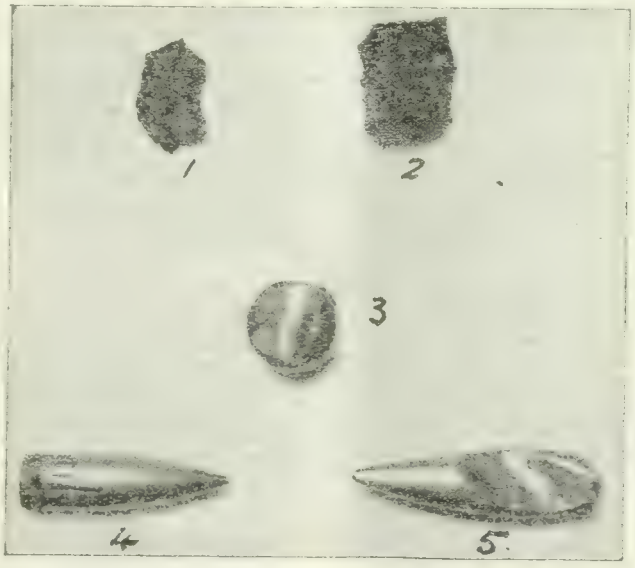
present time the twenty-three general hospitals are providing accommodation for 11,500 men and 460 officers. When it is added that all these beds are being used, and that there is a constant cry from head quarters for additional accommodation, one shudders to contemplate what we should have done without them.

Under the supervision of its commandant—Lieutenant-Colonel Connell—the 3rd Northern General Hospital works with a precision and an efficiency that would be difficult to surpass. Linked up with it are a large number of beds in civilian hospitals and convalescent homes in the neighbourhood of Sheffield, which have been generously placed at the disposal of the War Office.

The overseas wounded come in convoys of from 120 each upwards, the largest having been one of 240 wounded Belgian soldiers from Antwerp. They are conveyed from the railway stations to the hospital in motor omnibuses and ambulance carriages—the former for those who can sit up, the latter for cot cases. The number of cot cases has risen steadily with the advent of each convoy, and our last batch included 61 of such out of a total of 150. This change in the severity of the cases has brought about an increased demand for ambulance carriages, which is being met by the voluntary contributions of a generous public.

The proportion of shrapnel to rifle bullet wounds has been high, averaging quite ten to one, but it has varied considerably, and among the last two convoys the relative preponderance of shrapnel wounds has been decidedly lower. Most rifle bullets go clean through, and leave little to be desired from a surgical point of view. Slight suppuration at the points of entrance and escape takes place in perhaps 20 per cent. Truly the modern army bullet may be fairly described as a "kindly foe."

Several cases of perforation of the lungs from rifle fire have been treated, and it is amazing how little the patients suffer—a cough for a few days, with expectoration of a little blood, and then steady and rapid convalescence.



1 and 2, Shrapnel casing; 3, shrapnel lead bullet; 4, German rifle bullet; 5, English rifle bullet, deformed by striking bone.

We have had several very interesting abdominal cases following rifle wounds. In one the bullet entered the chest on the right side between the ninth and tenth ribs on the anterior axillary line, and escaped just below the twelfth rib on the left side, about 3 in. from the spinous processes. The patient was conveyed, without a rest, from the fighting line on the Belgian frontier to Sheffield, and arrived after a journey of seventy-two hours. The abdomen was greatly distended, rigid, and tender, and he had vomited many times during the journey. Although his condition gave rise to much anxiety, his pulse and facial expression did not support the view that he had general peritonitis. Owing to this defect in the picture, and also because of the great abdominal distension and the extensive manipulation which an exploratory operation would have involved, it was decided to treat him on expectant lines. A large abdominal fomentation sprinkled with belladonna liniment and a series of turpentine enemata caused the expulsion of much flatus and a gratifying improvement, which is being maintained. The gaseous distension was probably a result of damage to the great abdominal sympathetic plexus.

When rifle bullets strike compact bony tissue the result is apt to be vastly different, and the worst wounds we have had have resulted in this way. Two such wounds of the forearm are in hospital at the present time. In each case the bullet entered the flexor aspect of the forearm and produced an extensive comminuted fracture of the radius. The outlet wound on the dorsum measured 6 in. by 3 in.

There have been a number of cases of injury to important arteries, among which may be mentioned one of aneurysmal varix of the femoral vessels, and two of traumatic aneurysm of the axillary and brachial arteries respectively.

Three cases of compound fracture of the skull, with more or less protrusion of the brain, including one in which a shrapnel bullet has lodged in the centre of the brain, are under treatment and are doing surprisingly well. All have been dealt with by enlarging the openings in the skull, removing depressed and splintered fragments of bone and providing suitable drainage.

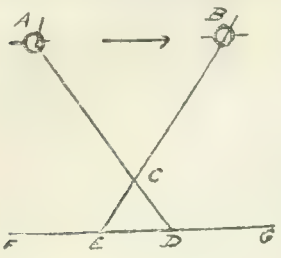
Quite a number of cases of injury to the trunk nerves of the arm and leg have been admitted. Two of these show evidence of complete severance, and will be dealt with by secondary nerve suture when the wounds have healed. In others temporary paralysis, followed by severe and persistent neuralgia, indicate merely contusions of the nerve trunks.

The most gratifying feature has been the small number of deaths. Down to November 7th they numbered five—two from tetanus and one each from pneumonia, peritonitis and gas gangrene. The tetanus fatalities were both hyperacute cases, with a short incubation period. One of these is recorded in the appended notes. The second developed spasm of deglutition, for which gastrostomy was done. We have had a third case of tetanus, which is now convalescent. He was treated by frequently repeated injections of large doses of antitetanic serum, but owes his recovery probably to the fact that the attack was a mild one with an incubation period of thirteen days. The fatal case of gas gangrene followed an extensive wound of the shoulder from a lyddite shell. The volume of gas emitted from the infected area was prodigious.

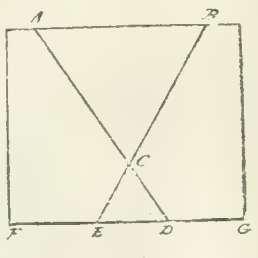
The surgical staff owe much to Major Rupert Hallam for the excellent work he has done in localizing bullets and pieces of shell, and so rendering their removal in most cases a comparatively easy task. To him we are indebted for the following notes:

The nature of the injuries has of necessity involved a large amount of *x*-ray work. The custom I have adopted in dealing with this has been as follows: Each case is first examined with the fluorescent screen. If a bullet or a fragment of shell is seen, a skiagram is taken and sent to the medical officer in charge of the case. Should it be deemed advisable to remove the foreign body, stereoscopic *x*-ray plates are made, or the foreign body is localized; that is, its depth is calculated from a certain landmark on the skin. It will be remembered that the ordinary *x*-ray negative gives no idea of the contour of the limb. The stereoscopic method is most useful when the bullet is near a definite bony structure. When lying in a thick muscular area or in one of the cavities of the body, exact measurements are often a necessary addition, for the guidance of the surgeon. The methods of localizing I use are a slight modification of Sir Mackenzie Davidson's or by means of Dr. Furstenau's calipers. The former ingenious method is the oldest and the basis of many of the newer ones. It is accurate, and with a little practice easily accomplished. It may be briefly described as follows: A skiagram of, for example, a leg is taken from a certain definite position. The *x*-ray tube is then moved parallel to the plate for a certain distance (usually 6 cm.) and the exposure repeated, on the same plate. The plate when developed shows two shadows of the bones, etc., and of the bullet. The plate is then placed in a suitable frame and fine threads are carried from the double shadows to marks representing the positions of the tubes in the two exposures. These threads cross. The height from the

plate where they cross is measured, and gives the position of the bullet relative to the surface of the leg which was lying on the plate. In the diagram No. 1, A represents the x-ray tube in the first position, casting a shadow of C (the



No. 1.



No. 2.

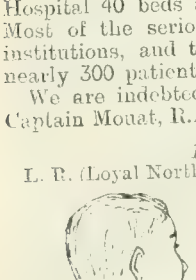
bullet) on the x-ray plate F–G at D; B is the second position of the tube, casting a shadow of C at a point E. Diagram 2 represents the frame. F–G is the finished plate with the double shadows E and D. A thread is carried from D to A, and another from E to B. They cross, and give the position of C (the bullet).

The Royal Infirmary has placed 100 and the Royal Hospital 40 beds at the disposal of the Military Hospital. Most of the serious operations are performed at these institutions, and the infirmary has up till now received nearly 300 patients.

We are indebted for the notes of the following cases to Captain Monat, R.A.M.C.(T.F.):

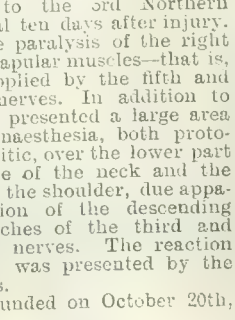
Injury of Cervical Nerves.

L. R. (Loyal North Lancashire) on September 14th sustained a bullet wound in the right side of the root of the neck. He lay in a trench from 10 a.m. till 9 p.m., when a field dressing was applied. The following morning he was taken to Augers Hospital. He was admitted to the 3rd Northern General Hospital ten days after injury. He had complete paralysis of the right shoulder and scapular muscles—that is, the muscles supplied by the fifth and sixth cervical nerves. In addition to this the patient presented a large area of cutaneous anaesthesia, both protopathic and epicritic, over the lower part of the right side of the neck and the upper aspect of the shoulder, due apparently to division of the descending cutaneous branches of the third and fourth cervical nerves. The reaction of degeneration was presented by the affected muscles.



A, Wound of entry; B, wound of exit; C, area of protopathic and epicritic anaesthesia.

J. W. (4th Royal Fusiliers) was wounded on October 20th, near Lille. A shrapnel bullet entered the left side of the neck, fractured two cervical transverse processes, and was deflected downwards in front of the spine to the mediastinum, where it lodged. The patient was admitted to the 3rd Northern General Hospital a week after injury and presented apparently complete paralysis of the left shoulder muscles. The deltoid, supraspinatus, infraspinatus, biceps, and brachialis anticus were completely paralysed and gave the reaction of degeneration. There was an area of cutaneous anaesthesia over the point of the left shoulder and the outer aspect of the upper portion of the arm. The descending cutaneous branches of the third and fourth cervical are intact.



A, Wound of entry; B, situation of bullet; C, area of cutaneous sensory loss.

Injury of Brachial Plexus.

T. B. (Northumberland Fusiliers) was wounded on October 19th, near Lille. Contusion, with resulting physiological division of the upper cord of the brachial plexus, resulted. He presented a lacerating wound of entrance on the back of the right shoulder. A radiogram showed the presence of a large piece of shrapnel lying deep to the coracoid process. Movement at shoulder-joint was much limited in every direction; there was no loss of cutaneous sensation. The paralysis of shoulder-muscles, at first apparently complete, is being gradually recovered from.

Wound of Motor Area.

J. B. (2nd Belgian convoy) was admitted on October 28th. He presented a shrapnel bullet wound of the right parietal bone over the motor area. On admission the patient was conscious, but apathetic and drowsy, and there was complete flaccid paralysis of the left arm and leg. On October 29th he was trephined and pieces of depressed bone were removed. Efforts to locate the bullet with the telephone probe were unsuccessful. The wound was closed with drainage.

Traumatic Aneurysm, Left Brachial Artery.

C. (1st Cheshire Regiment) was wounded on October 20th at La Bassée. The bullet entered the postero-internal aspect of the left upper arm about 2½ in. above the elbow, and emerged about the middle of the anterior aspect of the upper arm, 4 in. above the elbow-joint. The patient complained of tingling in the hand and forearm, worse at night. The wound, on admission, was aseptic and practically healed. There was a pulsatile swelling over the line of the brachial artery, below the wound. The increased resistance and pigmentation of the superficial tissues appeared to be due partly to extravasated blood and partly to a true aneurysmal dilatation of the brachial artery, as the pulsation diminished when pressure was applied to the artery above the site of injury. There was a systolic thrill on palpation and a bruit increased with systole was audible on auscultation. A typical aneurysmal pulse was shown by the sphygmograph.

An operation was performed on November 5th, and a false aneurysm of the brachial artery was found. The brachial artery was torn and the extravasated blood had acquired a false sac from surrounding tissues. The brachial artery was ligatured above and below the damaged area.

Aneurysmal Varix.

W. W. (Northumberland Fusiliers) was wounded with pieces of shrapnel on October 19th near La Bassée. He sustained wounds of both thighs and the right shoulder. He was wounded at 11 a.m., and lay in the trench till 7 p.m. He was unconscious for about an hour. He stated that when he recovered he found himself lying in a pool of blood. Since recovering from the shock he has been conscious of a curious tingling thrill at the site of the wound at the upper end of the left thigh. A continuous thrill, increasing with systole, can be felt through the dressings covering the wound. A small wound is present over the upper end of the anterior aspect of the left thigh immediately over the femoral vessels. A startlingly loud bruit is heard over and distal to the site of the wound, the noise of which resembles the throbbing of the engines of a steamboat.

For the following notes we are indebted to Captain Cobb, R.A.M.C.(T.F.):

Amputation of Arm: Tetanus: Death.

This man received a severe shell wound of his left arm in the fighting on the Aisne. Two days later his arm was amputated at a base hospital in France. When admitted on the seventh day, the stump was very septic, and large sloughs were present in the wound. These were cut away, the whole area was swabbed with hydrogen peroxide, and a prophylactic dose of antitetanic serum administered. The next day he complained of twitchings in his shoulder, and later in the day he developed well-marked trismus. He very rapidly became worse; the spasms became generalized, and could only be checked by the administration of chloroform. He died on the third day of the disease, and ten days after receiving his wound.

Compound Fracture of Femur.

We have three cases of compound fracture of the femur, all in Belgians, and all sustained in the fighting around Dixmude. In each case the fracture is just above the knee, and the wounds are unfortunately septic. They are all put up with a long Liston splint and extension.

Nerve Injuries.

Among the nerve injuries are two cases of section of the musculo-spiral nerve by means of rifle bullets, and one case of section of the spinal accessory nerve by a rifle bullet.

Another man was shot through the neck; a piece of shrapnel was discovered in the chest. He has very severe pain, which radiates along the arm, and is probably due to inflammation around the roots of the brachial plexus.

Compound Fracture of Skull.

Among several cases of compound fracture of the skull one is very severe. He is a young Belgian, who received a shrapnel wound on the right side of his head. On admission there was a large hernia cerebri, which was septic, and the tissues of the scalp were infiltrated with pus, and there was left-sided hemiplegia. The eyelids on both sides were swollen and red, especially on the right side. He was quite conscious. Under anaesthesia loose pieces of bone and septic pieces of brain matter were gently removed, drainage being thereby facilitated. His general condition has improved.

EDINBURGH.

On November 3rd another large party of wounded arrived in Edinburgh from Southampton; they numbered 150, and 110 were sent to Craigleith and 40 to the Deaconess Hospital. This is the first occasion on which this, the well-known Church of Scotland Hospital in the Pleasance, has been used to accommodate wounded men from the expeditionary force. Again, on November 5th, a train load of 136 men came into Edinburgh: about 30 were taken to the Royal Infirmary, and the others were

distributed between Craigleith Hospital and Dalmeny House, the Earl of Rosebery's residence on the south bank of the Firth of Forth. There are also 63 wounded Belgian soldiers at Craigleith Military Hospital.

At a meeting of the managers of the Edinburgh Royal Infirmary, held on November 2nd, it was reported that the wounded soldiers and sailors were being taken on the same footing as ordinary patients; the War Office and the Admiralty were not charged anything for the institution's care of them.

DUBLIN.

Last week the converted steamship *Oxfordshire* brought a second contingent of wounded soldiers to Ireland. About a fortnight ago she arrived in Queenstown with over 700 wounded officers and men. This time she brought 45 wounded officers and 595 men to Dublin. Between 60 and 70 of these were stretcher cases. Within a few hours of the arrival of the boat at the North Wall all the wounded were disembarked and on their way to their several destinations; about half the number were sent by ambulance trains to Cork, the Curragh, and Belfast. The remainder were distributed among the Dublin hospitals. Nearly, if not all, were wounded in the trenches in the neighbourhood of Ypres, and had received treatment either at Bethune or Boulogne, or both places. Among them were twelve German soldiers. The majority of the wounds were in the legs and arms, cases of shrapnel and shell wounds prepondering over those caused by rifle fire. Already a considerable number of those who were brought to Dublin a fortnight ago have recovered sufficiently to be sent either to their own homes or to a convalescent home. All the wounded who arrived last week spoke in the highest manner of the kindly and attentive manner in which they had been treated from the moment they were rescued from the battlefield through the various stages of the journey. They were unanimous in their expression of gratitude for the splendid work done by the R.A.M.C. and the officers of the Red Cross Society.

JOINT WORKING OF THE BRITISH RED CROSS SOCIETY AND THE ORDER OF ST. JOHN.

It is satisfactory to know that in the course of the last week or so an amicable arrangement between the British Red Cross Society and the Order of St. John of Jerusalem has been reached, and that the two Societies are now conducting their business in co-operation. Previously the selection of surgeons for the war and for home hospitals was carried on partly by Sir Frederick Treves on behalf of the British Red Cross Society, and partly by Mr. Edmund Owen from the offices of the Order of St. John. In the same way sisters, nurses, and orderlies were engaged partly by the Order of St. John and partly by the Red Cross Society. Thus there was a considerable waste of energy. Now, however, through the good offices of the Hon. Arthur Stanley on behalf of the Red Cross Society and Sir Claude Macdonald on behalf of the Order of St. John, it has been arranged that the work of the two Societies shall henceforth be carried on in these respects by a joint committee. In furtherance of this object Mr. Owen has left St. John's Gate, and is now working in Pall Mall with Sir Frederick Treves in the selection of surgeons and dressers, and the Red Cross Society has given over to the charge of the Order of St. John the selection of all sisters and nurses for home and abroad. The selection of nurses is in the hands of Miss Swift, who was formerly matron of Guy's Hospital, and of certain able and well known nurses who are working with her. Under this arrangement it is impossible for any amateur nurse to be foisted on our wounded soldiers, for Miss Swift and her colleagues insist that every nurse appointed shall have served her three years in a recognized hospital, and have acquired a nursing certificate. The selection of orderlies is left entirely in the charge of the Order of St. John, and nearly 7,000 of these men have been chosen by Sir James Andrew Clark and his colleague, Mr. Darvil-Smith, for service in the various military hospitals and on the Continent. This complete fusion of the two Societies into one body is regarded by each as a very happy occurrence, and it will go far to assure the public that the best is being done for the wounded soldiers without waste of money or energy. There is apparently a lull at the moment in the demand for doctors, nurses, and orderlies, but arrangements have been made by which an almost unlimited number of reserves may be drawn upon.

THE BRITISH RED CROSS SOCIETY.

The Situation well in Hand.

Sir Frederick Treves states that with the dispatch in the last ten days of 21 doctors and 31 dressers every call has now been met, and no more assistance of any kind is needed for British, French, or Belgian troops at Boulogne, Calais, or Dunkirk. Nor has the British Red Cross Society received requests for help from hospitals in other parts of France where wounded soldiers are under treatment. Steps are being taken to stop the rush of unauthorized persons to the front, whether as ambulance or hospital parties. Sir Frederick Treves believed that all the requirements of the wounded are met, and that they have never been better looked after.

Another Hospital Ship.

Thanks to the generosity of Mr. Fielden, the British Red Cross Society has acquired the steam yacht *Paulina* for the purposes of a hospital ship. By royal permission the vessel will be renamed the *Queen Alexandra*. It is being fitted to provide 21 beds for soldiers and three cabins for officers, and will be used for the transport of personnel and medical stores and to bring back wounded in the intervals when the transports and larger hospital ships are not running. The vessel will also be able to convey wounded from one English port to another, and is well adapted for such work.

The Nursing Question.

In reply to the letter from Dr. Albert Wilson, published in the last issue of the British Medical Journal, p. 813, Sir Frederick Treves reiterated his assurance that no nurse has been engaged by the British Red Cross Society since the commencement of the war who is not a fully trained hospital nurse with a certificate of three years.

Co-operation with the St. John Ambulance Association.

As noted in another column, a Joint War Committee of the British Red Cross Society and the St. John Ambulance Association has now been formed in order to prevent any overlapping in the work of the two societies. The joint committee, of which Mr. A. P. Stockings is the honorary secretary, has issued a statement that surgeons and nurses should refrain from lending their aid to private schemes for sending aid to the wounded. The War Office strongly urges this for its own reasons, and Mr. Stockings informs us that although various private parties have been able to do valuable work others have got into difficulties, principally of a financial character. Appeals for aid have then been received by the British Red Cross Society, which, although always ready to help where possible, takes the view that it should have a measure of control over the spending of the grants. It is considered to be in every way better that those wishing to help should work through the Red Cross Society and not as free lances. Only in that way can there be any assurance of fully qualified attendance upon the wounded. Private expeditions have included unqualified persons, and as all members wear the Red Cross badge, misapprehension is likely to occur.

Mr. Stockings mentioned that the Joint Committee has under consideration a proposal to establish a hospital with 2,000 beds in London for sick and wounded soldiers. Pressure upon accommodation, both in military and voluntary institutions, is now severe in all parts of the country. It is hoped that the Government may lend a building suitable for the purpose.

An Anglo-French Committee.

There has been established at the offices of the British Red Cross Society an Anglo-French Committee, whose purpose will be to co-ordinate offers of help for wounded soldiers of the allied armies made by people in this country. Near the fighting line the military authorities will not allow any more hospitals to be established, but much useful aid could be rendered by

hospitals placed in other parts of France. The Anglo-French Committee will act as an intermediary between the French authorities and private persons here who wish to help the French or the Belgians, and it is intended to arrange that all hospitals so established shall be available, in case of emergency, to receive British wounded.

CASUALTIES IN THE MEDICAL SERVICES.

ROYAL NAVY.

SOME casualties in the Medical Department of the Royal Navy must have taken place in the sea fight off the coast of Chili, in which the *Good Hope* and the *Monmouth* appear to have been lost, but no official list has yet been published.

ARMY.

Killed.

Since the list of casualties published in our last issue two officers of the Royal Army Medical Corps have been reported as killed. Captain R. C. G. M. Kinkead, who was serving with the 10th Hussars, and Lieutenant Angus Macnab, one of the medical officers of the London Scottish. We intend to publish an obituary notice of Lieutenant Macnab in an early issue, and print below short accounts of the services of Captain Kinkead, and Captain Pockley of the Australian Expeditionary Force.

Captain Richard Crofton George Moore Kinkead was the only surviving son of Professor Kinkead of Galway. Captain Kinkead was born in Galway in 1883, and educated at Erasmus Smith's Grammar School there, and at Portora Royal School, Enniskillen. He received his medical education at Queen's College, Galway, and graduated M.B., B.Ch., B.A.O., in the Royal University of Ireland in 1908. After serving for a year as house-surgeon to the Coventry and Warwickshire Hospital, he entered the R.A.M.C. in 1909. He became captain on January 31st, 1913, and was recently stationed at Bloemfontein. At the end of August he was recalled and attached to the 10th Hussars, with which regiment he went to the front on October 6th. While a student he joined the South of Ireland Imperial Yeomanry, and served four trainings with that corps. He rowed in winning crews for the Royal Galway Club, was a good rifle shot, and a fine horseman. His death is a loss to the service, and deep sympathy is felt with his bereaved father and mother. This has already found expression in the resolution adopted by the County Galway Medical Committee, and in a letter from Dr. Frederick W. Kidd, President of the Irish Medical Association. Captain Kinkead, in a letter written as late as October 26th, spoke of the high spirit and courage of the officers and men with whom he was serving. "The other day," he said, "a farm, where I had been sleeping in a barn, was shelled and set on fire. My corporal, thinking I was still asleep, went into the blazing fire to fetch me out, and was not satisfied until he had searched the whole place. Now, this corporal was one of the 10th Hussars, and had only known me since I came to the regiment—just over two months." Speaking of himself, he said he was fit and well, except for pains in the back and legs, from overstrain of the muscles due to lifting men out of the trenches. This it was necessary to do, as the trenches were very small, and one or two wounded filled up the hole. "If," he added, "we had only had a million and a half of an army of our present standard the Germans would be on the Rhine by now, and the war nearly over."

It is with sincere regret that we record the death of Captain Brian Colden Antill Pockley, aged 24, who was killed whilst serving as medical officer with the Australian Expeditionary Force in its attack on German New Guinea. When the first encounter took place he was called upon to attend a wounded sailor. Finding it necessary to send him to the rear Captain Pockley took off his own coat with the red cross badge and wrapped it round the wounded man. He then went on attending to other wounded. He was in his shirt sleeves and was shot by a German captain, who excused himself on the ground that Captain Pockley was not wearing a badge. Captain Pockley graduated M.B., Ch.M. this year from the Sydney University. As a boy he attended the North Sydney Church of England Grammar School, and both at school and at the university he was most deservedly popular. He was highly esteemed for his fine personal qualities, brilliant scholarship, and all-round athletic prowess. His early death will be most deeply regretted by a wide circle of personal friends. His father, Dr. F. Antill Pockley, of Macquarie, Sydney, was for many years on the Council of the New South Wales Branch of the British Medical Association, and at one time its President. In 1911 he was president of the Australasian Congress, held that year in Sydney.

Macnab, Lieutenant Angus, R.A.M.C.(T.).

Died on Service.

Second-Class Assistant Surgeon Frederick Joseph Bernard, of the Indian Submedical Department, is reported to have died on service at the front in France. He was born on February 22nd, 1880, entered the department on March 13th, 1902, and attained his late rank on March 31st, 1907. He was on the Madras Establishment and was recently stationed at Malapuram.

Wounded.

Gibson, Captain H. G., R.A.M.C.
Grant, Lieutenant G. R., R.A.M.C.
Littlejohn, Lieutenant C. W. B., R.A.M.C.
O'Driscoll, Lieutenant J. A., R.A.M.C. (Special Reserve).
Osburn, Captain A. C., R.A.M.C.
Thatcher, Lieutenant F. G., R.A.M.C.

Prisoners of War.

Captain B. Johnson, R.A.M.C., reported missing on October 24th, is a prisoner.

Captain W. G. Egan, R.A.M.C., taken prisoner at Landrecies on August 28th, is a prisoner at Crefold, near Düsseldorf.

Missing.

Fraser, Captain A. E. G., R.A.M.C. (previously reported as Captain A. D. Fraser.

Pollard, Captain A. M., R.A.M.C.

NOTES.

REWARDS FOR DISTINGUISHED SERVICE.

Distinguished Conduct Medal.

THE King has approved of the grant of the medal for distinguished conduct in the field to Lance-Corporal J. Jonas, No. 5 Field Ambulance, Royal Army Medical Corps, for bravery on September 14th at Pont Arcy in carrying in under a heavy fire Sergeant Stansfield, 49th Battery, Royal Field Artillery, who was dangerously wounded.

Medaille Militaire.

An Army Order issued on November 7th states that the President of the French Republic has, with the approval of His Majesty the King, bestowed the French military medal for conspicuous services on the following warrant officers, non-commissioned officers and men of the Royal Army Medical Corps, serving with the British Expeditionary Force, in recognition of their gallantry during the operations between the 21st and 30th August.

Sergeant-Major G. W. Carnell.
Quartermaster-Sergeant R. Craig Blair.
Private H. Faun.
Private A. Goodfellow.
Sergeant-Major A. T. Hasler.
Private H. G. Jupp.
Sergeant-Major E. R. Loft.
Sergeant H. M. Prince.
Private A. V. Sworn.

AMBULANCE HELP FOR THE FRENCH.

The British Ambulance Committee has been formed to place at the disposal of the French Red Cross Society such assistance in obtaining motor ambulances as it may be possible for the friends of France in this country to render. The Duke of Portland is the president of the committee, and the British Ambassador in France and the French Ambassador in England are among the members. Mr. G. Cecil-Baker and Mr. B. Peyman are the honorary secretaries, with offices at Queen Anne's Mansions, Westminster. It is hoped to assemble a fleet of fifty cars, divided into units of five, each unit being staffed by a surgeon and two dressers. The ambulances will be placed under the control of the French Red Cross Society. In an appeal to the public issued this week the committee states that it has the support of the Queen, Queen Alexandra, the Prince

of Wales, President Poincaré, and others. The British Red Cross Society has expressed its sympathy. The heavy demands which the size of the French army and its greatly extended front make upon the medical organization are emphasized in the appeal. Since nearly the whole of the active male population of France is under military orders, there is hardly any one left to whom the French authorities can appeal for voluntary assistance, and the local supply of motor cars is exhausted. Subscriptions are invited towards the first £50,000 necessary for the work. Cars may be lent for a minimum period of three months, and be supplied either with or without drivers and mechanics. The minimum cost of conversion is about £50 and the maintenance cost about £10 a week.

We mentioned recently that the Council of the Surrey Branch of the British Medical Association had made an appeal to the profession in the county to subscribe for a motor ambulance. Mr. Cecil P. Lankester, Honorary Secretary of the Branch, 1, Rectory Place, Guildford, says that he has now received £260, but that the fund should amount to £300. It is hoped that the remaining £40 will shortly be provided.

Red Cross Hospital near Boulogne.

The Red Cross hospital which Sir Henry and Lady Norman have organized is being established at Vimereux, a few miles north of Boulogne. Mr. H. M. W. Gray, surgeon to the Aberdeen Royal Infirmary, and Dr. A. H. Lister, physician to the same institution, are senior physician and senior surgeon respectively in charge of the hospital, which will provide about 100 beds.

Hospital at Southall.

A temporary hospital has been established in the recreation institute at the works of Messrs. Otto Monsted, Southall, near Ealing. The building was only erected in 1911. The greater part of the equipment has been provided by public subscription and gifts from residents in Ealing. Surgeon-General Greany, I.M.S.(ret.), will be in charge, and Sir Alexander Ogston, Surgeon-in-Ordinary to the King in Scotland, and Sir Robert Burnet, physician to the King's household, will act as consulting surgeon and physician respectively. The visiting medical officers are Drs. Caley and Lyle, of Ealing, and the emergency surgeons, Drs. Vercoe and Galloway, of Southall. The Ealing Voluntary Aid Detachment has for some months been engaged in the work of preparation, and the medical officers of that detachment who are in charge of wards are Dr. Margaret Dobson, Dr. Ethel Bowlby, Dr. Davidson (Hanwell), Dr. Fenton, jun. (Ealing), Dr. Hill (Chiswick), and Dr. Wallace (Acton). Dr. E. A. Chill is responsible for the general organization. Dr. Felten, a Belgian medical practitioner, who speaks Flemish, has offered his services in case the hospital is called upon to deal with wounded Belgians. Two trained nurses will be in charge of each of the wards, and the members of the detachment will give assistance according to their training.

The Medical Staff of the German Army.

The German medical staff has already suffered very severely in the present war. Up to the middle of October 135 medical officers were reported killed, wounded, or missing, 74 of these having been killed. Among them is Friedrich König, professor of surgery in the University of Marburg, and son of the late Professor Franz König of Berlin; he was killed in action at the eastern seat of war. In the entire Franco-German war of 1870–71 only 11 German surgeons died on the battlefield or from wounds there received. The German medical staff has not escaped the meteoric shower of iron crosses rained by the Kaiser on his armies. According to the *Berliner med. Wochenschrift* of October 19th, that decoration had then been bestowed on 120 medical officers.

Among those who intend to take part in the discussion on Surgical Experiences of the Present War, to be opened at the meeting of the Medical Society of London on Monday next, at 8.30 p.m., by Sir Watson Cheyne, are Sir Frederic Eve, Mr. Arthur Edmunds, Mr. R. P. Rowlands, Mr. D'Arcy Power, Mr. Charters Symonds, Dr. Embleton, and Dr. Ironside Bruce. It is probable that the discussion will be adjourned.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Aberdeen.

The University and the War.

The opening of the winter session finds two of the chairs in the Medical Faculty of the university occupied by new professors. The vacancy in the Chair of Chemistry caused by the retirement of Professor F. R. Japp, LL.D., F.R.S., after twenty-four years of good work and service has been filled by the appointment of Mr. Frederick Soddy, M.A., F.R.S., formerly Lecturer in Physical Chemistry, including Radio-activity, in the University of Glasgow. It is unnecessary to do more than to refer to the distinguished work that has been accomplished by Professor Soddy. His researches into the phenomena of radio-activity at first carried out in collaboration with Sir William Ramsay and latterly in Glasgow are well known.

Professor Theodore Shennan, M.D., F.R.C.S.Edin., who has been appointed by the Crown to succeed the late Professor George Dean in the Chair of Pathology, is a distinguished graduate of the University of Edinburgh. For a number of years he held the important post of Pathologist to the Royal Infirmary, Edinburgh, and he was also university lecturer in morbid anatomy, and an extramural lecturer in systematic and practical pathology and bacteriology.

The influence of the war is apparent in the number of students who have matriculated for the current session at the university. In October, 1913, 1,024 students of all Faculties entered the university, but this year the number has dropped to 785, of whom 458 are male students. This represents, as regards male students, a reduction of 35 per cent. on last year's numbers. The number of medical students is 214, as against 271 last year, being a decrease of 28 per cent. About 530 members of the university, graduates and students, hold commissions or have enlisted in His Majesty's Forces. Of the students, over 200 are serving in the ranks, and about 40 hold commissions. Of the teaching and research staff, 5 are absent on service. Three professors and six lecturers and assistants, while continuing on duty at the university, are also attached to the 1st Scottish General Hospital.

The election of Rector of the University, in succession to Mr. Andrew Carnegie, took place on Saturday, November 7th, when the Right Hon. Winston L. S. Churchill, M.P., First Lord of the Admiralty, was unanimously elected to the office.

The Hospitals and the War.

The mobilization of the 1st Scottish General Hospital was ordered on August 5th, and was completed within the allotted eight days. The usual number of beds, namely, 520, were provided, and this number has since been increased by 80. In addition the Royal Infirmary have lately provided 50 additional beds for cot cases, while also holding a number of beds at the disposal of the Admiralty. At the beginning of the war a certain number of sick and injured men were received at the infirmary from the fleet in the North Sea, and a proportion of sick from the troops were also received at the 1st Scottish General Hospital. The first batch of overseas wounded arrived at the latter hospital on September 26th, and so far a total of 1,250 wounded men, including 360 Belgians, have been admitted. Half of the patients arrived within one week, and patients already in hospital were transferred to cottage hospitals and Voluntary Aid Detachment formations throughout the Highland divisional area to make room for new cases. This scattering of semi-convalescent soldiers into small hospital formations under Voluntary Aid Detachment nurses has many drawbacks. The morals of the soldier are controlled by the existence of disciplinary powers laid down in King's Regulations. Given the temptations of Scotland's common hospitality, namely, wine and women, military means must be afforded all such Voluntary Aid Detachment hospitals for the protection of the sick and wounded soldier. The Administrator here suggests that authority should be given the Red Cross District Commissioners to obtain from the nearest military dépôt a guard of one or more soldiers for each such hospital formation. This would

help to avoid indiscretions, and would relieve the medical attendant and the voluntary nurses from much anxiety. It is hoped to give some details of the work carried out at the 1st Scottish General Hospital in the course of further communications.

Correspondence.

THE TREATMENT OF GUNSHOT WOUNDS IN THE PRESENT CAMPAIGN.

SIR,—As misconception appears to exist as to the general principles guiding the treatment followed by the medical service, it may be of interest to your readers to be given a short précis.

On the reception of a wound the first field dressing, consisting of a pad of gauze, etc., is applied by a surgeon, a comrade, or the patient himself.

On arrival at the field ambulance this dressing is changed, and the patient is removed to the clearing hospital, where the wound is cleansed, if necessary, and painted freely with a solution of iodine in spirit. Where needful this dressing is repeated during the journey in the ambulance train to the base.

A prophylactic injection of antitetanic serum has been given at the clearing hospital (or in many instances earlier at the field ambulance) during the last month.

At the base hospitals the cases are treated according to their requirements. Bullet wounds of a normal character are covered with a dry dressing of bicyanide gauze, no further antiseptic precaution being necessary. A better example of the success of this treatment cannot be given than in the case of wounds of the chest with haemothorax, in no case of which which has come to our knowledge has suppuration occurred.

Large and septic wounds are dressed with moist antiseptic compresses, the medium varying in different cases, carbolic acid, mercury perchloride, creolin, or lysol being the commoner forms of lotion employed. Beyond this, the wounds are irrigated with hydrogen peroxide, or iodine water (tr. iodi ʒj to Oj). In many cases baths are employed for wounds of the arm, forearm, or leg.

Many of the larger wounds are cleansed under an anaesthetic, and obviously hopelessly damaged tissue removed. In others the wounds are enlarged to drain thoroughly the large cavities usually produced by the fragments of high-velocity shells.

The necessity for the latter forms of treatment is naturally more common when delay in the transport of the patients has been unavoidable.—I am, etc.,

G. H. MAKINS,
Colonel, A.M.S., Consulting Surgeon.

THE WORK OF THE R.A.M.C.

SIR,—I have just returned from France, where I have, with the permission of the Director-General, Sir Alfred Keogh, and by the courtesy of Sir Arthur Sloggett, who is in command out there, seen the hospitals provided for our wounded at Boulogne, and for the Belgian wounded at Calais. I have had every opportunity of carefully studying all the arrangements made for the proper treatment and transportation of our wounded soldiers. I took with me two members of the London Hospital surgical staff, who were directed to stay out and help, if help were needed.

For the peace of mind of the public, and especially of those who have relatives wounded, I do ask to be believed when I say that the arrangements, as far as my hospital experience permits me to judge, are amazingly perfect. The two surgeons were convinced that their services were not required, and they returned to England.

At the hospitals at Boulogne there are not only some of the leading English consultant surgeons to supervise the work and give advice and help when necessary, but, in addition to surgeons belonging to the Army Medical Corps of great skill and experience, there are many Fellows of the College of Surgeons working in the wards. If more are needed they can be obtained in a day.

I cannot, of course, speak as to the treatment of the wounded at the front, but I am well sure that if this part of the work were not being well done there would very soon be severe criticism from the surgeons at the base hospitals.

I have seen the trains arriving from the front full of wounded unloaded. I have seen the wounded taken thence to the hospitals. I have seen them put into the hospital ships for England. I have seen the ships arrive and the wounded taken out of them and put into the hospital trains for all parts of England. Pain, misery, and discomfort there must be, but I wish I had language which would not seem exaggerated to describe the present smoothness and perfection of the whole organization.

A critic determined to find faults will always find them, doubtless, and if such criticisms are sent to the proper quarters I know they would receive every consideration.

But, apart altogether from the organization to which I have already referred, the impression left on me is just this—that the whole spirit of the work our there, both of surgeons and nurses, is not the military, "Go there," "Come here," "Do this," but that everywhere there prevails a tone of sympathy, kindness, and gentleness which makes one's heart beat a little faster to see, and one comes away proud of the men and women who are doing this work with such untiring devotion and forgetfulness of self.—I am, etc.,

KNUTSFORD,
November 9th. Chairman, London Hospital.

ANTISEPSIS AND ASEPSIS IN WAR.

SIR,—May I comment upon the two letters bearing upon this subject in your issue of November 7th? With the letter by Sir Rickman J. Godlee I am in entire agreement, and I think his suggestion for the thorough disinfection of dirt-soiled wounds by swabbing them with pure liquefied carbolic acid at the earliest possible moment after infliction a most timely and valuable one, and I fully concur that it would, if conscientiously carried out, be the means of saving many lives, and probably entirely preventing tetanus and hospital gangrene.

The letter, or rather postscript, of Sir Victor Horsley referring to "the terrible proposal . . . to swab out recent wounds with pure liquid carbolic acid" is, in my opinion, most unfortunate. Sir Victor is rightly considered one of our leading operators, and if I had to have my Gasserian ganglion removed or a tumour excised from my brain I should desire none better to operate upon me. But in this particular instance I venture to assert that Sir Rickman is right and Sir Victor wrong. Sir Victor is accustomed to operating under aseptic conditions, where a clean wound is made under ideal circumstances, but he has probably had far less experience of operating under such conditions as must obtain in war, or even in the common accidents of civil life.

In war particularly it may be laid down as a safe rule that some septic infection is inevitable in every wound, and the only wise course is to nip this in the bud by a thorough and vigorous antisepsis of the wound.

If this is wrong then antisepsis is wrong, and Lister was a false prophet. I venture to think and hope that the majority of surgeons in this country will still adhere to Lister's teaching.

But, I would ask, is the swabbing of a wound with pure phenol a "terrible" matter at all? Has Sir Victor Horsley ever tried it upon himself, or in his practice? Presumably not. I may tell him from personal experience, and from over twenty years' practice, that it is by no means terrible, even if *not* performed under an anaesthetic, whereas under an anaesthetic the patient feels nothing of it at all. I have never had any case of carbolic acid poisoning, or even carboluria from its use, and I have treated every case of compound fracture and most badly soiled recent wounds by it since the method was first brought to my notice by reading Sir Watson Cheyne's advocacy of it many years ago—in his work on wounds and ulcers. Most of these cases, including some bad compound fractures of the skull, with loss of brain substance, have healed without the slightest pyrexia or septic development.

I would add, in conclusion, that besides swabbing with pure carbolic I subsequently wash out with sterile water or weak carbolic, and also cleanse the skin all round the wound, and keep the wound dressed antiseptically.—I am, etc.,

Bowdon, Nov. 7th. P. R. COOPER.

SIR,—It makes extraordinary reading, in your issue of November 7th, to find two of my old teachers taking up such an antagonistic attitude over the subject of treating the wounded. I refer to Sir Victor Horsley's criticism of Sir Rickman Godlee with regard to swabbing the wounds with strong carbolic acid.

The great art of treating wounds is to keep them free from germs, and whilst strong carbolic helps one to arrive at such a freedom by the destruction of the germs (to say nothing of the tissue cells), an equally marked freedom can be obtained by removing all the products of destruction that can act in any way as a breeding ground for these germs.

The destruction by chemicals of healthy cells that are so necessary for repair, imposes an increased burden on the patient in that these healthy cells have to be built up again, whereas the removal of the germ nidus frees the wound of germs and allows the healthy cells an opportunity of doing their work in a satisfactory manner.

Our great desire then should be to obtain asepsis in the easiest way, which in my opinion can be done by spraying petrol on the wounds. Petrol cleans the wound not only of the gross dirt, but also of the half destroyed cells which with the liberated fat form the great breeding bed for the germs, an advantage it possesses over any aqueous solution of a disinfectant, and this combined with its readiness to evaporate helps to render the wound dry—a condition suitable for healing by first intention. Petrol is readily obtainable, non-poisonous, and can be applied by any one before the ordinary field dressing is put on.

The presence of anaërobic organisms which is so marked a feature of the wounds at the front only goes to emphasize the great importance of surface tension in their treatment, and herein lies the value of petrol which tends to modify it in such a way as to interfere with the life-history of these organisms.—I am, etc.,

Swansea, Nov. 7th. G. ARBOUR STEPHENS.

SIR,—It really begins to look as if the conditions now obtaining as regards the surgery of the war were going to bring antisepsis—as opposed to asepsis—into its own again.

As a pupil of Sir Joseph Lister in the eighties, it was antiseptics that I learnt, and the work which has since fallen to my lot in such diverse corners of the empire as Fiji, Cyprus, East Africa, and also on board Indian emigration ships, has convinced me that it could only have been dealt with satisfactorily by such methods. Aseptics, away from the full equipment and surroundings so essential to their reliability, prove a broken reed indeed.

I have found pure carbolic safe to use in certain conditions, as for instance in cases of infective gangrene of subcutaneous tissue due to *Staphylococcus pyogenes aureus*—the introduction of crystals of the glacial acid will often have an almost magical effect, without any hint of carbolism. It seems to be much a question of extent of exposed surface, but no matter of what extent, I have never found that sponging or swabbing with carbolic acid in rectified spirit, 1 in 12 or 15, had other than good results. This solution will also arrest oozing and haemorrhage from multiple small points, and in an emergency, when a lot of small instruments require quickly sterilising, a little of it poured over them in a tin or basin and then a match applied will do the trick effectively.—I am, etc.,

STUART OLIVER,
Surgeon Superintendent Indian Emigration Service.

November 9th.

SIR,—The three letters in your last issue by Sir Rickman Godlee, Bart., Sir Victor Horsley, and Mr. Nicoll respectively show widely divergent views as to the treatment of wounds received in warfare.

In the August number of *Surgery, Gynaecology and Obstetrics*, p. 199, there is a most interesting paper by an American surgeon, Behan, on the treatment of gravely infected wounds seen by him in the last Balkan campaign. Many of the wounded arrived at the base hospital in an indescribably filthy condition, some having only received the first field dressing, and that some days previously. Behan's conclusion was that the best dressing for badly infected wounds was a wet compress of 60 per cent. spirit. Mr. Nicoll shows that pure spirit is as good a preparation for the skin as iodine, and it is known that a 70 per cent. spirit represents the optimum per cent. for the sterilization of organisms in catgut.

During the past two months at the 1st Western General Hospital T.F. (Liverpool) I have had the opportunity of applying this spirit method in treating infected wounds from the front. These cases reach us on an average from four days to a week after being in the firing line, and, therefore, can hardly be so serious as those unable to be transported. Nevertheless, some of the wounds are gravely infected, and present sloughing surfaces 3 in. to 4 in. in diameter. I refer to the badly lacerated shell wounds.

Scissors and forceps are used to remove obvious dirt and pieces of clothing, and the wound is well washed out with a mixture of two parts of methylated spirit and one of water. A compress of gauze wet with the same mixture is then applied, and splinting and drainage used when necessary. No protective is employed. If the wound is sloughy, the compress is changed three or four times daily, but if covered with healthy granulations the dressing is allowed to dry, and is only renewed once daily. The skin does not become sodden and white as with an ordinary watery compress, and the spirit does not interfere with the delicate epithelial margin. It is the most successful dressing I have tried for wounds of this nature.—I am, etc.,

ROBERT E. KELLY, M.D., B.Sc., F.R.C.S.,
Liverpool, Nov. 10th. Captain, R.A.M.C. (T.F.).

SIR,—It was Lord Lister's fate to be misunderstood, misrepresented, and misquoted by his unscientific and uninformed contemporaries for many years while he was yet alive.

It is melancholy to see our JOURNAL once more made by Sir Rickman J. Godlee the vehicle of similar perversions of Lister's scientific principles of surgery. He actually says in your issue of the 7th, "I would remind them" (meaning ourselves, the surgeons of the present day) "that in Lister's early compound fracture cases the wounds were treated rather freely with undiluted carbolic acid without any evil result following."

Fortunately, Lister has left his real opinions on record.[1] He did at first experimentally apply undiluted acid to some cases of compound fracture, but he abandoned that practice immediately he discovered that he could get better results with a 5 per cent. solution in water; and, moreover, what analogy is there between the limited puncture or laceration of the skin in a compound fracture with the severely contused wound caused by a shell or high-velocity projectile? Lister himself laid it down that "undiluted carbolic acid is a powerful caustic," and that the tissues must not be "irritated"; while in respect of his treatment of compound fractures he especially says that the watery carbolic solution is "obviously superior to the strong acid, since it does not produce the slightest sloughing from caustic action"; besides, it may be used on "tissues which are the seat of extravasation with a freedom that could not be used with the acid of full strength."

All this is clear enough, and no one could have imagined that because Lister had experimented on one surgical condition that the method he himself so soon abandoned should now be put forward as Listerian by the late President of the Royal College of Surgeons of England for the treatment of other and even worse conditions.

To prevent once and for all any repetition of these dangerous misrepresentations of Lister's work, I will conclude with one more quotation from the Address in Surgery at the Plymouth meeting in 1871. After dealing in detail with the object of an antiseptic—namely, to disinfect but not to injure—Lister says: "At one time I used the undiluted acid; and in doing this I could not avoid producing not merely irritation, but a certain amount of *sloughing*."

And now, when our wonderful troops are exposed to anaërobic infection and to sloughy wounds, we have Sir Rickman J. Godlee advising that their sufferings and dangers should be aggravated by producing more sloughs and more nidus for the anaërobes.—I am, etc.,

London, W., Nov. 11th. VICTOR HORSLEY.

A MEDICAL WAR INSURANCE FUND.

SIR,—I notice the sad case of the young surgeon killed in the war, leaving a widow and two young children in great temporary distress.[2] Why should dependants of

[1] BRITISH MEDICAL JOURNAL, 1868.
[2] BRITISH MEDICAL JOURNAL, October 31st, p. 776.

brave men be left to endure poverty and privation and be dependent on charity? Why cannot we have a war insurance fund run, say, by the Medical Sickness and Accident Society, to which every British medical man, whether he goes on active service or not, might pay a premium whilst the war lasts, and so insure a certain sum against death by accident, wounds, or disease, or pension if crippled for life. Perhaps those who go to the front might pay a higher premium, or, better still, let their stay-at-home colleagues pay the extra for them.

Let me mention another idea. Judging by the number of the wounded, the surgeons at the front must have a strenuous time of it, and if the work keeps on at the same rate they must be liable to a breakdown from nervous strain and other causes.

Why not, therefore, organize a relief supply of men who, though unable to leave their practices for the duration of the war, could yet spare a month or two to act as locums without fee for the regular men, their own practices being looked after by their colleagues? I should be pleased myself to act as a "war locum."—I am, etc.,

Yarmouth, I.W., Nov. 5th. JOHN THOMARSON, M.D.

NUTRITION AND MEAT EXTRACTS.

SIR,—Answering Professor W. H. Thompson's second letter (BRITISH MEDICAL JOURNAL, October 24th), I have only to remark that neither the stimulating effect of meat extract nor the purely scientific object of Professor Thompson's research was ever called in question by me, either in *Nutrition* or elsewhere, the only point at issue being whether retention of water offered an explanation of the observed increase in weight of dogs when meat extract was added to their diet. Having shown how Professor Thompson's own words justified that suggestion, I do not consider it necessary to ask you to grant space for further discussion of that subject.

I quite willingly recognize that the startling assertion, found on advertisement hoardings and in the public press not long since, to the effect that body weight might be raised to an extent equal to from ten to twenty times that of the meat extract consumed—a doctrine which, unfortunately, arose as a consequence of Professor Thompson's report—cannot have been sanctioned by him, and its abandonment is a further justification of my attitude.—I am, etc.,

London, N., Oct. 31st. CHARLES E. SOHN.

Obituary.

HUGH RICHARD KER, F.R.C.S.EDIN., M.R.C.S.ENG., L.R.C.P.EDIN.

MANY members of the Council of the British Medical Association and a large circle of professional friends must regret to see the death of Mr. Hugh Richard Ker, who was for many years a member of the Council of the Association, a leading member of the Birmingham and Midland Counties Branch, and afterwards of the Metropolitan Counties Branch.

Mr. Ker was the son of the late Vicar of Tipton, Staffordshire, who died only a few years ago, having lived to a very advanced age.

Educated at Guy's Hospital, after an apprenticeship in the Staffordshire Black Country, Mr. Ker settled in practice at Cradley, Worcestershire, where he soon became extremely successful, having a large connexion, not only amongst the various ironworks and collieries, but among the residents around. After some years Mr. Ker took a partner and went to live at Halesowen, a few miles away, still keeping up his old connexion; in 1890 circumstances led to his removing to London, where he practised up to his recent illness and death. While in Birmingham he was for seven or eight years one of the representatives of the local Branch on the Central Council of the Association; he was one of the most assiduous in his attendance at the quarterly meetings and was frequently selected for work on important committees. He was also President of the Midland Medical Society. After removal to London he held the offices of President of the Metropolitan Counties Branch, President of the South-West London Medical Society, and represented the Metropolitan Counties Branch on the Council of the Association, retiring from the latter position in 1910. His industry, ability, and genial nature secured him success in all that he undertook and gained him troops of friends. At one time Mr. Ker undertook a certain amount of operative surgery, for which he possessed much skill and a good deal of enthusiasm, but recognizing the incompatibility of combining serious operative work with a large general practice, he gave it up some years before he retired from the Birmingham district. He will be long remembered as a loyal and worthy colleague by those who had the pleasure of working with him, and by his death the Association has lost a staunch supporter and friend.

Professor SAUNDBY writes: I see with much regret the death of my old friend and colleague, Mr. Hugh Richard Ker. I know that he has been in ill health for some months, and I was asked to see him last summer, when his condition was very unsatisfactory, and left his friends little hope of his recovery. Mr. Ker was my colleague in the representation of the Birmingham and Midland Counties Branch from 1885 to 1890, and when I joined him as a newcomer he behaved to me in the kindest and most loyal manner. We used to sit together, sharing information and helping each other in the work that came before us, so that I always felt that I owed very largely any success I met with in the work of the Council to the instruction and assistance Mr. Ker gave me during those years. Mr. Ker was an enthusiastic fisherman and his chief holidays were spent in the pursuit of this favourite sport. His patients were devoted to him, and I am sure that his death will be regretted by a very large number of people inside and outside the medical profession.

H. J. JOHNSTON-LAVIS, M.D.,

SOMETIME PROFESSEUR AGRÉGÉ, ROYAL UNIVERSITY OF NAPLES.

WE regret to have to record the death of Dr. Johnston-Lavis, of Beaulieu-sur-Mer, and Vittel, which occurred on September 10th, near Bourges, in the department of Cher, as the result of a motor accident. Henry James Lavis, who in later life added his mother's name to his original patronymic, was descended from a Huguenot family settled in Devonshire. He was born in 1856, and after receiving his early education at a private school in England and at Marseilles, entered University College, London, as a medical student in the early seventies. He afterwards migrated to St. Mary's, and pursued his studies at Marseilles and Lyons. He became M.R.C.S.Eng. and L.S.A. in 1878, and took the degree of Bachelor of Science at Paris in 1879. After holding some appointments in this country he settled as a consulting physician in Naples in 1880. He took the degree of M.D. there in 1884, and was medical adviser to Sir William Armstrong's works at Pozzuoli from 1892 to 1897. During that period he practised during the summer season at Harrogate. He left Naples in 1895 and, having taken the degree of M.D. at Lyons, practised in the winter at Beaulieu on the Riviera, where at different times he had the late Lord Salisbury and Mr. Gladstone among his patients. He was consulting physician and founder of the Queen Victoria Memorial Hospital at Nice. In 1909 he established a summer practice at Vittel in the Vosges, where he was one of the physicians to the Etablissement des Bains.

He was the author of numerous contributions to medical literature, including a paper on physiological disequilibrium or chronic toxaemias and their treatment, which appeared in the *American Journal of Physiological Therapeutics* in 1911; reports of cases illustrating chronic toxaemia and the effect of the Vittel treatment in such conditions, and an analysis of a series of cases of hypertension and hypotension treated at Vittel, all published in the BRITISH MEDICAL JOURNAL in 1910, 1912, and 1913; and a case of gonococcic empyema, published in the *Proceedings of the Royal Society of Medicine* in 1912.

Lavis was a distinguished geologist. At University College he came under the influence of Professor John Morris, and he was elected a Fellow of the Geological Society when only 19, and before he was 21 he had written several papers on geological subjects. At Naples he became interested in vulcanology and was associated with Professor Palmieri, of whom it used to be said that he

kept his finger on the pulse of Vesuvius. Lavis kept a diary with photographic records of the action of Vesuvius, and prepared a geological map illustrating the past history of the volcano with petrological studies of its ejected materials. These studies, says a writer in *Nature*, led to one of his most important memoirs, undertaken in conjunction with Professor J. W. Gregory, in which the non-organic nature of the one-time famous *Eozoön canadense* was finally demonstrated. Lavis also did much useful work on vulcanology and seismology of the whole South Italian region. He was for some years *agrégé* Professor of Vulcanology in the University of Naples, and was offered the post of director of the Vesuvian Observatory. Only a few months ago he was awarded the triennial Perkin Prize of £100 in the gift of the Royal College of Physicians of Edinburgh, as recorded in the BRITISH MEDICAL JOURNAL of June 6th, 1914. The subject proposed for the thesis was "On the effects of volcanic action in the production of epidemic diseases in the animal and in the vegetable creation and in the production of hurricanes and abnormal atmospherical vicissitudes." His graduation thesis at Lyons dealt with the part played by edible molluscs in the diffusion of gastro-intestinal disorders. He was also the author of a *Monograph of the Ischian Earthquakes* and of a *Great Geological Map of Vesuvius*. He was a man of remarkable intellectual versatility and untiring industry; he was the author of more than 160 papers on volcanoes, earthquakes, mineral waters, and medical subjects. He was for many years a regular attendant at the meetings of the British Association for the Advancement of Science, and had made expeditions to Iceland and a number of other places for the purpose of scientific exploration.

Personally, Lavis was a man of great charm of manner and of an obliging disposition. His conversation was made particularly interesting, not only by the largeness and variety of his knowledge and experience, but by the lucidity of his thought and the clearness of his expression. He married a French lady, and leaves a family.

SIR JOHN READE, K.C.B.,

ARMY MEDICAL STAFF (RETD.).

SURGEON-MAJOR-GENERAL SIR JOHN BY COLE READE, K.C.B., Army Medical Staff (retired), died at 25, Coleherne Road, Earl's Court, on November 5th, aged 82. He was the son of George Hume Reade, staff surgeon, and colonel of the 3rd Regiment, Canadian Militia, and was born at Perth, Upper Canada, on July 7th, 1832. He was educated at Edinburgh University, took the L.R.C.S.Ed. in 1854, and entered the army as assistant surgeon on March 24th, 1854. He became surgeon in 1866, surgeon-major in 1873, surgeon-major-general in 1888, and retired on April 1st, 1893. His last five years' service were spent as professional assistant to the Director-General, A.M.S., at the War Office. He had a long list of war service and of honours. He served in the Crimea in 1854-55, and was present at the battle of Alma, the sortie of October 26th, the battle of Inkerman, the assaults on the Redan on June 18th and September 8th, and the siege of Sebastopol, where he was wounded. He received the medal with three clasps and the Turkish medal. In the Indian Mutiny in 1857-58 he took part in the actions of Cawnpore, the siege and capture of Lucknow, the attack on Fort Rooya, the action of Aliganj, the battle of Nawabganj, the passage of the Gumti river, the occupation of Sultanpur, the affairs of Bonki and Sitka Ghat, and the Oudh campaign, receiving the Mutiny medal with the clasp for Lucknow. Lastly, he served in the second Afghan war of 1878-80, was present at the relief of Kandahar, was mentioned in dispatches, and received the medal. He was made C.B. on May 29th, 1886, K.C.B. in 1903, and was granted a distinguished service reward in 1892. He was appointed honorary surgeon to the late Queen in 1895, and retained that honour under King Edward and King George. He received also the Diamond Jubilee medal in 1897, and the Coronation medals in 1902 and 1911. He was a Knight of Grace of the Order of St. John of Jerusalem.

TEMPORARY-SURGEON ALBERT EVELYN FAIRFAX KYNASTON, R.N., of H.M.S. *Devonshire*, died on October 13th of enteric fever at Dunskaith Hospital. He was the second son of the late Mr. Albert Edward Kynaston, of Falkingham, Lincolnshire. He had only recently qualified and joined the navy for the war, in fact his appointment to the navy in the *London Gazette* was published in the *Times* of October 28th, two weeks after his death.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.D.—A. Abrahams, A. Feiling.
M.B.—C. G. H. Campbell, R. A. Ramsay.
B.C.—C. G. H. Campbell, G. L. Keyner, F. G. Lescher.

The Raymond Horton-Smith Prize has been awarded to P. H. Bahr. Subject: Research in Sprue.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on October 21st.

Acting Vice-Chancellor.

Sir Alfred Pearce Gould was appointed to act for the Vice-Chancellor during Sir Wilmot Herringham's absence as Consulting Physician to H.M. Forces at the seat of war.

Medical Students and the War.

It was resolved:

That the regulations in medicine for internal and for external students be amended as follows:

By the addition of the following footnotes to the Red Book (1914-15), Sections (3) and (10) on p. 191, with a cross reference to the last paragraph on p. 190; and to the Blue Book, September, 1914, Sections (3) and (10) on p. 230, with a cross reference to the paragraph headed "Certificates" on p. 229:

Footnote 1.—During the continuance of the war students who have not passed the second examination for medical degrees in anatomy and physiology, but who have completed one year's study after passing the first examination for medical degrees, will be allowed to count not more than six months' service as clinical clerk or not more than six months' service as surgical dresser in a recognized hospital as if they had so passed the examination in question.

Footnote 2.—Clinical service during the continuance of the war, for any period of not more than twelve months in a medical unit of the Regular or Territorial Forces, or in a hospital or detachment of the Red Cross Society or in any hospital recognized by the military or naval authorities for war purposes, will be accepted by the University as equivalent to the medical and surgical practice in a recognized hospital for an equal period; and, further, any portion or the whole of the time so spent will be accepted as equivalent to time spent either as a clinical clerk or as a dresser, at the choice of the candidate.

Clinical service during the continuance of the war, as set forth above, will be similarly accepted for a period not exceeding six months from students who have not passed the second examination for medical degrees in anatomy and physiology, but who have completed one year of study after passing the first examination for medical degrees, as if they had so passed the examination in question.

(10) That the following addition be made to the regulations for the M.D. (Branch 1) and M.S. (Branch 1) for internal and external students respectively (Red Book, 1914-15, pp. 201, footnote *, and 209, footnote §; Blue Book, September, 1914, pp. 238, footnote 1, and 246, footnote 2):

A temporary commission held during the continuance of the war either in the Royal Army Medical Corps or the Royal Navy Medical Service will be considered as equivalent to an approved appointment for the purpose of this regulation.

(11) That in the case of foreign students of allied nationality the principal be authorized to deal with the question of the fees payable by such students for examination under Statute 116.

Regulations for the M.D. and M.S. Examinations.

Amendments were made in the regulations for the M.D. and M.S. examinations to come into force in 1917. Copies of the amended regulations may be obtained on application to the University.

Chelsea Physic Garden.

Dr. E. G. Graham Little was reappointed a member of the Committee of the Chelsea Physic Garden.

Faculty of Medicine.

Sir Alfred Pearce Gould has been appointed Dean of the Faculty of Medicine for 1914-6.

Physiological Laboratory Committee.

Sir David Ferrier, F.R.S., has been elected chairman for 1914-5.

Lectures.

A course of five lectures on the biology of the acid-fast bacilli was given at the Royal College of Surgeons of England by Mr. F. W. Twort, Superintendent of the Brown Sanatory Institution, on November 9th, 10th, 11th, 12th, and 13th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual general meeting of the Fellows and Members will take place at the College on Thursday next at 3 p.m. Mr. Sidney C. Lawrence, Honorary Secretary, 22, Latymer Road, Lower Edmonton, N., informs us that the following resolution will be moved by Sir Victor Horsley and seconded by Mr. George Jones:

That this thirtieth annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation on the Council of the College, which as now constituted only represents those Members who also hold the Fellowship; and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation.

[A note on the Annual Report of the College to be presented to the meeting is published in the SUPPLEMENT, p. 236.]

Medical News.

SIR HENRY GREENWAY HOWSE, late President of the Royal College of Surgeons, left estate of the gross value of £30,367, of which £21,183 is net personalty.

AT a meeting of the Section of Dermatology of the Royal Society of Medicine on October 15th, the President, Dr. J. J. Pringle, announced that it would meet as usual during the forthcoming session. A number of interesting cases were then demonstrated.

THE Local Government Board has revised its memorandum of September 25th on the care of Belgian refugees. Local committees can obtain copies on application to the county or county borough council or the urban district council as the case may be.

THE meeting of the Pathological Section of the Royal Society of Medicine which was to have been held on November 17th has been postponed until Tuesday, December 1st, when Professor S. G. Shattock and Dr. Dudgeon will read a paper in the course of which they will discuss the subject of cytocides.

AT a general meeting of the Medico-Psychological Association of Great Britain and Ireland to be held at the rooms of the Medical Society of London under the presidency of Dr. D. G. Thomson on Tuesday, November 24th, at 3.30 p.m., the chief business will be to consider the holding of meetings, etc., during the war.

ACCORDING to the New York *Medical Record*, Dr. Louis Livingston Seaman, whose name is well known as the author of a book on the Russo-Japanese war, has resigned his commission as First Lieutenant, Medical Reserve Corps, U.S.A., in order to be free to tell what he saw of the horrors of war as carried on by the Germans in Belgium, President Wilson having forbidden officers of the army and navy to comment on the situation.

MEMBERS of the medical profession who are not Fellows are invited to attend and take part in the discussion on enteric fever in war and the means for its prevention, which will be opened by Sir William Osler before the Society of Tropical Medicine and Hygiene on Friday next, at 8.30 p.m., at the house of the Medical Society of London. A précis of Sir William Osler's paper can be obtained on application to the secretaries at the above address.

IN the list of mayors elected on November 9th are the following members of the medical profession: Dr. S. R. Alexander, Faversham (re-elected); Dr. J. P. Atkinson, M.D., Saffron Walden (re-elected); Dr. R. Jones Evans, Pwllheli (re-elected); Dr. W. G. Gordon-Munn Norwich (Lord Mayor); and Alderman Dr. Hale Puckle, Bishop's Castle (re-elected). Drs. Alexander and Atkinson have now been re-elected to the office of mayor four times in succession, while Drs. Hale Puckle and R. Jones Evans are re-elected for a second period.

THE Local Government Board in England has issued a circular to sanitary authorities pointing out the importance of having in immediate readiness adequate arrangements for dealing with any cases of small-pox which may appear. Under present conditions the introduction of the disease is not unlikely, and the prevention of the spread of the disease, if it should appear, will depend almost entirely on the efficiency of the arrangements made previously for dealing with and following up early cases. The circular is accompanied by memorandums on the steps to be taken on the notification of a case of small-pox, and in places where small-pox is prevalent. Copies of the circular letter and memorandums have also been sent to medical officers of health, county councils, and boards of guardians.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

A BELGIAN doctor at present staying in the country will be glad to receive hospitality in London where he desires to study. He is accompanied by his wife, their two children, aged 6½ and 4 years, and a nurse. Communications should be addressed to Dr. Alfred Cox, 429, Strand, London, W.C.

R. S. asks whether the mushroom known locally in the north of England as "blue-stalks," and said to be much appreciated as an article of diet in some town districts, is wholesome, and whether it requires any special preparation, whether it must be freshly gathered and whether it requires to be cooked in any particular manner. The stalk bulb has a violet-blue staining.

HEREDITARY HYPERIDROSIS.

A. C. asks for advice or references on the following case: A married man, whose disease (hyperidrosis?) is as indicated below, wishes to know: (1) If, were he to have a child, it would probably be afflicted, as he has been, since infancy; (2) is there any treatment which, if applied early and thoroughly to a similarly affected child, would make its life much more comfortable than his has been? The patient's father suffered from it, and likewise the following relations of the father—namely, two of his four sisters, his mother and his maternal grandfather. A remote connexion of the family also had it in a slighter degree, and in this case, too, it was hereditary. The case is, briefly, that the patient has never been able to move about for more than ten minutes without the feet becoming hot and inflamed, so that further walking is painful and difficult and causes subsequent tenderness. But tenderness is often present even without previous walking, this being remarkably the case during the first hour or so after rising in the morning. The sweating has been greatly diminished by *x* rays, and the keratosis on the pressure areas of the soles of the feet has been reduced from time to time by various treatments.

ANSWERS.

SIR JAMES BARR (Liverpool) writes as follows in reply to questions in the JOURNAL of November 7th:

Thyroid extract, 5 or 10 grains daily, and decalcifying agents such as phosphoric acid are fairly effective in the treatment of enlarged prostate. I tried *x* rays in a case without any beneficial effect.

Regarding the case of perihepatitis "M.B." should see whether there is any marked deficiency of hydrochloric acid in the stomach, and whether the *Bacillus coli* has become an inhabitant of that organ. This not infrequently happens, and if it be the case with his patient, the treatment is fairly obvious.

Q.—*Mentally Defective Children*, by Alfred Binet and Th. Simon, M.D., being an authorized translation by Dr. Drummond, of Edinburgh (Crown 8vo, cloth, price 2s. 6d. net. London: Edward Arnold), contains in an appendix the Binet-Simon tests in their latest form given in full, with the diagrams and illustrations necessary for certain of the tests. Another convenient explanatory pamphlet is published by Henry H. Goddard, Ph.D., Psychologist to the Training School, Vineland, N.J., U.S.A. It contains sixteen pages, price 15 cents (8d.), and can be obtained from the above address. A larger work by the same author has recently appeared. Binet published his tests in *L'Année Psychologique* (1905). The most generally useful work on the subject is *Mental Deficiency (Amentia)*, by A. F. Tredgold, 2nd edition (London, 1914, Baillière, Tindall, and Cox, price 12s. 6d.).

LETTERS, NOTES, ETC.

A CORRECTION.

THE opener of a discussion at the Ophthalmological Congress at Oxford last July on compensation for eye injuries, a short account of which was given in last week's JOURNAL (p. 803), was Dr. William Robinson of Sunderland, not Dr. Robertson, as printed.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Remarks
ON
THE TREATMENT OF WOUNDS IN WAR.

Made in opening a Discussion at the Medical Society of London on November 16th, 1914,

By SIR W. WATSON CHEYNE, Bart., C.B., F.R.S., Etc.,
President of the Royal College of Surgeons of England.

Mr. President and Gentlemen,—I propose to-night to limit my share in the discussion on surgical experiences in the present war to the treatment of injuries sustained from missiles. The treatment of these injuries naturally falls under two headings:

1. The treatment of the wound itself; and
2. The treatment of the various injuries which may be done to the structures or organs through which the missile passes.

It seems to me that at this stage of the war the most urgent and profitable heading to discuss is the first—namely, the treatment of the wound as a wound, apart from the other injuries which may be present. As regards the latter, we can as yet only speak of individual cases, which, however interesting to the surgeon himself, are not sufficiently numerous or advanced to enable us to make any fresh generalizations apart from those which have already been made in connexion with other wars.

Character of Wounds in this War.

Naval wounds are, practically entirely, caused by fragments of shell or portions of the ship itself broken up by the shells, and these produce large, ragged, lacerated wounds which cannot scab over, and where bones are injured they are very much broken up. We have not had from our ships a single instance of a bullet wound, but we had some bullet and also some shrapnel wounds among the marines from Antwerp. A considerable number of the wounds have also been complicated with burns, while in many cases there have been burns without any wound, as the result of the explosion of the enemy's shells or of our own.

In the case of the army, a large proportion of the wounds are due to the sharp-pointed, narrow bullets, many of which pass through the tissues and leave only small apertures of entrance and exit, which scab over and seldom require any treatment for the wound itself. Occasionally, however, for various reasons, the wound of exit may be large, in which case sepsis may occur there. The round shrapnel bullets make larger orifices of entrance and exit than the rifle bullets, and do not so often scab over, while if they fracture bones the injuries are much more severe. The wounds with portions of shell resemble those met with in naval warfare.

The Prevalence of Sepsis.

Now the first thing which strikes every one who is actively engaged at the present time in the treatment of the wounded, whether on land or sea, is the great prevalence of sepsis. Giving my own experience of naval cases, *all the wounds which I have as yet come across have been septic*, some of them very badly so. I hear also that those who are working at the army hospitals are having a large amount of sepsis in shell and shrapnel wounds, and in addition, at any rate while our army was towards the centre of the line, were having a good many cases of tetanus and acute spreading gangrene. So far, we have not had tetanus in the naval wounded, and that is, of course, natural, for, seeing that the tetanus bacillus reaches wounds from the soil, it is only those wounded on land who would get their wounds contaminated with this organism. And, probably for the same reason, I have not met with a case of acute spreading gangrene.

It is a very serious matter that all the larger wounds which arrive at the base are septic. It is true that in some the sepsis is not so severe as to threaten the life of the patient, but it is no light thing for a wound to become septic. Once get sepsis into a wound, especially a compound fracture or a wound of a joint, and you have no certainty as to what the result may be. The patient may lose his life from one or other of the septic diseases, or his limb may have to be removed in order to save his life. His convalescence will be prolonged and may be interrupted by the occurrence of fresh abscesses, while he will suffer much pain. He may be left with serious deformities from the difficulty of replacing parts or of keeping them in proper position on account of the septic wound; and as the result of the extension of the inflammation and suppuration to the various parts in the neighbourhood, structures become matted together and great disability may ensue.

Its Causes.

It is now exactly fifty years ago since Lister formed the opinion that the cause of septic wound troubles was the entrance of bacteria into the wounds, and since he first put that idea to the test in a case of compound fracture. And in that case he saw for the first time in his experience a compound fracture following the course of a simple fracture and not undergoing suppuration. His earliest communication on the subject of the treatment of wounds dealt with compound fractures, most of them severe cases and much soiled, and he was able to record a number of aseptic results and to observe various phenomena, such as the organization of blood clot, which only occur in an aseptic wound. During the rest of his active life he had to treat many compound fractures and other serious injuries, and with some exceptions, to which I shall presently refer, he obtained aseptic results.

You may well ask, then, why are we not having the same experience to-day in this war? Why are all the large wounds which reach us from the front in a septic condition? For this there are several reasons. One very important point which affects this question of septicity in these wounds is the length of time which may elapse after the injury before the patient comes under treatment. The conditions in the army and the navy are very different from those in civilian practice. In the latter the patient can generally be attended to within a very short time after the infliction of the injury, and can be transported quickly to his own home or to a public or private hospital, where the immediate and subsequent treatment can be at once carried out under the most favourable circumstances and without any further movement of the patient.

In the Army.

In the case of the army the wounded must lie where they fall and cannot be attended to perhaps for many hours. Formerly, where there was not such a terrific hail of missiles over the field of battle, and where, perhaps, a greater feeling of humanity existed, and where also the distances between the combatants were not so great, the Army Medical Corps went out with ambulance wagons and were engaged during the progress of the battle in ministering to the wounded and in picking them up and removing them to a region of comparative safety at a short distance away. The ambulance wagons and dépôts for first aid were respected as far as possible by the combatants, and though the members of the Army Medical Corps exposed themselves to great dangers, still it was possible in many cases to commence the treatment of the wounded comparatively soon after the infliction of the wound; and further, battles were over usually in a few hours. At the present time the condition of matters is quite different. In many instances it would be madness to attempt to pick up the wounded while the engagement is going on, not only on account of the tornado of missiles, but also because the combatants are often too far apart for the Red Cross badge on the arms of the men, or even on the wagon, to be recognizable even if it were respected. Besides, the presence of the wagons and men wandering about the field might give important information as to the position of the combatants. The result is that the wounded often cannot be attended to for a long time, sometimes, indeed, we hear of forty-eight hours or longer having elapsed before they are collected, and in the meantime the wounds are becoming more and more infected. It is true that where a medical officer is present in the trenches he may be able to do a little, but only very little, in the way of treatment.

Again, when the wounded have been collected, they must nowadays be removed for a considerable distance, sometimes a good many miles, to the field or temporary hospital, and naturally with enormous numbers of wounded this transport cannot be carried out in a particularly

expeditious or comfortable manner. Even at this field hospital the patient is not at rest; he can only remain there while those parts of the treatment that are most essential are carried out, and then he is sent on to the base. At the field hospital, however, the treatment of the wound itself can be carried out, at any rate in the more serious cases, but in many cases it is not till the patient reaches the base that full attention can be paid to the injuries caused by the missiles.

In the Navy.

In the case of the navy the conditions are also very unfavourable. In the old days the wounded were carried down from the deck to the surgeon's quarters as soon as they fell, or very soon afterwards; nowadays the surgeons and non-combatants on a battleship are all kept below, and only those actively engaged in the fight are on deck, and consequently the wounded must lie where they fall till the battle is over, or, at any rate, till a lull in the fighting occurs. From the battleship the wounded are transhipped as soon as possible to the carrier or hospital ship, from which again they are transferred to the hospital at the base, but the treatment of the wounds can be commenced as soon as they get on board the carrier or hospital ship. So far the wounded have been sent back to the base in a destroyer or other quick war vessel, but this is very unfortunate for them, as a doctor is not as a rule carried on board a destroyer, and little or nothing can be done for them during the transit—at any rate, in the way of remedying sepsis. It seems to me that wherever possible a hospital ship should be in the neighbourhood of the action, and the badly wounded should be taken on board it as soon as possible; or, if this is not advisable, doctors, orderlies, and dressing materials should be transferred to the destroyer so that the treatment of the wounds may be commenced at once. The position of the hospital ship and the transference of the wounded is, of course, a matter dependent on the military necessities of the case; but the commander should always have present in his mind the supreme importance of the immediate treatment of the wounds, and the inadvisability of allowing several hours to elapse before they can be attended to. The point is not the speed with which the wounded can be got ashore; it is the earliest time that treatment can be commenced, and this, of course, can be begun at once on board ship if the necessary means are at hand, however slowly the vessel proceeds to the base. The naval wounded have therefore an advantage over the army in that the wound is not so much soiled, and can, as a rule, be attended to sooner; they have the disadvantage that the wounds as a whole are more severe.

Now, as I shall presently point out, the chances of rendering a wound aseptic are comparatively small after twenty-four hours, and practically *nil* after forty-eight hours; indeed, after that time I should not make any attempt to disinfect the wound. If, therefore, the case does not come under treatment within twenty-four hours, I do not think that we can blame any surgeon or any system of treatment for the septicity of the wound.

DISINFECTION OF WOUNDS.

But, in spite of the above disadvantages, a large number of cases do come under suitable conditions for treatment within the period of time that I have laid down, and that being the case, a considerable proportion of these patients should reach the base with aseptic wounds. This leads us to the question of the disinfection of the wound—a branch of the treatment of wounds which, I fear, is but little taught in the schools. Lister's experience and practice in this matter are forgotten, if, indeed, they are now known.

This omission really arises from the want of precision and the carelessness which is creeping into the treatment of wounds at the present time. I do not make this as a universal charge by any means. There are many surgeons who take the very greatest care, whose operations it is a pleasure to watch, and whose results are excellent. But there are others who do not seem to have got a proper grip of the matter, and whose results leave much to be desired. They follow the fashion in having a well-finished operating theatre, and in dressing themselves up in the most approved and elaborate fashion, and in having instruments and dressings sterilized, but they end there. They forget the ubiquity of bacteria, and that their instruments, gloves, etc., may lose their sterility during the course of the operation; they deride antiseptics. If suppuration occurs in the wound afterwards, they ascribe it to all sorts of causes, such as the silk, catgut, migration of bacteria, gout, influenza, etc.—to anything rather than the real cause—namely, their own faulty manipulations. And their example is naturally followed by those whom they teach.

In one of my books I placed at the beginning as a motto the following sentence: "Suppuration in a wound made by a surgeon through unbroken skin is due to some error on the part of the surgeon." This gave great offence, but it is absolutely true, and unless a man takes that view and, when things go wrong, searches his own procedures to see where the error was, I quite despair of his ever being a trustworthy aseptic surgeon.

THE RISKS OF "ASEPSIS."

To exemplify the carelessness which is not uncommon in the treatment of wounds, I could entertain you for the rest of this meeting in telling you the quaint things which are done by those engaged in operations, and the constant opportunities which are afforded for the entrance of bacteria during an operation, and the crude ideas which are abroad as to "asepsis" and "sterilization."

I saw an operation the other day; everything had been sterilized, a dry sterilized towel was spread out on a table, the boiled instruments were turned out on this towel, and were then arranged by a nurse, who did not wear a mask. Something excited her attention, two other nurses came up, also unmasked, and the three became agitated, all bending over the instruments and talking at the same time; people were coming and going, and at least twenty minutes elapsed between the time that the instruments were turned out and the commencement of the operation. Were they still aseptic? and yet the surgeon comes in completely booted and spurred, innocently picks up a knife, and goes on with the operation. Is it any wonder that that surgeon has a good deal to say about catgut, silk, and so-called stitch abscesses?

I am always very suspicious of so-called sterilized towels and swabs, especially in work in private. They are often placed in a sort of potato steamer for a few minutes, an apparatus which would take hours to cook a potato, and therefore if I do not know the nurses, I always order the towels to be boiled in a pan for half an hour, and not touched before I arrive. Well, in one case nurses were sent out from a large aseptic hospital who were said to be fully trained and most excellent. They received my instructions about the towels, and on my arrival I found a very small, poky room with very few dishes in it (not the palatial apartments in which some of my more fortunate *confrères* are accustomed to operate). I looked about for my towels, but could see no trace of them. I therefore called the nurse and asked her for them. She lifted the lid of the commode, and there were my aseptic towels, reposing at the bottom of the nightstool—another source of *coli* infection of wounds which is worth remembering.

A fresh instrument is wanted during an operation, or an instrument falls on the floor. It is popped into some boiling water and presented to the surgeon "sterilized" within a minute! and so on.

A surgeon is doing an intestinal anastomosis, clips away mucous membrane, rinses his scissors in some salt solution, leaving the tags of mucous membrane and portions of faeces in the basin, and when his hands become sticky, rinses them in the basin repeatedly during the course of the operation. When an abscess containing *Bacillus coli* forms, he is much interested and refers to the remarkable habit that *coli* bacilli have of wandering through the coats of the intestine in cases of intestinal anastomosis, separation of adhesions, etc. This pernicious habit of the *Bacillus coli* seems to be particularly common in operations in the pelvis. It never seems to occur to the surgeon that he has introduced the sepsis during his operation, and that migration of bacteria, if it occurs at all, only takes place through the inflamed wall of the intestine.

I think the man who annoys me most is the boiled water man!

Some surgeons seem to take a particular pride in emphasizing their contempt for antiseptics and the extreme simplicity of their methods. A surgeon comes to an operation and finds a dish containing some fluid. He asks what that is, and the nurse, who has been carefully trained in real aseptic work, says, in fear and trembling: "That is carbolic lotion for your instruments." It is most

instructive to see the look of contempt on the surgeon's face as he says: "Carbolic lotion! Who on earth uses antiseptics nowadays? I thought that no one out of an asylum ever thought of them. Take it away and bring me a bowl of boiled water." He does not disinfect his hands, but trusts to the protection of boiled gloves, which, however, are soiled at the very beginning by being put on with unsterilized hands. He thinks that he is no end of a great man, and the unfortunate thing is that the nurses and students think so too and follow his fatal example. I wonder whether, if such a man had a son at the front at the present time, he would feel happy in the thought that the only thing that the surgeon had at hand for the treatment of wounds in war was a basin of boiled water! The futility and littleness of it all makes me sick.

The result of this slackness is that a good many men are being sent out from the schools every year who are not impressed with the bacteriological problem involved in the treatment of wounds, or who have come to believe that no such problem is involved, while they have become thoroughly impregnated with the idea that the use of antiseptics is an abomination, and that no surgeon who has any self-respect left, or who is not in his dotage, would ever think of using them. When they are confronted with soiled wounds, such as occur on the field of battle, they do not know what to do or how to proceed, beyond painting the skin with iodine and covering the wound with a piece of gauze. The consequence is that the bacteria get a firm hold on the tissues before any means which might have been efficient in the first instance can be adopted. Hence the results which Lister obtained with compound fractures at the very beginning of his work fifty years ago, and which he continued to obtain subsequently, are not being met with in the present war.

The answer, then, to the question, Why do practically all wounds in the present war become septic? is threefold: (1) Because there is often long and unavoidable delay in collecting the wounded and commencing treatment; (2) because the wounds may be very large and complicated and almost impossible to disinfect thoroughly; and (3) because in a good many cases no attempt is made to disinfect these wounds, or, if it is made, it is utterly inefficient.

Treatment of Wounds in the Present War.

How, then, should the large open wounds which occur in warfare be treated? The treatment of these wounds may be considered under two headings, according to the time at which they come under the notice of the surgeon—namely, (1) those which can be treated during the first twenty-four hours after their infliction; and (2) those which are only met with at a later period, when sepsis and suppuration are already established.

1. *Treatment of Wounds which come under the Surgeon's Care within the first Twenty-four Hours after their Infliction.*

Let us consider the condition of such a wound from a bacteriological point of view, and here I shall only speak of the larger wounds sometimes caused by bullets and wounds caused by fragments of shell or by shrapnel bullets. Wounds due to the modern small bullets, when they pass directly from one side of the body to the other without injuring bone or becoming deflected, are very small and sometimes difficult to find, and usually scab over and close without any further attention than a piece of dry dressing, unless some important internal structure has been injured.

With regard to the larger wounds, they must, of course, be widely infected with bacteria at the time of their infliction—at any rate, to a considerable depth; and not only is the wound infected at the moment of injury by the bacteria carried in from the skin and clothing by the fragment of shell, but it very rapidly becomes much more seriously infected by dirt from the clothing or from surrounding objects, and, in the case of land warfare, by the soil of the place in which the wound is inflicted.

These large wounds are consequently infected with all kinds of bacteria, not only with naked, easily killed organisms, but also with highly resistant spores, the latter being most common and most dangerous in wounds soiled with earth. These organisms are not only living free in the cavity of the wound and thus apt to be washed away by the blood, but they are also adherent to the tissues which form the sides of the wound, if, indeed, they have not been actually driven into them. These bacteria, finding themselves in a highly nutritious soil and at a suitable temperature and with plenty of moisture, at once begin to sprout and multiply with great rapidity. I do not know how long it would take a spore to sprout in the first instance, but I do not suppose it would be any great length of time; but once they have sprouted they multiply rapidly. Many organisms divide and double their numbers within twenty minutes. At that rate it does not take long for a wound to be filled with myriads of organisms. Suppose we take it that each organism divides in half an hour, that would mean that each organism gives origin to over 15 million at the end of twelve hours. Further, not only do these organisms multiply in the fluids which are free in the wound, but, being in contact with weakened or dead tissues, the pathogenic varieties soon penetrate the tissues and establish themselves there. Within the first twenty-four hours, therefore, we may take it that the state of matters is that the fluids in the wound are already teeming with actively growing bacteria, and that they have also penetrated into any pieces of dead tissue on the surface of the wound, and, to a slight extent, into the living tissues forming the wall of the wound. Once they have penetrated into the tissues, they establish themselves there, and are extremely difficult to dislodge.

Now it is evident that the only efficient way of dealing with such a state of matters is to destroy these organisms which have entered the wound as soon as circumstances permit, and before they have had time to grow and establish themselves firmly in the tissues, bearing in mind the fact that every hour that passes they quadruple their numbers at the very least. This will not be done by painting a little iodine over the skin around, or even by pushing it in among the blood, and covering the wound with a piece of aseptic gauze; very much more careful and vigorous treatment is required than that. And it should be in the mind of every man who deals with these wounds that the ultimate results depend to a large extent on the prevention of sepsis, these results concerning not only the life of the patient, but also the rapidity and smoothness of his convalescence and his later condition.

As to the period of time during which it is advisable to attempt disinfection of the wound my own opinion is that it is only during the first twenty-four hours that it is at all likely that bacteria can be eradicated; and, indeed, after twelve hours the result is not at all certain. During the first twelve hours, however, the great majority of wounds, unless they are large and irregular or complicated with extensive comminution of bone, can be quite readily and immediately rendered aseptic, and if proper precautions are taken afterwards, will remain aseptic, and thus the whole troubles resulting from the primary soiling of the wound will be avoided. Even up to twenty-four hours the infection can be rooted out in a considerable percentage of the cases. In the circumstances under consideration, where wounds are soiled with earth and where, therefore, there is considerable danger of tetanus and gangrene, I think that the period during which an attempt at disinfection should be made might be prolonged up to forty-eight hours. After that time the disinfection will certainly fail, and the attempt will do more harm than good by injuring the tissues which are opposing the invasion of the bacteria and thus enabling the infection to spread more easily and rapidly.

Hence I would lay it down as an axiom of practice in the class of wounds under consideration, *that if the treatment can be carried out within the first twenty-four hours (and, in the case of wounds soiled with earth, forty-eight hours) an attempt should be made to kill the organisms which have entered the wound.* These organisms can only be got rid of by means of chemical antiseptics; I fear that, try how you may, you cannot avoid their use.

Choice of a Disinfectant.

Two points must be taken into consideration in making this attempt. The first point is, that we have not only to kill actively growing bacteria, but also the spores of bacilli, seeing that some of the latter class of organisms are highly pathogenic. For example, the tetanus bacilli and various other bacteria which cause pathogenic processes such as some forms of gangrene, are spore-bearing, and are thus extremely resistant to all destructive agents. Hence the agents we use must be sufficiently potent to kill spores

under whatever circumstances they are found, whether dry or in albuminous or oily materials. And the second point is, that these spores must be killed quickly, because one cannot keep such potent agents for any length of time in contact with the tissues, otherwise they may destroy them, and furthermore, these agents, if absorbed into the system, are all more or less poisonous.

There are three potent antiseptics in common use at the present time, namely, carbolic acid, bichloride or biniodide of mercury, and iodine. Of these we may exclude the mercurial salts, because although they kill microbes quite readily and in very considerable dilutions if these organisms are free or in a slightly albuminous fluid, they are of no use when the organisms are present in albuminous or oily substances. In the case of the former, mercury combines immediately with the albumin, forming a compound which possesses very little antiseptic power; and as regards the latter, these salts do not dissolve in oil, and therefore organisms lying in oily material are not reached by the antiseptic. We are therefore left with the two substances, carbolic acid and iodine, and we must now consider these substances and determine which of them is best and most suitable and in what strengths they should be used.

(a) Carbolic Acid.

A saturated watery solution of carbolic acid (1 in 20) will kill naked, actively growing bacteria in a few seconds, but will not kill spores with certainty under from twelve to fifteen hours, and this time will be still further prolonged if these spores are present in albuminous or oily material, because a certain amount of the antiseptic power of the carbolic acid is lost in combining with these substances.

It is evident, therefore, that washing out the cavity of the wound with 1 in 20 carbolic lotion will not disinfect it if it contains the spores of pathogenic bacilli. On the other hand, liquefied carbolic acid will kill spores in a very few minutes—as soon, in fact, as it can soak into them. And therefore, if carbolic acid is to be employed in wounds soiled with material such as earth containing pathogenic spores, it must be used in the form of liquefied carbolic acid.

Carbolic acid precipitates and combines with albumin, but the compound is still strongly antiseptic. It also dissolves readily and in large amount in oil, still retaining its antiseptic property, though not so strong as in watery solution (1 in 10 oily solution is about equal antiseptically to 1 in 20 watery solution). Hence the presence of oil does not protect the bacteria. This is the chief reason why I prefer carbolic acid for the disinfection of the skin rather than any other antiseptic, because it dissolves in the natural oil on the skin, and so can extend its antiseptic action down the hair follicles and the orifices of the sebaceous glands. Further, carbolic acid is an anaesthetic, and its application causes very slight pain, which subsides almost immediately.

(b) Iodine.

The antiseptic power of iodine is practically the same as that of carbolic acid, so that the 2 per cent. iodine solution in common use is of about the same value as 1 in 50 carbolic lotion. What the effect of a 5 per cent. solution of iodine, or of still stronger iodine, would be on the tissues I do not know, but I fancy it would be intensely irritating, to say the least. Even with the 2 per cent. solution the skin must be dry before it is applied, otherwise it is very apt to be blistered, and the antiseptic properties of the iodine solution are said to be diminished. How it could be used in the field with the impossibility of drying the skin and keeping it dry I do not know, and I am told that there have been several cases of iodine burns of the skin where this antiseptic had been employed.

Further, iodine causes great pain, which lasts for a considerable time, as is well known in connexion with the iodine treatment of hydrocele. When I was a student the treatment of hydrocele was the injection of a strong solution of iodine, and the agonies which the patient suffered afterwards, and the pain and the inflammation which lasted for some days, were in very marked contrast to the painlessness and absence of inflammation which follow the injection of carbolic acid.

Hence, though I may be thought not to be up to date, I still prefer carbolic acid to iodine, not only for the disinfection of the skin, but also, and more especially in the circumstances with which we are dealing—namely, as a means of destroying the bacteria which have already entered wounds before they come under the care of the surgeon. I am not, however, prepared to say that a sufficiently strong preparation of iodine might not possibly effect the same purpose, but in a few cases which I have seen in which iodine has been applied to the wound it had not prevented the sepsis. Personally, if I had a wound I should insist on the use of carbolic acid in preference to iodine, both from the point of view of efficiency and of comfort.

Other antiseptics have been suggested, but none of them are sufficiently potent for the cases under consideration. Of these, hydrogen peroxide seems to be a favourite abroad, but its antiseptic power is comparatively weak, and it would be useless against spores.

Method of Disinfection.

Before deciding the details of the procedure to be adopted in disinfecting a wound, let me recall Lister's first work and our subsequent experience. Lister's first attempt at aseptic work was by the use of a crude solution of carbolic acid, called German creosote, so impure that at first he thought that carbolic acid was insoluble in water. For a time his experiments were made only on compound fractures, of which a large number, some of them very serious, occurred in Glasgow where he was located at that time. His original plan at first was to introduce a piece of lint, soaked in this crude carbolic acid, into the wounds and thoroughly rub it into the recesses and then to put in some more carbolic acid and stir it up with the blood so as to form a sort of paste which filled up the wound. Every day he painted a little carbolic acid over this coagulum, and, in order to diminish the evaporation of the acid, he covered the clot with a piece of block tin. Ordinary towels were then applied around to catch the discharge which soaked through; no other dressing was employed.

What was the result? All the cases followed an aseptic course so long as he continued the application of the carbolic acid; there was no temperature, no inflammation, no sloughs separating, no poisoning—in fact none of the dreadful things which students are led to believe will result from the application of carbolic acid. No doubt in some cases where the carbolic acid was in contact for some time with the skin a small superficial slough formed, which, however, was of no consequence. After a time, when he peeled off the superficial layer of the clot, he found a healed, or almost healed, wound beneath. And, as showing the absence of any injurious effects, it was in cases so treated that he first observed and demonstrated how blood clot, if aseptic, acts as a mould for the penetration of cells and for the formation of new tissue—what is now known as healing by blood clot.

In some of his cases he discontinued the application of the carbolic acid after the deeper part of the wound had healed and when there was only a superficial sore, and as he had not devised any antiseptic dressing then, he employed the ordinary dressings which he had previously been in the habit of using. Two or three of these cases showed septic troubles after the carbolic acid was left off; and, indeed, phagedaena occurred at this late stage, thus affording additional proof of the protective effect of his new treatment. I would recommend those who hold up their hands in horror at the idea of applying liquid carbolic acid to infected wounds, to read and digest Lister's early papers.

As he developed his system and found that carbolic acid was soluble and active in oil and water, he modified his plans, and later his method was to wash out compound fractures thoroughly with 1 in 20 carbolic acid lotion, taking measures to see that all recesses of the wound were subjected to its action. With this second plan the majority of compound fractures also remained aseptic, but a certain proportion did not do so, these results differing, therefore, from those which he obtained in the early days with the crude carbolic acid; these failures chiefly occurred in wounds which were badly soiled. We now know the reason of this—namely, that the dirt may be so ground into the tissues that the carbolic solution does not penetrate it thoroughly: and, further, that the 1 in 20 solution does not kill pathogenic spores in a short time. This led us to remove all visibly soiled portions of soft tissues or bones, and to apply liquid carbolic acid to these surfaces, using the 1 in 20 lotion for the rest of the wound,

and this diminished the number of failures, and this is the plan I adopt in civilian practice.

I believe that this plan would be quite satisfactory in the majority of wounds in war, but where they are very badly soiled with earth, as is so often the case at present, we should, I feel sure, revert to Lister's original plan in so far as to paint the whole surface of the wound with liquid carbolic acid, with the exception, perhaps, of narrow tracks in the deeper parts. Certainly this ought to be done in all cases of compound fracture.

In carrying out the disinfection of the interior of the wound, not only must it be done methodically and thoroughly, and all the recesses of the wound carefully attended to, but one must not forget that it is most important to disinfect the surrounding skin most carefully. It is useless to disinfect the interior of the wound and to leave bacteria on the skin, free to multiply there and spread in and infect the wound again. I also think that it is best to *begin* with the disinfection of the skin.

Again, one great difficulty in obtaining proper disinfection of a wound is the constant flow of blood from the wound, which dilutes and washes away the antiseptic, and steps must be taken as far as possible to arrest or control the haemorrhage in the first instance; this is a very important point. It may also be necessary to open up the wound, not only in order to arrest the bleeding, but also to reach all the recesses of the wound for the purpose of disinfection. Further, the process is painful, and therefore I should advise that in all cases an anaesthetic should be administered.

Procedure.

The procedure would be as follows: The patient having been put under an anaesthetic, the first thing is to control the bleeding. In the case of an extremity a tourniquet is applied, but where the wound is situated in the trunk, any visible bleeding points should be clamped and the wound temporarily stuffed with gauze or large sponges.

The next step is to cleanse and disinfect the skin thoroughly. In the first place scrub it thoroughly with 1 in 20 carbolic lotion and ether soap, then shave it, and finally wash it thoroughly again with the carbolic lotion, leaving a cloth saturated with the lotion over the whole area, so as to continue the disinfecting action and protect the skin while the interior of the wound is being attended to.

The interior of the wound must now be disinfected, and if it is necessary to gain access to the deeper parts in order to enable one to see what one is doing, which is very important, the wound must be enlarged by incisions made in suitable directions. The blood must be thoroughly swabbed out, the wound made as dry as possible, and the skin or fat or other structures which are visibly soiled with earth or dirt should be cut away; the wound being then held wide open by retractors, a piece of sponge dipped in the liquefied carbolic acid is carefully and thoroughly applied to the whole surface of the wound and to all the recesses, care being taken, by holding a swab in the other hand on the edge of the wound, to prevent the acid running over the skin. It is well to sponge out the wound after the first application, and then to apply the acid a second and even a third time if there is bad soiling. If, at the bottom of the wound, there is a long narrow track leading into the tissues, it may not be necessary to disinfect it along its whole length, because the probability is that the bullet or fragment of shell does not carry the organisms in to a very great depth. If it is a large wound which has to be soaked with the undiluted carbolic acid, it may be well, after about five minutes, to wash it out first with 1 in 20 carbolic lotion and then copiously with saline solution, so as to get rid of the excess of carbolic acid, and thus reduce the chance of absorption.

Having completed the disinfection of the wound, the tourniquet is relaxed, the vessels tied, and a good sized drainage tube inserted down to the bottom of the wound, or even through a counter opening if there is any doubt as to the thoroughness of the disinfection. Any incisions made by the surgeon may be closed by stitches, but no attempt should be made to stitch up the original wound, unless possibly where flaps of skin have been turned to one side, in which case they may be brought roughly into position by two or three stitches. After the disinfection of the wound is complete, it is well to give the skin around an additional wash with the carbolic lotion, in case it may have again become soiled from the wound.

In the case of a wound on the trunk or neck, where no tourniquet is available, and where therefore the bleeding cannot be thoroughly checked, the disinfection is much more difficult and uncertain, because blood is constantly washing away and diluting the antiseptic. Hence, the first thing to be done under these circumstances is to open up the wound and try to check the bleeding by clamping any bleeding points; these, however, must not be tied at this stage. The wound should then be firmly packed with gauze, so as to check the capillary oozing. Having done this, the skin around is cleansed and disinfected in the manner already described, and attention is then turned to the wound itself. The plug is then taken out and a smaller one substituted, so as to leave the skin and subcutaneous tissue exposed to view. The surfaces so exposed are then dealt with in the manner already described, badly soiled skin and fat being clipped away, and the surface thoroughly soaked with the antiseptic. Further portions of the plug are then removed, so that the whole surface of the wound may be disinfected bit by bit; in addition it is well to irrigate it thoroughly with 1 in 20 carbolic lotion, and then with salt solution. Finally, the vessels are tied, and in doing so it is well, in the first instance, to take off the forceps one by one, daub the vessel with carbolic acid, catch it again with clean forceps, and then tie it; the *rationale* of this procedure is that the piece of tissue caught by the forceps has not been disinfected, and if it were tied at once, a septic point and ligature would result.

Dressings.

In both cases, after the disinfection is complete, an antiseptic dressing (not merely an aseptic one) should be applied. The reason for using a dressing containing an antiseptic is that, in the first place, aseptic dressings are seldom available on the field of battle; and, in the second place, it may not be possible to change the dressing for some time, and if a non-antiseptic dressing is used the discharge passes through it, and bacteria rapidly develop in it and reach the wound. On the other hand, a dressing containing an antiseptic which is soluble in the serum may give enough of the antiseptic to the serum to render it an unsuitable medium for the development of organisms, and thus, if the dressing cannot be changed early, an aseptic result may still be obtained. I believe that wool impregnated with salicylic acid is the best for this purpose, but it is well to put a piece of cyanide gauze (which is itself only feebly antiseptic) over the wound, so as to keep the salicylic acid from the skin.

It takes a long time to describe this matter, but it is perfectly simple, and I have adopted this method of dealing with compound fractures and other open wounds for years with a very large measure of success, and I should be very much ashamed if any considerable number of cases which came under my care within twelve hours after the accidents did not follow an aseptic course.

If iodine is preferred, I cannot say what strength should be used, but it certainly ought to be much stronger than the ordinary 2 per cent. solution, which is the favourite at present. The procedure would be the same as I have already described.

If iodine is used instead of carbolic acid for the disinfection of the skin, it should not be applied directly over the dirty skin, and therefore here also the skin must be thoroughly washed and shaved and dried, first with a dry cloth, and then with acetone. The trouble is that the skin will soon be wet again with the blood and serum when the wound is taken in hand, and not only is the disinfection imperfect, but the skin painted with iodine, if again wetted, is liable to be much irritated. I have not the slightest hesitation in saying that the disinfection will be much more thoroughly and satisfactorily done with carbolic acid with less loss of time and also with less irritation of the skin.

Possibilities of Early Treatment.

The proper disinfection of a wound cannot be carried out in a hurry, and unfortunately in the army it will not be till the patient has arrived at the first field hospital, and in the navy till the patient reaches the surgeon's quarters on the battleship, or the hospital ship itself, that it can be taken in hand thoroughly.

Whether anything can be done in the field or trenches which might help to delay or circumscribe the sepsis, is a problem well worth considering. The first dressings

with which the soldiers are provided are of no use except to prevent the entrance of further dirt, and the surgeon cannot be expected to carry with him the necessary arrangements for disinfecting the wound, though he might carry some antiseptics which might be introduced into the wound. Thus we have been trying at Chatham to make soluble bougies or suppositories, each containing 1½ grains of carbolic acid, which might be pushed into a wound before the emergency dressing is applied, or the surgeon might be provided with strong iodine solution, and pieces of gauze soaked in this solution might be pushed into the wound and left there. No thorough disinfection can, however, be carried out till the patient has reached some place (field hospital or sick bay) where he can rest for some time, and where the methodical disinfection of the wound can be undertaken. As soon, however, as the patient has arrived at such a place, the wound should be disinfected thoroughly, whether anything has been done previously or not. Even at the field hospital or sick bay it may not be possible to keep the patients long enough for all the wounds to be thoroughly disinfected, but, at any rate, all compound fractures and wounds of joints which do not require amputation, and all wounds badly soiled with earth, should be dealt with as far as possible.

Antitetanic Serum and Antisepsis Vaccine.

At the present moment great stress is being laid on the particular kinds of organisms which may have entered the wounds, but very little is said about disinfecting the wounds. Instructions are being given as regards the army that immediately the patient comes under treatment he should have a subcutaneous injection of antitetanic serum and another of polyvalent antisepsis vaccine. Now I cannot speak with any authority as to the prophylactic value of antitetanic serum when injected into the subcutaneous tissue, but although *subcutaneous* injections of this serum are of no value in the treatment of tetanus once it has developed, those who have worked at the subject state that subcutaneous injection of the serum is of value if used immediately on the occurrence of infection. As regards antisepsis vaccine as a prophylactic, I am very sceptical indeed. It may possibly modify the severity of the impending sepsis, but I feel sure it cannot be depended on to prevent it. At the same time, we must not disregard any possible safeguard, and for the present I think it is well—in military surgery at any rate—to inject these substances in the manner which has been advised. I should not think that it is necessary in naval surgery to inject antitetanic serum.

I do hope, however, that those who have to treat these wounds will not take it into their heads that, after making these injections, they have done all, or, indeed, anything of any real importance, for the safety of the patient. I am very much afraid that some men will be satisfied with these injections, and will take no further local steps to render the wound aseptic, and will look on these injections as a way of avoiding the use of the much-hated chemical antiseptics. By all means use these injections, but never lose sight of the fact that the only trustworthy way of avoiding the septic diseases which otherwise inevitably follow these wounds is to kill the organisms before they have taken root in the body. Remember also that we have not to do with only one species of organisms; we have to do with a great many, and even if the methods suggested were as effectual as we could hope, it leaves many other organisms untouched.

2. *Treatment of Wounds if more than Twenty-four or Forty-eight Hours have elapsed since the Infliction of the Wound.*

It may happen that patients cannot be treated within the period above mentioned, and the question then arises whether any attempt should be made to disinfect the wound in the manner above described. By this time the organisms will, for the most part, have got a firm hold on the tissues and any attempt to get rid of them by antiseptics will fail, and if the attempt fails at this stage it may cause a great deal of harm by injuring the actively granulating tissues. It may possibly be well still to clip away any visibly soiled tissues and touch the raw surfaces with liquid carbolic acid, but I think that any attempt at general disinfection of the wound would be a very injudicious and harmful procedure, and still more so if suppuration has begun. Indeed, I would go further and say that not only should strong antiseptics be avoided, but also even weaker ones. I usually find that surgeons at once get busy syringing out these early septic wounds with various antiseptic lotions, and not only on the first occasion but every time the dressing is changed, and I consider this to be very bad practice indeed.

Misuse of Antiseptics.

In fact, my views on the relation of antiseptics to wounds are exactly the opposite to those in vogue at the present time. It may be that I am not up to date, but I fancy that I have, perhaps, been trained to take the treatment of wounds more seriously than most people, and to think and work a great deal at it. My own view is that if a wound is aseptic, while I do not willingly put antiseptics into it, their entrance will not interfere with healing at all, so long as no bacteria have been let in by the surgeon. But on the other hand, if bacteria are already established in a wound, I think it is the worst treatment possible to meddle with it more than one can help, and more especially to syringe it out with antiseptics, and to poke gauze and other things into it. The general practice at present is just the reverse, namely, to avoid antiseptics when the matter is of no consequence, and when their use outside the wound may help to prevent the reinfection of instruments and materials used; and on the other hand, to use them when the wounds are septic, when they cannot kill the bacteria and when the only effect they can have is to damage the natural defences of the tissues. The only antiseptic which I would use in septic wounds, and that only in foul-smelling ones, is hydrogen peroxide, which, although a feeble antiseptic, certainly seems to overcome the fetor and does not irritate the tissues to any marked degree. If it is deemed advisable to wash out a septic wound, use normal saline solution as a rule, though very weak antiseptic lotions may do no noticeable harm once granulation is fully established.

I believe that the chief reason for the present prejudice against antiseptics was the free use of these lotions formerly by surgeons who deluged their wounds with antiseptics, but took no care as regards disinfection of hands, skin, instruments, etc., and infected their wounds thereby, at the same time damaging the resisting power of the tissues by their antiseptics. The result was that the wounds did badly, but not, as they thought, as the direct effect of the antiseptic, but from the introduction of bacteria into the weakened wounds. They thought they were practising Listerism, and therefore gave it a bad name, but they were not following the master's teaching. I remember in the old days of the carbolic spray remarking to Lister more than once that while practically all our wounds healed aseptically, yet if a wound did go wrong with us, it went wrong worse than in the hands of septic surgeons. The reason was that the irritation of the spray diminished the local resisting power, and so enabled the organisms introduced to grow more readily; if no organisms were introduced, this temporary diminution of local resisting power did not matter. It is curious how difficult it is to make people understand that carbolic acid or other antiseptic *is not used as an application to a wound, but as an application to the bacteria outside the wound.* The healthy tissues are sterile, as I was the first to demonstrate many years ago, and they need no antiseptic application to them; the enemy—the bacteria—come from without, and should be killed outside the wound.

Drainage.

As the wounds have come to us at the base hospital they are not only septic, but they are often imperfectly drained, it is therefore necessary in most cases of large wounds, and especially where bones or joints are injured, to interfere with them by operative measures on their arrival at the hospital, but this should be done, as far as possible, once and for all. The patient having been put under an anaesthetic, the skin should be cleansed and disinfected in the manner previously described, and if there is any earth or gross dirt still visible about the wound the tissues involved should be cut or clipped away and the raw surface daubed with liquid carbolic acid. Apart from this, which is only occasionally necessary, the important point is to provide the freest possible escape for discharge, and in order to obtain this it is often necessary to enlarge the original

openings and to make counter openings. Further, any foreign bodies which are readily accessible, such as clothing or fragments of shell retained in the wound, should be removed, but at this stage it is not advisable to open up fresh wounds in the deeper tissues in order to hunt for bullets or pieces of shell, for this is only to expose fresh tissues to infection unnecessarily before the body generally has developed its full resisting power.

As to the actual drainage of the wounds, that must be carried out by the use of as large drainage tubes as can be conveniently introduced, with holes of suitable size cut in their sides; where there are counter openings, it is well to pass the tube through from one opening to the other. A most extraordinary practice has grown up of late—namely, instead of using open tubes, to introduce masses of gauze into the wound, under the idea that they will drain away the pus. Even those who use tubes generally slit them open at one side and fill them with gauze. Now, the object of drainage and dependent openings in these cases is to let the pus run away as soon as possible so that the products of bacteria shall not lie in the part and cause local irritation or be absorbed. To push gauze into a sinus is effectually to prevent the pus escaping freely; and the pus, soaking into the gauze and lying there, undergoes still further changes as the result of the bacteric growth, and thus the plug becomes a highly poisonous and irritating substance. Whoever heard of stuffing a drainpipe with gauze so as to let water run away, far less thicker material like pus?

I cannot conceive how this method of draining wounds ever arose. I fancy it was some aseptic surgeon who found that when he put a drainage tube into a wound the wound always suppurated, and the bright idea occurred to him that by using gauze instead he would keep bacteria out. However it arose, I regard it as one of the most foolish and mischievous things that has ever been introduced in connexion with the treatment of wounds, and especially of suppurating ones.

I may illustrate this by an anecdote. Some years ago I built a house in the country and we had some difficulty in getting a proper water supply. At length I found a spring on the top of a hill in the neighbourhood where the earth had been somewhat hollowed out and which was used by a crofter not only for household purposes but also to water the animals. I got leave from the landlord to make a proper well there and to get the overflow for my own use. This I did, making a nice clean well for the crofter, with an overflow to water the animals, and this left ample water for my house. The crofters are very conservative people, though they always vote for the Radical candidate, and this particular old lady had a great affection for the old well and resented very much the new one. To relieve her feelings she put all sorts of things—rotten fish, etc.—into the well. We did not notice this at first, but thought the water was extra good and tasty, but presently the flow of water through our pipe began to fail and ultimately stopped altogether. On examining the well the spring was all right, and therefore there was nothing for it but to dig up the pipe. About a hundred yards from the well I found a piece of dirty linen, evidently a piece of the old lady's chemise, which was very rotten, and completely prevented the flow of the water. Now this is exactly what you do when you fill a drainage tube with gauze—you prevent the free exit of the pus, and the gauze becomes very rotten and poisonous.

I do not think that one can go too far in preventing the accumulation of septic material in a wound. Two of the very best cases which I have so far had have been cases of fracture of the pelvis with extensive tearing of the rectum. For a few days they were treated by drainage. A large tube through the anus, constant irrigation, etc., without any improvement, but as soon as I performed colotomy and cut off the access of faeces, their improvement was immediate and most remarkable, and one of them has already healed and will soon be in a condition to have his colotomy opening closed.

Dressings.

As regards dressings in these cases, of course aseptic dressings are not only useless but injurious. The septic discharge soaks into them and decomposes there, and the dressing simply becomes a septic poultice which poisons the wound. Antiseptic dressings are rather better, and in small wounds do well enough, the dressings I use being cyanide gauze next the wound, with salicylic wool outside. But in large wounds the pus does not take up enough antiseptic to stop the decomposition entirely, and I am not at all satisfied with large masses of dressings over a wound. To pile dressings on septic wounds, whether these dressings do or do not contain antiseptic substances, is only to revert to the old methods of two or three centuries ago, which have been long since and quite rightly discarded.

I believe that in these bad septic cases the less dressing you apply the better, and my experience is that as regards dressings it is best only to lay a few layers of antiseptic gauze over the wound to prevent it being soiled by the clothing or blankets, and to apply boracic fomentations and change them frequently.

Irrigation.

Wherever it is possible, however, especially in the case of large wounds and those involving bones or joints, constant irrigation with normal saline solution is by far the best method of treatment where circumstances allow of the employment of this plan. The irrigation is at first continued day and night, but after some time, as the discharge gets less and the wound begins to heal, boracic fomentations may be substituted during the night, but the irrigation should be continued during the day till healing is nearly complete. Where gangrenous processes set in, a water bath, frequently changed, with a little iodine or potassium permanganate in the water, is the best treatment.

Removal of Missiles.

There is just one other point to which I shall refer to-night—namely, the question of the removal of the missile which has done the damage. Of course, if it is present in the main wound, or is doing harm by pressure or otherwise, it should be removed at once; but not uncommonly fragments of shell or bullets pass into the tissues for a considerable distance from the main wound, and, if left alone, may become encapsuled and not do any harm, and the wound of entrance will heal quite well. Such fragments can be removed by a separate incision later on if necessary. I think that there is too great a tendency to hunt for small fragments of shell or bullets at the present time. It is interesting that when they traverse the tissues for some distance, they seem to shed the septic material which they have carried in with them. I have one case where a piece of shell passed through the rectum and is embedded deeply in the other thigh and is not causing any irritation. It is well, however, to have a stereoscopic skiagram taken in all these cases as soon as the condition of the patient allows; this will help the surgeon to determine later on whether he should remove the fragment or not.

Conclusion.

Gentlemen, I am afraid I have taken up far too much of your time to-night, but the question I have been referring to is one of tremendous importance, and I entreat you to give it your most earnest consideration. If you have followed what I have said, it is clear that I only advocate the use of antiseptics at the very commencement of the treatment, but at that time, in order to serve the purpose, they must be sufficiently powerful. I am much opposed to their use in suppurating wounds. Some object to the use of these strong antiseptics on the ground that they may cause a slough. This, however, is a mistake: used as I mention, they may kill a microscopic layer but no visible slough, but even if they did, if you have destroyed the bacteria, a slough is of no consequence; it will be absorbed like any other piece of aseptic dead tissue. Even if there were a slough, what does that matter as compared with the life of the patient? It is very trying for those of us who are parents to feel that any day we may hear of the death of our boys in battle. If they die on the field of battle, they at least die nobly in fighting for their country and for the safety of those they have left behind. Surely it makes it still harder for us to know that if they escape death on the field of battle they may still, as a result of imperfect disinfection of the wounds, die from sepsis or be maimed for life. I beg of you to consider this matter calmly and logically and without prejudice, and see that every possible means is taken to avoid this great calamity.

An Address

ON

THE PRINCIPLES OF WOUND TREATMENT AS ESTABLISHED BY LISTER AND THE SUBSEQUENT MODIFICATIONS IN TREATMENT.

DELIVERED TO THE STUDENTS' MEDICAL SOCIETY, ABERDEEN.

BY FRANCIS M. CAIRD,

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AT the present time, when horrid war is rampant, it seems singularly appropriate to consider the principles of wound treatment established by Lister, and to review the various changes in the methods and materials which have gradually been evolved in the application of these principles.

It will be well, then, to glance briefly at the pre-Listerian conditions. If we go back to the year 1864, about which time Lister was already engaged in his wondrous researches, we find that in Paris—then the scientific and political European centre—the deaths among 1,144 amputations were 622, and that, speaking roughly, a mortality from 45 to 50 per cent. was by no means uncommon in hospital practice after amputation. The old hospitals had become foul and tainted, surgeons no longer attained the success of their predecessors, and questions of hospitalism were in the air. Ten years after this date the most inexperienced and junior student could not fail to recognize that a new order of things had arisen, for in the same old hospital he could pass from wards where the peculiar musty odour, the painful wounds, the frequent dressing, and the rife pyaemia gave place to a purer atmosphere, painless wounds, infrequent dressings, and a minimum mortality. He thus realized that empiricism had yielded to science, treacherous chance to sweet certainty, and that surgery had been freed from its most dreaded associations.

Lister framed his principles on the scientific basis that wound fevers and suppuration were due to the access of micro-organisms which came from without, entered the damaged tissues, multiplied therein, and by their multiplication gave rise to fermentation with all its disastrous train of consequences.

He had finally solved the question of the prime difference between a simple fracture so free from danger and a compound fracture so fraught with danger. He held that we should be able to destroy all the organisms which had gained access to a wound or compound fracture, thus rendering the wound innocuous and restoring the compound fracture to the condition of a simple one; and, further, that the surgeon should also be able to prevent the access of all germs when operating, so that his wounds would run a course as safe and uneventful as that of a simple fracture. In other words, he strove to establish a curative as well as a prophylactic attack against sepsis and putrefaction.

The methods he was already following in 1869 permitted him to state that: "The universal adoption of the antiseptic system, whether in the form it has now received or whether in some other or more perfect shape can only be a question of time."

The problem which Lister faced in attaining an ideal wound treatment involved a consideration of the sources of wound infection. Hence he directed attention to the purification of all the wound surroundings. He feared contact and implantation infection. He gained his object by a definite procedure. First, the surgeon's hands, nails, and flexures had to be carefully disinfected; so also the instruments, sponges, and whatever might be brought in contact with the field of operation. He devised the great boon of antiseptic catgut ligature.

Secondly, similar methods were employed to purify the wound and its environment.

Thirdly, he endeavoured to obviate the danger of atmospheric contagion.

Fourthly, he sought to prevent the subsequent access of germs to the wound by suitable antiseptic dressings.

I need not at present detail the long and persevering quest which he followed in gaining the desired end. It will suffice to say that he was satisfied to find in carbolic acid (pure phenol) a reliable antiseptic which was most potent to destroy organisms and yet inflicted the minimum of injury on the tissues of the body. The volatile character of phenol, the ease with which it combined with oily and other substances, its local anaesthetic action and powers of penetration, rendered it most acceptable and convenient. It practically remained his most favoured antiseptic.

Lister insisted that only pure forms of phenol should be used. He drew attention to the disadvantages of inferior preparations. He employed a watery solution of 1 part in 20 for the initial purification of all surfaces, and this having been accomplished, then changed to a weaker solution of 1 part in 40 of water during the subsequent manipulations.

We may now study the curative antiseptic method he carried out, as in the case of a compound fracture.

The surgeon's hands, instruments, etc., being thoroughly cleansed with 1 in 20 carbolic lotion, the surrounding skin of the wound was in like manner prepared. The wound was then thoroughly soaked with the same lotion, and the parts were manipulated freely so as to cause the lotion to penetrate into the interstices of the wound. The lotion might also be carried with a syringe into the deeper parts, extreme care being taken that there was no forcible injection of the fluid. Clots, foreign bodies, and completely detached pieces of bone were removed. Haemorrhage was arrested. Drainage tubes were introduced, and, if necessary, counter openings were made, so that there could be no question of tension. The thorough purification of the wound entailed a copious serous flow, due to the action of the antiseptic. Hence a large and sufficient dressing was essential, which required renewal whenever discharge appeared. In the case of compound dislocations a lotion of one part phenol in five of spirit was used. The knife and bone forceps were frequently employed to pare off and remove portions of cartilage and bony surfaces into which gross dirt had become ingrained.

Let us now turn to his prophylactic antiseptic methods as carried out in operations on unbroken skin. The procedure was identical with that we have seen in the case of compound fracture, save in one important respect. We find him in 1874 teaching that as the tissues were germ-free, there should be no contact of the antiseptic with the wound. It should not be douched with an antiseptic. The antiseptic is hurtful to the tissues, and where it is not required should be excluded. He endeavoured to reduce the contact of the antiseptic with the wound to a minimum, and hence he operated under the carbolic spray as a means to purify the atmosphere. He held strongly that all wounds made by the surgeon should be drained for at least twenty-four hours until the serous discharge occasioned by the minimal stimulus of the antiseptic had subsided. The wound was carefully closed, a large firm dressing obliterated all spaces, and over the lips of the wound a strip of protective shielded the wound from the dressing. As Lister then expressed it, "An antiseptic to exclude putrefaction, with a protective to exclude the antiseptic, will, by their joint action, keep the wound free from abnormal stimulus."

With the universal acceptance of Lister's principles modifications of his procedures arose. He himself was constantly engaged in experiments and the introduction of improvements. He regarded the spray as the least essential part of his antiseptic precautions. He attempted purely aseptic methods and used carbolated cotton-wool as a dressing. He never quitted the search for milder antiseptic agents and was always open and ready to acknowledge and honour the work of others, accepting everything that seemed to him right and good.

The spread of antiseptic surgery was at first relatively slow. While many were zealous in attempting to carry out the methods, they often failed to grasp the principles on which Lister founded his system, but he gradually received overwhelming support, more especially from his German colleagues, who were quick to grasp the scientific conceptions which wrought such a stupendous change in the surgical outlook.

The fundamental writings of Pasteur were followed by

the investigations of Lister, Ogston, Koch, and others, and thus led to the foundation of the science of bacteriology. Further research and experiments favoured discovery of new antiseptic agents. The study of infective diseases and experimental pathology acquired a new stimulus, and certain changes in wound treatment ensued as a clearer appreciation of Lister's principles obtained.

Thus carbolic acid was replaced by corrosive sublimate; gauze and mackintosh dressing by dry dressings of medicated cotton-wool, etc.; the period of drainage was shortened by the use of horse-hair, catgut or absorbable bone tubes, and finally was almost entirely abandoned, the wounds being completely closed.

It became recognized that the risk of atmospheric wound contagion was exaggerated, and the spray was dispensed with as unnecessary. The trend of surgical thought might be well exemplified by a visit to Neuber's clinic in Kiel about the year 1886.

Here we observed that separate operation rooms for septic and aseptic cases had been substituted for the old many-seated theatre. They were specially constructed with rounded corners, and contained a minimum of furniture. One hour prior to use the rooms were entirely flushed out with water, so that the surgeon entered a dust-free, moist atmosphere. The patient, suitably prepared, was enveloped in a sterile sheet before being brought into the room. The surgeon's hands, instruments, and field of operation were purified by carbolic acid lotion 1 in 20, but after this primary purification sterile normal salt solution was alone used. The instruments had long handles, and every care was taken to avoid as far as possible contact with the surgeon's fingers. Spaces were obliterated by deep catgut sutures, and the wound was closed without drainage. A copious layer of boiled gauze, with corrosive wool firmly applied over all, completed the dressing.

The value of boiling and moist heat for sterilization became now generally recognized, and about this date Schimmelbusch perfected his valuable steaming apparatus, which is now in universal use. Renewed attention was directed to implantation infection caused by faulty purification of the hands, and the difficulty of ensuring an absolutely germ-free integument led to most elaborate and painstaking procedures to gain this end. Much ingenuity was displayed in devising various forms of protective varnish, different antiseptic agents and soaps were tried, and eventually the introduction of sterile rubber gloves seems to have solved this important problem.

As an example of the advance which had taken place, I may note the procedure followed under von Mikulicz in Breslau about 1904. While Mikulicz had formerly condemned the spray, concluding that danger from aërial germs might practically be ignored, in his later years he was ready to admit that Lister was right after all, and that the atmosphere was a loophole of offence which should not be neglected. Hence he insisted that all outer garments and shoes should be removed or covered by sterile overalls on entering the operation room. A limited number of spectators was admitted, and no one with a catarrh or cough dared enter. Silence was maintained; the head, nose, and mouth were veiled. After careful purification of the hands, gloves were employed and frequently changed. From the first incision onwards antiseptic agents were practically discarded and only normal sterile salt solution came in contact with the wound.

We have thus seen that in so far as septic prophylaxis is concerned an antiseptic method has given way to an aseptic. Antiseptics remain still essential for the cleansing of the skin; boiled water and sterile dressings accomplish all else. Provided we exclude all causes of putrefaction from the tissues, "all they need is to be left alone." Lister's ideal has been realized; the surgeon is master of the wounds he has himself inflicted.

One must, however, note that the pendulum of fashion may have swung a little too far in the direction of aseptic surgery. This has led some surgeons who have forgotten the value of the older methods to abandon the succeeding prolonged laborious washing and scrubbing of the integument, and to substitute therefor the use of tincture of iodine as the most convenient and serviceable antiseptic for this purpose. They may have good reasons for adopting such a plan; it does not, however, seem to be the best agent for the purification of wounds.

We may now revert to the treatment of compound fracture and recently inflicted wounds. While the prophylaxis of sepsis has thus developed, it is noteworthy that the curative measures remain practically the same as established by Lister. I have seen no other method realize such excellent results in cases of compound fracture, unclean and lacerated wounds. Not only in the course of long years have such cases been saved from all the ordinary wound complications, but the entire absence of tetanus has been a marvellous feature. I would reiterate the importance of using a pure phenol for the preparation of the lotions already alluded to. I would emphasize the care which a thorough and prolonged cleansing of the wound and its surroundings requires. I would lay stress upon the necessity for free drainage, enlarging the wound if need be, and use must be made of a copious absorbent *antiseptic* dressing, and we must see that it is changed as required.

While it is true that many perforating bullet wounds run a perfect course, receiving no more than a superficial paint of tincture of iodine as a prophylactic, in no circumstances dare we treat lacerated wounds and compound fractures by such simple measures. It is only by a return to the curative methods of antiseptic surgery that we can hope to banish tetanus. I cannot recollect to have encountered tetanus in a wound which was not already septic, nor can I recollect to have encountered one single fatal case of tetanus which developed in a wound which had been thoroughly soaked and treated with carbolic lotion.

It is true that in times of war immediate purification of such cases must present difficulties, and with every hour that elapses the dangers increase; but we know that success has followed even twenty-four and more hours after the receipt of the injury, and so a thorough purification can be effected at a base hospital. I am tempted to recall the following instance:

On September 27th, 1910, H. M., aged 15, was working in the fields when she fell in front of a reaping machine and sustained a severe injury of the right foot. The wound was dressed temporarily, and she was sent from the extreme north of Scotland to Edinburgh Royal Infirmary, where she arrived on September 29th. Next day, under an anaesthetic, the splint and dressings were removed, and a large gaping wound was exposed, which extended from the tibial to the fibular side of the dorsal aspect of the foot. Every structure had been divided. The tendons had retracted. The blades of the reaping machine had worked like a section cutter, laying open the astragalo-scaphoid articulation, almost entirely taking off the head of the astragalus and a quarter of an inch behind that, making a fresh cut almost down to the os calcis. The whole foot and wound were soaked in carbolic lotion 1 in 20, portions of leaves, grass, and earth were cleared away from between the various cuts, and the severed head of the astragalus was removed. An elastic bandage was now applied from the ham downwards, which caused the tendons to protrude in the wound. They were then readily identified, and the divided ends were sutured with fine silk. The nerves were treated in like fashion. A drainage tube was inserted at the inner side, the wound was carefully closed with silkworm gut and horsehair sutures. A deep dressing wrung out of carbolic lotion was applied, and the foot, swathed in corrosive wool, was secured to a splint in the position of extreme dorsiflexion. Subsequent progress was normal. She was dressed on the fourth, seventh, and seventeenth days, when the wound was found to be healed, and the stitches were removed. On the twenty-second day the foot was put up in plaster of Paris, which was taken off on November 10th. She left for home with return of sensation and function. She now writes that the one foot is as good as the other, and that she can walk, dance, and run with perfect freedom.

One word of warning. Under no circumstances should an impermeable layer cover a moist carbolic dressing for any length of time. The dangers of carbolic acid poisoning and gangrene have been absurdly exaggerated and are due to the use of inferior and imperfectly dissolved solutions employed as moist dressings beneath an impermeable covering. As dressing material carbolic acid in the crystalline form, the double cyanide gauze or powder and corrosive wool are sufficiently portable and convenient.

Experimental pathology has also added to our armamentarium in the fight against wound infection by the discovery of vaccines and serotherapy. Lister made frequent allusion to the antiseptic agency of living tissues in combating micro-organisms. Mikulicz attempted to call forth the prophylactic leucocytosis by subcutaneous injection of nucleic acid twelve hours prior to abdominal operations.

There is good reason to believe that the prophylactic use of antitetanic serum will do much more to ward off the attack of this most terribly fatal malady in wounds infected with soil, mud and stable litter, than it can possibly accomplish as a curative agent once the disease becomes evident.

It is more difficult to assess the value of vaccines and serums in other grave surgical wound affections, but there can be no doubt that the timely application of the rigorous measures laid down by Lister, carried out conscientiously and thoroughly with a due appreciation of the object in view and the principles involved, will do more to save life than haphazard, half-hearted and ineffectual aseptic measures.

THE BORDERLAND OF DISEASE.

BY

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PHYSICIAN TO THE DREADNOUGHT AND ROYAL WATERLOO HOSPITALS.

(Continued from page 824.)

II.

PASSING on from the circulatory and pulmonary systems, which were referred to in the notes of last week, we find similar evidence elsewhere of the importance attaching to early and often obscure indications of disturbed health, and nowhere more frequently than in the gastro-intestinal system, where borderland cases are met with continually. There is, perhaps, no such land of surprises anywhere in the territory of disease as the abdomen, and none in which functional manifestations are so often the forerunners of established organic mischief. Dyspeptic troubles are among the most frequent infirmities of humanity. Many people suffer throughout the greater part of a lifetime from miseries that excite little sympathy because they carry with them apparently no danger, but in a multitude of cases they entail an amount of physical distress and mental depression that robs existence of all its happiness, envelops its achievements and successes in a gloom of personal discomfort, and makes it a burden almost more than can be borne. And yet how much might be done to mitigate this burden of wretchedness by a little more careful consideration of questions of etiology and treatment when the subjective symptoms are still "a voice crying in the wilderness"! Many a gastric or duodenal ulcer might be escaped if more active measures were adopted to correct the early indications of a disturbed digestion; calculi in the gall bladder or urinary tract might be prevented if the preliminary warnings were interpreted in the full light of their possibilities; rheumatoid changes in the joints, degenerative processes in the mucous membrane of the intestines, a whole series of vaso-motor disturbances, and a final intractable neurasthenia might be guarded against by proper attention to the hygiene of the mouth, a suitable dietetic regimen, and a wise adaptation of energy output to the vital reserves of the individual. Finally, many of the tragedies connected with what we nowadays recognize as an "acute abdomen" might be of rarer occasion if the prodromal warnings were more thoroughly understood and more carefully dealt with. The following epitomized cases are both illustrative and instructive.

A man of 45 years of age, occupied in scientific research, and living a very strenuous life, came to see me in 1910 complaining of indigestion of many years' standing, which was rapidly ruining his peace both of mind and body, and was becoming worse in spite of all he had done for its alleviation. In outline his symptoms were heartburn, epigastric pain coming on three or four hours after food and at once relieved by sodium bicarbonate or a meal, obstinate constipation, flatulent distension, sleeplessness, irritability, restlessness, and loss of weight. On examination he was of a sallow complexion and spare habit of body. He had increased reflexes and all the other stigmata of a pronounced neurasthenia, a coated tongue, and a mouthful of gold-capped teeth with pus exuding from below the crowns of several of them, marked tenderness and rectus muscle resistance to the right of the epigastrium, a stomach dilated almost to the level of the umbilicus, a gurgling and tender colon, and a loose right kidney which, though smooth, gave to the examining hand the impression of being enlarged. His heart and lungs were normal and there was no evidence of organic disease in his nervous system. The urine contained indican but was free from albumin or sugar. On one or two occasions he had induced active sickness in the hope of giving himself relief, but he had never experienced spontaneous vomiting, nor had he suffered either from haematemesis or melaena. His habits of life were moderate, but uncertain and badly regulated in regard both to food, work and exercise. His condition had been variously diagnosed as dyspepsia, dilated stomach, colitis, and eventually as duodenal ulcer, and he had been advised recently that nothing short of an abdominal operation was likely to do him any good. On inquiry it transpired that he worked very hard, often well into the early hours of the morning; that his life was not only strenuous but full of worrying anxieties and unrelieved by any periods of adequate rest; that he kept himself going by copious libations of tea, and that his daily diet consisted very largely of sweets and carbohydrates. Under the influence of a diet plan from which sweets, tea, and uncooked vegetables were entirely excluded, and carbohydrates rigidly cut down to small amounts; of a course of massage especially directed to the abdomen, and a period of three weeks' complete rest from work, followed by a lazy holiday; and of a drug combination after meals of valerian, carbolic acid, strychnine and codeine, together with 1 grain of calomel twice a week and half an ounce of liquid paraffin every night at bedtime, he achieved a marked improvement, regained his proper habit of sleep, put on weight, and got back again some of the cheerful equanimity which had been characteristic of him in the earlier years of his life. Over a period of fully two years he required to be kept under occasional observation, and derived help from one kind of tonic or another, according to the varying indications of his condition, but for upwards of eighteen months now he has been entirely free from discomfort, and, having arrived at a proper realization of his limitations, has been able so to regulate his daily habits as to keep the balance even and get through, with comfort and success, a large amount of the scientific work to which his life is devoted. It may be of interest to mention that of all the tonic combinations ordered for this patient, that which suited him best, and to which from time to time he still has recourse, was a mixture of papain, reduced iron, salol, nux vomica, and rhubarb, taken in the form of a capsule after meals. The evidence in this case is convincing that the years of functional disturbance threatened to culminate in peptic ulceration, and that all the risk of serious organic disease and probable surgical interference might probably have been avoided if in the earlier days of his ill health the borderland symptoms, which distinctively pointed the way to the rocks ahead, had directed the dietetic, medicinal, and hygienic treatment along lines of greater care and more persistent attention to detail. He was regarded as a sound man who was overworked and in consequence dyspeptic, and one who required no greater attention than an occasional holiday, together with a few doses of an ordinary sodium bicarbonate and gentian mixture. It is impossible to say how many cases of duodenal or gastric ulcer might be prevented if the initial borderland manifestations were taken more seriously to heart. My personal experience leads me to think their number would be very considerable, and that, under the influence of suitable and early medical methods, a largely diminished number of cases would drift to the operating table of the surgeon.

Probably there are no more painful episodes in the whole category of disease than those associated with the passage of a stone. The most frequent situations of calculi are the urinary and biliary tracts, and in both much may be done, by a timely recognition of the prodromal symptoms indicative of a tendency to their occurrence, to prevent their formation, or to limit their harmful effects once they have become an established fact. The following cases are well-marked examples of this type of disorder.

A lady of 68 years of age, stout in build, inactive in habits, and of gouty antecedents, had enjoyed good health until about 48 years of age, when she entered upon the menopause. From the time her menstrual function began to be irregular she suffered from disturbance of digestion, and became subject to occasional attacks

of sickness, which on several occasions were followed by a mild form of jaundice. The bowels had been irregular during her whole life, but they now became obstinately constipated, and required powerful aperients to keep them in order. Her health otherwise was fairly good, but the repeated biliary attacks gave rise to a considerable degree of mental depression, which often made life miserable both for her and her family. For about fourteen or fifteen years her health continued unsatisfactory, but she never became so acutely ill as to necessitate continuous medical care. Suddenly one night, shortly after getting to bed, she was waked by agonizing pain in the region of the gall bladder, soon followed by active sickness, and not relieved until she had half a grain of morphine injected subcutaneously. The attack was followed by very definite jaundice accompanied by a bile-laden urine and clay-coloured sticky stools, and was typical of gall colic, most probably due to the passage of a calculus. It was succeeded by many of similar character, some more severe than others. She saw an eminent surgeon, who said there was no doubt her gall bladder contained stones and held out to her no prospect of relief except by having them removed. He further warned her that the risks of malignant developments were not small. She had an unreasonable dread of an operation, and made up her mind to make the best of things so long as the acuteness of the pain, when it came on, could be relieved by morphine. She was put upon a careful dietary, was induced to do a little more in the way of open-air exercise, and was given occasional doses of blue pill, leptandrin, and rhubarb, with periodical short courses of ammonium chloride, taraxacum, sodium salicylate, and gentian. In addition, she was asked to take one ounce of pure olive oil every night on going to bed. Under this plan of treatment her attacks became less frequent and less severe, until eventually, for the four or five last years of her life, she was completely and permanently free from discomfort. She ultimately died of apoplexy. A case such as this strongly suggests that in the earlier years of her discomfort the condition was in all probability one of inspissated bile, and that more active methods of treatment and of dietetic restriction would have gone far to prevent the actual formation of stones. The early attacks were regarded too lightly, and ascribed to mere biliousness which, in its turn, was believed to be due to climacteric disturbance. No attempt was made to modify her food and her habits of life to the requirements of her condition, and so she slowly drifted into years of broken health, much of which might have been avoided if the early danger signals had been heeded. There is yet another practical point emerging from this case that is worth emphasizing, and that is the value of olive oil in the treatment of gall colic. I am fully aware that it is brushed aside by surgeons and others as a mere faith cure, and I am unable to offer any explanation of the method by which it accomplishes its purpose, but I do know from repeated experiences that in a considerable number of cases the complete relief from acute attacks of pain, together with the accompanying improvement in physical well-being and mental comfort, has been quite remarkable. I do not for one moment suggest that the removal of gall stones by operative methods is not the clearly indicated method of treatment in most instances, but there occur cases, like the one I have just related, when operation is refused, or is undesirable for one reason or another, and in such the value of olive oil should never be forgotten. Its administration can do no harm, and will sometimes yield such brilliant results as to convert a life of misery and gloom into one of contentment and comfort.

Let me now briefly relate a very interesting and instructive case of urinary calculus. A gentleman of 66 years of age had been under occasional observation for several years. In early manhood he had lived freely as regards both food and drink, but for the last eighteen or twenty years of his life he had become, as a result of religious awakening, a practical teetotaler, who devoted the whole of his time to good works among the poor and practised for himself habits of almost ascetic simplicity. He was an active man, of spare habit of body, and cheerful in disposition, who had never suffered from serious illness. His complexion was pale, and from time to time his digestion gave him passing discomfort. He had no evidence of organic disease, and the minor ailments of which he periodically complained seemed fully explained by the busy and self-forgetful life he led. His heart was perfectly normal, but he presented signs of a moderate arterio-sclerosis. The one fact about him that arrested attention was a slight and intermittent albuminuria. The urine was often without fault, and when albumin was found it never amounted to more than a faint cloud, which seemed to synchronize with a greater than usual degree of anaemia. He had no frequency of micturition, suffered no pain in the lumbar region or down the course of either ureter, and the urine had never been discoloured. Suddenly, about a year ago, while living quietly in the country, he was alarmed to find that the water he passed one forenoon was bright red. He still had no pain, but the doctor who saw him in the course of the day found that the redness was due to blood, and that there was slight tenderness on deep pressure over the right kidney, with a noticeable retraction of the corresponding testicle. Under the influence of rest and care the urine soon became normal, and remained so for several weeks. Again, this time apparently as the result of some slight and unusual exertion, blood declared itself, and was associated with a definite subjective sensation of discomfort in the right kidney region. He came to town as soon as he was well enough to travel and was at once *x* rayed, when one large and a second smaller calculus were clearly revealed in the body of the right kidney. When they came to be removed, the large stone was found so closely adherent to the kidney tissue in which it had grown that it offered some difficulty in extraction. The history of the case subsequent to operation was uneventful except for one or two curious hysterical attacks that seemed to be accounted for by the mental disturbance of a passing worry, but were accompanied, on each occurrence, by a very marked temporary diminution in the amount of urine excreted. Before he left the nursing home his urine was practically normal, the operation wound had healed throughout its whole length, and his general condition, except for a certain amount of anaemia and feebleness, was as good as could be expected. The first two occasions on which he drove out he was comfortable and happy, but after his third drive he complained of pain in the right lumbar region, and on returning home passed a small quantity of blood. He was at once put to bed and carefully looked after, but he rapidly developed almost complete suppression of urine, and died very shortly from uraemic coma. Throughout all the years this gentleman came to see me his symptoms never once aroused the faintest suspicion of the existence of a calculus, but in the light of subsequent developments it was clear that the mild albuminuria was all the time a danger signal which was misunderstood. The borderland country had not been explored with sufficient care, and though the albuminuria seemed adequately explained by the anaemia and arterio-sclerosis which undoubtedly existed, an initial recourse to examination by means of the Roentgen rays would have declared the presence of the true cause of the albumin, and would have justified the removal of the calculus at a time when it must have been smaller, and when it might have been less tenaciously anchored to the tissues in which it was embedded. Another feature of this unfortunate case that, in the light of subsequent events, raises a question of borderland importance was the occurrence of nerve-storms, accompanied by a passing diminution of urinary activity which I have related. Was their true meaning not a forecast of the ultimate irremediable cessation of kidney activity, and might the fatal issue not have been escaped by keeping this man completely in bed for a much longer period of time in order to allow the balance of his nervous mechanism to become more stable before it was exposed to the demands of extra strain? No one can tell, but the case conveyed to my mind two lessons I cannot forget: First, that in every patient past middle life who manifests a persistent albuminuria, however slight, an *x*-ray examination should never be omitted; and, secondly, that obscure nervous manifestations occurring during convalescence from a kidney operation call for prolonged rest in bed, and justify a guarded prognosis as regards the ultimate stability of renal function.

The most familiar example I can give of the combination of rheumatoid, colonic, and neurasthenic troubles which

constantly come within the purview of every physician is that met with in women at the time of the menopause. And, in passing, I cannot refrain from expressing a conviction that in the history of man there comes—a little later in his life than in that of the woman—a re-adaptation of tissues and secretions to the necessities of a more advanced stage of existence, which produces a very similar passing disturbance of his functional health. Between 57 and 63 he goes through a climacteric experience that is often wholly misunderstood, and consequently unsuitably treated. In both sexes the climax of life is a true borderland beyond which lies one of two alternatives, either broken health with multiplying and increasing infirmities, or a new lease of life on a plane of lessened activities, modified ambitions, and a chastened philosophy. We need only look at the mortality of the fifth decade of life, and appeal to our own experience of the frequency of breakdown in health that occurs about that period to be convinced that in both sexes Nature then admonishes all of us to take stock of our health and strike a balance so that the future may be wisely ordained with a view to the proper adjustment, under new conditions, of expenditure to income.

A concrete example will provide a picture of the ordinary climacteric instability which characterizes this uncertain time in the life of every woman and, making due allowance for sexual differences, of some men. A lady of 52 years of age, who was the mother of four children and had enjoyed hitherto more than average good health, came complaining of recent discomfort from headaches, impaired digestion, broken sleep at night, a constant sense of weariedness, irritable bowels, flying muscular pains, and an unpleasant experience of mental depression, irritability of temper, and failure of memory. She was a stout, florid, gouty type of woman, who looked as if there could not be much amiss with her health, and who proved, on examination, to have no evidence of serious disease. The prominent features of her condition were irregularity of menstruation for about fifteen months; flushings, polyuria, vertigo, sweatings, dermographia, palpitations, and other minor evidences of vasomotor instability; occipital headaches, marked increase of the knee-jerks with accompanying absence of the plantar reflexes, muscular tremors, impairment of memory, recurring attacks of acute mental depression, restlessness by day and often by night, introspective miseries, and a general unrest of her nervous system; abdominal distension with griping pains, diarrhoea, alternating with intractable constipation, stools that were at one time scybalous, at another liquid, often abnormally pale in colour, and from time to time accompanied by quantities of membranous mucus, and digestive discomforts that compelled her to seek relief by avoiding one article after another in her daily dietary until she was in a perfect maze of confusion as to what she should and what she should not eat; pains which she described as rheumatic and which she referred to the tendinous insertions of her muscles and to the terminal joints of her hands and feet, those of her fingers, especially on the right hand, being obviously the seat of early Heberden thickening; and periodic attacks of aphonia, accompanied by shortness of breath on exertion, and a choking sensation in her throat, for which no satisfactory explanation could be found on physical examination. This bewildering riot of symptoms is peculiarly significant of fundamental changes upsetting the balance of health, and is illustrative, more than any other example that could be quoted, of the disturbance of equipoise which accompanies the passage of most of us through the climacteric borderland. The problem which presents itself for solution in all such cases constitutes an invitation for a reply to the obvious question, What maintains the equipoise of health? No completely satisfying answer can, in the present state of physiological achievement, be given to this interrogatory. But, though our knowledge of the internal secretions is still a mere glimmering in the early dawn of pioneer discovery, enough is known to justify the hypothesis that in ways which are still obscure some break in their normal interrelationships may prove the keynote to a solution of climacteric and many other clinical puzzles which, though without organic explanation, are inimical to comfort and may even mark the threshold of permanently broken health.

When we come to consider the question of "acute abdomen" we are faced with a subject of vast extent and importance. I have interposed it in the currency of this sketch because there are so many examples of the condition which subsequent reflection makes plain to us might have been escaped or prevented if only the initial warnings had conveyed a sufficient sense of the possible dangers they betokened. I need not enter into a discussion of the various conditions upon which the acute abdomen depends. I must content myself with the choice of one cause of this emergency, and the selection recommends itself to me for two reasons: First, because it illustrates graphically in this sphere of disease the value of borderland evidence; and secondly, because the abdominal flare-up is directly and entirely due to medical—as distinguished from surgical—disturbance of the organism.

I do not know whether the accidental circumstances of my particular practice are accountable for the fact that nowadays I see a very much larger number of cases of glycosuria than formerly, or whether this particular form of metabolic disturbance is increasing in prevalence among the people of this country. I rather suspect the latter to be the true explanation, because I am particularly struck with the increasing numbers of such cases that pass through my hands not only in my consulting-room but also in the wards of both the hospitals to which I am attached. If this apparent increase is statistically real, one wonders why it is so, and whether it is yet another of the penalties exacted by an advancing civilization. We are not built so that we can live beyond a certain limited span of years, and all the satisfaction we gain by what we are pleased to call the conquest of one disease after another is relentlessly counterbalanced by increased incidence, and consequent mortality, in some other directions. It seems not unlikely that the greater diversity of food which, within recent years, has become accessible to all grades of society, may with some degree of reasonable likelihood be held responsible for a widespread increase of instability in metabolic integrity. Foreign fruits, chilled meat in ever-growing abundance and variety, preserved foods of every description, all at such prices as to bring them within the reach of a very large section of our population, and in addition the fashionable folly that sets the seal of approval on the provision of all sorts of edible delicacies that are out of season, may account for subtle changes taking place in the human economy, and explain variations in type of disease as well as increased prevalence in some and corresponding diminution in other directions of many disorders. Be this as it may, the point about glycosuria at which I wish, for the purposes of this paper, to arrive, is that one of its less common and therefore less recognized, but still highly important possibilities, is the occurrence as a terminal event of acute abdominal symptoms. My interest in the condition was first excited some years ago by the sudden death of a lady I knew well from what was, at the time, supposed to be some form of acute intestinal obstruction. Her illness was very short and her death came with almost tragic suddenness. No autopsy was allowed, and therefore the provisional diagnosis remains to this day doubtful. It was always significant to me that this lady was known to have had sugar in her urine for many years, and that she belonged to a family of which two members at least had died of true diabetes in early life. The whole story of her last illness and the manner of her death always made me feel that the clinical evidence did not fit in quite conclusively with the theory of an obstructed gut as the explanation. Many years afterwards my memory was carried back to the record of this lady's story by the occurrence of the following case. A lady of 64 years of age came to see me first in 1908 on account of an intolerable and intractable pruritus, which she ascribed to gout. The outcome of an examination into her state of health revealed a definite amount of arterio-sclerosis, with consequent accentuation of the second aortic sound and some increase in arterial tension, together with a urinary secretion of from 90 to 100 ounces daily, containing sugar of varying amount, but averaging between 2 per cent. and 5 per cent. The pruritus was both pudendal and anal, and had been a source of trouble off and on for years. She had no other evidence of organic disease, but gave a record in earlier life of several attacks of abdominal

pain, which seemed not unlikely to have been caused by biliary colic. She was a ruddy, well-nourished woman of active habits and cheery disposition, but one to whom dietetic restrictions were such a serious punishment that complete obedience to a hard-and-fast rule of life was impossible to enforce. Under such guidance as she would submit to, her life was kept fairly comfortable for two years; the amount of sugar did not increase, the quantity of urinary secretion came down to an average of from 60 to 70 ounces per diem, and the pruritus entirely disappeared. Suddenly one night she was waked from sleep with acute pain in the abdomen, followed after two or three hours by active sickness and pyrexia. When I saw her early the following morning she was restless, flushed, and complained of constant pain, which she referred entirely to the epigastric and right hypochondriac regions, and which she declared she recognized as a return of one of the old attacks of years ago. Her pulse was 120, small, thready, and abdominal; her temperature registered 102.5°, and her respirations, though 40, failed to completely satisfy her requirements for air. Her heart presented no new physical signs; her lungs were normal to percussion and auscultation; the abdomen was moderately distended, and over the whole area between the umbilical level and the short ribs there was acute tenderness and increased resistance to touch, but no definite swelling. The bowels had moved freely twice during the previous twenty-four hours, and for twelve hours she had passed no water. Later in the day a specimen was obtained, and was found to contain 28 grains of sugar to the ounce, with a distinct ferric reaction indicative of the presence of diacetic acid. By evening she was becoming somewhat incoherent and drowsy, and though complaining of less abdominal discomfort, was plaintively calling out for open windows that she might have more air to breathe. Respirations, pulse, and temperature were much the same as in the morning. By 10 o'clock she was completely comatose, and so she remained until she died about 5 o'clock the following morning. Obviously there was no question of bowel obstruction in this case, and the explanation of her terminal illness seemed to be an acute pancreatitis, probably of the haemorrhagic type. The symptoms presented by this patient entirely coincided with those related to me by the doctor who attended my lady friend years before, and my suspicions that, in her case, as in this one, though the symptoms bore many resemblances to those that would be produced by an acute obstruction somewhere in the intestinal tract, the more likely cause of the "acute abdomen" from which she died was the preceding glycosuria with a sudden accession of abdominal mischief, probably of pancreatic origin. The point to remember is the possibility of such an occurrence in the course of ordinary glycosuria, because though we are all alive to the risk of coma in such cases, we are not equally familiar with the fact illustrated by these cases, that this comatose state may be ushered in by abdominal symptoms difficult, or even impossible, to distinguish from a like train of events dependent upon entirely different conditions. No opinion should ever be expressed on the etiology of an "acute abdomen" until it has been ascertained whether the urine does or does not contain sugar, because, as we all know, such a condition may have existed for years without attracting the attention of the patient, and without, therefore, having afforded any chance of being discovered.

The subject of borderland illnesses is extensive, but these desultory notes and illustrative cases may stimulate some interest in questions affecting the earliest departures from the high level of perfect health. Perhaps there is almost no such thing as "perfect" health, but it is possible by careful inquiry and patient investigation to make sure that we do not found a firm opinion upon a casual observance of physical signs or a mere negation of subjective symptoms, but that we look a little more sharply after collateral evidence—that, in short, we forage inquisitively in the borderland, where, more often than we believe, we will find evidences of minor imperfections that so often escape discovery. It would be a provident and wise plan if every man went to his doctor for a thorough overhaul once in six months, not because he was driven to him on account of feeling ill, but because he was led to him by the desire to keep well. As custom now dictates it, the doctor is only sought out when there is an evil to remedy, but the day is not far distant when he will be retained in order that the evil may be, as far as possible, averted. It is true that we are more frequently consulted about trivial ailments than on account of acute and serious disorders; nay more, our time is often vexatiously encroached upon by having to listen to a long tale of imaginary woes and a formidable recital of aches and pains for which we can find no physical explanation, but, if my contention is right, all such patients are on the borderland of disease. Their discomforts, whether physical, mental, or emotional, have a foundation in fact somewhere, and clearly point to a fault that disturbs the harmony of perfect physiological activity. The engine is not tuned up to the best work it is capable of, and unless adjusted in time, some part must inevitably become permanently faulty, and constitute the blemish which spells premature consignment to the human scrap-heap. "Prevention is better than cure" is truer to-day than ever before, and we will do much to justify the proverb and to hasten its full realization if we direct our attention more and more to the borderland country and the evidences which are constantly to be found there of the earliest movements on the part of the enemy of mankind.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF TETANUS.

I have read with interest the note by Dr. Sheaf, in the British Medical Journal of October 17th, on the treatment of tetanus by chloretone. Tetanus, as every one knows, is of much more frequent occurrence in the tropics than in temperate climates, and during twenty-five years' work in British Guiana I saw a good number of cases. I was fortunate enough to have had a few recoveries even before the days of serum treatment.

Wounds of the foot were responsible for by far the greater number of my cases, a small wound from a splinter of greenheart being the very frequent history. Sometimes the patient denied any knowledge of injury, and no wound could be discovered, but it can be readily understood that natives who go about barefooted will frequently sustain an injury so trivial as to excite no notice. My experience of the disease led me to classify my cases into two groups: (*a*) Those with severe febrile disturbance; (*b*) those with slight or no febrile disturbance. In the former—unfortunately by far the most numerous—the temperature quickly ran up to 103° or 104° and even higher, and these cases almost invariably proved rapidly fatal. In the latter, the febrile disturbance was slight, up to 101°, and subsided very rapidly. In these cases the prognosis was more favourable.

My routine treatment after careful attention to the wound (if any) was to give a very full dose of chloral hydrate and to follow this up with just sufficient of the drug to keep the patient constantly under its influence, and free from spasms. Under this treatment I had quite a fair number of recoveries, including one case of tetanus neonatorum which was severe at the outset.

The most watchful care is required throughout the whole course of the case; nourishment must be given as freely as possible, and some judgement is needed to give just enough of the chloral and not too much, but my experience leads me to think that the more frequent error lies in too small rather than too large dosage.

W. F. Law, M.D., F.R.C.S.I.,
Late Medical Inspector,
Dublin. British Guiana Government Service.

THE TREATMENT OF ENTERIC FEVER.

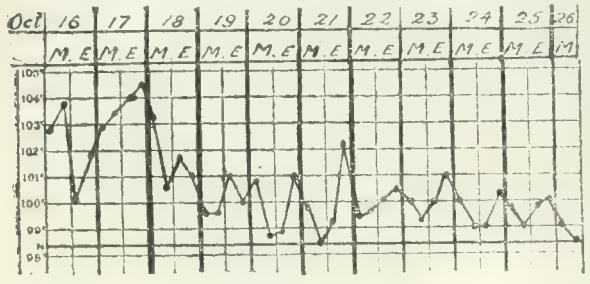
Fortunately previous inoculations will greatly reduce the incidence of enteric fever in this war, but already a certain number of cases have been sent back from France. The disease is of a very severe type, probably owing to the exhaustion of the men.

I should like to recommend the use of an icebag in the treatment. It should be suspended from a cradle over the right side of the abdomen in the region of the lower part of the ileum. It is important that there should be nothing between the icebag and the skin but a piece of

gauze or butter muslin, so that the cold may penetrate as far as possible.

Medicinally, I think there is nothing to equal Sir William Broadbent's prescription of quinine sulphate gr. ij, dilute sulphuric acid ♏ iv, and liquor hydrarg. perchlor. ½ every four hours (not within half an hour of food). If the diarrhoea is excessive the sulphuric acid can be increased, and if there is constipation magnesium sulphate can be added in sufficient quantity to produce one or two actions of the bowels a day. The use of the sulphuric acid and sulphate also tends to diminish the risk of haemorrhage.

As an illustration of the efficacy of the icebag combined with this medicine, I append the temperature chart of a



case occurring in a slightly wounded soldier who was transferred to my ward on the second day. The temperature, which had been 103.8° the day before, was 104.5° when this treatment was commenced. In twenty-four hours it fell to 101°, and only once afterwards rose to 102°. He had had diarrhoea for four days before admission. There was very marked tenderness in the right iliac region, and the spleen was enlarged and tender. He had never been inoculated. It was a case in which one would have expected deep ulceration and possible haemorrhage, but he has done exceedingly well, and has never caused any anxiety.

WALTER BROADBENT, M.D., M.R.C.P.,
Major R.A.M.C.(T.).

Brighton.

ANAESTHETICS IN EYE WORK.

I SEE that Mr. Harrison Butler has criticized somewhat severely my note on the above subject, which appeared on September 12th.

My contention that chloroform should not be entirely abandoned in eye work is, on the face of it, a moderate one; Mr. Butler's view is extreme, not to say immoderate. He justifies the exclusion of chloroform by saying, first, that a patient is entitled to the "absolute safety" of ether anaesthesia as opposed to the "reasonable degree" of safety of C.E. mixture. Let us examine this argument. We find that the death-rate for C.E. is 1 in 7,000, while for pure ether it is 1 in 10,000. A simple calculation shows that 21,000 cases will have a mortality of 3 in the case of C.E., and 2 in the case of ether. This number of cases represents thirty-five years' work at Moorfields under twelve surgeons. One may safely assume that an ophthalmic surgeon during an operative lifetime of thirty-five years would not do more than half that number of cases, including both hospital and private work. If during these thirty-five years he employed ether he would have one death. If he employed C.E. he would have one and a half deaths, or to put it more accurately, he would stand an even chance of having one death or two deaths. To say that in the former case his patients have absolute safety is, of course, inaccurate.

Further, Mr. Butler says that he does not see the difficulties and inconveniences entailed by ether anaesthesia. Yet, I think, though unseen by him, they exist. I have not had the pleasure of seeing Mr. Butler operate, and so am not aware how he overcomes difficulties which most surgeons find more or less embarrassing. But I cannot but consider the venous congestion, the laboured respiration and consequent movement, the collection of mucus in the air passages, and, not least, the obstruction caused by the Clover or open ether apparatus, to be by no means negligible hindrances to success or even safety. If, indeed, the surgeon be using the actual cautery for conical cornea or corneal ulcer there is with ether a very real danger of explosion.

For these reasons, amongst others, I venture still to think that chloroform and ether is preferable to ether for ophthalmic operations.

I much appreciated Mr. Devereux Marshall's reference to my note, and am glad to know that his naval duties still leave him the time and the inclination to read the BRITISH MEDICAL JOURNAL. I can assure him that those who know him follow with the greatest interest any news we are permitted to have of his ship.

MAURICE H. WHITING, M.B., B.C.Cantab.

London, W.

HAEMATURIA COMPLICATING PREGNANCY.

IN opening the discussion at the Annual Meeting of the British Medical Association at Brighton, in the Section of Gynaecology and Obstetrics, "On the affections of the urinary tract in pregnancy," Sir Halliday Croom stated that haematuria in pregnancy was somewhat rare, as he had only met with one or two cases. Having recently had a case of this disorder, the first in many years' practice, it seems to me worthy of record.

Mrs. D., aged 28, about two and a half months pregnant, consulted me on July 31st, 1913. She stated that she had been passing blood in the urine for four days. She had a similar experience of short duration during her first pregnancy, for which she received no treatment. She had no sickness, pain, or any other complaint. The urine was purple in colour and there was a layer of blood at the bottom of the glass. The specific gravity was 1016 and albumin was present.

She was kept in bed, the diet restricted, and lead and opium, gallic acid, turpentine, saline purgatives, and adrenalin were prescribed in succession without any remedial effect, but there was a temporary diminution of the haematuria after a few doses of Ruspini's styptic, which is said to consist of a strong solution of gallic acid and spirit of roses, with, perhaps, a little zinc sulphate. The pulse and temperature remained normal while under observation.

On August 6th, as there was no improvement, I had a consultation with a medical friend, who was of opinion that the right kidney was enlarged. Ten days afterwards I had a specialist in consultation, who confirmed this opinion, and advised an operation, but the patient declined to go to hospital. In these circumstances I prescribed sol. adrenalin chlorid., ♏ v, with a teaspoonful of Ruspini's styptic, every two hours, and after a few doses the haematuria gradually disappeared. On examining the urine after this, there was a layer of pus at the bottom of the glass cylinder, and under the microscope there were pus corpuscles.

She got out of bed on August 21st, and as there was a slight return of the haemorrhage afterwards she consented to go into the hospital, where she was under observation for three weeks and examined by the cystoscope, but returned home without any operation being performed.

The subsequent history was without deviation from that of a normal pregnancy, and she was delivered, after a rapid labour, of a living child, which was rather smaller than usual. Since then mother and baby have kept well, and the urine, she states, is better than it has ever been.

WILLIAM A. CASKIE, M.A., M.D.

Glasgow.

AT the regular meeting of the University Lodge of Hong Kong No. 3,666, held on September 28th, the Worshipful Master, W. Brother Francis Clark, M.D., P.G.D., referring to the death of the late Brother Sir Kai Ho Kai, C.M.G., M.B., C.M., said he was one of that small band of pioneers who realized, even thirty years ago, that the future of China lay in the hands of those of his countrymen who were prepared to share the knowledge and the science of the West. He was a graduate in medicine of the University of Aberdeen, a barrister-at-law of Lincoln's Inn, and an author of no mean repute. Among his many other achievements, he was a founder of the College of Medicine, which began its career in 1887, and was also one of the prime movers in the establishment of the University of Hong Kong.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

Clinical Section.

At a meeting of this section held on November 13th, Mr. Charters J. Symonds, the President, in the chair, the following cases, amongst others, were exhibited:—Mr. Alan H. Todd: *Probable injury of the crucial ligaments* in a man aged 30. The patient had injured his knee while playing football when aged 15. Ever since the joint had felt weak, and sometimes painful and swollen. On several occasions it had becomed locked, but this the patient had been able to reduce by forced extension. Genu varum and a slight limp had developed; there was some limitation of flexion and extension. The joint was slightly larger than that of the other side, apparently due to osteophytes. Dr. W. Essex Wynter and Sir J. Bland-Sutton: (1) *Acholuric jaundice* for which splenectomy had been performed. The man, aged 26, had suffered from jaundice and anaemia all his life. Other members of the family had been affected. For two years it had progressed. The spleen was only slightly enlarged. There was no increased fragility of the red cells. The operation had been followed by marked improvement. (2) *Splenic anaemia* after splenectomy in a boy aged 13. There had been glandular enlargement and some enlargement of the thyroid, whilst the spleen extended 4½ in. below the costal margin. The leucocytes numbered 2,600 per c.mm. After the operation they rose to 8,000. Mr. G. H. Almond: *Myositis ossificans* (juvenile progressive type) in a girl aged 7. Several patches of ossification were present in the muscles, and were especially developed in the left ilio-tibial band, which was completely ossified, and the left hamstrings. The trunk muscles were not affected.

Section of Ophthalmology.

At a meeting on Wednesday, November 4th, Mr. Priestley Smith, President, in the chair, Mr. Hugh Thompson showed a young girl who had *Dilated pupil of Argyll Robertson type*, with well-marked contraction on closure of the lids. The condition was not congenital, as two years previously her pupils were normal and she had only slight myopia. The knee-jerks were normal. He also exhibited a case of *One-sided internal ophthalmoplegia* in a man who was invalided from the navy two years ago on account of supposed aneurysm. He was a stoker, and since he left he had been doing similar work in a brewery. Sir John Broadbent failed to find signs of an aneurysm. Mr. Rockcliffe spoke of two cases with *Mydriasis and irido-cycloplegia*. In one there was a strong family history of retinitis pigmentosa. One patient's end was in an asylum as a general paralytic. Mr. Bishop Harman showed a case of *Congenital entropion*. The mother was normal, but the grandmother was said to have had a double row of lashes. He proposed to split the lid, so as to separate the lashes from the glands, and graft between the two a strip of mucous membrane. If that succeeded he expected the lashes would be prevented from reaching the cornea again. Mr. Mayou referred to three similar cases which he had had. He operated upon them by taking out a narrow band of skin on the outer side of the lid. There had been no recurrence, though one was operated upon five years ago. Mr. Bishop Harman read notes of a case of *High myopia in an infant*. Mr. W. H. Jessop showed a case of *Tumour of the lower lid*, which he regarded as a lymphangioma. Skiagrams showed nothing abnormal about the bones and skilled nasal investigation was negative. Surgeon-Major Elliot mentioned a similar case which he saw in India, and which was found to be due to a form of sporotrichosis. Mr. Leslie Paton had seen a similar case following extensive scarring from lupus, and there was complete blockage of the lymphatics draining the eyelid. He asked a colleague to establish a permanent drain into the lymphatics of the lip. Mr. Harman reminded members of a case shown at the Laryngological Section in which drainage was done into the neck and answered fairly well. Mr. H. L. Eason exhibited an example of *Confluent tubercle of iris*. Tuberculin had not improved it. As perforation was occurring in the ciliary region, the only course was removal of the eye. He had had a case in which perforation occurred in three weeks; in this case it commenced in the fifth week of the history. Mr. Dawnay showed a patient suffering from *Intraocular metastatic carcinoma*. Mr. W. T. Holmes Spicer read a communication entitled *Cysts in the anterior chamber arising from the pars ciliaris retinae*, and illustrated it by a number of slides. The case, which had been under observation seven years, began with a white spot at the edge of the pupil at 3 months of age. At 16 months, when first seen, there were three opaque, finger-shaped masses coming into the anterior chamber from behind the iris. Four years later these had disappeared and a cyst about 4 mm. in diameter was seen floating freely in the anterior chamber. Other cysts appeared later, and finally there were seven, floating like toy balloons in the anterior chamber. In the meantime, the eye had become glaucomatous, a ciliary staphyloma had formed, and the eye was removed. A pathological examination made by Mr. Greeves showed that the cysts were formed of embryonic retinal tissue, containing vitreous. They had their origin in the pars ciliaris retinae, starting from cellular membranes which grew over the iris and also into the vitreous; the cysts grew on the surface of these membranes. There was in many places in the walls of the cysts a resemblance to glioma tissue. The case further proved the non-mesoblastic origin of the vitreous. Mr. Treacher Collins said the case bore out the view of the embryologists that the vitreous humour was derived from neural epiblast, and that it was derived from only one portion of it. Mr. Mayou referred to a case of his own in which there was a pigmented tumour in a microphthalmic eye, consisting of epithelial cells. It occupied only an eighth of the segment of the ciliary body. Mr. W. Lang mentioned a case he saw with Professor Fuchs in which there was a semitranslucent brownish cyst in the anterior chamber. Since then he had had a similar case of his own, but an attempt to deal operatively with it was not successful.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

At a meeting on October 30th, Dr. M. J. Gibson, President, in the chair, Dr. Gibbon FitzGibbon showed a *Uterus with malignant adenoma* removed from an unmarried woman aged 60. The specimen showed a soft cauliflower growth filling up the cavity of the uterus and growing all over the walls which were very thick, about 1½ in., and at one part showing a line of demarcation which might have been the capsule of an original fibroid. Sections showed typical adenoma with very marked malignant characters in some parts, and invading the wall of the uterus. The cervix was quite free from invasion. A second section was shown of a *Non-malignant adenoma* removed from a woman of 28, which had been extruded from the uterus as a polypus, and showing great similarity in structure but without any malignant characters. Remarks were made by Sir William Smyly, Dr. Rowlette, and the President. Dr. Solomons showed a specimen of *Fibroid uterus* from an unmarried girl aged 27. Fibroid uterus was diagnosed and palliative curettage and styptic treatment were carried out. The haemorrhage, however, recurred and the abdomen was opened in the hope of performing myomectomy, but when the uterus was opened it was found to be studded with myomata, some submucous, others interstitial. Hysterectomy was done. The case was discussed by Dr. Sheill and the President, and Dr. Solomons replied. Dr. McAllister gave a summary of the various conditions of the *Heart and kidneys in pregnancy*. The paper was discussed by Sir William Smyly, Dr. Hastings Tweedy, Dr. Crofton, and the President, and Dr. McAllister replied.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 4th, Dr. W. R. Smith, President, in the chair, Dr. C. H. Cattle gave a lantern demonstration illustrating *Irregularity of the heart-beat*. The classification of irregularities now generally adopted follows the lines laid down by Dr. J. Mackenzie and Dr. T. Lewis. Amongst the more common forms of cardiac disorder referred to were the following: (1) Sinus

arrhythmia, or the youthful type of irregularity; (2) delayed conductivity and heart-block; (3) premature contraction of auricle or ventricle; (4) tachycardia with regular or irregular rhythm; (5) auricular flutter and auricular fibrillation; (6) exhausted contractibility and pulsus alternans. The different forms of cardiac irregularity might be differentiated both by means of the polygraph and other clinical methods. Valuable as the graphic method was, its results must always be taken in connexion with a complete survey of all the clinical features of a case. An attempt was made to explain the action of digitalis, and illustrations were shown of its effect in slowing the heart and occasioning coupled beats.

HUNTERIAN SOCIETY.

AT a meeting on November 11th, Dr. GLOVER LYON, President, in the chair, Dr. ALEXANDER MORISON read a paper on *Pernicious anaemia*, which, he said, broadly speaking, was a disease of early middle and middle life. There might be remissions with improved blood condition, but as time went on the patient became increasingly irresponsive to treatment, and the termination was uniformly fatal. Functional disturbances, due to abnormalities in the blood supplied to the various organs, appeared first; organic lesions might occur later. Visceral muscle might undergo degeneration; sclerosis of the central nervous system might occur, and extravasation of blood might take place. Superficial extravasation was never extensive; small visceral extravasations had been detected on microscopic examination after death. Stockman had suggested that these might be considerable, and that the haemosiderin in the tissues might be derived from this source. More probably, however, this had relation to the higher haemoglobin percentage of the anaemic blood and its imperfect constitution. The disease might be due to a blood destruction, or to a disorder of blood production. Whether one believed the disease had a toxic or bacterial origin in the digestive tract or not, the first essential of treatment after rest and fresh air was the rectification of any errors in mouth, stomach, and intestine; organo-therapy and vaccine treatment were disappointing. Iron was of little use; arsenic held out the best hope, whether in inorganic form or as salvarsan. The latter was preferable when the patient was under constant observation, the inorganic form being given afterwards in small doses to maintain the improvement. He had used salvarsan mostly in 0.2 gram doses (= $\frac{1}{3}$ grain arsenic) suspended in oil, given intramuscularly every week, or 0.4 gram every fortnight; benefit was usually, but not always, marked. He had never succeeded in raising the red cells to 5 million. There was no reason to think that arsenic acted in pernicious anaemia by killing micro-organisms or destroying their toxins; had it acted thus, recovery would be more frequent. It must act directly on the blood-producing power of the patient. Dr. A. WHITE ROBERTSON, in the course of a paper entitled the *Master toxin*, said all forms of chronic bacterial or protozoal diseases came to be regarded as not alone due to a specific organism under observation, but as determined in chronicity or failure to resolve by an antecedent toxaemia, which prevented the natural response of the blood elements, in the formation of immunity bodies. It was to the white cells, and not the red, that we must first look for information of a toxic condition of the blood. After long experience he had been able from a simple blood examination to identify, in cases with widely differing symptoms, the master toxin, whose subversive agency had allowed the development of the secondary invasions. Recurrent malaria, especially of the subtertian type, not only masked many subsequent diseases, but actually laid the patient open to them, and the first step in prophylaxis and treatment was the destruction of the predisposing factor. Similarly, it was well recognized that gonorrhoea and syphilis were followed by loss of resistance to other infections. In his opinion measles, whooping-cough, and influenza, no less than exposure, accident and mental shock, acted frequently as neuro-depressants and predisposed to tuberculosis, and the many other bacterial disorders, even after a period of years. After long study of the blood changes in tuberculosis, he had concluded that if the master toxin were recognized, and dealt with, the disease was entirely curable by a direct immunizing process. He believed that infection with mutant forms of the *coli* group of organisms in the intestinal tract played a far-reaching part in the subversion of immunity to all bacterial infection. This was of importance in connexion with intestinal stasis, a condition of insidious onset, but widespread results. Anaemia, in the broadest sense of the term, was always present in the shape of a definite leucopenia affecting the polynuclear, that was to say the phagocytic, cells; this blood picture was constant in all *coli*-typhoid and paratyphoid infections. In cases where vaccine treatment was disappointing—and these were not a few—he believed that a recognizable master toxin was preventing the expected response to the antigen. The master toxin arose from the *coli* group, and *x*-ray examination confirmed the presence of intestinal stasis. He had lately begun to suspect that there might be some connexion between the mutant *coli* group and pernicious anaemia. They might yet come to insist upon *x*-ray examination of the gastro-intestinal tract in this disease. He would like to see such an examination made legally compulsory, before any case of dementia was transferred to an asylum. Dr. LANGDON BROWN believed that certain facts pointed to pernicious anaemia being caused by excessive haemolysis. Free iron was found *post mortem* in the tissues, especially in the duodenum. There was more iron in the blood in other forms than that of haemoglobin, than in any other condition. Deposits of iron occurred in the portal area, and there was excess of urobilin in the urine. Dr. Morison had said that arsenic did not act as a protozoicide in pernicious anaemia, but it was a very efficient protozoicide in malaria, syphilis, and trypanosomiasis. Dr. O. K. WILLIAMSON referred to two cases whose blood pictures were identical, and typical of both complaints. *Post mortem*, the one case turned out to be pernicious anaemia and the other acute lymphatic leukaemia. Dr. RUSSELL WELLS recorded a case of a man who worked with lead, whose blood gave a typical picture of pernicious anaemia. With a change of occupation, and treatment with arsenic, the blood picture became normal in three months. Two years later the case came before him again, under exactly similar circumstances. Again the occupation was changed, and arsenic given; this time the blood picture became normal in nine months, and so far as he knew the man had been well since. Dr. MACKENZIE WALLIS said that analysis of the gastric contents in pernicious anaemia gave results typical of cancer of the stomach, and *post mortem* the mucous membrane was destroyed. He compared pernicious anaemia with bronzed diabetes, and brought evidence to show that, whereas in the latter haemolysis was normal and iron was retained in the body, in pernicious anaemia haemolysis was excessive, iron being both stored up in the tissues and excreted.

HARVEIAN SOCIETY OF LONDON.

AT a meeting of this society, held on October 22nd, Mr. J. JACKSON CLARKE, President, who was in the chair, showed four cases of *Gunshot fractures* incurred in the war. One was a comminuted fracture of the humerus caused by a rifle bullet; the remainder were due to shrapnel. The cases were discussed by Mr. V. Z. COPE, who related a case of severe shrapnel wound in the forearm. Troublesome haemorrhage had occurred some time after the injury. The bleeding points were widely distributed all over the wound. Apparently both the radial and ulnar arteries had been severed, and a free anastomosis had resulted. Dr. LEONARD GUTHRIE showed a case of *Congenital syphilis of the nervous system* in a girl aged 9 years. The knee-jerks were absent, but there was bilateral extensor plantar response. The gait was typical neither of cerebellar nor spinal ataxy. She walked in an awkward shuffling manner, swaying the trunk from side to side, the feet everted, with a tendency to drag them. The pupils reacted neither to light or accommodation. There were pegged teeth and old disseminated choroiditis. The Wassermann reaction of the blood was positive. Her mental capacity was good. Cases of various other diseases were also shown by Sir JOHN BROADBENT, Dr. W. H. WILLCOX, Dr. FREDERICK LANGMEAD, and Dr. G. DE BEC TURTLE.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT a meeting held in Liverpool on October 16th, Dr. WILLETT, President, in the chair, Dr. W. K. WALLS (Manchester) exhibited a specimen of *Double hydrosalpinx and tubo-ovarian cysts* removed with the body of the uterus from a young lady, married a few months, whose appendix had been removed a few years previously. Dr. FOTHERGILL (Manchester) described a case of *Double uterus with right pyocolpos.* The patient was an unmarried woman, aged 22, with normal menstruation, who complained of pelvic pain of some days' duration, and had a raised pulse and temperature; on examination two masses could be felt which, on account of the symptoms, were taken to be the uterus and a matted appendage. The abdomen was opened and the masses found to be the two halves of a double uterus, with no sign of inflammation, below which, on the right side, a fluctuant swelling could be felt. This swelling was opened from the vagina, and proved to be the occluded right half of the vagina filled with pus. Dr. GEMMELL (Liverpool) exhibited a specimen of *Adeno-carcinoma of the uterus*, removed from a patient aged 52, who complained of pain and a slight vaginal discharge. Dr. BRIGGS (Liverpool) showed: (1) A specimen of a soft *Resilient interstitial uterine fibroid* from a woman aged 30; (2) a *Stony hard fibroid*, which was difficult to diagnose from an ovarian fibroma; (3) a *Uterus from a case of post-climacteric haemorrhage.* Dr. FLETCHER SHAW (Manchester) described a case of *Septic miscarriage followed by intestinal obstruction.* An abdominal section revealed a loop of small intestine adherent to a mass of glands in the region of the sacral promontory. The loop was freed, and the patient did very well for two days, when acute peritonitis supervened, for which the abdomen was again opened and drained. The patient made a good recovery. In all probability the glands were enlarged from the septic uterus. Dr. BRIGGS (Liverpool) read on a note on *The coxalgic pelvis: its lateral tilting.* He described a specimen from the pathological museum which was mounted by the surgeons with the diseased side lowest. From the obstetrician's point of view it should have been mounted with the diseased side highest.

Reviews.

THE CLINICAL ASPECT OF PAIN.

IN the preface to his treatise on *Pain*[1] Dr. BEHAN explains how, impressed by the universality of this symptom and the importance, for diagnostic purposes, of a thorough understanding of its multiform phenomena, he set himself the task of collating the results of a thorough search of the literature of the subject, presenting it in the well-founded hope that it may be of use to those who share his sense of the need of such a book. Of the thirty-five chapters the first three are devoted to preliminary considerations. Then follows a chapter on the perception of pain sensations, two chapters on the classification of pains, and one on their intensity, which includes a description of Dr. Harris's suggested graphic method of recording them. The remainder of the work is devoted to a detailed account of the pains associated with diseases of the principal systems, regions, and organs of the human body. It will be seen that the author's task has been no light one, covering, as it does, the entire field of pathology, so far as this one symptom of primary, if not paramount, importance is concerned. It is a sphere in which, moreover, a considerable amount of original research has of late been carried out by clinicians and physiologists, so that much of the information here brought together is not only lacking in most text-books, but likely to be unknown to many readers. A study of the sensory cutaneous zones related to visceral diseases is, of course, fundamental in the modern view of the pathogeny of pain. Dr. Behan has availed himself freely of Head's results and of those attained by Mackenzie, Kocher, Sherrington, Sherren, and other workers along similar lines; and in the numerous excellent illustrations which embellish the book the areas of impaired or perverted sensibility commonly associated with all sorts of morbid processes and conditions are delineated. Another useful feature is a number of tables in which the points bearing on the differential diagnosis of conditions characterized by pain in a given locality are schematically presented.

In the section dealing with diseases of the central nervous system an interesting account is given of the so-called "thalamic syndrome," for the first account of which we are indebted to Dejerine and Roussy. By these observers it was pointed out that lesions of the thalamus are characterized by diffuse pains involving the same side of the body, notable for their severity, persistence, and intractability to analgesics. In addition to these symptoms, Head and Holmes have called attention to an excessive response to stimuli applied to the side of the body to which the thalamic lesion pertains, and a change of behaviour in emotional states thereby induced. Dr. Behan believes that the study of the thalamic syndrome opens up a way to the better understanding of the entire sensory side of the human organism. The thalamus contains the terminations of all the secondary sensory paths; it is an organ for the grouping and redistribution of sensory impulses, and a centre for the perception of painful and other sensations, and, subject to the control of the sensory cortex, for the efferent and motor responses thereto.

Such problems as this of the psycho-physiological mechanism of pain perception occupy, however, only a subsidiary position in Dr. Behan's treatise. The bulk of it is devoted to the discrimination of purely practical niceties of differential diagnosis, and herein its claim to practical utility is undoubtedly strong. In the estimation of the severity of pain the patient's verbal account of it has often to be discounted; among the various objective signs of suffering particular stress is laid upon reflex vasomotor phenomena—for example, elevation of blood pressure, syncope, and upon dilatation of the pupils. A particularly good section is that devoted to diseases of the hip-joint, in which distinction is made between movement pains and weight-bearing pains, and the leading features of intra-articular abscess are vividly described.

Attention is drawn to such points as the simulation of gastric troubles by aortitis, the intestinal paresis and obstruction due to embolism or thrombosis of the mesenteric vessels, the signs of adrenal haemorrhage, and those indurative changes in the bodies and insertions of muscles of the head and neck which Edinger claims to be the commonest cause of headache. These few random examples may give an idea of the wide range of the book and its high value as an aid to diagnosis.

OBSTETRICS.

IT is a satisfactory evidence of the success of medical education in India that graduates of Indian universities are devoting themselves to the compilation of textbooks and treatises on medical subjects, including pharmacology, medical jurisprudence, and hygiene. The latest production of this kind which has been sent us is Dr. KEDERNATH DAS'S *Handbook of Obstetrics.*[2] Dr. Das has succeeded in compiling a most excellent treatise which is specially adapted to conditions affecting both European and native women in India. The arrangement of the book is systematic and the descriptions terse, clear, and quite up to the scientific and practical standards of the present day. The illustrations are numerous and well selected, and the whole get-up of the work most creditable to the printers and publishers. The handbook will be of signal service to students and practitioners in India, both male and female. The "hints on obstetric surgery" appended to the systematic chapters are most excellent and calculated to impose a restraint on that most pernicious practice—meddlesome midwifery.

[1] *Pain: Its Origin, Conduction, Perception, and Diagnostic Significance.* By Richard J. Behan, M.D. New York and London: D. Appleton and Co. 1914. (Roy. 8vo, pp. 942; 191 figures. 25s. net.)

[2] *A Handbook of Obstetrics for Students and Junior Practitioners in India.* By Kedernath Das, M.D., Teacher of Midwifery, Campbell Medical School, Calcutta, etc. Calcutta: Butterworth and Co., Ltd. (Roy. 8vo, pp. 612; 376 illustrations. Rs. 10.)

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Continued from p. 799.)

FRANCE.

IT has been stated in a previous article[1] that some days after the battle of Solferino Henri Dunant had an interview with the Emperor Napoleon III, in which he represented to that potentate the pitiable state of the wounded, many of whom were without medical care, and asked that the services of the Austrian medical officers who had been taken prisoners should be utilized for their relief. The request was granted, and when the work of the surgeons was done they were afterwards allowed to return to Austria. The French Emperor was the first of European rulers to accept the principle of neutralization of the wounded, and those who ministered to them. He wrote Dunant a long holograph letter expressing his approval of the Geneva philanthropist's proposals. Napoleon III also gave active assistance to Dunant in the promotion of his scheme by placing him in communication with the Ministers for Foreign Affairs of various States. The French Minister, Drouyn de Lhuys, assured him that if Switzerland invited the Powers to a congress France would support the proposal. On July 7th, 1867, the Empress Eugénie sent for Dunant, and expressed the wish she felt that the benefits of the Red Cross should be extended to the naval forces. She suggested the equipment of ambulance ships painted white and flying a white ensign with a Red Cross.[2] The subject was discussed at the international conference held in Paris in 1867, and at others held afterwards. As the result a scheme was drawn up, but it was not till the conference held at The Hague in 1899 that the principles of the Geneva Convention were formulated in a convention adapted to naval warfare.

The French Red Cross Society is, like all Gaul according to Caesar, composed of three parts. It is made up of three distinct associations—the Société des Secours aux Blessés Militaires des Armées de Terre et de Mer, the Union des Femmes de France, and the Association des Dames Françaises. The Société de Secours aux Blessés was recognized by the French Government in 1866; the Union des Femmes de France in 1882, and the Association des Dames Françaises in 1883. The decrees by which these bodies were declared to be "establishments of public utility" were cancelled and replaced by a decree promulgated on October 19th, 1892, which covers all three societies and defines their position in relation to the Ministry for War and the Army Medical Service. That decree consists of twenty-three clauses; a detailed account of their provisions was given by Colonel W. G. Macpherson, C.M.G., K.H.P., in an Appendix to the Army Medical Department Report for 1899.[3] An account of the organization of the Red Cross in France, founded on this report, appeared in the BRITISH MEDICAL JOURNAL of April 14th, 1906, p. 873.

It is there stated that each of the three societies composing the Red Cross manages its own internal affairs, but each of them must keep itself constantly in touch with the department whose work it desires to supplement. Each is represented at the Ministry for War by a delegate who must be a member of the central council of the society, and who has as his special colleague an army medical officer appointed by the Ministry of War to represent it on the society's own central council. These two representatives are called *commissaires*, and it is their duty to study every matter connected with its preparations for work in time of war, and to deliver joint opinions on questions affecting its duties in the event of mobilization. In the district of each army corps the society is officially represented by a local delegate accredited to the officer in command and to the principal medical officer. Twice a year (on January 1st and July 1st) this delegate submits to the principal medical officer a statement showing the position of the society locally, both in regard to material and personnel, and on this the principal medical officer of the district bases a half-yearly report on the available voluntary aid resources of the district, which is sent to the Minister for War. There is a consultative body, called the Commission Supérieure, consisting of a president and twelve members, of whom six are representatives of the medical services of the army and navy and six the voluntary aid societies. This body must meet at least once a year under the presidency of the Director of the Army Medical Department, for the discussion of questions connected with voluntary aid in time of war submitted to it either by the societies themselves or by the Ministry for War.

The function of these societies is to make all such preparations and arrangements as may enable them in time of war (1) to establish in the area of operations, in open towns and elsewhere as requested by the Ministry, auxiliary hospitals for sick and wounded soldiers crowded out of the regular army hospitals. (2) To establish similar hospitals on the lines of communication. (3) To forward all gifts for the sick and wounded collected by them wherever directed by the Minister of War. (4) To arrange for rest stations where patients in ambulance trains may receive refreshment and, if necessary, be disembarked for temporary treatment. In addition they can provide hospital ships and co-operate with the army medical department in the task of providing temporary territorial hospitals. None of the societies is allowed to work with the advanced troops or with the *hôpitaux d'évacuation*, establishments placed at the head of the lines of communication. These hospitals, it may be explained, are intended for the temporary reception of patients from the field hospitals, before they are sent down the line in sick convoys. Workers in such of the Red Cross hospitals as are on the lines of communication are subject to military jurisdiction. Wherever they may be during war, an army medical officer is appointed to each of them for general superintendence and maintenance of discipline. The societies provide their own equipment, stores, and so forth, but may be helped by the Ministry of War, if need be, and in any case receive an allowance of 1 fr. a day for each patient they treat. During peace the societies collect funds and train volunteer orderlies and nurses.

The hospital accommodation supplied by the French Red Cross Society is very considerable. In 1899 the Société de Secours aux Blessés had at the disposal of the Ministry for War 260 auxiliary hospitals, with 17,000 beds; the Union des Femmes de France 180, with 12,000 beds; and the Association des Dames Françaises 160, with 6,000 beds—in all 600 auxiliary hospitals, with a total of 35,000 beds. This number has been largely increased since the outbreak of the war by offers of other places which can be used as hospitals, made by private individuals. In addition there are supplementary infirmaries in large number in private houses, schools, and many public buildings. The Union des Femmes de France has organized sixty movable detachments, each composed of a head nurse and six nurses ready to work at the front or in the military hospitals. No auxiliary field hospital can be included in a half-yearly report to the War Office unless it is really ready in every respect as regards complete equipment, funds for its upkeep for a certain time, and a complete staff—professional, administrative, and subordinate. All the societies have many temporary territorial hospitals, one of them being prepared, if need be, to open 20,000 beds in different parts of the country whenever required. In 1899 the Société de Secours aux Blessés had a membership of about 60,000 in 537 district committees, with an annual income of £16,000 to £20,000, and a reserve of nearly £320,000. The Union des Femmes de France had a membership of 35,924, of whom 6,286 were in Paris and 29,638 in the provinces. Its reserve funds, including the value of the stores and other material in its possession, amounted to over £140,000. The membership of the Association des Dames Françaises was about 25,000; it had an annual income of about £4,200, with a reserve of money and material of the total value of nearly £32,000.

The Société de Secours is the oldest of the three recognized bodies composing the French Red Cross Society. They are quite independent, and the only way in which

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[1] BRITISH MEDICAL JOURNAL, October 3rd, p. 591.

[2] Ch. F. Haje and J. M. Simon: *Les Origines de la Croix Rouge.* Stuttgart: Imprimerie de A. Lindheimer. Amsterdam: Academische Boekhandel, Delsman, and Nolthenius. 1900. (P. 41.)

[3] Army Medical Department. Report for the Year 1899. With Appendix, Volume XLI. London: Printed for His Majesty's Stationery Office by Harrison and Sons, St. Martin's Lane, Printers in Ordinary to Her late Majesty. And to be purchased, either directly or through any Bookseller, from Eyre and Spottiswoode, East Harding Street, Fleet Street, E.C.; or Oliver and Boyd, Edinburgh; or E. Ponsonby, 116, Grafton Street, Dublin. 1901. 2s. 9d.

they can communicate with each other is through their local official delegates and their representatives on the superior commissions. There is considerable friendly rivalry between the several societies, but they are all strictly subject to Government control, which will not allow any hospital, however small, to be used by any of these societies for soldiers until it has been sanctioned by the French Ministry for War. Once this sanction has been given, it becomes an integral part of the French Army Medical Department, under the title of "Ambulance Auxiliaire"—a term which covers all institutions for the reception of sick and wounded soldiers other than those which exist in time of peace as well as war.

(To be continued.)

ALCOHOL AND THE WAR.

A CONFERENCE took place at Caxton Hall, Westminster, on November 12th, under the chairmanship of the ARCHBISHOP OF CANTERBURY, to consider the problem of "alcohol in its relation to the war." It was convened by the Bishop of Croydon, and included a number of leading members of the medical profession, the selected speakers being representative of various interests in religious, political, and social life. It had been decided by those who planned the conference that questions of legislation should not be dealt with in the resolutions which were to be considered, and that attention should be directed to the social aspects of the problem. Emphasis was laid upon two proposals—a pledge of total abstinence for the duration of the war, and a determined effort to supply the wants of soldiers, sailors, and civilians for suitable recreation and refreshment, apart from temptations to drink.

The ARCHBISHOP OF CANTERBURY referred in some detail to the reports of intemperance both among soldiers in training and among their dependants. He felt that the blame attached not so much to those who had fallen into this temptation as to those who had placed temptation in their way or who failed to hold out the helping hand to those who particularly needed help. He believed that the situation could best be met by the wide adoption of a pledge of total abstinence for the period of the war. By this act of self-denial those at home could show their sympathy with those at the front.

The first resolution recognized that, as a result of the war, there had been a grave increase of intemperance, and pledged the members of the conference strongly to support Lord Kitchener's appeal on this matter.

Lord Roberts had signified his intention of being present, and had been invited to propose this resolution, but he wrote a letter explaining that, as he was going to France to see the Indian troops, he could not be present. His place was taken by Sir Clifford Allbutt, who bore testimony to the good behaviour of the troops quartered at Cambridge, but added that at the same time he fully recognized the importance of the matter, and stated that science had made it clear that healthy people were as well or better without alcohol as with it. He contended that the problem of to-day was not so much one affecting individuals as communities. To have a strong community it was necessary to get rid of class distinctions and seek to help one another, and especially the dependants of those who were serving their country in the war. The public-houses had unfortunately been for many the only place for social gathering, and it was most important that counter attractions should be provided.

Cardinal BOURNE, in seconding this resolution, fully corroborated the Archbishop's statement as to the dangers of the day in relation to alcohol, which he attributed to the fact that emotions were excited in the case of those leaving home to go to posts of peril and those who were left behind in distress and anxiety. He advocated further restrictions in the hours of opening public-houses.

Sir THOMAS BARLOW then proposed the second resolution, which recommended the general adoption of the suggestion that people of all classes should join in a pledge of total abstinence during the continuance of the war. Seeing that the resolution proposed a pledge of total abstinence for men in the services and civilians at home, he dealt with a difficulty felt by some as to the possibility of pure water being obtained by the troops, and he said that, having carefully inquired into this subject, he was assured that by the excellent sanitary system initiated by the Army Medical Department there would be no difficulty of this kind. He also commended the system of sterilizing water by the use of chloride of lime advocated by Professor Sims Woodhead. After referring to the subject of sexual disease, nine-tenths of which were believed to be mainly the result of alcoholism, he said that if the young soldier was to be sent across the Channel without any disability alcoholism must be stopped. He had been told that when the German regiments first started out their behaviour was all that could be desired, and it was only when they had been in the wine cellars that the lust, cruelty, and pillaging had taken place. He desired to emphasize the fact that the evil was an insidious one, and must be resolutely met by getting public authorities to do their duty by providing counter attractions and promoting a true sense of brotherhood, and particularly by renouncing the use of alcohol for the sake of others.

The Rev. JOHN CLIFFORD, D.D., seconded the motion in an eloquent speech, pointing out how many of the troops were already total abstainers, including a very large proportion of the Indian troops.

Major LEONARD DARWIN proposed the third resolution, which expressed the opinion that immediate steps should be taken in every locality to secure proper provision of suitable places of recreation and refreshment, both for men and for women, where there would be no temptations to drink, and urged local authorities to carry into effect the Temporary Restrictions Act, 1914. Speaking as an old soldier, he said that it must never be forgotten that the country was fighting the most stupendous war that had ever taken place; there must be no loss of time during training, which would be inevitably caused by drinking bouts, which not only affected the man himself, but his unit. He considered that drink was followed by worse consequences—namely, immorality and disease accompanying it, which might lead to hospitals needed for the wounded being choked by cases of sexual disease. He urged that strong action should be taken to deal with this matter both by legislative and other means, and made an appeal for suitable means of recreation. He hoped that all would rise to the occasion and fight with all their power against every cause of national deterioration.

A fourth resolution determined that "A manifesto should be drawn up embodying the principal resolutions, and that this should be sent to lord mayors and mayors, urging them to take the lead in carrying out the proposals." All the resolutions were carried unanimously.

DR. ALDO CASTELLANI, Director of the Clinic for Tropical Diseases, Colombo, Ceylon, has been appointed by the Italian Government professor of tropical medicine in the University of Naples, and the director of the Royal Clinic for Tropical Diseases in the same city. Dr. Castellani will take up his duties there at the beginning of 1915.

MR. P. MACLEOD YEARSLEY lectured upon the "Classification of the Deaf Child for Educational Purposes" at a meeting of the Child Study Society at the Royal Sanitary Institute, on November 5th. Mr. Yearsley said that deafness was a physical defect which had been terribly neglected until recent years. In his opinion the scheme of classification for educational purposes should include every defect of hearing, and he suggested the following groups: The slightly deaf, the semi-deaf, the very deaf, and the defective deaf. There were difficult cases which did not come under any of these headings, and could be dealt with satisfactorily only by a sympathetic and experienced teacher. In dealing with deaf children the teacher was everything, and his knowledge and patient sympathy could often work a wonderful transformation in a previously irresponsive child. The aural system seemed to be the best means of educating the deaf; if it succeeded in an individual case it should be continued, but if no progress was made the failure should be frankly acknowledged and another system adopted. The deaf child's powers of hearing varied from day to day, and in consequence he required far closer watching and more individual attention than a child whose hearing was unimpaired. Regular attendance at school was far more important in the education of the deaf than in that of normal children, for the loss of two or three days in the week had more disastrous results in the case of the former than the loss of several weeks in the case of the normal child.

British Medical Journal.

SATURDAY, NOVEMBER 21ST, 1914.

THE DUTY OF THE PROFESSION TO THE ARMY.

WE have received a number of inquiries from practitioners who ask for advice and information to assist them in deciding what their duty is to the nation in this crisis of its history. In the following observations we have endeavoured to answer in general terms.

In the first place we have no hesitation in advising that for medical men who have no urgent domestic ties, and are not yet established in practice, especially, that is to say, for young men, the duty is clear. They should put their names on the waiting list kept by the Director-General Army Medical Services, at the War Office, and make up their minds to bide their time until the War Office requires their services, filling in the interval, if possible, by holding resident hospital appointments. The Director-General's list at present contains about 1,000 names of men deemed fit to undertake the arduous work of service in the field. This number, we learn on high authority, is not enough; the list is constantly being depleted, not only by men who are called up by the War Office, but by men who, getting impatient, go to France to help the French. We are aware that the French Red Cross is in need of assistance, but after all the first duty of the British medical man is to the fighting men of his own nation, and we are assured that even if the waiting list was very much larger than it is, the services of all will certainly be required. The same observations apply to nurses.

In the second place, there is the case of medical men settled in practice in this country, who have wives and children or others dependent upon them. Unless their circumstances are such as to enable them to make adequate provision for their families, and to disregard the possible loss of their connexion in practice, we venture to think that they are not at present called upon to volunteer to give their services to the War Office. The recruiting for the new armies, commonly called Kitchener's armies, though it has fallen to a considerable extent during the last month, has already resulted in bringing under military discipline in battalions and brigades a very large number—something like 800,000 recruits. These recruits have been raised in various districts by leading men in those districts whose duty it is to provide the new units with adequate medical service. It is intended, we understand, to maintain the territorial connexion, so that the new battalions will be additional battalions of the regiments associated with the district. It must be some considerable time before these newly raised troops can be converted into a useful fighting force, and in the meanwhile in any town where they are billeted, or in any camp where they are being exercised, they must be under medical supervision, and we apprehend that it would be possible, in many instances, for a medical man to carry on his ordinary civilian practice and yet give the necessary three or four hours a day to the work of attending to the medical ailments and minor accidents of the new recruits, and advising the commanding officer on the measures necessary for safeguarding their health.

In the next place, the policy is to form a reserve Territorial battalion, and some adjustment of the medical service with regard to these battalions will be necessary. It will, we believe, often be found advisable when the first Territorial battalion is passed for imperial service—that is to say, for service outside this country—to retain with the reserve battalion the existing Territorial medical officer, and to fill his place with the first battalion warned for service by a junior officer whose local obligations, if any, are less exacting. In this way some of the more serious disturbances of civilian practice which might be produced by taking away medical men of older standing may be avoided. It is of the utmost importance in the public interest that medical work for the civilian population should be maintained at a high level of efficiency, and the medical profession has shown in many ways that it is ready to make sacrifices to ensure this. There is, we have reason to believe, a real danger of the serious depletion of medical practitioners in some districts, though not at present perhaps in many, and anything that can be done by the War Office by way of facilitating exchanges or otherwise to prevent public inconvenience and to relieve the anxieties of medical men ought to be done, and will, we feel sure, be done. We understand that some public announcement on the subject may shortly be made.

THE BRITISH PHARMACOPOEIA, 1914.

ALTHOUGH the new *Pharmacopoeia* will not be published until the end of the year and will come legally into force on January 1st, 1915, the advance copies which have been accessible to those interested since October 1st have made it possible to become acquainted in the interval with its contents. The series of articles on this subject which have appeared in our columns in recent weeks have summarized the principal features of the work which are of interest from the point of view of the medical profession, and have discussed in some detail the chief alterations and additions; and it is perhaps not inopportune to consider briefly whether the work fulfils all that can fairly be expected of a national and imperial pharmacopoeia. The principal object to be attained, of course, is the securing of uniformity of composition and a proper standard of strength and purity for all medicines in general use; and on the publication of the book it becomes the legal standard for the substances, both simple and compound, described in it, when these are dispensed or sold for medicinal use.

New medicinal substances, due to the development of organic chemistry, to the study of the active constituents of animal glands, and to several other causes, are introduced into practice with such frequency that a pharmacopoeia which is only revised at intervals of between ten and twenty years cannot possibly contain a description even of all those which are in wide use, for more than a short period after its publication. Hence has arisen a need for other books containing descriptions of, and setting up provisional standards for, unofficial medicines, and several well-known books under such names as *Extra Pharmacopoeia*, *Companion to the Pharmacopoeia*, etc., have come into very wide use, and are kept up to date by frequent new editions; one of these, the *British Pharmaceutical Codex*, being issued by the authority of the Pharmaceutical Society, and not by private enterprise, has almost the authority of an official standard. It is clear that the new *British Pharma-*

copoeia does nothing to render such works superfluous. It is evident that the Pharmacopoeia Committee of the General Medical Council has strictly adopted a policy of excluding everything for the inclusion of which strong reasons could not be shown, since, after an interval of sixteen years, only forty-three new substances are thought worthy of inclusion, and even of these several are not really new, but merely replace others of slightly different composition and name which are now dropped.

Without any desire to cavil, serious doubts must be felt as to the wisdom of leaving outside the official book so many medicines which are in common and daily use. Two consequences of so doing are obvious, the one being that a single substance may be made of identical composition by a large number of firms, each of whom gives it a different name. The other consequence of such an exclusive policy is that for a compound preparation—as, for example, bismuth and pepsin mixture—there are dozens of private formulae in use under one and the same name, but differing more or less from each other, and to secure uniformity in the dispensing of a prescription in different parts of the country it is necessary to add the letters "B. P. C.," or an individual maker's name, after the name of the article.

But if the Pharmacopoeia Committee has shown a somewhat excessive conservatism in regard to admitting new articles to the official volume, no such charge can be made in regard to their attitude to changes in composition and strength, some of the alterations being so considerable as to involve serious risk of danger from altered dosage. Some potent preparations are halved in strength, while others are doubled; the most notable case is that of tincture of strophanthus, the strength of which will be actually four times that of the preparation in the present *Pharmacopoeia*. Attention has been drawn to these changes in the articles already published, but we must again emphasize the necessity of prescribers becoming familiar with them, in view of the fact that on and after January 1st the new preparations must be dispensed unless the old are distinctly ordered. The matter is not made simpler from the fact that the changes are not all in one direction, even for preparations of the same class, tincture of aconite, for example, being doubled in strength, while tincture of nux vomica is halved. In the case of tincture of opium, which is increased in strength by one-third, there is a side issue which may or may not have been intended by the Committee; the present tincture contains three-quarters per cent. of morphine, and is therefore in Part II of the Poisons Schedule, and can be sold by a qualified pharmacist to any one, subject to certain conditions as to labelling; but with the strength increased to 1 per cent. of morphine it goes automatically into Part I, and can only be sold to persons known to the seller, with due registration in the poisons book. Whatever inconvenience may be caused by this change, the greater stringency in regard to its sale must, on the whole, be welcomed.

Although some criticisms must be passed on the new *British Pharmacopoeia* in regard to the matters already alluded to, the notes we have published show that in certain other respects it can be praised without reservation. This is the case particularly in regard to the standards of purity laid down for official chemicals; the tests which such bodies are required to pass are perhaps better on a level with current knowledge and practice than has been the case with any previous *Pharmacopoeia*. The standardization of drugs and galenicals, again, has been carried a considerable step further; and although as is well known, the usefulness of a drug is not necessarily limited by or proportional to the amount present of some one definite active principle, still the security of a standard strength in regard to such active principle is more likely to lead to uniform therapeutic effects than would be the case if all the constituents were allowed to vary to the wide extent often met with in natural products.

When judged as an imperial, as distinguished from a national, pharmacopoeia, the new work does not appear to merit any unfavourable criticism. The needs of different parts of the empire appear to have been met in a reasonable manner, but this matter cannot perhaps be altogether accurately judged from the point of view of medicine in the mother country alone, and experience will show whether further modifications and additions may be necessary to make the book truly fulfil its world-wide functions.

OUR BELGIAN COLLEAGUES.

Upon Belgium fell first the ruin which follows the policy of murder, exaction, and destruction deliberately adopted by the German military authorities in the expectation that by these means their enemies may be terrorized into submission. The attempt on the small but gallant Belgian nation failed in its purposes, but it succeeded in spreading desolation throughout the length and breadth of one of the most prosperous and populous parts of Europe. The medical profession in Belgium now appeals to its brethren in other countries to help them, as far as may be possible, now or in the near future, to take up again their duties as the medical advisers and consolers of a population reduced in three months from industrious comfort to penury and misery. The survivors return to their ruined homes, when it may be possible to return at all, to face the winter and the threat of diseases due to exposure, and the epidemics which must be expected to follow the wholesale destruction of all the machinery of civilized life, while their doctors, who have shared in the common ruin and pillage, have not the appliances or drugs for ordinary professional work. The article by Professor Jacobs, published at page 890, puts before us a picture the dark features of which no words that we might add would enhance. The mere catalogue of the provinces and towns pillaged and destroyed—the names of not a few of them call up sad memories in British hearts—is in itself an eloquent appeal. Help is asked as much in the interests of the stricken population as of the medical men and pharmacists who, while sharing their physical sufferings, have the added pain of being deprived of the means of alleviating them.

As announced in previous issues, a provisional committee was formed at an informal meeting in London a fortnight ago, summoned at the instance of the Editors of the *Lancet* and the British Medical Journal after a preliminary interview with Professor Jacobs of Brussels, who had been delegated by a medical committee in Belgium to come to this country. The provisional committee was confronted with a situation presenting very serious practical difficulties. Almost, if not quite, the whole of Belgium has been overrun and pillaged by the Germans, and is still in their hands; a part is the site of the present prolonged battle in and beyond the southern frontier of the country. The committee, therefore, felt that before making any general appeal to the profession in this country or in neutral or

friendly countries, it was essential to get the best information obtainable as to what it was feasible and prudent to do in existing circumstances. The letter published this week at page 890 shows the conclusions that have been reached. Having done this preliminary work, those who have formed the provisional committee hope to give it a national complexion by obtaining the co-operation of colleagues in Scotland and Ireland and throughout the United Kingdom, and eventually to work with the medical committee which has recently been formed in the United States.

The immediate need of the medical men and pharmacists who remain in Belgium is great. Professor Jacobs estimates that 1,000 doctors are absolutely poverty stricken and that 300 pharmcists are unable to earn their living, being deprived of their most necessary drugs, and thus without the means of carrying on their work, while the majority of the remainder of both professions are suffering cruelly through the war. With the cordial approval of the Belgian Minister and the co-operation of the American Ambassador and Mr. L. Hoover, arrangements have been made which it is believed will ensure the delivery of packages of the drugs most commonly used, and of a few necessary instruments to doctors in Belgium, especially those in country districts where many dispense their own medicines.

This particular scheme is intended only as a beginning, and it is hoped that before very long it will prove possible to give further assistance on a larger scale. When the day comes for the nations to adjust the balance and right the wrongs which Belgium has suffered, one of the first duties of the medical profession throughout the world will be to see that the practitioners who have played so distinguished and useful a part in the life of their country are reinstated. We cannot at once rebuild the houses of Belgian doctors, or restock the shelves of Belgian pharmacists, but it is clear that the people require prompt medical treatment, and it is a debt of honour to try to meet the immediate necessities of their doctors and pharmacists. We are well aware that the war has made many calls upon the resources of the medical profession in this country, but we believe that the appeal will meet with a sympathetic response, and that every one will give what he can, so that the Belgian profession may be able to resume its work so far as this is at present possible.

With regard to the Belgian medical men at present in this country—who at the moment number, we believe, about a hundred, and are in many cases accompanied by their families—the Medical Secretary of the British Medical Association has made arrangements (details of which will be found at page 891) with Viscount Gladstone, Honorary Treasurer of the Belgian Relief Fund, to receive the names of medical men wishing to offer hospitality.

NATIONAL COUNCIL FOR COMBATING VENEREAL DISEASES.

THE inaugural meeting of the National Council for Combating Venereal Diseases was held at the house of the Royal Society of Medicine on Wednesday, November 11th. Both the attendance and the tone and character of the speeches must have given much encouragement to the organizers of the council. The quality of the speeches maintained the high level set by Sir Thomas Barlow, and represented the sympathies of medical, social, and clerical members; it also became clear that the movement had the hearty support of members of the Royal Commission. There was a sprinkling also of khaki, showing that those who are occupied with the military side of the question are not uninterested in the civilian movement. The presence also of naval officers indicated the interest felt by that service. It is of sad interest to know that Lord Roberts had hoped to be present. To the public, and perhaps to the medical profession as well, a feature of very special interest was the plea, put forward with great ability and force by three theologians of very different schools of thought—Cardinal Bourne, Dean Inge, and Dr. Scott Lidgett—for a reconsideration of the religious attitude towards this category of ailments. Each in turn refused to tolerate the notion that venereal disease exemplifies divine retribution for sin. We doubt whether such a consensus would have been possible at any previous time, and we welcome the happy boldness which impelled them spontaneously to give what we hope will be the death-blow to that outworn and unchristian philosophy. It is hoped that, in view of the importance of its work, the National Council, whose offices are at Kingsway House, W.C., will receive support, financial and otherwise, both from the medical profession and the general public.

WAR AND VITAL STATISTICS.

No very startling results are yielded by a study of the influence of war upon vital statistics. In some instances a war period has been followed by a marked acceleration of the marriage-rate. In Germany, for example, the marriage-rate during the years immediately following the Franco-Prussian war was considerably higher than during a previous or a subsequent period. To put the fact in another way, for every 1,000 of the unmarried male population of Germany, an annual average of 93 men were married during the years 1872–5, whereas the average was 82 for the years 1876–85, and 83 for the years 1886–95. In France the same thing occurred, though in a less marked degree. From the middle of the last century onwards, the only decade in which the French marriage-rate rose to an annual average of over 8 per 1,000 of population was the decade which opened with the war and the events of the early Seventies. On the other hand, Russia's disastrous war with Japan, and her internal troubles of about ten years ago, synchronized with a depression of the Russian marriage-rate, which, together with the birth-rate, stood at a lower figure for 1901–7 than it had done for twenty years previously; it should be said, however, that the rate of mortality in Russia for the same years was even more markedly reduced. In England and Wales the vital statistics seem to have been remarkably little affected by war. During the years of the Crimean war and the Indian Mutiny, the average number of marriages did not fluctuate by more than 0.5 per 1,000 of population as compared with the previous and subsequent periods, and virtually the same thing was true of the South African war. In Germany, during the years following the successful war of 1870-1, the birth-rate went up by two points per 1,000 of population, but the consistent decline of the birth-rate in England and Wales appears to have been scarcely affected in one direction or the other by the South African war, any more than the fairly consistent increase of the birth-rate during the Fifties and early Sixties of the last century was deflected by the events of 1854-5 in the Crimea, or those of 1857-8 in India. A feature of interest is the variation in the excess of male births following upon war years. It is remarkable that in 1857, the year after the return of our army from the Crimea, the excess of male over female births in England and Wales should have been 17,230, whereas the average for the three previous years was 13,796, and for the three subsequent years, 15,291, the total birth-rate remaining substantially the same. It is also worth noting that in this same year, 1857, there was a parallel drop in the customary

excess of male over female deaths. The figure, which had maintained a steady average of 7,772 from 1852 to 1856, fell to 5,215 in the following year. There were also marked fluctuations in the excess of male over female births during the years of the South African war. The average annual excess from 1897 to 1900 was 15,991, but in 1901, which may be called the first year after the war, the figure rose to 18,081, and in 1902 it was 17,799. The meaning of these figures is not to be explained by statistical inquiry.

EPSOMIANS ON ACTIVE SERVICE.

The medical profession has every reason to be proud of Epsom College, which is its creation. We have often had occasion to recount the academic successes of boys who have received their training at the school. That the education which they receive there fits them for the practice of the arts of peace at least as well as any other public school in England is a fact which need not be insisted on, but it remained for the outbreak of the war to show how thoroughly it cultivates and develops their sense of patriotism, and how ready it makes them to obey the call of their country for service in the fighting line or wherever else they may be most useful with the forces. We learn from the *Epsomian* for October that it is definitely known that over two hundred old pupils of the school are now serving; how many more there may be it is impossible to say. Twenty are officers in the Royal Navy, of whom twelve belong to the medical department. These are P. F. Alderson, Staff Surgeon, H.M.S. *Gloucester;* J. L. Barford, Staff Surgeon, H.M.S. *Hyacinth;* K. D. Bell, Staff Surgeon, H.M.S. *Audacious;* T. E. Blunt, Staff Surgeon, H.M.S. *Rosario;* C. B. Fairbank, Fleet Surgeon, H.M.S. *Hecla;* R. T. Gilmour, Fleet Surgeon, H.M.S. *Glasgow;* W. L. Hawkins, Staff Surgeon, H.M.S. *Cochrane;* H. B. Hill, Staff Surgeon, H.M.S. *Highflyer;* A. O. Hooper, Staff Surgeon, H.M.S. *Natal;* G. Nunn, Staff Surgeon, H.M.S. *Neptune;* J. C. G. Reed, Fleet Surgeon, Special Service, Bermuda Yard; D. D. Turner, Staff Surgeon, H.M.S. *Sappho.* There are three temporary naval surgeons: O. D. Brownfield, E. H. Hugo, G. A. Walker. One is a lieutenant in the Naval Wing of the Royal Flying Corps. Of the army officers the following have been killed in action: Captain T. Scatchard, R.A.M.C.; Lieutenant J. F. O'Connell, R.A.M.C.; Major W. L. Lawrence, 3rd Wales Borderers; Lieutenant H. D. Strong, Royal West Surrey Regiment. Among the wounded are Lieutenant S. A. Gabb, 3rd Worcester Regiment; Second Lieutenant G. M. Gabb, 2nd Royal West Surrey Regiment; and Second Lieutenant G. Y. Gross, Royal West Kent Regiment. Lieutenant B. S. C. Hutchinson, East Yorks Regiment, is missing; Captain A. A. Sutcliff, R.A.M.C., is a prisoner. Major W. L. Lawrence, Captain E. B. Lathbury, and Lieutenant S. A. Gabb have been mentioned in dispatches. Besides these, there is 1 officer on the staff, 2 in the cavalry, 6 in the Royal Field Artillery, 4 in the Royal Garrison Artillery, 2 in the Royal Engineers, 19 in the infantry, 1 in the Royal Marines, and 1 in the Army Service Corps. The following are officers of the Royal Army Medical Corps in addition to those already mentioned: Lieutenant E. G. H. Cowen, Major C. H. Furnivall, Captain A. W. Gater, Lieutenant R. K. Mallam, Major S. M. W. Meadows, Lieutenant W. A. Morris, Captain J. M. B. Rahilly, Lieutenant R. T. Vivian, and Captain H. C. Winckworth. The list of officers in the Indian Medical Service includes the names of Major H. Boulton, Captain A. Cameron, Major R. M. Carter, Captain C. A. Gill, Major G. Hutcheson, Major Y. H. Murray, Lieutenant-Colonel S. E. Prall, and Lieutenant-Colonel S. B. Smith. A number of old Epsomians have also received temporary commissions in the Territorial Force and Royal Army Medical Corps, while many have enlisted in the regular army or have joined the Territorials. Such a list of men who have given their services to their country gives the school which trained them a place among our national institutions. We may all say heartily *Floreat Epsomia.*

THE SOLDIERS' HANDS AND FEET.

Much has been heard of the sufferings of our soldiers from sore feet in the early part of the war, when the bitter experience of the famous retreat showed the truth of Mulvany's regimental doctor's maxim that "a marchin' man is no stronger than his feet." Now that General Winter has come on the field, our gallant defenders by sea and land need all the protection they can get against coldness of the extremities. Chilblains and frostbite may make the most heroic courage unavailing; cold hands may make the finest marksman unsteady in his aim at a critical moment. Vast numbers of women are now knitting mittens, socks, mufflers, and other comforts for our soldiers and sailors, and in general they are working according to regulation patterns. There has been a good deal of the usual official pedantry in this matter, but now the authorities are in a general way glad to get anything that will serve the purpose. The question of protection of the hands and feet against cold would doubtless have been dismissed as a piece of old womanish sentimentalism by the hard-bitten warriors who fought in the Napoleonic wars. To-day the Académie de Médecine does not consider it beneath its dignity to allow it to be discussed. At a meeting held on October 27th Dr. Fernet read a paper in which he said the principle of warm clothing was the same as that of the building of houses, where cold is excluded by walls lined with rubble, and by double doors, windows and blinds. He therefore suggests that to keep the hands and feet warm two pairs of gloves, stockings and drawers should be worn. For the hands the outer glove or mitten should be of knitted wool or of skin lined with fur, the inner being made of ordinary skin or of plain cotton. For the protection of the feet and legs stockings of ordinary cotton should be worn under woollen stockings; this, while greatly increasing the warmth, increases the thickness very slightly, and allows an ordinary boot to be worn. For horsemen the use of snow boots over the ordinary footgear is recommended. All these things, even the gloves or underdrawers, should be sufficiently wide to allow them to be drawn easily on and off, and not to hinder the movements of the hands and feet. There is nothing very original in these recommendations, though they are inspired by common sense. But they must sound almost ironical to men who have hardly any decent garment to wear and whose boots gape. One of the most practical suggestions we have seen is that published by M. Clemenceau in his paper *L'Homme Enchaîné.* It is made by M. Cornu, an artist who served in the war of 1870. It is that vests of sheepskin, without sleeves, should be worn. Other veterans of *l'année terrible* have confirmed his statement that such a garment is as warm as it is simple.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.[1]

An abundance of medical terms is met with in the newly issued part (a section of the penultimate volume) of the *Oxford English Dictionary.* This is not surprising, for the rubrics run from *speech* to *spring*, and include therefore the *spermato-*, the *sphygmo-*, and the *spleno-* group of words. Under the word *sphygmo-*, for instance, are eleven compounds, namely, *sphygmodynameter, sphygmogram, sphygmograph, sphygmographic, sphygmography,*

[1] *A New English Dictionary on Historical Principles.* Edited by Sir James A. H. Murray. Speech-Spring (Vol. ix). By W. A. Craigie, M.A., LL.D. Oxford: At the Clarendon Press. . . . Humphrey Milford. Double section. price 5s. (1.25 dols.). October 1st, 1914.

sphygmomanometer, *sphygmometer*, *sphygmometric*, *sphygmophone*, *sphygmophonic*, and *sphygmoscope*. All these are derived from the Greek σφυγμός, the pulse, which in its turn comes from σφύζειν, to beat or throb; and each is illustrated by at least one quotation, the earliest one—for *sphigmomcter* (*sic*)—bearing the date 1842. A still larger group contains *spleen*, its compounds, such as *splecnstone*, and *spleenwort*, *splenetic*, *splenic*, *splenification*, *splenitis*, *splenotyphoid*, etc. It is interesting to find that the earliest illustrative quotation of *splenectomy* carries the date 1859. It will be news to many that the term *spondyle* (a joint or the spine or a vertebra) was in ordinary use in the fifteenth, sixteenth and seventeenth centuries, although it is now obsolete; on the other hand, *spondylitis* and *spondylo-* in such compounds as *spondylodynia*, *spondylopyosis*, and *spondylotomy*, are only now coming into employment in scientific language. Thus in the *London Gazette*, of 1667, there is a quotation regarding "a great shot . . . entering the spondiles of his back." That Dr. Craigie (under whose care the present part has been prepared) does not easily overlook any medical term is shown by his inclusion of such a word as *spongiopiline* and of so special an expression as *spider-naevus*. *Spigelian*, too, as applied to the middle lobe of the liver, finds a place. *Sphincter*, of course, is clearly defined and abundantly illustrated by quotations from medical works; but, in addition, Dr. Craigie gives a rather quaint instance of its employment in a transferred sense or figuratively—this is in a clause from a book of 1737, in which the author (M. Green) speaks of "av'rice, sphincter of the heart," a use which would be somewhat startling nowadays. Further interesting terms are *splay-foot*, *splint* (with its two meanings, surgical and veterinary), *sporadic* (not always used so exclusively of medical matters), *spotted fever* (meaning either epidemic cerebro-spinal meningitis or typhus, and once signifying any fever characterized by spots on the skin), and *sprain* (substantive and verb). This is emphatically a thoroughly interesting part of the *Dictionary* from the medical standpoint.

THE proposal of the governing body of the Lister Institute to effect an amalgamation with the Committee of the Medical Research Committee established under the paragraph of the Insurance Act providing what is commonly called "the research penny" was not accepted by a meeting of the members on Wednesday last. An amendment proposing to approve the amalgamation upon condition that the representation of the Institute was increased to a fourth of the total number of members of the Research Committee was carried on a show of hands, but when put to the meeting as a substantive resolution was rejected by 39 votes to 32. The chairman, Sir Henry Roscoe, said that as the division showed a majority against the proposal, the governing body must reconsider its plans.

THE first lecture of the series on camp hygiene arranged by the Chadwick Trust was given at Bedford College, London, on November 14th, by Dr. A. T. Nankivell, M.O.H. Poole, who discussed camp sanitation, and showed many interesting lantern slides illustrating camp hygiene, especially in regard to the great camps at present occupied by our new army.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The New Session and the New Taxation.

THE Parliamentary session up to the present has shown a gratifying absence of anything in the nature of party controversy, although in respect of various matters there has been detailed and very healthy criticism on the War Office arrangements and on other matters.

The present sitting will in all probability not be prolonged for many days, being chiefly occupied in financial matters.

Members appear to be taking a very active interest in the medical services, and there seems to be a full and general recognition of the difficulties of transport incidental to the long battle front and the great number of wounded to be dealt with. The relatively small amount of general sickness up to the present is commented upon in appreciative terms; a good deal of interest seems to centre round the question of typhoid and the results of the antityphoid inoculation. We understand that the expert staff of the Medical Research Committee is to be asked to assist in the compilation of the sickness statistics. It is to be hoped that this may be arranged, and that we may obtain thoroughly comprehensive and reliable figures. Expert statisticians in respect of medical matters are often blamed for producing results of a purely negative kind, not doing much more than showing, to their own satisfaction at least, that the records and conclusions of others in various directions are unsound. Let us hope that on this occasion we shall obtain results of a positive kind and a full justification of the wide-mindedness and readiness to make use of expert assistance which General Keogh has displayed in this connexion.

We understand also that the Medical Research Committee is arranging with the War Office to assist in the provision of pathological assistance, where required, to the different military hospitals.

On Monday, November 16th, a short sitting disposed of some very important business. In the course of two and a half hours the House had discussed and sanctioned the Prime Minister's motions to raise £325,000,000 and for an additional 1,000,000 men. At question time it was revealed that Dr. Addison, for the time being, in the absence from the House of Mr. Masterman and Mr. Wedgwood Benn in France, is answering for Insurance.

On Tuesday, November 17th, the Chancellor introduced his financial statement. A loan is to be raised of £350,000,000 to cover the expenditure estimated until July of next year. This sum includes certain loans to our Colonies and to Belgium and Servia, and also repayment of the Treasury bills already issued. The nominal interest is 3½ per cent., but the issue is made at the price of 95 and being redeemable at par in 1925, if desired by the Government, and in any case by 1928, is reckoned to be equivalent to an investment at 4 per cent. The general feeling in the House was that, in view of the rate of interest and the fact that the issue is to be redeemable at par, it would be a very popular investment and would in all probability be rapidly and more than fully applied for. The Chancellor also announced that the Bank of England had arranged to give credit on holders of the War Loan Stock at 1 per cent. under the current bank rate.

In regard to new taxation, the Chancellor urged that at this moment, when personal sacrifice is acceptable to and indeed desired by most members of the community, additional taxation would be taken in a more sympathetic spirit than at any other time, and that we were bound by sound finance, whilst not relieving posterity excessively, to shoulder some of the additional burden of cost here and now.

In brief, the new taxation is on the following lines:

The income tax is doubled as from January 1st next—that is to say, on the last three months of the current financial year. The rate which will fall to be paid on the first nine months of the current financial year will be that which was levied under the Budget passed during the summer. The exemptions remain as at present, except

that the exemptions in respect of children are to be doubled. The tax, therefore, as from January 1st next, on earned incomes will be at 1s. 6d. in the £, and on unearned at 2s. 6d. in the £. Super taxes are doubled in the same way as the ordinary income tax. The double yield in the first whole year after the commencement of the new scale of income tax is estimated at £44,750,000.

The second item of new taxation is the imposition of a charge of 17s. 3d. a barrel on beer, which is equivalent to a ½d. on half a pint. This is accompanied by certain concessions in respect of licence duties, and the total yield of this tax in the first financial year is estimated to be £17,050,000.

The remainder of additional taxation consists of an extra 3d. on the pound of tea which is estimated to yield £950,000 this year and £3,200,000 next.

The total yield, therefore, of the new taxation in the first complete financial year is estimated as follows:

Income tax	£44,750,000
Beer	17,050,000
Tea	3,200,000
	£65,000,000

Various points of criticism of a non-controversial character and many questions were raised. Mr. Austen Chamberlain promised the Chancellor his general co-operation, and the resolutions imposing the increased duties on beer and tea were passed without divisions and the House rose by seven o'clock.

Inoculation and Vaccination.—Mr. Chancellor asked the Under Secretary for War whether recruits who refused to be inoculated will, unless physically disqualified, be given the same chance as those inoculated to proceed to the front and serve their country in the fighting line.—Mr. Tennant said: The instructions to general officers commanding are that special efforts are to be made to secure that no officer or man may, through not being inoculated, possibly risk his chance of seeing active service abroad. Mr. Chancellor asked whether the regulations in regard to vaccination which applied to the army or to the Territorial Forces, were the regulations under which were enrolled recruits who joined for the period of the war only.—Mr. Tennant: The regulations of the Regular Army. Mr. Chancellor asked whether antityphoid inoculation with serum from the Pasteur Institute had been practically universal throughout the French armies; and whether the widespread epidemic of typhoid which has been attributed to germ-laden soil had occurred mainly amongst these well-inoculated troops.—Mr. Tennant: I cannot say definitely that the vaccine used for inoculation in the French army is prepared at the Pasteur Institute, but I believe it to be the case. I have no information as to any widespread epidemic of typhoid in the French army, and cannot be taken as accepting in any way the suggestion contained in the last part of the question. Mr. Chancellor asked the Under Secretary for War if he was aware that, in spite of his statement in the House on September 10th that inoculation was not compulsory, some army doctors was practically enforcing inoculation on unwilling soldiers by threatening not to report them as medically fit, and thus prevent them from serving at the front; whether he had been informed that this action was deterring many desirable men from joining the army; and whether he would issue instructions to army doctors or their superior officers that would protect conscientious objectors from such illegal pressure and persecution.—Mr. Tennant: No information has been received in the sense of the first part of the question, and I am not aware that any men have been deterred from joining the army by the cause stated. The instructions already issued are intended to protect conscientious objectors. Sir Clement Kinloch-Cooke asked the Under Secretary for War whether he was aware that many recruits preferred to be vaccinated by the Government calf lymph issued to the public vaccinators; and whether he would consider the possibility of allowing recruits who were desirous of or were required to be vaccinated to have the services of public vaccinators free of charge, irrespective of the area in which the recruit resided.—Mr. Tennant thought there must be some misunderstanding. The vaccine lymph used in the army was obtained from the Local Government Board's lymph establishment at Hendon, and was believed to be the same as that supplied by the Board to public vaccinators.

St. John Ambulance Brigade.—Mr. Thomas asked whether at the outbreak of the war members of the St. John Ambulance Brigade were asked to volunteer for service and were paid 4s. per day and 10s. per week separation allowance to the wife; that similar invitations had been issued to these men from the Admiralty, the remuneration being 3s. per day and 6s. per week separation allowance; and whether having regard to the fact that these men were drawn from the same class and doing the same work, steps would be taken to make the remuneration equal.—Dr. Macnamara said that members of the St. John Ambulance Brigade employed by the Admiralty were enrolled in the Royal Naval Auxiliary Sick Berth Reserve; such enrolments had been made at various dates since the establishment of this Reserve in 1902. There were different grades in the Reserve, the pay ranging from 3s. to 4s. 6d. per day, according to rating and nature of employment, with increase of pay after six months' service. The separation allowances were in accordance with the navy scale. It was not considered necessary now to alter these conditions of service, which had been accepted by the men on enrolment in the Reserve. In reply to Mr. Bennett-Goldney, the Under Secretary for War (Mr. Tennant) said that members of the St. John Ambulance Brigade who belonged to the Military Home Hospitals Reserve were enlisted into the Royal Army Medical Corps for the "duration of the war" when called up for service. The services of other St. John Ambulance Brigade men belonging to Voluntary Aid Detachments might have been utilized locally by the military authorities in cases of emergency, and for unloading hospital ships, trains, etc. In the latter case the period of employment was temporary and depended entirely on local conditions. He was not aware of any complaints of non-payment for these services.

Chiropodists.—In reply to Sir Clement Kinloch-Cooke, the Under Secretary for War stated that the arrangements for the employment of chiropodists in the Regular Army had been made applicable to the Territorial Force.

Rum Rations.—Mr. Tennant has stated that a considerable quantity of rum has been supplied for the use of the Army. The instructions provided that the rum ration was issued only on the recommendation of the medical authorities, and the unit was asked the number of officers, non-commissioned officers, and men who desired such a ration, and the amount for that number only was issued by the supply branch. The actual issue was under the supervision of officers. Rum was not issued at home except in most exceptional circumstances. None had been issued this year.

Sanatogen.—Mr. Joyce asked the Home Secretary whether his attention had been drawn to a statement made on behalf of the proprietor of sanatogen that the Home Secretary had assented to the business being carried on for the benefit of the proprietor and also to a company being formed for the purpose of acquiring the business from the proprietor; whether the proprietor was an alien enemy; whether any such licence and sanction as alleged had been given, which would have the effect of enabling dealing by a company with such alien enemy; and whether any step was proposed to be taken to prevent the continuance of such a business for the benefit of an alien enemy.—Mr. McKenna said the statement mentioned in the first paragraph of the question is untrue. The proprietor of the firm is an enemy now in Germany, and application was made for permission to convert the business into an English limited company. I have declined to sanction such an arrangement, and effective steps will be taken to prevent any profits being remitted to the proprietor during the war.

OUR BELGIAN COLLEAGUES AT HOME AND ABROAD.

THE POSITION OF BELGIAN DOCTORS AND PHARMACISTS.

By Professor C. JACOBS,
University of Brussels.

BELGIUM, a blood-stained and ruined country in the horrors of despair, claims the help of her friends to whom her freely consented sacrifice has brought a ray of hope in the dreadful nightmare of the past three and a half months.

I raise my voice with a feeling of intense pity on behalf of thousands of our weeping brethren in their Calvary of suffering, but it is my pride to carry out this duty to my country. The first impulse of the Belgian medical world is to make an appeal to Great Britain, whose kindness has proved itself in such unbounded measure and with such tact and generosity. The German iron fist has closed upon our country; we have to witness the endless series of crimes that are committed in all our provinces, and we have to abide in silence. All the evils of war have been thrust upon us at the same time—a useless and cruel holocaust of human lives, a decimated, despairing, and starving population, ruined homes, and, far worse than all, our children—the only hope of our country—are being mown down by want and disease.

Our doctors have not been spared; they, too, are bearing a heavy share of the general suffering. And now long weeks, nay months, of trial stand before them, during which they know that they will have to bear a terrible burden. They will have to devote themselves untiringly, giving all their care and time, and even their lives, if need be, to the cause of their country; and yet many of them, victims of a barbarian foe, are homeless, deprived of their laboratories, instruments, and their medical stores. What will become of those that still remain of our people, threatened as they are by the grim havoc of war and by contagious disease, its constant follower?

In anticipation of these inevitable consequences it has become my duty, as the spokesman of my Belgian colleagues, to appeal to the medical and pharmaceutical world that an impulse of international fraternity may come to the aid of Belgian doctors and pharmacists. Is it realized what we in Belgium have suffered and are suffering? Duty, and duty only, has bound our doctors and pharmacists to their posts in the devastated localities; some of them are carrying on their profession in the ruined remains of destroyed buildings, whereas others have to improvise at haphazard any kind of shelter for their Samaritan work. Need I describe the manner in which they sustain themselves, and how they manage to nourish their wives and children?

I have witnessed such misery amongst them! Some have had to work as navvies in order to have a few pence in their pockets; others have told me that they had not seen bread for a fortnight, but had lived exclusively on potatoes. Others had a meagre bunch of straw laid on the bare ground as a bedstead; the only pair of boots owned by one of them was falling to pieces in tatters. Men I have seen were dressed in torn garments and their children were in rags. One of my colleagues had to live on wayside herbs for three days and three nights and his wife shared his fate! A professor of a university, bereft of everything, was, when I saw him, in dire want of a bed, and another of equal academic standard was wandering haggard over the countryside, searching in vain for a beloved family. And some of our ranks have been taken as hostages, others have been shot, and their widows and orphans have been left deprived of everything.

This description presents a genuine picture of the distress of the Belgian medical profession, but when these educated people are struck down by want they will never beg for charity; it must be brought to them. It is impossible to calculate how many of them are in this sore distress, and some have been so for days and weeks, but it is easy to see that the distress must be very widespread. Considering now the medical men only, Belgium contained 4,800 doctors; the number of localities that have been destroyed is roughly as follows:

Province of Brabant.—Londerzeel, Merchtem, Capelle-au-bois, Kotselaar, Wildouck, Cortenberg, Gelroode, Nieuwenrode, Wavre, Eppeghem, Beyghem, Ottignies, Mousty, Louvain, Jodoigne, Linsemaux.

Province of Limbourg.—Haelen, Lanacken, Tongres (partly).

Province of Liége.—Liége (partly), Mouland, Bermont, Visé, Micheroux, Batisse, Herve, Hermée, Milmont, Flemalle, Francarchamps, Lincent, Huy, Seilles.

Province of Namur.—Namur (partly), Bierwart, Narille, Tamines, Faliseulle, Audenne, Spontin, Evrehailles, Houx, Yvoir, Dinant, Bovinure, Anhage, Hartiere, Sommière, Walcourt, Mariembourg, Dourbes.

Province of Hainaut.—Charleroi (partly), Montignies, Morlanwelz, Gouy-les-Piéton, Lobbes, Beaumont, Frameries (partly), Merbes, Jemappes, Quaregnon, Marchienne.

Province of Luxembourg.—Rossignol, Etalle, Ethe, Florenville, Virtey, Arlon, Neufchateau, St. Hubert, Anthee.

The deserted province of Antwerp and both the provinces of Flanders have been battlefields since one month, with the great struggle raging round Dixmude, Nieuport, Courtrai, Middelkerke, Ostende. What remains of those places to-day?

Each of those localities has its doctors and pharmacists, and at least 1,000 of the doctors are now absolutely poverty-stricken, and 2,000 to 3,500 doctors are suffering cruelly through this war. We had 1,800 pharmacists all over the country, and at least 300 of them are unable to earn their living, and all of them, with very few exceptions, are deprived of the most necessary trading stock. I daresay that my estimate is below reality.

Consider the immense suffering that our medical brethren have gone through and are still going through. Their pathetic and lamentable distress should unite all in the desire to relieve it. These practitioners have given a lesson to the world of unfaltering energy, but now their breaking courage will have to be kept up. In this emergency I call on the medical profession of England to rally to our help. It will be for us a great debt of honour and of eternal gratitude.

IN AID OF OUR BELGIAN COLLEAGUES.

To the Editor of the BRITISH MEDICAL JOURNAL.

SIR,—The committee whose formation has already been announced in your columns is desirous of starting an immediate attempt to help the Belgian medical practitioners and pharmacists whose plight is so movingly represented by Professor Jacobs, as the delegate from a Belgian committee having similar aims.

The committee has made all preliminary inquiries, and has come to the conclusion that the most practical step which it can take at once is the dispatch to Belgium in portable form of packets of medical and pharmaceutical material. These packets will be made up by Messrs. Burroughs, Wellcome, and Co. in accordance with an approved list, and will be conveyed to Belgium upon advice received from the American Ambassador and Mr. L. Hoover, the Belgian Minister, the manager of Messrs. Harrods, Limited, and Major Gordon, who has already done such good work as a medium for practical assistance between this country and Belgium.

The committee has already received promises of a certain number of subscriptions which justify it in making an experimental consignment, but it appeals to the medical and pharmaceutical professions in this country for funds to enable the Belgian medical practitioners and pharmacists to carry on their work effectually so soon as military and political circumstances permit.

We appeal also for surgical instruments; many of these, though not of the latest patterns, will be extremely valuable. The following are especially required: Scissors, dressing and artery forceps, scalpels, syringes, and midwifery forceps. The instruments should be sent at once to the Master of the Apothecaries' Society, Apothecaries' Hall, Blackfriars, London, E.C., and any small adjustments required in them will be made.

Further, we want money to help the refugee Belgian doctors and pharmacists in this country, most of whom have nothing in this world left to them.

The intention is that the work of the committee shall develop, as the conditions of Belgium permit, and that the work shall be associated with corresponding efforts in Great Britain and Ireland, in the United States and other countries which are neutrals or allies in the war.

Subscriptions should be sent to the honorary treasurer, Dr. H. A. Des Vœux, 14, Buckingham Gate, London, S.W.

and cheques should be crossed Lloyd's Bank, Limited.—We are, Sir, yours faithfully,

RICKMAN J. GODLEE (*Chairman*).
THOMAS BARLOW,
President of the Royal College of Physicians of London.
W. WATSON CHEYNE,
President of the Royal College of Surgeons of England.
MEREDITH TOWNSEND,
Master of the Apothecaries' Society.
W. J. WOOLCOCK,
Secretary and Registrar of the Pharmaceutical Society.
H. A. DES VOEUX (*Honorary Treasurer*).
DAWSON WILLIAMS,
Editor of the BRITISH MEDICAL JOURNAL.
S. SQUIRE SPRIGGE (*Honorary Secretary*).
Editor of the *Lancet*.

November 18th.

MEDICAL HOSPITALITY FOR BELGIAN MEDICAL REFUGEES.

Many communications have been received at the central office of the Association from members of the medical profession who are anxious to provide hospitality for Belgian medical men and their families at present in this country, and these offers have been referred to the War Refugees Committee at Aldwych, of which the President is H.R.H. the Duchess of Vendôme, the Chairman H.R.H. Princess Christian, and the Honorary Treasurer, Viscount Gladstone. As complaints were received that these offers had either not been dealt with or had been dealt with very slowly, the Medical Secretary offered to the War Refugees Committee the use of the office of the Association as a clearing house, collecting through the BRITISH MEDICAL JOURNAL the names of medical men wishing to offer hospitality, inquiring as to the nature and extent of the offers made, and transmitting the particulars to the War Refugees Committee. Lord Gladstone, in expressing his warm appreciation of the offer, welcomed the co-operation of the Association, and explained that the magnitude and novelty of the task imposed on the Committee had at first been overwhelming, and it was only recently that it had been possible to organize the office machinery so as adequately to meet not only the daily flood of fresh work but the arrears. He stated that up to the middle of last week over 50,000 persons had been allocated from the central office to various places throughout the country, and that the daily average of arrivals had gradually dropped from well over 1,000 to between 200 and 350. He freely recognized the appropriateness of the offer of hospitality to medical men by medical men, and said he would be pleased to make use of any offers the Association transmitted to him, in his turn placing before it any case he thought suitable for its services. He was, however, very anxious that it should be made plain that refugees of all classes come very irregularly; for example, the Committee might have a dozen doctors or lawyers on their hands one day and no more for a fortnight. Want of appreciation of this fact had led to disappointment. Medical men, or the wives of medical men, who are prepared to offer hospitality to Belgian medical men and their families, are invited to write to the Medical Secretary stating what hospitality they are prepared to give, and any such offers will be dealt with as promptly as possible. Offers from London would be particularly appreciated. It should be clearly understood that offers to take one or two members of a family are of little use. The refugees themselves greatly prefer to be dealt with as families and not as individuals, and this has been adopted as the general policy of the War Refugees Committee.

AN AMERICAN COMMITTEE.

A committee has been formed in New York under the auspices of *American Medicine* for the collection of a fund for the relief of doctors in Belgium. The committee includes the names of Dr. W. S. Bainbridge, Dr. S. Ely Jelliffe, Dr. W. H. Porter, Dr. Parker Syms, of New York, and Dr. Charles E. de M. Sajous, of Philadelphia. It will work in co-operation with the Belgian Relief Committee.

THE WAR.

SURGICAL EXPERIENCES OF THE PRESENT WAR.

DISCUSSION AT THE MEDICAL SOCIETY OF LONDON.

A DISCUSSION on surgical experiences of the present war was opened on Monday, November 16th, at a meeting of the Medical Society of London. The President, Sir JOHN BLAND-SUTTON, was in the chair, and the hall of the society was crowded.

The subject was introduced by Sir WATSON CHEYNE, who is at present serving as Consulting Surgeon at the Royal Naval Hospital, Chatham, in an extremely interesting address, a full report of which is published at page 865 et seq.

At the conclusion of the address, the CHAIRMAN called on Sir Alfred Keogh, K.C.B., Acting Director-General, Army Medical Service, and Surgeon-General W. M. Russell, Deputy Director-General. Sir ALFRED KEOGH said that the Army Medical Department desired further information as to the value of antitetanic serum and practical advice that would be of use on the battlefield and in the trenches in respect of the treatment of wounds at the very beginning, and also, since very little could be done actually in the trenches, advice was needed as to hospital treatment in its early stages. Surgeon-General RUSSELL endorsed Sir Alfred Keogh's remarks, and hoped that an authoritative pronouncement would be made by those who were so competent to give it.

Sir RICKMAN GODLEE said that he agreed with every word of Sir Watson Cheyne's address from beginning to end. As Sir Watson Cheyne had suggested, he also might now be looked upon as an old fogey, but he believed that soon someone would rediscover the principle upon which Lord Lister worked, and that antiseptic surgery would come back to its own. It had been one of the saddest experiences of this war to learn from those who had been at the front that practically all wounds were septic. The profession wished to know what attempts were made, if any at all were made, to disinfect wounds—not probably in the trenches, but as soon as the patients reached the field hospitals. He had always feared, since the enthusiasm for aseptic surgery had become so pronounced, lest nothing should be done in the way of attempting to purify wounds, only the skin being cleansed—a measure which in itself, as Sir Watson Cheyne had said, was absolutely hopeless. If surgeons had forgotten all that Lister taught, he yet supposed that some of them still read their Bibles. Lord Lister used to say that if he ever wrote a book, which he never did, he would have put as motto on his title-page the verse from the Psalms:

> My wounds stink and are corrupt: because of my foolishness.

Mr. ARTHUR EDMUNDS described wounds he had seen in two of the naval hospitals—Chatham and Plymouth. It was difficult to make any general statement, because the wounds of the men who reached those hospitals were of medium severity. Those of great severity and the more trifling remained on the other side of the Channel. The way in which men supported their wounds might sometimes mislead the surgeon: thus, a man who gave the impression of having little the matter with him was found to have a severe comminuted fracture of the elbow-joint. Although there had been the greatest fortitude in bearing wounds, and surgeons had been able to appreciate the meaning of the *moral* of the navy and army, he had come across one or two interesting neurotic affections. A marine was buried in a trench by the force of an exploding shell. When he came to himself in the field hospital he was found to be deaf and dumb. It was suspected that the dumbness was functional; the ears were examined, and the man was easily persuaded that he could both speak and hear. He returned to duty a few days later. The nature of the wounds had not afforded any great surprises, but it was noteworthy that in some instances of wounds by German rifles there was evidence of the turning of the bullet. In one case a bullet turned sideways, and the whole forearm was ripped up in a manner that suggested an explosive bullet. In another case a bullet reduced the head of the tibia to a mass of small fragments. It had

been necessary to amputate in that case, but the man might have recovered had he not been lost on the field for four days without medical aid. He arrived at the hospital in a deplorable condition, but such a case was exceptional. The men usually arrived in excellent condition, well fed and well looked after, and having borne their injuries very well. It might seem presumptuous for those in England to compliment the transport, but its work had been most impressive, as reflected in the condition of the wounded. He had noticed a difference between wounds received at Plymouth from the front and those that came to Chatham from the fight in Heligoland Bight. In wounds from the land operations, if there was a small wound of exit and entrance, the probability was that the bullet had gone cleanly through, and nothing beyond simple dressing was necessary. But amongst the men wounded at sea there were cases in which a fragment of shell or of the ship had made a small wound of entry, but had ploughed up the tissues. Apparently the shells used by the Germans broke up into small fragments, each rotating and acting like a circular saw, and greatly lacerating the tissue. The conclusion was that penetrating rifle wounds with no obvious laceration had little need of treatment, but in cases from naval engagements laceration should always be suspected and a drainage tube put in, as the wound contained blood and was practically certain to suppurate. He quoted cases in support of Sir Watson Cheyne's advice as to the value of antiseptic methods, and as an example of the freedom of a bullet wound from sepsis in some instances, a case in which the missile traversed the lung, and the bullet was now lying on the diaphragm without producing symptoms. Bullets, on the other hand, were frequently surrounded by a zone of suppuration, and their removal was commonly advisable on this account, even when signs of infection were not obvious. The telephone probe, which enabled a fragment of shell to be distinguished from particles of bone, was often very useful. He had seen excellent results obtained in two operations in a hospital ship; one was an operation for gutter fracture of the skull with hemiplegia and the other an amputation for emphysematous gangrene.

Sir FREDERIC EVE said that as the fighting had taken place largely in trenches, wounds of the upper extremities, especially of the hands, were particularly numerous. Rifle bullet wounds about the root of the neck and shoulder were also frequent. In these concussion paralyses of a transient character were often observed owing to the bullet passing close to the cords of the brachial plexus. In the case of wounds of the neck, remarkable examples of passage of the missile between important structures without doing any great amount of damage were met with. He desired to draw attention to cases of concussion of the central nervous system from the vibratory effects of modern high-velocity projectiles, as these conditions were not observed in civil practice. In one case a shrapnel bullet lodged over the right lamina of the twelfth dorsal vertebra, causing no fracture. The patient had paraplegia with the exception of retention of sensation to light touch over the left lower extremity. Nine weeks after the injury there was very little improvement, but time only would show what amount of repair would take place. It had been shown that in these cases of concussion without fracture or a gross lesion of the cord, extensive degeneration of the grey matter took place, and after two months the cord, in some instances, had become transformed into a custard-like mass. In the following case an extensive lesion of the cerebrum appeared to have been produced in the same manner: A soldier was struck over the left parieto-occipital region by a shrapnel bullet, which caused right hemiplegia and hemianopsia. Five weeks after at an operation a stellate fracture of the skull was found but there appeared to have been no depression and the dura was uninjured. Decided improvement commenced before the operation, and was maintained, but nine weeks after the injury there was still loss of power on the right side, marked loss of sensation, right hemianopsia, and partial aphasia. He showed skiagrams illustrating the explosive effects on the femur of rifle bullets fired at short range. In one case union took place in five weeks with only half an inch shortening. If the wounds were not suppurating it was often unnecessary to remove the missile. To illustrate this point he showed three skiagrams of fractures of the femur in the region of the lesser trochanter in which the projectiles, respectively a piece of shell and two bullets, were left *in situ* without causing any trouble. The fractures all united readily, in two cases with only an inch and a quarter shortening. He strongly recommended the use of Hodgen's splint in gunshot fractures of the femur, as it permitted dressing of wounds without disturbance of the limb, and was more convenient for nursing than a Liston's long splint. With regard to wounds of the chest, he had been impressed with the small amount of discomfort and disturbance caused by a considerable haemothorax, sometimes associated with pneumothorax. For example, an officer received a penetrating wound of the back between the shoulders, the bullet entering on the left side and fracturing the fourth, fifth, and sixth ribs. It penetrated the pleura and wounded the lung. When admitted to hospital on the ninth day auscultation and radiography showed that the upper part of the pleura was filled with air, and blood extended up to the angle of the scapula. This patient walked half a mile after being wounded, and only felt some shortness of breath. During the first day there was some haemoptysis, and on the following three days he brought up a small amount of blood, but that was the only inconvenience he suffered. Sir Frederic Eve had had only one case of tetanus under his care, and it was, perhaps, worthy of note that the man was one of a few who did not receive an injection of antitetanic serum.

Sir WATSON CHEYNE, replying to some of the questions raised, said that Sir Alfred Keogh mentioned a very pertinent matter when he asked if anything could be done in the trenches, where it was very doubtful whether extensive surgical measures could be undertaken. It would, however, be possible for the soldier to carry suppositories of carbolic acid or iodine, which might be packed into the wound before the dressing was applied. It would be worth while to think out the plan very carefully, for something was needed to stop the growth of bacteria until the patient reached the base hospital. Another point was that sepsis was bad, whether much or little; sometimes he had heard attempts to differentiate in that respect.

[The discussion will be resumed on Monday, November 23rd.]

MEDICAL ARRANGEMENTS OF THE BRITISH EXPEDITIONARY FORCE.

[*From a Special Correspondent in Northern France.*]

SHELL FUMES.

A GOOD deal has been written about the effect on the Germans of the fumes produced by turpinite, the new explosive and rival of melinite and lyddite, but nothing is publicly known as to the extent to which this intensely high explosive is really being used, and much of what is said about its effects is in the nature of mere assumption. Presumably the chemical experts employed at the French arsenal and M. Turpin himself know what gases are formed by its explosion in small quantity and in a closed vessel—though that is not the question which primarily interests them—but the statements made as to the poisonous effect of these in the open air and in action are for the most part based neither on precise chemical knowledge nor on serious pathological considerations. Because A., a soldier still in an attitude suggestive of active life, is found to be stone dead and yet altogether unwounded, or seemingly only very slightly wounded, it is assumed that he has been killed by some instantaneously fatal gaseous poison, generated by the explosion of a shell which other evidence indicates to have fallen in his neighbourhood. If there were well-authenticated incidents of this kind, and still more of cases in which several individuals had been found close to one another in the same trench all dead but all unwounded, and in a life-like attitude, the *prima facie* evidence of the correctness of the assumption would be strong, despite several obvious objections. It is to be remembered, however, that stories of the kind—including others to the effect that the Germans sometimes succeeded in intoxicating aviators by the use of special gas-generating shells—pass from mouth to mouth very readily, and no one makes any real attempt

to test their foundation. It would, indeed, not be easy to do so, and, so far as the effects of the almost equally high explosives used by the Germans are concerned, there are stories which cut both ways in their bearing on the turpinite question. They relate mainly to the shells that our soldiers dub "coal-boxes" and "Black Marias," and for narration I choose one told me yesterday by an old South African acquaintance. In the course of a long account of his experiences between Mons, the Meaux, the Aisne, and Ypres—that is to say, from the beginning of the war up to a few days ago—this soldier, who is a very level-headed man, told me that twice a "coal-box" had fallen within a few yards of his trench, and, in fact, dug a large hole in the ground just outside it. On neither occasion did he suffer any harm, though startled by the extreme loudness of the detonation. On the other hand, a few minutes later he began to feel irresistibly sleepy, and did, in fact, go to sleep, waking up several hours later without headache and feeling perfectly well. He was quite certain that it was not mere fatigue that led to his sleeping. As for their other effects, I am led by various circumstances to conclude that the amount of direct injury these "coal-boxes" may do depends entirely on the nature of the soil on to which they fall. If this be rocky, their own fragments and the masses of stone they scatter in all directions may produce the gravest kind of shell wound. If it be moderately soft, they bury themselves so deep that the walls of the huge hole resulting act as a rampart in which they break. On the other hand, the displaced earth and pebbles fly upwards and outwards in a swift rising cascade, and the effects are sometimes curious. On the back and dorsal surfaces of the limbs of one man who had been standing within reach of one of these cascades I counted as many as thirty wounds of irregular shape. Not one of them was more than about a centimetre deep, and a thumb-mark would have covered the largest of them. In the aggregate, however, they represented a serious breach of surface, and the shock and subsequent inflammatory reaction were considerable.

Conditions in Paris.

Rendered possible by a flying visit, a general survey of the conditions prevailing in Paris indicates that the convalescence of the city, so to speak, continues to make satisfactory progress. About a month ago practically the only foreigners to be seen were stray British soldiers, and the habitually resident population had fallen by a third or more. There are still very few strangers about the streets, but the incoming trains bring back large contingents of ordinary residents each day. Shops other than those which sell absolute necessaries are opening in increasing number every week, and those already at work seem to be well supplied. There are also fewer ambulances, for no British wounded are now arriving, and the ban of the military governor on the admission to Paris hospitals of any large proportion of the French wounded still remains in force. On the other hand, the entire absence of omnibuses, the diminished number of cabs and private automobiles and tradesmen's carts, keeps up the empty appearance of the streets; the fires of most of the larger restaurants have not yet been relighted, the cafés—such as are open—still seem half asleep, the search-lights still career all night across the skies, the edict against the bakeries supplying anything but plain bread still holds good, the trenches and entanglements outside the main gates remain untouched, and the numerous French red cross hospitals, small and great, continue to fly their flags. There are still, therefore, plenty of reminders of the anxious days of September, and of the fact that France is still in the throes of a life and death contest. A good many of the smaller French auxiliary ambulances appear to find some difficulty in keeping up their *moral* owing to lack of work, and the various large institutions which do their work partly or entirely under the control of the Paris branch of the British Red Cross Society are in somewhat like case, though they still have a fair number of old cases on their hands and new ones arrive from time to time. Consequently some of them have allowed members of their staffs to join hospitals working nearer the front, and others have started annexes in places where new cases are more numerous. The Anglo-Franco-Belge Hospital, for instance, has established at Wimereux an offshoot which seems likely to rival the parent body; the Duchess of Westminster Hospital is at work at Le Touquet; the American Hospital has a small movable contingent on the outlook for a site on the northern lines of communication, and a branch well to the south of Paris, near Bourg, has been opened by the Majestic. As for the School of Medicine, this has nominally begun work, but its chief occupation so far has been the holding of final examinations, and practically nothing is in view beyond the classes for junior students. Nearly all those for third and fourth year students have been put off until the beginning of the next summer session, and those not already engaged in the service of the army are being urged to send in their names forthwith. It is easy to understand that there should be some difficulty in securing a sufficiency of French surgeons and dressers. The population of France is, after all, only about the same as that of Great Britain, and the normal proportion of medical men to each 1,000 of inhabitants is somewhat less. Consequently the medical profession in France has a very great task to discharge when it is asked to meet the needs of about ten times as many soldiers as those which Great Britain has thrown into the fighting line. Furthermore, a considerable number of French surgeons have been captured, wounded or killed. The French medical profession is, in fact, figuring excellently in dispatches. Usually they are picked out for mention owing to the courage they have shown in continuing to attend to the wounded, despite being wounded themselves, but in more than one case the mention in dispatches has been won by a surgeon who had rallied the survivors of a regiment which had lost all its other officers.

An Extemporized Hospital.

Lord Roberts fell ill very shortly after his arrival at his destination in France; one of the last official acts of his life was that performed by him as soon as he had set foot on shore. It was one in keeping with his career and the thoughtful kindliness of his disposition. The doors of an extemporized hospital open on to the landing stage, and this building Lord Roberts entered forthwith, had a word to say to many of its inmates, and, after visiting all its wards, expressed to its authorities his pleasure at having been able to see immediately on his arrival, and relatively so near the fighting line, an extemporized hospital which seemed to him thoroughly efficient both from a military and a medical point of view. All those connected with this hospital are therefore to-day regretfully proud of themselves, and its name—No. 13 Stationary Hospital—is not likely to be overlooked by future biographers. It is, however, not only because it was the scene of one of the last acts of Lord Roberts's life that this hospital is worth mentioning. It is also of interest as being a good example of the effects of well directed peace-time training. I have been able to watch its development from an early stage. Just four weeks ago it was a store, and not even a good store—merely a very large single-floored erection built largely of wood. Nor was it a clean store, for it was used for keeping bags of moist and other sugar, and its floors were inches deep in a hard mixture of dirt and exuded saccharine matter. Space was also occupied by large weighing machines, and the grimy plank walls and ceilings were hardly weather-proof. So soon as the need of a hospital in this particular locality was foreseen, the building was assigned to No. 13 Stationary Hospital unit, the officers and men of which started to prepare it for its future work forthwith. It was just one of those tasks which to civilian hospital workers would appear to present insuperable difficulties, but which the special training received by the Royal Army Medical Corps enables it to perform not without great labour but with complete success. The first step was to make the building weather-proof and to clear the floor space of obstructions. This was done with the help of the engineers, the walls being first "stopped," then cleaned with a disinfectant, then lightly coated with cement, then rewashed with disinfectant, and finally given a coat of whitewash. At the same time a sanitary squad chipped away at the floor until the stone slabs of which this is composed were reached, and then polished these up. Rapid progress was made despite the fact that in addition to other difficulties sleeping space had to be found for some 500 men awaiting orders to move up country—and 500 men are apt to create a good deal of litter. In three or four days the

back of the job was broken, and it was then possible to complete in detail the plans that the principal medical officer of the unit, with the approval of the staff medical officer in charge of the whole of this hospital base, had already drafted for dividing up the total available space into all the required sections—wards, operating rooms, dispensary, lavatories, kitchen, sleeping quarters for orderlies, store room, and mortuary. In little over seven days the transformation was almost complete, beds were ready and all other absolute necessaries prepared, and there was no reason why patients should not be admitted if required. In the event, trains of wounded began to arrive two or three days later, and in the fourteen or fifteen days that have since elapsed the record of patients admitted, discharged, and still under treatment at this 200-bed extemporized institution probably exceeds that of most hospitals in England of twice its size during a whole year. As for its merits from a military point of view, Lord Roberts's opinion is decisive, and in respect of its medical efficiency I can claim to be a judge. It is not a "pretty" place from the point of view of the average frequenter of the great permanent medical establishments of Great Britain, or even of those whose conception of war hospitals is mainly founded on the converted great hotels of Paris, but no competent judge could dispute its efficiency. Even in the matter of mere appearances there are points in the scene that it presents which must appeal to any artist eye, while on thoroughly and repeatedly examining the general arrangements it is found that everything required by surgery in this war is duly provided, and that all the machinery—despite the necessity of constant adjustment and expansion to meet each day's varying needs—is working smoothly. In short, it seems to me that a department whose officers can do work of this kind in half a dozen places simultaneously, and not at home but in a foreign enemy-occupied country, and not once but over and over again, has no cause whatever to fear criticism from competent judges.

THE GENEVA CONVENTION.

The Geneva Convention, to which all the powers now at war are adherents, apparently makes very ample provision for the protection of medical officers and all those exclusively engaged in caring for the wounded and sick, but in reality leaves a good deal to be desired. The text of this agreement was published in the JOURNAL of October 17th. It stipulates that the persons of Red Cross workers—including in that term those belonging to the permanent medical establishment of the army concerned—shall be "respected and protected," and ordains that when they fall into the hands of the enemy they shall not be treated as prisoners of war. It also debars from being treated as booty the personal property of Red Cross workers, the material of mobile medical units, and the whole of the property of voluntary units, whether mobile or stationary. On the other hand, the Convention permits of the services of Red Cross workers and all material being commandeered and utilized for the treatment of the sick and wounded as long as may be necessary. Consequently, apart from the danger of being wounded or killed when on duty, every Red Cross worker engaged in the performance of his duties at or near the real front runs the risk of finding himself in a position which may only in theory differ from that of an ordinary prisoner of war. Of this weakness in the Convention the Germans appear to be taking the utmost advantage. Very considerable numbers of officers and orderlies of the medical services both of the British and French armies have at one time and another fallen into the hands of the Germans, and very few indeed have been allowed to return to their own lines. By far the greater proportion still remain in the enemy country, and have before them the prospect of remaining there until the end of the war. The discipline to which they have to submit is moreover severe, if one may gauge the situation from the account given of his experiences by one of the few French medical officers who have managed to return. He said that he had been threatened with a revolver because he demurred at performing an amputation which did not seem to him to be justified. The British and French, on the other hand, are placing a very liberal interpretation on the clauses of the Convention, that is to say, an interpretation highly favourable to the enemy. There are doubtless differences in the practice of the commanders of different British and French army corps and divisions, but the general rule appears to be to cast a blind eye on any spot where German medical officers and their men are known to be engaged in tending their wounded, and to avoid making captures of such groups, if this be possible. During the advance after Soissons several complete units fell into the hands of the French and proved to be very large and elaborately equipped, and organized almost on the lines of a regimental company, despite the fact that the personnel included in one case many women. All the members of one of these units were, I know, sent back to Germany by a devious route. Those of another were treated, and rightly treated, on very different lines. The contents of their vehicles showed that they had been engaged in pillaging on a very large scale; consequently they were placed in prison, and when last I heard anything about the matter they were awaiting trial. Nor is this particular incident the only evidence of German unscrupulousness in connexion with ostensibly Red Cross work that events have brought to light.

It would appear, however, from what passed at a recent meeting of the Medical Society of the Hospitals at Paris that the Germans could not put forward the excuse that their services were, in the terms of the Convention, indispensable in the case of a large number of the French army medical officers now in their hands. Information which has reached the society from various private sources proves, it is claimed, that no pretence whatever of employing these surgeons is being made; they are being treated literally as prisoners of war, despite the fact that their status was rendered evident at the time they were captured by their Red Cross armlets. If the professional services of a captured medical officer are not "indispensable" to the enemy he ought to be sent back by any convenient route, but instead of this these officers are being detained in complete idleness in barracks, guarded camps, and fortresses. The result of the society's consideration of the information before it was a resolution to address a letter to the president of the Cross of Geneva requesting his attention to the matter, and his intervention if he found the statements well founded. Copies of this resolution were directed to be sent also to the French Foreign Office and the Director-General of the Medical Department of the French War Office.

HOME HOSPITALS AND THE WAR.

GLASGOW.

THE 3rd and 4th Scottish Hospitals established in the Glasgow Parish Council's Hospital at Stobhill have been receiving large numbers of wounded during the past three weeks. The accommodation at Stobhill amounts to nearly 1,500 beds in all, and the number of patients is very little short of 1,000. The operative work is still rather hampered by limited operating theatre arrangements, and increased facilities are being rapidly constructed. We have been informed by Lieutenant-Colonel Hay that the number of cases of tetanus has been greater in recent admissions, as also the cases of traumatic aneurysm. The septic condition of these latter has precluded hopefulness in operative treatment, and has frequently necessitated amputation where practicable. The gravity of the various train-loads of cases has varied; some have been all "stretcher" cases, others mostly "walking" cases. The physicians and surgeons of Glasgow are finding the additional demands on their time a rather serious strain on normally busy lives, but they are tackling the work with energy, and derive great interest from phases of surgical work quite new in the experience of most.

Glasgow Royal Infirmary has received two train-loads from the front. The managers were fortunate in having at their disposal several wards of the old infirmary still intact and in good working order suitable for such emergency work. A large proportion of the recent admissions were quite trivial cases. Some were simply bruises and superficial wounds which could have made a good recovery with a short rest in a hospital, say, in Paris. But there can be no doubt that even trivial conditions will benefit greatly from the rest of two or three weeks in convalescent homes and in their own homes.

EDINBURGH AND DISTRICT.

On November 12th H.R.H. Princess Christian made a visit of inspection to the new naval hospital at Queensferry, the building of which was only begun in August. It has, however, been already in occupation for some time, and at the time of the visit there were between forty and fifty patients in it. There are four wards, each capable of accommodating twenty-five patients, and the hospital is equipped and furnished according to the latest improvements in construction and requirements for surgery. The Princess was accompanied by the Marchioness of Linlithgow, and amongst those who received her were Mr. Alfred Mosely, C.M.G., Professor Sir William Macewen of Glasgow, Fleet Surgeon Paget Jones, Dr. Fleming, senior surgeon, and Staff Surgeon Bateman. It will be remembered that this building, called the Queen Mary and Princess Christian Hospital, was provided by a generous and anonymous donor at the beginning of the war. Her Royal Highness also visited Dalmeny Hospital in the same neighbourhood, where she conversed with the patients, some eighty in number, who are now under treatment there. She returned to London on November 13th.

THE BRITISH RED CROSS SOCIETY.

Rapidity of Transport.

Sir Frederick Treves states that, although the number of wounded passing from the base to the various hospitals in France and in this country is still enormous, the task of handling them is rendered considerably less difficult by the shortness of the line of communications during the present phase of military operations. In ordinary circumstances a man wounded in France on Friday is in a hospital bed in England on Sunday. No additional doctors or nurses have been sent to France for some days, and every demand is being met by the large staff already at work.

The Hospital Train and Hospital Ship.

The British Red Cross hospital train in France will be ready for service this week; and the hospital ship, with accommodation for 21 soldiers and 3 officers, is nearly ready.

Fever Hospital for the Troops.

The Joint War Committee of the British Red Cross Society and the Order of St. John of Jerusalem in England has made a grant of £5,000 towards the establishment in a large private house in Addington, Surrey, of a fever hospital for British troops. The War Office has interested itself in this scheme, and will probably make a contribution towards the cost, which is estimated at £20,000 for one year.

Another War Hospital for London.

The proposal mentioned last week for the establishment of a large war hospital in London under the auspices of the Joint War Committee of the two Societies has now assumed more definite shape, although the number of beds to be provided is not likely to be so large as was thought at first. The Government has agreed to lend a large new block of buildings intended for H.M. Stationery Office, and now approaching completion. It is situated in Waterloo Road, near the South-Western Railway terminus, and contains six spacious floors served by eight lifts. The premises were recently inspected by officers of the Royal Engineers and the Army Medical Department and by Sir Frederick Treves and Mr. Edmund Owen, on behalf of the Joint War Committee. There is ample space for upwards of 1,500 beds and for all the accommodation necessary for administrative purposes. The premises are well suited for use as a hospital, and as they are not yet finished, any necessary adaptations can readily be made. At the time of going to press, however, no definite conclusion as to the block being taken over had been arrived at.

BRITISH AND GERMAN SMALL ARM AMMUNITION.

Memorandum Communicated by the War Office Respecting British and German Service Ammunition.

The international law respecting the projectiles that can properly be used in case of war between civilized nations is to be found in the Regulations annexed to The Hague Convention of 1907, respecting the laws and customs of war on land, and in two International Declarations, one signed in St. Petersburg in 1868 on the subject of explosive projectiles, and the other with regard to expanding bullets, signed at The Hague in 1899. The Hague Regulations vaguely prohibit the use of "projectiles calculated to cause unnecessary suffering." The Declarations are more explicit. That signed at The Hague in 1899 is an agreement to abstain from the use of bullets which expand or flatten easily in the human body, "such as bullets with a hard envelope which does not entirely cover the core or is pierced with incisions." The St. Petersburg Declaration is an engagement to renounce the employment of "any projectile of a weight below 400 grams, which is either explosive or charged with fulminating or inflammable substances."

The British service ammunition is known technically as Mark VII, .303 S.A. Ammunition. The length of the bullet is 1.28 in., and its weight is 174 grains. The muzzle velocity is 2,440 ft. per second. The bullet is a pointed one with an envelope of cupro-nickel, which completely covers the core, except of course at the base through which the core is inserted.

The ordinary German service ammunition is very similar. The length of the bullet is 1.105 in., and its weight 154 grains. The muzzle velocity is 2,970 ft. per second. The German bullet is also a pointed one, with a steel envelope coated with cupro-nickel covering the core, except at the base. Both bullets carry out the provisions of The Hague Convention, and it will be observed from the report attached (Appendix I) that Sir Victor Horsley considers the modern pointed nickel-sheathed bullet "probably the most humane projectile yet devised," and that "the long solid point consisting almost entirely of the hard nickel sheath precludes as far as possible any tendency to deformation of shape, while the strength of the sheath prevents the bullet breaking up into fragments except in very exceptional circumstances—that is, after a ricochet, etc." So far, therefore, as their ordinary rifle ammunition is concerned, both Great Britain and Germany have conformed to the principles of international law.

There is, however, clear evidence that Germany has not confined herself solely to the use of this unobjectionable ammunition. Her troops, both in Togoland and in France, have been proved to have used bullets with a soft core and hard, thin envelope, not entirely covering the core, which type of bullet is expanding, and therefore expressly prohibited by The Hague Convention.

Such bullets of no less than three types were found on the bodies of dead native soldiers serving with the German armed forces against British troops in Togoland in August, and on the persons of German European and native armed troops captured by us in that colony. All the British wounded treated in the British hospitals during the operations in Togoland were wounded by soft-nosed bullets of large calibre, and the injuries which these projectiles inflicted, in marked contrast to those treated by the British medical Staff amongst the German wounded, were extremely severe, bones being shattered, and the tissue so extensively damaged that amputation had to be performed. The use of these bullets was the subject of a written protest by the General Officer Commanding the British Troops in Nigeria to the German Acting-Governor of Togoland.

Again, at Gundelu, in France, on September 19th, soft-nosed bullets (that is, those in which the lead core is exposed and protrudes at the nose) were found on the dead bodies of German soldiers of the Landwehr, and on the persons of soldiers of the Landwehr made prisoners of war by the British troops. One of these bullets has reached the War Office. It is undoubtedly expanding, and directly prohibited by The Hague Convention.

There have appeared from time to time in the German press official or semi-official statements to the effect that "dum-dum" bullets had been found on numerous occasions on the bodies of dead British soldiers, and on the persons of British officers and soldiers made prisoners of war. These allegations were made in terms so vague as to be incapable of disproof. It was not even clear what was meant by the term "dum-dum bullet."

Lately, however, specific reference has been made in the German semi-official organ, the *Lokal-Anzeiger*, to certain flat-nosed revolver ammunition found in the possession of the British officers made prisoners of war by the Germans.

This can only refer to the Marks IV and V patterns revolver ammunition, of which specimens are attached.[1] The Germans publish statements alleging that British officers had admitted that they themselves had doubts as to whether the use of this ammunition was in accordance with international law, and the German commentators declare that such bullets can have no other purpose than to cause the most horrible wounds possible. Fortunately, it can be proved conclusively on irrefutable evidence, that these bullets are as humane as any bullet can be, and do not in any way contravene the law of nations. The international law on this subject has already been quoted.

The Marks IV and V patterns have a flat fore-end instead of the usual conical fore-end. The bullet is solid, and of homogeneous material. It is not, therefore, a bullet with a "hard envelope" or "soft core." It cannot, by any stretch of the imagination, be described as "soft-nosed."

Is it, however, a bullet which "expands or flattens easily in the human body"? This question, again, can be readily answered. Since the shape was novel, the most careful experiments were made by the War Office to ascertain whether the bullet, on striking, was subject to more deformation than bullets with the usual conical end. It is well known that the wounding effect of a projectile depends on the possible increase in its diameter by deformation. In the case of the Marks IV and V bullets, such expansion by deformation is notably small, and less than that of the bullet with the conical fore end to which exception has never been nor could be taken. The Government advisers had, therefore, no hesitation in recommending the adoption of the flat-nosed revolver bullet, and the attached report by Sir Victor Horsley (see Appendix II) proves, from an independent source, that the bullet is as humane as the ordinary conical bullet, does not expand or flatten easily in the human body, and is not "calculated to cause unnecessary suffering." In short, it in no sense conflicts with the provisions of The Hague Declaration or Convention.

It is considered improbable that the British officers held as prisoners of war could have made the statements attributed to them. If they did, they must have done so in complete ignorance both of the letter and the spirit of The Hague Convention.

The German official and other statements that British troops are employing projectiles prohibited by The Hague Convention is, therefore, not only untrue, but would appear to have been made for the sole purpose of justifying the previous issue to, and use by, German troops of projectiles which do most undoubtedly contravene The Hague Regulations.

October 7th, 1914.

APPENDIX I.

Memorandum on the .303 (174 grains) Mark VII British Service Rifle Bullet in reference to Explosive Effects.

(By Sir VICTOR HORSLEY, F.R.S., etc.)

Having made, on the introduction into His Majesty's services of the .303 rifle, a long series of researches into the effects produced on living tissues by high velocity projectiles, and having also experimentally investigated the physical causes of those effects, I venture to submit the following observations on the pattern of rifle bullet now employed by His Majesty's Forces:

The modern pointed nickel-sheathed bullet, as used in our service, is probably the most humane projectile yet devised. The two determining provisions of The Hague Conventions, 1899 and 1907, concerning rifle bullets are quite clear—firstly, that the structure of the bullet must be such that it should not easily become flattened nor deformed in shape; and therefore, secondly, it should not inflict a wound which, while effecting its necessary object of disabling, caused unnecessary suffering.

In its design and manufacture the British service bullet fulfils these requirements more completely than any other projectile.

The long solid point, consisting almost entirely of the hard nickel sheath, precludes, as far as possible, tendency to deformation of shape, and in like manner the strength of the sheath prevents the bullet breaking up into fragments save under very exceptional circumstances—that is, after a ricochet, etc.

So-called explosive effects are sometimes caused by any projectile under the circumstance of a bullet fired at relatively short range or possessing a residual velocity exceeding 1,500 f.s., and passing through a closed bony cavity (such as the skull or centre of a hollow bone) containing fluid or semifluid and viscous contents—for example, marrow or brain.

Under these circumstances, the velocity being imparted to the particles of fluid, there is set up a hydro-dynamic force of considerable disruptive power, and the comminution of bone thus occasionally produced has been mistakenly attributed to a bullet of an expanding or so-called explosive kind.

It has been suggested that the long narrow point of the British and German bullets leads to the projectile turning over around a transverse axis during its penetration of solid substances, and that this might account in part for the severity of the injuries under certain circumstances.

That this is not the case is, I would submit, proved by my experiments on the effect of firing long cylindrical bullets with very high velocities into moist clay. These researches showed that the disruptive effect was due to the speed of the bullet, and bore no relation to the occasional turning over of the projectile.

There is, therefore, no ground whatever for the statement that the British service rifle bullet is other than a projectile carrying out in the fullest possible manner the provisions of The Hague Convention.

(Signed) VICTOR HORSLEY.

25, Cavendish Square,
September 13th, 1914.

APPENDIX II.

Note on the Flat-nose Revolver Bullet, Mark IV, in reference to the Provisions of The Hague Convention.

(By Sir VICTOR HORSLEY, F.R.S., etc.)

The question whether the flat-nose revolver bullet, Mark IV, at present in occasional use by His Majesty's forces fulfils the provision of The Hague Convention, 1899 and 1907, may be answered at once in the affirmative by the results of direct experimental researches, including my own.

In the first place, as regards possible expansion and deformation, I found that solid cylindrical bullets, such as Mark IV, when stopped by varying substances—for example, clay, wood, flat bone, etc.—exhibit very little deformation. Deformation when present consists in a slight setting up of the fore-end, this seldom increasing the transverse diameter more than about 10 to 15 per cent.

I have also seen the results of independent researches made for His Majesty's War Department of firing such bullets into planks of wood in which the same absence of deformation was also observed.

The revolver bullet Mark IV is therefore in no sense an expanding projectile.

In the second place, inasmuch as my experiments showed that the wounding effects in living tissues depend primarily on the velocity of the projectile, a revolver bullet necessarily produces a relatively small disruptive effect. Further, the same researches established the fact that the influence of the sectional area of the bullet remains the same whatever the shape of the fore-end—that is, whether the bullet is a conically-ended or square-ended cylinder. The wounding effect due to the diameter of the projectile depends on its possible increase by deformation, and inasmuch as that in the case of the revolver bullet Mark IV is notably small there is no question but that the flat-nosed revolver bullet Mark IV is in full accord with the provisions of The Hague Convention.

(Signed) VICTOR HORSLEY.

25, Cavendish Square,
September 15th, 1914.

Report on Webley Pistol Ammunition to R.L. Design 16,626 A.

Penetration into $\frac{3}{8}$ inch deal boards $\frac{1}{3}$ inch apart—

25 yards—			
Maximum	...	...	... 7 boards
Minimum	...	...	... 5 boards
50 yards—			
Maximum	...	...	... 6 boards
Minimum	...	...	... 5 boards

The bullets were recovered practically undamaged.

(Signed) W. N. CONGREVE, Colonel,
President, Small Arms Committee.

War Office, September 8th, 1911.

[1] The specimens of Marks IV and V revolver ammunition have not been received.

CASUALTIES IN THE MEDICAL SERVICES.

Royal Navy.

Action in the Pacific.

The Secretary of the Admiralty announced on November 13th that in the absence of further information the loss of H.M.S. *Good Hope* and *Monmouth* must be presumed, and the report from the captain, H.M.S. *Glasgow*, published on November 18th, seems to leave no room for hope. The medical officers of the lost ships were as follows:

Good Hope.

Fleet Surgeon James J. Walsh, M.B., M.Ch., R.U.I., 1885, entered the service in August, 1885, and obtained his present rank in August, 1901. He was appointed to the *Good Hope* in 1913, previous to which he was medical officer to R.N. Dockyard and Sick Quarters, Sheerness.

Surgeon Francis Charles Searle entered the service in November, 1909, and was appointed to the *Good Hope* in July last. He was educated at St. Bartholomew's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1908, graduating M.B., B.S.Lond. in 1909. He was for a time resident medical officer of the Finsbury General Dispensary, and prosector at the Royal College of Surgeons of England. He was a member of the Rahere Lodge of Freemasons.

Surgeon Fernand Louis J. M. de Verteuil was a Surgeon of the Royal Naval Reserve, and joined the *Good Hope* on August 27th, 1914, having formerly been a surgeon in the Royal Navy. He received his military education in Edinburgh and at King's College, and St. Thomas's Hospital, London. He took the diplomas of M.R.C.S., L.R.C.P.Lond. in 1904, and graduated M.B., Ch.B.Edin. in 1908, and M.D. in the same university in 1909. He belonged to a family well known in the West Indies, and for some time held an appointment in the Trinidad Medical Service. He recently practised at Vancouver, British Columbia, from which place he contributed to our pages articles on the staining of *Treponema pallidum*, on the use of salvarsan in leprosy, and on the site of infection in yaws. He also translated Dr. Maisonneuve's *Experimental Prophylaxis of Syphilis*.

Monmouth.

Staff Surgeon Henry Woods entered the Medical Service, R.N., in November, 1903, and was promoted Staff Surgeon in May, 1912. He received his medical education at University College, Liverpool, and graduated M.B., Ch.B. Vict. in 1903. When the war broke out he was stationed at the Naval Barracks, Devonport, and was appointed to the *Monmouth* on August 1st, 1914. He was the son of Mr. E. Woods, of Preston, and was 35 years of age. He leaves a widow.

Surgeon Albert Joseph Tonkinson joined the Medical Service, R.N., in October, 1913, and was appointed to the *Monmouth* on August 1st, 1914. He was educated at the London Hospital, and graduated M.B., B.S.Lond. in 1911. He was afterwards pathological assistant at the London Hospital, and assistant medical officer, St. John's Hill Infirmary, Wandsworth.

Army.

Since the list of casualties published in our last issue the names of two more officers of the Royal Army Medical Corps appear among the killed, one occurring with the Expeditionary Force and the other in the East African operations. Three officers of the corps have also died of wounds.

Killed.

The tale of the ruthless killing of Captain Angus MacNab, the medical officer of the London Scottish, is told in the letter of a motor cyclist dispatch rider in the *Times* of November 12th. "Their medical officer, MacNab, was actually bayoneted in front of their eyes whilst bending down attending to two wounded men. It was bright moonlight, and he had a white badge and red cross on his arm, and even a blue tunic on, so as to be absolutely unmistakable, and was, of course, without arms of any sort." We may take it this account is a true one, for we have the same details from an independent source. The iniquity of the deed is the worse when it is known that MacNab spoke German fluently, so that without doubt he would have made known to his assailants—if there was any reason left with them—the helplessness of his charges and his own defenceless state.

Angus MacNab was one of the rising opthalmic surgeons of London of the younger generation. He was a New Zealander by birth, and brother of the Hon. Robert MacNab, formerly Minister of Agriculture in that Dominion. He took his arts and science degrees in the University of Otago in 1895–6, thereon migrating to Edinburgh; he graduated in medicine and surgery in that University in 1901. Meantime the South African war had broken out, and he volunteered for service as a civil surgeon, and did excellent work with the Imperial Yeomanry Hospital at Deelfontein, receiving the Queen's medal. Returning to London he studied at King's College and proceeded to the F.R.C.S.Eng. in 1904. He then took up eye work, and after spending some time at Vienna, and for a longer period working with Axenfeld at Freiburg, he started practice in London. His great interest was in the study of the diseases of the cornea, and the results of his researches appeared in a book published in 1906, entitled *Ulceration of the Cornea;* it was a work of distinct originality. Later he did good work in translating Axenfeld's *Bacteriology of the Eye*. As a clinician he was thorough and persistent in his work. He was a regular worker at Moorfields, the Central London, and Charing Cross Hospitals, serving as chief clinical assistant and in other capacities. Recently he had been appointed ophthalmic surgeon to the King Edward VII Hospital at Windsor, and had done special work for the Metropolitan Asylums Board. He leaves a widow and two little children. They are now in New Zealand on account of the health of the younger child. Our sympathies will go out to them.

Killed.

Captain Ernest Mure Glanvill, M.B., received his medical education at the University of Edinburgh, and took the degrees of M.B., Ch.B. in 1901. He had held the offices of assistant house-surgeon at the Devonshire Hospital, Buxton; medical officer to the Casualty Department, East London Hospital for Children, Shadwell; and second assistant medical officer at the Paddington Infirmary. He entered the R.A.M.C. as lieutenant in August, 1903, and was promoted to Captain in February, 1907.

The late Captain Kinkead, R.A.M.C.—We have received from Dr. George E. Nesbitt, Assistant Physician to the Richmond Hospital, Dublin, the following tribute to Captain Kinkead, of whose life and gallant death we gave some account last week (p. 858): To the staff of the Richmond Hospital and the students there eight years ago, George Kinkead was a familiar figure. Coming to us from Galway, he was welcomed for his father's sake, but quickly loved for his own. In the intimate acquaintance with one's fellow-students, which is not the least of the benefits of residence in hospital, he soon endeared himself to all; no one ever had a bad word to say of Kinkead. Keen on his work, popular with his patients, the best of company in the messroom, always ready and obliging when we wanted some one to relieve us of an inconvenient day "on duty," he was bound to make his mark in the career he chose, and for which he was eminently fitted. How little we thought as we parted, our most disagreeable prospect that of a final examination, what the future held in store. Now all we have left is a gracious memory, and a pictured group in which by chance he is the central figure. Though full details are not yet generally known, we may be sure he met his end like a gallant gentleman, responding as ever to the call of duty. To his relatives, who in their sorrow should be proud, we offer deepest sympathy, and such consolation as the knowledge can give that in his life, as in his death, George Kinkead has set before us an ideal we shall strive but cannot hope to compass.

Died of Wounds.

Captain Charles Paget O'Brien-Butler, R.A.M.C., who died on November 1st from wounds received in action, was the elder surviving son of the late Major O'Brien Butler, 60th Rifles. He was born thirty-nine years ago. He obtained the diplomas of L.R.C.P. and S.I. in 1905, and joined the Royal Army Medical Corps in 1907. Though a very good all-round sportsman, he was specially known for his marked ability across country, and won many important races, including the Grand Military Steeplechase, and the Emperor of Austria's cup in the

Pressburg Steeplechase. His ambition was to win the Grand National, but though he rode in the race several times, he never had the good fortune to win it. Five years ago duty took him to India, where he soon became known as one of the best amateurs. During the present war Captain Butler was attached to the 5th Lancers, and we believe was with them when he was fatally wounded. He was a most popular officer, and his loss is deeply regretted by his brother officers and a large circle of friends. Captain O'Brien-Butler was married in 1908, and leaves a widow and one child.

Captain Thomas McCann Phillips, R.A.M.C., received his medical education at Queen's College, Belfast, and took the degrees of M.B., B.Ch., B.A.O., R.U.I. in 1905. After holding the offices of senior house-surgeon and house-surgeon to out-patients at the Royal Victoria Hospital, Belfast, he joined the R.A.M.C. in 1907 as lieutenant; he was promoted Captain in 1911.

Richardson, Lieutenant M., R.A.M.C.

Wounded.

Comyn, Captain K., M.D., R.A.M.C.
Dickson, Captain H. S., R.A.M.C.
Grisewood, Captain A. E., I.M.S.
Irvine, Major F. S., R.A.M.C.
Loughnan, Captain W. F. M., R.A.M.C.
Meaden, Captain A. A., R.A.M.C. (also missing).
Rose, Captain A. M., R.A.M.C. (also missing).
Shore, Lieutenant L. R., R.A.M.C.

Prisoners of War.

Croker, Captain W. P., R.A.M.C.
Dolbey, Captain R. V., R.A.M.C.
Flood, Lieutenant R. A., R.A.M.C.
Holden, Captain C. W., R.A.M.C. (previously reported wounded and missing).
Meaden, Captain A. A., R.A.M.C. (also wounded, previously reported wounded and missing).

Missing.

Butt, Lieutenant J. G., M.B., R.A.M.C.
Mehta, Lieutenant N. M., I.M.S.
Winter, Lieutenant H. G., R.A.M.C.

NOTES.

THE MEDICAL SERVICE OF THE AUSTRALIAN CONTINGENT. THE Australian Expeditionary Force will be a complete unit, and will comprise a full medical department with ambulances and hospitals. The senior officer of the medical service is Surgeon-General W. D. C. Williams, C.B., Director-General of the Medical Service of the Commonwealth military forces, who served in the Soudan and as principal medical officer of the Australian and New Zealand forces in South Africa. Colonel Charles Ryan, principal medical officer Victorian military forces, who served in the Servian and Russo-Turkish wars and through the sieges of Elcona and Eazeroum, and described his experiences in *Under the Red Crescent*, is Assistant Director-General. In addition to regimental medical officers there will be provided for the force one mounted field ambulance, one field ambulance, one clearing hospital of 200 beds, two stationary hospitals of 200 beds each, and two general hospitals of 520 beds each. The hospital equipment is being organized by Colonel Fetherston in Australia, in response to a request from the War Office, and the hospitals will be officered by senior members of the principal hospitals in Australia. The total number of medical officers required is estimated to be about eighty. Mr. Fred D. Bird, surgeon to the Melbourne Hospital, is providing the operating equipment, and the expenses of four nurses for six months. The place or places in which the base hospitals will be established will not be finally settled until the equipment and staff reach this country.

The *Medical Journal of Australia* of October 3rd contains a report of a dinner given at Melbourne on September 19th by the Victorian Branch of the British Medical Association, the Melbourne Medical Association, and the Melbourne Medical Corps to the medical officers attached to the Australian Expeditionary Force. Dr. A. L. Kenny, President of the Branch, was in the chair, and the officers entertained were: Surgeon-General Williams, D.G.M.S., Colonel Ryan, A.D.G.M.S., Lieutenant-Colonel Marshall (N.S.W.), D.A.D.G.M.S., Lieutenant-Colonel Sturdee, Lieutenant-Colonel Sutherland, Major MacKnight Major Hearne, Major F. D. Bird, and Captains Shaw Mathison, Fowler, Black, Houman, Whitford, Hurley, Lind, Quick, Gutteridge, Chambers, Jackson, Nicholas Jolley, Williams, Lewers, and Courtney. In proposing the toast "Our Guests," Dr. Kenny expressed the admiration which all felt for their determination to serve their country and the hope that they would all return unharmed. For the medical man there was no bubble reputation at the cannon's mouth. It was in the long nights and the dreary days with the silent agony or the irrepressible expression of anguish that the surgeon had to do his work coolly and quickly. The cream of the younger members of the profession had joined the forces. Dr. L. J. Balfour, President of the Melbourne Medical Association, and Dr. R. H. Fetherston, Director-General of the A.A.M.C., also spoke. Surgeon General W. D. C. Williams, in reply, said they were going away at the Empire's call and were taking the pick of the profession in the units. There would be over 200 men in the two medical units as well as nearly 3,000 of other ranks, and 100 nursing sisters. The response throughout the Commonwealth had been most gratifying. The Medical Corps was well equipped, so that it could be landed anywhere, and within twenty-four hours or less it could be in active service conditions. The magnitude of the Australian Medical Service would be realized when it was understood what it would supply. Colonel Ryan said he had volunteered because above life and above family ties he placed his duty to his King and country. He knew this would be a fight to a finish, and as to the ultimate result he had no fear. In no army in the world, so far as physique went, could they find a finer body of men than the 6,000 forming part of the Expeditionary Force in camp at Broadmeadows.

MOTOR AMBULANCES. The members of the medical profession in the county of Essex have subscribed a sum of a little over £420, and have purchased therewith, and presented to the War Office for use of the wounded in France and Belgium, a fully-equipped motor ambulance, providing four stretchers for lying-down cases. The subscriptions have been obtained by the various medical officers of health in the county, and a complete list of the donors can be seen at the office of the county medical officer of health. The ambulance will bear a brass plate, on which will be inscribed: "This ambulance was presented to the War Office by the members of the medical profession in Essex, England, November, 1914."

The appeal to the medical practitioners of East Anglia—Norfolk, Suffolk, Cambridge, and the Isle of Ely—issued in October to provide a motor ambulance has met with a generous response. The secretaries, Dr. J. T. C. Nash and Dr. Arthur Greene (4, Theatre Street, Norwich) inform us that the total subscribed to date is £304 5s., and that many donors have promised to increase their contributions if necessary. The subscription list will remain open until the end of this month.

WOMEN ORDERLIES. During the South African war the women who called themselves nurses without having any claim to the title were the cause of many difficulties. When the present war broke out it was the determination of the British Red Cross Society and the Order of St. John of Jerusalem in England that, so far as they were able to prevent it, there should be no recurrence of the trouble. From the very beginning, however, many women have been applying for work as nurses whose only qualification seemed to be a strenuous desire to "do something" for the wounded soldiers. They are women often of an emotional type, and it is to be feared that already some such people have obtained passports, and have wandered abroad, masquerading as nurses, and in all probability wearing the Red Cross badge. It has been dangerously easy up to the present for any woman to go out as a free lance in this way, but recently the Foreign Office has made some attempt—imperfect though it be—to check such action. In order to find useful work for suitable

women the two Societies have arranged for the establishment of a special class of women to help in hospitals in this country or abroad. They will not be able, by any possibility, to consider themselves as nurses, but it is hoped in this way to provide an outlet for their energies. The women will be selected from the Voluntary Aid Detachments of the two Societies, and they will help in the work of the wards, in the kitchens, and in the store-rooms, their designation being that of "women orderlies." In this way the use of the word "probationer" will be avoided and the untrained woman will have no ground for considering herself a nurse for wounded soldiers. A certain amount of training, however, will be necessary, and it will be required that each applicant should have served for a short time at least in a hospital. Those going abroad must have a working knowledge of French. The women orderlies will be drawn from the two Societies in proportion to the number of women in the Voluntary Aid Detachments, and all applications for work will be submitted to the committee of matrons at St. John's Gate.

The Victoria Cross.

Among the nine officers, non-commissioned officers, and men upon whom the King has bestowed the Victoria Cross for conspicuous bravery whilst serving with the Expeditionary Force is Captain Harry S. Ranken, R.A.M.C. The honour was awarded for his bravery in tending the wounded in the trenches under rifle and shrapnel fire at Hautvesnes on September 19th and on September 20th, and continuing to attend the wounded after his thigh and leg had been shattered. Unfortunately, Captain Ranken has since died of his wounds.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LIVERPOOL AND DISTRICT.

Physical Standard of Recruits.

It would appear that the latest accession of recruits to His Majesty's Forces in Liverpool is quite satisfactory from the medical standpoint, and comparatively few rejections on that ground have taken place. Earl Derby, who is now quite restored to health, has been most active in encouraging the youth of Liverpool and its environs to come forward for their country.

Annual Medical Service.

The annual medical service was held on St. Luke's day in St. Luke's Church where the Right Reverend Dr. Elliott, Bishop of Gloucester, preached the sermon. The Bishop of Liverpool read the lesson. The attendance of medical men in military uniform and academic costume was very good. The offertory, devoted to the Royal Medical Benevolent Fund, showed an appreciable increase. This was largely due to the Committee in whose hands the arrangements were, having solicited in their notice of the service donations from those medical men who would be unable to be present.

Committee on Venereal Disease.

The special committee formed by the Liverpool Medical Institution about a year ago, to organize an educational campaign against venereal diseases, has issued two pamphlets setting forth the dangers of these diseases. One of these draws the attention of the soldier in plain and forcible language to the risks he runs in exposing himself to infection, and appeals to his common sense and moral courage to avoid them. It is understood that many thousands of these have been circulated among the recruits now undergoing military training. A course of lectures by medical women to members of their own sex has been instituted, and Mrs. Scharlieb, M.D., M.S., recently delivered an inaugural address on the subject at the Medical Institution. A similar course of lectures to men has been held in abeyance owing to the war.

The Medical Institution.

The Medical Institution opened its session on October 8th with an address by the President, Dr. E. W. Hope, on the progress of public health. The number of meetings has been curtailed, as so many medical men, owing to mobilization and extra work entailed upon those engaged in private practice, would not be able to attend. At the first pathological meeting on November 12th a series of interesting *x*-ray photographs taken from wounded soldiers was exhibited. The majority of the wounds were caused by shell fragments and shrapnel bullets, rifle wounds being quite exceptional. Another interesting exhibit was the tongue and a section of the hoof displaying the lesions of foot and mouth disease—stomatitis epizootica.

MANCHESTER AND DISTRICT.

The Midwives Act in Lancashire.

From a report just issued by Dr. Sergeant, M.O.H. for the county of Lancashire, it appears that with a population of 1,748,000, the midwives' register contains the names of 929 midwives; of these 769 are actually practising, while 160 have temporarily ceased to practise, but may begin again at any time. During the year ending September 30th, 1914, there were 2,542 records of cases in which medical aid had been advised by midwives under the rules of the Central Midwives Board. Of these, 759 were for "obstructed labour, uterine inertia, or requiring instrumental assistance," while 352 were cases of ruptured perineum. Comparing the total cases in which medical aid was sent for with the total of similar cases in the city of Manchester, as recorded in the British Medical Journal of November 7th, it would appear that the county midwives are much more sparing in sending for medical aid than the Manchester midwives. Manchester has a population of about 731,000 as compared with the county population of 1,748,000, but in Manchester the midwives summoned medical aid in 2,596 cases, while the county midwives only advised it in 2,542 cases. The proportion of midwives coming under the head of "bona fide," who are on the county register simply because they were already in practice in July, 1901, is extremely high—namely, 536 out of a total of 929, while in Manchester 80 per cent. of the midwives are properly certificated. In the absence of other causes, then, it would appear as if certified midwives, who may be assumed to know their work best and to recognize danger when it exists, are far more ready to summon medical aid than the older class called "bona fide."

During the quarter ending September 30th certified midwives notified 12 cases of puerperal fever, of whom 5 died, while 17 cases, of whom 4 died, were attended and notified by medical practitioners. Arising out of the cases of puerperal fever charges were preferred against several of the midwives of negligence or failure to comply with the requirements. In the same quarter, 93 cases of ophthalmia neonatorum were reported and all those in the practice of midwives were carefully investigated, and here again a number of midwives were charged with neglecting to comply with the rules, the chief offences being the omission to advise medical assistance.

Owing to the high infant mortality in Lancashire, especially in some of the smaller boroughs, an inspector of the Local Government Board has been sent to visit several districts to inquire into the causes not only of infant mortality but of stillbirths, abortions, and miscarriages. A circular containing a number of questions to be answered was sent to 637 of the midwives in actual practice and replies were received from 491. Of these 402 who had attended 16,250 births, 147 abortions and 506 stillbirths during the year 1913, stated that they had no reason to suspect taking of drugs or use of articles to cause abortion by patients they attended. Sixty-six midwives who reported having attended 4,296 births, 66 abortions, and 184 stillbirths, gave their views with respect to attempts made to procure miscarriage, and their reports have been forwarded to the Local Government Board.

The medical officer of health calls attention to what he considers to be a defect in the method of training midwives adopted by the Central Midwives Board, namely, that the Board allows women to sit for their examination who have received the whole of their training under midwives who are not necessarily trained nurses. Dr. Sergeant suggests that candidates should be compelled to take a course of three or four months' training in a hospital or in some other approved institution, and he advises the Local Supervising Authority to address a communication to this effect to the Central Midwives Board.

WALES.

THE MEDICAL SERVICE OF THE WELSH ARMY CORPS.

CONSIDERABLE progress has recently been made in the organization of the Welsh Army Corps. At the last meeting of the executive committee it was decided that recruits should be sent for training to Rhyl, Llandudno, and Colwyn Bay. The responsible duty of raising and organizing the medical units for the corps has been entrusted to Mr. Lynn Thomas, C.B. The formation has been authorized for the 1st Division of three field ambulances and a sanitary company, in addition to the head quarters staff, and, it is to be presumed, battalion medical officers. Each field ambulance will, in compliance with the new regulations, be provided with seven motor and three horsed ambulances. The St. David's Centre of the St. John Ambulance Brigade has undertaken to provide one of the field ambulances. Altogether Mr. Lynn Thomas will be responsible for raising a personnel of about 1,000.

Correspondence.

OPERATIONS OF EXPEDIENCY ON RECRUITS.

SIR,—I venture, with your kind permission, to draw attention to one way in which our general hospitals could render assistance at the present crisis in the vitally important matter of recruiting.

At the Leicester Royal Infirmary we have recently set aside a ward of twelve beds for the radical cure of hernia, varicose veins, varicocele, hammer toe, and other physical disabilities (removable by operation) responsible under present conditions for the rejection of quite a number of keen and otherwise eligible recruits. Such patients only require, individually, a short stay in hospital, and as they have all expressed their intention to reapply for enlistment on recovery, a considerable addition will be made locally to one or other branch of the service. If this were done in a systematic way in the hospitals throughout the country, I think a considerable result would be achieved.

May I also take this opportunity of respectfully suggesting that some definite instruction should be given from head quarters to medical officers examining recruits not to reject on account of varicocele, except in extreme form, otherwise eligible candidates? The different practice among different medical officers in this matter leads at present to inconsistency and individual disappointment, and prevents a considerable number of healthy and active men from entering the army. It seems a pity to disqualify on the score of varicocele a young man leading the active laborious life of a farm labourer, who, until he applies, is unconscious of any disability.—I am, etc.,

C. J. BOND,
Vice-Chairman and Honorary Consulting Surgeon to the Leicester Royal Infirmary.

Leicester, Nov. 15th.

THE TREATMENT OF WOUNDS IN THE PRESENT WAR.

SIR,—A lady of my acquaintance who keeps rather quarrelsome lapdogs heard that the best treatment for a bite was carbolic acid. Unfortunately she was supplied with the pure liquid carbolic acid, and recently, on receiving a small bite on a finger, she dipped it in the liquid and applied a strip of lint. In about an hour increasing pain followed by fainting drew attention to the nature of the treatment, but, in spite of every attention, the result was gangrene and the loss of half of a very useful finger.

In ophthalmic work the great value of pure liquid carbolic acid carefully applied from the point of a match to septic ulcers of the cornea is universally recognized. In my practice it is in almost daily use, and has superseded the electric cautery. Still, I feel constrained to express the hope that some method for dealing with the infecting micro-organisms may be found which is less expensive to the tissues of the wounded soldier than swabbing with pure liquid carbolic acid.—I am, etc.,

A. RUDOLF GALLOWAY, M.B., C.M., M.A.,
Ophthalmic Surgeon, Major 1st Scottish General Hospital.

Aberdeen, Nov. 14th.

SIR,—In regard to the present controversy concerning the merits or otherwise of using pure carbolic acid for the immediate treatment of a wound which one has every reason to suppose has become infected with pathogenic bacteria, may I relate the following?

When in practice at Bloxham, about ten years ago, I was called to attend a farmer in a neighbouring village, and on arriving there two hours after the summons I found that he had been kicked by one of the farm horses over the front of the knee-joint, and had sustained a severe compound comminuted fracture of the patella; the wound was badly lacerated, and the condition looked most grave, inasmuch as a great deal of the mud and urine-soaked litter from the farm horse's shoe had been carried into the joint. I decided at once to persuade this patient to be taken into the Radcliffe Infirmary, Oxford, twenty miles distant. I proceeded to clean the wound by first removing with forceps all foreign matter that could be so dealt with, then douched thoroughly with water from a kettle which had been placed outside to cool, and finally I spent a long time in thoroughly going over every part of the wound, including the fragments of bone, with pure carbolic acid. The knee was covered with a large dressing of sal-alembroth gauze and wool and a long back splint applied. The patient was removed in an ambulance to Oxford the following afternoon, and was operated upon on the day after his arrival. The result was that he made a perfect recovery. No sign of sepsis occurred; the wound healed by primary union, and a very useful joint was preserved for him. The surgeon who so skilfully dealt with this case, Mr. Whitelocke, I believe, wrote to me to say that for this joint and wound to have remained aseptic was, in his opinion, a most astonishing circumstance.

All through my medical practice, whenever I have received the slightest abrasion of the skin, I have immediately applied pure phenol, with excellent results.—I am, etc.,

GERALD SCHOFIELD.

Chesham Bois, Nov. 15th.

SIR,—It seems to me futile to revive the controversy as to the value of antiseptic or so-called aseptic surgery in connexion with such wounds as are inflicted in the present war. I suppose every surgeon would agree that in lacerated wounds made by bullets and fragments of shells (I am not now writing of wounds made by small calibre bullets) it is essential that organisms gaining access to the tissues must be as speedily as possible destroyed, and it is obvious that the only way to do this in the living tissues is by a chemical antiseptic. As it is likely that at the time they are inflicted they may be infected not only with the ordinary pyogenic organisms, but with such deadly ones as those of tetanus and gas gangrene (probably from earth contamination), we must apply to the wound such an antiseptic as is likely to kill all these organisms, and by choice the one least liable to damage the tissues at the same time. If no antiseptic less destructive of tissue than pure carbolic acid would do this, then it seems to me we should have to use that. But, fortunately, we may have confidence in less destructive agents, but I would venture to suggest that it is not enough just to brush or swab them over the wound, even if this is done on more than one occasion. If the wound is merely swabbed over with a solution of iodine, the serous exudation from the wound may soon wash it away. We all know how the iodine on the skin is washed away by the blood in an operation. I should like to suggest that one very thorough attempt should be made to destroy the organisms in the wound as soon as ever it is possible to do so, which I suppose would be at the time the wounded soldier is removed from the trenches to some temporary ambulance station just beyond the fighting line, and that in this attempt an antiseptic solution should not simply be applied to the wound and the wound then dressed, but that the wound should first be swabbed over with a solution of novocain, and that when this has had time to act all tissues so severely damaged as to be likely to slough (if they could be spared) should be cut away, and then the wound packed with gauze soaked in an antiseptic solution, and that the gauze should be left in the wound for at least ten minutes. I should myself prefer the 1 in 1,000 mercury perchloride in 70 per cent. alcohol which Mr. Leedham-Green has found from bacteriological experiment such a powerful

antiseptic, but no doubt a fairly strong spirit solution of iodine would be a good antiseptic to employ. After the gauze was removed I should swab or irrigate out the wound with saline solution, so that all irritating antiseptic solution was removed. In the case of a wound complicated by fracture, or opening a large joint, or forming a long and tortuous track, it might not be possible to pack the whole wound. Then we should very thoroughly syringe out with the antiseptic solution the part of the wound we could not pack. A gum-elastic catheter is most useful for this purpose. But in some cases it may be necessary to enlarge the wound to thoroughly clean it and apply an antiseptic solution. After the novocain had acted, before the gauze was packed into the wound, the surrounding skin should be cleansed (with ether, and then soap and water, and dried with spirit), and the antiseptic solution on gauze also applied to it while the gauze packing was in the wound. It seems to me that an antiseptic dressing should be used rather than one free from chemical antiseptic. I should myself prefer double cyanide gauze (and, if possible, dry sterilized), for the oozing from the wound may be considerable, and it may not be possible to change the dressing for some time. A considerable thickness of antiseptic dressing would therefore also be indicated.

It may be objected that this procedure would take too long to be carried out at the front, but it would not really take very long if, as would probably happen, several cases had to be dealt with at the same time, for while the novocain was acting in one case, another to whose wound novocain had been previously applied could be cleaned up and his wound packed with gauze, and while his antiseptic was acting another case could be dealt with, so that there would be no waste of time.

The pad of gauze carried by the soldier as a dressing to be applied at the time of injury is, of course, of value, inasmuch as it forms some protection to the wound against the entrance of organisms not already introduced at the time of the infliction of the wound, but water carrying the organisms of tetanus and gas gangrene from the soil, to say nothing of the ordinary pyogenic organisms, can soon penetrate it; and by the time the gauze dressing is applied the wound may be already seriously infected by them—that is, they may have been carried in at the moment the wound was inflicted.

As the length of time the wounded soldier may have to lie in the trench or on the battlefield before the wound can be dealt with by the surgeon is occasionally (perhaps often) considerable, could not he carry a small bottle of antiseptic solution (and also, if possible, one of novocain) and apply it to the wound himself, and then put on the gauze pad? A piece of gauze might be included in the dressing he carries with him, with which he could swab the antiseptic solution over the wound. Even if it did not kill the organisms in the wound, it might at least inhibit their penetration into the tissues. The solution of novocain might be a great boon to him, apart from his attempt to sterilize his wound, and I would venture to suggest that some material such as jaconet or battiste should form part of the immediate dressing, so as to protect the wound from infected fluid which would easily penetrate the gauze alone. The muddy water of the trenches could possibly be excluded from the wound in this way.

And if, on account of the anaërobic character of the more virulent organism, it is an advantage to have the wound uncovered, why, after they have been thoroughly treated with an antiseptic in the way I suggest, should they not be surrounded by a rim of antiseptic dressing to catch the discharge, and have placed over them a light wire frame, like the frame of a mask used for the administration of an anaesthetic? Such a frame could be securely fixed by rubber strapping, and might be just lightly covered with gauze or wool so as to allow access of air to the wound.—I am, etc.,

Clifton, Nov. 16th. CHARLES A. MORTON.

SIR,—Colonel Makins's letter on the way in which wounds are being treated in the present campaign is very comfortable reading for those who have relatives at the front. It shows, at any rate, that Sir Rickman Godlee's dangerous leaflet, if cancelled at once, may not do much harm.

Dr. Cooper's good-natured banter is somewhat beside the mark. My apprenticeship on the subject of wound treatment was served in Mr. Christopher Heath's wards, where I had the opportunity of studying all forms of wound infection from acute septicaemia, fatal in three days, to even hospital gangrene (probably the last cases seen in a London hospital).

Every case, in my opinion, must be treated on its merits and not by any routine; I agree with Dr. Stephens that petrol is the best cleanser we possess, and alcohol perhaps comes next. My practice, especially in hospital work, is as often antiseptic as aseptic, but I must beg Dr. Cooper to realize that, having had thirty years' experience of the properties, chemical and clinical, of pure carbolic acid, I am, at any rate, not an escharotic surgeon.—I am, etc.,

London, W., Nov. 17th. VICTOR HORSLEY.

SIR,—May I be allowed space to beg that no one in his zeal for adopting "new" treatment will add further to the suffering of the wounded by the use of petrol, as advocated by Dr. G. A. Stephens in your issue of November 14th?

It was my lot recently to have to take over charge of a lady in a private nursing home, from whom a pelvic tumour had been removed some three and a half weeks previously. Suppuration had occurred, and the wound cavity had been freely irrigated with petrol until within two or three days of my taking over the case, when, in response to the entreaties of the patient, it was discontinued, and lysol solution substituted. The pain produced by the petrol irrigation was described as agonizing and lasting for twenty-five minutes. The local condition of the patient I can only describe as parlous — a large gaping sloughing central wound communicating with the depths of the pelvis, and suppuration extending in the fascial planes into the flanks, and calling as loudly for free incision as the worst case of extravasation of urine. I shall not readily forget the terror depicted in the poor woman's face lest petrol should again be used.

Huge sloughs shortly came away from three and four inch incisions in the loins and inguinal regions. In short, the petrol appeared to have been as successful in destroying tissue as it was in producing pain. I submit that its use in this way is utterly unjustifiable.—I am, etc.,

W. F. BROOK, Major, R.A.M.C.(T.),
November 17th. 3rd Western General Hospital, Cardiff.

SIR,—The comments on my letter on Antisepsis and Asepsis in War, which you were good enough to publish on November 7th, are on the whole gratifying. I wish all your readers could have heard Sir Watson Cheyne's admirable address on the same subject at the Medical Society on November 16th. It is to be hoped that they will read it with the attention which it deserves.

May I be allowed to add a postscript? It is suggested that I implied that Lister continued to use undiluted carbolic acid for the primary disinfection of compound fractures throughout his practice. I did nothing of the sort. Lister ceased to do so in 1868, using first carbolized oil, 1 part to 4, and then a 1 to 20 watery solution, as is perfectly well known.

What I said and now repeat is that in Lister's early compound fracture cases the wounds were treated rather freely with undiluted carbolic acid without any evil result following. It may be added that in some of these the wounds were very severe.

The fact is that undiluted carbolic acid, if used with circumspection, does not produce extensive sloughing. The slough is superficial, and, from the fact of its being impregnated with carbolic acid, is an unsuitable nidus for the growth of micro-organisms.

This limited sloughing is not to be compared in importance with the extensive necrosis caused by the growth of septic organisms. That is the really terrible thing to occur in a wound; it is not a mere temporary process, but extends far and wide, first amongst the damaged and afterwards amongst the healthy tissues. If the spore-bearing organisms of tetanus and spreading gangrene have not been destroyed, the septic sloughs and discharges afford an excellent medium for their development. How is it proposed to deal with them?

I speak from ample experience of the action of undiluted carbolic acid. I have, for example, used it very often for the disinfection of tuberculous wounds when it has been

impossible to remove the whole focus of the disease, and also after scraping away the sloughs of carbuncles: and I have never seen it produce extensive sloughing. Moreover, as it is a local anaesthetic, its application is far from being so dreadful as some would have us believe.

It is melancholy to hear from many who have been at the front that almost all wounds except bullet wounds become septic. Two questions naturally arise: First, have the present attempts at wound disinfection any reasonable chance of success? Secondly, if they are really conducted on sound principles, must we fold our hands and sadly confess that it is hopeless to try to adapt the antiseptic principle to military practice?

I cannot believe that the answer to the second question is in the affirmative.—I am, etc.,

London, Nov. 17th. RICKMAN J. GODLEE.

AMATEUR WAR NURSES.

SIR,—How is it that trained women—highly trained nurses—are unable to get work at present from the British Red Cross Society, and other women (titled it may be) are allowed to play the part of trained nurses at the expense of our brave soldiers' lives and pain?

Now, Territorial nurses are in nearly all cases selected from the best training schools, being subjected on joining to a further medical examination as to fitness; and by the best training schools I mean those hospitals with over 100 beds where a course of lectures is delivered by the matron and the medical and surgical staff, and in which hospital certificates are issued on the completion of training to those worthy enough showing the work accomplished, the conduct manifested, and the proficiency exhibited in actual examination.

At present, with the war scare, women of any age, healthy or otherwise, are encouraged by press puffing to take a course of ambulance lectures, obtain by paltry examination an ambulance "certificate," don a cap and apron (though they have never seen a patient), parade about the streets (nearly always in indoor uniform), and mystify the general public more than ever as to the true meaning of a trained nurse. In some cases they are even permitted to waste their own time and that of some hospital staff by doing a month's so-called training. These sentimental women, so misguided, actually imagine, in most cases, that they are all prepared and fully ready for the front.

Now what must women who have given years of their lives to hospital work think when they see a uniform (theirs alone by right, and I have no doubt would be so if registration of nurses were only an accomplished fact) put to such a scandalous use? And we have the definite fact that many hundreds of trained women are waiting for work!—I am, etc.,

Whitley Bay, Nov. 10th. N. A. EDDLESTONE, M.D.

NUTRITION AND MEAT EXTRACTS.

SIR,—I have no wish to find fault with Mr. Sohn's reply to my letter which appeared in the JOURNAL on October 24th, though it does not accurately represent the points raised by his own writing on the above subject, or meet my criticism of his views.

My object in writing now is to express a hope that Mr. Sohn may see his way to adopt my suggestion and join the rank of experimental investigators in the field of nutrition. It is a large field where much awaits research and where every assistance would be welcomed. It is also, I think, "up to him" to do so, because a knowledge of the chemistry of foods, though highly essential, is not sufficient to justify a claim to be a reliable authority on the subject of nutrition. He would, moreover, be in a position to test his theories experimentally.

It would be a source of gratification to me and a useful outcome of our correspondence if it ended in this result. Thanking you for your courtesy in publishing my letters, I am, etc.,

Dublin, Nov. 14th. W. H. THOMPSON.

MEDICAL AUTOGRAPHS.

SIR,—The Reading Pathological Society has during many years collected in an album the autographs of distinguished medical practitioners, especially of such as have contributed to the progress of medicine, and are therefore "on fame's eternall bead-roll worthie to be fyled."

Such autographs, especially when accompanied by portraits, form a delightful addition to our knowledge of those personalities who form the *decus et desiderium medicinae*, and possess no small biographical and historical value. Medical societies will find in the formation of such an album a means of cementing the friendships of the living and of perpetuating the memory of those who have passed beyond the veil.

Our collection already contains many interesting specimens of professional autographs, but further contributions (whether of British, American, or foreign origin) will be warmly welcomed.—I am, etc.,

Reading, Nov. 7th. JAMIESON B. HURRY.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN Ordinary Council was held on November 12th, Sir W. Watson Cheyne, President, in the chair.

The late Mr. C. B. Lockwood.

The Secretary reported the death on November 8th, at the age of 58, of Mr. C. B. Lockwood, member of Council, and the following vote of condolence was passed:

That the Council do hereby express their deep regret at the death of their colleague, Mr. Charles Barrett Lockwood, whom they highly esteemed as an accomplished and skilful surgeon, and for whom they entertained the warmest feelings of personal friendship. That the Council also desire to express their appreciation of Mr. Lockwood's services to the College as a member of the Council during the last six years, and their very sincere sympathy with Mrs. Lockwood and her children in their bereavement.

Issue of Diplomas.

Diplomas of Membership were granted to sixty-seven candidates found qualified at the recent examinations.

Mr. William Pearson.

An honorarium and a pension were granted to Mr. William Pearson upon his retirement as Prosector to the College.

The Bradshaw Lecture.

This lecture will be given by Sir Frederic Eve on Tuesday, December 15th, at 5 p.m., the subject being "Pancreatitis."

College Insurance.

The President reported that steps had been taken to insure the College.

Students of Colonial, Indian, and Foreign Universities.

The following resolution was adopted—namely, Clause 4 in the Regulations read as follows:

Members of Colonial, Indian, or foreign universities who shall have passed such an examination or examinations at their universities for the degree of Doctor or Bachelor of Medicine or Surgery as shall comprise the subjects of the First and Second Examinations of the Examining Board in England, and who shall have completed the curriculum of medical study required by the Regulations of the Board, will, two years after having passed such examinations, be eligible for admission to the Third or Final Examination of the Board; any candidates so admitted to examination will be required to pay a fee of twenty guineas; and any such candidates who shall have passed the Third or Final Examination shall, on the further payment of not less than twenty guineas, and subject to the by-laws of each college, be entitled to receive the Licence of the Royal College of Physicians of London and the Diploma of Member of the Royal College of Surgeons of England.

CONJOINT BOARD IN ENGLAND.

THE diplomas of L.R.C.P. and M.R.C.S. have been conferred upon the following candidates who were successful at the final examination in Medicine, Surgery, and Midwifery:

Ahmed Abdel-Al, B. P. Allinson, L. M. Banerji, G. A. Batchelor, W. A. H. N. Bell, W. F. Bensted-Smith, G. A. G. Bonser, W. E. H. Bull, P. H. Burton, S. N. Cohen, G. Cranstoun, H. A. Crouch, J. D. L. Currie, Delphine Gertrude D'Abreu, J. E. Davies, J. L. Davies, J. R. Davies, F. H. Dodd, H. A. Fawcett, H. L. Garson, J. A. Gregory, D. W. Griffith, S. S. B. Harrison, W. C. Hartgill, Mary Isabel Hemingway, A. G. Holman, J. C. Jones, T. R. Kenworthy, G. W. King, L. G. Le Blanc, Helena Rosa Lowenfeld, H. W. Maltby, P. M. Masina, G. W. Maw, P. U. Mawer, J. A. Montgomery, W. H. Nicholls, A. H. Pemberton, A. C. Perry, R. Don Hugo Philip, H. R. Pollock, J. S. Pooley, R. N. Porritt, F. G. Prestwich, N. Purcell, P. H. Rawson, G. S. Robinson, C. W. Roe, W. A. Rogerson, W. H. C. Romanis, P. Sai, Mary Schofield, D. C. Scott, E. W. Scripture, J. H. Sewart, P. de S. Smith, H. N. Stafford, J. F. H. Stallman, R. P. A. Starkie, H. Thomas, J. O. Thomas, W. G. L. Wambeek, J. R. N. Warburton, W. Watkins, T. B. Welch, D. H. D. Wooderson, W. A. Young.

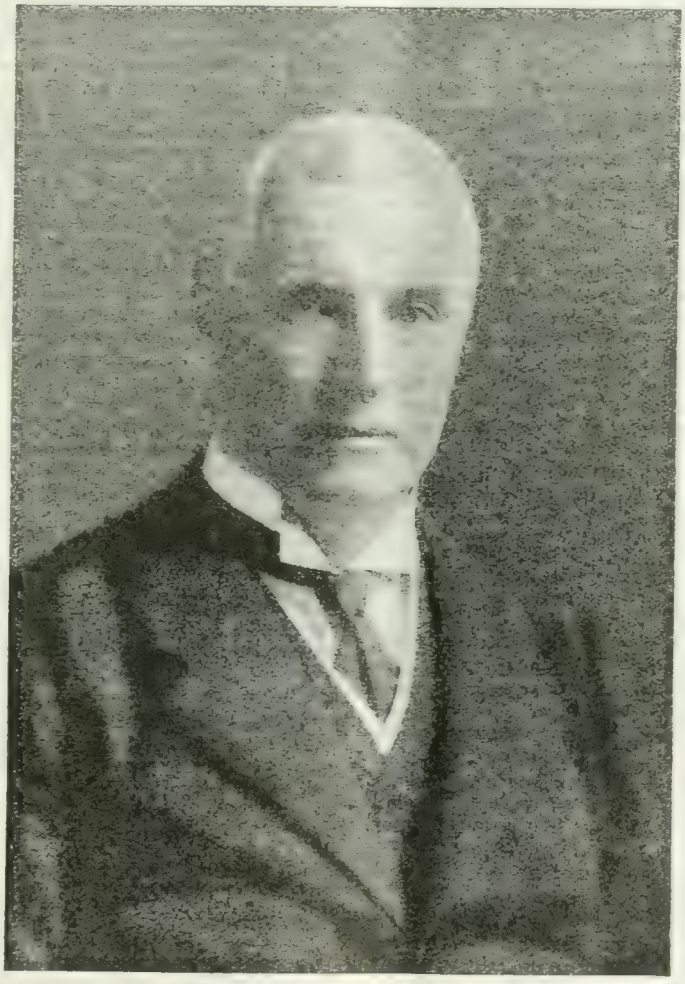
LIEUTENANT ARTHUR KEITH ARMSTRONG, R.A.M.C., who died of wounds on September 15th, left estate valued at £767.

Obituary.

CHARLES BARRETT LOCKWOOD, F.R.C.S.,

CONSULTING SURGEON, ST. BARTHOLOMEW'S HOSPITAL.

The unexpected and early death of a great surgeon must invariably come as a severe blow to those who have worked with him, more especially when the attendant circumstances are of so tragical a nature, as in this case. Here is a surgeon who had spent many years of his life in combating sepsis, who had devoted his talents to the elucidation of the precepts of aseptic surgery, and who had taught on this subject to innumerable sons of St. Bartholomew's and to the whole world; here is such a man finally falling a victim to those very organisms against whose action he had fought so strenuous and so successful a fight. And yet the manner of his death was glorious, typical of the way in which he never spared himself when the life of his patient was at stake. Early in October he was operating on a lady for appendicular peritonitis, a disease on which Lockwood had written so insistently and so thoroughly. The condition of the patient was grave and great speed of execution was demanded, and, in consequence, he pricked his finger when inserting almost the last stitch. He was taken ill the same night and died five weeks later from septicaemia.



Photograph by] CHARLES BARRETT LOCKWOOD. [*Hills & Saunders, Oxford.*

Mr. Lockwood was born at Stockton-on-Tees in 1858, entering St. Bartholomew's when 17 years of age. After taking the diploma of M.R.C.S.Eng. in 1878, he entered the anatomical department, where he soon made a reputation both by his researches on anatomy and by his general teaching capabilities. At this period, though Lockwood was always rather reticent on the subject, it would appear that his life was by no means an easy one. One of his oldest friends writes, "I have seen his career from the struggling demonstrator of anatomy days to the zenith of his fame," and from this, and private information, it was obvious that the fight for supremacy was very strenuous. In this Lockwood was not alone. Sir Henry Butlin, one of his greatest friends, passed through a similar ordeal. Both emerged from the fight with conspicuous success.

When I entered St. Bartholomew's in 1894, Willett, Butlin, and Lockwood were the three surgeons who impressed me most—Willett by reason of his ruggedness, strength of character, and honesty of purpose; Butlin on account of his teaching and wonderful personality; Lockwood through his brilliant wit and striking surgical technique. How little I thought that I should subsequently act as his assistant surgeon for many years and attend him on his deathbed!

In the wards of the hospital he was beloved by his house surgeons and by his dressers. The patients seemed instinctively to know that they had a great man to deal with. His powers of observation were so keen that no malingerer ever escaped undetected. No point in the history of the case was considered too trivial, and no clinical fact was eliminated except after the most scrupulous scientific and pathological investigation.

During the time that he occupied the post of surgeon to the hospital, 1903–12, three assistant surgeons served under him, each of whom considered that no task was too great if by such undertaking they could assist the man for whom they were so ready to work.

Mr. Lockwood was never a society man. He always expressed himself in few words, concise and dogmatic. He loved nothing better in the evenings, after the day's work was done, than that one of his colleagues or friends should drop in for a chat on surgery or fishing. When visited unexpectedly he was always to be found at work, engaged at his correspondence, writing up his cases—every case that he operated on, whether in hospital or in private, whether serious or trivial, was fully noted. Then, again, he was a great author, his main works on *Aseptic Surgery*, *Hernia and Varicocele*, *Appendicitis*, *Carcinoma of the Breast*, etc., being accepted as standard works throughout the surgical world. During the last few weeks of his life he was fully occupied in working up the surgery of *Movable Kidney*, delighted at being engaged in some new methods of treatment. He was always enthusiastic on his subject, and always dogmatic, totally regardless of opposition, confident in his theories and practice. Of his writings, however, I have always thought that his *Clinical Lectures* were most typical of the man—examples of his marvellous powers of observation and attention to clinical details. He often used to tell me that he rather dreaded giving a clinical lecture. He was more nervous when talking to the students than when carrying out the most serious surgical operation.

There is, however, no character in the world that is perfect, and it cannot be denied that his house-surgeons and dressers occasionally experienced difficult afternoons. He suffered from neuritis, and certain exacerbations of this trouble led to some irritability of temper. At such periods his wit, usually humorous, became caustic. The nursing staff also suffered on these occasions, but he has often said to me, "Yes, I know they hate me, but they always come to me when they want advice and treatment." No one in this world could hate him in reality. Such sentiments were impossible, but he was sometimes feared by those who did not know him and who did not fully appreciate the real greatness of his kind heart. His private patients all adored him, full as they were of admiration for his beautiful and powerful features, his great surgical attainments and scrupulous attention to detail. To those who knew him well he was always most loveable, though such a word barely suffices to express one's real sentiments; he was too great a man and too notable a character—veneration more accurately defines one's feelings.

All possible cynical traits, however, were abolished after his marriage seven years ago, and he had three children,

whom he adored. He remained as keen on his work, as unsparing of himself, and as great a teacher. He was more than ever beloved by those who worked under him. The strain of hospital routine began to have some effect upon him, and he retired from active hospital practice in 1912. He meditated leading a quieter life, took a house at Instow, Devon, and there spent as much time as his private practice allowed.

His five weeks of illness were typical of the man. No one knew better than himself the risks that he ran. Those who attended to him were daily asked such questions as demanded a direct answer, and yet which were most difficult to avoid—How many culture tubes had grown, after what duration? What was the blood count, how much albumin in the urine, pulse-rate, condition of lungs, etc.? Now and again there was a day of great irritability, invariably followed by, and more than compensated for, by days of such sweetness of temperament as melted all hearts. After his last operation he knew that the fight was over. He turned his face to the wall and died bravely. L. B. R.

Mr. Lockwood became a Fellow of the Royal College of Surgeons in 1881. He was appointed surgeon to the Great Northern Central Hospital in 1882. In 1892 he was elected assistant-surgeon to St. Bartholomew's Hospital, became full surgeon in 1903, and on his retirement in 1912 was appointed consulting-surgeon. He was Hunterian Professor of the Royal College of Surgeons of England in 1895, and was elected a member of the Council of the College in 1908. He was a member of the British Medical Association, and was secretary of the Section of Anatomy and Physiology of the Annual Meeting in 1888, when it met in Glasgow, and of the Section of Anatomy and Histology when the Association held its meeting in London in 1895. He was a Fellow of the Royal Society of Medicine, of the Medical Society of London, of the Harveian Society of London, and of the Anatomical Society, and had been President of the three last mentioned. The Council of the Royal College of Surgeons, at its meeting on November 12th, adopted a resolution of condolence with Mrs. Lockwood, which will be found elsewhere in this issue; and Sir John Bland-Sutton, in taking the chair at the meeting of the Medical Society of London on November 16th, paid the following tribute to the memory of one of his predecessors in the chair:

"With profound regret we heard of the death of Mr. C. B. Lockwood last week, and the manner of it. Mr. Lockwood served the Society usefully and well in several capacities—as councillor, then zealously as a secretary, Lettsomian lecturer, and finally as an able and untiring President. In a prophetic way he selected as the subject of his Presidential Address in 1908 *The Strain and Stress of Modern Surgery;* he specially referred to the strain entailed on surgeons by modern operations and the risks of infection to which they are inevitably exposed. It is unusually pathetic that Mr. Lockwood lost his life from a wound incurred in the course of an operation for septic peritonitis, as sepsis and wound infection were subjects he had so persistently studied. The Society has lost a devoted Fellow and many of us a charming, talented and warmhearted friend."

A FORMER COLLEAGUE writes:

For seventeen years—1882 to 1899—Lockwood was attached to the Great Northern Hospital. He joined the staff when the institution was struggling for existence in the Caledonian Road, and he left it when its present state of completion at Holloway had been fully attained. When the move to Holloway was made in 1888, a formidable opposition was raised on the part of the local practitioners of the district, who were alarmed at the establishment of a large out-patient department in their midst; but the movement gradually subsided, owing in large measure to the tact and good temper which Lockwood displayed in dealing with the more turbulent spirits. Not only was opposition stilled, but the local profession was ultimately brought by him into friendly co-operation with the hospital by the establishment of the North London Medical and Chirurgical Society. For many years Lockwood worked quietly in the small hospital museum, which was fitted up as a laboratory for him, at the then unsettled question of surgical cleanliness of the skin, and the validity of the conclusions at which he arrived have been universally recognized. To the thoroughness of his surgical work, communicating itself to all who worked with him, a host of colleagues, resident officers, and nurses can bear witness; his published works speak for themselves. Only those who knew him intimately could appreciate to the full his kindly and sympathetic nature, masked, as it sometimes was in early days, by an assumed brusqueness of manner. His memory will always remain fresh in the hearts of those who have been privileged to enjoy his closer friendship.

DR. CHRISTOPHER ADDISON, M.P., writes:

Mr. Lockwood is dead, and I am grateful to be allowed, as a former pupil, to say a word in his honour. His memory will live, not so much in the course and incidents of his career as in the minds of those whom he taught, and in the abiding influence of his example. It is rare to find a man whose theory and practice went so clearly and consistently together as did his. He did not take things for granted, for, although he respected tradition and authority, he was not led by them. He investigated facts for himself, and applied his findings in the practice of surgery logically and without misgiving. He was singularly accurate and painstaking in his observations, and very faithful to the truth as he found it, whether it accorded well or ill with his previous experiences and impressions. His work on hernia is perhaps a classical example of careful and precise observation, and of clear statement of the principles of practice to which they led, but it was probably in his work on aseptic surgery that his character and high qualities were best revealed. With patience and with infinite labour he gradually built up a system of skilled and exact art based on principles truly scientific and carefully acquired. For all his scrupulous care in the examination of essential detail, he always had clearly before him that wider view by which he kept things in their place, recognizing their true proportion and knowing what was immaterial and what was not. In his life and later work all who knew him well could recognize the influence of those earlier and original studies of anatomy by which his reputation was first acquired. It cannot be said that Mr. Lockwood endured fools gladly, for his mind had a wide scope and he was impatient of trivialities. But those who were permitted to enjoy the priceless privilege of his friendship knew well how affectionate and generous his nature was. He showed men how to help themselves and stimulated them to do it. He drew out those who made their best endeavours, pointed out the way, and so gave them an education of the best and most enduring kind. It is a joy to render homage to such a master—a bright example of the best in British surgery, and one whose influence on the lives of those he taught is growing always and reaching out to others, bringing thereby to him that ceaseless and unconscious tribute which is the lasting treasure of greatness.

EUSTACE SMITH, M.D., F.R.C.P.,

SENIOR PHYSICIAN TO THE EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL.

THE announcement that Dr. Eustace Smith died on November 14th will cause very widespread and very sincere regret.

He was born in London on October 24th, 1835, the third son of the Rev. John Henry Smith, vicar of Milverton, Warwickshire. One of his brothers was the late Mr. G. Theyre Smith, the dramatic author. Eustace Smith was educated at Leamington College and at University College, London. He was a brilliant student, and after becoming M.R.C.S.Eng. in 1858 he proceeded to the Fellowship in 1860. He graduated M.B.Lond. in the same year, and M.D. in 1865. He became F.R.C.P. in 1874, and served on the council of the college from 1896 to 1898.

Early in his career he was, through the introduction of the late Sir William Jenner, appointed physician to the Duke of Brabant, afterwards Leopold II, King of the Belgians, and travelled with him in the East, visiting India, Ceylon, and China. King Leopold, whose physician he remained until that monarch's death, appointed him a Chevalier of the Order of Leopold.

The body was cremated on November 18th, and the religious ceremony was attended, in addition to members of the family, by Sir H. Bryan Donkin, Drs. Morley

Fletcher, Graham Little, Arnold Chaplin, A. M. Gossage, and R. Warren, members of the visiting staff of the Shadwell Hospital; Dr. Scott Battams, and the matron, Miss Row.

Sir H. Bryan Donkin writes:

I send these few words of tribute to the memory of Dr. Eustace Smith with a vivid retrospect of an intimate acquaintance with him during the past forty-three years, beginning when he was assistant physician to the Victoria Park Chest Hospital and I was clinical assistant there, and continued through nearly twenty-five years of singularly pleasant colleagueship on the staff of the East London Hospital for Children until his death. I think that he will be more widely and sensibly missed by all who knew him well—friends, colleagues, and patients alike—than most men of our profession who die in their eightieth year. For he was active to the last, visiting the Hospital for Children with the same regularity as ever, and showing but little abatement of the sprightliness of mind and body, or of the keen interest in his work for which he was so noted.

As a colleague he was genuinely liked and equally respected. Throughout his tenure of the office of senior physician at the Hospital for Children, which was prolonged until the end by the repeated request of those with whom he worked, his tact, good sense, and courtesy contributed very largely to that high degree of harmony which has always, and somewhat exceptionally, marked the relations of the members of the medical staff to one another, and of the staff to the board of management. A former colleague of his at the Victoria Park Hospital says that Eustace Smith commanded respect from all who knew him there, and that, just as at the Children's Hospital, both the medical and nursing staffs regarded him as their unchallenged chief, according to him, by consent, a position that he by no means claimed himself. He adds: "One of Eustace Smith's finest qualities was his steadfast friendship—once a friend always a friend—a man had to do something base to forfeit it."

As a practising physician Eustace Smith was a very successful man, and his success was well deserved. After trying general practice for a short time he was recommended by Sir William Jenner as travelling physician to Leopold II, King of the Belgians, and his tour round the world under such conditions enlarged his knowledge, and doubtless gave him the starting-point he desired. His personal qualities contributed greatly to his popularity and to the confidence with which he inspired both his patients and the many medical men who called him in consultation. But, besides this, he was an excellent example of the clinical physician, one of what may now be called the old school. A keen observer of symptoms and their significance, rather than a deeper searcher-out of their remoter causes, he had great belief in pharmacological treatment, and prescribed medicines with the firm trust that they would produce the desired effect. But he was never given to experimenting with drugs as to the effects of which he had not previously informed himself by study. He was a very good observer, especially of the signs and symptoms of disease of the thoracic organs, and was a first-rate stethoscopist; but from his practical insight and knowledge of human nature generally he was often able to learn more from looking carefully at a patient than a less quick-witted man from a prolonged examination. He often said, on being asked why he gave such and such an opinion, "I don't know; but I have seen such things before, and I feel sure it is so." It may perhaps be said that his practice was based on a thoughtful empiricism rather than on reasoned knowledge.

What is known as the "artistic temperament" was strongly marked in Eustace Smith. His annual holidays were usually spent in sketching in water colours; and his work was recognized as of high order. He had also a fine literary taste; and any works of fiction recommended by him were sure to be more than readable. He was widely read in both English and French prose and poetry, and had a specially intimate knowledge of the Elizabethan dramatists. His own style of writing was very easy and lucid; and, although not marked by any special distinction, was far above the average shown in the medical and surgical writings of the present day. Both from their matter and manner his *Treatise on Diseases of Children* and his *Wasting Diseases of Children* gained him a deserved fame which will surely outlive him.

Dr. Alfred M. Gossage writes:

Nowhere will the death of Dr. Eustace Smith be more deeply regretted than in the Children's Hospital, Shadwell. He was connected with other institutions, but the children took up more of his time and thoughts, and, I am sure, excited more of his interest. He joined the staff soon after the foundation of the hospital, and for about half a century was the dominant figure in its working. The reputation he achieved outside, and the example he set within its walls, gradually raised it from very small beginnings to an important centre of paediatric study. While his books and other writings have made his name known all over the world, his colleagues and his house-physicians were the only people who really knew how great a clinician he was. When I joined the staff nearly twenty years ago he was already of an age when most men are preparing to retire from hospital practice, and yet only the other day he was still doing his work in the wards. To us his most striking quality was youthfulness. He looked twenty years younger than his real age, his manner was alert, and he worked with all vigour and enthusiasm of youth. He showed the keenest appreciation of all recent medical advance, and readily availed himself of the assistance afforded to diagnosis by laboratory research, though he deplored the tendency displayed by the younger generation to rely too much on the laboratory to the detriment of the training of their eyes, ears, and hands. It was in physical examination that he excelled, and it was remarkable how his senses never failed him, for during all the time I have known him his hearing remained as acute and his fingers as deft as they can ever have been. He was always ready to discuss diagnosis and treatment, and most of his younger colleagues can recall many a pleasant dispute over cases in the wards, or fertile hints on treatment, illustrated by apposite tales from consultant practice, with which the journey back from the hospital was wont to be beguiled. He made an ideal chairman of the medical committee, and his influence had much to do with the fact that the staff always dwelt together in amity, and that the relations with the lay committee were always cordial.

During the past two years my relations with him were still more intimate as we had worked together for the International Medical Congress and the result was a great increase in my admiration and affection. He made an excellent president and much of the success of the section for diseases of children was due to his being in the chair.

In conclusion, I would like to emphasize that in spite of there being nearly thirty years between the ages of himself and his next most senior colleague we deplore in his death not only the loss of a revered leader but of a very dear friend, and I am sure that the affection of his colleagues was shared by everyone else connected with the hospital.

Dr. Graham Little writes:

Dr. Eustace Smith's name is imperishably associated with the East London Hospital for Children, Shadwell, of which he became senior physician as long ago as 1874. As now the oldest remaining member of the active staff of that hospital I should like to put on record some of the personal impressions left by nineteen years of close association with him. Although he had joined the staff long before some of its present members were born, he retained to the very last—and I came home with him from the hospital only twelve days before his death—a vigorous open-mindedness which the youngest of us might envy, and which accorded well with his singularly youthful appearance. He was delighted when, as often happened, patients who had consulted him some twenty or thirty years earlier, sought him out, and, when confronted with him, insisted that he must be his own son. "When I was a child," such a patient would say, "I was taken to see your father," and "sometimes," said my old friend, "I do not trouble to disabuse them by telling them that it was myself they had seen." It was our custom since I joined the staff to hold an annual dinner of past and present members, of which I had the organization. He was, of course, the permanent president of these gatherings, and

has not missed one of them in nineteen years. Awaiting the arrival of guests at one of these functions, I was standing with Sir Bryan Donkin at the head of the stairs leading to the reception-room. We saw a tall and agile figure bounding up from the foot of the long ascent, taking three steps at a time. "That is certainly Smith," said Donkin; "no one else is as young as that"—and he was right.

If Heckford originated the East London Hospital for Children, Eustace Smith made and established its present great reputation. He loved it like a father. Joining the staff only two years after its foundation, for forty-three years he gave unstintingly of his time and thought and care. His management of committee meetings, both medical and lay, was delightful. I feel sure that there are many other members of the present staff who like myself have felt so strong an affection for "our senior physician" that we have remained members longer than we should otherwise have done were it not for the love of that commanding personality. He was ever ready to help his younger colleagues, whether it might be to put practice in the way of the struggling junior, to help a man in the most unobtrusive and delicate manner to the coveted F.R.C.P., or to place at his disposal his marvellous store of experience. His spirit permeated the entire institution, and every one who has ever been associated with "Shadwell," in any capacity whatever, loves it with a very special love.

He had a very happy and humorous readiness of repartee. He used to narrate with glee a little incident which happened in his attendance on King Leopold of Belgium, whose physician he was up to the King's death. During one of his visits to England His Majesty complained of insomnia, which Eustace Smith treated perfectly successfully with a nightly dose of 15 grains of sodium bicarbonate. The King returned to his own country, and it was only after some considerable period of time that he again met his English physician. When he did so, something like the following conversation ensued: "Do you know, Dr. Eustace Smith, that I showed the prescription you gave me for sleeplessness to my court physician, and he tells me that you ordered me *common* bicarbonate of soda." "But, if I remember right, your Majesty benefited by my treatment." "Oh, yes, it cured my insomnia, but bicarbonate of soda is such a very commonplace drug. My physician was quite surprised at your ordering it for me." "Ah, your Majesty, you will forgive me for reminding you that Naaman the Syrian also objected to the Jordan as too commonplace a stream for his use until immersion in it cured his leprosy." Surely a knock-out reply!

Eustace Smith was immensely pleased with the well-deserved compliment paid to him in his selection to preside over the children's section at the last International Congress of Medicine. But there is reason to think that the fatigue, and especially the disturbance of his very regular habits, entailed by the exuberant hospitality of that festival, first impaired his marvellous vitality. It is a curious coincidence that another most beloved octogenarian of a similar abundant activity—Lord Roberts—died on the same day and very nearly at the same hour. It is not too much to say that to a very large circle of friends and patients something like the same void is made by the death of "our senior physician" as is felt by the nation at large to result from the loss of the great soldier.

DEPUTY SURGEON-GENERAL E. McKELLAR, I.M.S.

DEPUTY SURGEON-GENERAL EDWARD MCKELLAR, J.P., Bengal Medical Service (retired), died at Brighton on October 27th. He was the son of Mr. Dugald McKellar, surgeon, of Battersea, and was born on May 28th, 1827. He was educated at University College, London, and took the diploma of M.R.C.S. in 1849 and the M.D.St. And. in 1870. Entering the Indian Medical Service as assistant surgeon on July 9th, 1851, he became surgeon on December 20th, 1863, and surgeon major on July 9th, 1871, retiring with a step of honorary rank on March 31st, 1877.

He saw much active service, beginning with the second Burmese war of 1852–3, when he served throughout the war with Her Majesty's 30th Foot; he was present at the capture of Martaban, at the operations before Rangoon on April 12th to 14th. He was in medical charge of Major Cotton's force at the capture of Prome in June, 1852, and subsequent operations in its vicinity. He was mentioned in dispatches in the *London Gazette* of August 20th, 1852, and received the medal with clasp. In the Mutiny he served with the Company's third European regiment in actions near Agra on July 5th and October 10th, 1857, in medical charge of Major Montgomerie's force in engagements with rebels near Aligarh on August 24th, with Colonel Seaton's column in the actions of Gangiri and Patiali, and to the end of the campaign with Murray's Jat Horse (14th Bengal Lancers), serving in Colonel Kelly's brigade in Oudh. He was senior medical officer present in the action with the Nana Sahib's troops near Batwa, on the Nipal frontier. He received the Mutiny medal. Ten years later, in 1868, he served with the 10th Bengal Lancers (Hodson's Horse) in Abyssinia, gaining a third medal.

All of his service, with one brief exception, was spent in military employ, and mostly with the cavalry. After the Burmese war he was posted to the Gwalior contingent, with which he remained till 1857, when it mutinied. In the Mutiny he served with the 14th Bengal Lancers. In 1860 he became civil surgeon of Meerut, and in 1861 went on leave to New Zealand. February 9th, 1862, he was posted to the 10th Bengal Lancers. After the Abyssinian war he went to England on long leave. On December 1st, 1872, he was transferred to the 1st Bengal Cavalry (Skinner's Horse), with which he served till his retirement.

DR. JAMES GREGORY MUMFORD, who died on October 18th, was born at Rochester, New York, in 1863 and educated at Harvard where, he graduated in arts in 1885 and in medicine in 1890. He was appointed assistant surgeon to the Out-patient Department of the Massachusetts General Hospital in 1894, becoming visiting surgeon in 1905. In 1896 he became assistant in surgery in the Harvard Medical School, and instructor in 1903. He was a Fellow of the American College of Surgeons and of many other learned bodies. In 1912 he gave up surgery, becoming physician-in-chief of the Clifton Springs Sanitarium, New York. His literary activity was great. He was the author of *Narrative of Medicine in America* (1903); *Surgical Aspects of Digestive Disorders* (1905); and *Practice of Surgery* (1910, second edition 1914). He wrote the introductory historical article in Keen's *System of Surgery*. He also contributed largely to medical journals. Besides these professional works Dr. Mumford was the author of an entertaining volume entitled *A Doctor's Table Talk* which appeared in 1912. In Dr. Mumford the medical profession has lost not only a very able practitioner, but a graceful writer and a most amiable man.

CHARLES GREY WOTHERSPOON, whose death occurred at Musselburgh, Midlothian, on November 4th, at the comparatively early age of 45, received his education at Malvern and at Exeter College, Oxford, where he graduated B.A. in 1891 and M.A. in 1893, showing at the same time capacities which might have won him distinction in any field. He turned to medicine, and took the degrees of M.B., C.M. at the University of Edinburgh in 1899. Thereafter he held the appointment of house-surgeon in the General Hospital, Sunderland; but on the whole his bent was rather away from the practice of the profession of medicine, as was shown by the fact that he accepted a post in South Africa under Nobel's Explosives Company. For reasons of health this work had to be given up, and Dr. Wotherspoon engaged in practice at Birtle, in Manitoba, Canada; but there also the winter strained his already delicate health, and he returned home to this country more or less of an invalid. Complications ensued, which prevented him from resuming practice, and resulted in his death at the early age above named. He was of a kindly and lovable disposition; his friends were few, but devoted, and they and his relatives (among whom is his brother-in-law, Professor Alexis Thomson, of Edinburgh University) mourn his loss. He is survived by his widow.

DR. WILLIAM FENWICK, who died in Rome on October 25th after a short illness, was born at Perth in 1839 and studied medicine at the University of Glasgow, where he

took the degree of M.D. in 1864. He was admitted a Fellow of the Faculty of Physicians and Surgeons of Glasgow in 1872. Of the forty-four years during which he was engaged in active professional work, thirty-three were spent in a large general practice in the south side of Glasgow. In 1897 he left Scotland and settled in Rome, where, although he gave up practice six years ago, he remained to the end of his life. While a student he worked in the old Glasgow Infirmary as dresser under Lister, for whom he retained unbounded love and admiration. At the Lister dinner in London in 1907 he and the late Dr. Ramsay occupied the places of honour on Lister's right and left, being the only survivors of that time who were present. Dr. Fenwick had greatly endeared himself by his kindliness of disposition and genial manner to the British colony in Rome, and he will be much missed on account of the great interest he showed in all matters affecting its welfare, and of the capacity and common sense he always brought to bear on whatever he took in hand. He was a very old member of the British Medical Association. He leaves a widow.

Colonel Harry Strickland McGill, Army Medical Staff (ret.), died on October 20th. He was the only son of the late Captain William Strickland McGill, of the 79th Cameron Highlanders, and was educated in Dublin, where he took the L.R.C.S.I. in 1880, and the L.R.C.P.I. and the L.M. of the Coombe Hospital in 1881. He entered the army as surgeon on July 29th, 1882; became surgeon-major on July 29th, 1894; lieutenant-colonel on July 29th, 1902; was placed on the selected list from September 17th, 1908: and promoted to colonel on June 8th, 1912. He was placed on half-pay on December 4th, 1913, and retired so recently as July 8th last. During his service he devoted much attention to sanitary matters, taking the D.P.H. at Cambridge in 1887, and the diploma in tropical medicine and hygiene there in 1906. He filled the post of Assistant Professor of Pathology in the Army Medical School, Netley, for some time, and was at one time sanitary officer with army head quarters in India. During his last tour of Indian service, from 1906 to 1911, he commanded the station hospitals at Poona and at Secunderabad successively. His war services comprised Burma, 1887–89, medal with clasp; Chin-Lushai expedition on North-East frontier of India, 1889–90, clasp; Burma, 1890–92, clasp; the Isazai campaign on the North-West frontier of India in 1900; and the China war of 1900, medal.

Public Health AND POOR LAW MEDICAL SERVICES.

URGENCY ORDERS.

M.—The giving of a medical order is legally at the discretion of the relieving officer, but where "urgency" is alleged he would be unwise to take the responsibility of refusal at any hour of the day or night. Quite recently a circular was issued by the Local Government Board specially enjoining that there should be no delay in granting medical orders in the first instance, so that a relieving officer's statement that "he has no option in these cases" is in the circumstances practically correct. This has always been a grievance to Poor Law medical officers, as many of the cases for which "urgent" orders are issued are found to be trivial. It is, however, held that it is only by general arrangements of this kind that the occasional serious cases can be safeguarded.

Medico-Legal.

ACTION UNDER THE APOTHECARIES' ACT AGAINST A HERBALIST.

An appeal was heard by the Divisional Court of the King's Bench Division on November 2nd from a judgement given by the Deputy County Court Judge of Worcester on May 13th, 1914, in favour of the society against the defendant for having acted and practised as an apothecary in breach of S. 20 of the Apothecaries' Act, 1815. It appeared that the defendant, Burden, kept a herbalist's shop in the city of Worcester. In August, 1913, he was consulted by a Mrs. Rosina Daniels, who was ill. He attended her, stating she was suffering from an internal abscess, prescribed for and gave her medicine, and remained in attendance upon her up to the date of her death on February 6th, 1914. At an inquest subsequently held upon Mrs. Daniels it was shown by the medical evidence that she died of kidney disease. Upon the facts being brought to the notice of the society proceedings were instituted against Burden in the Worcester County Court, and judgement was given for the society for the statutory penalty of £20 and costs. The defendant appealed against this decision. The court, after hearing counsel on both sides, dismissed the appeal with costs, and refused leave to appeal further.

Medical News.

Dr. W. Collingridge, late Medical Officer of Health City and Port of London, was on November 17th called to the Bar as a member of the Honourable Society of Gray's Inn.

Their Majesties the King and Queen graciously sent a message of sympathy to Dr. and Mrs. Cuthbert, North Queensferry, on the loss of their son, Henry Kenmore Duff Cuthbert, Mid. R.N.R., who died in action on the Chilian coast on H.M.S. *Good Hope* on November 1st.

Since the outbreak of war the Public Health Department of Poplar Borough Council, through the medical officer of health, Dr. F. W. Alexander, has been arranging for the visitation of cases of expectant maternity amongst the wives of soldiers and sailors serving with the colours. In view, however, of the issue by the Local Government Board of suggestions for the administration of the parliamentary grants in aid of provision for maternity and child welfare in respect of the general population the scope of the Poplar scheme is to be somewhat extended, so that local associations taking part may be entitled to share in the Government grants. The Poplar Infant Care Association, the School Care Committees, and the College of St. Katharine, which is now established in the borough, have agreed to co-operate with the borough council in visiting suitable cases both before and after the birth of the infant, continuing until school age is reached. The School Care Committees will forward to the Public Health Department the names of mothers expecting to be confined, a card index will be maintained, and the cases distributed to the voluntary associations according to locality. Midwives practising in the borough will be asked to co-operate by sending the names of suitable cases for visitation. The borough council has asked the Local Government Board to make diarrhoea a notifiable disease during certain months of the year.

In a lecture on the after-care of mental defectives, delivered by Miss Evelyn Fox at a meeting of the Child Study Society held on Thursday, October 29th, at the Royal Sanitary Institute, she said that with the passing of the Mental Deficiency Act the State had for the first time formally recognized the fact that mental defectives were entitled to its protection. The feeling, which seemed to be widespread, that the Act so far had done little or nothing towards improving the status of the mentally defective, was probably due to the fact that under its provisions a large section of those mentally deficient children who had hitherto remained in their own homes were now eligible for admittance into institutions, and that as yet there were not a sufficient number of these establishments to receive them. If the Act worked properly the larger proportion of defective children would in time be placed under restraint. The only way of dealing effectually with the "higher grade" defective was by establishing an efficient system of after-care, by means of which the defective child on leaving school would be well looked after and prevented from losing ground or drifting into bad habits. The value of a systematic system of visiting by persons of skill and knowledge was very great, and should not be confined to the ex-pupils of special schools. The society hoped to see the foundation all over the country of voluntary associations, including every kind of social worker, whose object would be the care of defective children who had not attended special schools. They should possess "observation homes," where difficult borderland cases could be watched in order to discover whether they were capable of profiting by a period of training in some home or institution, or whether they were only fit to pass the rest of their lives under restraint. One such association had just started an "occupation centre," where children who had left school and were unfitted for ordinary work were kept employed for several hours every day; this not only kept them out of the streets, but relieved their families of what was sometimes a very heavy burden. A number of such centres started in connexion with special schools would enable a large proportion of these children to remain in their own homes and prevent the overcrowding of institutions.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2651, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

POST-SCARLATINAL RHINORRHOEA.

T. W. J. asks for suggestions as to the treatment of sore nostrils and persistent rhinorrhoea in patients convalescent from scarlet fever, and any non-operative measures they may have found of value in otorrhoea of the same nature.

PULMONARY TUBERCULOSIS IN IRELAND.

DR. CLIPPINGDALE writes: The late Primate of Ireland, the Right Rev. Dr. Alexander, used to say he remembered consumption being imported from England into Ireland where it was at first known as "The English Cold." Is there any medical corroboration of the Primate's statement? Dr. Alexander was born in 1824.

ADHERENT PLACENTA.

FORWARNED writes: I attended Mrs. G. in her second confinement at the end of July, 1913. Her first confinement occurred in 1908 and was in her opinion normal. She first came under my observation in 1911, and was suffering from dysmenorrhoea and metrorrhagia dating shortly after her confinement. There was a doubtful history of an early miscarriage at the beginning of these uterine troubles. She was curetted in February, 1912, and some improvement in the uterine functions followed. She became pregnant at the end of 1912, and her delivery in 1913 was complicated with total and very adherent placenta. Menstruation recurred in due course and she menstruated normally for several months. She is again pregnant (three months) and feeling quite "fit." I would be glad to obtain some opinion as to the likelihood of an adherent placenta again complicating her coming accouchement.

ANSWERS.

PHARMAKON.—The only way to prepare a solution of novocain which will keep indefinitely is to sterilize it after making. This may be done by boiling for two or three minutes in a vessel the neck of which is plugged with cotton wool, the plug being afterwards left undisturbed, or by filling small vessels with the solution, sealing or otherwise closing them, and immersing for some time in boiling water. If the solution is kept in bulk it must be re-sterilized after each time it is exposed to the air. Novocain hydrochloride undergoes no decomposition when boiled, provided the glass of the vessel does not yield any appreciable alkalinity to water. The dose depends very much on the purpose for which it is wanted; the largest doses recommended are 4 grains in about two or three ounces of physiological salt solution with adrenalin, for infiltration anaesthesia, and up to 8 grains internally.

LETTERS, NOTES, ETC.

3RD HOME COUNTIES FIELD AMBULANCE.

LIEUTENANT-COLONEL G. A. EDSELL, Officer Commanding the 3rd Home Counties Field Ambulance, writes to say that his unit is in want of medical officers both for active service and for a reserve unit to be formed at once. Medical men can join as lieutenants either for the period of the war, when they get £20 to furnish themselves with uniform, or as Territorial officers for four years, when they receive £40 for their uniform, etc. Applications should be addressed to Lieutenant-Colonel Edsell, R.A.M.C.(T.), 3rd Home Counties Field Ambulance, Morn Hill, Winchester.

WILLIAM LANGLEY MEMORIAL FUND.

DR. J. P. FAGAN (P.M.O., Northern Nigeria (ret.), London) writes: A year ago you were good enough to announce in the JOURNAL that my bankers (Sir Chas. R. McGrigor, Bart., and Co.) would receive subscriptions from members of the West African Medical Staff to the above fund. I now beg to state that the sum of £47 5s. 9d. was thus collected and has been transferred, with a list of subscribers, to the Bank of British West Africa, Leadenhall Street, E.C., for the credit of the main fund which is under the control of the Committee at Lagos, Nigeria. I understand that the fund will be disposed of as follows: (1) A brass tablet in the Colonial Church at Lagos in memory of Dr. Langley. (2) A gold medal to be competed for at the Schools of Tropical Medicine. Thanking you for your courtesy in this as in all other matters connected with the West African Medical Staff.

ENLARGED NON-MALIGNANT PROSTATE.

DR. JOHN J. GRACE (London) writes in reply to "M. B." (BRITISH MEDICAL JOURNAL, November 7th, p. 820), who asks for information as to non-operative treatment of case of enlarged non-malignant prostate. The static-wave current, applied with a rectal electrode, is very useful in a large proportion of cases, those, that is, that are due to congestion and hypertrophy. Where there is a fibroma the *x* ray is also required. The treatment is not at all painful, and an average number of sittings required would be twenty.

COMMISSIONS IN THE R.A.M.C.

LIEUTENANT-COLONEL JOSIAH OLDFIELD (R.A.M.C.(T.), Officer Commanding, 3rd Reserve East Anglian Field Ambulance, Drill Hall, Walthamstow) writes: I shall be happy to hear from any medical man who wishes to obtain a commission. There will be vacancies shortly in Field Ambulances earmarked for foreign service, as well as in the Reserve Field Ambulance for Home Service. There will also be vacancies in combatant units for regimental medical officers. For a man who wishes to go abroad, or who wishes to become a regimental medical officer, it is always advisable that he should, as soon as possible, become attached to a field ambulance for training. I shall be happy to give facilities for training to any medical man who is waiting for a commission so long as my unit is posted in London, and shall be glad to help and advise any one in difficulties as to how best to obtain just what he wants.

ALVARENGA PRIZE.

THE next award of the Alvarenga prize by the Philadelphia College of Physicians, amounting to about 250 dollars (£50), will be made on July 14th, 1915. Essays intended for competition may be upon any subject in medicine, but must not have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English translation, and must be received by the Secretary of the College on or before May 1st, 1915. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper, and within the name and address of the author. The successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga prize for 1914 has been awarded to Dr. H. B. Sheffield, of New York, for his essay on the fundamental principles involved in the use of the bone-graft in surgery.

INSECTS AND WAR.

DR. WM. BRAMWELL (Liverpool) writes: In view of the interesting papers by Dr. Shipley at present appearing in the JOURNAL, I may call attention to a passage in Xenophon's *Anabasis* (iv, 8, 20, 21). The following, though not a strict translation, will, I think, give the gist of the meaning: "And swarms of bees were there in abundance, and those of the soldiers who ate of the honeycombs became delirious and vomited, and it went through them downwards. And no one was able to stand upright. But those who had eaten a little were like men violently inebriated, while some who had eaten much were like mad men, but others were like men in the grip of death. And they lay as many as if there had been a defeat, and there was great mental depression. No one, however, died, but on the following day somewhere about the same hour their senses returned to them. And on the third and fourth day they got up again as if from a course of medicine."

CHLOROFORM ANAESTHESIA AND CARDIAC FIBRILLATION.

DR. H. G. JOHNSTON (Jamaica, West Indies) writes: Referring to Professor MacWilliam's address on "Cardiac Fibrillation and its relation to Chloroform Anaesthesia," published in the September 19th issue of the JOURNAL, I would note that about twelve years ago, acting on the theory then believed that sudden respiratory and cardiac failure in dogs when under chloroform was due to an "inhibitory" action of the vagus, I used small doses of atropine hypodermically before beginning the chloroform in operating and experimenting on several dogs, and found that, although the chloroform was given by the ordinary open method with very indefinite and irregular dosage, respiration and cardiac action were in each case perfectly regular and uninterrupted.

I would be glad of any comments those better informed than myself may make on this.

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THE WAR AND TYPHOID FEVER.

An Address delivered before the Society of Tropical Medicine and Hygiene, November 20th, 1914.

By SIR WILLIAM OSLER, Bt., M.D., F.R.S.,
Regius Professor of Medicine in the University of Oxford.

I.

From the days of Homer, Apollo, the far darter, has been a much more formidable foe than his colleague Mars. With the two in conjunction unspeakable woes afflict the sons of men. In his great strait David, you remember, chose three days of pestilence as the equivalent of three months' military disaster. To-day the front of Mars is wrinkled, the world is at war, and the problem for the children of Aesculapius is to keep grandfather Apollo from taking a hand in the fray. In this game another member of the family, Hygeia, holds the trump card and gives victory to the nation that can keep a succession of healthy efficient men in the field. The Empire is confronted with a great task, in the successful performance of which the medical profession may play a leading part. For generations the health of the army and navy has engaged the attention of the very ablest men in our ranks. Let me quote a sentence written in 1765 by Gilbert Blane, a pioneer in sanitation, and as true to-day: "The great importance of the subject (that is, prevention) will plead my excuse for again calling to mind that such attentions are not only dictated by humanity, but would be the greatest wisdom in an economical and national light, considering how expensive it is to *replace* men and to support invalids, not to mention that it is upon the health and lives of men that every public exertion essentially depends, and upon which even the character of officers in the day of battle may depend."[1]

Of the camp diseases, typhus, malaria, cholera, dysentery, and typhoid fever, it is a reasonable hope that the armies of the West will escape the first three. Dysentery is pretty sure to cause trouble; but with regard to enteric fever we are on trial as a nation and as a profession, in what way it will be the object of this address to show.

The nineteenth century saw the discovery of the cause of typhoid fever, the recognition of its transmission through polluted water or milk, and the enforcement of sanitary measures, which have caused a steady and gratifying reduction in its prevalence. Those of us brought up upon the writings of Simon, Buchanan, Budd, and Murchison, and convinced of the truth of the water-borne and milk-borne theories, were often confronted with epidemics in schools and barracks and private houses in which it was not possible to trace the infection to either of these sources. Yet experience lent little support to a doctrine of direct contagion. There was some other factor. Even with the purest supply of water and of milk cases would crop up and local outbreaks occurred. Within the past ten or fifteen years we have not only filled gaps in the etiological picture, but we have added so many details to the picture that the canvas is approaching completion. Let me dwell upon four points in our new knowledge.

1. *The Importance of the Individual Case as a Factor in Infection.*

Though the infectiveness was recognized, only within the past decade have clinicians made it an essential feature to completely sterilize the dejecta, urine and faeces, and to avoid all possible contamination about the patient. As in surgery, we have changed the antiseptic to an aseptic battle, and nowadays the physician feels as keen a duty to keep the surroundings of a patient sterile as to treat his symptoms.

This in itself is a great gain, as the possibility of the abolition of the disease is a problem of the sterilization of the individual cases as they occur. I cannot here enter into the question of the methods of conveyance, but it is sufficient to say we have recognized fingers and flies as two of the chief, and the special liability in houses and wards of food contamination.

2. *Recognition of the Protean Character of the Disease.*

Not only are there differences in the germ that causes the clinical picture of typhoid, but the clinical picture itself varies from the textbook standard very much more than was dreamt of by Louis, Budd, Flint, or Murchison. A transient febrile attack, a slight diarrhoea, bronchitis, acute nephritis, an attack of pneumonia, cholecystitis, acute pyelocystitis, may be a manifestation of the infection. In endemic areas mild, indefinite illness in children may be due to the typhoid bacillus. The organism, indeed, may lodge and live in an individual without ever causing symptoms, and then acutely excite an illness without a trace of resemblance to the disease we usually associate with its name. One of the first cases in which this was recogized I saw with Dr. Cushing in Dr. Halsted's wards—a woman, aged 26, who had a clean bill of health except for occasional attacks of abdominal pain and vomiting. It was evident at the time of examination that she had an acute cholecystitis. Dr. Cushing removed fifteen large gall stones; pure cultures of the typhoid bacillus were isolated from the mucous contents of the bladder. Here was a woman who had never had, so far as could be ascertained, typhoid fever, and yet she had probably had for years the organism in her gall bladder, which had ultimately caused the formation of the stones. This case, at the time unique, is no longer so. In the Spanish-American war, and in the South African war, there were an extraordinary number of mild ambulatory cases, which in the former were frequently reported as malaria. In public health work it is all-important to recognize these mild atypical cases. Dr. Chalmers, in the Health Report of the City of Glasgow for 1913, calls attention to the simulation of enteric by mild pneumonia and by intestinal catarrh. Eight cases of enteric appear to have originated from an undetermined case of the latter in a child.

3. *The Discovery of Typhoid Carriers.*

Briefly stated, in from 1 to 3 per cent. of cases of enteric fever the bacilli do not disappear from stools or urine. The patient becomes a chronic carrier and a possible menace to the community. It has been estimated that, in countries in which typhoid fever prevails, the typhoid carriers number from 2 to 3 per 1,000. Infectivity may exist for years, and scores of small epidemics have been traced to carriers. How persistent the infection may be, and how difficult to get rid of, is well illustrated by the case studied for the past five or six years by Davies and Walker Hall of Bristol. The patient had enteric in July, 1905, and eight instances of infection had been traced to her. The special interest in the case is the careful study of the different plans of treatment and the variability of the presence of the organisms in the urine. They were also isolated from her blood five years after the original attack.[2] The relation of the carrier to public health is of vital importance, particularly the question of the detention of notorious carriers who follow dangerous occupations. The New York Board of Health was judged to be within its rights when an action was brought against them for the illegal detention for three years of the celebrated "Typhoid Mary." Carriers should not follow the occupation of cooks, butchers, grocers, as the fingers deposit bacilli on everything they touch unless scrupulous attention is paid to cleanliness after defaecation. The good effect of precautionary measures in the case of chronic carriers is illustrated by the report of Lentz from the Oberstein district.[3] For ten years the disease had been endemic, and then a systematic attempt was made to discover the carriers, of whom six were found in 1894, two in 1897, and one in 1898. They were practically all mothers with large families. It was impossible to enforce vigorous methods of isolation, so that repeated warnings were given, and instructions as to scrupulous cleanliness, particularly after defaecation, never to touch an article of food without a systematic washing of the hands, and having their underlinen carefully sterilized. The fever in the district has practically disappeared.

4. *Immunization.*

Lastly, and the most important point of all, is the discovery of immunization against the disease, for which we

are indebted to the brilliant investigations of Sir Almroth Wright. The net result of the enormous amount of work which has been done since the publication of his first paper—September, 1896—is that, for a time at least, man may be immunized safely and surely. It is only by the statistical method that we are able to judge of the results of the practice. While in a way this is unfortunate, as figures have an extraordinary mobility as manipulated by different individuals, still, as practical men, we have to use them and to form judgements by their help. The new iatro-mathematical school of Karl Pearson and his scholars have made the profession cautious in drawing results from statistics; but in the matter under consideration the figures are, I believe, trustworthy. I will only give a few, the more important.

For many years the death-rate from typhoid fever in the United States has been very high. The disease prevails widely in the country districts. During 1912 it was 16.5 per 100,000 of the population—the lowest for many years. Antityphoid inoculation was voluntary in the U.S. army from 1909 to part of 1911; it was made compulsory in part of 1911 and in 1912 and 1913. Major Russell's last report, dated May 2nd, 1914,[4] gives the following figures:

Typhoid Fever, 1907 to 1913, for the whole Army, Officers and Enlisted Men, American and Native Troops.

Year.	Mean Strength.	Cases. No.	Cases. Ratio per 1,000 of Mean Strength.	Deaths. No.	Deaths. Ratio per 1,000 of Mean Strength.	Per-centage of Total Cases.	Occurring Among those who were Vaccinated. Cases.	Occurring Among those who were Vaccinated. Deaths.
1907	62,523	237	3.79	19	0.30	8.0	—	—
1908	74,692	239	3.20	24	0.31	10.0	—	—
1909	84,077	282	3.35	22	0.26	7.8	1	0
1910	81,434	198	2.43	14	0.17	7.1	7	0
1911	82,802	70	0.85	8	0.10	11.4	11	1
1912	88,478	27	0.31	4	0.044	14.8	8	0
1913	90,646	3	0.03	0	0.0	0.0	1	0

Major Russell states that no harmful effects have been produced. The newspaper reports of death following antityphoid inoculation in the United States have been shown to be erroneous. In the case of Private Pantzer, of the National Guard, Brooklyn, death was shown to be due to malignant endocarditis, and in no way the result of inoculation.[5] The value of these results must be taken in connexion with the fact that in many places the barracks are situated in districts in which typhoid fever prevails. In 1911 and 1912 there was a concentration of many thousands of United States troops on the Mexican border in localities quite as favourable to the spread of enteric as in the Spanish-American war.

Apart from vaccination, there has been in all armies a reduction in the number of cases of typhoid fever; thus, between 1882 and 1909 the incidence in the Prussian army dropped from 6.7 per 1,000 to 0.4, while in the same years in the French army a reduction from 16.6 to 3.4. But the special value of the experience of the American army is the remarkable drop in the case incidence which followed antityphoid inoculation without special change in the sanitary environment of the troops. An interesting comparison is reported[6] of two divisions stationed in nearly the same latitude for about the same length of time each on a good site, with artesian water of unimpeachable purity. In the one at Jacksonville, Florida, in 1892, among 10,759 men there were 1,729 certain cases, probably 2,693 (the question of diagnosis of typho-malaria, etc.), with 248 deaths. At San Antonio, Texas, in 1911, among 12,659 men, all inoculated, there was one case of typhoid fever, and no death. In France the results appear to be equally satisfactory, and there is no country in which measures of protection are more needed, as during the past twenty years among the French troops in France there have been 66,000 cases, with 10,000 deaths.[7] Professor Vincent reported to the International Medical Congress last year that among 30,325 vaccinated men no case occurred, while in the unvaccinated the case-rate was 2.22 per 1,000 in the metropolitan troops and 6.34 in the colonial. Specially good results have been met with in Algiers and Morocco, where the inoculation is compulsory, and the incidence per 1,000 has fallen from 15 to 5. A striking illustration is reported from Avignon by Paget in a recently issued Research Defence Society pamphlet. Out of 2,053 men 1,366 were protected and 687 were not. The non-protected had 155 cases with 21 deaths; the protected had not a case. The Italian experience in Tripoli shows that the incidence of the disease among the unvaccinated was 35.3 per 1,000, while among the vaccinated the incidence for those inoculated once was 1.34 per 1,000, for those inoculated twice 1.65, and for those inoculated three times 0.49. The most careful study of the statistics for the British army are those presented in the report of the Antityphoid Committee, 1912. "The histories, as regards typhoid fever, of 19,314 soldiers, whose average period of service abroad was twenty months, were carefully followed, and every precaution possible was taken to verify the diagnosis bacteriologically. Of this number 10,378 were inoculated and 8,936 not inoculated. The case incidence of typhoid fever among the inoculated was 5.39 per mille, and among the non-inoculated 30.4 per mille.

"There is no reason for supposing that this difference can be attributed to a want of homogeneity between the two groups. The age distribution among inoculated and non-inoculated was approximately the same. They were intermingled and lived under identical conditions."

The profession is greatly indebted to Sir William Leishman and his colleagues, Harrison, Smallman, and Tulloch, for the good work they have done in connexion with this subject.

Symptoms following Inoculation.

As in this country the practice is voluntary, and as in certain quarters opposition has been offered, I have thought it well to collect data of any untoward effects, and I have to thank many correspondents who have replied to my note in the BRITISH MEDICAL JOURNAL of October 10th. In the first place it may be stated that with ordinary care and precautions large bodies of troops may be successfully inoculated with extraordinarily little discomfort or disability. Colonel Hodgetts has kindly given me the figures of the recent inoculations of the Canadian contingent, some 31,000 strong, made under his supervision in the camp at Valcartier in the Province of Quebec. Of the total number only one had a local abscess at the site of injection, and there were no serious sequelae. This may be said to be an exceptionally good record. The inoculations in this country during the past three months have been on a larger scale than ever before attempted, and considering the enormous number—several hundred thousand—the serious sequelae have been very few. We may group the symptoms as follows:

1. A varying proportion no symptoms, other than a little headache or malaise, with slight redness and swelling at the point of inoculation.

2. A large proportion run a normal course of what may be called the inoculation fever, which has many resemblances to the so-called serum sickness. The temperature rises within ten or twelve hours, sometimes with a slight feeling of chilliness, and vomiting may occur. There are headache, fugitive pains in the back and joints, sometimes abdominal tenderness, and for twenty-four or thirty-six hours the patient may feel very badly. In mild forms the temperature rises to 101° or 102°; in the more severe to 103° and 104°, or even higher. Sometimes there is diarrhœa; in other cases, perhaps in the majority, there is constipation. Giddiness and fainting are reported, and one physician within the first ten days had curious nervous symptoms, feelings of apprehension, and a transient state of neurasthenia. He felt inability to control his muscles, and dreaded lest he should be unable to avoid some impulsive act. There was a slight mental disturbance, and he had what he called "dreadful feelings," and had difficulty in forcing himself to do the simplest acts. In the North Midland Division, among nearly 16,000 inoculated, a man, two days after inoculation, had marked mental symptoms suggestive of confusional insanity, which, fortunately, passed away. I saw with Dr. Collier an officer whose case was very fully reported to us by Dr. Joyce of the 4th Royal Berkshire Regiment. He was

inoculated on September 14th and, after the usual slight local and general symptoms, on the 17th the temperature was normal. On the 18th he had giddiness, and on returning to his billet when the door was opened he mistook the parlourmaid for the colonel, and raising his hand to the salute overbalanced and fell unconscious. He had a few days' leave, and some weeks later had several giddy attacks. He got quite well.

Heavy exertion and exposure within twenty-four hours after inoculation may be followed by sharp general symptoms. In connexion with the abdominal pains that may occur, it is interesting to note that Professor Boyd of Winnipeg, now associated with the 3rd North Midland Field Ambulance, reports two cases (admitted on the same day) with appendicitis—one on the third day after inoculation, the other within twenty-four hours. Both had acute perforation. There have been several reports of sharply localized pain in the region of the caecum, with slight diarrhoea. The highest temperature recorded in the notes sent to me (Professor Boyd) was 106.4°, four days after inoculation.

In what may be called the normal course there is oedema and redness at the site of inoculation varying in extent, and several correspondents have noted a curious migration of the erythema downwards towards the elbow, and even reaching to the wrist. Blotchy erythema may occur about the joints, and purpura has been noted.

Cases with Untoward Effects, Local or General.

(*a*) *Locally*, the redness, swelling, tenderness rarely persist for more than a day or two, and may be equally marked at both inoculations, or may be slight at the first and abundant at the second, or vice versa. The local process may go on to suppuration. How rare this is may be judged from the experiences of the Canadian contingent already referred to, in which only one abscess occurred among some 31,000 cases. This is, indeed, a remarkable record, as I doubt if there is any hospital in the kingdom in which during a year's experience abscess does not follow some form of hypodermic injection. I have had no report of severe sepsis following the local abscess. Lance-Corporal Goatley, whose case has been exploited by the "antis," had a septic wound, which proved, on investigation by Surgeon-General Whitehead, to be an abscess following ordinary vaccination for smallpox, and the report states that the bad arm directly followed from his own neglect. And I may state that he was not discharged from the army for ill health due to the vaccination.

(*b*) *General.*—The inoculation fever and its symptoms rarely last more than a couple of days; but in a few cases unpleasant, or even serious, complications may follow.

With the fever there may be pains in the joints, superficial redness, and even effusion. A patient was admitted to the base hospital, Oxford, with effusion in the left knee following antityphoid inoculation three weeks previously. It resembled a gonorrhoeal synovitis, but there was no urethral discharge. I have already referred to the abdominal pains on pressure in the caecum region and the coincidence of appendicitis in two cases. Jaundice has been noticed in a few instances. There were four in the North Midland Division, coming on about a week after inoculation (Boyd). Symptoms suggestive of enteric, and even enteric itself, may follow inoculation.

Dr. Walter Broadbent, of Brighton, sends a report of a case: Second inoculation on October 13th, followed by headache and pains in the limbs on the 14th, then fairly well until the 20th, when he had headache, a temperature of 103.4°; on the 21st the temperature ranged from 101° to 102°, on the 22nd from 98.6° to 102°, then gradually fell to normal. On the 26th the tongue was very furred, there were no spots, but there was a positive Widal reaction on the 24th. The case was not treated as enteric.

Inoculation has been followed by an illness not to be distinguished from typhoid fever.

In a case, the notes of which were sent by Boyd, the second dose, given on October 16th, was followed by sickness and giddiness. On October 19th and 20th he had diarrhoea, for which he saw the regimental medical officer. On October 23rd he was seen by the surgeon of the 1st North Midland Field Ambulance, who found him with a temperature of 101.5°, constipation, rose spots, slight abdominal tenderness, large spleen. After consultation, it was decided that it was a typical typhoid case, and he was sent to the 2nd General Hospital, London.

Occasionally septic fever follows unassociated with the local lesion. A case of this type, under the care of Colonel Hood and Dr. Hobhouse at Brighton, I had the privilege of seeing at the height of his illness. I am indebted to Dr. Hobhouse for the notes.

On October 23rd I saw at Brighton, with Dr. Hobhouse and Dr. Hood, Private Walter Fuller, aged 23, No. 8 Bedfordshires, who had his first inoculation on October 3rd. Slight headache on the 4th, with fugitive pains, but he did not feel badly until the 7th, when there were fever and pains in the joints. On admission to hospital on the 9th the temperature was 102.5°. On the 11th his temperature was 104°, much pain, particularly in the joints, slight swelling and redness of the ankles and the smaller joints of the hands, with great stiffness and inability to use the muscles. On the 17th he began to have pain in the chest, with signs of involvement of the right base. On the 18th the leucocyte count was 15,300 per cubic millimetre, the pains in the chest were worse, he had cough, and the consolidation in the right lower lobe had increased. The Widal reaction was markedly positive. Between the 16th and the 23rd the temperature rose to about 103° each day, there were pain and swelling in the joints, redness over the ankles and knuckles, and much disability. When I saw him on the 23rd he looked very ill, the respirations were 40, pulse 100, the small joints of both hands showed swelling with slight erythema, tenderness on pressure and on movement, redness over the left ankle, moderate effusion in the left knee-joint and right elbow, consolidation of the right lower lobe, and left pleural effusion reaching to the fourth rib in front. The heart sounds were clear; the spleen was not palpable. There was no redness or swelling at the site of inoculation. The patient remained very ill for the following week, although the temperature was lower, rarely going much above 102°. There was a to-and-fro pericardial murmur. The patient then began to improve, and on October 30th the temperature for the first time fell to 99°. Between October 30th and November 5th it fluctuated around 100.5°, and then fell to normal. The smaller joints remained painful, and it was not until November 11th that he began to use his hands and arms. He is now convalescent.

In the same ward I saw, with Dr. Hobhouse, a man with dermatitis in the region of one axilla, which had spread rapidly after inoculation. He had symptoms suggestive of peripheral neuritis, stiffness of the arms, and loss of the knee-jerks. He had had zinc ointment used for a very large area, which Dr. Hobhouse thought might possibly be the cause of the neuritis.

The importance of avoiding exposure for a day or two after inoculation is emphasized by the fact that cases of pneumonia have been reported by several observers. In the North Midland Division series, among nearly 16,000 instances, in two cases lobar pneumonia followed within twenty-four hours (Boyd). Pneumococci were present in the sputum in both cases.

Private G. B. Jones, 12th Sherwood Foresters, reported by Dr. Walter Broadbent, was inoculated October 6th; chill on the 7th, and on the 8th was admitted to the 2nd General Eastern Hospital with pneumonia of the middle and lower lobes on the right side, and the lower lobe on the left, with a temperature of 103°, pulse 120, and much delirium. He had a very severe illness, and died on October 14th.

Reports of death as a result of the inoculation are false. Dr. Selby wrote from Aldershot (October 17th, 1914):

This morning I was trying to persuade my Kitchener army men to be inoculated, when I was confronted by one man who said he went down to Shorncliffe last week-end and that there they had told him that three men had died within twenty-four hours of inoculation.

I wrote to Colonel Wilson, who replied (October 21st, 1914) that there had been no death from this cause and giving particulars of the fatal cases from accident or disease since the formation of the camp.

The Beaujon Hospital nurse, Paris, whose case is so often quoted, died of typhoid fever a month after the last inoculation. She might very possibly have contracted the disease previously. The Neckar Hospital nurse received therapeutic injections of typhoid serum during the course of the disease, not a protective inoculation.

Private Pantzer of the National Guard, Brooklyn, died of malignant endocarditis and the inoculation had nothing to do with his fatal illness.[8]

II.

Perhaps the best chapter in British sanitation is that which deals with typhoid fever. While a decrease in the incidence of the disease has been more or less general throughout civilized countries, nowhere else has the fall been so progressive and striking. Twenty years ago the death-rate per 1,000,000 of inhabitants was above 300: in 1912 it had fallen to 44, the lowest ever recorded; indeed,

up to 1904 the rate had never fallen below 100. Enteric fever may be said to be in its "last ditch," but that it is still putting up a strong fight is indicated by 1,600 deaths in England and Wales in 1912. It prevails less in London than in the Midlands and in the South, and is much more frequent in the North in both urban and rural districts. In certain urban districts the highest case-rate per 100,000 of the population was 34. In many of the large cities in the North, as in Liverpool and Glasgow, in which the disease was very prevalent, the fall has been progressive and rapid. In the former city in 1895 there were 1,300 cases. In 1911 it had fallen below 200. In Glasgow the case-rate per 1,000,000 has fallen from 1,386 in 1891 to 232 in 1913, and the death-rate per 1,000,000 from 218 in 1891 to 36 in 1913. General betterment of sanitation, particularly improved housing, better diagnosis, greater care of the individual cases—to these factors may be attributed a large part of this decrease. But there is another to which the attention of medical officers of health has been strongly directed—namely, the removal of local sources of infection by the isolation of the sick in hospitals,[9] in which in some cities the proportion of cases treated has risen from 30 or 40 per cent. to 80 and 90. It has been well said that enteric fever is the sanitary index of a country; and that to-day our camps are not hotbeds of the disease is a result of more than half a century of intelligent and efficient sanitation. Neither the profession nor the people at large appreciate fully the extraordinary sanitary advantages enjoyed by this country.

In medical practice, if I were asked to state the most striking difference between England and the United States and Canada, I should say the absence of enteric fever in hospital and private work. The tragedy of typhoid fever was ever present, and one felt constantly outraged at the wantonness of the sacrifice. In full measure the tragedy was brought home to the United States during the Spanish-American war. There never has been in history a campaign so fatal to an army not yet in the field. Listen for a moment to the story of what may happen after mobilization in a typhoid-ridden country. Returning to the United States from a visit to England in the autumn of 1898, I found but one subject engaging the attention of the profession—the appalling outbreak of typhoid fever in the volunteer army, distributed in seven camps in different parts of the country. The figures published by Reed, Vaughan, and Shakespeare in their elaborate report, of which a good epitome is given by Dr. Christopher Childs[10] show that in six months, among 107,973 men, there were 20,738 cases of typhoid fever and 1,580 deaths. At Camp Alger, near Washington, with a mean strength of 21,988 men, there were 1,951 cases of typhoid fever. Never have I seen so many cases of fever concentrated together, barrack after barrack filled with the victims of neglected sanitary precautions. The lesson drawn by the authors of the report on this epidemic was that the disease was not water-borne, but that nearly two-thirds of the cases were examples of "connectible attacks"—that is, due to infection within the tent or from adjacent tents. It was the first great epidemic to call attention to the importance of local infection by means of fingers, food, and flies. Two other points were brought out—the frequency with which erroneous diagnosis was made, particularly in the southern camps, where many cases were supposed to be malaria; and the large number of minor attacks indicated by nothing more than transient malaise, slight fever, or a gastro-intestinal attack.

Recommendations.

More than three months have passed, and the reports from the camps indicate that nowhere is typhoid fever prevalent. That isolated cases have occurred should make the medical officers of health and the military surgeons redouble their efforts to prevent the spread. These should be watched with the utmost care, since, as Dr. Childs points out, epidemics in camps are usually preceded by scattered cases or by the unusual prevalence of diarrhoea. *Watch the common ailments*, should be the motto of the camp surgeons. The following measures are indicated:

1. Every recruit should be asked whether he has had typhoid fever, or if during the previous twelve months he has lived in a house with a case of fever. An affirmative answer should mark the man for laboratory study. This may seem an irksome precaution, but in preventive medicine nothing necessary is irksome.

2. A realization of the extremely protean character of typhoid fever, so that mild cases of enteritis, obscure forms of bronchitis and pneumonia, and mild cases of fever should be watched with care.

3. Every typhoid patient should be regarded as a focus of infection, and should be suspect so long as the bacilli are present in the discharges. The cases should not be treated in the general wards with other cases. Measures should be taken in the larger camps and in the garrison towns to segregate the cases.

4. No typhoid patient should receive a clean bill of health until he has been shown by bacteriological examination to be harmless.

5. Ample provision should be made for the careful bacteriological examination of all suspected cases.

III.

Fever in various forms has proved more destructive to armies in the field than powder and shot. It has been well said that bullets and bacilli are as Saul and David, "Saul hath slain his thousands and David his ten thousands." The story of the destructive character of fevers has never been so well demonstrated as in the great Civil War of the United States, during which malaria, dysentery, typhoid fever, and other diarrhoeal diseases were the fatal foes. Woodward's *Report of the Medical History of the War of the Rebellion* is a perfect storehouse of information on camp diseases. It is not easy to pick out the exact percentage of typhoid fever, as a large proportion diagnosed as diarrhoea and many of malaria belong to this disease; but the official figures for the army of the North are sufficiently appalling—79,455 cases and 29,336 deaths! There is the same story in the Franco-Prussian war; among the German troops there were 8,000 deaths from typhoid fever, 60 per cent. of the total mortality! It is said that typhoid fever existed in every army corps at the outbreak of the war, and the campaigns were carried on largely in infected regions. I have already referred to the terrible experience in the Spanish-American war among the volunteer troops in the home camps. The sad memories of the South African war still haunt the memory. That was a war which brought out many new details in campaigning, but the sternest lesson taught is the one we are now considering, as it, too, was a war in which the bacilli counted for more than the men. Of the 22,000 lives lost, the enemy is debited with only 8,000; preventable febrile diseases for 14,000. And among these, as usual, typhoid fever headed the list, 57,684 cases, of whom 19,454 were invalided, and 8,022 died. The *Bacillus typhosus* alone did more damage than the Boers. Here again, as in the Spanish-American war, it was not so much water-borne typhoid as camp infection by fingers, flies, dust, and food.

We are now in the fourth month of the war, and, so far as one can gather from the somewhat meagre reports, the health of the troops at the front has not been damaged to any extent by fever, and, so far, the sad losses have been from bayonets and bullets. On active service the soldier may take typhoid fever with him, or he may find it in the country. A large body of men has a certain percentage of carriers, any one of whom may act as a focus of distribution. The conditions in camp life are peculiarly favourable to case infection; thus it would be impossible for a carrier cook not to contaminate the food of an entire company. Of equal moment is the state of the country in which the troops are working. During the Spanish-American war it was not possible in the United States to locate a camp in a typhoid-free position. In this country it is not possible to pitch a camp in an infected district. In South Africa both conditions prevailed; infection was brought by soldiers, and was abundant in the country. It seems not unlikely that the troops in France and Belgium are reaping the benefit of the past ten years of active campaign against typhoid fever. Details are not at hand as to the prevalence of the disease in the eastern and north-eastern regions of France, but I am told that there has been a great reduction in the incidence of the disease in Belgium, and that the troops have heretofore suffered but little. The Rhenish provinces should reap the benefit of the remarkable antityphoid campaign of the past ten years.

Certainly it is very gratifying, particularly at this season of the year, that comparatively few cases have occurred. Among 2,000 German, English, and Belgian troops who have been, or are at present, in the base hospital at Oxford there have only been five cases of typhoid fever; and this, I believe, to be the experience in other large hospitals throughout the country. It will be a great triumph to go through this war without a devastating experience of typhoid fever. In the fighting line it is not possible always to ask the soldier to carry out sanitary precautions, and in a very infected country, even with the best of intentions, he cannot avoid exposure. Here we may expect to find the protective value of inoculation, and it is very satisfactory that the value of the measure has been so generally recognized by officers and men. An immense proportion of those who go with the Expeditionary Forces will have been protected—for a period at least. While with our present knowledge we cannot but regret that the inoculation has not been made compulsory, let us hope that a sufficient number have taken advantage of the procedure to make impossible a repetition of the enteric catastrophe in South Africa.

In the midst of this great struggle we stand aghast at the carnage—at the sacrifice of so many lives in their prime—

> The many men so beautiful,
> And they all dead did lie.

The bitterness of it comes home every morning as we read in the Roll of Honour the names of the much loved sons of dear friends. Strange that man who so dominates Nature has so departed from Nature as to be the only animal to wage relentless war on his own species. But there are wars and wars, and let our thought to-night be of the other army waging peaceful battles against our true foes. No one has so well contrasted the work of these two armies as the poet laureate of the profession, Oliver Wendell Holmes:

> As Life's unending column pours,
> Two marshalled hosts are seen—
> Two armies on the trampled shores
> That Death flows black between.
>
> One marches to the drum-beat's roll,
> The wide-mouth clarion's bray,
> And bears upon a crimson scroll,
> "Our glory is to slay."
>
> One moves in silence by the stream,
> With sad yet watchful eyes,
> Calm as the patient planet's gleam
> That walks the clouded skies.
>
> Along its front no sabres shine,
> No blood-red pennons wave;
> Its banner bears the single line,
> "Our duty is to save."

We shudder at the needless slaughter of the brave young fellows—allies and foes alike—but think of the slaughter which goes on in our homes, just as cruel as, often more cruel than, that of the battlefield! Tuberculosis alone will kill ten times as many this year in Great Britain than will die abroad for their country. Comparing the death-rate in England to-day with that of fifty years ago we may say that, as a result of the work of the other army, more will be saved from death by enteric fever in 1914 than will be killed this year in the war. Eberth's *Bacillus typhosus* will kill in 1914 in the United States more than will German shrapnel and bullets in France and Russia. Moving in silence, the great army of sanitation, with a general staff and leaders of all lands and languages, claims allegiance only to Humanity. In war it has not often fought winning campaigns, but the new knowledge is full of such promise that even the vanquished may be victors.

References.

[1] *Observations on the Diseases incident to Seamen*, 1785, p. 326. [2] *Lancet*, 1913, p. 1306. [3] *Deut. med. Woch.*, December 11th, 1913. [4] *Journ. Amer. Med. Assoc.*, May 2nd, 1914. [5] Ibid., June 13th, 1914. [6] Ibid., 1912, vol. i, p. 112. [7] *Lancet*, 1913, ii. [8] *Journ. Amer. Med. Assoc.*, June 13th, 1914. [9] See paper by Dr. Stallybrass, *Public Health*, September, 1913. [10] *Transactions of the Epidemiological Society*, vol. xxv.

The following members of the medical profession have been elected Fellows of the Royal Sanitary Institute: Dr. Andrew Balfour, C.M.G., Dr. Ralph H. Crowley, Dr. John W. S. McCullough (Chief Health Officer for the Province of Ontario), Dr. E. W. Rees-Jones (M.O.H. Blackpool), and Dr. Nadirshah H. E. Sukhia (Bombay).

A REPORT ON GAS GANGRENE.

BY

SIR ANTHONY A. BOWLBY, F.R.C.S., C.M.G.,

CONSULTING SURGEON WITH THE EXPEDITIONARY FORCE;

AND

SIDNEY ROWLAND, M.R.C.S., L.R.C.P.,

IN CHARGE OF MOBILE FIELD LABORATORY.

(From the Field Laboratory G.H.Q., November 11th, 1914.)

It seems advisable to briefly record the conclusions at which we have so far arrived on the spreading gangrene which has occurred amongst the wounded of all the armies now in France.

One of us (S. R.) has examined the condition bacteriologically, and this examination was carried out in the Mobile Field Laboratory. In a typical case affecting the hand, a bacillus was found which was isolated for examination. A culture of this, when inoculated into a guinea-pig, caused its death in eighteen hours. *Post mortem* there was found a gangrenous cellulitis from which the inoculated organism was recovered. A second guinea-pig inoculated from this culture was sent to the Lister Institute. It arrived safely and died within a few hours of its arrival, thus affording abundance of fresh material for a more detailed examination than was possible under field conditions. An examination of the culture was meanwhile made in the field laboratory, and the conclusion arrived at was that it was probably the specific organism of malignant oedema. Further examination made at the Lister Institute by Dr. C. J. Martin, F.R.S., and Dr. Arkwright inclined these observers to the view that the organism in question was identical with one that for some time was confused with that of malignant oedema, known as the bacillus of Ghon and Sach. This organism was originally obtained from a case of gangrene in the human subject. There are some ten different organisms that have been isolated from cases of gas gangrene in man, all of which are closely allied, and have the common characteristic of being anaërobic spore bearers. From other cases in the clearing hospitals at the front several more organisms of this group have been isolated, and have been sent to the Lister Institute for confirmatory diagnosis.

A sample of earth from a trench was also examined. The inoculation of a few drops of water, in which this earth had been shaken up, into a guinea-pig, killed the animal in eighteen hours. *Post mortem*, a similar gangrenous cellulitis was found. The animal was also found, like the guinea-pig inoculated from the gangrenous hand culture, to be infected throughout with a spore-bearing anaërobic organism belonging to the same group. It is reasonable to conclude, therefore, that the gangrene found amongst our wounded soldiers is directly due to infection introduced at the time of the wound, and this is especially likely to occur if muddy clothing has been carried in by the projectile or if earth has been carried in by the explosion. We are therefore of the opinion that the gangrene that occurs amongst the wounded is a traumatic infection and dates from the moment of the injury. It is solely due to infection from the soil, and is in no way related to sloughing phagedaena, or so called hospital gangrene.

Clinical Picture of Gas Gangrene.

In the cases we have seen the gangrene has always occurred in connexion with wounds of the extremities. We have not seen it in the head, neck, thorax, or abdomen.

Nature of Projectile.

We have seen it in wounds from rifle, shrapnel, and fragments of shell.

Nature of Wound.

We have seen it in both slight and very serious wounds, but a larger proportion of the serious wounds are affected by it, especially when large bones have been shattered and muscles extensively torn and extruded. We have seen it with and without fractures, and in a relatively large number of fractures of the femur.

Period of Onset.

It is most noticeable that it always shows itself within the first few days, or even hours, following the infliction of the

injury. In two cases we have seen it well marked within thirty-six hours, and in several others already extensive on the third and fourth day.

Several patients have died of it on the third day following that of the injury, and in other patients it has progressed so far that amputation has been performed on the third day.

Onset.

This is characterized by swelling of the injured part, and the gangrene seems especially liable to occur in connexion with that swelling of a limb which is due to extravasation of blood in the subcutaneous tissues and intermuscular planes. It seems to us that interference with the circulation either by extravasation of blood or by tight bandages has a marked influence.

In the early stages the patient complains of severe pain which is perhaps due to tension, the result of the swelling, but in the later stages the affected area becomes completely numbed and insensitive. The edges of the wound are generally ragged and sloughy, and a considerable quantity of blood-stained serum constantly exudes and soaks the dressings. This discharge emits a characteristic and most offensive odour which is so marked as to be almost diagnostic. The skin, if not previously discoloured by extravasated blood, assumes a dark purplish or slate-coloured hue.

In the vicinity of the wound it changes subsequently to a more green colour. The swelling extends coincidently with the change of colour, and a few hours later the skin becomes nearly black, and finally forms a black, leathery slough. Beyond the area of discoloration the limb is swollen with gas and fluid exudation, and an emphysematous crackling can be elicited on pressure with the hand. This may spread to a distance of as much as a foot above and below the actually gangrenous area, and so rapid is the extension of the gangrene that we have seen the whole of the lower extremity completely mortified before the end of the third day after the infliction of the wound.

Condition of Patient.

Temperature is not materially affected in many cases, and high fever is rare. A temperature of 99° to 100° is usual. Respiration is not materially quickened; headache is not complained of. The mind is perfectly clear till near the end. The pulse is not greatly quickened but rapidly loses power, so that several of the patients we have seen have had no perceptible radial pulse. The heart's action is greatly weakened so that its beat is quite difficult to feel.

Vomiting is common and in many cases is frequent; diarrhoea is rare; sweating is not generally present, and before death the skin is cold; the tongue is usually covered with a dirty fur, but the mouth is not exceptionally dry. Death appears to be due to cardiac failure, and we have been struck by the extraordinary clearness of the mind of a patient, almost pulseless, and within an hour or two of his death. In the worst cases the gangrene may spread with such rapidity that the whole limb may be cold, of a purple or black colour, immensely swollen and quite devoid of all sense of touch and power of motion within thirty-six hours of the onset of the gangrene. The smell of such a limb is overpowering, and almost precludes a careful *post-mortem* examination. If incisions are made before or after death gas and sanious fluid bubble up. Pus is confined to the edges of the wound, and is very little in proportion to the sanious discharge.

Practical Conclusions.

The practical conclusions we would draw from these observations are as follows:

1. All tight bandages and especially those applied at the first field dressing should be avoided. Shell wounds are so often followed by so much interstitial haemorrhage that the part swells and the bandage rapidly becomes tighter and interferes with the circulation. Consequently many bandages require to be cut within a few hours of their application.

2. In many cases the tension requires to be relieved by incisions and drainage, and the opportunity should be taken to wash the wounds thoroughly with an antiseptic. Hydrogen peroxide is one of the best. Great care should be taken to remove portions of clothing, as these contain the infective agent. Shattered fragments of bone and pieces of shell or gravel should be taken out.

3. Amputation may often be successfully performed through tissues made emphysematous by gas but not yet gangrenous.

4. The group of anaërobes causing gangrene are spore-bearers, and spores (especially of this group of anaërobes) are especially difficult to kill by any antiseptic solution or even by boiling. Consequently, in order to sterilize instruments and other things that have been infected, other measures are required.

(*a*) Destruction of blankets and clothing soaked by the discharge.

(*b*) Heating in an autoclave at a temperature of 120° Centigrade.

(*c*) Boiling for an hour in a solution of 1 in 20 carbolic acid or lysol (1 in 10).

It should be remembered that the mud on the clothes of wounded soldiers is almost certainly infected, and care should be exercised to see that the area in which operations or dressing of wounds are performed should be kept free from possible contamination from such a source.

5. Where possible, it is advisable to isolate patients under treatment in hospitals, and this is all the more necessary on account of the bad smell which is inseparable from the condition.

The above is a copy of a report sent to the Director of Medical Services on November 9th, and is mainly the result of work done at the clearing hospitals at the front to which patients are taken within a few hours of being wounded. Many of the conclusions and practical recommendations, however, have been conveyed to the hospitals verbally or by official communication and attempts are being made at the Lister Institute to provide an antitoxin.

INJURIES TO THE BOWEL FROM SHELL AND BULLET WOUNDS.*

BY

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SENIOR SURGEON, ST. MARK'S HOSPITAL, LONDON; HONORARY SURGEON, KING EDWARD VII'S HOSPITAL FOR OFFICERS.

INJURIES to the rectum or pelvic colon, which occur in war, whether from bullet or shell wounds, must of necessity be very serious; and as a fact the statistics of previous wars show that injuries of this nature are attended by a higher mortality than injuries to other parts of the alimentary canal. Many of these cases must be fatal owing to concomitant injuries of the large vessels in the pelvis, or to resulting peritonitis. In the Boer war the mortality from wounds of the rectum was 30.7 per cent. of those so wounded, death being due to peritonitis, internal haemorrhage, or septicaemia. We have as yet no means of ascertaining the percentage of mortality from such wounds in the present war; but already there must have been a number of cases of wounds involving the large bowel under treatment in our home hospitals. It is to be hoped that, as the result of increased knowledge and improved technique, we shall be able during the present war to bring the percentage of mortality for wounds of this nature down to a much lower figure than in previous wars.

As these wounds present some unusual difficulties and require special treatment, it does not seem out of place to discuss them at this early stage of the war, if by so doing we can give any assistance to ourselves and other surgeons who may have to deal with such cases during the continuance of the war. In my position as surgeon to King Edward VII's Hospital for Officers I have seen several of these cases during the last three months.

The injuries vary from clean bullet wounds to large septic lacerated wounds due to fragments of shell. There can be no doubt that a high velocity Mauser bullet may pass straight through the abdomen, or across the pelvis, penetrating the large and small bowel, without causing a fatal or even very serious result, always provided that certain conditions are present. Of these conditions the

* Read before the Subsection of Proctology of the Section of Surgery, Royal Society of Medicine, November 11th, 1914.

chief are: the bullet must be travelling at a relatively high velocity, the intestines must be more or less empty of fluid contents, and the proper first-aid treatment must be administered. The Boer war taught us that, in the case of penetrating wounds of the abdomen, the best results were obtained by giving complete rest to the intestines for forty-eight hours after the injury, and that with a view to obtaining these conditions treatment should be confined to giving morphine in full doses, withholding all food, and providing as much rest as is compatible with the circumstances. It was found that such treatment allowed the small wounds in the bowel to seal themselves off, and prevented the risk of faecal leakage.

I should here like to express my unqualified admiration of those heroic members of our profession who, often at the risk of their lives, are so ably administering first aid to the wounded behind the firing line. I have now seen a considerable number of our wounded on their arrival in London, and have been much struck by the efficient treatment which they have in most cases received on the field. The good results which, I believe, are being obtained in the treatment of our wounded soldiers depend, above all, upon the efficiency of the medical treatment at the first dressing station.

The following case, which has recently come under my care, affords a good example of the comparative harmlessness of a clean bullet wound involving the bowel:

The patient was shot through the pelvis, the bullet entering at the external abdominal ring on the left side and passing out through the middle of the right buttock. Fortunately, the patient had urinated only a few minutes before he was struck, and consequently the bladder was not injured. The bullet must, however, have passed through the small intestines in the pelvis, and almost certainly through the upper part of the rectum. It emerged close to the sciatic nerve on the right side. The wound was kept aseptic, and the only inconvenience from which the patient has suffered so far has been severe neuritis in the sciatic nerve, with temporary paralysis of some of the muscles. There have been no bowel symptoms at all.

Wounds involving the large bowel are generally complicated by other injuries—such as fracture of the pelvis, injury to the bladder, or damage to the large nerve trunks. One or more of the nerve trunks may be cut, but more commonly they are only concussed. The symptoms in either case are at first the same—namely, motor and sensory paralysis, which is generally only partial. When the nerve is only concussed, the symptoms begin to pass off in a few days, although it may be some weeks before there is complete recovery. I have seen two cases in which the sciatic nerve was concussed at its point of exit from the pelvis. In both cases there was temporary complete loss of movement, followed by rapid recovery, but also by severe neuritis, which lasted for some time. One officer shot through the pelvis had apparently some injury of the sacral plexus. There was acute hyperaesthesia of the skin in the anal region, with resulting pain and tenesmus on defaecation, and retention of urine. These symptoms, however, passed off in a few days.

The most difficult cases are those associated with fracture of the pelvis and a septic wound.

One officer under my care was shot through the pelvis, the bullet entering at the symphysis and emerging close to the sciatic notch, between it and the acetabulum on the right side. The pelvis was extensively cracked, and the wound had become septic before the patient was admitted to the hospital. When the right leg was moved the sensation was rather like that of moving the parts of a broken basin. The bullet in this case had passed close to the rectum, although without injuring the mucous coat. With the finger in the rectum one could easily distinguish the track of the bullet as a firm elastic ridge passing along the left side of the bowel. Fortunately no faecal fistula developed. The case was treated by free drainage with tubes, and fixation of the patient in a Chappel splint.

Healing in such cases is likely, I am afraid, to be very slow, as considerable portions of bone must separate before healing can occur, and this is a long and tedious process, which cannot well be hastened by surgical means.

The worst cases are those in which a shell wound is complicated by a faecal fistula and fracture of the pelvis. The following case is one of the most serious that I have met with yet:

The officer was wounded at the battle of the Aisne by a shrapnel shell; there was very severe haemorrhage on the battlefield, and three days after he was injured a faecal fistula developed. On admission to the hospital there was a large lacerated wound, on the left side above the hip-joint. This led down to a hole about the size of a two-shilling piece (diameter about 2.8 cm.) through the wing of the left ilium, and all faeces were being discharged through this opening. The patient was profoundly septic, and a secondary haemorrhage occurred soon after his admission. As it was impossible to deal with the wound while it was complicated by a faecal fistula, I decided to open the abdomen, and either to perform a temporary colotomy or if possible to close the wound in the bowel. On opening the abdomen I found that the sigmoid flexure had been injured on its mesenteric border, and that it was adherent to the inside of the ilium. I succeeded in separating it, and after trimming up the edges I closed the wound in the bowel with sutures. The abdomen was closed and the wound drained through the hole in the ilium, another opening being made above the ilium in the loin, through which drainage tubes were introduced into a large lacerated wound in the posterior abdominal muscles, where fragments of the shell had buried themselves. After this it was possible to deal properly with the wound. There was no further trouble from the faecal fistula, the bowels acting in the normal manner. The wound was exceedingly septic, as we had to deal with a compound septic fracture of the ilium complicated by *B. coli* infection. A rather alarming secondary haemorrhage from one of the lumbar arteries was, however, the only complication which occurred, and the patient, I am glad to say, is now making an excellent recovery.

In this case I was able to close the wound in the sigmoid successfully, and so to save the patient the discomfort of colotomy. But this must often be impossible, and I believe that, in most cases, the best way to deal with severe wounds, complicated by a faecal fistula, is to perform a temporary transverse colotomy, at the same time thoroughly opening up the wound and providing free drainage. After the wound in the bowel has healed, the colotomy can always be got rid of by a secondary operation. It is obviously impossible to deal satisfactorily with a serious wound of the pelvis if it is complicated by a faecal fistula, and I feel sure that the best treatment in such cases is a temporary colotomy. This must, of course, be done in such a way as to leave a good spur, so that there is no possibility of faeces passing on into the distal bowel. The old-fashioned colotomy would be quite inadequate to deal with such cases, and the best way of performing colotomy in these cases is by means of a glass rod placed under the bowel. The performance of a colotomy will, I think, be the best routine treatment in all cases in which there is a large or serious wound complicated by a faecal fistula into the rectum or pelvic colon.

In the case of a wound which is quite small and is not complicated by fractured bone, but is complicated by faecal leakage, an attempt may, I think, be justifiably made to get it to heal without resorting to a colotomy, provided that the patient has not developed a serious degree of sepsis. If such an attempt is to be made, the rectum should be drained by means of a tube introduced through the anus. Unfortunately, however, few patients can tolerate the presence of a tube through the anus for long, unless the sphincters have been divided. In the case of large lacerated wounds of the bowel, temporary colotomy is indicated as soon as possible. The closing of the colotomy is not a very easy matter, but, after all, this can be postponed until the patient is in the best possible circumstances as regards hospital accommodation and skill.

Finally, I should like to reiterate the view, which I hold most firmly, that wounds involving the bowel should not be treated by immediate operation, even if proper surgical facilities are available. I believe that very few exceptions should be made to this rule, and that the proper treatment is almost invariably complete rest, absence of food, and the administration of morphine; surgical treatment should be reserved till later for the treatment of secondary complications.

LIEUTENANT H. L. HOPKINS, R.A.M.C., who was killed in action, left estate valued at £169. An obituary notice of this officer appeared in the BRITISH MEDICAL JOURNAL of October 3rd.

AT a meeting of the Académie de Médecine on November 10th, Dr. Langlet, professor in the Medical School of Rheims, of which he is director, was elected a member of that distinguished body. Dr. Langlet, who is Mayor of Rheims, showed the greatest courage and devotion to duty during the German occupation and the bombardment of that city. On November 8th, when M. Viviani, the Prime Minister of France, visited Rheims, he bestowed, in the name of the Government and the French nation, the cross of the Legion of Honour on Dr. Langlet.

LEECHES.

By A. E. SHIPLEY, Sc.D., F.R.S.,
MASTER OF CHRIST'S COLLEGE, CAMBRIDGE.

Hardly anything real in the shop but the leeches and *they're* second-hand.—BOB SAWYER.

As Mr. W. A. Harding has pointed out, eleven species of fresh-water leeches occur in these islands. But one of these, the *Hirudo medicinalis*, seems to be vanishing, and yet it is just the one we should cherish and preserve.

There are people who don't like leeches. This is shown by the agitation amongst the travellers in an omnibus, as depicted in *Punch* by Leech, years and years ago, when an old gentleman had upset a bottle of them in their midst. But the medical leech, which is our theme, is really the friend of man and of the soldier, and is a beneficial and not a harmful animal. There are, of course, other leeches in our rivers and in our seas, but of the latter our knowledge is scanty and it is difficult to increase it at present, at any rate in the Channel or in the North Sea, and in any case they have no human interest except the influence they exercise on our fish-food supply, and this is practically negligible.

Zoologically speaking leeches are undoubtedly degenerate Earthworms (*Oligochaeta*), and some very interesting "Zwischenformen"—in spite of the war we may as well employ a useful expression captured from the enemy—have been found in Russia and Siberia, forms which combine many of the characters of the *Oligochaeta* and the *Hirudinea*. Possibly the degeneracy which leeches are said to exhibit is associated with a semi-parasitic habit of life. But a semi-parasitic habit does not apply to all leeches, in fact it applies but to few genera; there are many others, equally degenerate—if degenerate they be—who have no trace of semi-parasitism.

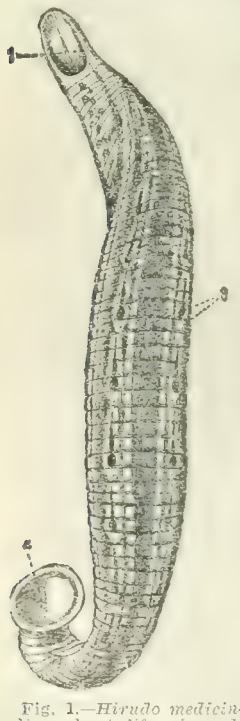


Fig. 1.—*Hirudo medicinalis*; about life size. 1, Mouth; 2, posterior sucker; 3, sensory papillae on the anterior annulus of each segment. The remaining four annuli which make up each true segment are indicated by the markings on the dorsal surface.

A curious thing about leeches is that all the varying genera have the same number of somites or segments, and though some of these segments or somites are masked and fused, when analysed by the number of segments in the embryo, by the number of the nerve ganglia, and so on, leeches seem always to have thirty-four such segments. These do not correspond with the rings or annulations so visible on the outside, but a certain number of these annulations, varying in each species, "go" to each somite, and so constant are these numbers that it would not be very difficult to represent any given species of leech by a mathematical formula.

The known species readily fall into two sub-orders: (1) The *Rhynchobdellae*, which are marine and fresh-water leeches with colourless blood, with no jaws, and with an extensile proboscis; and (2) the *Arhynchobdellae*, which are all fresh-water or terrestrial, with red blood, and generally with jaws. There is no extensile proboscis, and the anterior sucker has a ventral aspect, and is in no way distinct from the body. There are always in this group seventeen pairs of nephridia. We shall have mostly to do with the latter sub-order.

Hirudo medicinalis, the medicinal leech, is found in stagnant waters throughout Europe and the western parts of Asia. It is rather commoner in the southern parts of Europe than in the north. It used to be common enough in England, where it was bred, but already 100 years ago its numbers were diminishing.

In a treatise on the Medicinal Leech, published by J. R. Johnson in the year 1816, he records "formerly the species was very abundant in our island, but from their present scarcity owing to their being more in request among medical men, and to the rapid improvements which have of late years taken place in agriculture, particularly in the draining and cultivation of waste lands, we are obliged to receive a supply from the Continent, chiefly from Bordeaux and Lisbon." In his time he considered that for every native leech employed at least a hundred foreigners were used.

The same scarcity was very apparent to the poet Wordsworth, whose insatiate curiosity is recorded in the following lines in 1802—Wordsworth was always a curious man:

> My question eagerly did I renew,
> "How is it that you live, and what is it you do?"
> He with a smile did then his words repeat:
> And said that, gathering leeches, far and wide
> He travelled; stirring thus about his feet
> The waters of the pools where they abide.
> "Once I could meet with them on every side;
> But they have dwindled long by slow decay;
> Yet still I persevere, and find them where I may."

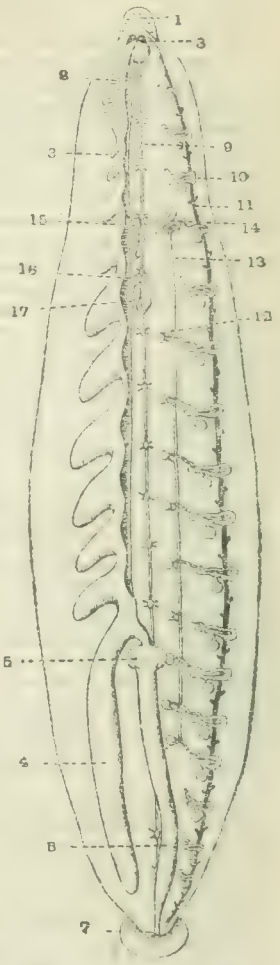


Fig. 2.—View of the internal organs of *Hirudo medicinalis*. On the left side the alimentary canal is shown, but the right half of this organ has been removed to show the excretory and reproductive organs. 1, Head, with eye spots; 2, muscular pharynx; 3, first diverticulum of the crop; 4, eleventh diverticulum of the crop; 5, stomach; 6, rectum; 7, anus; 8, cerebral ganglia; 9, ventral nerve cord; 10, nephridium; 11, lateral blood vessel; 12, testis; 13, vas deferens; 14, prostate; 15, penis; 16, ovary; 17, uterus, a dilatation formed by the conjoined oviducts.

In Europe, where the leech was once very abundant, it is now chiefly confined to the south and east, and in Germany it is still found in the island of Borkum and in Thuringia—but just now we need not trouble ourselves very much about their distribution in Germany.

In 1842 leeches were occasionally found in the neighbourhood of Norwich, and there are villagers still living in Heacham in Norfolk who remember the artificial leech-ponds. In the middle of the last century the medicinal leeches "of late years . . . have become scarce." At about the same time it is recorded that they were becoming scarce, though still to be found, in Ireland. Apparently the species is now practically extinct in England, although I know of a naturalist who can still find them in the New Forest, but he won't tell anybody where. If they were getting scarce in the beginning of the nineteenth century they are far scarcer now. *For there is no leech in London.* At least there are only a dozen or two, and they, like those of the firm "Sawyer late Nockem'orf," are second-hand. I have just heard that there is a similar shortage in North America. And yet leeches are wanted by doctors. But Harding tells us that:

Hirudo medicinalis is not the only leech which has been used in phlebotomy. *Hirudo troctina* (Johnson, 1816), occurring in North Africa and in Southern Europe, where it is perhaps an

introduced species, was largely imported at one time for medical uses. . . .

Several other species have been used for blood-letting in different countries. *Limnatis* (*Poecilobdella*) *granulosa* in India, *Liostoma officinalis* in Mexico, *Hirudo nipponia* in Japan (Whitman), and *Macrobdella decora* in the United States (Verrill), are or have been used in phlebotomy.

Our chief hope seems to lie in India.

Leeches are still used much more than the public are aware. One pharmaceutical chemist in the West End of London tells me he sells between one and two thousand a year, and as they are bought wholesale at about one penny each and sold retail at about sixpence, there is some small profit.

Leeches were well known to the ancients, and it would be easy to quote case after case from the classical medical authorities of their use in fevers and headaches and for many ill-defined swellings. They were frequently used for blood-letting where a cupping-glass was out of the question. With his curious uncritical instinct, Pliny records that the ashes of a leech sprinkled over a hirsute area or formed into a paste with vinegar and applied to the part will remove hair from any region of the body. Leeches were also used by the Greek and Roman physicians in angina accompanied by dyspnoea.



Fig. 3.—Head of a leech, *Hirudo medicinalis*, opened ventrally to show the three teeth and the pharynx *p*, with its muscles; *s*, a nephridium.

Probably the traffic in leeches reached its height in the first half of the nineteenth century. Harding reminds us that in the year 1832 Ebrard records that 57½ million of these annelids were imported into France, and by this time the artificial cultivation of leeches had become a very profitable industry. Although in a small way leeches may have been cultivated in special ponds in Great Britain, the English never undertook the industry on a large scale. In Ireland the natives used to gather the leeches in Lough Mask by sitting on the edge of the pool dangling their legs in the water until the leeches had fastened on them. But the native supply was totally inadequate, and the great majority of leeches used in this country were then imported. In 1842 Brightwell mentions a dealer in Norwich who kept a stock of 5,000 of these annelids in two large tanks. The traffic, as we have seen, was very considerable.

The French merchants recognized five classes as follows:

1. Les filets ou petites Sangsues, qui ont de un à cinq ans;
2. Les petites moyennes, qui ont de cinq à huit ans;
3. Les grosses moyennes, qui ont de huit à douze ans;
4. Les mères Sangsues ou les grosses, qui sont tout à fait adultes;
5. Les Sangsues vaches, dont la taille est enorme.

They also recognized many colour-varieties, of which we need only mention the speckled, or German-leech "Sangsues grise medicinalis," with a greenish-yellow ventral surface spotted with black, and the green Hungarian leech with olive-green spotted ventral surface. Both are merely colour-varieties of *Hirudo medicinalis*, which shows great variation in colour, and often forms colour races when bred artificially.

The varying sizes of the five categories mentioned above may be seen by the fact that one thousand of "les filets" weigh from 325 to 500 grams, one thousand of "les petites moyennes" weigh 500 to 700, one thousand of the "grosses moyennes" weigh 700 to 1,300 grams, and one thousand of the "grosses" 1,300 to 2,500 or even to 3,000 grams. Whereas one thousand of "les vaches" weigh up to 10 kilograms, and sometimes even more. To increase their weight the dishonest dealer sometimes gives them a heavy meal just before selling them. They are transported from place to place in casks, half filled with clay and water, or in stone vases full of water. Sometimes they travelled in sacks of strong linen, or even of leather, and these have to be watered from time to time.

One of the modes of moving them was to place them in baskets full of moss or grass soaked in water, but care had to be taken lest they escape. These baskets could not be packed one on another, or the leeches were crushed. In the old days each sack often weighed 20 to 25 kilograms, and travelling thus, suspended in a kind of hammock, *dans une voiture ou fourgon*, from Palota near Pesth, reached Paris in from twelve to fifteen days. They generally travelled via Vienna to Strassburg, where twelve great reservoirs were appropriately placed near the hospital, and here they rested for awhile. Others collected in Syria and Egypt came by ship to Trieste, whence they are sent to Bologna, to Milan, and to Turin, or by water to Marseilles. Marseilles also received directly by sea the leeches from the Levant and Africa, and expedited them to Montpellier, Toulouse, and many other towns in the south.

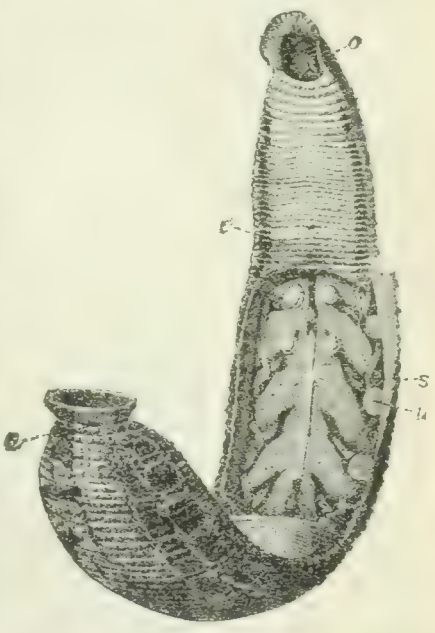


Fig. 4.—*Hirudo medicinalis*. *o*, Anterior sucker covering triradiate mouth; *e* points to an annulus midway between the male and female openings, *s* to a nephridium, *u* to the bladder of the latter; *a*, anus. Four testes and four lateral diverticula of the crop are also shown.

The best time of year for their journey was found to be the spring and autumn. They were more difficult to manage in the summer, and they were all the better for having a rest every now and then, as they used to do at Strassburg. There were days when consignments of from 60,000 to 80,000 used to leave Strassburg for Paris. As in England, however, for the most part the artificial cultivation of leeches has now ceased in France, though half a century ago leech farms were common in Finistère and in the marshes in the neighbourhood of Nantes. There are some years when, if the season was favourable, the peasants carried to market 60,000 a day. Spain and Portugal also furnished them for a long time, but by the middle of last century the Peninsula had become very depleted. But some leeches were still at that period being received from Tuscany and Piedmont. Perhaps the richest fields which still exist are the marshy regions in Hungary. In 1806 a thousand leeches in France fetched 12 to 15 francs, but in 1821 the price had risen to 150 to 200 and even 283 francs. In the latter year they were retailed at 20 to 50 for 4 to 10 sous.

It will be observed that, probably without the knowledge of General Joffre, Field Marshal French, the Grand Duke Nicholas, and even without the knowledge of the German Emperor, the Allies are fighting the Germans on some of the best leech areas in Europe—a point to which we shall return when dealing with the leeches of the Orient. One wonders what the leeches think of it all.

There is no doubt that the medicinal leech is one of the most beautiful of animals. Many of its cousins are uniform and dull in colour—"self-coloured," as the drapers would call them—but the coloration of the medicinal leech could not be improved upon. It is a delicious harmony of browns and greens and blacks and yellows, a beautiful soft symphony of velvety browns and greens and blacks, the markings being repeated on each segment, but not to the extent of a tedious repetition. So beautiful are they that the fastidious ladies who adorned the salons at the height of the leech mania during the beginning of the eighteenth century used to deck their dresses with embroidered leeches, and by repeating the design one after the other constructed a chain of leeches which, as a ribbon, was inserted around the confines of their vesture.

Harding tells us that the dorsal surface of *H. medicinalis* is "usually of a green, richly variegated colour, with orange and black spots, exhibiting an extremely variable pattern, based generally upon three pairs of reddish-brown or yellowish more or less longitudinal stripes, often interrupted by black or sessile spots occurring on the rim of each somite. The ventral surface is more or less green, more or less spotted with black, with a pair of black marginal stripes."

The shape of the medicinal leech, and indeed of other leeches, is difficult to put into figures, as its body is as extensile as the conscience of a politician. The length of *H. medicinalis* in extreme extension ranges from some 100 to 125 mm.; in extreme constriction 30 to 35 mm. The width in the former state would be 8 to 10 mm., and in the latter 15 to 18 mm.

The movements of the medicinal leech are as graceful as its colour is tasteful. When in the water they move like looper-caterpillars (Geometrids), stretching out their anterior sucker, attaching it to some object, and then releasing the posterior sucker they draw the body up towards the mouth. Or, casting loose from all attachment, the leech elongates and at the same time flattens its body until it assumes the shape of a band or short piece of tape, and by a series of the most seductive undulations swims through the water. Kept in an aquarium they are rather apt at times to leave the water and take up a position on the sides of their home an inch or two above the aqueous surface. When outside the water they keep their bodies moist by the excretion of their nephridia and this fluid plays the same part in a leech as the coelomic fluid of an earthworm, which escapes by the earthworm's dorsal pores. There is very little doubt that both these fluids contain some bactericidal toxin which prevents epizootic protozoa and bacteria from settling on their skin, as they do on so many fresh-water crustacea, such as Cyclops, which is a floating aquarium of Ciliata. In fact, leeches, like earth-worms, have a self-respecting, well-groomed external appearance. Like our dear soldiers, they are, so to speak, always clean shaved.

There has been a very widely spread tradition that in their comings and goings in and out of the water, leeches act as weather prophets. The poet Cowper, who throughout his chequered career had always shown but an imperfect sympathy with science, tells us that "leeches in point of the earliest intelligences are worth all the barometers in the world," and Dr. J. Foster mentions that leeches "confined in a glass of water by their motions foretell rain and wind, before which they seem much agitated, particularly before thunder and lightning." Modern opinion, however, prefers the barometer.

The great Chancellor, Lord Erskine, kept a couple of tame leeches, and Sir Samuel Romilly records in one of his decorous letters:

> He told us how that he had got two favourite leeches. He had been blooded by them last autumn when he had been taken dangerously ill at Portsmouth; they had saved his life, and he had brought them with him to town, had ever since kept them in a glass, had himself every day given them fresh water, and had formed a friendship with them. He said he was sure they both knew him, and were grateful to him. He had given them different names, Home and Cline (the names of two celebrated surgeons), their dispositions being quite different. After a good deal of conversation about them, he went himself, brought them out of his library, and placed them in their glass upon the table. It is impossible, however, without the vivacity, the tones, the details, and the gestures of Lord Erskine, to give an adequate idea of this singular scene. He would produce his leeches at consultation under the name of "bottle conjurors," and argue the result of the cause according to the manner in which they swam or crawled.[1]

The medicinal leech lives on the blood of vertebrates or invertebrates, and H. O. Latter records that "cattle, birds, frogs and tadpoles, snails, insects, small soft-bodied crustacea, and worms are all attacked by various species," but the true food of *Hirudo medicinalis* is the blood of vertebrates. The three teeth, which cause the well-known triradiate mark on the skin, are serrated and sharp. The strong sucking pharynx has its wall attached by numerous muscles to the under side of the skin of the leech. By the contraction of these muscles its lumen is enlarged, and by thus creating a vacuum the blood of the host flows in. In the walls of the pharynx and the neighbouring parts are numerous large unicellular glands which secrete an anti-coaguline fluid which prevents the blood of the host clotting, so that even when the leech moves its mouth to another point the triradiate puncture continues to ooze. The same anti-coaguline secretion no doubt prevents the blood coagulating in the enormous crop of the leech in which this meal of blood is stored. Opportunities for a meal presumably occur but seldom, and the leech is the "boa-constrictor" of the invertebrate world. Its interior economy is laid out on the basis of a large and capacious storage and of a very restricted and very slow digestion. The blood sucked into the sucking pharynx passes on to the thin walled crop, which occupies almost all of the space in the animal. This crop is sacculated, having eleven large lateral diverticula on each side. In a fed leech the whole of this crop is swollen with blood, which, as we have said above, is prevented from coagulating by the secretion of numerous unicellular glands in the pharynx and neighbouring parts. The actual area where the digestion takes place is ludicrously small, as shown in 5, Fig. 2. The rectum, which runs from the real seat of assimilation to the opening of the posterior sucker, transmits the undigested food, and there's not much of it.



Fig. 5.—Cocoon of the medicinal leech, and longitudinal and transverse views of the same cut open.

An active leech will draw from one to two drachms of blood, and as much more will flow from the wound when the leech moves, because the blood does not begin to coagulate owing to the secretion of the anti-coagulinate. No scab or clot is formed. The flow of blood can, if necessary, be stimulated by hot fomentations. Sometimes the bleeding is so great that artificial means have to be taken to check it. When leeches are applied to the human integument they are generally first dried in a cloth, and if they will not bite the part required the part should be moistened with sweetened milk or a drop of blood. To remove leeches when replete salt, sugar or snuff sprinkled over the back are used. They may be made to disgorge by placing them in a salt solution of 16 parts salt and 100 of water at 100° F. A full meal is said to last leeches nine months.



Fig. 6.—A *Nephelis* forming its cocoon and withdrawing from it.

Leeches are hermaphrodite, and in some genera the acting male inserts spermatophores or little cases containing spermatozoa anywhere in the skin of the leech that is being fertilized, and the spermatozoa then make their way through the tissues of the body till they arrive at the ovary and there unite with the ova. In the medicinal leech the mating is said to be encouraged by adding fresh water to the vessels in which the leeches are living.

The eggs are laid in capsules or cocoons attached to some water plant or buried in the mud, about twenty-four hours after the leeches have mated. The cocoon is formed as it is in an earthworm, by the secretion of certain glands in the skin forming a secretion which hardens and takes the form of a broad ring, as it were, round the body of the leech. Through this broad ring the body of the leech is with-

drawn and the fertilized eggs are deposited in it, and the two ends close up, but not entirely, for the young leeches eventually make their way into the outer water through one of the remaining pores. Within the cocoon are 6 to 20 ova and these gradually mature and the young hatch out. When they leave the cocoon they are minute, and of the thickness of a pack-thread. More than one cocoon is deposited by each leech, and unless the cocoons are anchored to some submerged object they often rise to the surface of the water and float half submerged, and are apt to be destroyed by water-rats, voles, and other enemies of leeches. At times the leeches themselves destroy the cocoons.



Fig. 7.—Cocoons of *Nephelis*, showing the growth of the eggs and the issuing larvae, which, in the lower figure, are leaving the cocoons.

The exact time of the emergence from the cocoon does not seem to be very definitely known, but leeches are long-lived annelids. It is not till their third year that they are of any use for medical purposes, and they are said not to pair until they are six or seven years old. They certainly live twelve or fifteen years. But the fact that they grow up so slowly and live so long shows that it will be difficult to replace the shortage of leeches in Great Britain and Ireland during the present war. This could hardly be done by home culture, for, even if the war lasts three or four years, we have lost the cocoons of the summer of 1914, even if we ever had them.

Leeches have many enemies—water rats, voles, the larvae of the Dytiscus beetle, the larvae of Hydrophylus, the Nepa or water scorpion, the larvae of the dragon-fly, and the adult Dytiscus all feed upon them. Many birds also eat leeches, and it is recorded that at one artificial leech farm, where there were 20,000 leeches, they were all eaten up in twenty-four hours by an invasion of ducks. Frogs and newts also devour them, and they are not above eating their own brothers. *Aulostoma* will devour its own species as readily as it will an earthworm.



Fig. 10.—A leech farm in the south of France.

Those artificially reared, as is usually the case with animals reared in captivity and probably against their will, are peculiarly liable to disease of various sorts. They not only get disease themselves, but they act as carriers of disease and play the same part to fish which biting insects play to man and other terrestrial animals. They convey to fishes protozoal diseases similar to those that insects convey to man and other warm-blooded vertebrates.

Leech farming used to be a profitable undertaking, but now it has almost fallen into desuetude. Leeches are, however, still cultivated in some parts of the world, and in America. Latter describes a farm, situated at Newton in Long Island, where there is, or was, a leech farm some thirteen acres in extent. The farm consists of oblong ponds of about 1½ acres, each 3 feet deep. The bottom of each pond is covered with clay, and the banks are made of peat. The French writers recommend, as a rule, the use of clay for the banks. The "eggs" (cocoons) are deposited in the peat from June onwards till the weather gets chilly. The adult leeches are fed, every six months with fresh blood placed in stout linen bags suspended in the water. A more cruel method of feeding these domesticated leeches is that of driving horses, asses or cattle into the ponds, and this was adopted in the leech farms of France.

Some leeches show a considerable amount of maternal affection. *Glossosiphonia heteroclita*, for instance, carries its eggs about with it, and *Helobdella stagnalis* has its little young larvae attached by their tiny suckers to the mother's back, which they are loath to leave.

Aulostoma gulo, the horse-leech, is, as we have said above, a very ferocious feeder. Exactly why this species is called a *horse-leech* is a matter of speculation; but "horse" used as an adjective seems to imply something large and something rather coarse—for instance, horse-chestnuts, horse-play, horse-sense, and horse-laugh.



Fig. 8.—*Helobdella stagnalis*, with adhering young. Ventral view, magnified. (From Harding.)

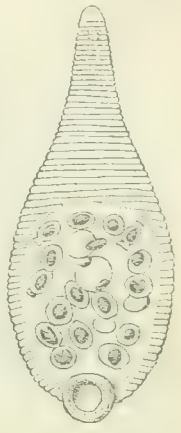


Fig. 9.—*Glossosiphonia heteroclita*, with eggs and emerging embryos. Ventral view. × 4. (From Harding.)

The rapacity of the daughters of the horse-leech is dwelt on in the Bible.[2] I can make no claim to be an authority on exegesis, but I am never quite sure whether these two ladies were not the offspring of the local veterinary surgeon. But *Aulostoma* occurs in Palestine, and its voracity may very well have been known to the Hebrews. I entirely reject the idea that the word indicates some ghost or phantom; that explanation is due to the craven policy of taking refuge in the unknown.

I conclude with a couple of sentences taken from Dr. Phillips's *Materia Medica* on the present use of leeches:

> The special value of leeching is shown in the early stage of local congestion and inflammations, such as arise from injuries, and in orchitis, laryngitis, haemorrhoids, and inflammations of the ear and eye, cerebral congestions, and congestive fixed headache.
>
> Leeches are also of service in a manner less easy to understand in inflammations of deep-seated parts without direct vascular connexion with the surface—for example, in hepatitis, pleuritis, and pericarditis, as well as in pneumonia, peritonitis, and, according to some observers, in meningitis. In all these disorders, however, they are very much less used than formerly—in the larger hospitals, for instance, when at one time they cost many hundred pounds annually, a few dozens in the year would represent the total employed.[3]

REFERENCES.

[1] Campbell's *Lives of the Chancellors*, vol. vi. [2] Proverbs xxx. 15. [3] *Materia Medica and Therapeutics*. By Charles D. F. Phillips, p. 1015.

M. EMILE COMBES, formerly Prime Minister of France, and still a member of the French Senate, has founded a hospital for the wounded in Pons, of which he is Mayor. M. Combes, who is a doctor of medicine and has had a large experience as a practitioner, is acting as chief physician to the hospital and spends all his time in ministering to the patients.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A RAPID METHOD OF VACCINATING AGAINST SMALL-POX.

THE time-honoured method of carrying out vaccination against small-pox is neither rapid nor economical nor elegant. While such a method may pass unchallenged in ordinary practice, yet at this particular time, when the process has to be applied to thousands and perhaps millions of persons, some technique more economical of time and material is certainly a desideratum.

The method described below is one that has given great satisfaction in its practical application.

Requirements.

A few miniature test tubes, measuring about 4 cm. long by 0.6 cm. diameter. These can be bought, but they are easily made out of glass tubing.

A few simple capillary pipettes, such as are used in the preparation of vaccines or in the estimation of the opsonic index. The capillary portion of these tubes should be of rather large bore.

Rubber teats of 1 c.cm. capacity to fit the barrels of these pipettes.

A glass-cutting knife.

A small lump of plasticine.

The first step is to transfer the lymph from the tubes in which it is ordinarily supplied by the Local Government Board into one of the miniature test tubes. This transference is effected as follows: Five or six of the lymph tubes are held between the finger and thumb of the left hand in a row—palisade fashion. A sharp glass-cutting knife is drawn across these tubes about ¼ in. from their ends. A sharp tap with the knife distally administered while the middle portions of the tubes are firmly held will cause their ends to fly off, leaving the tubes open at that end. The tubes are now reversed in the fingers, and their other ends opened in a similar manner. Both ends being thus opened, the contents are expelled into one of the miniature test tubes by blowing them out sharply with the mouth. With a little practice the whole of these operations can be completed in a few seconds. Another set of five or six lymph tubes are emptied into the test tube in the same way, and the operation is repeated until the test tube has been filled, when it is fixed in an upright position on a pedestal of plasticine.

The persons to be vaccinated are placed in a line with their arms bared and their skins suitably prepared. One of the simple capillary pipettes fitted with a teat is sterilized in the flame and then filled with lymph drawn up by suction from the supply in the test tube. The operator then walks along the line of patients and places a drop of lymph from the pipette on one or more places on the arm of each. When ten or twelve persons have been thus treated the pipette is laid aside and scarification through the drops is carried out, the instrument being sterilized between each case by passage through the flame of a spirit lamp. The assistance of one or more colleagues in this part of the work will enable a very high speed to be attained.

The advantages of this method from the economical point of view appear to be very great. It has been found that three doctors working in co-operation were by its means enabled with the greatest ease to vaccinate (with two marks on each arm) nearly one thousand men in about five hours. The same number of operators using the time-honoured method were able with difficulty to get through about one-third of that number in the same period of time. The economy of material was also most marked. The only lymph lost in the process is the small amount which remains adherent to the sides of the test tubes and pipettes; and experiment has shown in point of fact that a saving of some 30 to 40 per cent. of lymph is effected by the use of the method.

W. E. M. ARMSTRONG, M.A., M.D.Dub.,
Bacteriologist to the Central London Ophthalmic Hospital.

SUDDEN DEATH (RUPTURE OF AORTA).

I THINK the suddenness of the occurrence, and the fact that I was in the act of examining the patient, makes the following case of interest. It occurred in my consulting-rooms at a large firm to which I am medical officer.

The patient, a gentleman aged 59, well known to me for the last eighteen years, walked up one flight of stairs to my waiting-room. On answering his knock I found him standing outside with his hat on, having come in on his way to lunch. He complained of some pain between the shoulder blades. The light in the room was poor owing to scaffolding outside, but at first sight there was nothing to indicate that there was anything serious the matter, and he walked into an anteroom as if in his ordinary health.

He took a chair before the window, and leaned forward to place his hat on the sill, and sat back with arms extended on the arms of the chair. I put my finger on his pulse, and asked him if he had had similar pain or indigestion, receiving a negative answer to both questions, when the pulse ceased entirely. It was of fair volume, and I counted eight beats. He was then unconscious, having uttered no sound whatever after answering my questions. I undid his collar and tie preparatory to laying him on the floor, but found it difficult owing to spasm of the neck muscles (there was none of other parts). The spasm passed off immediately and his head fell forward, life being obviously extinct. This was well within five minutes of his knocking at my door.

He was a muscular, healthy looking man of medium stature, thick build, and florid complexion, and weighed about 14½ st. His work was chiefly out of doors, and, as far as I know, he was of very regular habits, and enjoyed the full confidence and esteem of his employers. He had once consulted me for a cold in 1906, and his wife stated he had enjoyed excellent health, and had never complained to her.

I concluded he died from ruptured aneurysm or heart failure, and my diagnosis leaned to the former on account of the thoracic pain and sudden stoppage of the pulse. I had in mind a sudden rupture of the descending thoracic aorta. These opinions I communicated to the coroner on acquainting him of the death. On *post-mortem* examination the pericardium was found distended with blood, the pleural cavities being quite free. The heart weighed 23 oz. In the neighbourhood of the aortic opening the tissues were discoloured with blood pigment. Beyond the muscular hypertrophy there appeared no marked changes in the heart itself.

There was a fusiform dilatation of the ascending part of the aorta, the artery itself being very soft and easily torn, and presenting numerous small atheromatous patches. Above the semilunar valves, in close proximity to the opening of the left coronary artery, was an opening, much the same size as the coronary artery, where the vessel had given way. The liver, spleen, and kidney were soft and friable, but neither they nor the brain presented any other gross changes.

London, S.W. F. D. BENNETT.

A CASE OF COAL-GAS POISONING: RECOVERY.

I WAS called to see a woman, aged 40, at about 1 p.m. on October 13th, and was told by her sister that at 7.30 a.m. she was found on the floor of her bedroom with her head sunk on her breast unconscious, the window being shut, the gas turned on, and the room full of gas.

She was put to bed and restoratives were applied, unfortunately with too much ardour, as they blistered the feet and lower half of the legs. She did not vomit till those about her endeavoured to introduce mustard and water into her stomach, when some of the supper she had taken the night before was returned. They could not, however, rouse her.

I found the patient lying with her face turned to the right and the pupils moderately dilated and fixed. She was breathing stertorously: the limbs were flaccid; the pulse was irregular (90), and the temperature 97.8°. Urine had been passed in bed.

At 6.30 p.m. the temperature was 99.4°, the pulse 120, and the respirations 38. The arms were resistant to flexion, the legs were flaccid, with exaggerated knee-jerks, and the Babinski reflex was well marked on the right, but not well defined on the left side. She was still unconscious.

At 10 p.m. the temperature was 100°, the pulse 100, and the respirations 28. The stertorous breathing had been replaced by natural breathing.

At 10.20 next morning the pulse was 90 and respirations 24. She could be wakened to take fluid nourishment, and I was told at 9.30 p.m. that she had taken it regularly, though drowsy in the intervals.

On October 15th the improvement was marked. The patient was said by her sister to be hysterical and apt to be sleepless. The treatment was simply open windows till consciousness returned, and then hot coffee, milk, and soups.

It is impossible to state how long the unlighted gas had been turned on, as the patient had no recollection of the occurrence. There was nothing of the nature of convulsions.

Carstorphine. ANDREW FLEMING, M.D.Edin.

Reports of Societies.

THE ROYAL SOCIETY.

Thursday, November 12th, 1914.

Sir WILLIAM CROOKES, O.M., President, in the Chair.

The Fixation of Arsenic by the Brain after Intravenous Injections of Salvarsan.

A PAPER on this subject by J. MCINTOSH and P. FILDES, was communicated by Professor W. BULLOCH, F.R.S.; the investigators found that after intravenous injections of salvarsan and neo-salvarsan in man and animals no arsenic could be found in the brain. This phenomenon was not due to lack of affinity between the brain and the drugs, but to an inability on the part of the drugs to penetrate into the substance of the brain. Fixation of arsenic by the brain occurred as readily as by the liver, as shown by experiments *in vitro* and the toxic effects of intrathecal injections. Penetration of neo-salvarsan into the brain could not be obtained even by frequently repeated intravenous injections.

Syngamy in the Trypanosomes.

In a paper by H. M. WOODCOCK and G. LAPAGE, communicated by Professor S. J. HICKSON, F.R.S., it was stated the flagellate *Helkesimastix faecicola* (n.g., n.sp.) occurred in goat dung and sheep dung; it was a "passenger," being carried through the alimentary canal in an encysted state. It had been cultivated in various media, and the entire course of the life cycle in life, from excystation to encystment, observed. The active form was remarkable in possessing only a single flagellum, which corresponded to the trailing flagellum of a *Bodo* or a *Cercomonas (Cercobodo)*. The flagellum was closely applied to the body, but no definite membrane was developed. Syngamy was very general, and the early behaviour of a conjugating pair was remarkable, owing to the very plastic nature of the cytoplasm. Encystment was invariably the direct sequel to syngamy. Intensive culture of this flagellate had resulted in the production of a strain which was no longer able to undergo true syngamy and to form cysts. The existence of this "aconjugating" strain was now dependent on further transferences to fresh medium. This experimental observation had an important bearing on the question of syngamy in the trypanosomes and allied parasitic flagellates. These had in all probability lost the power to conjugate. The conditions of life in their case might be compared to those of the above-mentioned intensive culture of *Helkesimastix*. The authors considered that the loss of syngamy in such forms was due to a surfeit of nutrition, together with the removal of an excess of toxic products from the environment.

The Antagonistic Action of Carbon Dioxide and Adrenalin on the Heart.

In a paper communicated by Professor E. H. STARLING, F.R.S., S. W. PATTERSON stated that carbon dioxide alone depressed all the functions of the isolated heart. Adrenalin, besides dilating the coronary vessels, had a specific action in increasing the rate and strength of ventricular contraction. The effect of carbon dioxide and adrenalin combined was still to allow of more rapid and stronger contraction and rapid relaxation, and also to lengthen the diastolic period. Thus, greater filling of the heart took place, and the heart was in a better condition for putting out a maximal output.

ROYAL SOCIETY OF MEDICINE.

SUBSECTION OF PROCTOLOGY.

AT a meeting on November 11th, Mr. SWINFORD EDWARDS in the chair, Mr. ASLETT BALDWIN showed a woman aged 76½ years, upon whom he had performed an *Abdomino-perineal excision of the rectum*. Mr. IVOR BACK described an obscure case of *Oedema of the sigmoid mesocolon*, in which at operation the sigmoid lay in a groove in the intensely oedematous mesocolon. He invited suggestions as to the pathology of the condition. Mr. SAMPSON HANDLEY showed a case of *Apparently inoperable carcinoma of the rectum which became operable under radium treatment*. The patient had remained free from recurrence up to the present, a period of about a year. A paper was read by Mr. LOCKHART MUMMERY on injury to the bowel from shell and bullet wounds; it is published at p. 914. A discussion followed, in which the PRESIDENT and others joined.

LARYNGOLOGICAL SECTION.

AT a meeting on Friday, November 6th, Mr. HERBERT TILLEY exhibited microscopic specimens from five cases of *Aspergillosis of the antrum* seen by him during the past ten years. All the patients were females, and the chief symptoms were sneezing, marked nasal obstruction, severe pain in the cheek, sometimes causing insomnia; slight purulent nasal discharge, and great oedema and opacity on transillumination. The cases had been readily cured by operation, and there had been no recurrence. Mr. SHATTOCK said that first he believed that the disease was a mucinoid endothelioma such as might be found in the abdominal cavity. Later it seemed probable that it was caused by a mycelium differing from that of thrush, sporothrix, etc. No cultivations of the secretion had been made. Remarks were also made by Mr. DOUGLAS HARMER, Dr. HILL, and Dr. PATERSON. Dr. HILL showed *Skiagrams of frontal sinuses* operated on by Good's method. Dr. WATSON-WILLIAMS thought one could not be too enthusiastic about the results obtained by Good's method, even if a free opening could be made. He referred to the possibility of making a perforation through the partition into the frontal sinus on the opposite side in cases where there was a large frontal cell on both sides. Dr. DUNDAS GRANT considered that the rasp was extremely useful for endonasal treatment of the frontal sinus. Dr. IRWIN MOORE showed a case of *Abnormal overgrowth of nose* (bulbous) in a child aged 2 years. The child was born with the condition simulating rhinophyma. On cutting into it it was found to consist of fine fibrous tissue with no definite capsule, and adherent to the skin and cartilages. Treatment by diathermy was advised. Dr. Irwin Moore also showed a case of *Stricture of the oesophagus* illustrating the benefits of Hill's tube. The patient had worn the tube for eight weeks. During that time he had gained weight, was much more comfortable, and was able to do his daily work. Dr. HILL pointed out that his tube was not so well tolerated in cases suffering from cancer of the cricoid region. Dr. COUPER POTTER exhibited sections from a case of *Perithelioma of the nasopharynx*. Dr. DAN MCKENZIE showed a case of *Abscess of the frontal lobe of the brain* secondary to old-standing frontal sinus suppuration. The abscess had been drained through the frontal cavity and the patient made a good recovery. Sir STCLAIR THOMSON described a case in which the abscess in the brain was on the opposite side to the sinus. He also showed a man of 69 whom he thought to be suffering from *Early intrinsic epithelioma of the larynx*, with free movement of the cord. Dr. ELPHICK exhibited a *Haemostatic guillotine* with which he had found it possible to remove the tonsils with very little loss of blood. Dr. LAMBERT LACK showed a patient whom he had treated for extensive *Papilloma of the trachea*. Dr. GRANT and Dr. HILL said that they had seen similar cases. Mr. HUNTER TOD showed two cases of *Epithelioma of the tonsil* to illustrate the results obtained by diathermy. Dr. HILL and Mr. HARMER expressed the

opinion that diathermy was preferable to the knife in all such cases; with the former method excellent results could be obtained and the dangers of operation had disappeared.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

At a meeting on November 13th, Dr. Herbert Jones, President, in the chair, Dr. W. J. Howarth introduced a discussion on the *Marking of meat*. He defined the expression as meaning the marking of the carcass either by certificate, label, seal, tag, stamp or brand, or by some other method, the mark indicating that the meat had been examined and approved as fit for human consumption and giving information as to the date and place of inspection. One object of meat inspection was to ascertain its nutritive value, for it should not only be sound but should possess a minimum nutritive value. Only at the place of slaughter, where every organ was available for inspection, could a really reliable decision be arrived at as to the suitability or otherwise of a carcass for human consumption. Owing to the lack of uniformity in methods of meat inspection and the deficient facilities for inspection which were known to exist, a compulsory system of meat marking might not be practicable at the present time though an optional scheme under adequate control might be adopted. The Local Government Board should officially approve a system of meat marking and should decide upon the nature of the mark and the manner of marking, safeguarding the use of the mark only by recognized authorities. The power to use the mark should only be granted where the Board was satisfied that there was adequate and efficient inspection. Dr. Veitch Clarke said that if private slaughter-houses were abolished, it would not be difficult to introduce a system of marking. Dr. W. A. Bond considered that compulsory marking was desirable. Dr. George Buchan disapproved of any optional system which might press hardly upon honest butchers. The President was in favour of compulsory marking for the whole country but feared that any optional scheme would be impracticable.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

At the opening meeting, held on October 20th, Dr. Mankell delivered his presidential address, taking as his subject *Vaccination*. After tracing the history of small-pox from the earliest times, he then went on to show by means of statistics how it became apparent that revaccination was necessary. The pathology of small-pox was then discussed in detail, and also its relation to cow-pox and vaccinia. Many statistics were given showing the influence of vaccination upon the severity of the attacks, the modification of the disease, and the alteration of the age incidence. As regards the last, before vaccination small-pox was a disease of infancy. Vaccination had raised the age incidence in two ways: (1) By reducing the number of persons in any given population who were susceptible to small-pox it reduced the chances of epidemics and lengthened the interval between them. (2) By rendering those once vaccinated insusceptible to small-pox for a period of years it raised the age incidence in such to a higher range than among the unvaccinated. The marked influence of vaccination on the fatality of small-pox was also shown by numerous figures, and particular stress was laid on the fact that insufficient vaccination was a great evil, statistics showing that in patients with only one scar the ravage of the disease was far more severe than in those patients with three or four scars. The influence of sanitation on small-pox was discussed.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

At a meeting held on November 10th, Dr. Jane Walker in the chair, Dr. Jessie Campbell showed: (1) A girl, aged 6, with *Congenital heart disease and congenital dislocation of the hip;* (2) a girl, aged 10, with *Diabetes insipidus;* she had a harsh, dry skin, and a highly-coloured face; she perspired very little, and passed on an average ten pints of urine in twenty-four hours. Dr. E. H. Lepper showed a woman aged 27, now eight months pregnant, who was the subject of *Spastic paralysis of the right arm and leg, weakness of the right side of the face, and double mitral disease*, with signs of breaking-down cardiac compensation. Three years ago, when nearly at full time with her second child, she suddenly fell down unconscious, and was found to be paralysed on the right side; she remained in hospital a month, and the confinement was normal. She had previously had rheumatic fever four times. Dr. Mary Scharlieb read notes and showed specimens as follows: (1) Mrs. K., aged 72, complained of pain in the region of the bladder. An *x*-ray examination appeared to indicate a stone 1½ in. long in the lower part of the ureter. At the operation the mass proved to be a calcified gland outside the ureter, about the size of a pigeon's egg. It consisted of a hard shell enclosing fluid. (2) Miss W., aged 61, who had had *Epithelioma of the vulva*. One patch, the size of a florin, was found on the left labium, and a smaller mass on the right labium; the perineum was occupied by a non-ulcerated mass of growth the size of a walnut. The whole vulva was removed, and large masses of glands were removed from each groin. There was no recurrence for four years, when the patient died from an intercurrent disease. (3) *Uterine cancer:* Miss K., aged 53, suffered from sudden profuse haemorrhage. A small piece of tissue found in the vagina showed cancerous growth; the uterus was scarcely enlarged. Panhysterectomy was performed, and the exterior of the uterus was normal. A large new growth, of the adenoma malignum type, protruded into the cavity from the posterior wall. At the present time, three years later, the patient was in perfect health. Dr. Jane Walker described a case of *Vincent's angina*, and showed a microscopic slide with well-marked spirilla and non-Gram-staining bacilli. The fauces became greatly swollen, there was difficulty in swallowing, and regurgitation of food through the nose; there was little rise of temperature, but considerable feeling of illness. The patient, an elderly man, recovered in the course of a week. Dr. Alice Benham gave her experiences of *A month spent in Antwerp with the British Field Hospital*. The staff consisted of four women and three men doctors, and fourteen trained nurses; later they were joined by several more nurses and by a surgeon from a London hospital. A large school was converted into a hospital with about 150 beds, and a few days after their arrival 140 wounded were admitted in one day. Many were collapsed, but revived after subcutaneous injection of normal saline and hypodermic injections of pituitary extract. Several required immediate operation—for instance, four abdominal cases, several depressed fractures of the skull, one excision of eye—and all did very well. In a case of bullet wound of the abdomen, the stomach projected through the wound; it was put back, and a good recovery was made. Bullets were left in position if they were causing no harm; the puncture wounds were painted with tinct. iodi, or if septic were treated with H_2O_2. One bullet had passed through the eye and hard palate and out below the chin; the eye was excised, and the patient recovered. Many of the compound fractures were plated, and probably stood early removal better on this account. Several cases required tracheotomy on account of surgical emphysema following bullet wounds; in one case food passed out through the tracheotomy tube, and the patient was fed by means of a stomach tube. There were no cases of tetanus, and only two doubtful cases of typhoid. Septic cases were nursed on the verandah. Fourteen hours after bombardment commenced the patients were removed in seven motor ambulances to Ghent. One died on the way, and one after arrival; the others stood the journey well. A few days later they had to evacuate Ghent, and were brought to England. The members of the medical staff went in turns to the fighting line, where the chief work required was stopping haemorrhage, administering morphine, applying splints, and dressing wounds. During the month about 400 wounded were treated in the hospital—forty English, and the rest Belgians.

Mrs. Scharlieb proposed, and Mrs. Berry seconded, a vote of condolence with Dr. Ethel Vaughan-Sawyer on the death of her husband, Captain Vaughan-Sawyer, who was shot while charging at the head of his regiment.

Reviews.

PHOTOGRAPHY IN COLOURS.

After a careful perusal of the second edition of *Photography in Colours*[1] by Dr. G. Lindsay Johnson, it must be admitted that his contention that the entire work has been carefully revised, and as far as possible brought up to date, and that in fact it may be considered as a new book, is substantiated. A new chapter dealing with the theory of light and colour has been added, which presumably is held to justify the description of the work as a textbook for amateurs and students of physics, whereas the first edition was called a textbook for amateurs. It is probable that students of physics would desire a more extended treatment of the subject, which must of necessity suffer from condensation in such a work as this.

The chapter on the eye compared with a camera is admirably illustrated, most interesting from a physiological point of view, and would go far to convince one that the author's theory of retinal image formation, although contrary to generally accepted views, is correct. The remarkable similarity (commented on) between the coloured granules of the autochrome screen and the coloured oil globules in the retina of certain birds and reptiles is not the least interesting feature of the argument.

The new and important chapter on "uto-color" printing by the bleach-out process will be welcomed by all photographers in colour, who ardently desire an effective method of printing from their colour transparencies. The author's summing up of the results hitherto obtained, however, to the effect that "very effective and faithful copies on paper are reputed to have been obtained in Europe" will be looked upon as only partially encouraging.

It is a pleasure to read the chapters dealing with the various single-plate colour processes, including the new Paget plate, which receives appropriate notice in this edition. All are illustrated and described, and their respective advantages and drawbacks fairly appraised. Full instructions for the practical working of each process are not wanting.

The directions for the after-treatment of a photographic plate, including the remedying of defects—in fact, the details of photographic work in general—leave nothing to be desired, and show that the author is a master of his subject, while the marked superiority of the specimen plates over those illustrated in the first edition show that he, too, has profited by experience in the interim. The all-important question of exposure, accuracy in which is an indispensable element of success in colour photography, receives extended consideration in this edition. A new chapter deals with three-plate colour photography, of which the best known process is the Sanger-Shepherd.

Minor "errata" have crept into the text—for example, on page 12, we think "air cells" should read "hair cells"; on page 189, "35 grams of tannin" should be "3.5 grams"; on page 207 there is confusion, if not error, in the comparison of the respective exposures for the different plates; and on page 124 "put a smear of *green* on the aperture" seems to be an error. But these are minor defects. The book is a useful and well-nigh indispensable guide to the amateur photographer in colours, and we may express the hope that in the next edition, which will assuredly be soon required in connexion with an art which is developing so rapidly, Dr. Lindsay Johnson will see his way to add many new chapters on the applicability of photography in colours to various arts and sciences, including that of medicine.

MOLECULAR PHYSICS.

It is common knowledge that much experimental work has been done in recent years on the subject of electrons, and that it has led to considerable modifications and extensions of the atomic theory; but probably few save those engaged in such work have any clear view of the actual results so far attained. Any one possessing some general knowledge of science and wishing to gain a general acquaintance with this latest extension of the field of knowledge will find Mr. J. A. Crowther's *Molecular Physics*[2] an excellent little book for the purpose. As demonstrator in physics at the Cavendish Laboratory, the author has been closely associated with the work of Sir J. J. Thomson, and has himself taken part in the researches. A chapter is devoted to the important new method for the detection of minute traces of gaseous elements, in which an electric discharge is passed through the extremely rarefied gas in a vacuum tube, and the positive particles are subjected at the same time to a magnetic and an electric field, and then allowed to strike a photographic plate; parabolic lines are traced on the latter by the positive particles, from which all the constituents of the gas can be detected and their molecular weights at once calculated. The method is far more delicate than spectroscopic analysis; one-hundredth of a cubic centimetre of a gas can be examined, and as little as four-millionths of a cubic centimetre of helium has been detected when working with this quantity of argon. But the main results of the work, of course, do not lie in the introduction of new practical methods, but in the explanations of the facts of valency, of thermal and electric conductivity, etc., which the ascertained facts about electrons now supply.

NOTES ON BOOKS.

Few men, perhaps, have better opportunities for studying the psychology of the crowd than the popular lecturer or preacher, the secret of whose success depends very largely upon the skill with which he plays upon the emotions of that complex being, Pope's "many-headed monster of the pit." Mr. E. Tennyson Smith, the well-known temperance advocate, is familiar with audiences in every quarter of the English-speaking world, and not the least interesting part of his recently-published memoirs is the chapter devoted to the description of the different characteristics of British, Colonial, and American crowds, and their methods of signifying approval or dislike. The author of *From Memory's Storehouse*,[3] moreover, possesses a sense of humour, a quality invaluable to all who have to deal with large numbers of men, and his book is full of good stories, many of which are directed against himself. We have neither the space nor the inclination to discuss Mr. Tennyson Smith's opinions, or the means he employs to promulgate them; but his sincerity cannot be questioned, and forms the most pleasing feature of this interesting record of his labours amongst all sorts and conditions of men and in every kind of surroundings.

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Continued from p. 883.)

Russia.

In the Crimean war the medical service of the Russian Army broke down even more completely than that of the British. A vivid description of the state of the military hospitals and the unfortunate inmates is given by Tolstoi in *Sebastopol*. The Grand Duchess Helena Paulowna of Russia, widow of the Grand Duke Michael, organized a system of aid for the wounded. Accompanied by three hundred Russian-Greek nuns—Sisters of the Exaltation of the Cross—she went to the seat of war. They tended the wounded, not only in the hospitals of Sebastopol and Simpheropol and in the ambulances, but in the immediate neighbourhood of the batteries under the fire of both musketry and artillery. The want of unity of action and practical direction, however, was a serious obstacle to the efficiency of this voluntary service. The women of Russia strove to send comforts to the army, but owing to defective organization much of the material intended for the troops never reached its destination.

A number of bales of lint prepared by their hands were sent from St. Petersburg to the Crimea, but they went astray; and while the want of them was urgently felt by the surgeons, they found their way to be used up at some paper mills. It is said that the terrible scenes which met the eyes of the Czar, during

[1] *Photography in Colours: a Textbook for Amateurs and Students of Physics.* By G. L. Johnson, M.A., M.D., B.S., F.R.C.S. Second edition, revised. London: G. Routledge and Sons, Ltd. 1914. (Cr. 8vo, pp. 256; 13 plates, 28 figures. 3s. 6d. net.)

[2] *Molecular Physics (Textbooks of Chemical Research and Engineering).* By J. A. Crowther, M.A. London: J. and A. Churchill. 1914. Cr. 8vo, pp. 175; 29 figures. 3s. 6d. net.)

[3] *From Memory's Storehouse: Incidents of My Life Work.* A record of thirty-five years' personal experiences as a preacher and temperance advocate in a world-wide parish. By E. Tennyson Smith. With sixteen illustrations. Published by S. W. Partridge and Co., Ltd., Old Bailey, London. 1914. (Pp. 256. Price 3s. 6d.)

his visit to the hospitals of the Crimea in the first dreadful winter of the campaign, did much to induce him to conclude peace when Sebastopol fell.[1]

When Henri Dunant was attending the Congress of Statistics at Berlin in 1863 he was invited to dine by the Prussian Minister of the Exterior, Count Eulenburg, Honorary President of the Congress. During the course of the dinner M. de Semenoff, Court Councillor of Russia, told Dunant that the Grand Duchess Helena Paulowna had been the first to realize his aims. After reading his book (*Souvenir de Solférino*) she had sent a number of Sisters of the Exaltation of the Cross to Poland to nurse the sick and wounded. Poles and Russians, without distinction of nationality. The Grand Duchess was represented at the Conference of Geneva by her private librarian and secretary, M. E. Essakoff. The Grand Duke Constantine Nicolaievitch, brother of the Czar Alexander II, sent his aide-de-camp, Captain Kireiew. The Grand Duchess Helena and the Grand Duchess Olga, daughters of the Czar Nicholas I, sent messages to Dunant expressing interest in his work.

Professor Bernard Pares, who some time ago was appointed official representative of the press of the Russian Army, gave an account of the Russian Red Cross in the *Pall Mall Gazette* of October 17th. It is a permanent organization which controls the ambulance work in the actual sphere of operations. It has first-aid stations behind the firing line and field hospitals for further aid and for the seriously wounded and those not fit to be moved. The nurses are called Sisters of Charity, but they are not nuns. They take no religious vow, but give their lives to nursing without any salary beyond food, clothes, and lodging. According to Millicent H. Morrison, in the *Windsor Magazine* for November, there are about five of these sisterhoods in St. Petersburg, seven in Moscow, and others in all Government towns. They are attached to large hospitals in which the sisters are trained for two or three years before they are allowed to wear the Red Cross emblem. A certain proportion get married, and if left widows may take up private nursing; but even the well-to-do, if ill at home, prefer to have a Sister of Charity. In case of war the nuns of such convents as the Martha Maria at Moscow, founded some years ago by the Grand Duchess Serge, sister of the Czarina, and who include among their sisterhood a princess and other aristocratic ladies, offer their services.

Professor Pares says Red Cross work has a strong attraction for public men in Russia. The second in command of the whole organization in the present war is Mr. Homyakov, who as president of the Duma came to England in 1909. He is now organizing the reception of the wounded at Kieff. In Warsaw the hospital work has been organized by Mr. A. Cuchkov, who succeeded Mr. Homyakov as President of the Duma. For the care of wounded Europeans, Russia was before the war divided in two by a line passing roughly through Petrograd, Moscow, and Harkov, the half furthest removed from the fighting line being set aside for the systematic treatment of the patients. It was found that the ultimate care of the wounded was too great a task for the already overburdened departments of the Government. In the Japanese war there had been created a League of County Councils (Zemstva), which had done good service under Prince G. Lvov and Mr. Cuchkov. The Government asked the League to take over the whole care of the wounded in the interior. The Zemstva assigned £600,000 to their own individual work and an equal sum to the League as a whole. Large contributions were made by the public. There was also founded a League of Town Councils, with the chief municipal authorities of Petrograd and Moscow at its head. All these bodies were co-ordinated by a central Red Cross Committee in Moscow, with deputies from the official Red Cross, the League of Nobles, the Zemstva League, the League of Towns, and the merchant organizations. The contributions of the fund to the Moscow Exchange last month amounted to £1,200,000.

The military or official Red Cross has clearing points for the dispatch of the wounded, and besides its own hospital trains fifty are being equipped by the Zemstva League. At Moscow the trains will run into a special hospital station organized by the Town League which here takes up the work. The number of wounded to be provided for is 750,000, a figure which, as Professor Pares says, of itself shows what the war means to the Russian people. Temporary provision of all kinds has been made, and the central committee assigns a destination to each patient in Moscow or in one of the eastern provinces. It inquires of the various organizations what beds they have ready, and the Zemstva and Town Leagues make the further arrangements with the provincial Zemstva and various town councils.

The Russian Government has authorized the Red Cross to import medicines and surgical instruments free of duty during the war.

(*To be continued.*)

[1] H. Brackenbury in *Help to Sick and Wounded*. London, 1870, p. 427.

THE CHEMICAL CONSTITUTION OF CERTAIN PROPRIETARY DRUGS.

SEVERAL Panel Committees have found it desirable to issue for the guidance of panel practitioners a list of proprietary medicines and their equivalents, and other Committees no doubt have the matter under consideration. It has been thought, therefore, that it would be convenient to publish a list of some of these drugs with annotations.

The information in the notes may also be of interest to others, including consultants, who are not engaged in practice under the Insurance Act.

The contractions *B.P.* with date is used for the *British Pharmacopoeia*, and *B.P.C.* is used for the *British Pharmaceutical Codex*, 1911.

Acetozone.

This is a name applied to benzoyl-acetyl-peroxide, formerly known as benzozone. It is put forward as a germicide. The trade name Acetozone indicates the product of Messrs. Parke, Davis, and Co.

Acidol.

This is a name given to the hydrochloride of betaine, which is a base found in the sugar beet and many other plants. The principal use of the salt is as a source of hydrochloric acid, which it liberates in the stomach. The trade name Acidol indicates the product of Aktiengesellschaft für Anilin-fabrikation, Berlin.

Acitrin.

This name is applied to the ethyl ester of phenylcinchoninic acid. It is put forward as a gout specific. The trade name Acitrin indicates the product of Farbenfabriken vorm. Fried. Bayer, Elberfeld, Germany.

Acoine.

This is a name applied to the local anaesthetic di-para-anisyl-monophenetyl-guanidine hydrochloride, for which the *B.P.C.* gives the short name guanicaine. The trade name Acoine indicates the product of Chem. Fabrik von Heyden, Radebeul, near Dresden.

Acopyrine.

A name given to the acetylsalicylate of antipyrine. The trade name Acopyrine indicates the product of Chem. Fabrik von Heyden, Radebeul, near Dresden.

Actol.

A name applied to silver lactate, used as an antiseptic and disinfectant. The trade name Actol indicates the product of E. Merck, Darmstadt.

Adalin.

This is a name applied to bromdiethyl-acetylcarbamide. It is put forward as a sedative and hypnotic. The trade name Adalin indicates the product of Farbenfabriken vorm. Fried. Bayer, Elberfeld, Germany.

Afridol Soap.

A soap containing 4 per cent. of afridol, which is a name applied to sodium-hydroxymercuric toluylate. The soap is said to have a germicidal action. The trade name Afridol Soap indicates the product of Farbenfabriken vorm. Fried. Bayer, Elberfeld, Germany.

Agathin.

A name applied to salicyl-alpha-methyl-phenyl-hydrazone. It was introduced as an antineuralgic and anti-

rheumatic. The trade name Agathin indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main, Germany.

Agurin.

This is a name applied to a mixture or weak combination of theobromine sodium and sodium acetate, which is put forward as a diuretic. The trade name Agurin indicates the product of Farbenfabriken vorm. Fried. Bayer, Elberfeld, Germany.

Airol.

A name applied to bismuth oxyiodogallate. The trade name Airol indicates the product of Hoffmann-La Roche Chemical Works, Basle, Switzerland.

Albargin.

This is a name given to silver gelatose. The trade name Albargin indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main, Germany.

Albulactin.

A name given to milk albumin. The trade name Albulactin indicates the product of J. A. von Wülfing, Berlin.

Alphol.

This is a name given to alphanaphthol salicylate, which is said to have similar properties to those of the ordinary naphthol salicylate, which is the beta-compound. The trade name Alphol indicates the product of E. Merck, Darmstadt.

Alumnol.

This name is applied to aluminium beta-naphthol-sulphonate, of which the *B.P.C.* name is aluminium naphthol-sulphonate. The trade name Alumnol indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main, Germany.

Alypin.

This is a name given to benzoyl-tetramethyl-diamino-ethyl-dimethyl-carbinol hydrochloride, for which the *B.P.C.* gives the name amydricaine hydrochloride. It is put forward as a local anaesthetic. The trade name Alypin indicates the product of Farbenfabriken vorm. Fried. Bayer, Elberfeld, Germany.

Anaesthesine.

A name applied to para-amino-benzoic ethyl-ester, for which the *B.P.C.* name is benzocaine. The trade name Anaesthesine indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main, Germany.

Anthrasol.

This is a name applied to coal tar which has been purified and decolorized. The trade name Anthrasol indicates the product of Knoll and Co., Ludwigshafen-on-Rhine, Germany.

Antileprol.

This is a name applied to purified chaulmoogra oil, consisting of the ethyl-ester of chaulmoogric acid. It is put forward for the treatment of leprosy. The trade name Antileprol indicates the product of Farbenfabriken vorm. Fried. Bayer, Elberfeld, Germany.

Antipyrin.

In the *B.P.*, 1898, the substance phenazone is included and a footnote states that it is commonly known as antipyrin.

"Antipyrin," as a branded article, is made by Messrs. Meister, Lucius, and Brüning, Hoechst a/Main, Germany. Phenazone may be made by any one.

Aponal.

A name given to tertiary amyl carbamate, put forward as a soporific. The trade name Aponal indicates the product of Zimmer and Co., Frankfort.

Argonin.

Described as silver casein. The trade name Argonin indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main.

Argyrol.

A name applied to an organic compound of silver which is stated to contain 30 per cent. of metallic silver; referred to in the *B.P.C.* as silver vitellin. The trade name Argyrol indicates the product of A. C. Barnes Co., Philadelphia.

Aristol.

This is a name given to dithymol-diiodide, the *B.P.C.* name for which is thymol iodide. The trade name Aristol indicates the product of Farbenfabriken vorm. Fried. Bayer, Elberfeld, Germany.

Arrhenal.

This is a name applied to disodium methylarsinate, given in the *B.P.C.* as synonymous with sodium methylarsenite; another trade name for the same substance is Arsinyl. The trade name Arrhenal indicates the product of Adrian et Cie., Paris.

Arsacetin.

A name given to sodium acetyl para-aminophenyl arsonate. The trade name Arsacetin indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main, Germany.

Arsan.

Described as "arsen-glidine," and intended for use in place of arsenious acid in chronic skin diseases. The trade name Arsan indicates the product of Dr. V. Klopfer, Dresden-Leubnitz, Germany.

Arsycodile.

A name applied to sodium cacodylate. The trade name Arsycodile indicates the product of E. Bloch, Basle, Switzerland.

Arterenol Hydrochloride

A name given to the hydrochloride of dioxyphenyl-ethanolamine. It is put forward as a substitute for preparations of the suprarenal gland. The trade name Arterenol Hydrochloride indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main.

Asaprol.

This is a name applied to calcium betanaphthol-alpha-monosulphonate, which is given in the *B.P.C.* as calcium naphthol sulphonate, synonym calcinaphthol. The trade name Asaprol indicates the product of Fabrik Chem. Produkte, Mülhausen, Alsace.

Aseptol.

Described as a 33 per cent. solution of ortho-oxyphenyl-sulphonic acid, or sozolic acid. The trade name Aseptol indicates the product of E. Merck, Darmstadt.

Aspirin.

Acetyl-salicylic acid appears in the *B.P.*, 1914, under that name, and also in the *B.P.C.* which states that other names by which the substance is known are acetysal, acetosalin, aletodin, saletin, salaretin, xaxa, etc.

Aspirin is made by Farbenfabriken vorm. F. Bayer and Co., Elberfeld, Germany. Acetysal is made by Messrs. Fritz-Petzoldt and Süss, Vienna. Xaxa is made by Messrs. Burroughs, Wellcome and Co., London.

Asurol.

A name given to a compound of sodium amino-oxybutyrate and mercury salicylate. It is stated to contain 40 per cent. of metallic mercury. The trade name Asurol indicates the product of Farbenfabriken vorm. Fried. Bayer, Elberfeld, Germany.

Atophan.

A name given to phenyl-quinolin-carboxylic-acid. It is put forward for the treatment of gout and rheumatism. The trade name Atophan indicates the product of E. Schering, Berlin.

Atoxyl.

This is a name applied to sodium aminophenylarsonate, for which the *B.P.C.* gives the name sodium aminarsonate. Other trade names for this body are Arsamin and Soamin, and it is sometimes termed Sodium Arsanilate. The trade name Atoxyl indicates the product of Vereinigte Chem. Werke, Charlottenburg, Germany. Soamin is made by Messrs. Burroughs, Wellcome and Co., London.

British Medical Journal.

SATURDAY, NOVEMBER 28TH, 1914.

THE EFFECT OF WAR ON MEDICAL PROGRESS.

The maxim that medical science knows no national boundaries has been rudely shaken by the present war. In all the belligerent countries medical investigators have left their laboratories in response to the call to minister to the wounded. Already several have fallen on the field of honour. We need only mention Captain H. S. Ranken, who was a member of the Sudan Sleeping Sickness Commission and gained the remarkable double distinction of the French decoration of the Legion of Honour and the Victoria Cross, although he died before either was actually bestowed. Many teachers have also been called away from their work. The publication of the results of medical research and observation has necessarily suffered, and though our British journals have been issued regularly, it has been in a shrunken condition. Many of the Continental periodicals ceased to appear for two or three months, and although there are signs of revival, most of the leading French journals are still in a state of suspended animation. The Belgian journals have shared in the temporary extinction of their afflicted country. From Germany naturally we receive none, but we may gather how the war has affected them from the following passage in the *New York Medical Journal* of October 10th: "The few medical journals received from Germany early in September contained a good deal concerning the war, mostly in the form of official notices and comments on the significance of various passages in the laws bearing on mobilization and military service; their size has generally been diminished."

The discontinuance of the exchange of intellectual produce is a most serious obstacle to progress. The practical humanity of the medical practitioner, shown in so many ways, is indeed a relief to the horrors of a conflict in which angry nations use every means of destruction to exterminate each other. But the blast of war that blows in our ears makes the still small voice of science inaudible. All the medical congresses which were to have been held in Germany during the course of next year have been postponed. The fourth Italian Antituberculosis Congress and another on mental disease, both fixed for October, did not meet. The organizing committee of the International Medical Congress, which was to have met at Munich in 1917, has suspended its work of preparation. The *Deutsche medizinische Wochenschrift* observes that probably the feelings of hatred and rancour aroused by the war will not have died out by that time, so that it would be difficult to welcome representatives of the nations now fighting each other with anything like cordiality. That difficulty could, of course, be got over by leaving Germany—which by that time may have learnt that her "culture" is not an indispensable factor in progress—to sulk apart, and arrange for the holding of the congress elsewhere.

Already the Fatherland seems to be preparing for isolation from the medical world. Just as, many years ago, the Kaiser laid his ban on French words in table menus, so now German scientists have, it is announced, embarked on a campaign against all words of English, French, or Russian origin. The ingenuity of Teutonic philologists will be taxed to discover words of native growth; if such cannot be found, the Latin and Greek dictionaries will be ransacked. A committee is to be formed for the purpose of framing a purely German medical nomenclature. The vocabulary will assuredly, like the word "poltic" according to that distinguished Teuton (as we assume him to have been) Count Smorltork, "surprise by himself." It is not at all unlikely that such an attempt will be made, for German "intellectuals" have shown themselves to be like Habakkuk, according to Voltaire, *capables de tout*. Nor need the rest of the world grieve too much if they show their mingled vanity and spite in this way. It will only help to stop the tendency to what has been called Pan-Germanism in medicine, which has within the past few years been visible in America and in this country. On this subject we may quote from a shrewd observer, Dr. H. P. Greeley, who from his own observation wrote in the *Boston Medical and Surgical Journal* of September 10th: "There are certain tendencies in the evolution of medicine as a pure science as it is developed in Germany which are contributing to the increase of charlatanism. These tendencies are worthy of analysis to us who are so rapidly Germanizing our methods, as a warning, so that we may escape like evils. A medical school has two important duties—one to medical science, the other to the public; one encouraging and promoting medical education and scientific progress, the other supplying to the public well-trained practitioners. The latter function is really the greater, for out of every graduating class 90 per cent. are practitioners, and less than 10 per cent. are scientists, and of these probably only one or two are so eminently fitted for scientific work as ever to accomplish much. The conditions in Germany are reversed. There, there are ninety physicians dawdling with science to every ten doing practice. Of this ninety, fully 75 per cent. are wasting their time as far as permanent results are concerned. There are thousands of investigators producing thousands of publications yearly, only a very few of which stand the test of time. The keen competition promotes such a desire for priority that the merest hints of new sidelights and theories are hastened into print, only to die ignominiously because of their shallow soil. The very strength of the teaching of theory and the weakness of clinical teaching in Germany produces a few scientists, a large number of pseudo-scientists, and few good practitioners." Dr. Greeley says that in Germany the scientific side is over-developed while the human side is greatly neglected. German physicians do not know how to treat the individual and recognize only the disease. The comfort of the patient or the recognition of his personality is not considered. Even in the new institutions, splendid as they are in a material sense, it is easy to see from the spirit manifested by the staff that the improved conditions were not for the comfort of the patients. These conditions are, Dr. Greeley believes, the natural result of German medical standards.

Does war offer to medicine any compensation for the harm it does in hindering the advance of science? Ambroise Paré learned by a fortunate accident in his first campaign that the universal belief held at that time (1537) that gunshot wounds "partake of venenosity by reason of the

powder" was unfounded, and that they did not therefore need to be treated with boiling oil. The experience of the present war has already taught surgeons a good deal about the proper application of Listerian principles to treatment of septic wounds. Something may also be learnt as to the efficacy of antityphoid inoculations and as to the prevention of dysentery and other diseases which have in former wars decimated armies. But such advances in knowledge as have been mentioned, valuable as they are in themselves, have comparatively little application to ordinary life. In other directions war brings progress in the healing art almost to a standstill.

GERMAN PROFESSORS AND BRITISH HONOURS.

The animosity against this country so violently expressed in the German lay press is reflected in the medical journals. A surgeon who has lately left Berlin, where he has had ample opportunities of studying the psychology of the German medical profession, states that he is totally incapable of giving a true picture of the Teutonic feelings towards England. From a psychological point of view these feelings were, he says, almost the most interesting feature of his visit to Berlin. The "mass action" of the intense hatred of England almost carried him off his feet, and its suggestive force often made it hard for him to keep cool. A reconciliation, even a compromise, between these two nations seemed to him to be impossible.

In the British Medical Journal of October 31st reference was made to the amazing "declaration by German professors and men of science" issued some time before, and bearing the signatures, among many others, of von Behring, Paul Ehrlich, Czerny, August Bier, Haeckel, and Wilhelm Wundt. One passage in the declaration was to the following effect: "Those of us who have received marks of distinction from English universities, academies, and societies of scholars do renounce, as a matter of national feeling, all such honours and the rights attached to them." This renunciation, which the professors evidently regard at once as an act of noble self-sacrifice and a sort of pontifical anathema against this country, leaves us quite unimpressed. We will leave the appreciation of its character to the professors' own countrymen. Professor Max Verworn, of Bonn, writing in the *Berliner Tageblatt*, describes it as childish and unworthy of German men of science. We agree, but feel compelled to add that it is of a piece with the childish displays of temper which from day to day make "cultured" Germany more ridiculous to people with any sense of humour. Professors Waldeyer, Martin, and Orth have also protested against the foolish conduct of their colleagues. But while the others object to the war being carried into the fields of intellectual activity in which people of all countries should work together for progress, Orth has an eye to business. He points out that after the war there will in time come peace, and the enemy of to-day may be the ally of to-morrow. Therefore, we gather, he thinks it impolitic to continue to sow seeds of lasting hatred. Referring to some suggestion or movement to prevent foreigners learning the advances made in science by Germany by denying young men of other nations admission to her universities, Orth sagely says that such a measure would be made futile by the fact that the reading of German books and journals could not be prevented. Besides, do not the foreign students bring cash to Germany? Orth sees this with a clearness hardly to have been expected from a man belonging to a nation which professes to despise us as a people that only looks for financial gain. Having uttered these wise words of warning to his countrymen the worthy professor thinks it prudent to clear himself of any suspicion of not being a thoroughgoing patriot, for he says that in giving laboratory appointments and facilities Germans must remember that they themselves are their nearest neighbours—that, in the words of the homely proverb, they "maun gie their ain fish-guts to their ain sea maws." With the frankness that makes the German character so attractive he adds that during the seventy-three semesters he has been director of university institutes "never has a foreigner been preferred to a German, never has a post in a laboratory been given to a foreigner until all the demands of Germans were satisfied." Professor Orth, in fact, would not keep German science a *mare clausum*, because that would not be good business. He would admit the foreigner to feed on the crumbs which fall from the rich table of German knowledge, but he would make him pay well for the privilege. In the German manifesto reference is made to our "contemptible envy of Germany's economic success." We envy that success as little as we deny it; but we cannot help wondering why we are called a nation of shopkeepers when the leaders of German culture seek to provide in so barefaced a way against a loss of foreign custom.

And why does another German man of science, the astronomer Wilhelm Foerster, who has denounced the spirit of the manifesto, speak of the policy of this country as one "which in its essential features is still purely selfish"? Is it not notorious that England, of which it has been said, by poetic licence, that it "never did, nor never shall, lie at the proud foot of a conqueror," is more the prey of foreign, especially German, invaders than any other country on the earth? The stress of life has been made more grievous for our struggling poor by the undesirable alien; German clerks and waiters have taken the bread out of the mouths of our own; in schools, universities, museums, and laboratories foreigners have secured positions to which natives might be thought to have the first claim. Well might Professor Mommsen exclaim, when he heard of the appointment of a fellow-countryman to a chair in an English university, "Hef you no hompogs of your own?"

THE WAR AND THE DEMAND FOR LOCUMTENENTS.

In discussing last week the duty of the profession to the army the opinion was expressed that young men without ties ought to put their names upon the waiting list kept by the Director-General of the Army Medical Service at the War Office. The reason given for this opinion was that though the names, at present on the list, of men fit to undertake the arduous work of service in the field numbered about a thousand, that would not be sufficient to meet the calls which will certainly be made before very long. But we also expressed the view that medical men settled in practice in this country, who have wives and children or others dependent upon them, and who are not in a position to make adequate provision for their families or to disregard the possible loss of their connexion in practice, were not at present called upon to volunteer. We have received some inquiries as to the facilities with which locumtenents can be obtained. The position at present seems to be that, while there have been more vacancies for locumtenents than usual since the

commencement of the war, there has been no great difficulty in filling them where the engagement desired has been short. Many such engagements have been accepted by medical men who are waiting until they are actually called up for service. As the number so called up increases, the medical men available to act as locumtenents must be very considerably decreased. We understand that it is more difficult to obtain locumtenents for long engagements, more especially for an indefinite period, such as the duration of the war. Already, we understand, many medical men who have been called up have been unable to arrange for substitutes who would carry on the work during their absence the duration of which is indefinite. As has frequently been stated, the members of the medical profession in most populous districts have taken measures as far as possible to diminish the loss to individual practitioners and the inconvenience to the public, due to the fact that so many members of the profession are employed with troops abroad or at home. There seems reason to hope that in such districts the difficulty may be met, to a large extent at any rate; but it is otherwise in country districts, and practitioners in such districts ought to have the first call upon such locumtenents as may continue to be available. It is a question whether practitioners in these districts are justified in offering their services in a military capacity until the supply from the more populous areas has been exhausted. We do not disguise from ourselves the difficulties of the position, which will become much greater owing to the immense increase in the military forces in the country which is now taking place. In reply to a question by Mr. Hinds, the Under Secretary of State for War stated, on November 23rd, that the new army will be provided with medical arrangements on the same basis as the Expeditionary Force, that there has been no difficulty in securing the services of a sufficient number of fully qualified medical men, and that it was not anticipated that there would be any shortage in the near future. The immediate difficulties, he said, had been met partly by giving temporary commissions in the Royal Army Medical Corps, and partly by employing civil practitioners locally. Mr. Tennant did not give any clear indication of the arrangements which are being made to provide a medical service for the units of the new army, which within a few months at most will be warned for service abroad. The battalions and brigades will require a medical staff, and though the difficulty may be met at the moment by employing civil practitioners, this will not be a permanent solution. This fact emphasizes all the more the need for the increase of the list kept by the Director-General at the War Office.

VITAL STATISTICS OF THE WAR.

At the meeting of the Advisory Council of Medical Research, under the provisions of the Insurance Act, held on November 17th, the plans put forward by the Medical Research Committee were generally approved. We hope to be able to print the scheme in detail in our next issue, but we are informed that the arrangements will not be complete for securing the final Ministerial sanction until the end of this week. We understand, however, that the Army Council has approved of the Medical Research Committee giving laboratory help to military hospitals where it is required, and that considerable assistance is already being afforded in different places. The Army Council has also approved of the proposal whereby the whole of the work of dealing with the statistical records of the war shall be undertaken by the statistical staff of the Medical Research Committee, and arrangements for getting the work in hand are now being made. We are glad to know that the military authorities have expressed their willingness to do whatever is possible to facilitate the uniform taking and proper collection of records under the advice of the staff which has to deal with it. As this represents a large undertaking on behalf of the Medical Research Committee the work will occupy a considerable period of time, and will involve substantial expenditure; but there is good reason to hope that the result will be to provide us with complete, well arranged, scientific, and thoroughly reliable statistics.

SMALL BODIES AND BIG SOULS.

We are glad to see, from the answer given to a question in the House of Commons, that the War Office has set aside the absurd standard of height so far as regards an East Lancashire battalion, and has given permission for a "midget" battalion to be raised of men from the height of 5 ft. to 5 ft. 3 in. We believe another 30,000 recruits might have been secured in the last few weeks if the standard of height had been revised, and the present limitation to East Lancashire is difficult to understand. Not a little is to be said in favour of short infantry. Short men occupy less room in transport; they find cover more easily, and offer a smaller mark to bullets and shrapnel; they are better sheltered in trenches, and require to dig less deep trenches to protect themselves. It takes less khaki to clothe them, and less leather to boot them. The army blanket covers them more amply, and they need less food than tall thin men to keep up their body heat and maintain their marching energy; a smaller service transport, therefore, suffices for their needs. Many short men are tough and wiry, and when sturdily built like the north country miner, are strong and capable of the greatest endurance. The managers of factories where skilled work is done know that the small man is often a better workman than the big one, who is apt to be clumsy. The bony levers moved by their muscles are lighter and shorter, the nervous connexions between the sense organ and muscles of the limbs are shorter, and the speed and balance of the movements executed perhaps better. Those who stand the rigors of cold climates are not always big men, and the sailor, like the wind-swept tree on the coast, may be a short man. Warmth and easy conditions of life rather tend to the development of tall men. The cavalry and artilleryman requires to be big and powerful, but as to those who burrow in the trenches, how can it matter whether they are 4 ft. 9 in. or 5 ft. 6 in.? We are not out for a show and a parade, but to win—a war of sieges and attrition. To hang on with tenacity, and use the rifle with skill, to keep warm and healthy in body, and courageous in spirit—these are the qualities, and the short men have them. The brave soul of the little man in the face of the giant is proverbial. The Japanese soldier has earned the highest reputation for endurance, courage, and fighting capacity, and his average height is between 5 ft. and 5 ft. 3 in. There is waiting the call to enlist an army corps of bantam weights—the sturdy, short-limbed men of the north and the short men of the south and of Wales. The difference is in part due to difference of race, but valour and worth must not be valued by the length of a femur.

CERTIFICATES FROM NON-PANEL DOCTORS FOR INSURANCE ACT PURPOSES.

It will be remembered that in the case of Heard *v.* Pickthorne it was ruled that an approved society was not entitled to refuse to accept the certificate of a non-panel doctor as evidence of incapacity of one of its members, simply because the certificate was not that of a practitioner on the panel. The profession generally assumed that this case had settled the question, and that approved societies were not likely to raise this particular difficulty again. However, within the past few weeks the attention of the Association was drawn by a practitioner not on the panel to a case in which a patient of his had been refused sickness benefit because the medical certificate was not signed by his panel doctor. In this case the patient went to the non-panel doctor because he

did not feel well enough to go so far as the surgery of his panel doctor, and preferred to continue under his care. The Medical Secretary at once brought the case before the approved society in question, and asked if it intended to persist in refusing to pay the member his sickness benefit unless he could produce a certificate from his panel doctor. It was hinted, not obscurely, in the letter to the society that the Association was so determined to uphold the right of all registered practitioners to have their certificates accepted for all legal purposes, that if necessary the Association would be prepared to take the case further. On being reported to the Insurance Act Committee, the Medical Secretary's action was fully endorsed, and that Committee agreed, if it were found to be necessary, to take legal steps to enforce the right which it was thought that the case of Heard *v.* Pickthorne had firmly established. Fortunately, the society in question has seen the error of its ways, and has informed the Association that instructions have been given to the secretaries of all its branches to accept medical certificates from registered practitioners whether they are on the panel or not. This is a very satisfactory ending to the case, but it shows how important it is that practitioners should be on the watch for attempts to discriminate between the certificates of registered medical practitioners and to undermine the right of insured patients to place themselves under the care of any practitioner they like without risk of forfeiting the benefits of the Insurance Act.

MEDICAL INSURANCE AGENCY.

An interim report on the progress of the Medical Insurance Agency for the nine months ending September 30th was presented by the Chairman, Dr. G. E. Haslip, to a meeting of the Committee on November 5th. The Agency had, he stated, not escaped the effects of the war, the receipts for new life and motor-car business especially having been adversely affected, although the commission on life business effected antecedent to the war had very nearly doubled during the period under review. On the other hand, a substantial business in war risks had been negotiated, and had helped to make good any shrinkage in other classes of business. The surplus shown by the auditor's figures would, the Chairman said, justify the distribution to medical charities of the sum of 300 guineas for the current year, and it was resolved accordingly to make contributions to the Royal Medical Benevolent Fund (100 guineas), the Royal Medical Benevolent Fund Guild (50 guineas), Epsom College Benevolent Fund (75 guineas), the Royal Medical Benevolent Fund Society of Ireland (25 guineas), the *Lancet* Editor's Fund (15 guineas), the Royal St. Anne's School (10 guineas), and, provisionally, to the fund for distressed Belgian medical men (25 guineas). The subscription to the Royal St. Anne's School was made with the specific object of assisting daughters of medical men in obtaining election to that school. Altogether the agency since it was instituted has voted a sum of £1,075 to medical charities, and, in addition, it has returned to insurers a sum of over £3,000. The agency is prepared to undertake to arrange policies for insurances of all kinds, and from the experience already gained it is able to advise medical men as to the best form of policies, and as to their satisfactory adjustment to meet the varying needs of individuals. Further particulars can be obtained on application to the Agent and Secretary, Medical Insurance Agency, care of British Medical Association, 429, Strand, London, W.C. The Committee of Management consists of Dr. G. E. Haslip (Chairman), Dr. Alfred Cox, Mr. Guy Elliston, Sir Frederic Hewitt, M.V.O., Dr. H. A. Latimer, Dr. J. A. Macdonald, Dr. D. J. Mackintosh, M.V.O., Mr. H. Betham Robinson, M.S., Dr. S. Squire Sprigge and Dr. Dawson Williams.

THE TEETH OF RECRUITS.

The distribution of prizes to the successful students of the Royal Dental Hospital took place on November 17th. The Dean, in his report, stated that of the senior and junior members seven were serving as lieutenants and captains in the Royal Army Medical Corps, and one as a captain of the East Surrey Regiment. Of the present students, twenty-seven had joined the army in various capacities; some held commissions, some were in the medical service, and others held a not less honourable post of privates in line regiments. Of past students very many were serving with the navy and army. Information was not available regarding all, but it was known that twenty-two were serving in various ways. Those who before the war belonged to Territorial regiments had to throw up their practices and give their whole time to military work. The sacrifice this entailed was not, he thought, fully realized. He felt that whatever claim the wives of officers in the regular army might have on the nation, the wives of officers in the Territorial Force in all justice should receive allowances from the Government whilst their husbands were absent on service. Experience in dealing with the teeth of recruits and of men newly enlisted showed that, for the most part, the condition of the teeth was appalling, and, although dentists certainly did not intend to support the idea that recruits with bad teeth should be refused, yet the teeth of the recruits should have attention. He understood that up to the present the War Office had made no attempt to deal with the problem. If, as was suggested, this army was to take the field in six months, the time was all too short to deal with the matter. When he read accounts of men serving in the trenches filled with water, and knowing as he did from seeing men who had returned from the front the condition of their teeth, he was horrified to think that their miseries should be aggravated by allowing them to go to the front with their mouths full of decayed teeth, exposed nerves, and septic roots. Mr. Arthur Hood, Chairman of the Managing Committee, after presenting the prizes, delivered an address, in the course of which he referred to the part the hospital had played in undertaking the work of looking after the teeth of sailors, soldiers, and recruits sent there by military authorities. Already 917 men had attended, many requiring considerable work done. In addition to help in this work given by old students the school was also indebted to them for having voluntarily undertaken in many instances to provide dentures free of charge.

THE RED CROSS AND TUBERCULOSIS IN GERMANY.

The Red Cross is doing useful work in Germany, quite apart from its activities in connexion with the wounded. It has, for example, made extensive preparations for the treatment of soldiers who may develop pulmonary tuberculosis. At the outbreak of the war Germany had 149 sanatoriums for adults and 32 for children. There were also 108 hospitals, containing 20,000 beds, for weak and scrofulous children. In addition, there were 1,819 dispensaries and 115 forest homes (*Walderholungsanstalten*), and 19 large institutions, with 1,496 beds, for cases of tuberculosis of the bones and joints. Further, there were several institutions for the treatment of lupus. When the war broke out most of the physicians and nurses attached to these hospitals volunteered for active service, and the hospitals being temporarily closed were put at the service of the army medical staff. The risks entailed by this precipitate abandonment of work among the tuberculous were, however, soon realized. Very few indeed of the hospitals were suited for the treatment of the wounded, and their services have been retained by the Government only for cases of tuberculosis among

soldiers. In the remaining hospitals work has again been resumed on the old lines for the benefit of the civil population.

REPLY OF FRENCH UNIVERSITIES TO GERMAN PROFESSORS.

WE have already dealt, in the BRITISH MEDICAL JOURNAL of October 31st, with the proclamation *urbi et orbi*, in which ninety-three of the leading "intellectuals" of Germany sought to throw the blame for the terrible war which is now raging on other countries, particularly England, alleged for some obscure reason to be jealous of Teutonic "culture." Reference was made to the dignified reply to this extraordinary manifestation of what Herbert Spencer would have called the "bias of patriotism" raised to the degree of frenzy made by a number of representative men of learning in Great Britain. We have received a copy of an equally dignified and crushing reply addressed by all the universities of France—with the exception of that of Lille, whose corporate activity is for the time in abeyance—to the universities of neutral countries. The following is the text of the document: "The German universities have protested against the charges brought against their country on account of the war. The French universities will confine themselves to submitting to you the following questions. Who wished for this war? Who, during the short period of respite allowed for deliberation by the Powers of Europe, strove to find bases of conciliation? Who, on the contrary, refused all those successively proposed by England, Russia, France, and Italy? Who, at the very moment when the dispute appeared to be subsiding, declared war as if the favourable opportunity had been waited and watched for? Who violated the neutrality of Belgium after having guaranteed it? Who declared, with regard to this, that neutrality is a word, that 'treaties are scraps of paper,' and that in time of war 'one does what one can'? Who regards as null and void the international conventions by which the signatory Powers agreed not to use in the conduct of war any form of force constituting 'barbarity' or 'perfidy,' and to respect historical monuments, places of worship, buildings dedicated to science, art, and charity, except in cases in which the enemy, first diverting them from their purpose, uses them for military operations? In what conditions was the University of Louvain destroyed? In what circumstances was the Cathedral of Rheims burnt? In what circumstances were incendiary bombs thrown on Nôtre-Dame de Paris? The reply to these questions is to be found in facts alone. Already you may consult documents published by the Chancelleries, the results of inquiries made by neutrals, the testimonies found in German notebooks, the testimonies of the ruins of Belgium and the ruins of France. These are our proofs. Against them it is not enough, as the representatives of German science and art have done, to utter denials based only on an imperative 'word of honour.' Nor is it enough, as the German universities do, to say, 'You know our teaching; it cannot have formed a nation of barbarians.' We know what has been the value of that teaching. But we also know that, breaking with the traditions of the Germany of Leibnitz, Kant and Goethe, German thought has declared itself at one with, tributary and subject to Prussian militarism, and that carried away by this, it claims universal domination. Of this pretension proofs abound. Only the other day a master of the University of Leipzig wrote: 'It is on our shoulders that the future fate of culture in Europe rests.' The French universities, for their part, continue to believe that civilization is the work not of one people alone, but of all peoples; that the intellectual and moral wealth of humanity is created by the natural variety and the necessary independence of all national characters. For their part, like the allied armies, they defend the liberty of the world." A bishop once declared in the House of Lords that he would rather see England free than sober. We think that, after the way in which the results of German thought have during the past few months revealed themselves to a wondering world, civilized nations will consider themselves fortunate in escaping the "culture" that Germany would impose upon them.

ELECTRO-PHYSIOLOGY OF PLANTS.

PROFESSOR I. C. BOSE of Presidency College, Calcutta, recently described to a general meeting of the Royal Society of Medicine experiments designed by him which show "that the phenomena of contractile response in the plant reveal characteristics similar to those of the animal; that even ordinary plants exhibit under excitement a responsive electrical variation of the same sign as in the animal; that excitatory impulses are transmitted through certain conducting tissues of the plant in a manner precisely similar to the nervous impulse in the animal; and that there are rhythmic tissues in the plant which react under various external conditions in a manner just the same as those of the animal." In the telegraph plant (*Desmodium gyrans*) the small lateral leaflets exhibit automatic pulsations, and Professor Bose finds many points of similarity between these pulsations and those of the frog's heart. For example, the pulsation of each is arrested in diastole by the action of lactic acid and in systole by the action of dilute caustic soda. Ether brings the contraction of both to a stop. The pulsations of both increase in amplitude and diminish in frequency on lowering the temperature. The anode depresses and the kathode exalts the contraction of either. The author's ingenious methods of recording plant response were demonstrated. They are described in his book, *Comparative Electro-Physiology*, published in 1907. By electrical methods of investigation he claims to show that "every plant, and each organ of every plant, is sensitive and exhibits the state of excitement by electromotive variation, of galvanometric negativity—that is to say, an electrical change identically the same as that induced in an excited animal tissue." Working with the sensitive plant (*Mimosa*), Professor Bose finds, as with nerve muscle preparation, that a single stimulus, by itself ineffective, becomes effective upon repetition; that cold abolishes, while warmth increases and accelerates the response; that within limits the amount of work performed increases with the cold; that the latent period is prolonged by fatigue, and shortened by warmth and a strong stimulus. He finds, too, that Mimosa has a diurnal variation of excitability. "It has been hitherto supposed that in Mimosa the impulse caused by irritation is merely hydro-mechanical, and quite different from the nervous impulse in the animal." Against this view Professor Bose puts those results obtained by him. He says the impulse can be initiated by the polar action of an electrical current without mechanical disturbance. The velocity of transmission can be varied by physiological means—for example, cold. The impulse can be arrested by electrotonic block or local application of a poison. He concludes that "the plant is not a mere mass of vegetative growth, but that its every fibre is instinct with sensibility." "We find it," he says, "answering to outside stimuli, the responsive twitches increasing with the strength of the blow that impinges on it. We are able to record the throbbings of its pulsating life, and find these wax and wane according to the life conditions of the plant, and cease with the death of the organism. We have seen how the whole plant is made one by connecting threads, so that the tremor of excitation initiated in one place courses through the whole; and how this nervous impulse, as in man, can be accelerated or arrested under the several actions of drugs and poisons."

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

The thirty-second expedition of the school, consisting of Professor Warrington Yorke (Walter Myers Professor of Parasitology) and Dr. B. Blacklock (Director of the Runcorn Research Laboratory), left Liverpool on November 18th for West Africa. They are proceeding to Sierra Leone on a research expedition, and also to report upon a suitable site for the "Sir Alfred Jones" Laboratory of the school in that colony. At a luncheon given in their honour Mr. F. C. Danson, Chairman of the Liverpool School of Tropical Medicine, said that the objects of the expedition were twofold: in the first place to make a study of the biting insects and tropical diseases in the colony of Sierra Leone, and of their distribution; and in the second place, to report fully as to the possibility of successfully establishing a laboratory in that colony. He believed that the school would never do its best work until it could have a centre for its expeditions actually working and really alive on the coast of Africa. He read an extract from a letter from the Under Secretary of State for the Colonies, which stated that "The Secretary of State appreciates the spirit in which the proposals are made, and he will gladly ask the Governor of Sierra Leone to afford all proper facilities. Mr. Harcourt trusts that the result of the enterprise will come up to the anticipations of the school authorities." The Chairman said that it was hoped shortly to open their new school in Pembroke Place, and the transfer of the Runcorn Laboratory to that building would make it a complete unit. In addition they had the infirmary ward fully equipped for patients close to the university. Professor Yorke, in responding, said that he was very glad that the laboratory on the coast was at last likely to take some definite form; it would be of great value to the school by serving as a centre for research which could not be carried on in this country, and also in it students would be trained actually amongst the diseases with which they would have to deal.

We regret to announce the death, on November 20th, of Dr. Burney Yeo, consulting physician to King's College Hospital, and the author of a well-known *Manual of Medical Treatment*.

Dr. Barty King will deliver a lecture in the Robert Barnes Hall of the Royal Society of Medicine, on Tuesday next, at 5 p.m., on some recent personal experiences of Germany in war time, during detention, and their lessons, illustrated by lantern slides from German sources. Visitors are invited.

A month ago we referred to the commercial use which was being made, for the purposes of advertising a remedy, of the name of the late Sir William Smart, K.C.B., one of the naval honorary surgeons to Queen Victoria, who died in 1887. We are asked to state that the subject matter of this advertisement has nothing to do with and is entirely unauthorized by the relatives of the late Sir William Smart. This assurance will, we feel sure, be accepted by the medical profession, and it is to be hoped that the advertisements will cease to appear.

We are gratified to learn that the Education Committee of Stoke-on-Trent county borough, which had contemplated paying a salary of only £250 in respect of an appointment which it proposes to make of a lady school medical inspector, has, on fuller consideration, decided to make the salary £300, the minimum recognized by the Association for work of the kind. It is hardly necessary for us to point out that under present conditions a salary of less than £300 for such an appointment, which requires for its proper discharge special education and experience, would not, it is practically certain, attract well-qualified candidates. We congratulate the committee upon its decision. An advertisement of the post on the revised terms will be found on page 40.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

The sitting of Parliament on November 18th was occupied in a discussion of the general questions arising out of pensions and allowances to soldiers and sailors and their dependants, and in the end the Committee previously arranged for was set up. It consists of Mr. Lloyd George, Mr. McKenna, Mr. Bonar Law, Mr. Austen Chamberlain, Mr. Barnes, and Mr. T. P. O'Connor. It is expected that the Committee will report before the rising of the House, which is generally expected to take place on Thursday or Friday of next week.

On November 19th the time of the House was occupied in discussion of the proposals of the amended Budget. The following two tables are extracted from a White Paper showing the amount of tax to be paid during the remainder of the current financial year and during the first full year of the operation of the new scale of taxation. As explained in our last week's issue, the increased taxation during the current year comes into operation on January 1st, and therefore falls only on the last portion of the current financial year, which ends in April. The effects of the new taxations on the present financial year are shown in Table A and those which will fall on the year commencing April, 1915, are shown in Table B:

Income.	A. Tax Proposed for 1914–15, at Rates Charged under Finance Act, 1914, with Addition of 33⅓ per cent.				B. Tax Proposed for 1915–16, at Double the Rates Charged under Finance Act, 1914.			
	Where Income *Wholly Earned.*		Where Income *Wholly Unearned.*		Where Income *Wholly Earned.*		Where Income *Wholly Unearned.*	
	Amount of Tax.	Virtual Rate.	Amount of Tax.	Virtual Rate.	Amount of Tax.	Virtual Rate.	Amount of Tax.	Virtual Rate.
£	£ s. d.	d.	£ s. d.	d.	£ s. d.	d.	£ s. d.	d.
161	0 1 0	0.1	0 1 4	0.1	0 1 6	0.1	0 2 0	0.1
180	1 0 0	1.3	1 6 8	1.8	1 10 0	2.0	2 0 0	2.7
200	2 0 0	2.4	2 13 4	3.2	3 0 0	3.6	4 0 0	4.8
250	4 10 0	4.3	6 0 0	5.8	6 15 0	6.5	9 0 0	8.6
300	7 0 0	5.6	9 6 8	7.5	10 10 0	8.4	14 0 0	11.2
350	9 10 0	6.5	14 15 6	10.1	14 5 0	9.8	22 3 4	15.2
400	12 0 0	7.2	18 13 4	11.2	18 0 0	10.8	28 0 0	16.8
401	12 11 0	7.5	19 10 5	11.7	18 16 6	11.2	29 5 8	17.5
450	15 0 0	8.0	23 6 8	12.4	22 10 0	12.0	35 0 0	18.7
500	17 10 0	8.4	27 4 5	13.1	26 5 0	12.6	40 16 8	19.6
501	19 1 0	9.1	31 15 0	15.2	28 11 6	13.7	47 12 6	22.8
550	21 10 0	9.4	35 16 8	15.6	32 5 0	14.1	53 15 0	23.5
600	24 0 0	9.6	40 0 0	16.0	36 0 0	14.4	60 0 0	24.0
601	26 11 0	10.6	44 5 0	17.7	39 16 6	15.9	66 7 6	26.5
650	29 0 0	10.7	48 6 8	17.8	43 10 0	16.0	72 10 0	26.8
700	31 10 0	10.8	52 10 0	18.0	47 5 0	16.2	78 15 0	27.0
701	35 1 0	12.0	58 8 4	20.0	52 11 6	18.0	87 12 6	30.0
800	40 0 0	12.0	66 13 4	20.0	60 0 0	18.0	100 0 0	30.0
900	45 0 0	12.0	75 0 0	20.0	67 10 0	18.0	112 10 0	30.0
1,000	50 0 0	12.0	83 6 8	20.0	75 0 0	18.0	125 0 0	30.0
1,001	58 7 10	14.0	83 8 4	20.0	87 11 9	21.0	125 2 6	30.0
1,500	87 10 0	14.0	125 0 0	20.0	131 5 0	21.0	187 10 0	30.0
1,501	100 1 4	16.0	125 1 8	20.0	150 2 0	24.0	187 12 6	30.0
2,000	133 6 8	16.0	166 13 4	20.0	200 0 0	24.0	250 0 0	30.0
2,001	155 12 8	18.7	166 15 0	20.0	233 9 0	28.0	250 2 6	30.0
2,500	194 8 10	18.7	208 6 8	20.0	291 13 4	28.0	312 10 0	30.0
2,501	208 8 4	20.0	208 8 4	20.0	312 12 6	30.0	312 12 6	30.0
3,000	250 0 0	20.0	250 0 0	20.0	375 0 0	30.0	375 0 0	30.0

The table further shows that in the case of an income of £3,001 the income tax and super-tax for 1915 will be £264 0s. 2d., and for 1915–16, £396 0s. 4d. On an income of £4,000 the amounts would be £386 2s. 2d. and £579 3s. 4d. respectively.

At the suggestion of Mr. J. M. Henderson (Aberdeenshire, West), the Attorney-General, on November 24th, undertook, on behalf of the Government, to introduce a clause providing that any person who, in connexion with the present war, is or has been serving as a member of any naval or military force of the Crown, or in any work connected with the British Red Cross Society and the St. John Ambulance Association, or any other body with a similar object, will not be taxed either income tax or super-tax on past averages, but on the incomes that they actually earn this year, 1914–15.

Friday, November 20th, was devoted to the consideration of various emergency bills.

On Monday, November 23rd, the Finance and Consolidated Fund Bills were read a second time, and various other emergency measures were advanced.

War.

Royal Army Medical Corps (Temporary Commissions).

Sir Philip Magnus asked the Financial Secretary to the War Office whether a medical practitioner now serving in the Royal Army Medical Corps with a temporary commission was entitled to a pension for wounds at the same rate and under the same conditions as officers holding permanent commissions; and whether, in the event of his death, his widow and orphans would be entitled to a pension, and, if so, at what rate.—Mr. Baker: Yes, Sir. The rates and conditions are fully set out in the Pay Warrant.

Medical Service of the New Army.

Mr. Hinds asked the Under Secretary of State for War if he would state what arrangements were being made for providing a medical service for the new armies; and, pending the organization of such a service, what provision was made for the treatment of troops in the new battalions or brigades.—Mr. Tennant said that the new armies would be provided with medical arrangements on the same basis as the Expeditionary Force. Large training establishments had been formed at which the subordinate personnel was being instructed in their active service duties. Pending the completion of these arrangements, the new army was receiving medical attendance on exactly the same lines as the regular army in times of peace. Temporarily commissioned officers in the R.A.M.C. and locally employed civil practitioners had been engaged in sufficient numbers to meet all requirements, and nearly a hundred of the R.A.M.C. reserve of officers had been recalled to duty. So far there had been no difficulty in securing the services of a sufficient number of fully qualified medical men, and it was not anticipated that there would be any shortage in the immediate future. All the military hospitals in the country had been very greatly expanded, and several large civil and private hospitals were working in conjunction with them. Up to the present there had been no lack of hospital accommodation.

Army Medical Officers.

Sir Herbert Raphael asked the Under Secretary of State for War whether retired army medical officers holding retired pay appointments of medical officer in charge of troops and military hospitals at dépôts necessitating in peace time an inconsiderable amount of work, and now, since the commencement of the war, requiring all-day service and constant orderly duty day and night owing to the increase of work and expansion of hospital duty, had been refused kit allowance and the same rate of pay granted to retired medical officers who had been recalled to duty; and, if so, whether he would consider the justice and advisability of equalizing the financial position of these two classes of officers.—Mr. Baker replied that these officers, in common with other retired officers who were in the employment of the War Department in peace, were being treated in accordance with the regulations under which they accepted their appointments. If there were any grounds for varying the regulations, they would be considered.—Sir H. Craik asked whether it was not the case that temporary doctors acting in their places were receiving as much as £1 4s. a day, whilst these men were only receiving a salary of £150.—Mr. Baker, in reply, said that if grounds on which the regulations should be altered were submitted, such representations would be considered.

Army Hospital Nursing.

In reply to Mr. Rendall, Mr. Tennant said that the nursing staffs of all the military hospitals had been largely increased since the beginning of the war according to need and without any regard to peace establishment, and were still being increased daily as need arose. Any patient requiring individual attention had a special nurse allotted. The committee of the Nursing Board met every week at the War Office to consider applications of trained nurses, and they were taken on as their services were required. The patients were now receiving all the nursing attention which the nature of their cases demanded.—Mr. Rendall asked whether the same number of patients were assigned to a nurse during war as during peace. Mr. Tennant was unable to say, but promised to make inquiry.

Treatment of Dependants of Men with the Colours.

Sir Henry Craik asked the Secretary to the Board of Education, as Vice-Chairman of the Committee on the Provision of Free Medical Attendance and Drugs, when necessary, to the dependants of men serving with the army, whether any arrangements had been arrived at to make use of the offer of the British Medical Association to provide free medical attendance to such dependants; and what arrangements had been made for the supply of the necessary medicines.—The Parliamentary Secretary to the Board of Education (Dr. Addison) replied as follows: The special committee set up for the purpose have prepared a scheme for utilizing the generous offer of the British Medical Association, and have issued instructions to local representative committees in England and Wales, together with a supply of special medical books for issue to suitable dependants of men serving with the army or the navy. The scheme is now in operation throughout England and Wales, except in a few areas where a local scheme had been adopted. The local arrangements vary, but, as a rule, the books, which are accepted as evidence of bona fides by doctors and chemists working under the scheme, are issued by the local representative committee, assisted by the Soldiers' and Sailors' Families Association. The scheme has also been brought into operation in Scotland, where it is being worked by the Soldiers' and Sailors' Families Association. The Pharmaceutical Society of Great Britain generously offered on behalf of their members to supply the necessary medicines and appliances at cost price. The cost price of medicines and appliances supplied under the scheme is being defrayed from a grant made out of the Prince of Wales's Fund. The work of checking and pricing prescriptions is being undertaken at considerable expense by the Pharmaceutical Society under a system approved and inspected by the committee.

Winter Clothing for Troops.

Mr. Hogge asked what arrangements had been made for the winter clothing of troops at the front; and when these would take effect.—Mr. Tennant replied that Cardigan jackets and warm underclothing had already been supplied, and mufflers and body belts were being sent out as required. Large quantities of fur-lined coats and fur under-jackets were being sent overseas weekly. Warm gloves and warm turned-down hats were also being prepared.—In reply to Sir R. Cooper, who asked whether demands should be made on charity to provide men fighting, both in the army and the navy, with necessary articles, Mr. Tennant said that all the articles which existed in the War Office vocabulary were supplied by money voted by Parliament. Other comforts, such as gloves, were sometimes given by private individuals who sought an outlet for their charity.—In reply to Colonel White, Mr. Tennant said that supplies of gloves had already been sent out to the Expeditionary Force, and gloves of special design for winter use were now being provided. Gloves were also being provided for use at home during the winter months at the public expense.

Socks.

Mr. Hogge asked why the knitting of socks, etc., by private enterprise was stopped and an appeal subsequently made for hundreds of thousands.—Mr. Tennant said the War Office maintained a sufficient supply of socks for the troops at the front, and the knitting of them was not therefore the most useful form the activities of the public could take. It was found, however, that there was so strong a wish on the part of private persons desirous of helping the troops to make and send socks that it became necessary to co-ordinate the efforts, so as to ensure uniformity of supply and proper distribution. The socks sent are extra to, and not in diminution of, the supply considered necessary by the War Office.

Supply of Blankets.

In reply to Sir Clement Kinloch-Cooke, Mr. Tennant said that inquiry was being made as to the alleged

deficiency of blankets in particular cases. There were ample stocks of blankets in commands, and general officers commanding were authorized to issue as required. It had not been found possible at present to provide men with two suits of uniform, but every step possible was being taken to meet the deficiency.

Lined Huts.

In reply to Mr. Haddock, who asked a question as to the lining of huts to prevent draughts, Mr. Tennant said that the first object was to have sleeping huts built for the men to enable them to be under better cover than tents. The question of lining the huts would be taken up later, as it could be done while the men were in occupation.

Death during Training.

Mr. Butcher asked the Under Secretary for War whether it was the intention of the Government to make any provision for the dependants of men who, having enlisted since the commencement of the war, died of some illness contracted during their period of training and before they were sent to the front.—Mr. Baker replied that the question of the rates and conditions of pension for dependants was under consideration, but in the meantime the separation allowance and allotments received during the soldier's lifetime were being continued pending a decision.

Ambulance Cars.

Mr. Hunt asked the Under Secretary for War whether complaints had been received that the War Office refused to accept for ambulance purposes any cars except those of the three makes—Daimler, Wolseley, and Sunbeam; and, if so, what objection there was to accepting first-class cars of French and Belgian make for use in those countries.—Mr. Tennant replied that the purchase of motor ambulances by the War Department had not been confined to those manufactured by the firms named. In addition, the Red Cross had given cars of many different makes. On account of the difficulty of the provision, and more especially of the distribution, of spare parts, the multiplication of the number of types of mechanical transport vehicles was to be deprecated.

Objections to Vaccination.

British Army.—Mr. Brace asked whether a general order was in operation that all recruits for the army at present being recruited must undergo compulsory vaccination or compulsory inoculation; if he was aware that a number of would-be recruits were hesitating to enlist because of their objection to this; and whether he was prepared to take some action, and, if so, what, to remove this difficulty to recruiting.—Mr. Tennant referred Mr. Brace to the written reply given to Mr. Chancellor and published last week (p. 889), and, in reply to a further question by Mr. Brace, Mr. Tennant said that soldiers might go to France or Belgium and fight in the ranks, although they might have conscientious objections to being vaccinated or inoculated.

Colonial Troops.—Mr. Barnes asked whether conscientious objection to vaccination was being respected in the case of soldiers serving among the Canadian, Australian, and other Colonial contingents.—Mr. Tennant said that he had been unable so far to obtain information as to the practice followed in the case of the Australian and New Zealand contingents, but he was given to understand that, in the case of the Canadian contingent, men who objected to vaccination had not been taken.

Inoculation of Recruits.

Mr. Chancellor asked the Under Secretary for War (1) whether the War Office is instructing officers to use influence and persuasion which practically deprives recruits of their legal right to refuse inoculation; and whether soldiers who are physically fit for service at the front are being kept at home solely because, whilst willing to face the enemy's bullets, they decline to risk being poisoned before starting by the inoculation by their own officers of disease into their blood; and (2) whether he is aware that a number of recruits in both the Territorial and the Regular army have been made ill and unfit for service for days and sometimes weeks by vaccination and inoculation; and whether, in view of the importance to the empire of fitting them for service at the earliest possible moment, he will, in the case of unwilling soldiers, instruct officers to cease from exercising influence and persuasion, which in most cases amounts to compulsion, or, in the alternative, will have all recruits informed before enlisting that their legal right to exemption is illusory.—Mr. Tennant: The position in regard to vaccination and inoculation in the case of the Regular and Territorial Forces has been frequently stated. I cannot accept my hon. friend's questions as correctly summarizing the existing regulations and instructions, and the conclusions he draws are, consequently, in the opinion of my advisers and of the Secretary of State, also inexact. I may add that I cannot find that soldiers have been kept at home owing to difficulties about inoculation. The presence of inoculated men amongst the troops is an undoubted source of danger.

In reply to another question by Mr. Chancellor, with specific reference to the 4th Cameron Regiment, Mr. Tennant said that it was made plain to the men that inoculation was not compulsory, but that where the military authorities had a possibility of choice, preference would be given to those who had been inoculated. A full battalion of inoculated men for the 4th Camerons was forthcoming, but to equip this number some equipment had to be given up by the men not selected. The War Office had consistently held that while inoculation was not compulsory it was highly desirable, and where it was possible to get a whole battalion of inoculated men they would be taken in preference.

Treatment of Recruits in Military Hospitals.

Mr. Annan Bryce asked whether treatment in military hospitals was being refused to recruits in the new army raised for service during the war who had been discharged for temporary incapacity due to accidents during training, while in similar cases such treatment was given to recruits in the regular army.—Mr. Tennant said that he was not aware that any distinction was being made. The rule was that a discharged soldier who, on account of illness, was unable to proceed to his home was maintained in hospital. Inquiry would be made into any specific case submitted.

Mental Deficiency Act, 1913.—In reply to Mr. Astor, the Home Secretary has given the following information:

When the Mental Deficiency Act, 1913, came into operation local authorities were invited by circular to submit their proposals for giving effect to the Act to the Board of Control. To assist them in doing so a carefully prepared form was distributed to them with a request that their schemes might be set out in detail thereon and forwarded to the Board of Control by the end of April. The response made by local authorities was very slow, and many of them delayed for weeks, and some for months, the essential preliminary step of appointing a committee to administer the Act as required by law. Up to the present some twenty-three counties and county boroughs have submitted definite schemes which have nearly all received the approval of the Board, and in some seventy other cases correspondence and interviews have taken place which indicate that the preparation of schemes will be proceeded with at an early date. The Board continues to use all its influence towards expediting the action of local authorities, and contemplates the issue of another circular immediately with this object. No local authority has as yet provided a certified institution either alone or in conjunction with other local authorities. Four local authorities have under Section 37 of the Act applied for and obtained the approval of the Board to an equal number of Poor Law institutions suitable for the reception of defectives; provision is thus made for 145 cases. Several other applications for such approval are now under consideration.

Institutions and homes provided by religious and philanthropic associations, and by individuals, have come forward in considerable numbers, and the Board has certified or approved of thirty-one of them, making provision for 2,533 cases. In addition to these there are the nine hospitals and institutions formerly registered under the Idiots Act which have become certified institutions or houses under the Mental Deficiency Act, and continue to provide accommodation for many hundreds of defectives.

Nine local authorities have entered into contracts with one or other of these institutions for the reception of defectives from their area; five of these contracts cover a number exceeding eighty, and in the remaining four the numbers to be received are not specified.

The number of cases which have been notified to the Board as having been dealt with by local authorities under the Mental Deficiency Act by being placed under guardianship or sent to institutions is forty-four. In addition to these, local authorities have assumed financial responsibility for sixteen cases dealt with by orders of the Secretary of State or Criminal Courts.

Many local authorities have appointed officers to execute the Act, and in their areas the work of enumeration and supervision may be said to have made some progress.

OUR BELGIAN COLLEAGUES AT HOME AND ABROAD.

THE BRITISH COMMITTEE.

As announced last week, the provisional committee formed in London to ascertain what aid it might be possible to give to Belgian medical men and pharmacists in their present dire straits had determined to make the experiment of sending out packets of drugs with a few necessary instruments, and it was stated that arrangements for their conveyance had been made on advice received from the American Ambassador and Mr. L. Hoover, from the Belgian Minister, from the manager of Messrs. Harrods, Ltd., and from Major Gordon. It was also stated that it was hoped to develop the work as the condition of Belgium permitted in association with corresponding efforts throughout Great Britain and Ireland, in the United States, and in other neutral and allied countries.

With the object of extending the committee so as to make it representative of the United Kingdom and Ireland, the President of the General Medical Council and the representatives of the universities and corporations on that body were asked to attend a meeting at the offices of the British Medical Association on November 24th. The response to this invitation was very satisfactory, and included the President of the Council and several of the Crown and Direct Representatives, as well as many of the representatives of the universities and colleges. At this meeting the committee was extended and reconstituted, and the letter printed below was approved for publication in the medical journals and newspapers.

At a meeting of the medical profession in Dublin last week a committee was appointed to collect subscriptions, and in their distribution to work in co-operation with the provisional committee formed in London.

The Scottish representatives at the meeting in London on November 24th undertook to form a similar committee in Scotland.

MEMBERS OF THE BRITISH COMMITTEE.

The Committee has power to add to its number.

Sir RICKMAN GODLEE, Bart., Chairman.
Sir DONALD MACALISTER, K.C.B., President of the General Medical Council.
Sir HENRY MORRIS, Bart., Joint Treasurer of the General Medical Council.
Dr. J. A. MACDONALD, Chairman of Council, British Medical Association.
Mr. T. JENNER VERRALL, Chairman of Representative Meetings, British Medical Association.

England:
Sir THOMAS BARLOW, Bart., President of the Royal College of Physicians of London.
Sir W. WATSON CHEYNE, Bart., President of the Royal College of Surgeons of England.
Dr. MEREDITH TOWNSEND, Master of the Apothecaries' Society, London.
Sir CLIFFORD ALLBUTT, K.C.B., Regius Professor of Physic in the University of Cambridge.
Dr. ROBERT SAUNDBY, Professor of Medicine in the University of Birmingham.
Dr. ARTHUR THOMSON, Professor of Anatomy, University of Oxford.
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Dr. S. SQUIRE SPRIGGE, Editor of the *Lancet* (Honorary Secretary), 423, Strand, W.C.

The letter of appeal received for publication is as follows:

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

To the Editor of the BRITISH MEDICAL JOURNAL.

SIR,—A provisional committee was formed recently to assist in any way that was found possible Belgian doctors and pharmacists, both those remaining in Belgium and those who are refugees in this country, who are involved in utter distress. A statement received from Professor Jacobs, of Brussels University, acting as the spokesman of a Belgian committee with similar aims, has already been published, and certain measures were taken immediately by the provisional committee, who, in announcing what had been done, recognized that the scope for further effort was enormous, and that the provisional committee ought to be reinforced forthwith by representatives of medicine and pharmacy in England, Ireland, Scotland, and Wales.

As a result a strong committee has been formally constituted. It includes representatives of the medical faculties of the universities, of the great medical and pharmaceutical corporations, of the General Medical Council, and of the British Medical Association, and the activities of that committee will be limited only by the amount of money and material placed at its disposal, and by the exigencies of the political situation.

The committee is aware that great efforts are being made in numerous directions for the assistance of the Belgian refugees and Belgian people generally, but feels that it will be the pleasure and is, indeed, the duty of medical men and pharmacists to help the medical and pharmaceutical professions of Belgium. The movement is one undertaken by doctors and pharmacists on behalf of the Belgian doctors and pharmacists.

The committee has placed before itself a double programme: (1) to distribute what help it can at the present moment; and (2) to collect funds for the assistance of Belgian medical men and pharmacists in the future.

1. As a tentative measure fifty packets of drugs and dressings are under order for dispatch to Belgium. This will test the precautions which are being taken to ensure that the goods dispatched will reach their destination and that they will be used by those only for whom they are intended—that is, the Belgian physicians and surgeons. In the second direction it is hoped to co-operate usefully with the general measures being adopted to succour Belgian doctors and pharmacists in this country.

2. It is clear that no definite steps can be taken as yet for the rehabilitation of the medical and pharmaceutical professions in Belgium. A considerable sum of money will be required to replace ruined laboratories and pharmacies and to re-establish the ordinary course of medical administration, but nothing can be done now. It is intended, however, to communicate with the United States of America and other neutral countries, as well as with the Allied Nations, so that an international movement may be set up to reinstate the two professions.

But the committee feels that the uncertainty which exists with regard to the fulfilment of the second part of the programme should not prevent immediate and strenuous action in the spheres open to its work. The result of an experimental consignment to Belgium of medical stores will be known shortly, and if, as there is

every reason to anticipate, the result is good, such consignments will be made regularly in accordance with the amount of money forthcoming. The committee has evidence that at least 2,000 such packets as have already been arranged for are sorely needed, while each packet costs £5, the price being only kept down to this figure by the willingness of Messrs. Burroughs Wellcome and Co. to forego all profit.

At the same time the committee is aware of grave distress among the refugee medical men and pharmacists, and it feels that the organizations for succouring the great mass of Belgian refugees ought to be especially supported in anything that can be done for the members of the two professions.

It appeals therefore for immediate assistance, and appends a list of the first subscriptions actually received. Numerous promises of help have been made, and the committee is much indebted for the facilities which have been afforded to it by the British Medical Association, at whose house (429, Strand) the meetings have been and will in future be held.—We are, Sir, yours faithfully,

RICKMAN J. GODLEE (*Chairman*).

H. A. DES VOEUX (*Honorary Treasurer*),
14, Buckingham Gate, London, S.W.

S. SQUIRE SPRIGGE (*Honorary Secretary*),
The *Lancet* Office, 423, Strand, W.C.

List of Subscriptions (in order of receipt).

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Dr. Pyle promises further help when necessary, and it is hoped that this example may be followed by other subscribers.

Subscriptions should be sent to the Honorary Treasurer, Dr. H. A. Des Voeux, 14, Buckingham Gate, London, S.W., and crossed "Lloyd's Bank, Limited."

Offers of hospitality to Belgian medical men and their families now in this country should be addressed to Dr. Alfred Cox, Medical Secretary of the British Medical Association, 429, Strand, London, W.C., who is in communication with Viscount Gladstone, Honorary Treasurer of the War Refugees Committee, on this matter.

DURING the fortnight ending November 19th, eight fresh cases of plague with seven deaths from the disease were reported in Mauritius.

THE Chelsea Hospital for Women has received from the executors of the late Mr. Thomas Stephen Whitaker the sum of £2,000 towards the rebuilding of the hospital.

THE WAR.

NOTES AND REFLECTIONS FROM THE FRONT.

By Sir WILLIAM J. COLLINS, K.C.V.O., M.S.Lond., F.R.C.S.Eng.

A BRIEF visit to West Flanders, made the week before last, afforded an opportunity for a *coup d'œil* of the western battlefield at its northern extremity, as well as for some observation of the ambulance and hospital provision for the wounded betwixt Dunkirk and the fighting line.

The *terrain* in this region consists of sandy dunes along the sea front from Dunkirk to Furnes across the Belgian frontier and on to Nieuport. These wind-made hillocks of shifting sand, sparsely covered with scrubby gorse and heather, afford valuable cover, easily capable of improvement with a little spade work. Further inland intensive culture by industrious agriculturalists has converted sand into fruitful soil; sugar-beet fields abound and have recently been harvested, while around the villages the market gardening capacities of the Belgian peasantry are plentifully evident. What were erstwhile prosperous homesteads dot the landscape, and many water-ways intersect the well-ploughed fields. A run of sixteen miles, parallel with and half a mile from the coast, brought us from Dunkirk to Furnes. The latter is now about the only Belgian town yet unravaged by the ruthless invaders. Every few miles along this road the route was barricaded with piles of turf or sandbags, so arranged as to arrest any passing motor and compel its occupants to submit, at the point of the bayonet, their pink "laissez-passers" papers to the careful scrutiny of the sentries. The roads are suffering from the heavy and unwonted traffic they have had to bear and lack of their habitual repair, while here and there a "coal-box" has dug a hole therein, as well as in the adjacent fields. The main roads are highly cambered, and have a central bricked *chaussée*, with muddy, deeply-rutted sideways. Motor ambulances are thereby severely tried, and need cautious driving to avoid peril to their suffering occupants.

Furnes (in Flemish Veurne) in normal times is a quaint and quiet town of some 6,000 inhabitants, with a handsome Grand Place surrounded with gabled sixteenth century houses, overhung by a towering belfry and backed on the north by the Gothic church of St. Nicholas. The gallant King Albert and his brave consort are often seen about the streets, and the latter has paid more than one visit to the little English field hospital established in the convent hard by. This is the nearest hospital to the fighting line. We could hear the guns and at night see them flashing in the distance from its windows. More than once it has been under shell fire. Yet here in two wards are some seventy beds fully occupied by well-tended wounded Belgians, with an occasional German. Here is a good improvised operating theatre, and here excellent conservative surgery is being carried on under many difficulties. Plated fractures of humerus and femur, resection of intestine, suture of intestinal bullet wounds, extraction of shrapnel, balls and bullets, amputations and trephinings had been carried out with excellent results. Here as elsewhere nearly all wounds are septic from the first; suppuration is the rule. One is reminded of Hueter's saying of old time that "suppuration is an epidemic spread over the whole world." Any attempt to isolate the aseptic from the foul is out of the question.

Outside in the courtyard of the chapel are parked up a fleet of Red Cross motor ambulances awaiting the next call to the front. They are mostly converted cars, and they leave something to be desired. The heavy roads need at least 20 h.p. chassis, and many of them are of only 15. They are mostly arranged for two stretcher cases on the left-hand side and three or four sitting cases on the right. This causes a list to the right, intensified on highly

cambered roads, especially when passing commissariat convoys or ammunition trains. On the Continent, of course, the rule of the road is to the right instead of to the left, and in converted cars the projection of the stretcher side of the ambulance to the left of the driver obscures the latter's vision of any vehicle overtaking him on the road.

In Furnes we saw the 12th Regiment of ıe line of the Belgian army, which has borne the brunt of many a fierce combat, weather-beaten and worn, chilly in the falling hailstorm, yet dogged and determined, and reminding us of Caesar's dictum that of all the Gallic tribes the Belgae are the bravest.

Another run of seven miles brought us to Nieuport, still under shell fire from the German guns at Lombartzyde. It is a mere husk of a town; no inhabitants remain; every house is in ruins and the church tower is shattered. A battery of French guns in our rear was replying with shriller sounds to the heavy German howitzers which were booming away, and some two hundred yards to the north of us one found its mark. Turning south we motored alongside the Yser canal to Ramscapelle and Pervyse—smaller villages than Nieuport, but as complete ruins; no single house to be seen with intact roof or walls unpitted by bullets or quick-firers. Fierce fighting had been here but a few days before, as recent graves and still unburied corpses helped to prove. Dixmude, six miles further on, was then (November 12th) in the hands of the Germans, but the opened sluices were beginning to do their work, and twixt fire and water the enemy was securely held at bay. A signpost pointing south indicated the road to Ypres.

The previous night rumour had been rife in Dunkirk that the Germans were advancing from Dixmude and evacuation was in the air, yet Dunkirk preserved its equanimity. The town was full; it was not easy to get a room anywhere; the restaurants were crowded with the military but the civil life appeared to be going on as usual. Most nights, between 10 and 12 o'clock, a gruesome scene was to be witnessed in the sheds at the station. The ambulance train (of the cattle truck variety) brought in the wounded from the front. A sort of clearing hospital had been improvised in one of the huge station sheds. Some 200 beds had recently been installed. To these the stretcher cases from the train were borne. Many of them had not been dressed for two or more days, and were intensely septic. Cases of gas gangrene, of severe compound fracture needing immediate amputation, huge black lacerated wounds from shrapnel or shell casing, some few clean bullet wounds, bad head injuries, and a traumatic aneurysm were among the 125 grave cases evacuated from the train in one night. In another huge shed, stretched on straw, were hundreds of either slightly wounded or fagged-out soldiers, in every variety of uniform, French and Belgian, chasseurs and infantry, coal black Turcos and Algerians, in "most admired disorder," but lying so thick upon the ground that I could with difficulty pick my way amongst them.

An ambulance train working in this region would be a veritable godsend, and permit the earlier cleansing and dressing of those maimed yet gallant victims gathered from the trenches and the field. Provided with a travelling kitchen, nourishing soups and restoratives could also be administered, moreover, urgent surgical intervention could be carried out *en route*.

As has already been adumbrated in the JOURNAL, a motor vehicle fitted up as a field theatre or surgery would be of immense service in securing the earliest practicable attention to wounds, thus reducing the number of those infected and offensive arriving at the base.

In war we witness a reversion from civilization to barbarism, from sanitation to mal-hygiene. As in space we may step from the aseptic ward to the foul, so we seem, as it were, to recede in time to the days before cleanly surgery had risen on the horizon. Our methods must be adapted to the situation. The dry dressings of aseptic surgery are an anachronism, and, except in a minority of cases, out of place. Old friends, too readily discarded, like carbolic lotion and fomentations, charcoal poultices, iodoform, and friars' balsam, come to our aid, and, while grateful to hydrogen peroxide and the recently recognized virtues of iodine, one prefers to rely on the well-tried comrades of earlier date, and of even longer reputation.

MEDICAL ARRANGEMENTS OF THE BRITISH EXPEDITIONARY FORCE.

[From a Special Correspondent in Northern France.]

GENERAL ARRANGEMENTS.

Now that the total number of casualties occurring up to a week ago has been discussed in Parliament, and that the names of various hospital bases have been freely mentioned in the daily papers, it is legitimate to describe the general British arrangements for the care of the sick and wounded in France somewhat more definitely than previously seemed desirable. When the Germans commenced their attempt to reach Calais and the British troops were transferred from the centre to the extreme left of the allied line, the call upon the activities of the Royal Army Medical Corps was rapidly and very materially increased. This was not only because the number of casualties began to multiply greatly, but also because the routes by which the wounded had previously been sent to various hospital bases could no longer well be used. At the best of times these lines were commonly encumbered by the troop trains and supply trains both of the French and the British forces, and with the British forces established in their new position they seemed less likely than ever to lend themselves satisfactorily to the rapid evacuation of the sick and wounded. Consequently a new hospital base had to be chosen, and Boulogne was the place selected. It was a bold step, considering that it was, and still is, within a relatively short distance of the actual fighting line, but was justified by the consideration that in other respects it largely fulfilled the military ideal in regard to evacuation of the wounded. It is within very easy reach of Southampton, Folkestone, and other British ports, and has excellent communications with the extreme north-east and frontier of France, and the southern areas of Belgium, by a railway line not used by the French for ordinary military purposes, and comparatively little by the British. Several hospitals, including one Red Cross hospital, were at once got ready, and by degrees the equipment of these has been perfected and their number increased. There have now been, in fact, in full work for some time past as many as three general hospitals, four stationary hospitals, one general, and one stationary Indian hospital, in addition to five voluntary hospitals, each containing 100 beds and upwards. With one exception all the British military hospitals are within a few hundred yards of the station at which the ambulance trains unload, and the same is true of one of the voluntary hospitals—that known as the Allied Forces Base Hospital, the first of those working under the general control of the Red Cross Society—which is established in the Hotel Crystol, opposite the bridge leading to the town station. Of the other voluntary hospitals, the Australian Hospital, the Women's Medical Corps Hospital—a branch of the Anglo-Franco-Belge Hospital at Paris, to whose excellence attention has already been drawn in these notes—and Sir Henry Norman's hospital, a new-comer, are established at Wimereux, on the northern outskirts of the town; while the Duchess of Westminster's hospital is somewhat further afield, the place assigned to it being Le Touquet, some fifteen miles to the south of the town. All these hospitals—military as well as Red Cross—are well housed, and the habitations of most of them are well known hotels. The exceptions are No. 13 General Hospital, which has taken over the Casino; No. 13 Stationary Hospital, which was described last week; No. 2 Stationary Hospital, which occupies a large school on the southern side of the port; and one of the Indian hospitals, this having its home on the heights above the town in a very large convent school, which was thrown out of ordinary use a year or so ago owing to its partial destruction by fire.

Various circumstances tend to render the work at these hospitals heavier than at institutions of equivalent size in Great Britain; the patients arrive at all sorts of hours, and usually several at a time, and are generally wearing the clothing in which they have been living and fighting for days on end. A large proportion of their wounds require, if not formal surgical interference, at least operative cleansing, and subsequently frequent re-dressing. Finally, their stay is not in most cases prolonged, and the

men, when sent off, have commonly to be refitted in the matter of underclothing and other garments. On the other hand, the equipment of these hospitals is excellent, and the personnel amply sufficient to meet all calls alike in the way of heavy work, such as ward cleaning and stretcher carrying, and of skilled procedures, such as nursing and operations. All of them are possessed of *x*-ray departments and well-fitted operation rooms, and at least one—the Casino Hospital—has a dental department in addition. The heavier work is done by orderlies drawn from the Royal Army Medical Corps itself or from the St. John Ambulance Corps, and the nursing by the thoroughly well trained women who constitute Queen Alexandra's Regular and Reserve Military Nursing Services, and by the equally well trained women supplied by the Red Cross Society and St. John Ambulance Association. There is no red tape in the arrangements, and any matron who considers her staff likely to be overtaxed can secure as much more assistance as she requires forthwith, and is not even obliged to send her request through the more or less numerous channels which must be pursued in peace times. Equipments of all kinds can likewise be secured promptly by the same direct methods. At several hospitals there are also a certain number of medical student dressers.

With these arrangements the character of the professional staffs of all the hospitals is in thorough keeping. Those who organized the voluntary hospitals were always men working at some well known centre of medical activity, and as they themselves were to be responsible for the actual working of the hospital which they were organizing, they have always been careful to select the right kind of assistance. Consequently there is practically no British voluntary hospital now in France whose staff does not include at least two or three men whose names are professionally known outside their immediate circle of friends and acquaintances. Nor are the purely military hospitals working either in Boulogne or elsewhere in France any less well off in this respect. The system of offering inducements to officers to specialize in one or other branch of medicine, which was adopted at the last reorganization of the Royal Army Medical Corps, has led to a considerable proportion of R.A.M.C. officers specializing in the subject of surgery, and, in addition, so soon as war was declared a large number of applications for temporary commissions were received. Many of them were young men, but there was an equally large number of men of riper experience, and the general principle adopted would seem to have been that of choosing men of recent experience either on the senior or junior staffs of well-known hospitals. The net result is that the staffs of the purely military hospitals are decidedly strong as well as large. I am not, of course, personally acquainted with all their members, but have looked up the records of a very considerable proportion of them. I have thus found them to include a large number of Fellows of one or other College of Surgeons, and at no hospital that I have hitherto visited have I met any man whose previous experience did not seem to fit him excellently for the particular work he was doing. At one hospital in particular that I have visited more frequently than any other, there are as many as four men whom I personally know in ordinary peace times as members of the staffs of certain great teaching hospitals. In view of these facts it seems indisputable that the medical arrangements at Boulogne are of a highly satisfactory kind. It is further to be remembered that a considerable number of specialists take a part in the general work without being attached to the staff of any particular hospital. There are, for example, two consulting surgeons, two consulting physicians, a neurologist, a surgeon who specializes in brain and spinal surgery, four or five bacteriologists, and a couple of ordinary pathologists; last, but not least, there are available the services of at least one instrument maker, whose duty it is to prepare any special splints that may be required.

Though Boulogne is to be regarded as the principal hospital base for the British force and the chief scene of medical activity, it is by no means the only town at which military and Red Cross hospitals are established. Apart from the numerous clearing hospitals working close to the fighting line and all doing their work under the general professional supervision of a well known consulting surgeon, now ranking as a colonel on the Army Medical Staff, there are numerous hospitals in towns at a greater or shorter distance further south. The five or six large Red Cross hospitals at Paris, to which allusion was made in a note some weeks ago, are still at work, and some twenty other hospitals are available at other towns; in fact, with one or two exceptions, they are all at work. Six of them are at Rouen, three at Havre, two at St. Nazaire, and others at Nantes, Angers, le Mans, Orleans, and Marseilles. Furthermore, in every town used by the British as a military dépôt, or for any other purpose, a detachment of the sanitary branch of the Royal Army Medical Corps is to be found at work. I have not as yet visited all of these towns, but having questioned a number of acquaintances, one or other of whom knows each of them, I am able to say that the general arrangements of their hospitals in respect of housing, equipment, and staffing, are on all-fours with those of the hospitals at Boulogne; only in respect of Rouen is any qualification of this statement required. Rouen, despite its size, is very ill provided with buildings suitable for conversion into hospitals, and consequently several of those now at work within its area are under canvas. As the army medical authorities dislike the use of tents for hospital purposes whenever it can be avoided, and as Rouen tends to be both a cold town and a wet town in winter, I am under the impression that any hospitals now working there and for which really desirable winter accommodation cannot be found will shortly be removed and re-established elsewhere.

As for the fashion in which the various hospitals that have been mentioned are being utilized, one of the purely military hospitals established at Wimereux caters largely for medical cases and has an annexe set apart for the reception of patients suffering from enteric fever, and dysentery. One of the Havre hospitals receives all the cases of venereal disease that are discovered, and one of those at Rouen—the one maintained by the Red Cross Society—is reserved for the treatment of officers. The hospitals at Orleans and Marseilles are both primarily intended for men belonging to the Indian contingent. All the others are used for general purposes, though some of them—the Crystol, for instance, at Boulogne—habitually number among their patients a larger proportion of officers than others.

The system by which all these hospitals are supplied with patients is as follows. In special circumstances, as, for instance, when the down lines are known to be unusually clear, and it is believed that a rapid run for a hospital train can be secured, the wounded are sent straight from the clearing hospitals to Paris, Rouen, or some other distant hospital base. But as a general rule hospital trains all go to Boulogne. They have to travel slowly, but despite this fact usually reach it in little over six hours, the patients meanwhile being fed, their wounds re-dressed if need be, and all due attention paid them by the medical officers, nurses, and orderlies, with whom each train is plentifully supplied. On arrival of the trains at their destination—which is the port railway station familiar to all those who in peace times habitually use the Boulogne-Folkestone route to France—the embarkation medical officers examine the lists already prepared by the medical officers in charge of each train and deal with the cases accordingly.

Primarily all the wounded are divided into "stretcher cases" and "walking cases." The latter are patients the nature of whose wounds and general condition render it reasonable for them to be allowed to move about; the former are those who either have wounds in the legs and therefore are unable to walk, or wounds so serious in themselves that no avoidable movement ought to be permitted. The stretcher cases are for the most part forthwith loaded on the waiting ambulances of the various hospitals. Each of these has its own supply of automobile ambulances, and as they are all warned well in advance of the arrival of any train they have plenty of time to send them down to bring up new cases. Stretcher cases not sent immediately to one of the local hospitals are dealt with in suitable ways. Those as to whose condition there is any doubt are admitted temporarily to the emergency ward of No. 13 Hospital, which is practically part of the port railway station itself, and is the extemporized institution described in a note last week.

On the other hand, those whose wounds are clearly not very serious in themselves and whose general condition is good are either left undisturbed in the train, which subsequently takes them on to one of the distant base hospitals, or are sent straight on board one of the hospital ships, which are always waiting at the quay side. The patients dealt with in the latter fashion are usually officers.

The quayside hospital, besides an emergency ward, has also a casualty department, and this enables it to play, to some extent, the part of a local clearing hospital in regard to walking cases. These, so soon as the order to disembark from the train is given, flock into this casualty department, where their wounds are examined and re-dressed, and the question as to what is to be done with the patient is decided. The general rule with regard to their disposition is as follows: If the men seem only to require a few days' rest and a minimum of treatment, they are sent to a "convalescent" camp on the downs above the town, to which a staff of medical officers is attached. Men whose wounds being quite slight require nothing but ordinary dressings to secure their rapid healing are also sometimes sent to this camp. On the other hand, men whose wounds, though more or less serious, may be expected to have healed completely in less than three weeks are either admitted to a local hospital or re-embarked on the train after their wounds have been re-dressed, and the men themselves more or less reclothed, and sent on to a distant base.

As for the walking cases which do not come within any of the foregoing categories, and whose wounds or general condition is of such a character that they are not likely to be well for at least three weeks, they remain in or about the hospital until the next outgoing hospital ship has taken on its load of stretcher cases from the hospitals and trains, and are then sent on board for treatment at some hospital in Great Britain. Meantime their wounds are, of course, re-dressed, or submitted to operative measures if deemed immediately desirable. At this station in addition to the feeding arrangements made by the army authorities themselves, there is a free buffet, under the auspices of the Red Cross Society, at which the men can obtain coffee, cocoa, and cigarettes, etc.; while there is a second establishment of the same kind at the town station at which hospital trains proceeding further south sometimes are detained for a short time before their final departure from the town.

How long the hospitals that have been mentioned will continue to be distributed as described, and how long the existing system of dealing with the sick and wounded will prevail, it is quite impossible to say. For one thing it is the chronic fate of the Royal Army Medical Corps in times of war to be perpetually making and perfecting arrangements for the care of the sick and wounded and then having to change them utterly owing to the progress of events. For another, really wintry weather is now setting in, and difficulties may possibly be experienced in getting the larger hospital ships, all of great size and deep draught, safely in and out of Boulogne. Furthermore, there is always the hope, and, indeed, expectation, that the German forces will be driven much further north quite soon; in this case the advanced hospital base represented by Boulogne may be moved northwards in its turn. If this be done the distant hospital bases may possibly be advanced accordingly, for it is seemingly the constant aim of the medical authorities of the army to get the sick and wounded into base hospitals as rapidly as possible, and to shorten, as far as may be, the distance over which they must be conveyed.

On rereading the foregoing lines it seems desirable to explain that the term "wounded," which is almost exclusively used, is intended to cover cases of every kind which stand in need of medical care. Each hospital train arriving from the front includes amongst its occupants a certain number of men suffering from ordinary maladies. The number, however, is relatively very small. How small it is may be gauged from the fact that at the moment of writing the actual number of sick men to wounded men under treatment in the hospitals in Boulogne—including for the moment in that term the loaded hospital ships at the quay side—is a little over one to four. Those conversant with the medical histories of most previous wars will certainly deem this fact remarkable. Furthermore, the great majority of the cases are not, from a medical point of view, of a serious order. There are very few cases of enteric fever, but a very large number of cases of rheumatism. This is very comprehensible when it is remembered that for weeks past the men have been fighting in wet trenches, and sleeping on more or less damp ground. It is also worth noting, perhaps, that a considerable proportion of the rheumatic cases prove, when inquiry is made, to be reservists—men, that is, called up for duty after leading for a varying number of years lives of much greater ease than those of ordinary soldiers. It is possible, of course, that the onset of the cold weather may change the whole medical picture—there have, indeed, already been a certain number of cases of frostbite—but I am hopeful that this will not be the case, for it is universally agreed that the men are being exceedingly well fed, and that up to the present the vast majority of the troops have shown remarkable powers of resistance.

SURGICAL EXPERIENCES OF THE PRESENT WAR.

DISCUSSION AT THE MEDICAL SOCIETY OF LONDON.

THE discussion on surgical experiences of the present war (see JOURNAL, November 21st, p. 891) was resumed at a meeting of the Medical Society of London on November 23rd, Sir JOHN BLAND-SUTTON, the President, in the chair.

Injuries of Nerves: Secondary Haemorrhage.

Mr. D'ARCY POWER said that the wounds which had come under his care were the result either of the conical bullet, of the round shrapnel bullet, of pieces of shrapnel cases, or of the explosion of large shells. He had seen no case of injury due to bayonet, lance, or sword. He instanced two cases as showing the force of impact.

An officer was wounded by a large shell, which burst within ten yards. The skiagram showed the presence of foreign bodies deep in the erector spinae. Subsequent examination proved that two of these substances were sovereigns, which had been driven out of a money belt he was wearing straight down on to the transverse process of the first lumbar vertebra, which was smashed to pieces. The coins themselves were twisted and concave; one had upon it the impression of the milled edge and part of the obverse of that which lay above it. In the other case part of the patient's diary had been driven into his thigh, and for many days afterwards he shed pieces of its leaves.

The most interesting as well as the most difficult cases were those in which there had been injuries to the nerves and the nervous system. It was necessary to decide whether the subsequent disturbance was due to damage done by the bullet in its passage, or as it lay *in situ*. In many cases this could only be determined by careful examination by a skilled neurologist acting in association with a first-rate radiographer, and the surgeon's action must be governed by their reports. If the damage was done by the bullet in transit its removal would be of no benefit, whilst if the projectile itself was causing irritation it must be removed. He held, therefore, that each case must be considered on its merits, and that it was unnecessary for surgeons to remove every bullet or piece of shell merely because it showed clearly on the skiagram. The most interesting injuries to the nervous system and nerves were those to which the non-committal name of "concussion" must for the present be applied. They had to be distinguished from laceration, haemorrhage, compression, and other tangible conditions by the fact that no gross lesion was presented by examination during life. They occurred in the peripheral nerves as well as in the spinal cord. Experience showed that *x*-ray photographs, as they were usually presented, were not infallible guides to the position or the depth of the foreign body. It might be necessary to undertake an extensive exploration before a bullet was discovered, or it might even be missed altogether. Sloughing rather than suppuration was a feature in most of the wounds, and it was interesting to observe that in many instances in which the bullet had passed completely through a limb, it was only the inlet and outlet which remained as wounds, the intermediate track having healed. The cause of the infection seemed to have acted after the injury, and not at the time. In consequence of the sloughing, haemorrhage needing ligature of the main artery in its continuity was tolerably frequent. When wounds which

had healed became painful it was necessary to reopen them, and in nearly every case the pain seemed to have been due to pieces of clothing left in the tissues, at first without causing irritation. Dry dressings in most cases had to be replaced by fomentations. Iodine had been employed extensively (1 drachm of a 2½ per cent. solution in a pint of warm water) applied on cotton wool. The iodine volatilized if the water was too hot; it was converted into an inert iodate if a starch-containing dressing was used. Much time could be saved if the gaping edges of flesh wounds were brought together by a gridiron of strapping; union by third intention, which was healing by the union of granulations, then took place, just as it did in a baby whose harelip had failed to unite at once. Mr. Power concluded his remarks by pointing out that the surgeon needed constant help from the physician, the neurologist, the pathologist, and the radiographer if he was to obtain the best results for his patient; that he must know when to stay his hand and when to operate, and that his attitude should be rather from than towards operation. It was better to lay wounds freely open than to plug or drain them.

Septic Wounds of Bones and Joints near Large Vessels.

Mr. J. Charters Symonds wished to express his entire agreement with the general principles laid down by Sir W. Cheyne, who had brought them back to the consideration of the time when septic infection was the rule, and had shown that the same conditions prevailed when wounds were exposed, and must be met by the methods originally introduced by Lister. Those who worked in hospitals in the early seventies must recall many old experiences now recurring and agree with Sir Watson's condemnation of the gauze drain when suppuration exists, of the imperfection of much of the so-called sterilization, and of the tendency of an operator to attribute failure to any cause but his own lack of watchfulness. The address he had given was a fine confession of faith, and Mr. Symonds cordially endorsed his advice to younger men to read the account of Lister's early work, accessible in those admirable volumes in the preparation of which his two old pupils and assistants, Cheyne and Godlee, took so large a part. Though the time had not come to formulate definite lines of treatment, much good might result by an interchange of experience. He proposed to confine his remarks to the question of septic wounds near the large vessels and to the management of septic comminuted fractures, and of wounds of joints already septic, for here life and limb were in peril, and the surgeon's whole purpose should be concentrated upon the saving of both, leaving refinements to a later period. The wounds of large vessels —of which two interesting examples had come under his care—and of nerves, of which there were also many, and of the lung and pleura must be omitted. The head injuries he hoped some one else would deal with.

A point that must have struck every one was the septic condition of all but the simple direct bullet wound. The cases had come under care from two to ten days after the infliction of the wound; even after forty-eight hours the wounds had been septic, and the later ones very offensive; yet the absence of toxaemia was remarkable. The temperature, even in fractures, was normal, and the pain, where one of two parallel bones was broken, trivial. The septic condition must be attributed to the length of time the wounded had lain out in the open—often two and three days before help could reach them—and to the urgency of clearing the field hospitals. There had been no time for full disinfection, such as Sir Watson Cheyne rightly desired to see, and which was hoped would now be possible owing to the shifting of the base and the better provision of hospital accommodation. Though most of the wounds on arrival were septic, this was not from the lack of careful dressing *en route*. The Belgian contingent he had seen, for instance, had all been dressed on the ship or on the train, and he paid a tribute to the admirable attention these and the other cases received in transit, involving, as it must have done, a great amount of work on the part of the medical officer in charge and chiefly of the Red Cross nurses. Why was toxaemia absent in most of these cases? Did the missile sear the tissues in its passage? Certain it was that constitutional effects differed widely from those seen in wounds of equal septicity in civil life.

In the treatment of the ordinary flesh wounds he had rested content with frequent boric acid fomentations, not even employing irrigation. In some a 10 per cent. solution of argyrol had been of service. In treating comminuted fractures by bullet or shell he believed the best plan was to be content with warm antiseptic applications.

To take the first case he was called upon to handle, a drummer in the Loyal North Lancashires with a smashed humerus. The man came in on the sixth day, in great pain, foul pus escaping from the openings, the skin inflamed and sodden, and yet the temperature was not raised. He looked ill and wasted, chiefly from exhaustion, for he had undergone the terrible hardship of the long journey to St. Nazaire. A small dependent opening was made for the better drainage and a rubber tube passed through. In doing this it was ascertained that the bone was broken into many fragments. Careful dressing once a day with gauze and wool and firm splinting led to rapid improvement. At the end of three weeks the bone had united. He left after four weeks with one sinus and a strong arm.

Another man had a bullet through the tibia, splitting off a large fragment from the front, and though a direct wound, this was septic and most offensive. Rapid union ensued here also under boric acid fomentations without any irrigation. There remained a sinus leading to bare bone, which would have to be dealt with later.

It was somewhat tempting to open up and disinfect the humerus and remove some of the fragments and again to plate or wire the tibia. The results exemplified the truth of Sir Watson Cheyne's conclusions that it was far better to leave these cases alone. Strong limbs would result though there might be a little imperfection in alignment. He had found bullet and shell wounds of the tarsus more septic and more difficult of recovery. Was this because the joints were involved, or because of the softer character of the bones? Was it wise to depart from the method of non-interference and to curette these cases, say in the third week? He had just carried out such treatment in cases of injury of tarso-metatarsus and the carpus. The immediate result in the latter was an increase in the pyrexia from 101° to 104°. In neither was the result sufficiently advanced to justify any conclusion.

While it was, he thought, generally agreed that the better method of treating these wounds was to be content as a routine practice with the application of boric fomentations and gently washing with hydrogen peroxide or some mild antiseptic, the question must in some instances arise whether more active measures should not be undertaken. He mentioned two examples, one in which a main vessel lay in the wall, and another in which a joint was involved:

A bullet entered the outer and back part of the thigh, passed forwards behind the femur, and took its exit 1 in. inside the line of the superficial femoral. There being great pain and no improvement in the septic condition, the wound was examined under an anaesthetic, the greatest care being taken to avoid injury to the surface. The femoral sheath must have been exposed, for the vessels stood out from the inner surface of the track as a rounded cord. Beyond avoiding all injury and rough irrigation the case was left, and had done well. So great was the danger of secondary haemorrhage that he deemed it necessary to have a tourniquet by the bedside and the attendant instructed in its use.

In another a ricochet bullet carrying a sharp hooklike projection from its base, tore across the line of the femoral just above the apex of Scarpa's triangle. The track, some six inches in length, discharged offensive pus. Though it was impossible to clean this wound, then some four or five days old, the recovery under boric acid fomentations took the usual time of two or three weeks.

These cases gave rise to some anxiety, and he would raise the question whether such wounds should not be enlarged to afford better means for disinfection. It was, he thought, necessary in such cases to remove any fragment of shell, bullet, or clothing with as little disturbance of the parts as possible, and to provide efficient drainage by means of a large rubber tube. This might involve an incision in a dependent part.

The liability to secondary haemorrhage would be increased if the patient had other injuries, and was also septic. If seen within a few hours of the injury and the wall of the vessel was exposed, should the artery be ligatured when the wound was being cleaned? Or, should this be deferred in the expectation that if the disinfection had been effective the danger of secondary haemorrhage had been reduced to a minimum? If the wound became septic, should the main vessel be ligatured and divided in

the wound, or was it better to combine this with proximal ligature? Or, again, was proximal ligature sufficient? He related the following as a case in point:

An officer arrived ten days after being severely wounded in three places. The left arm had been amputated in the field hospital, and showed limited suppuration. The right foot was swollen and septic from a bullet wound of the tarsus, the ankle joint, as was discovered in a few days, being involved. There was a ragged septic wound on the inner side of the knee leading deeply into the popliteal space, and the skin of the leg was also red and infected. From the popliteal wound issued most offensive pus. The patient was wasted, grey and septic, the temperature 103°, and he suffered a good deal of pain, borne with that admirable courage which all must have admired in those who had come home seriously injured. The large principle involved must be whether immediate amputation should have been performed through the thigh in this case. Should the popliteal space have been opened up and the condition of the parts ascertained? The patient improved in a general way, for three days the temperature fell, and the popliteal wound became cleaner. Then fresh infection arose, and the temperature reached 103° on the seventh day after admission—the seventeenth from the injury. On this day the ankle-joint was opened and pus evacuated. Ten days after admission, and twenty-one after the injury, slight haemorrhage occurred from the popliteal wound. This being repeated next day, Mr. Symonds opened the wound, and on passing the finger gently in there came a great burst of bleeding, and it was obvious that the main vessel had been opened. A small fragment of the nickel casing of a bullet was found lying outside the vessels. The artery was with some difficulty secured above and below the wound, and then it became obvious that the vein also required ligature. As he proposed, notwithstanding the slender chance of recovery and in view of the septic condition of the leg and foot, to avoid amputation if possible, a kangaroo tendon ligature was placed on the femoral at the apex of Scarpa's triangle as a further protection. Next day, the foot being discoloured and the leg cold, amputation was performed through the thigh. Though the condition was unfavourable in all respects, the patient was recovering. Examination of the popliteal space when the case was first seen would doubtless have revealed the injury to the vessel, seeing it was then ten days old. This would in all probability have precipitated amputation with the man less able to bear it than he was after a week's rest.

Dealing alone with these wounds in a septic condition, he was disposed to think the better practice was to examine and drain, and if the artery was found to be exposed and its sheath injured, to ligature the main trunk some distance above—for example, the brachial in the case of the forearm or the femoral for popliteal injury. He did not mean to say that local ligature of the smaller vessels was not in many cases sufficient. Recently, he had to lay open the calf for smart secondary haemorrhage coming from what he took to be the peroneal artery. The bleeding point was ligatured and the wound treated successfully by the open method. There must be many such cases, and whilst amputation offered an easy, and other things being equal, a comparatively safe way out of the difficulty, it would seem reasonable in view of improved methods to go much further in the attempt to save a limb than formerly was justifiable.

Another subject where information was required was as to the best method of immobilizing and transporting cases of fracture of the femur. Of all injuries these must suffer most in transit. It might be impossible to keep them in an advanced base, and he was told that when the base was at St. Nazaire the order was that all cases should be sent home. When the wound was being cleaned, was it wise to apply a plate with a view to fixation during transit? Where the wound was large and the bone exposed, and an attempt was being made to save the limb, it seemed to him, judging from his experience of compound fractures, to be a sound practice to apply a plate. In the case of the tibia and fibula, his practice at Guy's Hospital was to plate in compound fractures, when it was otherwise difficult to secure good position. In bad cases the plate had to come out, and was sometimes exposed throughout the whole period of its employment; but it served to retain the fragments in position, while the muscles wasted and the surrounding callus formed and enabled more satisfactory dressings to be applied. In itself the plate might have done some harm, but the final result was, in the severe cases with loss of skin, better, in his judgement, than could have been otherwise secured. So that he would, did the opportunity occur, employ plating or wiring, preferably the former in suitable cases. To open up any clean bullet wound, except to secure a large vessel, was a practice which could not be defended even by the most ardent advocate of plating fractures. For transit, so far as he was able to judge, Hodgen's wire splint, designed by this surgeon during the American civil war for the very purpose, was still the best. The frame should be suspended, as Hodgen directed, from a hook at the end of the ambulance. In this connexion he fully agreed with Sir Frederic Eve that no other splint permitted the dressing of compound fractures more conveniently and with less distress to the patient. It seemed to him to possess no rival.

In discussing the value of antiseptics, Sir Watson Cheyne had done good service in bringing back to mind the merits of carbolic acid. It was good to hear that Lister's greatest exponent had not lost faith in an antiseptic with which the earliest and greatest triumphs were secured. While he had himself relied upon carbolic and mercury in the immediate treatment of compound fractures and suppurating joints, he was bound to admit that the 2 per cent. solution of iodine in rectified spirit had given remarkable results in the treatment of large lacerated wounds with or without involvement of bones. It would be interesting to ascertain the separate value of each component of this preparation. He was inclined to think that the alcohol would be found to have no small part in the beneficial results. In some form probably alcohol had been used in the treatment of wounds from time immemorial, as in the rite of circumcision. He fancied there was more than met the eye in the application of wine and oil by the Good Samaritan who might with much good reason be considered the first antiseptic surgeon on record.

Radiography.

Dr. W. IRONSIDE BRUCE exhibited a number of radiograms showing the effects of gun-shot injuries. He said that *x* rays could determine the exact position of a bullet in the tissues, and if the skin was marked it ought, theoretically, to be possible to cut down directly upon it and remove it. There were certain difficulties, however, which were encountered. (1) The distance as estimated by *x* rays, conveyed nothing anatomically as to the situation of the bullet, for this depended upon the thickness of the skin, the subcutaneous tissues, etc. (2) For localization it was necessary to make use of a vertical plane, and this should be followed absolutely at the time of operation. When, owing to surgical requirements, this was deviated from, no further use could be made of the *x*-ray localization. (3) Immediately the incision had been made the marks on the skin were no longer useful. Consequently the accurate information obtainable by *x* rays could not be utilized to the full.

Functional Blindness.

Mr. W. H. H. JESSOP said that *x* rays gave certain evidence of foreign bodies in the eye. He had been impressed by the extraordinary number of cases of patients brought over from the war who were blind. He had seen four such. Nothing was observable by the ophthalmoscope, and without treatment other than rest, perfect sight had been regained. In two others the blindness was accompanied by blepharospasm. These had also completely recovered. All had been exposed to shell fire, and, he thought, had probably been affected by it. He cited also the case of a patient who had formerly had miner's nystagmus. The man had enlisted and had been employed to drive and the nystagmus returned.

Choice of an Antiseptic.

Mr. R. P. ROWLANDS said that Sir Watson Cheyne in his valuable address had wisely confined his attention to the most vital question of all. The rapid and smooth healing of wounds was of the greatest importance to the soldier and to the country. Suppuration placed his life in jeopardy and militated against his early and complete recovery. It greatly interfered with primary or early operation for the repair of injuries of special structures, such as nerves, tendons or bones. It was well known that secondary or late operations for these injuries were more difficult and less successful.

When many men were seen returning with septic wounds, the dirty conditions under which most of the injuries were sustained must not be forgotten, and especially the unavoidable delay in treatment. It was very difficult for surgeons working under the most favourable circumstances at home, to realize the awful conditions

of the war and the unparalleled difficulties which confronted their brethren in France, who by common consent were doing such devoted and heroic work. It was a duty to offer fair criticism and to help by suggesting practical methods which might be expected to improve the results. This could be done by:

1. Laying stress on the Listerian principles which governed the successful treatment of soiled wounds; and
2. By making some definite practical suggestions which could be actually carried out under the difficult and unexpected circumstances of this war.

Sir Watson Cheyne and others had dealt with these points with great ability and detail. He would confine himself to some more general remarks. Most of the shell and shrapnel wounds were, of necessity, laden with bacteria from the skin, clothes, or from the peculiarly infective soil of Northern France or Belgium. The risk of infection from each of these sources was far greater than it was in the Russo-Japanese war. There, frequent bathing and changing into clean clothes, the absence of infective soil, and the intense cold had been all favourable circumstances, which probably accounted for the good results obtained.

It was obvious that clean and dirty wounds required very different treatment. Most surgeons were fairly satisfied with the aseptic treatment of clean operation wounds; for the less wounds were irritated by mechanical or chemical violence the better they did, and the greater freedom there was from pain.

Before the revelations of this war, most of the medical men at the front were so very familiar with the brilliant results of aseptic surgery, and had so little experience of soiled wounds, that the introduction of strong antiseptics into the wounds was abhorrent to them. They feared pain and sloughing. But dirty wounds required cleansing as soon as possible, before bacteria multiplied and invaded the tissues. This was best carried out by a combination of mechanical and chemical means. The longer the interval since the injury the more necessary were strong antiseptics which were capable of permeating the invaded tissues and inhibiting the growth of bacteria. Unfortunately strong antiseptics were useless, and even harmful after twenty-four or thirty-six hours, and a great many of the wounds could not be treated adequately within that period. In the present circumstances the antiseptic used must be strong enough to destroy spores in a short time. Strong antiseptics might prove to be particularly valuable when thorough mechanical cleansing could not be carried out owing to delay in getting to the field or base hospital. Liquified carbolic acid was certainly a very powerful and valuable antiseptic, which he had often used with advantage for earth-soiled wounds. But if its routine use were recommended, difficulties of supply and cost might soon arise. Therefore he suggested the appointment of a committee of surgeons, bacteriologists, and chemists to discuss the variety and strengths of suitable antiseptics. Their report would probably be very valuable. For sterilizing the skin his colleague, Mr. Turner, had found picric acid (1 per cent. solution) in methylated spirit at least as efficient and very much cheaper than the solution of iodine in general use. The most suitable dressing should also be discussed, for secondary infection of the apertures of bullet wounds seemed to be occurring in some cases.

As regards other details of the primary treatment, free drainage and adequate antiseptic dressing were most important. When wounds were already septic, free drainage, irrigation, baths and fomentations were the chief indications. Radical operations for the repair of nerves, tendons, and bones had to be deferred until sepsis had subsided.

In conclusion, he said that it seemed to him that hope of improvement in present results depended upon:

1. Getting the patients into the field or base hospitals earlier, especially by the use of special motor field ambulances, instead of the slow and uncomfortable horse ambulances.
2. Increasing the staff and general facilities for cleansing the wounds at the field and base hospitals. There were numbers of medical men anxious to serve in this way. The present facilities made it quite impossible to carry out the routine treatment advised by Sir Watson Cheyne.
3. More facilities for bathing and changing garments for the men in the fighting line.
4. Moving bad cases as little as possible.

Now that the base was fixed, it ought to be possible to keep the bad cases still and under observation. It was difficult or impossible to treat these cases adequately during long journeys to England. The difficulties of the organization and adaptation of the R.A.M.C. in this war had been enormous, yet, in spite of shifting bases and unforeseen circumstances, the service had been brought to a state of efficiency unequalled by that of any other army. Still, much remained to be done for the greater comfort and better treatment of the wounded. This great and rich country ought to provide everything for the sick and wounded without the aid of any outside society. Everything ought to be under one supreme head, and that head a medical man, who should have perfect freedom of action. He should be free to order as many medical men as were required for the front from time to time.

Treatment of Head Injuries.

Mr. Jocelyn Swan said that he had had experience of about 2,000 cases of men wounded from the front at the Herbert Hospital, Woolwich. He thought the chief points in the treatment of septic cases were adequate drainage and disinfection. Nearly every case was septic, and the point of greatest importance was what was the best treatment to be applied at the front. The difficulties experienced by the Royal Army Medical Corps, who were often working under fire, not only in the fighting line, but also in the field hospitals, were very great. At Woolwich, wounds, already septic, had been opened freely, washed out with hydrogen peroxide or weak permanangate solution, and drained without any attempt to sew them up until the sepsis had been controlled. The organisms most commonly found were staphylococci, streptococci, these two combined, and organisms of the *proteus* group. There had been 10 cases of tetanus. These had been treated by opening up the wound, disinfecting it with hydrogen peroxide, and injecting, by lumbar puncture, large doses of antitetanic serum. Two had died, seven were well, and one was still under treatment. He thought it wiser not to attempt an amputation when symptoms of tetanus had commenced, but to be content with opening up the wound freely. There were 3 cases of malignant oedema, and pyocyaneus infection was not uncommon. A considerable number of cases of secondary haemorrhage had occurred. Like Mr. Symonds, he had been impressed by the lack of toxic symptoms, even in cases so severe as when large collections of pus formed in the knee-joint. There were 18 examples of skull injuries where the bullet entered and passed into the brain. In five the brain had been traversed completely, and two of these got quite well after the depressed fracture had been attended to. There were several cases in which the scalp wound was very small, but much comminution of the skull had taken place, perhaps associated with cerebral abscess or subdural haemorrhage. He thought that skull injuries should be dealt with forthwith, but abdominal and thoracic injuries were often well left alone. Cases of injuries to the chest, with fluid in the pleura other than pus, did not require surgical treatment. The same was true of abdominal injuries, even if it appeared that the intestine had been traversed. He was averse to looking for bullets because *x* rays had shown their presence, except in the case of skull injuries.

Concluding Remarks by President.

Sir John Bland-Sutton said he had followed Sir Watson Cheyne's opening remarks with the keenest interest. No advance, however, could be made by simply following in the paths of predecessors. Lord Lister himself had perpetually introduced changes in his methods. The middle course was the path of safety. While taking advantage of aseptic procedures, it was impossible altogether to avoid antiseptics. He himself had given up carbolic acid because he was peculiarly susceptible to its effects. For many years he had used perchloride, but lately had taken to iodine, and was pleased with the results. It was a striking thing that, although these wounds were septic, they cleared up rapidly with fomentations, and particularly well with hydrogen peroxide; when the sepsis had subsided, foreign bodies, such as pieces

of bone, bullets, etc., could be cleared away, the wounds healing with astonishing rapidity. The highly fertilized country of the North of France contained a soil rich in micro-organisms, with many of which they were unfamiliar. The PRESIDENT announced that the next meeting of the society would be devoted to the discussion of tetanus.

AN OPEN-AIR MILITARY HOSPITAL.

The 1st Eastern Military Hospital (T.F.), Cambridge.

By ROBERT SAUNDBY, M.D., F.R.C.P.
Professor of Medicine, University of Birmingham.

THE value of open-air hospitals for the treatment of the sick and wounded was abundantly demonstrated by the experience of the Northern army surgeons in the American civil war and by the Germans in 1870–71. Florence Nightingale, with that extraordinary prescience that is the mark of genius, recognized this truth, but was unable to overcome the inertia and prejudice opposed to it. Hospitals have continued to be built to please architects and building committees, and a handsome façade is thought indispensable, so that thousands of pounds are spent on putting up monumental buildings to the glory of their founders. In times of peace these may escape criticism, but now, when the demand for hospital accommodation is two or three times that of the supply, and money is needed for so many purposes that there is none for waste, it is wise that an example has been set at Cambridge which I trust may be followed all over the country wherever more hospital accommodation is required, and that there may be no more converting buildings into hospitals which are not designed or suited for the purpose.

The whole merit of the establishment on the open-air plan of the 1st Eastern Military Hospital (T.) at Cambridge belongs to Colonel Joseph Griffiths, R.A.M.C.(T.). By singular good fortune he had been appointed officer commanding for the hospital which at that time had no existence, and when war was declared it had to be created. In the first instance temporary accommodation was provided in the Cloister quad of Trinity. Nine weeks ago the present hospital was begun, and for the last five weeks it has been in full operation providing 1,220 beds besides lodging for orderlies, kitchens, and other offices. The only building that is at present merely in course of erection is the recreation room.

This marvel of creation has been effected at a cost of £20,000, or in round figures of £17 a bed!

We are told that the new hospital to be formed by adapting the Government Stationery Office for this purpose is to cost £25 a bed, yet this greater cost will give us a hospital in the middle of London, perhaps not the best situation to select, and presumably the original cost of the building is not included. At Cambridge the site has been lent and costs nothing. It is King's and Clare's Colleges cricket ground, and the hospital is indebted to the Territorial County Association for such part of the equipment as the War Office in its wisdom deems unnecessary and will not pay for. The bread-cutting machine—an immense saving of labour—and the *x*-ray apparatus were obtained by grants from the County Association.

Before proceeding to describe the hospital one other extra may be mentioned—that is, the Research Laboratory under Professor Sims Woodhead and Mr. Corbett, where by the help of a small grant from the Medical Research Fund it is proposed to study the bacteriology of wounds.

The nurses, who are Territorial Army nurses, are housed in Selwyn College, as the War Office would not sanction a building which Colonel Griffiths proposed to erect for them of the same material, and following the plan of the rest of the hospital. So the nurses have the inconvenience of walking to and from their work, which in winter will prove to be not slight, and may induce the War Office to reconsider its decision.

The hospital building consists of ten blocks, each containing 120 beds; a straight corridor runs right through dividing the wards so that there are ten wards of 60 beds on the right and ten wards of 60 beds on the left of this central corridor, which runs north and south.

The buildings are one story high, with low-pitched roofs covered with corrugated iron. The walls are made of asbestos, set in frame work, the smooth sheets of asbestos or poilite, of an agreeable grey colour; they measure 8 ft. by 4 ft., and are perhaps a quarter of an inch thick. They are made in Holland. The wards contain two rows of beds, one against the back wall the other by the open side, these latter beds being about 2 ft. from the low breast-work. The open front is guarded by blinds of Willesden canvas, like the sunblinds of shop-fronts, which can be let down at an angle to shelter the beds from snow or rain, or in very stormy weather they can be let down so as to lie flat against the openings. The back wall of the ward does not reach quite up to the roof but leaves an opening about 9 in. in width running the whole length of the ward so as to allow through ventilation.

Each ward of 60 beds has two side wards, each containing one bed, for cases it may be desirable to remove from the general ward. There are three baths and five fixed washing stands, with hot and cold water, and three water closets. There is also a small ward kitchen, in which tea for the ward is prepared.

The wards run east and west, so that the open side in each case has a south aspect. The floors are of wood, the planks being winged and fitting closely, so that no draughts can come upwards, but there is an air space below the boards.

Each patient has three blankets, one of which is generally wrapped round him, while the other two cover him, but a fourth is supplied if needed.

The laundry work is done in the town. There is fire-extinguishing apparatus, and the orderlies are exercised in fire-drill; but in view of the non-inflammable nature of the bulk of the material used in construction, it is not thought that fire could get hold of any building before it was extinguished, and it would be very easy to remove the beds and patients in an emergency over the low breast-work or through the low doors which exist in it at short intervals.

The drainage, which was carried out under the supervision of Professor Woodhead, is connected with the town drains, and all the drains have been laid on bricks and cemented.

In addition to what has been described, there is a small isolation ward of twenty beds for gonorrhœa cases.

There is a "pack store," in which each man's kit is kept separately in numbered pigeon holes, and the clothes are sterilized by heat before being stored.

In a separate building are the operating theatre, with two tables, two anæsthetic rooms, and one *x*-ray room, the last being officered by two gentlemen, one of whom came from the Cavendish Laboratory, and the other from the Cambridge Scientific Instruments Company. Their negatives, of which specimens just taken were shown, seemed good examples of radiography, and were said to have been of great service in localizing bullets, fragments of shell, and injuries to bones.

A dispensary and a medical officers' common room are at one end of a long building, in which are also a receiving room and registrar's office.

The sleeping accommodation for 120 orderlies and sergeants of the R.A.M.C.(T.) is in buildings on the same plan, the beds being arranged in bunks, the sergeants being separated from the orderlies, and having twice as much room per man. There is a messroom for the sergeants, which is also used by them as a common room, but the orderlies have a messroom, and a common room in which they can read, or write, and smoke.

The patients in the wards are given breakfast in bed, but most who are able to do so get up and wash before breakfast. They generally go back to bed for this meal, and enjoy a smoke in bed.

As already mentioned, a recreation room for patients, 100 ft. long, is now being built, the woodwork being in position, and judging by the remarkable rapidity with which the rest of the work has been executed, will probably be ready for use by the end of the present month (November).

The kitchen, which provides meals for 1,500 persons, is staffed by five cooks and ten assistants, drawn from the kitchen staff of the colleges. The food looked excellent and most appetising; the cooking is done by gas. Potatoes are cooked in their jackets, but an equatorial strip is removed from each tuber, which greatly facilitates the separation of the skin after they are cooked. The meals are sent to the wards in trolleys, of which there are ten, each trolley holding the food for sixty patients or one ward.

There are small stores for meat, milk, etc., but as most of these are delivered daily, no great amount of space is required for this purpose.

The architect of this admirable building is Mr. Skipper, and the contractor Mr. Negus, both of Cambridge, but the inspirer of the whole, the man to whose patriotism, skill, and energy this magnificent hospital owes its inception, who has achieved this remarkable result in such a short space of time and with such splendid effect, is, as we have already explained, Colonel Joseph Griffiths, F.R.C.S., who has given up his private practice, which as a leading operating surgeon in Cambridge involves no slight sacrifice, in order to devote all his time and all his energy to the work of the hospital—a work in which he is ably seconded by Major Apthorpe Webb, R.A.M.C.(T.), the registrar.

Why, it must be asked, will not the War Office sanction the erection of similar hospitals on unoccupied land near London and other great cities, where the best medical and surgical aid is available? The motor car and the telephone have made a distance of a few miles negligible. Wimbledon Common is as accessible as the Mile End Road and infinitely better for the patients. A hospital with 2,000 beds could be built there on the Cambridge plan for £40,000, and what a boon would such an addition be in a few months when we may expect our numbers at the front to be double or treble what they are now and the casualties proportionately increased!

Among other places, Birmingham has ample space, in the empty land by the University buildings now occupied as the 1st Midland Military Hospital, for such an extension, and it only awaits the approval of the War Office to be undertaken by patriotic citizens who would be pleased to contribute to its equipment. We cannot believe that the example of Cambridge will be allowed to be lost.

HOME HOSPITALS AND THE WAR.

BRIGHTON.

THE EXTENSION OF THE 2ND GENERAL EASTERN HOSPITAL (TERRITORIAL).

By order of the War Office a very considerable extension of the size and scope of the 2nd Eastern General (Territorial) Hospital, Brighton, is being carried out. The number of beds is to be increased from 520 to 1,000, so that, in addition to wounded and sick men from the Expeditionary Force, those from the very large camps established at Seaford, Shoreham, Uckfield, Southwick, Crowborough, Portslade, and other towns, for the men of Kitchener's Army and the Territorials, may obtain any medical or surgical attention they may require.



Gordon Ward, 2nd Eastern General Hospital, R.A.M.C.(T.), Brighton.

The thousand beds are made up as follows. In the original buildings, the Brighton and Hove Grammar School, and the Stanford Road Council School fresh wards have been opened, bringing up the number of beds to 609. Two new buildings—the Howard Convalescent Home and St. Mark's Church School, close together, and situated at Kemp Town, at the extreme east of Brighton, in an open and healthy part—have been taken over, and contain respectively 73 and 160 beds. An additional building, near by, will shortly be equipped, to make up the number to 1,000.

The staff is also being enlarged. So far no additions have been made to the administrative staff, but some well deserved promotions have been gazetted. Major James A. Rooth, the Commanding Officer, has been promoted Lieutenant-Colonel, and Lieutenant Walker, the Registrar, Captain.

The medical staff originally consisted of eighteen of the thirty medical officers whose services were available on mobilization. This number, on account of the large amount of work involved, is to be increased. The establishment of non-commissioned officers and men has been raised to number 169, and the nursing staff has been increased by the addition of about forty extra sisters and nurses.

The new buildings at Kemp Town are fully equipped with operating theatre, dispensary, rooms for medical officers, etc. They are complete in themselves, and make a first-class hospital.

Up to the present eight convoys of wounded from the British Expeditionary Force have been admitted, with a total of 800 men, which includes those sent to the Royal Sussex County Hospital, the French Convalescent Home, and other places. Two convoys of wounded Belgians, numbering 181, have also been taken into the hospital. From the Territorials and Kitchener's Army there have been 938 cases. The number of deaths among the men from the Expeditionary Force is 9. Of these, 2 have been from tetanus, 5 from bullet wounds—2 of the head, 2 of the limbs, and 1 of the abdomen—1 from enteric fever, and 1 from meningitis following otitis. From the men of the Home Force 5 deaths have occurred—1 each from typhoid fever, tuberculosis of the intestine, pneumonia, chronic nephritis, and gastro-enteritis.

So far only the main operating theatre at the Grammar School has been used. Another theatre in this building is being prepared, in addition to that at Kemp Town. About 200 operations have been performed there, and of this number only 2 have been followed by fatal results, 1 after trephining for bullet wound of the skull, and 1 after short circuiting for abdominal injury by a bullet. The operations carried out were of all varieties—for example, for appendicitis, extraction of bullets, trephining, radical cure of hernia, for varicocele, for varicose veins, etc. A good many minor operations have been carried out in the wards. The *x*-ray department has been busy, about 500 examinations having been made.

The staff and all concerned in the organization and management have reason to congratulate themselves on the success of the efforts they have made to equip and maintain one of the largest military hospitals in England.

EDINBURGH.

On November 19th, and again on November 21st, parties of 100 wounded soldiers reached Edinburgh, where they were received by members of the Red Cross Society. The men of the first convoy were distributed between the Military Hospital at Craigleith and Leith Hospital, whilst those of the second went partly to the Edinburgh Royal Infirmary and partly to the Deaconess Hospital in the Pleasance. In addition to these about forty wounded soldiers are at Whitehill House, near Dalkeith. It is now no uncommon sight to witness convalescent men enjoying motor runs in the neighbourhood of Edinburgh.

The arrangements for the distribution in Scotland of wounded in auxiliary hospitals and convalescent homes has been taken over by the Scottish branch of the British Red Cross Society. All the institutions will be inspected by the society. The executive has approved of the auxiliary hospitals and convalescent homes already in use, but without any financial liability except where specifically undertaken. In future all offers are to be made to the Red Cross Committee of the county, which, if it approves, will communicate the offer to the Red Cross Commissioner for the district, who will decide which institutions are to be ranked as auxiliary hospitals, where the grant of 2s. a head a day will be given by the military authorities. Patients sent to convalescent homes will be such as do not require active medical or surgical treatment, and for these no grant is allowed by the

military authorities, but the executive will be prepared to consider applications from any of these recognized institutions, either as auxiliary hospitals or convalescent homes, for financial assistance. Clothing and comforts must be requisitioned for from the Commissioners, who are as follows:

Western District.—Lieutenant-Colonel R. D. M'Ewan, St. Andrew's Halls, Glasgow. City of Glasgow, Argyll, Ayr, Bute, Dumbarton, Dumfries, Kirkcudbright, Lanark, Stirling, Renfrew, Wigtown.

Eastern District.—Mr. David Wallace, C.M.G., 2, Frederick Street, Edinburgh. City of Edinburgh, Berwick, Clackmannan and Kinross, Fife, Haddington, Linlithgow, Midlothian, Peebles, Roxburgh, Selkirk.

North-Eastern District.—Colonel J. Scott Riddell, M.V.O., Boys' Brigade Hall, Crimon Place, Aberdeen. Aberdeen, City of Aberdeen, Banff, Caithness, Elgin, Inverness, Nairn, Orkney, Ross and Cromarty, Shetland, Sutherland.

Central Eastern District.—Colonel W. Gordon Thomson, V.D., 38, Nethergate, Dundee. City of Dundee, Forfar, Kincardine, Perth.

MEDICAL NEWS FROM GERMANY.

WOUNDED IN BERLIN.

IN Berlin twenty-five hospitals have been improvised with accommodation for about 20,000 wounded. Such buildings as the one erected for the Olympic games have been converted into hospitals, and as many as four rows of beds have been placed in each ward. To cope with the thousands of wounded factories, museums, picture galleries, and the like have been transformed into hospitals. Among these is a high school of art, where sculptures and paintings have had to give place to the wounded. In most cases the wounded have been given excellent accommodation and attention, and private munificence has supplied them with certain luxuries, among which tooth-brushes are mentioned. The severely wounded are conveyed singly from the station to these hospitals in motor ambulances, a constant stream of which is to be seen daily in and about Berlin. Many of the wounded that came from Lemberg were in a miserable condition after the long railway journey. In many cases they had not taken their clothes off for several weeks, and they left on the mind of the spectator an impression of utter weariness and collapse. Yet their courage and stolid endurance were extraordinary. In the treatment of diarrhoea much faith is being attached to cognac, to which a few drops of tincture of iodine have been added. Many of the wounded, particularly of those sent from the scenes of action in East Prussia, suffered from gonorrhoea. The largest of the hospitals is at Tempelhof, where accommodation for 1,200 is provided. The patients include officers and men from the German, French, Belgian, Russian, and English armies. Many are severely wounded, but no difference is made in the treatment of friend and foe.

German surgeons with experiences of the war of 1870 express boundless praise of the improved conditions towards which motor ambulances have contributed much in the present war. A shortage of gauze and cotton-wool is already imminent, and women and children are being urged to make surgical dressings from old linen. Letters from German surgeons at the front confirm the experiences of our own surgeons as to the deplorable frequency of tetanus following shell wounds. Geheimrat Lange writes that an amputation was performed in one case of tetanus, and that the patient was subsequently considered out of danger. He expresses great satisfaction with the results of careful fixation of limbs in fractures. He prefers the fenestrated plaster-of-Paris splints to any other form; two to three days after the application of splints the patient's temperature would be normal, even though it had been as high as 104° at the outset. He is convinced that the best after-treatment for such cases can be effected only by surgeons with orthopaedic experience and in a hospital devoted to this purpose.

PREVENTION OF INFECTIOUS DISEASES.

The military medical authorities are alive to the dangers of infectious diseases, and are on their guard against plague, which they fear may be introduced by the native soldiers from India. So anxious are they to detect this disease as early as possible, that they regard all cases of pneumonia as suspicious, and invariably examine the sputum for the bacillus of plague. Dysentery is already giving trouble in several hospitals, and it is also reported as being rife on the borders of Russia. The stools of suspects are frequently examined for dysentery and cholera, but down to the middle of October the latter disease had not been detected. Considerable difficulties were experienced in the isolation of suspected cases, and gonorrhoea has frequently broken out among the convalescents. In several places shelters of wood have been run up, and, each wall being composed of two thicknesses of wood, they have proved warm and comfortable, yet have not been costly.

TREATMENT OF SUPPURATING WOUNDS.

Several new devices have been suggested and adopted for the treatment of suppurating wounds. Raw turpentine, for example, has been used as a dressing, and is said to cause neither pain nor irritation. Pure liquid paraffin, with or without the addition of 2 to 2.5 per cent. of iodoform, has also been advocated in very septic cases. Corrosive sublimate was also applied in a strength of 1 in 1,000, and was preferred to the weaker solutions. It is thus evident that German surgeons were carrying out antiseptic methods with much vigour.

THE TREATMENT OF ABDOMINAL WOUNDS.

The Leipzig surgeon, Professor Payr, who is attached to the army of the King of Saxony, has discussed in the War Supplement (No. 2) of the *Muenchener medizinische Wochenschrift*, the treatment of abdominal wounds in war time. The victims of these wounds, he said, seldom receive proper treatment at an early date, when operative interference would be most beneficial; and at a later date, when all the resources of surgery were at the patient's disposal, he was either already on the high road to recovery, or too ill to be benefited by an operation. Fortunately the perforation of the stomach and intestines by the modern small-bore bullet was often followed by spontaneous closure of the wound, the patient recovering under conservative treatment. When laparotomy was performed some time after the infliction of the wound, coils of intestine were frequently found matted together by organized fibrin, localized abscesses, often faecal, being situated between single coils of intestine. It was not possible thoroughly to examine the wounds in such a case, and there was little prospect of establishing effective drainage. Basing himself on his experiences of perforated, gastric, and duodenal ulcers, and of multiple wounds of the intestine by Browning pistols, several cases of which he had had occasion to treat, Professor Payr made the following suggestions: He believed that when the stomach and intestines were perforated, blood, in some cases mixed with the contents of the organ, escaped into the free peritoneal cavity, tracking gradually into the pelvis, provided the effusion was not too great. It thus frequently happened that when a laparotomy was performed on the second day, no free blood was found in the upper abdomen, whereas the pelvis might be filled with it. Blood in this position usually became infected from the intestine, and was often not absorbed. In the pelvis an abscess formed, which, bursting through the surrounding adhesions, caused serious peritonitis. Faced with this possibility, the surgeon in war should, when the wound was recent, that is, only twenty-four to forty-eight hours old, and the general condition satisfactory, make a small opening under local anaesthesia through the abdominal wall just over the symphysis, large enough to admit a rubber tube as thick as the finger; this should be passed into the pelvis, and the patient should remain half sitting up or lying on his side. When operation was possible only after a considerable period, the surgeon should at once examine the pouch of Douglas from the rectum, and ascertain whether tenderness, distension, tenesmus, and disorders of micturition existed. If a definite, circumscribed swelling were detected, the sphincters should be strongly dilated and the mucous membrane above the swelling seized by two forceps, and an exploratory needle inserted between them. Altered blood, turbid exudate or pus might thus be drawn off, the evacuation being completed by making an opening with the cautery or knife, and introducing a drainage tube through it. When, however, the pouch of Douglas was diffusely distended and very painful, pelvic peritonitis must be suspected, and a parasacral opening made by enucleating the coccyx.

The retrorectal fascia should then be exposed by a longitudinal incision, and a lateral opening made into the anterior fold of the peritoneum in this position. This operation, though more serious than the one already described, could be rapidly performed with a few instruments by a skilled surgeon. The after-treatment recommended was by draining the pelvis through a tube fixed in the wound, which was kept open and lightly plugged. It does not appear that Professor Payr has hitherto been able to apply these principles extensively in the present war.

THE BRITISH RED CROSS SOCIETY.

The Situation in France.

During the past week no more doctors, orderlies, or nurses have been sent to France, as all the personnel asked for is now in the field. The shortness of the line of communications is still an important factor in facilitating Red Cross work. It renders possible the rapid transport, with a minimum of medical and surgical attention, of all who are wounded at those sections of the battle line held by British troops. There is, in fact, a considerable waiting list of surgeons whose services are not likely to be required so long as the war is waged in its present area. Should an extensive German retreat take place, a larger number of surgeons will be required. Paris is no longer an important hospital base so far as British wounded are concerned; Boulogne is their centre, that of the Belgians, Dunkirk, and of the French, Calais.

Health of the Troops.

The health of the troops continues to be extraordinarily good, especially when the severity of the weather now being experienced is remembered. There is very little typhoid fever, less tetanus, and still less gangrene. All Red Cross workers have been impressed by the excellent spirit of the British troops. They say the men are in good heart, full of confidence and good spirits. Even if they show signs of fatigue from long service in the trenches their power of recovery is marked, and they soon regain their spirits and liveliness. What impresses all the soldiers is the terrible slaughter that the Germans are undergoing—out of all proportion to the losses on our side.

The New War Hospital for London.

Rapid progress is being made with the scheme already mentioned in the Journal for the establishment of a 1,500-bed hospital in the new building being erected for H.M. Stationery Office, and further details are now available. On each of the five floors there will be accommodation for about 360 beds; each floor will be a complete hospital in itself with its own operating theatre and staff. It is intended to invite a number of leading surgeons and physicians in London to act as an honorary staff; fifty beds will be allotted to each surgeon or physician. Thus about twenty-six surgeons and eight or ten physicians will be needed. All the bacteriological and pathological work will be undertaken by the Lister Institute of Preventive Medicine. The building, which is in Waterloo Road, is found to be readily adaptable for hospital purposes. On none of the floors is there at present a single partition, so that those responsible for the adaptation will have a free hand in the planning of wards. There are several lifts; the lighting and heating installations are complete; there is a special system of ventilation and the building is fireproof.

The "Society Lady" in Red Cross Work.

Sir Frederick Treves made some observations to a representative of the Journal, to whom he gave the foregoing particulars, as to what he described as "the continued outcry against the society lady" in connexion with Red Cross work. The kind of person aimed at by those who made these comments, he said, is not encouraged by the Society. The names of some very highly placed personages certainly appear on its list of those in charge of departments, but these are ladies thoroughly experienced in public work of the kind, and, indeed, eminent in the particular branch they have undertaken. To give an example, the Countess of Dudley is doing the same work that she performed with such remarkable success in the South African war. The criticisms, however, are, we may point out, directed rather against the intrusion of amateurs into the actual work of nursing the wounded.

CASUALTIES IN THE MEDICAL SERVICES.

Army.

The official lists of casualties published since our last issue contains the name of one medical officer of the Royal Army Medical Corps killed in East Africa, and four wounded with the Expeditionary Force in France.

Killed.

Captain Cecil A. T. Conyngham, R.A.M.C., whose death in action in East Africa was reported last week, was educated at St. Andrews' College, and Trinity College, Dublin, where he graduated M.B., and entered the army in July, 1907. He was a keen athlete, and swam for Trinity when that College won the senior water polo cup in 1903. He was a member of the Wanderers' Rugby football team when it won the cup in 1906. At the outbreak of the war Captain Conyngham was stationed in India.

Wounded.

Coppinger, Captain C. J., R.A.M.C.
Irvine, Major A. W. A., R.A.M.C.
Lister, Lieutenant W. H., R.A.M.C.
Watson, Lieutenant A., R.A.M.C.

NOTES.

Medical Arrangements for the Troops in South Africa.

According to the *South African Medical Record* of October 24th a central committee has been appointed to co-ordinate the various organizations formed for the purpose of providing medical necessities for the British troops operating against German South-West Africa. Our contemporary, while approving of the action taken as likely to lessen the friction and waste of energy due to overlapping organizations—"sometimes of mere busybodies"—expresses what seems to us a natural surprise that there should not be any member of the medical profession on the committee except Sir Thomas Smartt, the chairman. Our contemporary goes on to say: "If the committee only succeeds in staving off from the military hospitals the plague of well-meaning ladies with no end of zeal and very little knowledge, who nearly drove the medical officers and Tommie Atkins mad during the Boer war, it will justify its existence. Many of these ladies might have been of untold use working outside, but inside they were a deplorable nuisance. In the same connexion, we do hope that, both in our country and in England, the door will be firmly closed on the amateur nurse."

Medical Officers Wanted.

We have received the following notifications:

Operating Surgeons.

Lieutenant-Colonel Charles Monk, Officer Commanding the 2nd London Clearing Hospital, Duke of York's Head Quarters, Chelsea, S.W., gives notice that that unit is now being mobilized for service with the British Expeditionary Force, and requires the services of two highly competent operating surgeons to complete its surgical staff. The clearing hospital, situated a short distance behind the fighting line, receives all the wounded of a division, and is equipped to deal at once with the most serious cases. The officers appointed will receive commissions in the Territorial Force for the duration of the war.

Field Ambulances.

Lieutenant-Colonel A. G. Hamilton (R.A.M.C.T.F.), Officer Commanding Welsh Border Mounted Brigade Field Ambulance, Drill Hall, Bungay, East Suffolk, will be glad to hear from any medical man wishing to obtain a commission in the Royal Army Medical Corps (Territorial Force). There are several vacancies in the Imperial Service Unit now stationed at Bungay, East Suffolk, and in the Reserve Unit at Chester. Men joining for the period of the war only obtain an allowance of £20 for outfit, and those joining as Territorial officers for four years receive £40. In both cases a grant of £7 10s. is made for the purchase of camp kit. Pay and allowances as in the regulars.

There are several vacancies for officers in the Reserve unit of the 2nd East Anglian Field Ambulance. Applications should be made to the Officer Commanding, Colonel Blake Masson, 44, Bethel Street, Norwich, as soon as possible.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

WOUNDED SOLDIERS AND THE DUBLIN HOSPITALS.

THOUGH Dublin is provided with a large number of excellent hospitals, yet, owing to the economic conditions in the city, and the fact that it serves as a hospital centre for a large part of Ireland, the resources of these hospitals are continuously taxed to their fullest extent, and often, especially in the winter, the accommodation they provide is scarcely adequate to the demands made upon them. In spite of this they have all made an effort, and have put aside a certain number of beds for the reception of wounded soldiers; the total is about 500. Within the last month two batches of wounded soldiers arrived in Dublin, and every available bed was filled; some of the wounded have now so far recovered that they have been able to go either to their own homes or have been sent to a convalescent home, at least half the beds are still occupied, and this is likely to continue for a considerable time. When the next batch of wounded soldiers arrive, only a small number of beds will be available, and therefore either it will be impossible to receive the soldiers or a further number of beds will have to be removed from the occupation of the sick poor, for whom they are intended. In order to get over this difficulty various suggestions have been made (*a*) that a temporary wooden hospital should be erected in the Phoenix Park capable of holding 1,000 patients; (*b*) that additions should be built in the grounds of each of the Dublin hospitals with from 50 to 100 beds; (*c*) that old houses or buildings should be converted into a hospital; (*d*) that a permanent Red Cross hospital should be built. The latter suggestion is open to the objections that hospitals in Dublin are already too numerous and that the expense would be very great. The cost of converting a row of houses into a hospital would be considerable, and possibly warehouses or other buildings might be more suitable. The plan of making additions to each hospital is probably most favoured on the ground that it would not entail the setting up of new executives and practically all the Dublin hospitals have spare ground about them. The cost of separate erections would, however, be considerable, and probably the best and cheapest plan would be the erection of a temporary wooden hospital in the Phoenix Park, where the Dublin surgeons would willingly give their services if there were a sufficient number of house-surgeons and dressers to carry out the routine work. It will, however, be necessary to take action at once, as at any moment there may be an urgent demand for more beds for the wounded.

VACCINATION.

At the last meeting of the guardians of the North Dublin Union a letter was received from the Local Government Board asking whether the guardians were prepared to enforce the Vaccination Act and to institute prosecutions against those who disregarded the notice to have their children vaccinated. The chairman said that one of the guardians' medical officers had reported that there were 5,431 vaccination defaulters in his district. A guardian stated that the death-rate among children who were vaccinated was much greater than among those who were not. A proposal to hold a special meeting of the guardians to consider the question, as suggested by the Local Government Board, was defeated by 17 votes to 9, and the Board agreed to a resolution to stand by its previous antivaccination decision.

At the last meeting of the Tuam Board of Guardians, at which a similar letter from the Local Government Board was read, it was resolved that in sending out notices in future the authorities should notify that compliance was not compulsory.

ATTACK ON DOCTOR BY PATIENT.

At the monthly meeting of the Committee of Management of the Derry Asylum on November 20th the Chairman announced that one of the inmates had made an attack on their highly respected medical officer, Dr. Hetherington, who had been in their service for forty-two years, and was beloved by them all. They were glad to know that he was making satisfactory progress towards recovery. The patient murderously assaulted the doctor with a knife, stabbing him in several places. Dr. Heatherington pluckily struggled with his assailant until help reached him, and he was eventually rescued in an extremely weak state. A letter was read from Mrs. Hetherington, expressing her husband's appreciation of the prompt and skilful attention of Dr. Watson, and gratefully acknowledging the sympathy which had been extended to him by the asylum staff. Dr. John Watson, acting medical superintendent, reported that Dr. Hetherington's life was now out of danger. The necessary steps were being taken to have the inmate transferred to a criminal asylum.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE ST. ANDREW'S AMBULANCE ASSOCIATION IN EDINBURGH.

IN the midst of the war time the St. Andrew's Ambulance Association, which is a national association for the promotion of civil Red Cross work in time of peace, held its annual meeting on November 20th. Lieutenant-Colonel J. M. Cotterill, Consulting Surgeon to the Edinburgh Royal Infirmary and Surgeon to the 2nd Scottish General Hospital (T.F.), presided, and the annual report was adopted. In this report it was stated that the number of classes held during the year within the Edinburgh district was 94, of which 79 were first aid and 15 home nursing and hygiene; of the pupils who presented themselves for examination 1,743 had passed and had been awarded the association certificate (in the case of first year students), and the St. Andrew's Ambulance Corps now numbered 5,000 men and women. The chairman, in moving the adoption of the report, pointed out that although the primary object of the association was work in times of peace its operations were of the greatest service in war. For many years it had maintained from members of its ambulance corps a body of men to act as a reserve personnel for the home military hospitals in Scotland; at the outbreak of hostilities these men were at once mobilized, and manned the home hospitals in Scotland, relieving the men of the regular forces for duty abroad; the mobilization had been carried out in forty-eight hours. Further, at the request of the War Office, 100 trained ambulance men drawn from the corps had been mobilized for service at the front, and had left for Aldershot on October 26th. The association had also supplied orderlies to the various general hospitals, and its wagons had been placed at the service of the naval and military authorities and the British Red Cross Society. An appeal was made for increased support.

FOSSIL MICRO-ORGANISMS.

At a meeting of the Royal Society of Edinburgh on November 16th, Mr. David Ellis, Ph.D., read an interesting paper on fossil micro-organisms in the Jurassic and Cretaceous Rocks of Great Britain. He stated that some of the organic matter in the fossiliferous ferruginous rocks had been in a putrefactive condition when engulfed. He had found organisms belonging to a group akin to the modern Phycomycetes, and in the Island of Skye minute ones belonging to the Actinomyces. Near Folkestone, too, remains of fossil bacteria, in the form of bacilli and cocci had been discovered lying inside the small organic fragments of these rocks in the gault (clay and marl). That the earth, then, was not germ-free in these early days may be concluded from Dr. Ellis's investigations, and we have to think of man's enemies—who are also, let it be remembered, his friends—awaiting his advent on this planet. Possibly if man were wiser their friendliness would be more apparent.

EDINBURGH MEDICINAL WELLS.

At a meeting of the Edinburgh Geological Society, on November 18th, Mr. D. M. Tait, H.M. Geological Survey, read a paper on bores for water and wells in the Wardie shales. He pointed out that a number of wells in the neighbourhood of Edinburgh had been used for medicinal purposes in years gone. Most of them were now known only by the accounts of old writers. With the exception of the Balm Well (or St. Catherine's Well), all were in the

Wardie shales. These wells were: (1) Craiglockhart Railway Cutting; (2) St. George's Well, Stockbridge, Water of Leith (sulphurous); (3) St. Bernard's Well, Water of Leith (sulphurous); (4) Bonnington Mineral Well, on the Water of Leith; (5) The Physic Well, or Lady Well, at Corstorphine (sulphurous): (6) The Spa Well at Davidson's Mains, Barnton; and (7) Mid-Calder Mineral Well (sulphurous). All these wells in the Wardie shales were probably nearly on the same stratigraphical position within the series. In view of these facts it might be concluded that the water likely to be obtained from wells or bores on the Wardie shales was not suitable for ordinary domestic purposes.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

The Manchester University and the War.

At a meeting of the Court of the Manchester University on November 18th, the Vice-Chancellor, Professor Weiss, described the part which the university had taken in the preparations for the war. Since war began it had continued to act in its educational capacity, and though at first it was thought that some of the buildings would be required for hospital accommodation, the military authorities had shown every desire to interfere as little as possible with the educational work. The quadrangle and athletic fields had been given up for the drilling of recruits and accommodation had been offered for Red Cross work. During the vacation a large number of students had been enrolled in the Officers' Training Corps and about 200 had applied for commissions. A new corps had been formed which had been joined by 130 recruits, and application had been made for permission to form two more platoons of 60 members each, one of which would be filled by members of the university staff. Daily lectures were being given at the university on tactics, and as the War Office was anxious that recruits should be efficient by Christmas, the Senate had decided to suspend the usual lectures on two days a week. Arrangements had also been made to enable the women members of the university to take part in Red Cross and relief work. Of last year's students alone 130 students were known to be with the forces or training in camp, and of these 80 had received commissions. In addition large numbers of past students had joined the forces and eighteen members of the staff were acting in various capacities at the front or in camp. He was sorry to say that news had been received that some of their students had been wounded and three or four killed at the front. Among these was Captain Foster, who had been seriously wounded at Mons. Captain Nugent had also been wounded, but had completely recovered.

An address had been sent to the sister university of Louvain, and a number of professors and teachers of Belgian universities were receiving hospitality at private houses through the endeavours of members of the staff. The university had also given facilities to the Belgian professors, teachers, and students to continue their studies in the libraries and laboratories of the university. As a result of the war the number of students was between 200 and 300 fewer than last year, but the entries of new students were not so few as had been expected, and in the medical department the numbers were higher than last year. The income of the university from fees had fallen over £3,000, and as the Court had undertaken that members of the staff who were at the front should not suffer financial loss in consequence, the expenses had not fallen with the income. The Vice-Chancellor added that many members of the medical staff, though they were not at the front, were giving notable service at the Whitworth Street military hospital.

The treasurer's report for the year ending July 31st, 1914, showed that the total assets of the university were £1,395,965, an increase of about £5,000 over the previous year. The receipts were £81,436, which is a decrease of £429, and the expenditure was £81,319, an increase of about £400. The war would undoubtedly seriously affect the coming year's revenue. Their income would be considerably reduced and they would have a heavy expenditure to meet on the new Arts buildings which were to cost £40,000, but it was felt that any appeal for further funds could hardly be made at present. The Court then adopted a resolution which proposed certain modifications of the statutes and ordinances in order that members engaged on active service or otherwise in the defence of the country shall not suffer any disadvantage.

The Salford Insurance Committee and Alleged Over-prescribing.

At a meeting of the Salford Insurance Committee on November 19th it was reported from the Medical Benefit Subcommittee that the Panel and Pharmaceutical Committees had not been able to agree as to whether certain of the panel practitioners should be surcharged for alleged over-prescribing in the year 1913. The Panel Committee still adhered to its previous report, which stated that it saw no reason for surcharging any of the sixteen practitioners involved, while the Pharmaceutical Committee maintained that the cost of the prescribing by those practitioners had been in all cases above the average and in some cases excessively high. The Medical Benefit Subcommittee felt that the Insurance Committee would find great difficulty in deciding between two professional bodies, and as the Commissioners some time ago offered to meet a deputation of the three committees and to assist the Insurance Committee in coming to a decision, the Subcommittee recommended that representatives of the three committees should be sent to meet the Commissioners. This recommendation was adopted by the Insurance Committee, the Chairman and Clerk being elected to represent the Insurance Committee, while the Panel and Pharmaceutical Committees were invited to appoint their own representatives on the deputation.

WALES.

The Medical Service of the Welsh Army Corps.

We mentioned last week that the duty of raising and organizing the medical units for the Welsh Army Corps had been undertaken, at the request of the executive committee, by Mr. Lynn Thomas, C.B., and that he was already proceeding with the establishment of three field ambulances and a sanitary company for the first division. In pursuance of the policy of giving attention to sanitary matters at the earliest possible date, a meeting of medical officers of health in Wales, summoned by Mr. Lynn Thomas, C.B., was held at Shrewsbury on November 18th, under the chairmanship of Dr. Edward Walford, M.O.H. Cardiff. The following resolutions were adopted:

1. That the medical officers of health of the counties and county boroughs and medical officers of health devoting their whole time to their official duties in Wales and Monmouthshire be formed into a national committee to assist the executive committee of the Welsh Army Corps with the object of safeguarding the health of the troops whilst at home.
2. That this committee be empowered to appoint subcommittees to deal with any matters which may be referred to them in connexion with any of the brigades.
3. That this committee recommend the executive committee of the Welsh Army Corps to form an advisory sanitary committee to assist in formulating schemes which may be considered essential or desirable for safeguarding the health of the troops.

Canada.

[FROM OUR SPECIAL CORRESPONDENTS.]

Orillia Hospital for the Feeble-Minded.

The annual report of the Orillia Hospital for the feeble-minded for the year 1913 shows that the institution was filled to its utmost capacity during the year, and that constant demands for admission were made. It has been necessary to enlarge the building by the addition of a "cottage" capable of holding two hundred women patients, and a similar building for men patients is to be commenced as soon as possible. When this is done the institution, which will then consist of a main building and four cottages, will contain accommodation for 1,200 patients, and the main building will be used as a training

school for boys and girls ranging in age from 6 to 15 years. The industrial training of children of this age has met with much success, and it has been observed that marked improvement is apparent between these ages. The girls devote a good deal of their time to needlework, and even those of low mentality can often do beautiful embroidery. The boys are employed outdoors, and in weaving and basketry. Some excellent results have been obtained from the work done in the pathological laboratory, and Dr. Evans is now engaged in carrying out a series of Wassermann tests.

HOSPITAL FINANCE.

The hospitals throughout the country are suffering from lack of funds, and many of them have been obliged to close some of their wards, and it is possible that some of them may have to close altogether.

Correspondence.

THE FUTURE OF THE LISTER INSTITUTE.

SIR,—Now that the vote of the members of the Lister Institute has been taken, and has resulted adversely to the scheme put forward by the Governing body, it may be allowable to say a word upon the controversy to which attention has already been drawn at different times in your columns.

That the proposal embodies advantages of the highest order cannot be denied. It would enable the Institute to obtain command of clinical material, a want that has been felt and acknowledged almost from its foundation; and it would, moreover, enable the Institute to co-operate systematically in researches of profound practical importance.

At the meeting held on November 18th it was fairly well shown that no *direct* interference from official sources would be attempted or permitted. But allowing this, there still remains the insuperable objection that the standard and measure of the value of the work carried out, if not solely a utilitarian one at the outset, would almost inevitably become so in the course of time. It is difficult to see how it could be otherwise in a Department receiving public money for the purpose of direct public benefit.

No one would, of course, maintain that utilitarian science is beneath any other form in dignity. It is only when the utilitarian end is viewed as the sole one worth pursuing that the true scientific ideal becomes obscured.

The fundamental fallacy underlying an exclusively utilitarian aim, even from the utilitarian side itself, lies in the arrogated possibility of foreknowing what discovery may or may not prove useful. No degree of utilitarian sagacity would have led, for instance, to the discovery of radium, the therapeutic value of which is hardly at present calculable.

Were the Lister Institute to amalgamate on the particular scheme devised, it is in this direction that it would suffer: its present freedom of research (though not, of course, absolute) would become first restricted, and then, perhaps, extinguished.

To the Medical Research scheme itself the same objection would hardly apply; it might legitimately limit its activities to direct utilitarian problems without holding the utilitarian error.

But is there no means of compromise; of profiting by the advantages of amalgamation, whilst escaping from its dangers?

The unique position of the Institute gives it a perfect right, if it thought fit, to require that under any scheme of amalgamation it should reserve an autonomous department, absolutely irresponsible to the Medical Research Committee or Governmental control. There need be no difficulty in the Institute retaining a portion of its fine buildings adequate for such a purpose, and a proportionate amount of its funds, together with its present governing body and scientific staff.

By the scheme of the Governing body the present members of the staff would be allocated to different sections of the new Institution, and could carry out work only as approved by the Medical Research Committee. But there is no reason why the existing staff should not be placed, in addition, upon, and constitute the entire staff of an autonomous department, and why each member of it might not be free at any time to work on either side; either with the other staff at a utilitarian problem of public importance, or on the autonomous side upon a subject that might not come within the approval of the Medical Research Committee.

It is to be sincerely hoped that the Governing body of the Lister Institute will not allow the verdict against their proposal to be a final one, but that it will, before so great an opportunity passes, put an amended scheme before the Members that will ensure more general acceptance.—I am, etc.,

S. G. SHATTOCK,
Professor in Morbid Anatomy in the University of London.

November 20th.

OPERATIONS OF EXPEDIENCY ON RECRUITS.

SIR,—Mr. C. J. Bond is to be congratulated on having drawn attention to a very necessary piece of surgical work, and the Leicester Royal Infirmary on having undertaken it. A month ago the managers of the Western Infirmary of Glasgow intimated to the recruiting stations in Glasgow that they were prepared to admit as urgent cases recruits bringing a note from the examining medical officer to the effect that apart from the remediable affection for which operative treatment was sought they were eligible for enlistment. The necessary funds are provided independently of the infirmary's ordinary financial resources.

It is to be hoped that Mr. Bond's letter will have the effect of starting similar arrangements in all our general hospitals. Were such arrangements made and published, there can be little doubt that, as Mr. Bond says, considerable additions would be made to the army.—I am, etc.,

JAS. H. NICOLL,
Surgeon, Western Infirmary, Glasgow.

November 23rd.

THE TREATMENT OF WOUNDS IN THE PRESENT WAR.

SIR,—In view of the controversy that is now taking place as to the value of pure carbolic acid as an application to wounds, my own experience seems to be worth recording.

Some years ago I contracted septic poisoning of the thumb in the course of attending a case of tracheotomy. The poison gained an entrance under the nail, and resulted in a very painful spreading ulceration with constitutional symptoms. I consulted Sir Watson Cheyne, who within fifteeen minutes, under an anaesthetic, removed the nail, and applied pure carbolic acid freely to the entire raw surface. The wound healed rapidly, and the nail grew again with very little deformity.

This surely is an irrefutable proof of the value of pure carbolic acid. I trust that Sir Watson Cheyne's remarks on the treatment of wounds in war will have the fullest possible publicity.—I am, etc.,

C. M. ANDERSON, M.D.

London, S.W., Nov. 20th.

SIR,—After reading Sir Watson Cheyne's masterly address, and the discussion upon this subject at the Medical Society of London on November 16th as reported in the BRITISH MEDICAL JOURNAL of November 21st, there should be little need for further question of the urgent indication for prompt and thorough disinfection of all wounds in war, at the earliest moment after their infliction—but certainly within the first twenty-four to forty-eight hours.

If I may be permitted a short reference to the letters in your correspondence columns of November 21st—I am sorry Sir Victor Horsley construes a sincere compliment of mine into irrelevant banter. I regret that a surgeon of his standing, whilst strongly deprecating the use of such a valuable antiseptic as phenol, should extol such feeble antiseptic agents as alcohol and petrol. I would again ask, Has he tried these things upon himself, and what evidence has he to offer (1) against the proper use of pure carbolic acid, and (2) in favour of alcohol and petrol? Both as regards painfulness of application and efficiency as an antiseptic, there is not the slightest doubt carbolic acid is to be greatly *preferred*. The pain of a carbolic application is a matter of a few moments, and is quickly succeeded by an anaesthetic effect

which will be appreciated by the patient; on the other hand, the pain and smarting from the use of alcohol or petrol persists for a considerable time, and is *not* succeeded by any anaesthetic action. Sir Victor is proud of not being an "escharotic surgeon;" if he can show me a substance which will be equally efficacious as a germ destroyer as carbolic acid, and yet not produce even the slight superficial coagulation which phenol causes, I am willing to be converted. I do not absolutely pin my faith to carbolic acid, but having tried most of the well-known antiseptics, and even some of the less known, I have still to find its superior as a wound purifier. I would point out to Sir Victor that the coagulation on the surface of the wound which he regards as so "terrible" is, in my opinion, one of the virtues of pure phenol. It acts (1) as a protective layer preventing further ingress of germs from air, surrounding skin, clothes, etc.; (2) it has probably some effect in checking haemorrhage from capillaries and smaller vessels; (3) and, *most important*, it prevents absorption of phenol, which is a severe circulatory and nerve poison. It is probably safer to swab even a large wound with pure phenol than to wash it out freely with 1 in 20 carbolic acid; whilst to apply moist dressings soaked in 1 in 20 or even 1 in 40 carbolic over a large raw surface, and covered with a large mass of cotton-wool or other substance which interferes with evaporation, is, to my mind, a highly dangerous proceeding.

Major Galloway quotes a case of gangrene of the finger which followed upon "dipping it in pure carbolic acid and applying a strip of lint"—presumably the lint was applied whilst the finger was still wet with carbolic, and constituted a compress of pure phenol, which was kept on for an hour! I should expect gangrene to follow such a misuse of the drug, and certainly there is no comparison between this and merely swabbing a raw surface with a swab just moistened with the acid. Pure phenol should not be applied to the unbroken skin, and even fairly strong solutions of phenol should not be applied to skin or wound, and then covered with a thick or impermeable material which prevents its evaporation, otherwise a *true* escharotic action and toxic absorption will result. The second half of Major Galloway's letter is, however, a strong vindication of the use of pure phenol when properly applied, if can be used, to the cornea—about the most sensitive and vulnerable part of the human body—with impunity, and even with admitted healing virtue, it can certainly be used with confidence to other regions. The case quoted by Dr. Schofield is only like one of many I could mention where sepsis has been absolutely prevented by the use of pure carbolic acid when an undoubted contamination of a wound had already occurred. Only a short time ago a neighbouring dentist had the misfortune to run a septic instrument deeply into his hand. Picturing to himself the risks of blood poisoning, he immediately came to my surgery. I cleansed the skin thoroughly with liquid antiseptic soap, and, taking a fine probe, I dipped it into pure phenol and thoroughly applied this to the full depth of the puncture. A dry cyanide dressing was then applied. The wound healed evidently quite aseptically, and two or three days afterwards he was able to work as usual, and no disability of any kind has resulted. My experience of compound fractures has been most convincing. I have always used pure phenol and always obtained aseptic healing. In some, in which the bone has protruded and much dirt has got into the wound, thorough cleansing with carbolic has been followed by as satisfactory healing, as if the case had been one of simple fracture.

In conclusion, I doubt the propriety of calling pure phenol an "escharotic." At any rate, I have never seen a true "eschar" result from its use—that is, a scar which on healing causes cicatricial contraction. I have repeatedly used it to the interior of the uterus and occasionally to the trachea and rectum, and I have never seen the least stenosis or even functional impairment result. Even after its application to the cornea no opacity may follow. This is very different from the effect of a true escharotic—for example, a corrosive acid, like nitric acid or hydrochloric acid.—I am, etc.,

P. R. Cooper, M.D. and B.Sc.Lond.,
F.R.C.S.Eng.

Bowdon, Nov. 21st.

Sir,—In my opinion and probably in that of fair-minded men Sir Victor Horsley's reference to the late Mr. Christopher Heath in this week's Journal is not only cruel but in very bad taste.

I know of no other instance in which a dead man's reputation has been so ungenerously assailed by one who was both pupil and colleague. Sir Victor Horsley's education and years of association with men of culture should have taught him "*De mortuis nil nisi bonum.*" My experience of my old teacher and friend, the late Mr. Christopher Heath, is "*Nihil quod tetigit non ornavit.*"—I am, etc.,

Bletchley, Nov. 22nd. Peter Broome Giles.

Sir,—Sir Rickman J. Godlee repeats his assertion that Lister treated compound fracture cases with undiluted carbolic acid "without any evil result following."

I proved in your last issue, by quoting Lister's own words, that Sir R. J. Godlee's statement was a complete misrepresentation of the facts and of true Listerian antiseptic surgery. Though, fortunately, the younger generation of surgeons cannot be deceived by this perversion of Lister's science, there remains a public duty to be done, and that is, the immediate withdrawal by the authorities of Sir R. J. Godlee's misleading and erroneous leaflet marked 24, Gen. No. 3240.—I am, etc.,

London, W., November 24th Victor Horsley.

THE PREVENTION OF TETANUS.

Sir,—Is the prevalence of tetanus amongst our wounded due solely to infection of their wounds? Presuming that a considerable proportion of them receive hypodermic injections of morphine under conditions rendering the contamination of both skin and instrument far from improbable, is it not likely that the needle may be sometimes to blame?

In India, a couple of years ago, I understood from several sources that hypodermic and intramuscular injections of quinine—so often specially indicated—had been much restricted in some districts, in consequence of the large amount of tetanus resulting presumably therefrom.

I would suggest that a small bottle of the 1 in 12 carbolic spirit mentioned in my letter in your issue of November 14th should be carried, and that the skin at the spot selected for the puncture be thoroughly cleansed with this on a piece of lint or wool, and that while a fresh piece also saturated is held pressed on the place, the soiled one be ignited and used to sterilize the needle, which should be of some non-corrosible metal, like platinum or iridium.—I am, etc.,

Stuart Oliver,
Surgeon-Superintendent, Indian Emigration Service.

Bideford, Nov. 23rd.

AMATEUR WAR NURSES.

Sir,—Dr. Eddlestone asks how it is that trained women are unable to get work from the British Red Cross Society, whilst others who have had no technical education are allowed to play the part of trained nurses to our brave soldiers. I think that the suspicion on which the question was based is groundless.

The *personnel* committee of the Red Cross is working solely on the line that *nothing is too good for our sick and wounded soldiers and sailors*, and we make it our business to see that they get the best care and skill obtainable. In conjunction with us a committee of matrons is working at St. John's Gate for the selection of nurses, and I can assure Dr. Eddlestone that these ladies do not give a second glance at the application of any woman who has not undergone three years' training at a recognized hospital and duly obtained her Certificate of efficiency. In addition, a strict inquiry is made as to the personal character of the applicant.

As a matter of fact, no nurses are now engaged by the Red Cross Society, for since its fusion with the St. John Ambulance Association the latter body takes entire charge of the nursing department, whilst the surgeons, dressers and dispensers are engaged at the office of the Red Cross in Pall Mall.

Arrangements have lately been made for the employment of a certain number of women from the Voluntary Aid Detachments of the two Societies to help in the work of the ward, the kitchen, and the store room; and with the view of preventing these persons imagining for a

moment that they are nurses—or even *probationers*—they are to be called by the somewhat unattractive name of *women orderlies*.

I regret to say that at present it is not illegal for an untrained woman to put on an apron decorated with a red cross, and to call herself a nurse—and even a Red Cross nurse—and in one way or another to approach the beds of wounded soldiers. But whatever may have been done in the past, it is now as impossible for an untrained nurse to obtain work under the British Red Cross Society as it would be for an unqualified practitioner to get his name upon the *Medical Register*. Unfortunately, there are quacks in the nursing world as there are in our own profession, but this is only one amongst the many disadvantages of living in a free country!—I am, etc.,

British Red Cross, 83, Pall Mall, S.W., Nov. 23rd. EDMUND OWEN.

SIR,—It is a pity that Dr. Eddlestone, in his anxiety that our soldiers shall be skilfully nursed, has gone out of his way to disparage a body of women who are doing excellent voluntary work.

He asks why so-called "amateur nurses" "are allowed to play the part of trained nurses," while "many hundreds of trained women are waiting for work." He will find an answer in your leading article which states that "if the waiting list was very much larger than it is, the services of all will certainly be required."

It is absurd to suggest that the Red Cross nurses "are allowed to play the part of trained nurses," if by that is meant that they occupy as responsible a position in a Red Cross hospital as a trained nurse. It is well known that the matrons and ward sisters in these hospitals are highly trained, but even in the training schools there must be probationers. Surely it is not too much to expect that an intelligent Red Cross nurse can do the work of a probationer equally well. Your correspondent's description of these nurses is a mere parody. The Red Cross nurses at present doing hospital work have been attending lectures and demonstrations by medical men and trained nurses for three or four years. They have been examined and re-examined year after year, the "paltry examination" being such as a trained nurse could not pass without previous special study. In practically all cases they have had a month or more of hospital training, and for years previous to the war they have been annually inspected, and their work reported on to the War Office by an officer of the R.A.M.C. Yet your correspondent would imply that they are unfit to make a bed or take a temperature.

When they have been "parading about the streets in indoor uniform," they have probably been making their way to a drill in some building in the next street, oblivious of their critic's angry glances.

I know of a Red Cross hospital in full work where "these sentimental women, so misguided"—some of them members of county families—are doing all the cooking with the help of a solitary kitchen maid.

Such a spirit is above Dr. Eddlestone's criticism.—I am, etc.,

Gunnislake, Nov. 23rd. ALBERT BOWHAY, M.D.

PREVENTION OF SCARLATINA.

SIR,—In reference to the statements of your special correspondent in Ireland in this week's issue of the BRITISH MEDICAL JOURNAL that scarlatina has been epidemic in Belfast since 1909; that each winter has seen an exacerbation of the disease; that already this year 1,800 cases have been notified and 277 new cases have occurred within the last four weeks, it would be interesting to learn whether the practice of rubbing the patient all over at the earliest possible moment with carbolic or eucalyptus oil has been adopted.

This method for the prevention of the spread of the disease was referred to and strongly advocated by one of your correspondents in the JOURNAL some years ago, and statistics were given which showed that where this method was thoroughly practised the result was that the spread of the disease was effectually checked.

Since this method was first brought under my notice I have adopted it in all cases of scarlet fever, and where it has been found possible to have the patient's body, including the head and limbs, rubbed with the oil not later than the second day of the appearance of the rash, and continued once daily until desquamation has ceased, no further cases have occurred in the same house, although other children have had unrestricted access to the sick room.—I am, etc.,

Liverpool, Nov. 8th. R. GARNETT SHELDON.

A MEDICAL WAR INSURANCE FUND.

SIR,—With reference to the letter from Dr. Thomarson in the issue of the JOURNAL dated 14th inst., and his suggestion that the proposed fund should be run by the Medical Sickness and Accident Society, it may be of interest to members of the profession to know what the society has done for those going on active service.

By a resolution passed at a special meeting it was decided not to charge extra premiums to members of the society on active service insured for sickness and accident benefit, and to hold them covered against all risks; those abroad to come into benefit on return to this country and to be paid if wounded or otherwise disabled from following their profession; those remaining in this country to be held covered in the usual way as if they were pursuing their ordinary vocations. Those insured for life assurance are not charged any extra premium, and are held fully covered either at home or abroad.

By this means not only will members temporarily incapacitated receive sickness benefit but also those permanently incapacitated will receive sickness benefit up to age 65, which, combined with the pension granted by the War Office, would assist materially to maintain themselves and their dependants. The society is already paying a claim from one member invalided home from the front.

In the event of a special fund being formed, as suggested, the committee have agreed to permit the staff to undertake such clerical work as is possible, and the secretary has intimated his willingness to co-operate in this and to give any advice and assistance as may be required in the formation of such a scheme.—I am, etc.,

300, High Holborn, W.C., Nov. 23rd. FRANCIS J. ALLAN, Chairman, Medical Sickness and Accident Society.

Obituary.

JOHN HARTLEY, F.R.C.S.Eng.,

SURGEON TO THE DARLINGTON HOSPITAL.

THE death of Mr. John Hartley, F.R.C.S.Eng., at his residence in Darlington on October 3rd will be very deeply regretted by many old Middlesex men, by whom he was well known and much respected. He was the second son of the late Rev. Charles Hartley, Rector of Stocking Pelham, Herts, where he was born in 1857. He was educated at King's College, London, and afterwards became a student at the Middlesex Hospital, where, after qualifying, he held the appointments of house surgeon, house-physician, and resident obstetrical assistant. He then joined his brother, the late Mr. Charles Hartley, in practice at Dunmow, Essex. He returned to London and became clinical assistant at the Royal Westminster Ophthalmic Hospital; he was afterwards appointed senior demonstrator of anatomy at the Middlesex Hospital, which post he held for five years. On his resignation the staff and pupils presented him with an illuminated address, accompanied by a clock and a cheque, as tokens of the high esteem in which he was held by them. He was a born teacher, and always loved to help where help was desired. By his own keenness he stimulated his pupils to get a thorough grip of their work, and not to pass over anything until they had mastered every detail.

He took the diploma of F.R.C.S.Eng. in 1892, and four years later succeeded Dr. E. W. Forster in practice at Darlington. About two years later he was appointed surgeon to the Darlington Hospital, which post he held till his death. For many years he spent about two hours each morning at the hospital going carefully into the details of every patient's illness. He was most patient and thorough in his examination, and having once made his diagnosis there was very little for any one else to add, and he seldom had to change his view. He always welcomed

the help of his colleagues, and was ever ready also to help them with advice or assistance in operations. He himself was a very careful operator; his knowledge of anatomy made the knife very safe in his hands. The care he had taken of his patient both before and after operation, combined with his complete system of asepsis, gave him excellent results. Having laid such a good foundation by his work in the hospital, his opinion was much valued by a large circle of practitioners both in the town and surrounding district.

The last years of his life were very busy in consultation and in surgical work. He usually went to London during his holiday, and devoted most of his time to finding out new methods and new operations, in the perfecting of which he spent himself freely and unsparingly. His enthusiasm for his work was such that he inspired his colleagues with his higher aims and carried them along with him. He was generous both to those who needed pecuniary assistance and to those of his professional brethren whom he assisted with his advice.

His geniality and straightforwardness endeared him to a large circle, and his funeral was attended by a very large concourse of mourners, including the mayor, many members of the corporation, and a large number of his professional brethren. In accordance with his own request the body was cremated at the Darlington Crematorium on October 7th. He leaves a widow to mourn his loss, but no family.

DR. ISIDORE BERNARD LE GENTIL, L.R.C.P., L.R.C.S.Edin., a native of the Mauritius, who took his diplomas in 1886 and immediately settled in practice in Edinburgh, died on November 10th. In the poorer districts of the city, where he chiefly laboured, he was very popular; and, in addition to his private practice, he had more than 2,000 panel patients. He leaves a widow and children.

Universities and Colleges.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examination indicated:

THIRD M.B., B.S.—*R. A. Rowlands, *D. H. D. Wooderson, F. H. Bray, Henrietta F. Davies, A. R. C. Doorly, J. B. Dunning, Una Griffin, F. J. Hallinan, Mary E. Harding, D. T. Harris, Jessie E. Hart, C. H. Heppenstall, R. M. Kharegat, W. M. Lansdale, L. Levene, A. C. McAllister, Helen M. M. Mackay, Ethel M. Magill, W. J. Morris, Margaret R. Paterson, Edna M. Powell, J. B. Rawlins, R. H. Simpson, Grace Stapleton, E. H. Walker, T. B. Welch.

* Passed with honours.

UNIVERSITY OF EDINBURGH.

Medical Bursaries and Scholarships.

THE scholarships and bursaries in the Faculty of Medicine of Edinburgh University have been awarded as follows: *Crichton Research Scholarship in Anatomy:* Stuart Bolton, M.B., Ch.B. *Vans Dunlop Scholarship in Anatomy:* Robert Walker. *Vans Dunlop Scholarship in Physiology:* Robert Mailer. *Houldsworth Scholarship in Pharmacology:* Benjamin J. Ryrie. *Grierson Bursary in Anatomy and Physiology:* Andrew O. Ross. *Grierson Bursary in Pathology:* Andrew J. Caird, M.A. *Crichton Bursary in Preliminary Subjects:* James M'Nabb, M.A., B.Sc. *Mackie Bursaries:* William B. Ross and Robert MacGarrol.

ANNUAL MEETING OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual meeting of the Fellows and Members of the Royal College of Surgeons was held at the College on November 19th, the President, Sir Wm. Watson Cheyne, in the chair.

Report of the Council.

The President placed before the meeting the Report of the Council for the year 1913-14, summarized in the SUPPLEMENT of the JOURNAL for November 14th, p. 256.

Representation of Members.

Sir Victor Horsley moved:

That this thirtieth annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation on the council of the College, which, as now constituted, only represents those members who also hold the Fellowship; and that it does so in order that the constitution of the council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation.

Sir Victor Horsley said that the Members were treated with the grossest contempt by the Council of the College and this was shown once more by the fact that only six members of the Council had thought it courteous to meet their colleagues on the present occasion. He could not understand how the Council, year after year, could continue to adopt this attitude of contempt towards the Members. The annual report was not an inspiriting document, but it contained matters which might have been put more strongly; there were also some notable omissions. At this time last year the failure of the Council to obtain any amelioration of the conditions of service of medical officers of health was reported, and now it was said that action had been taken on their behalf. That action was really childish, especially in view of the fact that the British Medical Association had been working on this subject for a long time, and years ago—in 1909—had obtained from the Government security of tenure for the county medical officers of health, while the Council of the Royal College of Surgeons was doing absolutely nothing. It was ridiculous to come forward now and talk of what the Council was doing for the medical officers of health, especially when it had deliberately declined to do what it might have done—namely, to go by way of deputation to the Government. He could not understand why the Council so constantly declared its impotence before the world. The Council did not represent the college, and would never do so until the present resolution was carried into effect. He protested against the Council sending so-called representatives to Government Departments to speak as though they represented the surgeons of England. The Council sent three distinguished members to give evidence before the Venereal Diseases Commission, but they were not instructed in any representative sense. Yet one of them informed the Commission that he personally was against any measure which would really secure public action—that is, by medical officers of health. It was simply the witness's private opinion that nothing could be done, but he posed before the Commission as though he represented the Members of the College.

Mr. George Jones, M.R.C.S., and a barrister, seconded the resolution, and began by expressing the pleasure of the Members at the election of Sir Watson Cheyne to the presidency. The Members of the College had before them the political task of regaining the franchise they had lost. To put themselves in the position of their predecessors three centuries ago they must educate, agitate, and organize, always remembering that "Eternal vigilance is the price of liberty." The principle of representation familiar in the smallest parish councils ought to apply to the great College which had such important and valuable functions. The Council of the College represented 1,500 Fellows and no one else; the 17,000 Members had no representation whatever. There were provincial universities and bodies granting a degree in surgery, and the present policy of the Council might result in loss of strength, which would pass to those bodies. The only reason reform was not granted was that the Council had not yet seriously felt the strain of competition.

Dr. W. J. Midelton (Bournemouth) urged that Members of the College ought to have a vote: the present position was bad for Fellows, Members, and the public.

Dr. S. C. Lawrence (Honorary Secretary of the Society of Members), Dr. Brindley James (the President), and other members also spoke.

The President of the College was about to put the resolution when Sir Victor Horsley appealed to him to address the meeting. Sir Watson Cheyne replied that he did not propose to speak, but he would certainly report the matter to the Council.

Sir Victor Horsley claimed the right of reply, and said the Members did not expect the President to commit himself definitely on this occasion, but they did expect that next year the meeting would be treated with the courtesy due to colleagues.

The motion was then put, and declared carried, 41 voting in favour and none against.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THE annual meeting of the Royal Faculty of Physicians and Surgeons of Glasgow was held on November 2nd. Dr. John Barlow was President; Dr. Ebenezer Duncan, Visitor; the Treasurer is Dr. W. G. Dun; and Dr. Alexander Napier, Honorary Librarian. These and the following compose the Council: Mr. D. N. Knox (representative to the General Medical Council), Mr. Donald Duff, Mr. J. Walker Downie, Dr. David Newman, Dr. James A. Adams, Dr. A. Freeland Fergus, Dr Robert Jardine.

The Faculty agreed to give 100 guineas to the Prince of Wales's National Relief Fund and 25 guineas to the Belgian Relief Fund.

The losses by death during the year were noted: Mr. John M. Cuthbertson, who became a Fellow in 1878; Mr. John Pringle, who joined the Faculty in 1877; Dr. William Haldane, of Bridge of Allan, whose membership of the Faculty dates from 1875; and Dr. William Fenwick, of Rome, elected Fellow in 1872.

Dental Examination.

In view of the war, and in response to a requisition presented to them by candidates, some of whom are anxious to serve in His Majesty's Forces, the Royal Faculty of Physicians and Surgeons of Glasgow has agreed to hold a special dental examination. The examination will begin on Tuesday, January 12th, and will be limited to candidates who are qualified to sit for the final examination.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—‡W. Brown, ‡C. H. Fischel, *‡G. F. Malden, *‡H. R. Partridge, *‡T. J. R. Scholtz, T. R. Scott.

MEDICINE.—‡J. C. P. Bayley, *‡H. A. Cottin, *‡C. E. Clark, *‡H. Morrison, *‡H. R. Partridge, *‡C. H. Philips, *F. Simpson.

FORENSIC MEDICINE.—R. H. Chadwick, H. A. Cottin, C. S. Dobson, C. J. G. Exley, J. D. Ferguson, H. R. Partridge.

MIDWIFERY.—C. E. Clark, R. Curle, H. R. Partridge, C. H. Philips.

* Section I. ‡ Section II.

The diploma of the Society has been granted to Messrs. J. C. P. Bayley, W. Brown, C. H. Fischel, G. F. Malden, and H. R. Partridge.

The Services.

ROYAL NAVY MEDICAL SERVICE.

Report on the Examination of Candidates for Entry as Acting Surgeons, R.N.

OWING to the outbreak of war, the course for Acting Surgeons has been curtailed, the greater part of the Haslar course being eliminated, though the Greenwich course was completed.

As a consequence the places of these gentlemen on the list of Surgeons, R.N., have had to be assigned on the results of the entrance examination, with the addition of the marks gained at the examination at the end of the Greenwich course.

The marks obtained and the order of seniority are as follows:

	Marks.
H. B. Parker, M.B.	2,488
J. L. Priston	2,427
R. F. Quinton	2,365
M. J. Aitken, M.B.	2,336
J. A. Maxwell, M.B., B.A.	2,267
M. S. Moore, M.D., B.A.	2,193
*W. G. Thwaytes, M.B.	—
C. E. Greeson, M.D.	2,132
W. F. Beattie, M.B.	2,113
H. W. Fitzroy-Williams, M.B.	2,074
F. E. Fitzmaurice	2,005
T. J. O'Riordan, M.B.	1,981
J. C. Kelly, M.D., B.A.	1,970
J. M. Horan	1,886
G. M. Graham, M.B.	1,811
F. C. Hunot	1,805

* Surgeon Thwaytes, through being seconded to the Royal Infirmary, Edinburgh, did not take the Greenwich course, and therefore has been allowed to take his original place in the London entrance examination—namely, seventh.

The Admiralty prizes were awarded as follows:—Gold Medal: Surgeon H. B. Parker, formerly of London Hospital. Silver Medal and Greenwich Group Prize (pocket instrument case): Surgeon J. L. Priston, formerly of London Hospital.

AT a meeting of the Child Study Society at the Royal Sanitary Institute, Buckingham Palace Road, on November 19th, Mr. T. Percy Nunn gave a lecture on the development of the practical imagination in children. Imagination, he said, must not be confused with imagery, although imagery was one of the means by which imagination worked. Imagery, however, was not necessary to imagination; it was merely the visualizing of past scenes, and was consequently more nearly akin to memory than to imagination. Now memory might be defined as the recurrence of past experiences; but these were never reproduced exactly as they occurred, but in a more or less modified form, and this, properly speaking, constituted imagination. Imagination, therefore, was a constructive power of mind, which was capable of reproducing past experiences at will, which could select the essentials out of a mass of irrelevant detail, and weave them all into one harmonious whole. Such subjects as history, geography, and literature tended to cultivate the imagination of children; but the main object of education should be to make them familiar with the chief branches of human endeavour and progress, and for this reason handwork was a most important asset in the cultivation of practical imagination in the child. The cultivation of this faculty consisted in putting the child into touch with material things, and so giving him an opportunity to do with the material what the poet did with the spiritual. Imagination belonged to all, and its cultivation was only a question of putting people into touch with the proper medium in order that their minds might work in the natural way.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

UNION wishes to correspond with a British surgeon who has experience of transplantation of the ureters.

J. R. D. would be glad to know where a borderland female case can be taken in to a home. The relatives are now in reduced circumstances, and can afford to pay about one guinea a week, or not more than 30s. at most.

ANSWERS.

"BLUE STALKS" MUSHROOMS.

T. G. writes in answer to "R. S.": The mushroom called "blue stalks" or "blewitts" (scientifically *Tricholoma personatum*) is quite wholesome, and is a fair substitute for the ordinary mushroom, though the flavour is not quite so good, and it has a certain sliminess which to some people is not pleasant. It may be cooked in the same manner as the ordinary mushroom, and, like it, is best eaten fresh, although growing as it does in the cooler weather of late autumn it will keep better than the summer-growing species. Blue stalks are regularly sold in the Derby market.

LETTERS, NOTES, ETC.

AN APPEAL TO MEDICAL MEN TO COLLECT DIGITALIS LEAVES.

DR. J. GORDON SHARP (Leeds) writes: For some time I have been collecting foxglove leaves with the intention of presenting them to a local charity, in order to obviate any chance of a shortage in the future. It is not yet too late to collect, and I ask medical men throughout the country to begin at once and do as I do. The leaves should be gathered on a dry day and then placed on the top of a cupboard in the kitchen, spread out on a newspaper, and turned every day. Those who are not really acquainted with the characteristics of the foxglove should submit their batches (before drying) to the inspection of some one—for example, a local pharmacist. First-year leaves and second-year leaves are equally toxic, and leaves gathered so late as the end of November have been found to be as potent in action as those gathered in August. Personally, I do not think there will be any shortage, for the Indian Government now grows *Digitalis purpurea* very largely on the Government cinchona plantations, Nilgiris, and in 1913 Mr. D. Hooper, quinologist to the Indian Government, sent me a large bundle of leaves, from which I had a tincture made, and it proved, both physiologically and therapeutically, to be up to the standard of a tincture made from the best British grown leaves. With reference to your article on the cultivation of medicinal plants in England, it may be interesting to mention that, although I live almost in the centre of a half million town, I am able to grow in my garden almost every plant which will grow in a temperate climate.

THE MEXICAN BLANKET.

DR. R. J. RYLE (Brighton) has called our attention to the directions given by Major T. Y. Osmond, 6, Chesham Street, Brighton, in a flyleaf with diagrams for making a "Mexican blanket" for use as an improvised great coat or as an auxiliary to be worn over or under the great coat without impairing its value as an item of bedding. The blanket is folded diagonally and an oval 12 in. by 4 in. marked out in the centre of the diagonal line. Two circles, 6 in. in diameter are made on the diagonal line about 10 in. from the extremities of the oval, the marks are sewn round with strong thread or twine, though it is better to back them with canvas or tape. Openings are then cut along the diagonal line just sufficient to squeeze the head and arms through. None of the fabric should be removed as the portions between the stitches and the opening form up comfortably to the throat and neck.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Seven lines and under	0 5 0
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A page	10 0 0

An average line contains six words.

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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Clinical Lecture

ON THE

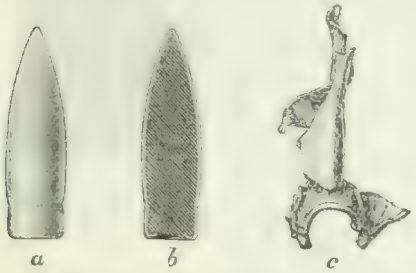
VALUE OF RADIOGRAPHY IN THE DIAGNOSIS OF BULLET WOUNDS.

DELIVERED AT THE MIDDLESEX HOSPITAL,

BY

SIR JOHN BLAND-SUTTON, F.R.C.S., LL.D.,
MAJOR R.A.M.C.(T.F.),
SURGEON TO THE HOSPITAL.

THE most mischievous instrument that can be used for the investigation of a bullet track is a probe. Mischievous, because the aperture of entrance—and of exit if the bullet has passed out of the body—soon becomes septic, and the probe conveys pathogenic micro-organisms into the deeper parts of the track. A bullet often carries sepsis-provoking germs into the depths of a wound, but a probe is sure to convey infection.



a *b* *c*

Fig. 1.—(*a*) A Spitzgeschoss (natural size); it weighs 154 grains. (*b*) A Spitzgeschoss in section, showing the lead core and the nickel covering. (*c*) The nickel covering stripped from the bullet and twisted by impact against a hard body, such as a stone. This was removed from a soldier's hand.

Until the beginning of the present war very little was known of the injuries inflicted by the sharp-pointed bullet known as the "S" bullet, or Spitzgeschoss, used by the Germans. It is sharp-pointed, and has a much higher initial velocity than bullets of an older pattern. The Spitzgeschoss has a solid core of lead enclosed in a nickel case deficient at the base (Fig. 1). It is necessary to understand the structure of this bullet in order to appreciate some of the injuries it inflicts.

The utility of radiography in detecting metallic substances embedded in the body and in the diagnosis of broken bones is beyond all question. At the 3rd London General Hospital we have been fortunate in having such a skilful and indefatigable officer as Dr. F. H. Humphris to help us. In my wards the use of a probe for investigating bullet wounds is interdicted. A careful inspection of the injured region is made with the eyes, and if there is only an aperture of entrance a gentle digital examination of the skin on the opposite side of the body, limb, head, or neck is made. In many instances the missile can be felt under the skin. Bullet wounds of the chest should always be examined in this way. When a bullet pierces both walls of the chest it may lie near the skin. If a bullet enters the chest and there is no aperture of exit, the surgeon should carefully palpate the opposite wall of the chest; if he comes upon a patch of emphysematous crackling it will be an assurance that both walls of the chest have been perforated, and it will enable the bullet to be localized and extracted. Some bullet wounds are curious in the way they traverse regions of the body where big vessels and nerves are crowded together and yet the important structures often escape injury. In the routine description of bullet wounds it is customary to state that a single bullet may make four wounds; for example, a bullet sometimes passes through both legs; in this way there are two apertures of entrance and two of exit. A hussar under my care had five wounds from one bullet. It passed through both buttocks, leaving four holes, and in passing across the interspace between the two buttocks it chipped a piece of skin off the posterior aspect of the scrotum. The soldier recovered. When a bullet lodges in soft tissue a small quantity of clear serous fluid accumulates around it. This is often a guide to the surgeon when he hunts for a bullet, either rifle or shrapnel; the sudden escape of some clear fluid into the wound indicates its lair.

A troublesome and often painful wound is caused by the nickel covering of a bullet. When an "S" bullet hits a hard object, such as a stone, and glances off, it is "deformed," the nickel covering strips, and becomes twisted into fantastic shapes (Fig. 1, *c*). When such contorted pieces of nickel penetrate the body they produce unpleasant wounds. The extensive wounds caused by such deformed bullets are responsible for some of the injuries erroneously attributed to expanding bullets. I have seen examples in the hand, groin, and foot. Occasionally the leaden core of a glancing bullet will break up into minute fragments; pellets of this kind have destroyed many eyes. The case of a shrapnel shell is sometimes reduced by explosion almost to the fineness of sand. Small, irregular fragments of such metallic sand driven with violence are fearfully destructive to eyes. Bullets often convey more tangible things into wounds than micro-organisms. If a bullet strikes a man's pocket it will carry in fragments of the things contained therein—such as matches, a button, fragments of a pipe, or a piece of a tobacco pouch, beside pieces of cloth, leather, coins, etc.



Fig. 2.—A bullet lodged under the head of the fourth metatarsal bone, which it had broken. The only evidence of injury was a red patch on the heel.

In order to convince you that every bullet wound should be submitted to radiology, the following facts will serve: A soldier in the battle of the Aisne was wounded in the heel. When he came under my care, fourteen days later, the foot was swollen and painful, but the man could stand on it. The only evidence of injury in the foot was a red raised patch at the heel. It was suggested that this soldier should be allowed to go home. I thought he had a bullet in the foot, and refused to discharge him until he had been submitted to an *x*-ray examination. A bullet lay in contact with the head of the fourth metatarsal bone (Fig. 2); the impact had broken the neck of the bone. The bullet was extracted through an incision in the sole.

The interpretation of radiographs is a matter of great interest. We must not forget that they are shadows, and,

like shadows, often misleading. For example, a soldier had an aperture of entrance over the internal condyle of the left femur. An *x*-ray examination revealed a bullet lying in relation with the condyle (Fig. 3); it required several plates to determine accurately whether the bullet was lying in front of or at the back of the bone. It was also conjectured that the bullet had turned a somersault before entering the limb. When the parts were exposed in the course of an operation the bullet was found firmly embedded in the condyle near the adductor tubercle, with the point looking towards the aperture of entrance. The bullet had turned a somersault in its flight before it struck the limb and entered the leg reversed, that is, base foremost. Fortunately the damage it inflicted was trifling, and the recovery quick as well as uneventful.



Fig. 3.—A bullet lodged in the femur near the adductor tubercle. The bullet turned a somersault in its flight and entered the thigh base first. From the radiographs it could not be decided whether the bullet lay in contact with the femur or was embedded in it.

The evidence afforded by a skiagram of the natures of the foreign body is invaluable.

A soldier was admitted with a painful wound of the big toe caused by the bursting of a shrapnel shell. A skiagram showed an irregular-shaped piece of metal embedded in the head of the metatarsal bone of the big toe (Fig. 4). The man suffered intense pain until the fragment of metal was extracted.

The same batch of wounded included a soldier who had been injured in the fighting on the Aisne by the bursting of a shell. He had an elliptical hole in the middle of the calf over the most prominent part of the fibula. The wound had become septic and small pieces of bone protruded from it. The skiagram (Fig. 5) showed that the middle of the fibula had been reduced to small fragments and a piece of metal, 5 cm. square, could be easily seen 2 in. above the ankle-joint. The wound after being daily irrigated with hydrogen peroxide solution cleared up, and with the help of an anaesthetic I enlarged the wound and removed the fragments of the bone, but failed to find the piece of shell. The search was not unduly pressed for fear of widely infecting the tissues of the leg. The soldier appeared to be making a good recovery, but twenty-one days later I noticed some oedema above the external malleolus; the skin was incised, some pus escaped, and from a loculus, near the malleolus, I removed a big fragment of copper. An ordnance officer, who examined it, expressed the opinion that it was a piece of the driving band of one of the shells ejected by the huge gun named by our soldiers "Black Maria."



Fig. 5.—A fragment of the huge shell emitted by a "Black Maria." It has reduced to fragments the middle portion of the fibula. The pieces of bone and the square of copper were removed. The soldier recovered, but his foot was in the condition of talipes equinus.

In cases where there is clear evidence that a bullet has traversed the whole thickness of the limb and left a clean punctured hole of entrance and of exit, a good radiograph gives us a picture of its track in relation to bone. The effects of bullets on bones vary enormously, and at present I am unable to satisfy myself on what these variations depend. For example, an officer was wounded in the thigh at Ypres; a round aperture of entrance was present on the front of the thigh 7 cm. above the patella. On careful palpation of the skin at the back of the popliteal space I could make out a tender spot. I suspected that the femur had been perforated by a bullet, and that the missile was probably lying under the skin on the opposite side of the limb. A skiagram of the limb proved the accuracy of this forecast. (Fig. 6.) A canal had been made by a shrapnel bullet completely through the shaft of the femur, and the bullet lay immediately beneath the skin. It was extracted a few days later.



Fig. 4.—An irregular fragment of shell embedded in the head of the metatarsal bone of the big toe.

The next bed was occupied by an officer who had received a bullet wound in the left shoulder. A round hole in the skin, immediately over the head of the bone, indicated the point at which the bullet entered, and a widely gaping elliptical opening, at a corresponding spot on the back of the shoulder, marked its exit. On admission, both wounds were septic, and a fragment of bone blocked the posterior opening. The whole limb was enormously swollen. A radiograph showed that the upper half of the humerus had been broken into a number of small fragments, and the lower half was split longitudinally. A week later I enlarged the openings made by the bullet, extracted more than thirty fragments of bone, and stuffed the cavity with lint soaked in iodine. The nerve trunks are uninjured and there is good reason to hope that this officer will obtain good, though restricted, use of the limb. Such an example of great comminution of bone is caused by a bullet that becomes "deformed" on striking a hard bone, then the leaden core breaks up and acts like a charge of shot.

A consideration of these two cases raises an important question—important because opposite opinions are expressed by surgeons in regard to the removal of missiles and fragments of bone. Some impacted missiles cause pain; others cause no pain. The soldier prefers to have the offending bullet in his pocket than in his body. This may be a matter of self-conceit. A wound or a scar must often be taken on trust; the exhibition of a bullet is something more than circumstantial evidence. The desire on the part of the patient to see the bullet sometimes leads the surgeon to take great pains to extract a bullet. I think it is good practice, in the majority of cases, to remove foreign bodies, but in this, as in surgery generally, no hard and fast rules can be laid down, experience and judgement should guide our actions. A foreign body in a wound often keeps up a discharge and maintains a fistula. The spontaneous escape of the foreign body, or its removal, is followed by rapid healing. This is equally true of a

compound comminuted fracture; free incisions and removal of minute fragments of bone are attended with relief of pain and promote healing.

In dealing with wounds caused by projectiles there are some facts that quickly impress themselves on the mind. The size of the skin wound that admits the missile is no indication of the amount of damage sustained by the tissues, hard and soft, in its track. No attempt should be made to ascertain the amount of damage by manipulation, by insertion of a finger into the wound, nor by a probe. An *x*-ray examination saves infection, pain, and much misery.

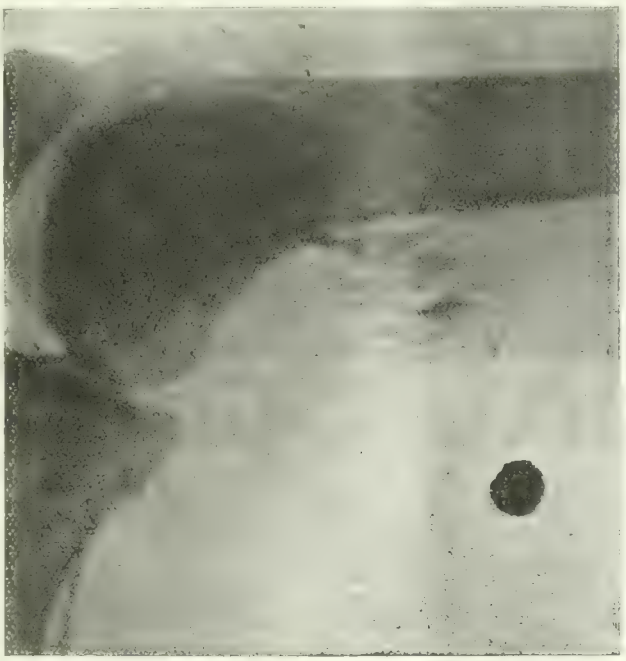


Fig. 6.—The femur of an officer wounded at Ypres. A shrapnel bullet had entered the thigh, traversed the femur, and lay under the skin in the popliteal space.

A bullet moving with a high velocity will traverse a limb and perforate a large bone like the femur and cause very little disturbance; or it may catch a nerve, an artery or a vein and produce instantly unmistakable signs. A man under my care received a bullet wound just below the angle of the left orbit, it emerged between the right styloid and mastoid processes, causing palsy of the right facial nerve. He soon became convalescent, but the facial paralysis persists. The small amount of injury that puts a soldier out of action has also impressed me. A bullet hits a man on the tip of the finger, carries off the nail, and splits the terminal phalanx. We have had many injuries of this kind; they quickly become septic, and the soldier is invalided with a whitlow for several weeks. In these apparently trivial cases an *x*-ray examination is exceedingly useful.

Incidentally references have been made in the notes of the cases in this lecture to the modes of treating septic wounds so frequent in the soldiers wounded in this war. It is of course impossible to treat such wounds aseptically. The employment of antiseptic solutions is urgent, and it is remarkable how quickly the wounds clear up under solutions of carbolic acid, boracic fomentations, and especially hydrogen peroxide. Tincture of iodine has proved very useful, and especially a combination of carbolic acid solution (1 in 60) and tincture of iodine a drachm to the pint. The wise surgeon does not put his whole trust in any routine measure whether it be styled antisepsis or asepsis. He adapts his methods to the necessity of the case. It has been suggested that the value of antiseptic methods is underrated by some surgeons and runs the risk of being forgotten, and, decades hence, some enterprising surgeon will rediscover it. The idea is unthinkable. Antisepsis cannot be rediscovered for it cannot be forgotten.

THE THRESHOLD OF DISEASE.

An Address delivered to the Medical Section of the Royal Academy of Medicine in Ireland on November 20th, 1914.

BY

JAMES ALEXANDER LINDSAY, M.D., F.R.C.P.,

PROFESSOR OF MEDICINE IN THE QUEEN'S UNIVERSITY OF BELFAST, PRESIDENT OF THE SECTION.

Medical science seems likely to advance in three directions—namely, first in gaining better knowledge of the causation of disease; secondly, in the acquisition of facilities for more prompt diagnosis; and, thirdly, in the discovery of improved methods of treatment. It is to the second of these topics that I propose to direct your attention to-night.

Early diagnosis of disease is, we are all agreed, a matter of vital moment. It is important mainly for two reasons—first, because the neglect or misinterpretation of early symptoms often turns a slight case into a serious one; and, secondly, because the efficacy of treatment is in many cases proportionate to the promptitude with which it is applied. Amongst the "calamities of medicine"—to use Paget's phrase—failures to make and act upon an early diagnosis take a prominent place. Time lost in the field of disease is seldom regained, and the loss is both one of safety to the patient and of credit to the physician.

Let us first glance at a few of the simplest and most obvious cases before we penetrate to the heart of our subject. Chronic dyspepsia is the blight of innumerable lives, but its first beginnings are simple enough and tractable enough. The dyspeptic, unlike the poet, *fit non nascitur*. He does not often owe much to heredity. Either he has incurred dietetic error, or he has prematurely used up his original stock of nerve force. He may have eaten and drunken not wisely but too well, or, on the other hand, insufficiently; or neglected those important aids to health which the dental art supplies; or his nervous energies may have been dissipated too soon by work, worry, or pleasure. Whatever be the cause, his digestive efficiency does not fail suddenly. The machine creaks often before it refuses to move. But the admonitions are commonly neglected. A timely warning to such persons to regulate their diet, take care of their teeth, and conserve betimes their nervous energy would save them much suffering, and, incidentally, deprive the world of a good deal of the literature of pessimism. Gout, unlike dyspepsia, owes much to heredity. It often gives warning betimes of the coming disasters to joints, kidneys, and circulation—warnings too generally ignored until the hour of nocturnal torture strikes. The late Lord Dufferin once said that his ancestors had drunk so much wine that he was obliged to drink water. Not all the scions of a gouty ancestry show a like power of self-control. An early diagnosis of a gouty tendency and of incipient gouty manifestations, and suitable action thereon, will not always banish the enemy, but they may do something to keep him at bay. The chronic bronchitic has many warnings before his malady takes final hold. The victim of chronic rheumatism commonly makes light of his malady in the stages when treatment would be most efficacious. There are obvious cases which suggest their own moral. I pass on to consider some more difficult problems.

I wish to deal with a few cases where the failure to make an early diagnosis is due, not to the carelessness of either patient or doctor, but to the inherent difficulties of the case. I have selected four examples where an early diagnosis raises problems, always difficult, sometimes insoluble, and I have purposely selected them from widely different departments of medicine. The cases are as follows:

(*a*) Endocarditis.
(*b*) Cancer of the stomach.
(*c*) Disseminated sclerosis.
(*d*) Pulmonary tuberculosis.

I believe we may study with profit the problem of early diagnosis in these four diverse fields.

(*a*) ENDOCARDITIS.

When a patient is suffering from acute or subacute rheumatism we may consider the question of cardiac involvement from three points of view. We may ask, What are the probabilities of the case, based upon statistics? or we may take account of signs and symptoms; or we may seek aid from such instrumental methods of investigation as the polygraph and the electro-cardiograph. As regards the first point, while I cannot go the whole length with Dr. Norman Moore in affirming that the involvement of the heart is an integral element in every case of acute or subacute rheumatism, I regard such involvement as extremely common in the adult and almost the rule in the child. We are justified in strongly suspecting the heart in every case of acute or subacute rheumatism, and such suspicion is specially strong in the case of the child or young adolescent. On the signs and symptoms of early cardiac involvement I need not dilate. They are familiar to you all, but I should like to press the point that even slight physical signs, a little muffling of the first sound at the apex, a trifling increase in the area of superficial cardiac dulness, a slight degree of arrhythmia, are commonly very significant. How far the polygraph and the electro-cardiograph will help us in the detection of early valvular or myocardial changes it is, perhaps, premature to say. Neither of these instruments helps to recognize mitral regurgitation, which is by far the commonest lesion in such cases. But in a certain undetermined proportion of cases of early rheumatic endocarditis there are changes in the myocardium, sometimes involving impaired conductivity of the wave of contraction, and such impaired conductivity will show itself either in the polygraphic tracing or in the electro-cardiogram.

The importance of early diagnosis in endocarditis would be difficult to exaggerate. Dr. Caton has done good service in insisting upon the necessity for prolonged rest in such cases, and the good results which may be expected from it. Careless treatment of these patients, a too optimistic attitude, a premature return to work, spell disaster in the future. Timely watchfulness will be well repaid.

(*b*) CANCER OF THE STOMACH.

The early diagnosis of this lesion is beset with the most formidable difficulties. The onset may be marked by symptoms of irritable dyspepsia and pain in the epigastrium, or by loss of weight, anaemia, and debility, or by a vague failure of the general health. I have not found the history of a previous gastric ulcer of much help in diagnosis. Marked and somewhat abrupt loss of appetite, especially for flesh meat, is a frequent and significant symptom, on which considerable reliance may be placed, if the anorexia is not otherwise explained. Loss of weight, even at an early stage, is usually pronounced, and is progressive from week to week and month to month. The examination of the gastric contents may assist. Some differences of opinion exist regarding the value of the HCl content. My experience of this test is that it possesses a real, but limited, value. In the great majority of cases of gastric cancer I have found an absence of free HCl, but it is also absent in many other conditions, such as pernicious anaemia, cirrhosis of the stomach, and in some cases of dilatation of the stomach and of chronic dyspepsia. The absence of the free acid must therefore be interpreted with caution in a doubtful case. On the other hand, no case has come under my observation where a normal acid content has coexisted with gastric cancer, though such cases have been reported by various observers. They are probably rare, and we shall hardly err in regarding the presence of free HCl as valuable evidence against the existence of gastric cancer. The bacteriology of these cases, and especially the weight to be attached to the presence of the Oppler-Boas bacillus, are still matters of controversy. Vomiting may be an early symptom, but more usually develops after some progress of the disease has occurred. Haematemesis is rarely, in my experience, an early symptom. Some epigastric tenderness may develop early, but a definite tumour belongs to the fully developed stage of the disease. I might suggest the following rule of practice: "If a patient, especially of the male sex, who is over 50 years of age, and who has previously enjoyed a normal digestion, somewhat abruptly develops a marked distaste for food, especially for flesh meats, suffers from discomfort after meals, and perhaps occasionally vomits, begins to lose weight rather decidedly, and exhibits some degree of anaemia and debility—then, in the absence of some other obvious explanation, such as alcoholism, cirrhosis of the liver, or renal disease, the suspicion of incipient gastric cancer is strong." An examination of the blood should not be omitted, although the evidence thus obtained must be interpreted with caution. Broadly speaking, the patient suffering from incipient gastric cancer develops a decided and progressive secondary anaemia. The subject of chronic gastritis or chronic dyspepsia has no constant or significant blood changes.

The question of the handling of these cases of incipient gastric carcinoma, where the diagnosis can be made with reasonable probability in the absence of tumour or other gross signs, involves a very difficult problem both for the physician and the surgeon. To procrastinate until the proof of disease is complete is a feeble policy involving a disastrous loss of time. Exploration, which is unattended by serious risk, seems justifiable, but physicians will be governed largely, in their recommendation of such procedure, by surgical experience regarding the results of the operative treatment of gastric cancer. The following figures are reported by Osler from the clinic of the brothers Mayo: In 39 cases whose condition was known who had been operated upon over five years before, 7 were alive; of 64, condition known, over four years, 13 alive; of 88, condition known, over three years, 18 alive and well.

Whether better results are likely to follow the adoption in certain cases of Schlatter's radical operation of the removal of the entire stomach the future will decide.

(*c*) DISSEMINATED SCLEROSIS.

The morbid anatomy of this affection, consisting as it does of small patches of sclerosis scattered irregularly through the brain, brain-axis, spinal cord, and sometimes the cranial nerves, prepares us for great variations in the symptoms and modes of onset of the disease. Few, if any, diseases present so varied a picture, and in few is error in diagnosis more probable or more frequent. Buzzard is probably correct in affirming that every physician is at some time or another mistaken in relation to the early diagnosis of the disease. When early diagnosis is in question we must dismiss from our minds the classical picture of disseminated sclerosis as described in textbooks—namely, intention tremor, nystagmus, scanning speech and spasticity of the lower limbs. Any or all of these symptoms may be absent at this stage. Rather must we inquire for transient disturbances of vision—amaurosis or diplopia—temporary impairment of bladder control, paraesthesiae of one or more limbs, diminution of the abdominal reflexes, loss of tone of the sphincter iridis shown by failure of the pupil to remain contracted in presence of the stimulus produced by light, giddiness, emotional instability. Here we have a group of symptoms none of which, taken singly, is capable of any confident interpretation, but highly significant when taken as a whole. Transient paresis and a sense of fatigue in the legs may appear early. In a case of doubt the alternative possibilities of the case must be borne in mind. Most of the organic lesions of the nervous system are easily excluded. Paralysis agitans will hardly cause serious difficulty, the age law being commonly decisive. Hysteria is the most fertile source of error, and the difficulty of distinction is much increased by the fact that young female "disseminates" sometimes develop a seemingly hysterical psychosis. But hysteria never exhibits the group of early symptoms which has been enumerated, and at a later stage nystagmus, pallor of the optic disc, and ankle clonus make the distinction easy.

How far early diagnosis may enable us to deal effectively with disseminated sclerosis is doubtful. The causation of the disease is most obscure. There is no known toxic factor. Infective diseases, chills, shock, mental stress have been blamed, but on doubtful evidence. Syphilis has no influence. The course of the disease is so variable and periods of remission so common that treatment may easily get the credit which belongs to Nature. But it seems reasonable to hope that the early recognition of these cases, the removal of sources of nervous strain and the adoption of a well-ordered hygiene may improve the prospects of these unfortunate patients.

(*d*) PULMONARY TUBERCULOSIS.

I pass on to the most important case of all. The early agnosis of pulmonary tuberculosis is a matter of vital portance because of the frequency of the disease, and of comparative curability in the incipient stage. An mense amount of work has been done in recent years connexion with this subject, and many attempts have en made to find a short cut to a prompt and secure agnosis. I have to essay the difficult task of evaluating ese methods, which time is not available to describe in tail.

We may attempt to solve the problem of the early agnosis of pulmonary tuberculosis by the following ethods:

1. By an analysis of symptoms, history, and physical gns.
2. By an examination of the sputum.
3. By radioscopy and radiography.
4. By the tuberculin tests of Koch, von Pirquet, Moro, id Calmette.
5. By an examination of the blood after the method of rneth.
6. By agglutinin and precipitin reactions on the lines of Vidal's valuable test for typhoid fever.
7. By the fixation of complement test on the lines of Wassermann's well-known test for syphilis.
8. By the opsonic index method.

Most of these methods are too familiar to you to require ny description. Arneth's method is, however, new and ot widely known, so some account of it may not be appropriate. Briefly, this observer hopes to find a iagnostic clue to tuberculosis, and to its activity and ourse, in changes which he describes in the neutrophile ucocytes. Arneth divides these cells into five groups, amely, those in which the cells have one, two, three, four, ve or more nuclei. He finds that in health these groups orm approximately 5 per cent., 35 per cent., 41 per cent., 7 per cent., and 2 per cent. In the very earliest stage of ulmonary tuberculosis, when the general health is still naffected, these various groups preserve their normal ratio, ut so soon as signs of general infection occur this ratio s disturbed. The first group rises to 15 per cent., the econd to from 36 per cent. to 46 per cent., while the third roup falls slightly, and the fourth and fifth groups fall more ecidedly. In more advanced cases with active symptoms he first group rises to from 28 per cent. to 52 per cent., the econd group to from 37 per cent. to 53 per cent., while the hird group falls to 10 per cent., and the fourth and fifth roups tend to disappear altogether. It is claimed for his method that it gives us an accurate indication of the ntensity of the infection and of the reaction of the atient's organism, and that hence it affords a useful uide to prognosis. In favourable cases, where recovery is n progress, the condition of the neutrophile leucocytes is aid to tend to revert to the normal.

Arneth's method is comparatively new, and has not been extensively tried in this country. It is attractive, nd may contain some amount of promise, but it is not asy to believe that the changes in the leucocytes which re, no doubt, reactive in character, are quite specific for uberculosis in contradistinction to other infections. As I have not tried the method, I pass no judgement upon it.

Radioscopy affords interesting information in cases of pulmonary tuberculosis, but there is still a good deal of doubt as to its value in incipient cases, and the interpretation of the skiagram is often a matter of great difficulty. Amongst the earliest changes are a fine mottling in some of the characteristic areas, the dark lines due to the peribronchial fibrosis usually present, and, especially in children, the shadow cast by swollen bronchial glands. Impaired movements of the diaphragm are likely to develop later. Unfortunately the sources of fallacy are numerous, and the skiagram does not help us to differentiate between old healed lesions and recent active lesions. The method is one which appeals to the *x*-ray expert and the pulmonary specialist, but is not likely ever to become generally available.

The various tuberculin tests, regarding which such high hopes were once entertained, have proved disappointing. A little reflection will convince us that they suffer from an inherent and incurable defect. They all depend upon the principle that the organism once infected by tuberculosis has become hypersensitized to the action of tuberculin. But this hypersensitization may depend upon the presence of an obsolete and healed lesion in lung, or gland, or bone. As 70, 80, or 90 per cent. of our city populations—the exact figure does not affect the argument—are, or have been, the subjects of tuberculous infection, a positive reaction to tuberculin gives us little information of real value, and may easily mislead as to the correct interpretation of the case before us. To put the matter in another form, tuberculin reactions do not distinguish between tuberculous *infection* and tuberculous *disease*, which is precisely the point which is really at issue. A negative reaction may be allowed some weight, but in ordinary city practice a positive reaction is the rule.

I need not say anything about the value of a routine examination of the sputum. The discovery of tubercle bacilli is decisive, and bacilli may be found in quite early cases, although at this stage their absence, and, indeed, the entire absence of sputum, is quite common.

The attempt to discover a reaction based upon the agglutinins and precipitins in the blood of tuberculosis patients—that is, a reaction analogous to Widal's valuable test for typhoid fever—has so far led to no fruitful result, and there seems to be no probable future for this method.

The latest suggestion of a specific test for tuberculosis is on the lines of the well known Wassermann reaction which has proved so useful in the recognition of syphilis. The theory is that the serums of tuberculous patients contain an antibody capable of fixing complement in the presence of tuberculin. Positive results have been claimed for this method in proportions varying from one-quarter to three-quarters of the cases. It is affirmed that a negative result goes far to exclude tuberculosis. This method is quite new; it is still in the experimental stage, and it would be premature to express any opinion upon its probable usefulness.

The opsonic index method, the technique of which is now generally known, seems to yield interesting information in the hands of the pathological expert, but the results are very conflicting, and the method is unsuitable for general adoption.

A review of the foregoing methods will probably convince us that no sure short cut to a summary diagnosis of incipient pulmonary tuberculosis is at present available. Laboratory methods may give us a valuable suggestion or a useful caution; they can seldom afford definite guidance. We are not yet absolved from the necessity of basing our opinion in large measure upon a careful study of history, symptoms, and signs. Let us inquire where we stand to-day in reference to these matters. Two types of incipient cases rise before the mind. In one type the examination of the chest is wholly negative; in the other, slight but significant departures from the normal are present; in both symptoms, perhaps slight and not very characteristic, will be found. What are we to say of these cases where symptoms excite suspicion, while signs are negative? A vague failure of general health in a young adolescent may have many explanations, but the suspicion of pulmonary tuberculosis will be strong where we find the syndrome of loss of weight, slight afternoon pyrexia, cough, and acceleration of the pulse. There is often a history of slight haemoptysis, which the patient frequently assures us "came from his throat" or "was due to his teeth." To this symptom much weight may be justly attached. Night sweating is occasionally an early symptom, and when present is most significant. Digestive disturbance may appear early and may strengthen the diagnosis, but it is often absent. On these points there will probably be no difference of opinion.

Acute divergence of view emerges, however, when we ask the question, What are the earliest physical signs of tuberculous invasion of the lungs? A formidable list of authorities might be quoted who maintain that the earliest signs are auscultatory. Strümpell says, "The auscultatory signs in the beginning of the disease are in general more certain and easier to recognize than those from percussion." Cornet says, "In the earlier stages of the disease percussion does not help very materially." Wilson Fox says, "Percussion at the apex is often unaffected in the early stages." West says, "The physical signs yielded by auscultation are not only the earliest to be detected but remain throughout the disease the most important." Osler says, "Dullness is rarely present in early cases." In sharp conflict with the above views we

have the opinion of an imposing array of observers who insist that the earliest signs are those yielded by percussion. Aufrecht affirms that percussion "offers positive information much sooner than auscultation." Krönig says "it is a very widespread error to expect to find the earliest physical signs by auscultation." In England D. B. Lees and Clive Riviere have warmly advocated a similar view. Powell says cautiously that "at this stage (namely, the incipient stage) the physical signs are but slight; the percussion note at one apex is slightly impaired and the respiration weaker, the inspiration being wavy or even jerking. There are usually a few rhonchi present, which, if limited to that apex, are very significant." My own belief is that auscultatory changes are in general prior to any appreciable muffling of the percussion note, and of auscultatory changes I believe the earliest to be a modification of the respiratory murmur either in the direction of weakness or harshness, with commonly some disturbance of the respiratory rhythm. Crepitation comes later.

The early diagnosis of pulmonary tuberculosis in young children is a separate problem, and one of no little difficulty. In these patients tuberculous infiltration of the lungs does not commonly show that preference for the apices which is so constant a feature in the adult. The disease is more diffusely disseminated or may specially affect the roots of the lungs. The tracheo-bronchial glands are frequently involved, and may afford useful physical signs. The symptoms are often marked, and progress rapid. The physical signs often trouble us not by their latency or deficiency, but rather by their abundance and by the difficulties attending their interpretation. The problem which most often arises is this: the child has a broncho-pneumonia, arising out of one of the exanthemata or otherwise, and is doing badly. The question is whether the pulmonary condition has been throughout or has become tuberculous. In many of these cases physical signs are indecisive, and symptoms are capable of more than one interpretation. Osler hardly exaggerates when he says that in some of these cases time and the results of treatment alone can decide the diagnosis. The examination of the sputum, when it can be obtained, may, of course, settle the problem. I would suggest the need for caution when dealing with obscure pulmonary conditions in young children, and the desirability of not prematurely affixing the tuberculous label. Goodhart is undoubtedly right in holding that a good many suspicious cases ultimately clear up and come to nothing.

Before dismissing the subject of the diagnosis of early pulmonary tuberculosis I would like to record my conviction that quite early cases are in the majority of cases amenable to treatment. The human body, in spite of superficial appearances to the contrary, is really somewhat tolerant of tuberculous infection, but to succeed we must begin operations before gross physical signs have developed. Many years ago I had occasion to visit that veteran of our profession, Sir Hermann Weber, and our conversation ran mainly on the subject of pulmonary tuberculosis. As I parted from him at his own door his last words to me were "Get them early." In that, and not in any novel or heroic methods of treatment, lies at once our safety as physicians and our best hope for humanity.

Time will not permit us to consider in detail the numerous other cases where an early diagnosis is a matter of vital moment or is beset with peculiar difficulties. But I should like to emphasize my conviction that in researches in this field, both from the clinical and the pathological standpoint, lies one of the best hopes for the future of medical science. The public must learn that for disease to be countered successfully it must have early recognition and timely treatment. Our hospitals are full of the wrecks of humanity, which we may, indeed, often patch up with more or less success, but which can never be restored to integrity.

Prevention is best; early diagnosis is next best; late diagnosis is too often only a *pis aller*. How different from their usual fate would be the destiny of the diabetic, the tabetic, the subject of granular kidney or of arthritis deformans, if these conditions were recognized at their earliest manifestations! But the diabetic commonly only seeks advice when thirst, polyuria, and progressive emaciation can no longer be ignored. The tabetic regards his early pains as "only rheumatism." The victim of granular kidne waits until his headaches, dyspepsia and visual trouble force themselves upon his reluctant attention. Th arthritic makes light of early symptoms which too surel portend ultimate disablement. We must take care tha to the ignorance of the public is not superadded any neg gence on our part, any cavalier treatment of apparentl trivial ailments, any neglect of significant symptom The out-patient room of one of our great hospitals is a excellent field for learning to distinguish promptly b tween the trivial and the essential, between some triflin ailment and the slight but significant manifestations grave disease. It is a field to which the beginner and t junior student are, with curious perversity, often assigne Rather it is the advanced student who has learnt his bus ness in the wards and has already accumulated some fun of practical experience who will there find his natur sphere and opportunity.

One of the problems of present-day medicine is to dra a just line in the diagnosis of disease between the clinicia and the pathologist, between the hospital ward and t laboratory. It is most desirable that a fair balance shou be maintained, and that there should be rational a sympathetic co-operation. The pathologist has not th first-hand knowledge of disease in the living subject whi is so important. Dead-house appearances represent t late results of disease, not its origin or course. On t other hand, the clinician cannot hope to keep pace wi the rapidly developing and ever-increasing complexity modern pathological technique, though he may aspire understand its methods and appraise its results. His sk in these matters, occasionally exercised, cannot compa with that of the man to whom they are a daily routi In such matters as the examination of the sputum, t Widal test for typhoid fever, or the Wassermann test syphilis, the laboratory can give us inestimable aid. B I would plead that in the last resort diagnosis is t business of the clinician, and that the final test is bedsi experience. While we examine blood, sputum, uri gastric contents, cerebro-spinal fluid, etc., let us not forg to examine the patient. The old physicians who had n even a stethoscope or a clinical thermometer—not mention an ophthalmoscope, laryngoscope, gastrosco sphygmomanometer, polygraph, electro-cardiograph—we often extraordinarily shrewd judges of disease. Ev Hippocrates may still be read with profit, and with chastened sense that after more than 2,000 yea of the triumphant march of medical science he m still be able to teach us something. His first fame aphorism is familiar to us all, but will bear repetiti "Life is short; the art is long; occasion sudden; make experiments dangerous; judgement difficult. Neit is it sufficient that the physician do his office unless patient and his attendants do their duty, and that extern are likewise well ordered." Perhaps his thirteenth aphori is less familiar. It runs as follows: "Old men ea endure fasting, those who are middle-aged not so w young men worse again than they, and children wo of all, especially those who are of a more lively spir These echoes from the great age of Greece still str the ear pleasantly, reminding us that medical insi is not the exclusive property of the moderns. A the English Hippocrates—Sydenham—is not yet wh obsolete. To come nearer home, Graves on Fevers a Stokes on the Heart may still stimulate our min and make us proud of Irish medicine. Their pathol may need revision, but their clinical insight was ra at fault.

You will remember that the first great aphorism Hippocrates affirms that it is not sufficient for the physic to do his part, that the patient also has a duty to perfo In this matter of early diagnosis we are largely depend upon the intelligence of the public. We cannot adv until we are consulted. We cannot detect the sub premonitions of disease if these are disregarded by patient. I hold it our duty to inculcate a timely war fulness—quite distinct from fussy anxiety—in matt pertaining to health. And in these matters the consult needs the aid of the general practitioner, who is usu the first to have cognizance of the facts.

Obsta principiis is a very old and, I think, a v excellent medical maxim. The medical practitione too often in the position of the foolish virgins in

parable—he arrives too late. But the responsibility is not usually his.

I submit these considerations—most of them familiar and obvious—to your judgement, believing, as I do, that in the early recognition of disease and the prompt adoption of remedial measures lies the secret of much of the efficacy of our art.

ACUTE APPENDICITIS AND ACUTE APPENDICULAR OBSTRUCTION.*

[WITH COLOURED PLATE.]

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MOST medical men are now agreed that for acute appendicular trouble the only safe course is immediate operation. If this be granted, the all-important matter is the accurate diagnosis of such trouble in its early stages. Reliable diagnosis can only be based on a clear understanding of the pathology of the early stages of acute appendicular trouble, and it is as a contribution to this part of the subject that I would lay before you certain facts.

When we find that patients suffering from acute appendicular disease present during the early stages of such trouble symptoms differing widely, the natural presumption is that the morbid processes responsible for such symptoms also differ. The mere fact that all eventually tend toward a dangerous peritoneal infection is not sufficient reason to class them all under the one generic term "appendicitis."

The appendix as part of the intestinal canal is liable to certain pathological changes. From its structure and relations it is specially liable to be the seat of ulceration and inflammation, but as a hollow viscus it is also liable to acute obstruction of its lumen. Now whilst blockage of the lumen of the appendix has been regarded by many pathologists and surgeons as an important contributing factor in the etiology and in determining the course of appendicitis, acute appendicular obstruction as a distinct pathological and clinical entity has not been recognized or given the attention which its importance demands.

Benda,[1] Klauber,[2] and recently Heile have all laid stress on the obstructive factor in appendicitis, but have not clearly differentiated between the two conditions, primary inflammation and primary obstruction, as clinical entities. If we set out by recognizing two definite types of acute disease of the appendix—namely, acute inflammation and acute obstruction—then not only does the understanding and the teaching of the symptomatology of acute appendicular disease become much simplified, but the early diagnosis of such disease becomes inevitably more confident and more correct.

Some years ago, when it was customary for surgeons to have to deal with the secondary effects of acute appendicular trouble, this distinction between inflammation and obstruction was impossible; now, however, we should have to deal with the primary appendicular disease when the distinction is tolerably easy and all-important.

It is difficult to realize and still more difficult to teach that we may have an acute inflammation of an organ without any rise of pulse or temperature, and yet it has been necessary to recognize this in the case of appendicitis.

So far as my observations go they indicate that we never meet with a primary acute inflammation of the appendix without a prompt rise of both pulse and temperature. It is the rule, however, in cases of acute appendicular obstruction to have at the outset no appreciable rise of pulse or temperature, and it is ignorance of these important negative signs which has so often led to fatal delay. We must recognize that if acute appendicitis is a serious condition, acute appendicular obstruction is usually more serious, and is the one in which the call for immediate operation is more clamant.

The essential distinctions between the two conditions may perhaps be best emphasized by two illustrative cases.

CASE I.—*Acute Appendicitis.*

A. H., female, aged 31, had felt out of sorts for two days, and on the evening of the second day she began to have pain in the right side of the abdomen and vomited. She went to bed, and her doctor was called in the same evening. He found her looking flushed but not very ill, with a temperature of 100° F. and pulse of 94. There was some tenderness and rigidity in the right lower quadrant of the abdomen. Hot fomentations were applied, and trional gr.10 given by mouth. Seen early on the following morning, the patient was found to have slept little, was still flushed, temperature 100.5°, pulse 100, whilst the tenderness and rigidity in the right iliac region were more pronounced. Operation was advised, and was carried out in hospital two hours later. Some turbid fluid was found free in the abdomen; a considerably thickened, red, and inflamed appendix was removed, along with an inflamed and adherent portion of omentum. On splitting the appendix its walls were found greatly thickened and oedematous, the mucous lining was turgid, and in two places ulcerated and covered by a layer of muco-pus (see Fig. 1).

CASE II.—*Acute Appendicular Obstruction.*

M. H., male, aged 30, on returning home from a football match was suddenly seized with acute abdominal pain which doubled him up, and he vomited. After lying down for half an hour the pain had almost completely passed off, and he accompanied a friend to the railway station, a mile away. Whilst there he was again seized with acute griping pain, and vomited several times. He came home in a cab and lay down, but the pain continued very severe. At 8 p.m. the doctor was called in. He found the patient suffering acutely from pain in the umbilical region, the abdominal muscles were rigid, more especially on the right side, and there was marked tenderness at a point midway between McBurney's point and the umbilicus; pulse 80, temperature 98°. Heat was applied to the abdomen, and the doctor returned in two hours. The patient had meanwhile had an hour's relief, but was again suffering acute pain; the abdomen was still tender and rigid, whilst the pulse and temperature were normal. A surgeon was called in an hour later, when, as the patient's condition was unchanged, operation was decided on.

The abdomen was opened at 2 a.m.—that is, nine hours after the onset of symptoms. A large distended appendix, green in colour and with a faeculent odour, was delivered through the wound. The proximal half inch of the appendix appeared normal, then there was a slight constriction, and beyond this the organ was three times its normal diameter, tense almost to bursting, and stippled with little yellow areas of focal necrosis on a ground of dark green. The appendix was removed, and the patient did well. On opening the appendix it was found that the distended portion contained faeculent material under great tension, a concretion having become impacted in the constriction, causing an acute obstruction. Apparently the course of events in this case had been that a preceding unrecognized attack of appendicitis had resulted in a constriction, and beyond this a concretion had formed. Then, probably as the result of straining at the football match, some faecal matter had been forced into the appendix beyond the stenosed area, and had been locked up there by the ball valve action of the concretion.

SYMPTOMS OF ACUTE APPENDICULAR OBSTRUCTION.

The first and essential symptom is pain, which as a rule comes on suddenly, is very acute, and is most pronounced in the umbilical region. The pain may be intermittent as in the case cited above, but not infrequently it is constant, though becoming worse at times. Vomiting is usual, but not invariable. Tenderness over the appendix is always present in greater or less degree, and rigidity of the right rectus is usually well marked, though in some cases it may be deceptively slight. The pulse and temperature are of no diagnostic value, for though both may rise within a few hours of the onset of the obstruction, this is not the rule, and when present is usually an indication of a spread of infection through the devitalized wall of the obstructed organ. Obstruction of the appendix does not necessarily produce a reflex paresis of the intestine, and thus the bowels may act even though rapid changes are taking place in the appendicular walls. The distinctive

* The experimental work referred to in this paper was carried out in the laboratory of the Royal College of Physicians, Edinburgh. The expenses of this research were defrayed in part by a grant from the Carnegie Trust.

features of obstruction as contrasted with primary inflammation of the appendix may be briefly stated as the great severity of the pain, the suddenness of its onset, and the absence of disturbance of the pulse and temperature during the initial stages of the malady.

CAUSES OF APPENDICULAR OBSTRUCTION.

The two common causes of acute appendicular obstruction are:

1. Fibrous stenosis of the appendix with plugging of the constriction.
2. Acute kinking of the appendix at a point of abnormal fixation by a band or fold, congenital or acquired.

In the former there has almost certainly been a preceding though possibly unrecognized attack of appendicitis, faecal matter has gained access to the lumen distal to the constriction and the narrowed outlet has become occluded either by inspissated faeces or by a definite hard concretion. A second attack of inflammation in the region of the stricture may rapidly cause occlusion of the lumen at this point and give the composite picture of acute appendicitis and acute appendicular obstruction—undoubtedly a common combination, but by no means an essential one.

Abnormal fixation of the appendix at some point by a band or fold is a very common cause of obstruction. Such a band may be an old inflammatory adhesion the bequest of a preceding attack of appendicitis. In my experience, however, it has more commonly been a congenital fold attached about the middle of the appendix, fixing this part down toward the pelvis. This fold is almost certainly the genito-mesenteric fold described by Douglas Reid.[3] Occasionally the kink is due to a fold tacking some point of the appendix upwards. Some of these folds would appear to be congenital, others, associated with a prolapsed caecum, to be the acquired bands described by Lane as the crystallization of lines of force.

In all these varieties, however, the attack of acute obstruction is probably excited by access of faecal matter to the distal part of the appendix beyond the kink. The slight obstruction at the seat of angulation causes reaction in the distal portion of the appendix and the swelling associated with this rapidly accentuates the kink and renders the obstruction complete.

The access of faecal matter to the lumen of the appendix distal to a stenosis or kink is in all probability frequently determined by strain or other traumatic influence. Kelly[4] noted that trauma, especially indirect injury, was a somewhat frequent cause of acute appendicular trouble where previous disease in the appendix existed. The cases of acute appendicular trouble supervening on an acute intestinal disorder with diarrhoea may be, and almost certainly are, sometimes due to an inflammation in the wall of the caecum, either spreading to or occluding the opening of the appendix, but not infrequently the caecum shows no inflammatory change, and the disease is limited to the appendix. In the latter type of case a concretion is usually found beyond a constriction, and, as Benda has suggested, the probable exciting factor in the attack has been that the enhanced peristalsis of the intestine being shared by the appendix has resulted in the driving of the concretion into the narrowed part, with complete obstruction of the lumen.

RESULTS OF OBSTRUCTION OF THE APPENDIX.

We must now consider the results following a complete obstruction of the lumen of the appendix near its outlet. These can only be ascertained from a study of the combined data of experimental and clinical observation.

Experimental Evidence.—The following experiments were designed to test what was the effect of isolating a portion of bowel such as the appendix, outwith the prima via, under various conditions as regards content. The experiments were carried out on cats, and the terminal portion of the ileum, which contains a large amount of lymphoid tissue in its wall, was used to make an artificial obstructed appendix. The operative procedure was as follows: under ether anaesthesia the abdomen was opened and the caecum and lowest part of the ileum brought out. By means of the thermo-cautery the ileum was divided 5 in. from the ileo-caecal valve, and the cut ends invaginated. Some caecal content was forced through the ileo-caecal valve into the blind lower part of the ileum, which was then cut through with the cautery one inch from the ileo-caecal valve, the cut ends being invaginated. The continuity of the bowel was then established by a lateral anastomosis of the ileum above the upper line of section with the ascending colon. Using such a closed loop of ileum, the following points were then investigated:

Behaviour of:

1. Empty loop—that is, empty except for mucus and bacteria.
2. Loop filled with caecal content (animal on carbohydrate diet).
3. Loop filled with caecal content (animal on rich protein diet.)
4. Loop filled with emulsion of bacteria grown from caecal content.

1. After isolation of an empty loop the animal appears well for a period of days at least, and if killed three days after the operation the loop is found to be slightly enlarged and congested, and to contain mucoid fluid. As a rule the loop gradually distends, the content becomes muco-purulent, and eventually a perforation occurs, but occasionally the bacteria die off, and the animal remains in good health with a mucocele of the loop (Fig. 2).

2. When the loop is filled moderately full with caecal content, the animal having been fed on a carbohydrate diet (porridge), distension occurs more rapidly with fetid faeculopurulent fluid, and either an empyema of the loop results or a gangrenous patch develops with perforation. The latter course is particularly liable to occur if the loop has been almost completely filled with caecal content or if the animal has been on a carbohydrate diet for only one or two days, the latter fact indicating that probably an alteration in the bacterial flora plays an important contributing rôle.

3. With the loop filled with caecal content in an animal previously fed on a rich protein diet (lights) the changes are much more striking and as a rule the animal is dead within twenty hours. On opening the abdomen *post mortem* the loop is seen to be green and gangrenous (Fig. 4), glued to neighbouring coils of intestine by plastic lymph and giving off a faeculent odour. On opening the loop, foul brown fluid content escapes, and this is found to be strongly alkaline in reaction. In an animal killed before this complete sloughing of the wall has had time to occur gangrene is seen to be most advanced in the Peyer's patches. If the loop be only partially filled with content, the changes are slower in developing, but are practically the same.

4. When the loop is filled with an emulsion of bacteria grown aërobically from caecal content no early changes are seen, and if the animal be killed forty-eight hours later the loop presents an almost normal appearance and shows no signs of inflammation or gangrene.

After observing a long series of such experiments one is profoundly impressed with the rapid morbid changes which ensue when faecal matter is locked up in an isolated portion of the intestinal tract. That complete gangrene of such a segment may occur within sixteen hours without there being any interference with the blood supply of the part is a striking fact, which throws considerable light on those cases in which a completely gangrenous appendix is found without there having been any

DESCRIPTION OF COLOURED PLATE.

Fig. 1.—Acute appendicitis; inflammation of the appendicular wall.

Fig. 2.—Isolated loop of ileum of cat; removed by operation three weeks after primary operation. Mucocele of loop.

Fig. 3.—Empyema of loop; three days after isolation; partly filled with caecal content after carbohydrate diet.

Fig. 4.—Gangrene of loop; twenty-four hours after isolation; filled with caecal content, after protein feeding.

Fig. 5.—Mucocele of human appendix.

Fig. 6.—Empyema of human appendix: acute appendicular obstruction, with small amount of faecal content.

Fig. 7.—Gangrene of wall of appendix; acute appendicular obstruction.



FIG. 4.



FIG. 5.



FIG. 3.



FIG. 7.

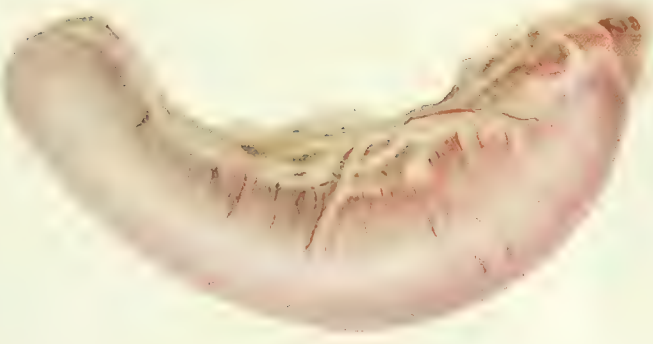


FIG. 2.



FIG. 6.

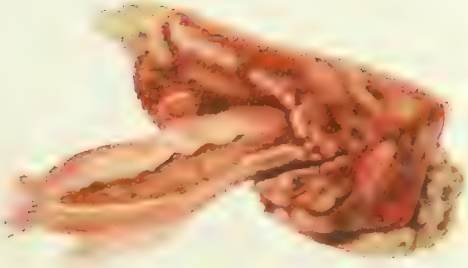


FIG. 1.

appreciable disturbance of pulse or temperature. The importance of anaërobic putrefactive bacteria in such cases has been demonstrated by Heile.

Apparently the two factors determining the degree and the rapidity of the morbid changes in the isolated loop are, first, the amount of faecal matter, and, secondly, its nature as determined by the previous feeding of the animal. If the loop be completely filled with faecal matter at the moment of obstruction, rapid changes, culminating in gangrene, are apt to result no matter what be the nature of the content, though they are more rapid and striking after protein feeding.

When the loop is only partially filled, the changes which follow show more clearly the effects of the nature of the content, those in the protein-fed animals being more of the gangrenous putrefactive type, those in the carbohydrate-fed animals more of the slower empyemic type.

Heile,[5] in his work on experimental appendicitis in the dog, has reached practically the same conclusions. He found that when the appendix in the dog was occluded, the degree and rapidity of the morbid changes which followed were in direct proportion to the amount of faecal matter present. He was also impressed by the importance of the presence of undigested protein and an alkaline reaction in favouring early necrotic changes, and was able to show that autolysis of the lymphoid tissue of the appendix is greatly hastened by an alkaline reaction of the fluid in which it is placed.

Comparable Conditions in Human Appendix.

In a study of the morbid anatomy of the human appendix we can readily distinguish types of appendicular obstruction strictly comparable to the types of morbid change produced experimentally in the artificially obstructed appendix in the cat.

The hydrops cysticus or mucocele of the appendix represents the result of a complete obstruction of a practically empty appendix, the bacteria having died off and allowed of the development of the quiet mucous cyst (Fig. 5).

In empyema of the appendix (Fig. 6) we see the result of an obstruction to the appendicular lumen when a certain amount of faecal matter, probably not rich in protein, was present. As we know, empyema of the appendix may be fairly acute and rapid or subacute and slow in its development, depending almost certainly on the nature of the faecal content, both as regards chemical and bacteriological constitution and the consequent reaction which it induces.

In those cases of rapid distension and gangrene of the appendix which form so large a percentage of the fatal cases we have the replica of the condition of the artificial appendix filled with caecal content after protein feeding (Fig. 7). In such cases the early changes are: distension of the lumen of the appendix, leucocytic infiltration of the wall followed by gangrene first of the lymphoid tissue and then of the remaining structure of the wall, the whole process, which is of a putrefactive nature, occurring in a space of time to be measured by hours.

I would maintain, therefore, that acute obstruction of the appendix is a pathological and clinical entity, a form of intestinal obstruction, presenting always a grave risk to the life of the individual affected, unless immediate surgical measures are taken for its relief, and that it should be distinguished from acute inflammation of the appendix, not because the treatment of the two conditions should differ, but because the obstructive cases demand treatment before the signs of inflammation supervene. When this distinction is borne in mind it is possible in quite a large percentage of cases to foretell before operation what approximately will be the condition of the appendix. I heartily agree with Battle[6] that such diagnosis is not mere guesswork and is both interesting and profitable in that it inevitably tends to more accurate observation and hence to increasingly accurate diagnosis.

INCIDENCE OF ACUTE APPENDICULAR DISEASE.

The above observations may possibly throw some light on the incidence of acute appendicular disease.

Race Incidence.

The remarkable frequency of appendicular disease in its acute and fatal form among Western nations and its comparative rarity among Eastern peoples has attracted considerable attention. Lucas-Championnière,[7] in an analysis of 22,000 patients among Roumanian peasants, found only 1 case of appendicitis. In the cities of Roumania, on the other hand, he found 1 case of appendicitis among every 221 patients. The Roumanian peasants subsist on a diet almost wholly vegetarian, whereas in the cities an animal diet is the rule. Naab[8] found in three hospitals in Asiatic Turkey, staffed by German surgeons, that operations for appendicitis amounted to only 0.1 per cent. of the total major operations. In Constantinople, at the Turkish hospital, staffed by German surgeons, the ratio of appendix operations was 0.3 per cent., whereas at the German hospital in the European quarter of the same city the ratio was 3.3 per cent. Here difference in climatic conditions could be ruled out, the only difference between the two classes of patients being that those admitted to the Turkish hospital subsisted on a diet mainly of fruit and vegetables, those to the German hospital on a mixed diet with a considerable proportion of animal food. In two large hospitals in Hamburg and Berlin the average ratio was 8.5 per cent. of the total major operations. In Germany, also, it has been repeatedly noted that appendicitis is relatively much more frequently met with among town dwellers than among the peasant class, and that its frequency has notably increased in the last few years coincidently with the increased consumption of meat by the working class. Now whilst one must be very careful in drawing conclusions where accurate statistical evidence is so difficult to obtain, I think all will agree that appendicitis among the working classes in this country has increased of late years, that this is not merely due to greater accuracy in diagnosis, and that this increase has been coincident with the rise of wages and the increasing demand for an animal diet among the industrial class.

Sex Incidence.

All statistics on acute appendicular disease agree in showing that such disease is more frequent in the male than in the female sex, the average ratio being 4 to 3. A fact of greater importance, however, and one not usually recognized, is the greater frequence of the severe and, if not promptly treated, fatal type of such disease in the male as compared with the female. On examining the statistics of the Edinburgh Royal Infirmary for the three years from October, 1910, to September, 1913, I found that during this period 1,469 cases of acute appendicular disease were treated in that institution, the mortality being 7.3 per cent. Of this number, 840 (57 per cent.) were males, 629 (43 per cent.) were females. There were 81 deaths among the male cases (9.6 per cent.), and but 26 among the females (4.1 per cent.). It would thus appear that acute appendicular disease is more than twice as fatal in the male as in the female. On examining the records of the fatal cases one was struck by the great frequency of a particular type of case in the males—namely, that with a completely gangrenous and perforated appendix and diffuse peritonitis; in fact, by the number of cases of what I regard as the most acute form of appendicular obstruction. There are two factors which I think may determine the greater frequency of such disease in the male sex: First, the adolescent and young adult male partakes of a diet which is considerably richer in protein than does the female of corresponding age; and, secondly, he is more exposed to strain and injury, such as might determine the entrance of faecal matter to an appendix with a stenosis or kink near its proximal end.

The mild and usually unrecognized attacks of appendicitis which leave merely scarring and fibrosis in the appendix would appear from *post-mortem* statistics to be very frequent in both sexes of all nations. The urgent gangrenous type of acute appendicular disease which my observations indicate to be of the nature of acute appendicular obstruction is a disease of meat-eating nations, and is more frequent in the male sex. If such be the case, then we are justified in the inference that in a bulky and mainly vegetable diet lies the chief safeguard against acute appendicular disease in its most severe and dangerous forms.

Age Incidence.

The comparative rarity of severe appendicular trouble in children during the first few years of life may possibly be explained by the relatively wide and frequently funnel-shaped aperture of the appendix at this period, allowing of the ready entrance and exit of faecal matter. The corresponding, though less marked, rarity of such trouble in old people is accounted for by the pronounced fibrotic changes so commonly seen in senile appendices, changes which, according to Aschoff,[9] represent previous mild attacks of inflammation, and which, as a rule, altogether preclude the entrance of faecal matter. In the intervening age period, particularly that earlier part of it which might be termed the period of physical activity and dietary indiscretion, the anatomical condition of the appendix predisposes it to acute morbid changes of both inflammatory and obstructive types.

CONCLUSIONS.

1. Two acute pathological processes are met with in the vermiform appendix—acute appendicitis and acute appendicular obstruction.

2. Clinically acute appendicitis is distinguished by the signs of inflammation, there being from the onset a rise in pulse and temperature.

Acute appendicular obstruction gives rise to vomiting, colicky pain, and abdominal tenderness, but at the outset to no appreciable rise in pulse or temperature.

3. The changes occurring in an appendix the lumen of which is completely obstructed depend on the presence or absence of faecal matter within its lumen.

4. In experimental obstruction in an artificial appendix the changes vary greatly according to the nature of the diet of the animal previous to the experiment, rich protein diet being associated with much more rapidly destructive changes than carbohydrate.

5. Undigested protein, putrefactive bacteria, and an alkaline reaction together produce rapid gangrene in the walls of the obstructed organ.

6. The prevalence of the severer forms of acute appendicular disease in Western as contrasted with Eastern peoples is probably to be explained by the animal diet indulged in by the former.

7. On the same lines may be explained the increasing frequency of such disease in large industrial areas and its relative frequency in the male sex.

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LEECHES:

EXOTIC LEECHES.

BY A. E. SHIPLEY, Sc.D., F.R.S.,

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Non missura cutem, nisi plena cruoris, hirudo.
HORACE.

THE extension of war into the Near and Far East has brought into action two genera of leeches which were and still are the cause of extreme inconvenience and even of real danger to troops operating in these areas. The enemies of our allies will still insist on fighting on richly stocked leech grounds. For in the new war area, in southern Europe, Asia Minor, Syria, Egypt and the southern lands of Asia, two genera of leeches which are indeed not the friend but the enemy of man, especially of the soldier, abound.

The first of these two is *Limnatis nilotica* (Sav.), and it is from Savigny that I have stolen the picture of this species. It is a leech of considerable size, attaining a length of 8 to 10 cm., and its outline rather slopes to the anterior end. The dorsal surface is brownish-green with six longitudinal stripes, and the ventral surface is dark. It is a fresh-water leech and it occurs from the Atlantic Islands, the Azores and the Canaries—its western limit—all along the northern edge of Africa until it reaches Egypt, Palestine, Syria, Armenia, and Turkestan, where it achieves its uttermost eastern boundary. This leech lives in stagnant water; especially does it congregate in drinking-wells—the wells so often mentioned in the New Testament. In the Talmud (Abōdāh Zārāh, 17*b*) an especial

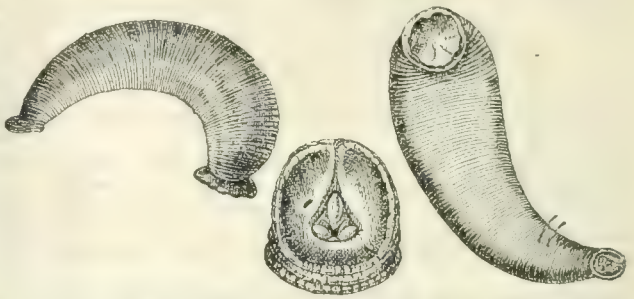


Fig. 1.—*Limnatis nilotica*, side view. Oral sucker, showing characteristic, median, dorsal slit and three teeth; ventral view. (From Savigny.)

warning is given against drinking water from the rivers or wells or pools for fear of swallowing leeches. The Old Testament Jew knew then nearly as much as we know now about these leeches. They were the cause of endless trouble to Napoleon's soldiers in his Egyptian campaign.

I cannot recall that Napoleon talked much about spreading culture,* but he certainly did it. He took on his incursion into Egypt a score of the ablest men of science he could gather from France. He established in Cairo an "Institut" modelled on that of Paris, and his scientific "corps" produced a series of scientific monographs on Egyptian antiquities and on the modern Natural History of Egypt that has not yet been equalled by any other invading force. He freed the serfs in Germany, he codified the laws of France, and these laws were adopted by large parts of Europe; he extended the use of the decimal system. Napoleon had a constructive policy, and was never a consistent apostle of wanton destruction. If he destroyed it was to build up again, and in many instances he "builded better than he knew." He seldom so mistook his enemies as to destroy, to terrify; the "frightfulness," though bad enough in his times, had limits. Napoleon had at least in him the elements of a sane and commonsense psychology. He knew that what was "frightful" to the French was not necessarily "frightful" to the Russian. Amongst the wonderful series of books and monographs on Egypt which described the varying activities of the savants he took in his train, and who, at the confines of the eighteenth and nineteenth century invaded the country of the Pharaohs, none is more remarkable than Savigny's monograph on the "Natural History" of that country. And in this folio the leech *Limnatis nilotica* was for the first time fully described and depicted.



Fig. 2.—Anterior sucker of *Hirudo medicinalis*. This is to compare with the anterior sucker of *Limnatis nilotica*, which has a characteristic dorsal slit.

This particular leech is swallowed by man, by domestic cattle, and doubtlessly by wild animals, with drinking-water. Amongst the medical writers of the Eastern world in classical times who mention leeches there was always, as there was amongst the authors of the Talmud, a great and haunting fear of leeches being swallowed, and these writers mostly wrote from the area where *Limnatis nilotica* still abounds.

According to Mastermar, who has had, as a medical officer in Palestine, a first-hand opportunity of studying this leech, the pest attaches itself to the mouth or throat or larynx during the process of swallowing, and he is convinced that if it be once really swallowed and thus reaches the stomach it is killed and digested.

Limnatis nilotica, unlike *Hirudo medicinalis*, the medicinal leech, is unable to bite through the outer integument of man and is only able to feed when it has access to the softer mucous membrane of the mouth, of

* I wonder if it is any use pointing out that the German word *Kultur* is not the equivalent—as our daily Press take it to be—of the English word "culture," brought into fashion forty years ago by Matthew Arnold. Kultur = civilization. The German word which we associate with "culture" is "Bildung."

the pharynx, or of the larynx and of the other thinner and more vascular internal mucous linings.

In Palestine these pests are particularly common in the region of Galilee and in the district of Lebanon. They are in these and other districts so plentiful in the autumn that almost every mule and almost every horse you come across is bleeding in its mouth or from its nose, for this species of leech is by no means only a human parasite. The natives, who know quite a lot about these pests, generally strain them out of their drinking water by running the water through a piece of muslin or some such sieve when they fill their pitchers. In certain districts these leeches in the local pools or reservoirs are kept in check by a kind of carp, *Capöeta fratercula*.

In the cases which recently came under Mr. Masterman's observation, the leeches were attached to the epiglottis, the nasal cavities, and perhaps most commonly of all to the larynx of their host. When they have been attached to the anterior part of the mouth, or any other easily accessible position, their host or their host's friends naturally remove them, and such cases do not come to the hospital for treatment.

The effect of the presence of this leech, *L. nilotica*, on the human being is to produce constant small haemorrhages from the mouth or nose. This haemorrhage, when the leech is ensconced far within the buccal, the nasal, or the pharyngeal passages of the host, may be prolonged, serious, and even fatal. Two fatal cases Masterman records—one of a man and the other of a young girl—both of whom died of anaemia produced by leeches.

The average patients certainly suffered. There was marked distress, usually accompanied by a complete or partial loss of voice; but all the symptoms disappeared and at once on the removal of the semi-parasite. Sometimes the leeches are attached so closely to the vocal cords that their bodies flopped in and out of the vocal aperture with each act of expiration and inspiration. The hosts of leeches so situated usually suffered from dyspnoea, and at times were hardly able to breathe.

The native treatment is to remove the leech, when accessible, by transfixing it with a sharp thorn, or they dislodge it by touching it with the so-called "nicotine" which accumulates in tobacco-pipes. But nicotine is destroyed at the temperature of a lighted pipe, so whatever the really efficient juice is, it is not nicotine. Still, as long as it is efficient, the native is hardly likely to worry about its chemical composition.

Masterman says that the two means he has found most effective were: (1) Seizing the leech, when accessible, with suitable forceps, or (2) paralysing the leech with cocaine. In the former case the surgeon is materially assisted by spraying the leech with cocaine, which partially paralyses it and puts it out of action. In the latter case, if the spraying of cocaine is not sufficient, Masterman recommends the application of a small piece of cotton-wool dipped in 30 per cent. cocaine solution, which must be brought into actual contact with the leech's body. The effect of the cocaine in contact with the skin of the leech is to paralyse it and to cause it at once to relax its hold. In such a case the leech is occasionally swallowed; but it is more often coughed up and out. Headaches and a tendency to vomit are symptoms associated with the presence of this creature in the human body; the removal of the leech or leeches coincides with the cessation of these symptoms.

In the Further East we come across another species of leech even more injurious to mankind than *Limnatis nilotica*. This Asiatic leech is known as *Haemadipsa zeylanica*, and is one of a considerable number of leeches which have left the water and live on land.



Fig. 3.—The Japanese variety of *Haemadipsa zeylanica*. × 1.

From India and Ceylon, throughout Burma, Cochin China, Formosa to Japan, the Philippines, and the Sunda Island, this terrible, and at certain elevations ubiquitous, pest is spread. It lives upon damp and moist earth. The family to which it belongs is essentially a family which dwells only in the uplands and shuns the hot, low-lying plains. Its members do not occur on the hot, dry, sandy flats. Tennant has described the intolerable nuisance they are in Ceylon. They are in fact of the many visible plagues of tropical Asia and its eastern islands perhaps the worst. Yet few have recorded their dread doings and those few have escaped credence.

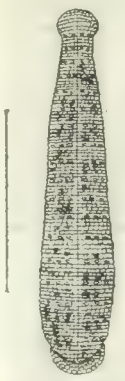


Fig. 4.—*Haemadipsa zeylanica*, seen from above. × 2. (From Blanchard.)

Each specimen of *Haemadipsa zeylanica* is of a clear brown colour with a yellow stripe on each side and with a greenish dorsal stripe. There are five pairs of eyes, of which the first four occupy contiguous rings (Fig. 5); but between the fifth and seventh ring there are two eyeless rings interposed. As in the medicinal leech there are three teeth each serrated like a saw.

In dry weather they miraculously disappear and nobody seems to know quite what becomes of them; but with returning showers they are found again on the soil and on the lower vegetation in enormous profusion. Each leech is about 1 inch in length and is about as thick as a knitting-needle. But they contract until they attain the diameter of a quill pen or extend their bodies until they have doubled their normal length. They are the most insinuating of creatures and can force their way through the interstices of the tightest laced boot, or between the folds of the most closely wound puttees. Making their sinuous way towards the human skin, they wriggle about under the underclothing until they attain almost any position in the body they wish to take up. Their bite is absolutely painless, and it is usual for the human sufferer to become aware that he has been bitten by these silent and tireless leeches when he notices sundry streams of blood running down his body when he at last has the opportunity of undressing.



Fig. 5.—*Haemadipsa zeylanica*. Head, showing the eyes and the serrations of the jaw. Highly magnified.

Sometimes, as Tennant's figure shows, these land leeches (*H. zeylanica*) rest upon the ground. At other times they ascend the twigs of herbs, grasses, and especially the leaves of the forest undergrowth. Perched upon the ends of growing shoots, leaves and twigs, stretching their quivering bodies into the void, they eagerly watch and wait the approach of some travelling mammal. They

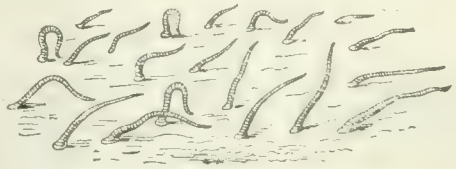


Fig. 6.—*Haemadipsa zeylanica*, land leeches, on the earth. (From Tennant.)

easily "scent" their prey, and on its approach advance upon it with surprising rapidity in semi-circular loops. A whole and vast colony of land leeches is set in motion without a moment's delay, and thus it comes about that the last of a travelling or prospecting party in a land-leech area invariably fares the worst, as these land leeches mobilize and congregate with extraordinary rapidity when once they are warned of the approach of a possible host, but not always in time to engage in numbers the advanced guard.

Horses are driven wild by them, and have poor means of reprisal. They stamp their hooves violently on the ground in the hope of ridding their fetlocks of these tangled masses of bloody tassels. The bare legs of the natives, who carry palanquins, are particularly subject to the bites of these bloodthirsty brutes, as the palanquin-bearer has no free hand to pick them off. Tennant writes that he has actually seen the blood welling over the boots of a European from the innumerable bites of these land leeches, and it is on record that during the march of the troops in Ceylon, when the Kandyans

were in rebellion, many of the Madras sepoys, and their coolies, perished from their innumerable and united attacks. It is also certain that men falling asleep overnight in a Cingalese forest have, so to speak, next morning "woke up dead." These sleepers have succumbed during the night to the repeated attacks of these intolerable and insatiable pests.

Dr. Charles Hose, for many years Resident at Sarawak, has told me that on approaching the edges of woods in Borneo you can hear every leaf rustling, and this is due to the fact that the eager leech, perched on its posterior sucker on the edge of every leaf in the undergrowth, is swaying its body up and down, yearning with an "unutterable yearning," to get at the integument of man or some other mammal.

Landon, who wrote the best book about our adventure into Thibet some ten years ago, entitled *Lhassa* (London, 1905), says of Sikkim:

> The game here is very scanty: the reason is not uninteresting. For dormant or active, visible or invisible, the curse of Sikkim waits for its warm-blooded visitor. The leeches of these lovely valleys have been described again and again by travellers. Unfortunately the description, however true in every particular, has, as a rule, but wrecked the reputation of the chronicler. Englishmen cannot understand these pests of the mountain-side, which appear in March, and exist, like black threads fringing every leaf, till September kills them in myriad millions . . . to remove them a bowl of warm milk at the cow's nose, a little slip-knot, and a quick hand are all that is required. Fourteen or fifteen successively have been thus taken from the nostrils of one unfortunate heifer.

When fully fed, a process which takes some time with *Haemadipsa zeylanica*, the individual leeches drop off; and they can be made to loosen their hold by the application of a solution of salt or weak acid. Attempts to pull them off should be avoided, as parts of the biting apparatus are then often left in the wound, and these may cause inflammation and suppuration.

When winter approaches the leeches die down with extraordinary rapidity, and the species "carry on" over the cold weather period in the form of eggs laid in cocoons on the ground, under leaves or other débris. Hence no land leech ever sees its offspring, and no land leech has ever known a mother's care.

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

F. W. Mott, M.D., F.R.C.P., F.R.S., President.

ON THE IMPORTANCE OF THE UNCONSCIOUS IN PSYCHOPATHOLOGY.

By C. G. Jung, M.D., LL.D.,

Zürich.

When we speak of a thing as being "unconscious" we must not forget that from the point of view of the functioning of the brain a thing may be unconscious to us in two ways—physiologically or psychologically. I shall only deal with the subject from the latter point of view. So that for our purpose we may define the unconscious as "the sum of all those psychological events which are not apperceived, and so are unconscious."

The unconscious contains all those psychic events which, because of the lack of the necessary intensity of their functioning, are unable to pass the threshold which divides the conscious from the unconscious; so that they remain in effect below the surface of the conscious, and flit by in subliminal phantom forms.

It has been known to psychologists since the time of Leibnitz that the elements, that is to say, the ideas and feelings which go to make up the conscious mind—the so-called conscious content—are of a complex nature, and rest upon far simpler and altogether unconscious elements it is the combination of these which gives the element of consciousness. Leibnitz has already mentioned the *perceptions insensibles*—those vague perceptions which Kant called "shadowy" representations, which could only attain to consciousness in an indirect manner. Later philosophers assigned the first place to the unconscious as the foundation upon which the conscious was built.

But this is not the place to consider the many speculative theories nor the endless philosophical discussions concerning the nature and quality of the unconscious. We must be satisfied with the definition already given, which will prove quite sufficient for our purpose, namely, the conception of the unconscious as the sum of all psychical processes below the threshold of consciousness.

The question of the importance of the unconscious for psychopathology may be briefly put as follows: "In what manner may we expect to find unconscious psychic material behave in cases of psychosis and neurosis?"

In order to get a better grasp of the situation in connexion with mental disorders, we may profitably consider first how unconscious psychic material behaves in the case of normal people, especially trying to visualize what in normal men is apt to be unconscious. To obtain this knowledge we must first get a complete understanding of what is contained in the conscious mind; and then, by a process of elimination, we can expect to find what is contained in the unconscious, for obviously—*per exclusionem*—what is in the conscious cannot be unconscious. For this purpose we examine all activities, interests, passions, cares, and joys, which are conscious to the individual. All that we are thus able to discover becomes, *ipso facto*, of no further moment as a content of the unconscious, and we may then expect to find only those things contained in the unconscious which we have not found in the conscious mind.

Let us take a concrete example: A merchant, who is happily married, father of two children, thorough and painstaking in his business affairs, and at the same time trying in a reasonable degree to improve his position in the world, carries himself with self-respect, is enlightened in religious matters, and even belongs to a society for the discussion of liberal ideas.

What can we reasonably consider to be the content of the unconscious in the case of such an individual?

Considered from the above theoretical standpoint, everything in the personality that is not contained in the conscious mind should be found in the unconscious. Let us agree, then, that this man consciously considers himself to possess all the fine attributes we have just described—no more, no less. Then it must obviously result that he is entirely unaware that a man may be not merely industrious, thorough, and painstaking, but that he may also be careless, indifferent, untrustworthy; for some of these last attributes are the common heritage of mankind and may be found to be an essential component of every character. This worthy merchant forgets that quite recently he allowed several letters to remain unanswered which he could easily have answered at once. He forgets, too, that he failed to bring a book home which his wife has asked him to get at the book store, where she had previously ordered it, although he might easily have made a note of it in his notebook. But such occurrences are common with him. Then there can be no other conclusion reached but that he is also lazy and untrustworthy. He is convinced that he is a thoroughly loyal subject; but for all that he failed to declare his entire income to the assessor, and so, when they raise his taxes, he votes for the Socialists.

He thinks he is an independent thinker, yet a little while back he undertook a big deal on the Stock Exchange, and when he came to enter the details of the transaction in his records he noticed with considerable misgivings that it fell upon a Friday, the 13th of the month. Therefore, he is also superstitious and not a free thinker.

So we are not at all surprised to find here these compensating vices to be an essential content of the unconscious. Obviously, therefore, the reverse is true—namely, that unconscious virtues compensate for conscious deficiencies. The law which ought to follow as the result of such deductions would appear to be quite simple—to wit, the conscious spendthrift is unconsciously a miser; the philanthropist is unconsciously an egoist and misanthrope. But, unfortunately, it is not quite so easy as that, although

there is a basis of truth in this simple rule. For there are essential hereditary dispositions of a latent or manifest nature, which upset the simple rule of compensation, and which vary greatly in individual cases. From entirely different motives a man may, for instance, be a philanthropist, but the manner of his philanthropy depends upon his originally inherited disposition, and the way in which the philanthropic attitude is compensated depends upon his motives. It is not sufficient simply to know that a certain person is philanthropic in order to diagnose an unconscious egoism. For we must also bring to such a diagnosis a careful study of the motives involved.

In the case of normal people the principal function of the unconscious is to effect a compensation and thus produce a balance. All extreme conscious tendencies are softened and toned down through an effective opposite impulse in the unconscious. This compensating agency, as I have tried to show in the case of the merchant, maintains itself through certain unconscious, inconsequent activities, as it were, which Freud has very well described as symptomatic acts (*Symptomhandlungen*).

To Freud we owe thanks also for having called attention to the importance of dreams. For through dreams, also, we are able to learn about this compensating function. There is a beautiful historical example of this in the well-known dream of Nebuchadnezzar in the fourth chapter of the Book of Daniel, where Nebuchadnezzar at the height of his power had a dream which foretold his downfall. He dreamed of a tree which had raised its head even up to heaven and now must fall. This is a dream which obviously compensates the exaggerated feeling of royal power.

Coming now to conditions in which the mental balance is disturbed, we can the more easily see, from what has preceded, wherein lies the importance of the unconscious for psychopathology. Let us consider the question of where and in what manner the unconscious manifests itself in abnormal mental conditions. The way in which the unconscious works is most clearly seen in disturbances of a psychogenic nature, such as hysteria, compulsion neurosis, etc.

We have known for a long time that certain symptoms of these disturbances are produced by unconscious psychic events. Just as clear, but less recognized, are the manifestations of the unconscious in actually insane patients. As the intuitive ideas of normal men do not spring from logical combinations of the conscious mind, so the hallucinations and delusions of the insane arise not out of a conscious but out of unconscious processes.

Formerly, in a more materialistic epoch of psychiatry, we were inclined to believe that all delusions, hallucinations, stereotypic acts, etc., were provoked by morbid processes in the brain cells. Such a theory, however, forgets that delusions, hallucinations, etc., are also to be met with in certain functional disturbances, and not only in the case of functional disturbances but also in the case of normal people. Primitive people may have visions and hear strange voices without having their mental processes at all disturbed. To seek to reduce symptoms of that nature directly to a disease of the brain cells I hold to be superficial and unwarranted. Hallucinations show very plainly how a part of the unconscious content can force itself across the threshold of the conscious. The same is true of a delusion whose appearance is at once strange and unexpected by the patient.

The expression "mental balance" is no mere figure of speech, for its disturbance is a real disturbance of that mental balance which exists more actually between the unconscious and conscious content than has heretofore been recognized or understood. As a matter of fact, it amounts to this—that the normal functioning of the unconscious processes breaks through into the conscious mind in an abnormal manner, and thereby disturbs the adaptation of the individual to his environment.

If we study attentively the history of any such person coming under our observation we shall often find that he has been living for a considerable time in a sort of peculiar individual isolation, more or less shut off from the world of reality. This constrained condition of aloofness may be traced back to certain innate or early acquired peculiarities, which show themselves in the events of his life. For instance, in the histories of those suffering from dementia praecox we often hear such a remark as this: "He was always of a pensive disposition, and much shut up in himself. After his mother died he cut himself off still more from the world, shunning his friends and acquaintances." Or again, we may hear, "Even as a child he devised many peculiar inventions; and later, when he became an engineer, he occupied himself with most ambitious schemes."

Without discussing the matter further it must be plain that a counter-irritant is produced in the unconscious as a compensation to the onesidedness of the conscious attitude. In the former case we may expect to find an increasing pressing forward in the unconscious of a wish for human intercourse, a longing for mother, friends, relations, while in the latter case self-criticism will try to establish a correcting balance. For in the case of normal people a condition never arises so one-sided that the natural corrective tendencies of the unconscious entirely lose their value in the affairs of everyday life. On the other hand, in the case of abnormal people, we find it eminently characteristic that the individual entirely refuses to recognize the compensating influence which arises in the unconscious, and even continues to increase his onesidedness according to the well-known psychological fact that the enemy of the wolf is the wolf-hound, of the negro the mulatto, and that the greatest fanatic is the convert; for I should be a fanatic were I to attack a thing outwardly which inwardly I am obliged to concede as right.

The mentally unbalanced man tries to defend himself against his own unconscious, that is to say, he battles against his own compensating influences. The man already dwelling in a sort of atmosphere of isolation continues to remove himself further and further from the world of reality, and the ambitious engineer strives by increasingly morbid exaggerations of invention to prove the incorrectness of his own compensating powers of self-criticism. As a result of this a condition of excitation is produced, from which results a great lack of harmony between the conscious and unconscious attitudes. The pairs of opposites are torn asunder, the resulting division or strife leads to disaster, for the unconscious soon begins to intrude itself violently upon the conscious processes. Then come odd and peculiar thoughts and moods, and often incipient forms of hallucination, which plainly bear the stamp of the internal conflict.

These corrective impulses or compensations which now break through into the conscious mind should really seem to be the beginning of the healing process, because through them the previously isolated attitude ought apparently to be relieved. But in reality this does not result, for the reason that the unconscious corrective impulses which thus succeed in making themselves apparent to the conscious mind do so in a form that is altogether unacceptable to consciousness.

The isolated individual begins to hear strange voices, which accuse him of murder and all sorts of crimes. These voices drive him to desperation and in the resulting agitation he tries to get into contact with the surrounding *milieu* and does what he formerly had anxiously avoided. The compensation, to be sure, is reached, but to the detriment of the individual.

The pathological inventor, who is unable to profit by his previous failures, still allows himself, by refusing to recognize the value of his own self-criticism, to come to still more absurd designs. He wishes to accomplish the impossible but falls into the absurd. After a while he notices that people talk about him, make unfavourable remarks about him, and even scoff at him. He believes a far-reaching conspiracy exists to frustrate his discoveries and render them objects of ridicule. By this means his unconscious brings about the same results that his self-criticism could have attained, but again only to the detriment of the individual, because the criticism is projected into his surroundings.

An especially typical form of unconscious compensation—to give a further example—is the paranoia of the alcoholic. The alcoholic loses his love for his wife; the unconscious compensation tries to lead him back again to his duty, but it can only partially succeed, for it only causes him to become jealous of his wife as if he still loved her. As we know he can even go so far as to kill his wife and himself merely through jealousy. In other words, his love for his wife has not been entirely lost, it

has simply become subliminal. But from the realm of the unconscious it can now only reappear in the form of jealousy.

Something of a similar nature we see in the case of religious converts. Everyone who turns from Protestantism to Catholicism has, as is well known, the tendency to be somewhat fanatic. His Protestantism is not entirely relinquished, but has merely disappeared into the unconscious, where it is constantly at work as a counter-irritant against the newly acquired Catholicism. Therefore the new convert feels himself constrained to defend the faith he has adopted in a more or less fanatical way. It is exactly the same in the case of the paranoiac, who feels himself constantly constrained to defend himself against all external criticism, because his delusive system is too much threatened from within.

The strange manner in which these compensating influences break through into the conscious mind derives its peculiarities from the fact that they have to struggle against the resistances already existing in the conscious mind, and therefore present themselves to the patient's mind in a thoroughly distorted manner. And secondly, these compensating equivalents are obliged necessarily to present themselves in the language of the unconscious—that is, in material that is of a heterogeneous and subliminal nature. For all that material in the conscious mind which is of no further value and can find no suitable employment becomes subliminal, such as all those forgotten infantile and fantastic creations that have ever entered the heads of men, of which only the legends and myths still remain. For certain reasons which I cannot discuss further, this latter material is frequently found in dementia praecox.

I hope I may have been able to give in this brief contribution, which I feel to be unfortunately incomplete, a glimpse of the situation as it presents itself to me of the importance of the unconscious in psychopathology. It would be impossible in a short discourse to give an adequate idea of all the work that has already been done in this field.

To sum up, I may say that the function of the unconscious in conditions of mental disturbance is essentially a compensation of the content of the conscious mind. But because of the characteristic condition of onesidedness of the conscious striving in all such cases, the compensating correctives are rendered useless. It is, however, inevitable, that these unconscious tendencies break through into the conscious mind, but in adapting themselves to the character of the one-sided conscious aims, it is only possible for them to appear in a distorted and unacceptable form.

The Significance of the Unconscious in Psychopathology.

Dr. Ernest Jones contributed a paper, which in his absence was read by the Honorary Secretary. Dr. Jones considered that there were three different current uses of the term "unconscious." In the first it was regarded as a synonym for "non-mental," and was, therefore, not concerned with psychopathology at all. The second conception of the unconscious was purely philosophical, as developed by such writers as Hartmann, Meyers, Jung, and others; the field of psychopathology was hardly an appropriate one in which to deal with it. The third conception of the unconscious was the scientific one, developed by Freud. He divided those mental processes not accompanied by awareness into two groups, the preconscious and the unconscious proper, and Dr. Jones proposed to use the term in the latter sense. Freud's conception was characterized by the fact that it was a purely inductive one, being built up step by step on the basis of actual experience without the introduction of any speculative hypothesis, philosophical, mystical, or other. As the result of his investigations of actual unconscious mental processes he acquired a gradually increasing knowledge of their nature, content, meaning, origin, and significance, and was therefore able to formulate some general statements. Of these the most important concerned both the origin and the content of the unconscious, and was to the effect that its existence was the result of repression. Unconscious processes were of such a kind as to be incompatible with the conscious ones of the given personality, and were therefore prevented from entering consciousness by the operation of certain actively inhibiting, "repressing" forces. The incompatibility was of a moral order in the widest sense of the word. The processes in question flagrantly conflicted with the moral, social, ethical, modest, or aesthetic standards that obtained in the person's consciousness, and he automatically refused to acknowledge to himself their presence in his mind. In this action of repression only a very small part was played by what might be described as a deliberate conscious pushing of certain thoughts out of the mind; much more extensive was the subconscious keeping apart of the two sets of incompatible mental processes. A second characteristic of the unconscious was its dynamic nature. Unconscious processes were typically conative in kind, and might thus be conveniently, and not inaccurately, described as wishes. These wishes were constantly striving for gratification, imaginary or real, and it was to this striving that the external manifestations of the unconscious were to be ascribed.

Closely allied to the preceding features of the unconscious was the third—its relation to primary instincts—it being the part of the mind that stood nearest to the inborn and original form of these. Commonly it was not realized how extensive was the work performed by the refining influences of education, nor how violent the internal conflict they provoked before finally achieving their aim. Without them the person would remain a selfish, aggressive, immodest, dirty, and cruel animal, inconsiderate of the needs of others, and unmindful of the complicated social and ethical standards that went to make civilized society. The results of this refining process were rarely quite satisfactory; there remained throughout life a buried mass of crude primitive tendencies, always struggling for expression, and towards which the person tended to relapse whenever suitable opportunity offered.

In accord with these features was the infantile nature and origin of the unconscious. The splitting of the mind into conscious and unconscious regions took place in the earliest part of childhood, and the infantile character of the unconscious persisted throughout the whole of life. To be correlated with the infantile nature of the unconscious was the circumstance that it ignored not only moral but also logical standards. It had a logic of its own, but it was one of the emotions and not of the reason. From the usual point of view it would be called illogical. Just as the phantasy could overstep the bounds of time and space, so did the unconscious ignore all reasonable and logical considerations. The sixth attribute of the unconscious was its predominantly sexual character. This might have been expected from the fact that no other primary instinct was subjected to anything like the same intensity of repression. The apparent contradiction between this attribute and the preceding one concerning the infantile nature of the unconscious was resolved when the fallaciousness of the popular belief that dates the sexual instinct from the time of puberty was remembered. Freud and others had produced abundant evidence to show that it was actively operative long before this time, though what was called infantile sexuality differed widely from the adult form, being much more diffuse, tentative, and preliminary in nature. Two of these differences were the close association between infantile sexuality and excretory functions, and the absence of the incest barrier.

These conclusions might be summarized as follows: The unconscious was a region of the mind the content of which was characterized by being repressed, conative, instinctive, infantile, unreasoning, and predominantly sexual. The six attributes, together with others not mentioned, made up a consistent and clearly defined conception of the unconscious formulated on the basis of experience that might at any time be tested.

The significance of the unconscious in psychopathology might be discussed under four headings. In the first place a knowledge of its content and mode of operation furnished a key for the understanding of numerous morbid manifestations that previously seemed bizarre and meaningless; it had given a consistent interpretation of them, and had revealed their coherent and intelligible structure. The reason was that all psychopathological symptoms arose in the unconscious, which was the true seat of the disorder, so that the investigation of it was of cardinal importance for both pathology and therapeutics. In the

second place, this knowledge made clear not only the meaning of the manifestations, but also the causation of them. Normally a great part of the energy pertaining to the repressed trends of the unconscious was diverted ("sublimated") to permissible, social aims. This denoted a partial renouncement of the crude pleasures obtained by indulging in these tendencies, and a replacement of them by other, more or less satisfactory, refined ones. Many persons found it by no means an easy matter to achieve this renouncement, and were in constant danger of relapsing into the old indulgences and gratifications, particularly when the attractions of the more refined aims flagged, as they must whenever the environment became more painful, difficult, or disagreeable. Then the mental interests and energies were apt to "regress" towards older and more primitive modes of functioning. In this regression, however, they were checked by the repressing forces on which the original sublimation depended. In the resulting conflict neither set of forces was entirely successful; on the one hand the repressing forces managed to prevent a complete return to the primitive modes of gratification, while on the other they failed in transforming the energies in question into sublimated activities. A compromise was reached whereby both sets of forces came to expression, though only in a partial and disguised way; these compromise formations were clinically called symptoms, and constituted the various psychopathological maladies. In the third place, the knowledge gained by investigation of the unconscious bridged over the gap between the normal and the abnormal by demonstrating that the same processes went on in both, though the control of the unconscious ones by consciousness was greater in the case of the former. Roughly speaking, insanity presented a picture of the normal unconscious. Last, but not least, was the remarkable aid that this knowledge had yielded for the treatment of psychopathological maladies. Up to the present this had been far greater in the case of the psychoneuroses than in that of the psychoses, but there it had already proved so valuable that the hope was justifiable that further researches might be profitable from this point of view in the case of the latter group also. The mode of action of the treatment, in a word, was that the overcoming, by means of psycho-analysis, of the resistances that were interposed against the making conscious of the repressed unconscious material gave the patient a much greater control over this pathogenic material by establishing a free flow of feeling from the deeper to the superficial layers of the mind, so that the energy of the repressed tendencies could be diverted from the production of symptoms into useful social channels.

DISCUSSION.

Dr. M. D. EDER said that part of the reluctance to accept some of the statements in the literature of psycho-analysis was, he thought, due to the difficulty experienced in describing scenes of warm, actual life. It required a more graphic pen than most possessed to put into words the behaviour of the individual disclosed during analysis. It consisted not only of verbal statements and misstatements, but of a constant and accompanying change of expression. A phonograph which should repeat the exact language, and a cinematograph which should picture the accompanying expressions and movements of the individual, would still leave out the stress laid upon certain words and sentences. Difficult as this kind of sign-language was to embody into reports of cases, it was one of the most important clues to the appreciation of the unconscious. The following example illustrated the symbolic speech and action going on throughout the process of analysis:

A patient, suffering from a minor degree of visual defect, asked early in analysis to be recommended an eye doctor, and was given the name of a well-known London surgeon; a few days later the patient mentioned that he did not think the new glasses suited him as well as the old; very soon he announced with apparent annoyance he had lost the new glasses. His father had, in the meantime, recommended him an oculist to whom he now went, with exactly the same result. Following up this subject it was found that everything to do with eyesight and glasses had presented difficulties. He had first required glasses as a student in Berlin, and a friend of his father had recommended him one of Berlin's best known eye doctors, but the patient had then found the prescribed glasses quite impossible. He had come across some advertising oculist, and it was then that he first found the suitable spectacles which he had continued to use. Fear of blindness was so insistent that although he had only a minor degree of myopia he had learnt the Braile system when a youth, giving the sensible explanation that it was always well to be prepared against all emergencies. Some time later, when the position had cleared up, the glasses obtained from the London surgeon were, he said, found under some letters in his desk. The explanation of this symbolic language was easier to realize than it was to discover. He used his visual defect as a barrier against accommodating himself to any fresh position or outlook; at college, for instance, it served as an excuse for games; in later years it was an equally ready excuse against reading, meeting people, and so on. He was sure that all his difficulties arose from his father's misunderstanding, so he would not see through glasses that came in any way through his father. The hostility towards Dr. Eder was symbolized by the lost glasses; he refused to believe that any enlightenment was to be got through analysis; he preferred to keep up his phantasies. But as the situation developed, and he discovered that he could be helped, he found the glasses, and admitted that they suited him admirably.

This incident could be treated in terms of an incest phantasy—a father complex; the fear of blindness could be understood as a fear resulting from repression of sexual curiosity. This was present also, but was not the main difficulty; his trouble was what the East called the vice of separateness—a refusal to recognize that human beings must stand in some relationship to one another. Leaving aside the expression of the unconscious, there were some statements as to its content made in Dr. Jones's note which it seemed necessary to refute. Dr. Jones stated that certain unconscious mental processes were prevented from entering consciousness by forces of a "moral" order—were imposed upon the individual by the refining influences of education. The primary instincts were to him entirely egocentric and brutal. If this view of the unconscious were to be accepted it must be asked whence was derived the moral forces that obtained in civilization? Whence was the origin of this educational influence? Unless the germ were potential in human beings—unless it were present in the unconscious—how could it be imposed from without? Each individual had to go through a long process of individual education in order to reach the highest, but the possibility of individual reaction to such discipline must be present from the beginning. Each individual, for instance, acquired more or less painfully and more or less perfectly the art of writing, but the potentiality to acquire that art was universally present in man. So it was with the moral endowments of mankind; they were as primary as the egocentric impulses, and formed equally part of the unconscious. Dr. Jones seemed to rate consciousness as too "moral" and the unconscious as too bestial. So far from Jung's view of the unconscious being static, it was charged with movement—indeed, Dr. Jung had given a dynamic value to the concept of the libido. Here was a source of daily conflict, so long as the conscious mind did not deal with the problems passed on to it; set free from these, the unconscious was available for the solution of those of deeper moment. Though recognizing to the full the great importance of sexual instinct, of the infantile sexual life and its repression, Dr. Eder could but think it unreal to leave out of psycho-analysis, or rather out of the presentation of it, much else that dwelt in the unconscious, was dynamically active, and went to make up the whole being.

Dr. CONSTANCE LONG said that in speaking of the unconscious to colleagues it was not unusual to see a shiver pass over them as if something uncanny had been touched—something of which they were dimly aware and not a little afraid. This fear came from the unconscious itself, and was evidence of the bias which existed therein against a view too exclusively scientific. The unconscious, like the Ark of the Covenant among the Philistines, was misunderstood. Freud had brought it forward as a wild beast "waiting its hour to spring." It was not necessary to be altogether grateful for this conception, but it was at any rate arresting—was, moreover, half true. The unconscious, as Dr. Jung had shown, was not only an enemy, but a friend with infinitely delicate perceptions. Freud had provided a technique of precision; the Zürich school had shown that there was another than a reductive side to this science—that there was a constructive side—and that it was not necessary always to look to the lower to explain the higher, nor persistently reduce a personality to its sexual components; it was reasonable, therefore, to pursue this science, which, after

all, was as yet in its infancy. It was clearly time to cease to apply physical treatment to psychical disease. The unconscious, which declared itself so disastrously in insane imaginings and neurotic symptoms, could also be adapted to use as a means of cure. The analysis of dreams and symptomatic acts afforded a way of reaching an understanding of the psychological mechanisms behind this phobia or obsession, and, as Professor McDougall had so aptly said, what was wanted was "not so much explanation as understanding."

Dr. R. H. Steen said that the very fact that the discussion was taking place indicated that the subconscious was at last finding its proper position in psychiatry and neurology. Several factors had interfered, and were interfering, with a more widespread consideration of the subject. The first was the expression "the subconscious mind." When mind was defined as synonymous with consciousness such an expression was of course ridiculous, and the student was apt to turn away from the study in disgust. The facts of life, however, were not bound by definitions, and he did not see why mind should not be defined in such a manner as to include the unconscious, or if this were objected to, the term "psyche" might be used to include both the unconscious and the conscious. The second factor was the confusion in the terminology. Freud wrote of the preconscious (or foreconscious) and the unconscious, with two censors, one between the foreconscious and consciousness, and the other between the unconscious and the foreconscious. Morton Prince described a co-consciousness and an unconsciousness as subdivisions of the subconscious and so on. In making these criticisms on what were, after all, minor matters, Dr. Steen did not desire to minimize the importance of the subconscious, for the more he studied it the more valuable did he find it. For the proper understanding of the psychoses a knowledge of the subconscious was essential. A beginning had been made by the studies of Jung in dementia praecox, and by Freud and his disciples in paranoia. Among the patients in a mental hospital the bubbling up of subconscious influences to the surface was seen on all sides. The stereotyped movements of the case of dementia praecox would first attract attention. On a neighbouring seat would be seen a patient smiling and talking to himself, enjoying the phantasies fed by his subconsciousness; another patient without warning, quick as lightning, was up and darting for the window. If asked why he did so he said he could not tell, and he spoke the truth, for the reason was in the subconscious. All these things required further study, and the difficulty of the study was increased by the fact that the moment the searchlight of attention was turned on the subconscious it ceased to be subconscious. Still by hypnotism, by the association test, and by other means the subconscious could be tapped and studied. On the other hand, he was not optimistic as to the therapeutic value of the study so far as the psychoses were concerned He believed that in the greater number of instances the psychoses were caused by toxins of endogenous nature. The study of the subconscious would tell why the symptoms occurred in such and such a form. For example, if a person given chloroform was delirious in the early stages of the administration of the anaesthetic, a study of the subconscious would reveal the reason of the disordered speech and excitement, but the real cause of the delirium was the chloroform. In like manner the study of the subconscious would bring enlightenment as to the meaning of the symptoms in dementia praecox, but the real cause was the toxin underlying the condition. Still, the discovery of new laws of nature might have unexpected results, and for this reason he welcomed the discussion, and thanked Dr. Jung for his most interesting opening remarks.

Dr. Crichton Miller (London) said that when Freud's technique and theories were first brought to his notice he shared with many others a sense of extreme scepticism with regard to both. Then, as he did more psycho-analysis, he realized that the findings that resulted were incontestable, but recognized, first, that the theoretical interpretation put upon the facts by Freud was exceedingly distasteful (especially to one educated in Scotland), and, secondly, that it was only the psycho-analyst who could appreciate the validity of the data, in that the direct observation of the patient's behaviour and reaction to correct and incorrect interpretations was the basic element in their convincing truthfulness. Dr. Jung had offered an interpretation which was intrinsically opposed to Freud's, which seemed more adequate and far more consonant with the general philosophy of life. The average medical man was frightened by the talk of psycho-analysts—they spoke too metaphysically; the technique was too elaborate; the treatment was prolonged. He would appeal for a much more simple thing—namely, a truer psychological outlook in all diagnosis and in all practice. The necessity for careful and adequate physical investigation and treatment was as great as ever, but the unjustifiable attitude was that of obstinately refusing to consider the possibility of a psychic factor and the prolonged and often futile search for a physical cause of disease.

Dr. Alfred T. Schofield was pleased with the unusual courage of Dr. Jung in speaking of the unconscious and not the subconscious, this latter being really a mental territory lying between consciousness and unconsciousness. He had alluded to hysteria, a true affection of the unconscious mind, in contrast to neurasthenia, which was not. In it the ordinary *vis medicatrix naturae* was more or less reversed and acted detrimentally to the body. He asked whether hysteria might not be a mania of the unconscious, just as insanity was a mania of the conscious. That this was so would appear from the treatment in both cases. If in insanity the conscious was disordered while the unconscious remained normal, then the treatment was to help the abnormal by means of the normal. All that appealed to the unconscious was therefore used —no confining walls, no restraints, ordinary food, servants, etc.—and it was these means that were found most effectual by alienists. In hysteria the appeal should be to the conscious mind by means of steady discipline and occupation, rewards and punishments, and education. Dr. Schofield concluded by expressing the highest admiration of Dr. Jung's paper.

SOME CONSIDERATIONS REGARDING INSANITY IN THE HIGHLANDS.

By T. C. Mackenzie, M.D.,
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(*Abstract.*)

The Inverness Lunacy District is one-third of the total area of Scotland. Its population is, however, sparse and steadily decreasing. There is much intermarriage of relatives. The asylum was opened in 1864, and 212 (158 being transfers) patients were admitted the first year; of these, 3 male patients still survive. The proportion of the insane belonging to the Inverness district has risen from 1.5 in 1864 to 4.1 per 1,000 of the population in 1913. There has been a decrease in the number of patients admitted to the asylum under 30 years of age (due to emigration), and an increase in those of 70 years and upwards. The average annual resident population has grown from 200 in 1865 to 672 in 1914. Boarding out is systematically pushed at Inverness, with the result that this district easily heads the field for Scotland with a percentage of 38. The economical advantage of this is obvious.

With regard to the family history of insanity, accurate accounts were obtained in 226 cases out of 613 admissions for the last four years. These results showed that one-third had had relatives previously in the asylum; one-fourth had relatives who were mentally defective but uncertified; one-eighth had relatives already in the asylum; and in one-ninth of the cases relatives of the patient had already died in the asylum. The comparatively small number of families and individuals within the district is responsible for a relatively high contribution to the total number of cases coming under care and treatment.

In July, 1914, with an asylum population of over 700, there were only 6 cases of general paralysis in the asylum. These are all men who have spent many years of their lives out of the Highlands.

The predominating mental affections in the Highlands are in the order of their frequency: Melancholia, mania, dementia, congenital mental deficiency, epilepsy, and, to a very small extent, general paralysis.

DR. JOHN MILLS said that in the District Asylum, Ballinasloe (Ireland), similar conditions existed to those described by Dr. Mackenzie. The population was largely Celtic, living in remote and scattered villages. The admission rate to the asylum was affected to the extent of 11 per cent. by returned emigrants, who had broken down under the stress and strain of conditions very different from the simple life to which they had been accustomed. The occurrence of general paralysis was unknown in the native population, but occurred among returned emigrants and ex-soldiers, sailors, and artisans. There was a tendency to a large increase of admissions for the senile period and a lesser increase in the adolescent period. There had been a similar increase in the ratio of insane to 1,000 of the population which in Ireland was higher in the Celtic counties than in the others.

EPILEPSY AND CEREBRAL TUMOUR.

By WILLIAM ALDREN TURNER, M.D., F.R.C.P.Lond.,

Physician to King's College Hospital, and to the National Hospital for the Paralysed and Epileptic, Queen Square, London.

(*Abridged.*)

IT has been recognized for a long time that tumour of the brain may give rise to seizures having features in no respect different from those occurring in the so-called idiopathic or genuine epilepsy. This variety of the disease forms one of the secondary or symptomatic epilepsies.

When epileptic attacks arise coincidently with the general symptoms of a cerebral tumour, or precede their onset by a short time, little difficulty is experienced in forming an opinion of the probable cause of the seizures or of diagnosing the symptomatic character of the epilepsy.

But the type of case to which I wish to call attention in this communication is that form of symptomatic epilepsy which is characterized by the recurrence of fits in all respects resembling those of genuine epilepsy *over long periods of time* before the symptoms or signs of the intracranial tumour, to which the seizures in all probability are due, obtrude themselves.

The diagnosis of epilepsy may be made legitimately in these cases on account of: First, the persistence of the seizures, amounting to no less than sixteen years in one of my cases, without any physical signs of cerebral tumour being apparent; secondly, the generalized character of the attacks; thirdly, the recurrence of the fits, as in ordinary epilepsy; and, lastly, the definite arresting influence on the fits of the bromide salts.

It is difficult to ascertain just what is the frequency of this variety of symptomatic epilepsy. If it were possible to follow throughout the history of most of our epileptic patients, I think it would be conceded that cerebral tumour was probably a more frequent cause of the disease than is at present accepted, more especially of that variety of epilepsy which begins in later adolescence.

It is necessary, however, to state that no case has been included in this series in which the fits had not been present for at least twelve months prior to the detection of the symptoms or signs of intracranial tumour. That is to say, no case has been included in which the diagnosis of epilepsy could not have been made with fair reason, having regard to the character, frequency, and course of the seizures, and the absence of signs of gross disease of the brain.

In the collected cases the disease began between the ages of 21 and 52 years—in no case did the onset of the fits coincide with the period of puberty. Epilepsy from cerebral tumour may be deemed to be a variety of "late" epilepsy, being especially prone to come on during the later years of adolescence or in adult life.

In one case epileptic fits had been recurring for sixteen years before the development of the signs of cerebral tumour, but the average duration of the epilepsy before the obtrusion of the symptoms of organic disease in the remainder was just over four years, with a variation of from two to nine years.

The fits presented all the features which are generally regarded as characteristic of epilepsy—namely, general epileptic fits without warning; general epileptic fits with local warning; general epileptic fits with post-convulsive hemiparesis of the limbs most convulsed; so-called vertiginous attacks with slight general convulsions, twitchings, and tonic spasms of the head and eyes, limbs, or body; the "uncinate" fit, with or without convulsion; psychical attacks—lapses of memory, "spells," and automatism.

As the underlying lesion is of a progressive nature, the fits tend to alter in character as the disease advances. This should be regarded as an important feature in the clinical study of this type of epilepsy, as, in the idiopathic disease, once the general type of fit has been established gross variations are unusual. Thus, in some cases the disease was ushered in by general convulsions recurring at long intervals, which gave place in the later stages to attacks of a more definitely focal or epileptiform type. In another group, in the early stages, attacks having the features either of the "Broca" or the "uncinate" fit were replaced in the later stages by fits with generalized convulsions. In other cases major convulsive seizures gave place to attacks of *le petit mal*, or vice versa.

As regards frequency and time incidence, the seizures correspond to those in the idiopathic disease—that is to say, the fits may recur at intervals of several months, or as often as several in the day. They may come on only during sleep, or only during waking hours, or both; sometimes they occur in series.

Topographical Features.

The cases have been classified into two subgroups according to the situation of the tumour as demonstrated by operation. The exact site and area of the tumour were, in consequence, not accurately defined, but for practical purposes its position was sufficiently ascertained.

(*a*) *Epilepsy and Fronto-parietal Tumour.*—In tumours of this region the seizures are of two kinds: First, generalized epileptic convulsions with or without a warning sensation, and secondly, fits of a more definitely focal type.

In the attacks without warning deviation of the head and eyes to one side, with, perhaps, a movement of the whole body in the same direction may be followed by tonic spasm and clonic twitchings of the trunk and limbs. A temporary hemiparesis may be observed in the limbs most convulsed. The constant appearance of a unilateral extensor plantar response is significant. If a warning sensation is described, it may be either motor or sensory, and is referred to the face, hand, or foot on the side opposite to the tumour.

Attacks of a minor or *petit mal* type may also be observed in this group. Thus sensations, vertiginous attacks, dazed feelings, with or without muscular twitchings of the eyelids or face, are described.

The second type of fit occurring with tumour of this region, when the lesion is located on the left side and towards the base, is characterized by sudden temporary aphasia, sometimes associated with general convulsion, at other times more purely epileptiform, and having a facio-linguo-mandibular distribution. This latter type is characteristic of an irritative lesion of Broca's convolution and the adjoining parts. The fit may be followed by a temporary loss of speech. My colleague, Dr. Grainger Stewart, who has also described these attacks, describes the purely motor character of the aphasia, and calls attention to the superficial resemblance which this condition bears to general paralysis of the insane. The term "Broca" fit may well be applied to this type of seizure, as it indicates both the prominent feature of the attack and the locality of the lesion.

In one case of this kind, temporary aphasic seizures, which were present for five years before the development of definite signs of intracranial tumour, were not looked upon as important, until general epileptic convulsions, with loss of consciousness, attracted attention. The latter recurred for some months, and gave way to focal attacks affecting the face, tongue, lower jaw, and sometimes the right arm, without loss of consciousness. During these seizures speech was inhibited, but returned within a short time of the cessation of the fit.

(*b*) *Epilepsy and Temporo-sphenoidal Tumour.*—Two types of seizure occur in association with tumours of this region—first, a generalized epileptic attack of either the major or minor variety of idiopathic epilepsy; and, secondly, the "uncinate" fit, long ago described in detail by Hughlings Jackson.

The former type would appear to occur with tumours of the cortex and subcortical white matter of the external part of the lobe; the latter is characteristic of lesion of

the gyrus uncinatus, when it is the seat of an irritative lesion, either primary or encroaching from adjoining parts.

The association of the two types of fit may be met with in the same case. Thus, a warning sensation of flavour or of smell or taste may be followed by general convulsions. In one case general epileptic fits occurring only during sleep were succeeded by others during the day of a warning sensation of a disagreeable taste coming up from the stomach into the mouth.

Just as the "Broca" fit, already mentioned, has features locating the lesion in the left inferior frontal gyrus and adjacent tissues, so the "uncinate" fit is distinguished by outstanding characters which it is perhaps unnecessary to recall in detail here, and locating the lesion on the mesial aspect of the temporo-sphenoidal lobe. It may be mentioned, however, that the symptomatology of the fit refers especially to the digestive system. Warning sensations of smell and flavour—in some cases of a pleasant, in others of a disagreeable kind—may be followed by a "dreamy" state, in which smacking movements of the lips, chewing movements, and sometimes spitting acts, have been observed.

In the later stages these attacks may be accompanied by paraesthesias of one side of the body or by convulsive movements of the limbs on the side opposite to the lesion.

The attacks of minor epilepsy described in tumours of the temporo-sphenoidal lobe, in addition to those already mentioned, are "dreamy" sensations, temporary lapses of memory, and momentary blurrings of consciousness, in which the face changed colour and objects might be dropped from the hands.

Summary.—In the foregoing remarks I have attempted to show briefly that tumours involving the cortex and subcortical white matter of a cerebral hemisphere may give rise to seizures having features characteristic of idiopathic epilepsy. These attacks may precede the onset of the symptoms and signs of intracranial tumour by many years and render the diagnosis of the true cause of the attacks well-nigh impossible. The existence of certain signs, however, favours the presence of an organic lesion; such are a well-defined local warning, the presence of some degree of post-convulsive hemiplegia, inequality of the deep reflexes on the two sides, unilateral abolition or impairment of the abdominal reflexes, and, above all, the development of an extensor plantar response. Eventually more decided evidence of a destroying lesion is shown in hemiplegia, hemianaesthesia, hemianopsia or aphasia, according to the locality of the tumour. When along with such well-marked signs, optic neuritis and the other general symptoms of intracranial new growth are present, there is no longer any doubt that the seizures are symptomatic of a cerebral tumour. It is therefore important in all cases of epilepsy to examine the reflexes and the optic discs from time to time, especially if a decided change occurs in the character of the fits or a new symptom develops.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE TREATMENT OF ENTERIC FEVER.

AN experience during the South African war which much impressed me at the time is recalled to my mind by Major Broadbent's advocacy of the use of an icebag suspended near to the patient's abdomen.

In June, 1901, when on the high veldt, I had among my patients about twenty suffering from enteric fever. Our camp had been surrounded and attacked the whole day, so that when night fell there was no opportunity for repitching tents, and one had to leave the men, well wrapped in blankets, out in the open. The night was intensely cold, and it was with forebodings of finding several dead that I went to see them in the morning. None were dead; and to my astonishment the most severe cases showed a wonderful improvement, and the whole picture was in striking contrast with that presented by the same men who had previously been treated in army tents. Delirium and restlessness were quieted, temperatures were lower, tongues and mouths were cleaner and moister. I could only attribute the good effects to the antipyretic action of the cold air respired by the lungs. My cases being quickly removed to a base hospital, I had no opportunity of further adopting this treatment.

Hydrotherapy has claimed good results; is it not possible that the persistent inhalation of cold air might prove more efficient and safer? I venture to suggest that the improvement which Major Broadbent has observed is due more to the cooling effect of the ice upon the air than to the local effect upon the exposed portion of abdomen.

Since that war I have had little experience in the treatment of enteric fever, and I do not know whether cold dry air has been tried in the treatment of this particular disease, or for diseases such as malaria, sprue, etc., which tend to persist in hot countries, and are generally quickly benefited by change to a cooler one,—I am, etc.,

London, E.C. OLIVER BEDDARD, M.D.

Reports of Societies.

ULSTER MEDICAL SOCIETY.

AT a meeting on November 26th, Dr. J. S. MORROW, President, in the chair, Dr. J. A. Milroy and Dr. J. F. Craig, of Bangor, were elected Fellows, and Drs. John Ewing, W. R. Hayden, J. B. Logan, S. McComb, W. Patton, H. L. Greer, G. B. Purce, W. McDermott, Elizabeth Robb, E. McSorley, W. G. Anderson, J. Cathcart, N. C. Graham, E. C. T. Emerson, all of Belfast, were elected members. Dr. CALWELL showed (1) a case of *Tertiary syphilitic affection of face*, with a slight resemblance to a disseminated lupus; owing to the shortage of neo-salvarsan, the patient was put on large doses of iodide and intramuscular injections of mercury, the result being rapid healing; there had been a positive Wassermann reaction. (2) A case of *Pruritus in a neurasthenic*. (3) Early *Lupus erythematosus* treated with CO_2 snow. (4) *Psoriasis in the face* in a girl. (5) *Acute generalized prurigo* in a young child. (6) Photographs of two cases of *Pernicious anaemia*, which showed marked increased and decreased skin pigmentation in patches (melanoderma and leucoderma) instead of the customary lemon tint; of a case of *Fröhling's syndrome* (dystrophia adiposo-genitalis) in a young woman; and of a case of severe *Molluscum contagiosum*. Dr. MCKISACK showed a case of *Acromegaly* in the early stage; improvement had taken place under thyroid gland administration. Mr. A. B. MITCHELL showed: (1) A case of *Solid oedema of the eyelids*, and explained the treatment he had successfully adopted in previous cases of artificial lymphatic channels by means of sterilized thread; (2) a specimen of a *Gall bladder filled with stones* which he had successfully excised; (3) a patient with *Skin grafting of upper eyelid*. Mr. T. S. KIRK sent a specimen of *Ulcerative colitis treated by excision*. Mr. FULLERTON showed a case of *Club-foot treated by tarsectomy*, and explained the *rationale* and method of the operation. Dr. THOMAS HOUSTON showed a number of cases of *Acne treated by vaccines*. He emphasized the necessity of finding the microbes which caused the disease; he did not believe in compound vaccines, as one could not increase either independently; one might desire to increase the acne bacillus, but the staphylococcus would be increased far beyond the proper dose in doing so. Long periods of treatment were sometimes necessary. He thought it better to begin with small doses of one microbe, and increase gradually. Dr. J. C. RANKIN showed a series of cases of *Lupus vulgaris* and of *Rodent ulcer*, showing Lenthal Cheatle's distribution, and remarked on the frequency of lupus of the mucous membrane of the nostril causing stenosis of the tear duct, for which the patient not infrequently went to the ophthalmic hospital. Dr. T. KILLEN (Larne) showed (1) A specimen of *Calcified hydrocele of the tunica vaginalis testis;* (2) *A meningocele*, which he had successfully removed from a child aged three weeks; the child was still alive a year and nine months later, but was showing signs of idiocy.

THE late Dr. William Thomas Fernie, of Richmond, Surrey, author of several books on cooking and herbal remedies, left estate valued at £14,983.

Reviews.

POPULAR FREUDISM.

IN his translation of the fourth German edition of Professor FREUD'S *Psychopathology of Everyday Life*,[1] Dr. Brill has given the English reading public a book which will help very considerably in making clear to them both the strength and the weakness of the Freudian system of psychology. Like the *Interpretation of Dreams*, which Dr. Brill has also translated, this work deals with the facts of normal mental life, and its generalizations can therefore be adequately tested by any one trained in the methods of psychological observation and conversant with the special method of psycho-analysis which Freud employs. Briefly stated, the general theory here advocated is that many seemingly accidental slips of speech and pen, bunglings of automatic acts, momentary forgetfulness of certain proper names, and similar "faulty psychic actions" are determined by unconscious psychical motives. To be precisely accurate, a faulty psychic action open to this explanation must fulfil the following conditions: "(*a*) It must not exceed a certain measure, which is firmly established through our estimation, and is designated by the expression 'within normal limits.' (*b*) It must evince the character of a momentary and temporary disturbance. The same action must have been previously performed more correctly, or we must always rely on ourselves to perform it more correctly; if we are corrected by others we must immediately recognize the truth of the correction and the incorrectness of our psychic action. (*c*) If we at all perceive a faulty action we must not perceive in ourselves any motivation of the same, but must attempt to explain it through 'inattention' or attribute it to an 'accident'" (pp. 277, 278).

In such a case as the momentary forgetting of a proper name—a failure well known to most people—Freud would explain the lapse as due to the connexion of this name with an unconscious painful idea or system of ideas. It is the painfulness of the ideas which has brought about their "repression," and to this repression their "unconsciousness" is mainly due. To the obvious objection that many painful memories resist burial in the unconscious in spite of the most vigorous efforts of the conscious personality to get rid of them, Freud replies that this "unwillingness to recall something which may evoke painful feelings," though universally active in mental life, is often "inhibited through other and contrary forces from regularly manifesting itself," which seems to be merely an argument *ad hoc*, and too full of assumption to be anything but sophistical.

Perhaps the weakest part of the book is that in which the author tries to explain slips of speech in terms of unconscious motives striving for expression. Such explanations seem in most cases to be very far-fetched. If, for example, one were to say "whack and blite" in a bungling effort to say black and white, the explanation is patent without having recourse to unconscious motivation. The two words are both in readiness, and run a race, as it were, for enunciation. Or rather, the two alternative orders, "black and white" and "white and black" are both in the fringe of consciousness, and blend during actual enunciation. To make sure that nothing lay behind, the reviewer has observed what free associations occurred in relation to this slip of speech, but completely failed to light on anything suggesting in the remotest degree the working of an unconscious factor. He has applied the method of psycho-analysis to the elucidation of many other faulty psychic actions, and in only a small proportion of cases has he found anything that would bear out this particular view of Freud in the cogent way required by strict science.

The book is indeed, though full of illuminating suggestions for psychology, probably the least convincing of all Freud's writings. It shows that pernicious tendency of the more "popular" psychology of the present day to put possibilities in the place of probabilities. Unconscious motivation is undoubtedly a *vera causa*, but the tendency of Freudians to see it acting everywhere deprives it of the scientific value it would otherwise possess for psychology. The emphasis placed upon determinism is also little more than a quibble. There are very few psychologists at the present day who venture to deny determinism in the mental life. Finally, the Freudian view that forgetting is generally an active process, and is the process requiring explanation rather than that of remembering, seems to be actually false, albeit it approaches to the Bergsonian theory in this respect. The enormous amount of work done on memory by the experimental psychologists bears out the common-sense view that it is memory which needs explanation, not forgetting.

In the translation Dr. Brill has added a number of interesting examples, and is to be congratulated on his rendering of a difficult German text.

W. B.

[1] *Psychopathology of Everyday Life*. By Professor Dr. Sigmund Freud, LL.D. Authorized English edition, with introduction by A. A. Brill, Ph.B., M.D. London and Leipsic: T. Fisher Unwin. 1914. (Med. 8vo, pp. 348. 12s. 6d. net.)

PROFESSOR BERGSON ON DREAMS.

ENGLISH students of psychology will doubtless welcome the appearance of a translation[2] of the lecture on dreams which was delivered by Professor BERGSON before the Institut Psychologique in March, 1901, and appeared in the *Revue Scientifique* on June 8th of the same year. The theory advanced has several novel features, and certainly seems to cover satisfactorily many of the familiar and universal phenomena of the dream process.

Professor Bergson, it should be remembered, is no believer in the parallelism of mental and cerebral activities; he regards the brain as the organ of attention, by means of which the much wider and deeper activities of the mind are brought to a focus and made subservient to the needs of life. When the brain is inactive or deranged, the mechanism of attention being in abeyance, the mind wanders or "dreams." But the dreaming mind is not to be conceived as isolated from or independent of the body; the vague dramas it weaves are composed of sense-impressions and stored memories, just as are the perceptions of wakeful hours. Experiment has firmly proved the fact, of which every one is more or less aware, that in ordinary perception memory plays a large part; for example, when we read, by no means every letter need actually be seen. We are jumping to conclusions all the time, recognizing words by a letter here and there. So, when we close our eyes and surrender our will to the "disinterested" state called sleep, the ocular spectra or "phosphenes" of changing form and colour which move on a dark background before our inner vision become the prey of thronging memories, and are interpreted in fantastic ways. These visual impressions play, Professor Bergson holds, the main but not the exclusive part as the raw material of dreams. Visceral and tactile sensations contribute, no doubt. Thus the contact of the body with its light clothing, breaking in upon a dream, often suggests that we are abroad in our night attire, or, missing the sensation of the pressure of the ground upon our feet, we fancy that we are flying.

The key to Professor Bergson's theory of dream-perception is his metaphor of innumerable memories packed in the subconscious mind under pressure, like steam in a boiler. On this view the steam would presumably be desire in general, by a modicum of some form of which each of our ideas is to be conceived as energized. During sleep, the safety-valve, that is to say the brain, being out of action, the memories throng forth. It is at any rate a conspicuous feature of dreams that the subject is constantly endeavouring to achieve some absurd or trivial purpose, which inexplicably eludes him time after time.

[2] *Dreams*. By Henri Bergson. Translated, with an introduction by E. E. Slosson. London: T. Fisher Unwin. 1914. (Cr. 8vo, pp. 62. 2s. 6d. net.)

NOTES ON BOOKS.

THE method of question and answer constitutes an excellent means of conveying instruction, and has been cleverly utilized by Major R. J. BLACKHAM, R.A.M.C., Honorary General Secretary of the Indian Branch, St. John Ambulance Association, for the purpose of enabling members of this useful organization to apprehend clearly the essential facts of first aid and home nursing. *The Indian Catechism of First Aid* and *The Indian Catechism of Home Nursing*[3] which have been drawn up by this officer are companions to manuals of first aid and home nursing also prepared by

[3] *The Indian Catechism of First Aid*. By Major R. J. Blackham, C.I.E., V.H.S., R.A.M.C. Simla: The St. John Ambulance Association, Indian Branch. 1914. (5 in. by 7 in., pp. 94. 6 annas.) *The Indian Catechism of Home Nursing*. By Major R. J. Blackham, C.I.E., V.H.S., R.A.M.C. Calcutta: Thacker, Spink, and Co. 1914. (5 in. by 4 in., pp. 173. 12 annas.)

him and noticed in the BRITISH MEDICAL JOURNAL (April 18th, 1914, p. 868, and May 2nd, 1914, p. 972). These catechisms have been composed for the use of pupils and examiners "to enable the ambulance student to test and focus his knowledge" in anticipation of appearing for examination, and to guide examiners regarding the manner and extent of conducting their proceedings in ascertaining the fitness of candidates to be granted certificates of proficiency in these subjects. They are well adapted to these purposes. The subjects are skilfully selected and systematically arranged; the questions clearly put, and answers fully and correctly supplied. A table of contents and general index might have been added with advantage. These or similar catechisms might undoubtedly be usefully employed beyond the limits of the Indian Empire.

The spread of school medical work has influenced others besides the children, and in no class of the community has this change been more evident than in the teaching staff of our schools. They are now athirst for knowledge of the how and why of the defects of their charges and what they can do to prevent them. This leads to much cross-examination of the school doctors by the teachers, and in Dr. HUTT'S *Medical Notes for School Teachers*[4] will be found a most useful and satisfactory means of providing the inquiring teacher with good sound ideas on simple matters hygienical. The book is brief, clear in its diction, sound in its statement, and covers a sufficiently wide ground, both as regards special and general conditions, to make it of real value. By no means least valuable is the last chapter, on the choice of employment for defective children.

There was probably never a time when more care was expended on infant health, and Dr. WALFORD has written in the interests of health workers, but truly his *Handbook for Infant Health Workers*[5] is as fit for the mothers. There are few books of the kind that we have read that are so satisfactory—indeed, we would suggest that the title be made more attractive. It might be "Every Mother's Book," and it would pay the State to present a nicely bound copy to every woman on the day she signs the register in the vestry of the church. Marriage was ordained for a purpose, the service makes that plain, and this little book of 54 pages gives clear and simple advice on the early and fateful days of the infant.

TRYPANOSOMIASIS.

AT a meeting of the Society of Tropical Medicine and Hygiene held on October 21st Sir DAVID BRUCE read a paper on the classification of the African trypanosomes pathogenic to man and domestic animals. He divided the pathogenic trypanosomes into the following groups:

A. GROUP: *Trypanosoma brucei* group.
1. *Trypanosoma brucei.*
2. *Trypanosoma gambiense.*
3. *Trypanosoma evansi.*
4. *Trypanosoma equiperdum.*

B. GROUP: *Trypanosoma pecorum* group.
1. *Trypanosoma pecorum.*
2. *Trypanosoma simiae.*

C. GROUP: *Trypanosoma vivax* group.
1. *Trypanosoma vivax.*
2. *Trypanosoma caprae.*
3. *Trypanosoma uniforme.*

With the exception of *T. evansi* and *T. equiperdum* all these trypanosomes are carried from sick to healthy animals by means of tsetse flies. One of the most interesting features of this new classification is the placing of the second human trypanosome, *T. rhodesiense*, in the *Trypanosoma brucei* group. Sir David Bruce believes that they are one and the same. A full account of all the trypanosomes mentioned in the table is given, and those interested in the subject will find a detailed account in the *Transactions* of the Society of Tropical Medicine and Hygiene, November, 1914, vol. viii, No. 1. In the discussion which followed the paper, much diversity of opinion seemed to exist regarding many of these trypanosomes. Some form of classification is evidently necessary, and such a one as given by Sir David Bruce may help to clear away many of the difficulties which apparently exist in connexion with this subject.

[4] *Medical Notes for School Teachers.* By C. W. Hutt, M.A., M.D. Cantab., D.P.H.Oxon. London: E. Arnold. 1914. (Fcap. 8vo, pp. 128. 1s. net.)

[5] *Handbook for Infant Health Workers: In Connection with Schools for Mothers.* By R. M. H. Walford, M.R.C.S.Eng., L.R.C.P. Lond. London: John Bale, Sons, and Danielsson, Ltd. 1914. (Cr. 8vo, pp. 63. 1s. 6d. net.)

THE RESEARCH SCHEMES OF THE MEDICAL RESEARCH COMMITTEE.

THE following document has been handed to us for publication:

St. Stephen's House, Westminster,
October 30th, 1914.

To the Right Honourable C. F. G. MASTERMAN,
Chairman of the National Health Insurance Joint Committee.

Sir,—On behalf of the Medical Research Committee I beg leave to submit for your approval as Chairman of the Joint Committee further details of the schemes for research which have been prepared by the Committee.

The state of war has closely affected the work of the Committee at many points, and by interference with the plans they had made at an earlier date has greatly delayed the presentation of their schemes for research. In connexion with the war itself the Committee have submitted proposals for work wholly additional to the programme they had contemplated earlier, and an account of this will be given in its place below.

In November, 1913, I submitted the general programme of research proposed by the Committee, and this received your approval after the meeting of the Advisory Council, which was held on the 4th December, 1913.

In the communication dated 30th July, 1914, which was laid before you, and circulated later to the members of the Advisory Council, the Medical Research Committee gave a full account of the progress which had then been made towards the establishment of the centralized part of their general programme of research. In that paper the circumstances of the acquisition of the Mount Vernon Hospital building at Hampstead for use as a Research Institute were explained, together with the alternative proposal, made subsequently to the Committee by the governing body of the Lister Institute, that the Lister Institute itself should become, by gift under trust to the nation, the centre of the National Medical Research organization directed by the Committee. The details of the scheme which the Committee framed for the proposed fusion of their interests with those of the Lister Institute are contained in the Memorandum dated 14th July, 1914, which received your approval, and was circulated to members of the Advisory Council.

By a large majority the governing body of the Lister Institute on July 17th, 1914, recommended the members of the Institute to offer to the nation the whole resources of the Institute as a nucleus towards a National Institute of Medical Research upon the terms settled in the Committee's memorandum. The outbreak of war inevitably postponed the statutory meetings of members of the Institute which are required for the final approval of this recommendation, but the Medical Research Committee hope that within a few days a decision will be reached.

In the event of the members of the Institute supporting by a sufficient majority the recommendation of the governing body, steps would be taken to bring it into effect upon the lines of the memorandum already referred to, and the Committee would arrange for the disposal of the Mount Vernon Hospital. If, on the other hand, the proposals of the governing body are rejected, the Medical Research Committee will proceed to the equipment of the Mount Vernon building as a research institute. Plans for this equipment had been prepared in detail last March, and were deferred in execution only on account of the alternative proposals then made with regard to the Lister Institute.

In accordance with the programme of the Committee approved in last December, the following appointments have been made to the staff:

Bacteriology: Sir Almroth Wright, M.D., F.R.S., assisted by Captain S. R. Douglas, M.R.C.S., L.R.C.P.
Applied Physiology: Leonard Hill, M.B., F.R.S., assisted by Benjamin Moore, D.Sc., F.R.S., and Martin Flack, M.A., M.B.
Bio-chemistry and Pharmacology: H. H. Dale, M.A., M.D., F.R.S., assisted by G. Barger, D.Sc., and A. J. Ewins, D.Sc.
Statistics: John Brownlee, D.Sc., M.D., D.P.H.
Secretary of the Committee: W. M. Fletcher, Sc.D., M.D.

Since their appointment, these members of the staff have been actively engaged in work on behalf of the Committee, and satisfactory arrangements have been made for the temporary provision of laboratory and office accommodation, pending a settlement of the arrangements for the Research Institute.

The Committee have given much time to the preparation of schemes of work to be undertaken at the various centres of medical research in the kingdom. Members of the Committee have severally or together visited nearly all these centres, and have everywhere received the fullest possible assistance from the heads of the laboratories. For the courtesy which has been uniformly shown them the Committee would desire to express their most cordial acknowledgements. From many of the centres of research reports have been received in explanation of the chief needs and opportunities of the several departments.

In the detailed arrangements for inquiries into special problems connected with tuberculosis and other diseases which appear in the schemes given below, they have endeavoured to assign particular parts of these inquiries to particular research centres, choosing the centres either on account of special facilities afforded locally, or with a view to the personal predilections and opportunities indicated to them by the directors at the various centres. Within these schemes the Committee hope to arrange for the effective co-operation of workers engaged upon the same or related problems, and for the regular co-ordination both of the methods employed and the results obtained.

In addition to the grants the Committee desire to recommend in connexion with these schemes, it will be seen that they propose grants also for the support of other investigations not initiated by the Committee, but found to be already contemplated or in progress, which promise to be useful in connexion with the present or future work of the Committee.

It will be readily understood that the outbreak of war has interfered disastrously with the plans for research which the Committee had then prepared. Everywhere the staffs of pathological laboratories have been depleted by the loss of men taken for military or medical duties, and long delay has been necessary for the adjustment of the proposals of the Committee, many of which they have been obliged to recast. In several cases the recommendations now to be made by the Committee must be regarded as contingent upon the requirements of military duties, and some of the proposed work may be delayed for many months. At some of the centres of research, however, the Committee have found that while young workers have gone, senior men find the claims of teaching or of practice much reduced. In such cases, there is a prospect of more time being given to research under present conditions, and consequently some valuable work may be expected where in other circumstances it might have been impracticable.

It will be noticed that partly, but not wholly, as a result of the war, the total recommendations of the Committee, together with the expenditure already authorized for the year, do not reach the whole amount of the Research Fund. A balance of about £10,000 is left unassigned for the present, and this balance, reduced by the demands that will be made upon it for special work needed in connexion with the war, may either be invested in accordance with Regulation 12 (2) and carried forward under Regulation 12 (1) to increase the Research Fund of the next or any succeeding year, or used towards the purchase of the Mount Vernon building.

It seems to the Committee to be desirable that in the present circumstances of war a balance of this kind should be left for expenditure at a later date, when the number of available young workers becomes normal again, or, as is possible for some time after the war, even greater than normal. But, apart altogether from the war, the Committee have not thought it desirable to allow their recommendations to absorb the whole of the research fund for the present year. The Committee has still to gain experience in its work, and it will be able to proceed with greater confidence in many directions when its initial proposals have been tested and developed in practice. Of some of the workers for whom grants are proposed the Committee have necessarily only indirect knowledge, and the recommendations have been made under a sense of caution and reserve. The Committee are confident that, both in regard to grants for personal remuneration and to grants for research expenses, there will be a tendency towards enlargement rather than reduction when grants are to be recommended in a subsequent year.

For similar reasons the Committee have not thought it wise to frame for the present any rigid policy to govern the general or particular conditions under which grants should be recommended. In some directions the right lines of policy will be settled best in the course of time by experience, though upon certain points they desire here to make definite recommendations.

In assigning grants the Committee have in general ascertained that the ordinary equipment of the laboratory will be at the free disposal of the worker, and where no special expenditure is involved in the research work no special grant for expenses will be made.

In the great majority of the grants to be recommended in detail below the Committee have received some estimate of the probable special expenditure to be incurred, but in some cases, and especially where work of a wholly new kind is proposed, trustworthy estimates are not yet obtainable. The Committee think, however, that the total sum required in connexion with all the schemes together can be named with sufficient accuracy, and after careful consideration they consider that this amount may be estimated at £4,500. Within the limits of this sum they propose to receive estimates and sanction special expenditure as it is required.

Apparatus or laboratory fittings of permanent and separate value which have been provided from the Research Fund will be considered to be the property of the nation, and they will revert to the direct control and disposal of the Committee when their use by a particular investigator is ended.

The Committee are strongly of opinion that grants for personal remuneration to a scientific worker should be clearly distinguished from those made to meet laboratory or other expenses. This principle is not always followed in grants made from other sources for scientific work, but after mature consideration the Committee have come to the conclusion that it is a sound principle which should be strictly observed. Without this distinction between personal remuneration and research expenses there may be present an obvious temptation towards the reduction of expenditure, leading not to economy but to unsatisfactory work, and to the omission of adequate control experiments.

In all their recommendations the Committee have assigned a sum for personal remuneration for work, part time or whole time, during a year, and they propose that this payment shall be made in convenient instalments if and so long as the Committee are satisfied that the work is being done in good faith. In general, and especially where younger workers are concerned, the Committee will ask the director of the laboratory to be responsible for the proper discharge of the research duties that have been accepted under him.

It has been the practice of some Government Departments giving grants in aid of scientific research to require that the results shall be published only in the form of a Report to the Head of the Department. In the opinion of the Medical Research Committee this practice is undesirable, and has led to the premature burial in Departmental archives of much valuable scientific work. The Committee propose that liberty shall be given to all the workers aided from the Research Fund who are of such scientific status as to be assigned independent work, to publish their scientific results through the ordinary channels of the technical scientific journals. Those workers who are definitely placed under the direction of a professor or head of a laboratory responsible to the Committee will be free to publish only with the consent of their director.

At the same time the Committee would propose to reserve the right to republish in any form the results of work done under assistance from the Research Fund, and it is hoped that from time to time the issue of reports upon special subjects under investigation will be an important factor in the co-ordination and direction of research which it should be the special aim of the Committee to assist.

With a view to the better co-ordination of research carried out at different centres, the Committee propose to establish subcommittees which may be called "special investigation committees." These would be composed of one or more of the scientific members of the Medical Research Committee, with appropriate members of the staff of the Central Institute and of the directors or workers in the other research centres. The members of it would meet for the discussion of work already done, and

for deciding the lines of attack to be followed by fresh research work. From time to time the investigation committee would prepare a report upon a particular subject in summary of well-established results, both positive and negative, and reports of that kind would have great value.

The Committee hope also to be able to arrange meetings between the workers upon the same or closely related problems, so that methods may be compared and checked, unnecessary repetition of work avoided, and ideas exchanged.

The opportunity which the National Medical Research Fund affords of encouraging and enabling a large number of young men in all parts of the kingdom to carry out definite researches under skilled direction appears to the Committee to give promise of the highest value to the future of medical research in the country. The war has for the time being obscured the prospect, but looking to its end the Committee would hope that in the future, by trial of many workers and by selection of the best, a continual supply of able investigators will be assured, to whom grants on a higher scale may be made.

Young extern workers, engaged for the first time by the Committee and working under supervision in some university or hospital laboratory, will be given to understand that satisfactory work will weigh largely with the Committee in offering them further and more important research work in the future. The Committee think that those who specially distinguish themselves in the work entrusted to them should be promoted to a special *cadre* of extern workers to whom continuous employment and a generous salary should be guaranteed for a term of years.

Under such a process of selection the workers as well as the objects of the Committee would benefit, and future appointments of a more permanent kind, carrying pension rights, might be made from among this higher group of external workers. By this means the Committee might hope to secure that the best of the younger men, who as matters now stand in this country are constantly exposed to the inducement to drift into professional practice soon after their research studentships or fellowships expire, will have the prospect of permanent employment in research work. The scales of pay and pension should not be inferior to those of the public medical services, and it would be better in the interests of research that a few of the best men should be well paid than that a larger number should be paid inadequately and left unpensioned.

Upon the outbreak of war it appeared to the Committee that, with the approval of the Chairman of the Joint Committee, it was their immediate duty to place all the resources at their command at the service of the War Office in connexion with any work of a scientific kind required now by military necessities, or likely to be useful in the future. In consultation with Sir Alfred Keogh, Director-General, who gratefully accepted the offer of the Committee on behalf of the War Office, the Committee have already made some emergency arrangements for research work and for other scientific services related to military hygiene. In a preliminary form these proposals obtained your sanction, and an account of them, not yet complete in detail, is given below, appended to the general research scheme of the Committee.

I beg leave now to ask, on behalf of the Committee, that their scheme for research herewith submitted may receive your approval.—I am, Sir, yours faithfully,

(Signed) MOULTON,
Chairman of the Medical Research Committee.

RESEARCH SCHEMES.

TUBERCULOSIS.

1. *Bacteriological Problems.*—Morphology of bacillus. Cultural investigations. Virulence and attenuation. Mutation of type of bacillus. Chemical influences upon bacilli.
Central Institute.
Edinburgh: Professor Ritchie. Chemical Assistant (whole time), £300
Cambridge: Dr. Stanley Griffith (whole time), £600.
Manchester: Professor Boycott. Assistant (whole time), £250.

2. Presence of bacillus in the blood, Much's granules and Spengler's "splitter forms."
London:—Brompton Hospital: Dr. Inman, £100; Dr. Treadgold (part time), £100. St. Bartholomew's Hospital: Dr. Andrewes; Dr. R. G. Canti (part time), £100. City Road Hospital: Dr. Carnegie Dickson (part time), £100.
Midhurst: Dr. Radcliffe, £100; Dr. Todhunter (part time), £100.

3. (i) Pathology of infection in pulmonary tuberculosis and in tuberculosis of glands, bones, etc.
(ii) Types of bacillus found in the different forms of human tuberculosis in different age-groups.
For these and allied problems it is proposed that at each centre should be one or two whole-time workers, dealing with the pathologico-anatomical side, and with the bacteriological, under the supervision and direction of one of the heads of the laboratory.

(iii) Influence of bovine tuberculosis on human tuberculosis of children and adults.
Dublin: Professor O'Sullivan, £100. Dr. Adrian Stokes (part time), £200.

(iv) Pulmonary tuberculosis of children, its prevalence, mode of infection, relation to other forms of tuberculosis, etc.
London:—London Hospital: Dr. Turnbull and two Assistants, £150. Pathologist (whole time), £250. Bacteriologist, Dr. Rajchman (part time), £300.

(v) Evidence of latent tuberculosis, from a study of glands, etc., in a series of unselected autopsies of children from 0–10 years.
Aberdeen: Professor Shennan, £100. Pathologist (whole time), £300. Bacteriologist (whole time), £300.
Dublin: Professor McWeeney, £100. Pathologist, Dr. W. D. O'Kelly (whole time), £300; assisted by Dr. T. T. O'Farrell (part time), £75.
Edinburgh: Professor Lorrain Smith. Dr. W. Campbell (part time), £100. Dr. Mitchell (part time), £200
Glasgow: Professor Muir. Assistant (whole time), £250.
By conference and arrangement between the supervisors, it is hoped that the co-ordination of the work in the different centres will be effected.

4. Systematization of *post-mortem* records in cases of tuberculosis.
Under discussion by a subcommittee composed of Professor W. Bulloch, Professor Shennan, Dr. Spilsbury, and Professor Turnbull, who will endeavour to arrange for the systematization. Printing, etc., £200.

5. Diagnostic value of radiography in tuberculosis.
(i) Central Institute.
(ii) Manchester: Dr. Bythell (part time), £200.
(iii) London: St. Bartholomew's Hospital: Dr. A. W. Stott (part time), £150; Mr. Dudley Stone (part time), £150.

6. Tuberculin: its preparation and value in diagnosis, prophylaxis and treatment.
Central Institute.
Edinburgh: Professor Lorrain Smith. Dr. James Miller (part time), £100.
Midhurst: Dr. Bardswell. Clerical and visiting assistance for following after-history of cases, £150.

7. *Immunity Problems.*—Complement fixation. Precipitins. Opsonins, etc.
Central Institute.
Belfast: Professor Symmers. Dr. Graham (whole time), £250.
London:—King's College Hospital: Dr. Emery, £150. London Hospital: Dr. Bulloch. Dr. Fildes (part time), £100.
Oxford: Professor Dreyer. Dr. Ward (whole time), £300.
Newcastle-on-Tyne: Professor Hutchens and Assistant, £250
Sheffield: Professor Dean (whole time), £250. Clinical Assistants (part time), £100.
Glasgow: Professor Muir. Assistant (whole time), £250.
Davos Platz:—Queen Alexandra Sanatorium: Pathologist (whole time), £300.

8. Effects of non-specific treatment, as iodoform injection, inhalations, helio-therapy, etc.
Newcastle (Ireland):—King Edward VII Hospital: Dr. Crofton and Assistant, £150; Chemical Assistant, Mr. J. Algar (part time), £150.

9. *Tuberculosis in Relation to Environment and Occupation.*—(i) Statistical relations of tuberculosis to conditions tending to produce ill-health, to be studied (*a*) in Northern industrial districts of England, and (*b*) in some Southern rural districts, and the criterion so obtained to be applied to show whether special circumstances in selected trades or districts specially conduce to tuberculosis and to what extent.
Central Institute: Dr. Brownlee and Assistants.

(ii) Special district inquiry, urban and rural, for study of the influence of environmental and economic conditions.
Dr. Brownlee and Assistants. Medical Officer (whole time), £400. Clerical and travelling expenses, £300.
Bradford: Health Census, directed by Dr. Buchan Contribution to expenses, £200.

(iii) Special trade inquiries.
Dr. Hill and Dr. Moore.

(iv) Hygienic observations in factories, schools, etc.
Central Institute: Dr. Hill and Assistants. Visiting and clerical assistance, £300.

RICKETS.

1. Investigations of the *common deficiency factor* in diets of children who develop rickets. Systematization of hospital dietetic records. Relative efficiencies of curative diets.

Bristol: Work under direction of Professor Walker Hall, £300. Visiting assistance, etc., £75.

Glasgow: Work under direction of Professor Muir and Professor Noel Paton. Statistical investigation and visiting expenses, £250. Chemist (part time), £200. Histologist (whole time), £300. Dr. Renton, surgical assistance, £100. Dr. Findlay, clinical assistance, £100.

London: (i) Dr. Corry Mann (Evelina Hospital), £300; Visitor, etc., £150. (ii) Work under direction of Dr. Garrod and Dr. Still, Great Ormond Street Hospital, £300.

2. Relation of fat metabolism to rickets.

London: Absorption of cholesterol and its distribution in the body in rickets. Dr. J. C. Gardner, £100.

Sheffield: Professor Leathes. Assistant, £200.

3. General metabolism in rickets: Analytic studies.

Leeds: Work directed by Professor Grünbaum and Dr. Dudley. Assistant (whole time), £150.

4. Determination of growth factors, with special reference to rickets.

Cambridge: Worker directed by Professor Hopkins, £200.

Edinburgh: Professor Ritchie. Relation of pituitary and other factors to growth. Dr. Fraser (part time), £200.

London: Dr. E. Mellanby, London Hospital, £100. Chemical Assistant (part time), £150. Dr. Plimmer, Prosector to Zoological Gardens, occasional assistance and expenses, £50. Collection of information from foxhound kennel-masters, £200.

5. Effects of rickets on the incidence and mortality of other diseases.

Central Institute: Dr. Brownlee and Assistants; with co-operation offered by Sir George Newman and his staff.

THE HYGIENIC RELATIONS OF MILK.

1. Monograph and critical review of existing international literature upon the hygienic relations of milk (in extension of the special reports upon parts of the subject already published by the Local Government Board).

Dr. Janet Lane-Claypon (seconded for the purpose by permission of the President of the Local Government Board), with expenses of publication, £400.

The preparation of co-ordinated schemes of work will be deferred until the completion of the general monograph, but the following special inquiries will be begun:

2. Effects of various commercial treatments and methods of sterilization upon nutritive value—(*a*) experimental; (*b*) statistical.

Central Institute.

Manchester: Professor Sheridan Delépine. Expenses of organized inquiry at Manchester, co-ordinated with work at Central Institute, £500.

Birmingham: Professor Leith and Sir Oliver Lodge. Electrical purification of milk: Assistance, £300.

3. *Contamination of Milk.*—Persistence of tuberculous infection in pasture lands.

Reading: Dr. Stenhouse Williams. Assistant (whole time), £200. Laboratory expenses, field rents, etc., £300.

Dublin: Professor O'Sullivan. Bacteriology of Dublin milk supply: Dr. Wigham (part time), £100. Dr. Spiers (part time), £100.

4. The cellular elements of milk in various conditions. (The relations of milk supply to tuberculous infections will be studied also under the tuberculosis scheme, § 3.)

London:—King's College: Professor Hewlett and Mr. Revis, £200.

RHEUMATIC INFECTIONS.

1. Bacteriology and morbid histology of rheumatic infections. Study of incidence of rheumatic infections in different parts of the city.

Bristol: Dr. Carey Coombs (part time), £200. Assistant, £150.

2. Study of experimental rheumatic infections supplemented by study of hospital material.

Liverpool: Professor Beattie. Qualified Assistant (whole time), £250.

DISEASES OF THE NERVOUS SYSTEM.

1. Cerebro-spinal fluid in tuberculous meningitis and other diseases. Micro-chemistry of cerebro-spinal fluid.

Cardiff: Dr. A. J. Howell, King Edward VII Hospital, £150.

2. Cerebro-spinal fluid in nervous diseases.

London: Dr. J. G. Greenfield, National Hospital, Queen Square. £200.

3. Application of micro-chemical methods to the study of cerebro-spinal fluid in various conditions.

Cardiff: Dr. R. V. Stanford, City Mental Hospital, £250. Assistant, £150.

4. Certain groups of brain lesions, especially those of speech centres.

London: Professor Mott. Dr. D. F. Sano (whole time), £250.

5. Graphic study of speech with reference to early diagnosis of nervous diseases.

London: Professor Mott. Dr. Scripture (whole time), £250.

THYROID SECRETION.

1. Chemical relations of iodine to the secretion.

London:—Guy's Hospital: Dr. P. P. Laidlaw, £50; assisted by Mr. Finnemore, £50.

2. Iodine in diet and thyroid secretion. Etiological importance of iodine in endemic goitre.

Cardiff: Mr. M. H. Renall, University College of South Wales, £100.

CHRONIC (RHEUMATOID) ARTHRITIS.

The morbid anatomy of chronic arthritis.

Cambridge:—Research Hospital: Dr. Strangeways, £250.

DUST INHALATION AND PULMONARY DISEASE.

1. Investigation of effects produced by dangerous dust (for example, powdered flint) and harmless dust (for example, coal dust) respectively.

Liverpool: Professor Beattie. Assistant, £200.

2. Study of effects produced by dusts in mines and workshops.

Oxford: Under Dr. J. S. Haldane's direction. Dr. A. E. Mavrogordato (whole time), £250. Travelling and other expenses, £150.

3. Chemical and physical inquiries, related to the above.

Stoke-on-Trent: Dr. Mellor, Director of the Pottery School, £100. (Towards the total annual expenses (about £700) of these researches, the Home Office has undertaken to contribute £300.)

ORAL SEPSIS.

Studies of oral sepsis and its relations to other diseases in workers and others.

Cardiff: Dr. Scholberg with Dr. Stevens, £250.

EPIDEMIC INFANTILE DIARRHOEA.

Anaërobic bacteria.

Edinburgh: Dr. Logan (part time), £150.

STATUS LYMPHATICUS.

1. Etiology and distribution of status lymphaticus; collective inquiry undertaken at the request of the Pathological Society.

Cardiff: Professor Emrys-Roberts. Expenses of inquiry, £50. Edinburgh: Dr. McNeill. Expenses of inquiry, £50.

2. Status lymphaticus in relation to infections.

Edinburgh: Dr. McNeill (half time), £200.

DIABETES.

The glycolytic activity of blood in cases of diabetes.

London:—St. Thomas's Hospital: Dr. McLean, £100; Assistant (whole time), £250.

GENERAL PATHOLOGICAL RESEARCHES.

Cardiographic studies.

London:—University College Hospital: Dr. Lewis. Qualified Assistant (part time), £200. Laboratory Assistance, £50.

The biophysics of Brownian movement.

Cardiff: Mr. L. H. Shaxby, £100.

Hypersensitivity in asthma and allied clinical phenomena.

London:—St. Bartholomew's Hospital: Dr. A. E. Stansfield (part time), £200.

Morbid histology of ductless glands.

Cardiff: Mr. T. H. Burlend, £50.

Infections by organisms belonging to the group endomyces.

Cardiff: Professor Emrys-Roberts, £100.

Bacilluria, with special reference to the *coli* group.

Cardiff: Dr. H. Evans, £100.

Epidemic and endemic diphtheria.

Cardiff: Dr. S. J. Ayre, £100.

Lipoid content of organs and its relation to toxins.

Edinburgh: Professor Lorrain Smith. Clinical Assistant, £250.

LOCAL DISTRIBUTION OF RESEARCHES.

England.

Birmingham: Professor Leith and Sir Oliver Lodge—Electrical purification of milk, £300.

Bradford: Health Census of the City. Grant for assistance in study of environmental relations of tuberculosis, £200.

Bristol: Dr. Carey Coombs—Bacteriology and morbid histology of rheumatic infections, etc., £200. Assistant, £150. Dr. Walker Hall—Dietetic factors in rickets, £300. Visiting assistance, etc., £75.

Cambridge: Dr. Stanley Griffith—Virulence and attenuation of tubercle bacillus, etc. (whole time), £600. Dr. Strangeways, Cambridge Research Hospital—Morbid histology of chronic arthritis, etc., £250. Professor Hopkins—Growth factors in relation to rickets, £200.

Leeds: Professor Grünbaum—Analytical studies in the metabolism of rickets: Assistant, £150.

Liverpool: Professor Beattie—(i) Experimental rheumatic infections: Assistant (whole time), £250. (ii) Effects of inhalation of dangerous and non-dangerous dusts: Assistant, £200.

London:—

St. Bartholomew's Hospital: Dr. Stott and Mr. Dudley Stone—Diagnostic value of radiography in tuberculosis, £300. Dr. Canti—Morphology of tubercle bacillus, £100. Dr. Stansfield—Hypersensitivity and asthma, £200.

Brompton Hospital: Dr. Inman—Presence of tubercle bacillus in the blood, etc., £100; assisted by Dr. Tredgold, £100.

Charing Cross Hospital: Professor Mott and Dr. Sano—Brain lesions, £250. Professor Mott and Dr. Scripture—Graphic studies of speech, £250.

City Road Hospital: Dr. Carnegie Dickson—Much's granules, etc., £100.

Evelina Hospital: Dr. Corry Mann—Dietetic factors of rickets, £300. Visiting Assistant, etc., £150.

Great Ormond Street Children's Hospital: Studies of rickets, directed by Dr. Garrod and Dr. Still—Assistants, £300.

Guy's Hospital: Dr. Laidlaw and Mr. Finnemore—Iodine compounds and thyroid secretion, £100.

King's College: Professor Hewlett and Mr. Revis—Cellular elements in milk, £100.

King's College Hospital: Dr. Emery—Immunity problems in tuberculosis, £150.

London Hospital: Dr. Bulloch and Dr. Fildes—Immunity problems in tuberculosis, £100. Dr. Turnbull—Evidence of latent tuberculosis in children, with two assistants, £150; Histological Assistant (whole time), £250; Dr. Rajchman (part time), £300. Dr. Mellanby—Experimental rickets, £250.

National Hospital, Queen Square: Dr. Greenfield—Cerebro-spinal fluid in nervous diseases, £200.

St. George's Hospital; Dr. J. C. Gardner—Cholesterol in rickets, £100.

St. Thomas's Hospital: Dr. H. Maclean—Glycolysis in blood, £100. Assistant (whole time), £250.

University College Hospital: Dr. Lewis—Cardiographic studies, £250.

Zoological Gardens: Dr. Plimmer—Rickets in animals, £50.

Manchester: Profesor Boycott—Chemical influences upon bacilli: Assistant (whole time), £250. Dr. Bythell—Diagnostic value of radiography in tuberculosis, £200. Professor Delépine—Hygienic relations of milk: Organized inquiry, £500.

Midhurst: Dr. Radcliffe—Presence of tubercle bacillus in the blood, £100; Assistant, £100. Dr. Bardswell—After-history of tuberculous cases: Clerical and visiting expenses, £150.

Newcastle-on-Tyne: Professor Hutchens—Immunity problems, £250.

Oxford: Professor Dreyer—Complement fixation and other immunity problems in tuberculosis. Assisted by Dr. Ward (whole time), £300. Dr. J. S. Haldane—Pulmonary effects of inhalation of dusts in mines and workshops. Assisted by Dr. Mavrogordato (whole time), £250. Travelling and other expenses, £150.

Reading: Dr. Stenhouse Williams—Persistence of tuberculous infection of pasture lands, £500.

Sheffield: Professor Dean—Studies of serum reactions. Assistant (whole time), £250. Professor Dean—The Wassermann reaction in tuberculous cases. Assistant (part time), £100. Professor Leathes—Fat metabolism in rickets, £200.

Stoke-on-Trent: Dr. Mellor—Chemical and physical studies of dusts dangerous to pottery workers, £100.

Scotland.

Aberdeen: Professor Shennan—Pulmonary tuberculosis of children, mode of infection, etc. Evidence of latent tuberculosis in children, etc., £100. Pathological Assistant (whole time), £300. Bacteriological Assistant (whole time), £300.

Glasgow: Professor Muir—Immunity problems of tuberculosis. Assistant (whole time), £250. Professor Muir—Types of tubercle bacilli in lesions. Assistant (whole time), £250. Professor Muir and Professor Noel Paton—Studies in rickets. Dr. Findlay—Morbid histology of rickets and experimental rickets, £100. Dr. J. M. Renton—Thymusectomy and experimental rickets, £100. Metabolic studies in rickets: Chemical Assistant (part time), £200; visitors for dietetic inquiries, etc., £250; Histological Assistant (whole time), £300.

Edinburgh: Professor Ritchie—Bacteriological problems of tuberculosis. Assistant (whole time), £300. Dr. Fraser—Determination of factors in experimental rickets (part time), £200. Dr. Logan—Epidemic infantile diarrhoea; anaërobic organisms (part time), £150. Dr. McNeill—Status lymphaticus (part time), £200; collective investigation expenses, £50. Dr. Mitchell—Surgical tuberculosis, etc. (part time), £200. Dr. W. Campbell—Generalized tuberculosis (part time), £100. Dr. J. Miller—Graduated doses of tuberculin (part time), £100. Professor Lorrain Smith—Lipoid content of organs and its relation to toxins. Assistant, £250.

Ireland.

Belfast: Professor Symmers—Immunity problems of tuberculosis. Dr. Graham (whole time), £250.

Dublin: Professor McWeeney—Evidence for latent tuberculosis in children, £100; Dr. W. D. O'Kelly (whole time), £300; Dr. T. T. O'Farrell (part time), £75. Professor O'Sullivan—(i) General blood infection in tuberculosis £100; Dr. Adrian Stokes (part time), £200: (ii) bacteriology of Dublin milk supply—two Assistants, £200. Dr. Crofton—Non-specific treatment of tuberculosis: with Assistant at King Edward VII Sanatorium, Newcastle (part time), £150; assisted by Mr. J. Algar (part time), £150.

Wales.

Cardiff: Professor Emrys-Roberts—Status lymphaticus (with Dr. McNeill of Edinburgh): Expenses at Cardiff, £50. Infections by organisms belonging to the group Endomyces (with Dr. A. J. Howell), £100. Mr. M. H. Renall—Iodine content of thyroid glands under different conditions, £100. Dr. S. J. Ayre—The incidence of diphtheria endemic and epidemic in Llantwit Major, £100. Mr. T. H. Burlend—Morbid histology of ductless glands, £50. Dr. A. J. Howell, King Edward VII Hospital—Cerebro-spinal fluid investigations, £150. Dr. H. Evans, King Edward VII Hospital—Studies of bacilluria with special reference to the *coli* group, £100. Mr. L. H. Shaxby—Biophysics of Brownian movement, £100. Dr. Scholberg, with Dr. Stevens—Oral sepsis, £250. Dr. R. V. Stanford, City Mental Hospital—Pathological studies of cerebro-spinal fluid; applications of microchemical methods, £250. Assistant, £150.

Switzerland.

Davos Platz: Queen Alexandra Sanatorium—Pathologist (whole time), £300.

NATIONAL MEDICAL RESEARCH FUND, 1914.

Summary of Proposed Distribution.

	£	£
Central Institute:		
Part purchase of Mount Vernon Hospital and other expenses		12,005
Repairs at Mount Vernon, wages, and interest on unpaid purchase money	1,656	
Salaries of scientific staff	3,977	
Premiums for pensions	1,100	
Apparatus and chemicals	800	
		7,533
Administration:		
Medical Research Committee and Advisory Council	1,470	
Salaries of secretary, assistant secretary, and chairman's secretary	1,270	
Office expenses	150	
		2,890
Research Schemes:		
Grants recommended above	19,600	
Additional grants for laboratory expenditure ...	4,500	
		24,100
		£46,588

Medical Research Fund (1914) ...	£56,500	
	46,588	
Estimated balance ...	£9,912	

EMERGENCY WORK IN CONNEXION WITH THE WAR.

1. *Inoculation Department, St. Mary's Hospital.*

OWING to the negotiations in connexion with the Lister Institute, the Committee have not yet been able to provide direct opportunities for clinical research by the members of the research staff who have already been appointed and have begun their work. If the proposals with regard to the Lister Institute become effective, at least two years must pass before the hospital offered by Lord Iveagh can be ready and its beds occupied. If the Committee as an alternative return to the Mount Vernon scheme, the proposed fifteen beds would not be available there before the summer of 1915. In the meantime the staff, and especially the bacteriological department under Sir Almroth Wright, will be very heavily handicapped in their work by the absence of beds for research.

The Inoculation Department at St. Mary's Hospital, and with it the clinical facilities which Sir Almroth Wright has at present, would probably have ceased altogether upon his withdrawal to the service of the National Research scheme, but the Committee found that by a reasonable financial arrangement they could secure the use at St. Mary's Hospital of beds for research work by Sir Almroth Wright, or other members of their staff,

for so long as the Committee is without clinical resources of its own. Incidentally, such an arrangement allowed the possibility of Sir Almroth Wright and his assistants maintaining their laboratory work uninterrupted until laboratories under the control of the Committee are ready, and these can hardly be ready now before next Christmas at the earliest.

It was proposed accordingly that the Committee should offer to pay to St. Mary's Hospital, through the Committee of the Inoculation Department, £2,500 for the year from October 1st, 1914, for the use of twenty-five of the beds at present under Sir Almroth Wright. This sum would include the whole of the expenses of the hospital service of all kinds for the beds, full or empty, but the selection and the medical care of the patients would be under the control of the Committee acting through its research staff. It was to be understood that the beds would be available for researches conducted by other members of the staff with the approval of the Committee, but it was expected that the great majority of the beds would be used in connexion with work in the Bacteriological Department.

While these proposals were under consideration war was declared, and the reasons given already for the proposed temporary maintenance by the Committee of the Inoculation Department and Research beds at St. Mary's Hospital, from the point of view of the normal research work which had been contemplated, appeared to the Committee to be greatly strengthened by the outbreak of war and the urgent need for bacteriological work connected with it. The scheme was approved by the Chairman of the Joint Committee, and accepted by the Committee of the Inoculation Department. An option for the extension of the scheme for a second year has been obtained.

Permission was given to Sir Almroth Wright and Captain Douglas to devote the whole of their time to the preparation of vaccines for the use of H.M. Forces, and during the six weeks that followed they were able to furnish the Admiralty and the War Office with 850,000 doses of antityphoid vaccine, and at the same time to supply 350,000 doses of antisepsis vaccine to the Admiralty, the War Office, and the French and Belgian armies. More recently further large quantities of vaccines have been supplied to the War Office. All this work was done at the Inoculation Department of St. Mary's Hospital, where the Committee have undertaken to provide the necessary staff at a cost of £1,000 for the year.

The Committee are providing for a visit to Petrograd by Dr. Freeman, of Sir Almroth Wright's staff, for the purpose of obtaining suitable cultures of cholera from the eastern theatre of war. These will be used for the preparation of vaccines in case of need if the infection is transferred by troops to the western theatre.

Leave of absence was given by the Committee to Sir Almroth Wright and Captain Douglas, in the event of their being required for military duties. Sir Almroth Wright has now been appointed consulting physician to H.M. Forces overseas, with the rank of colonel, and he has already proceeded to France. He hopes to investigate at the theatre of war the existing need for bacteriological investigations, and to return as soon as possible to assist the Committee in making provision for these.

2. *Other Schemes Related to the War.*

The Mount Vernon Hospital building, which has been standing empty during the consideration of the proposals made to the Committee in regard to the amalgamation with the Lister Institute, was placed, with the approval of the Chairman of the Joint Committee, at the disposal of the War Office, if it should be required, as additional accommodation for the sick and wounded. During the great influx of wounded in October the building was temporarily taken over by the War Office, and it is now being fully occupied and staffed.

The Medical Research Committee, with the permission and cordial co-operation of the Army Council, is making arrangements for the extension of the existing facilities for the proper bacteriological investigation of infected wounds and other pathological work at the chief military hospitals in this country, including the Territorial general hospitals.

The Army Council has also approved of a proposal whereby the whole of the work of dealing with the statistical records of the war will be undertaken by the statistical staff of the Medical Research Committee. The military authorities have expressed their willingness to give all facilities with the view of ensuring that the records shall be made in a uniform manner, and collected under the advice of the staff which will have to handle them. The work of dealing with the records will occupy a considerable amount of time, and will involve a substantial expenditure; but it is hoped that the result will provide complete, well-arranged, and thoroughly reliable statistics.

A more detailed account of these schemes will be submitted at the earliest opportunity.

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Continued from p. 924.)

JAPAN.

AN account of the organization and resources of the Red Cross Society of Japan was given by Surgeon-General W. G. Macpherson, C.M.G., who was attaché to the Japanese army in the Russo-Japanese war (1904–5).[1] According to this report, the Society had its origin in 1877, during the civil war of Kagoshima, under the name of "Hakuai-sha," or "Society of Benevolence." When the Japanese Government became a signatory to the Geneva Convention in 1886, the name was changed to its present title, "Dai Nihon no Seki-ju ji Sha," or the "Red Cross Society of Japan." In 1894–1895 it assisted during the war with China, and in 1900–1901 during the Boxer troubles. In 1898 it became an Incorporated Society with civil rights, and began to enter into contracts in order to guarantee a personnel for the various establishments which the Society undertakes to provide in time of war or of public calamity. An Imperial Ordinance was passed in December, 1901, authorizing the Society to assist the Army and Naval Medical Services in time of war, and laying down certain rules regarding discipline and control, relative rank of the personnel, and so forth.

The Society began as an influential committee without local branches, and at a time when there were no other benevolent societies formed for aiding sick and wounded in war. The local development of the Society was the work of the Central Committee. The result of this is that the Society is a highly centralized body. The Japanese authorities, however, consider this to be one of the essential features in its utility, because by means of centralized control independent local associations and rival societies do not, and are not, permitted to exist. There is, however, one affiliated association, "The Ladies' Volunteer Nursing Association," which was formed in Tokio in 1887. It is now called the Ladies' Committee of the Red Cross Society, and no one may belong to it who has not first become a member of the Red Cross Society.

Professor Ariga, one of the leading members of the Central Committee, drew up a report showing that the Society had in 1900 over 900,000 members, equal to 1 in every 45 of population. The income during 1903 was 2,965,300 yen, or over £300,000 sterling. In addition to this annual income, which is obtained from members' subscriptions, donations, legacies, etc., the Society possesses a capital sum of 7,371,000 yen (approximately £767,000 sterling), exclusive of buildings and other immovable property.

Membership.

There are three classes of members: (*a*) honorary, (*b*) special, (*c*) regular. The first class is practically confined to the imperial family, and consists of 30 members only. The second class contains over 5,000 members, and is formed of those who have been specially selected by the Standing Council for admission without subscription, or who have made a donation of not less than 200 yen. The regular members form the bulk of the Society. They pay an annual subscription of 3 to 12 yen (6s. to 24s.) for a period of ten years, or a single subscription of 25 yen (50s.). Insignia of membership in the form of a silver medal, worn on the left breast, are granted by

[1] *Journal of the Royal Army Medical Corps*, vol. vi, January-June, 1906, p. 467.

the Emperor, and are allowed to be worn along with other State decorations at public gatherings.

The members of the Ladies' Committee numbered, at the time of Surgeon-General Macpherson's report, 538. They belong to the upper classes of society, and pay a monthly subscription of 20 sen, or 5d., for ten years, or a single donation of 20 yen (40s.).

In addition to membership there is what may be called the personnel of the Society. These form the various groups or detachments, trained by the Society for work in war and public calamities, or held in reserve for that purpose, and paid by the Society for their services.

The organization for war has been carried out on lines laid down by the medical departments of the army and navy. The chief organization consists of what are described as "*Relief Detachments*": These are composed of the following personnel: 2 physicians, 1 apothecary, 1 clerk, 2 chief nursing sisters and male nurses, 20 nursing sisters or male nurses; a total of 28. Each relief detachment is organized to take charge of 100 patients. Their function in war is to replace the sick attendants in the military hospitals of the home territory as these are pushed forward into the area of operations.

At the date of Surgeon-General Macpherson's report the Society had organized 112 "relief detachments" for work in army hospitals, and four for work in naval hospitals. Eighteen of the former are organized with male instead of female nurses; there were two chief male attendants and 20 male nurses. Although the "relief detachments" relieve the army medical establishments gradually in the home territory, they may be moved on to relieve similar establishments in hospitals on the lines of communication as the war progresses. The peace distribution in war is under the control of the Standing Council acting under the orders of the military and naval authorities. For the exercise of proper control in this respect a general administrator of the Red Cross Society is appointed to the Imperial head quarters in Tokio. No representative of the Society has been sent into the field.

"*Transport Columns*" have been organized since the Boxer troubles, and have the following composition: 1 manager, 1 surgeon, 1 clerk, 9 chief male attendants, 3 male attendants, 3 chief stretcher-bearers, 120 stretcher-bearers; total 138. Only three such columns have up till now been organized, but, it is stated, if the experiment proves them to be efficient during the present war, their number can be increased in a few months. The function of the "Transport Columns" is to undertake the transport of serious cases where there are no proper roads for transport by wheeled carriages or other methods. The need of such columns was felt during the operations in China. Each column is organized to carry 30 serious cases, and afford at the same time medical attendance and nursing.

At the date of the report the Society had two *hospital ships*, fitted for the conveyance of 200 sick and wounded, but it was intended to construct two more, each fitted for 100 patients. The establishments are as follows: 1 manager, 4 surgeons, 1 apothecary, 2 clerks, 2 assistant apothecaries, 2 female and 2 male chief nurses, 20 female nurses, 20 male nurses; total, 54. Hospital ship for 100: 1 manager, 3 surgeons, 1 apothecary, 1 clerk, 1 assistant apothecary, 1 chief nurse (female), 1 chief nurse (male), 10 female nurses, 10 male nurses; total, 29. In time of peace the hospital ships are hired out as passenger steamers.

At the beginning of 1906[2] the personnel employed by the Japanese Red Cross Society was as follows:

Directors, 5; chief surgeons, 6; surgeons, 347; pharmaceutists, 168; clerks, 191; assistant pharmaceutists, 6; chief female nurses, 239; chief male nurses, 110; chief stretcher bearers, 3; female nurses, 2,026; male nurses, 643; stretcher bearers, 144; temporarily employed chief female nurses, 9; temporarily employed chief male nurses, 2; temporarily employed female nurses, 607; temporarily employed male nurses, 472; making up 4,978 persons in all.

At a meeting of the Japan Society, a report of which appeared in the BRITISH MEDICAL JOURNAL of January 20th, 1906, Miss Ethel McCaul said the Red Cross Society of Japan was far in advance of all others. On its foundation it was placed immediately under Government, so that in times of peace a million members, with their hospitals, hospital ships, doctors, nurses, stretcher bearers, and lay workers, were equipped and fully trained according to the Japanese army regulations. On the outbreak of war they were available at a few hours' notice. The head quarters are in Tokio, whence the local branches receive all instructions. All governors and mayors throughout Japan are representatives of the societies, and are authorized to hold meetings and develop the work. Members are recruited from every grade and from every part of the empire. In each district a local branch is established, the members subscribing yearly from 6s. to £20.

The Japanese quickly perceived that to make the organization a permanent success they must make it a part of the daily life of the masses. Therefore numerous Red Cross hospitals have been established throughout the country, all of which are used in time of peace as hospitals. These hospitals are free, but in each of them paying patients are admitted to the wards, which in war time are reserved for officers. Some hospital ships built by it were hired out in time of peace as passenger steamers. The sympathy and co-operation of the women of the country is enlisted by the Ladies' Volunteer Nursing Association, which is entirely under the control of the Red Cross. The Association is practically the factory and workroom of the Society, which undertakes to provide the Government with the necessary comforts for the sick and wounded.

The organization is so good that all through the war between Russia and Japan there was not the slightest hitch, and everything required was provided with the promptness and regularity of a business firm. In moving a vote of thanks to Miss McCaul, Professor G. S. Longford described how the Japanese in the late war carefully preserved the personal property of the dead Russian soldiers, and endeavoured in every possible manner to communicate with relatives so that the property might be restored to them. He contrasted this humane procedure with the barbarous ferocity with which the Japanese treated all prisoners of war before 1868, when, at the instigation of a British medical man, Dr. W. Willis, who accompanied a Japanese force operating against some rebels, the authorities commenced to treat wounded soldiers and prisoners with humanity.

In the November number of the *Windsor Magazine* Millicent H. Morrison states that the members of the Japanese Red Cross Society now number one million and a half. In addition to its principal hospital in a suburb of Tokio, which is the pattern of other Red Cross hospitals throughout Japan, the permanent administration offices and stores are in the capital. The storehouses are built round a courtyard in the rear. These include a museum showing the evolution of hospitals and what has been done by other countries in the improvement of all appliances, including uniforms and kitchen equipment, for the benefit of the sick and wounded. The surgical instruments are always kept in condition for immediate use by a small staff. As showing the interest taken by the Imperial family of Japan in Red Cross work, it may be mentioned that every year there is a gathering in the Hibiya Park over against the moat of the palace. This is always attended by one or more of the Imperial household, who receive the banzais of 35,000 or 40,000 people. The late Empress, in a poem, spoke of the Red Cross as

> Universal love
> Overflowing boundaries
> Of Empire,
> Even unto strange lands.
> How glorious this age!

(To be continued.)

[2] BRITISH MEDICAL JOURNAL, January 27th, 1906, p. 210.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the committee twenty-eight cases were considered and grants amounting to £278 4s. voted to twenty-six of the applicants. An annuity of £20 was also made to one of the applicants. The following is a summary of the cases relieved:

Widow, aged 55, of M.R.C.S.Eng. who practised in Wiltshire and Devon. Late husband had been helped by the Fund, and on his death in June this year left his widow entirely unprovided for. Sister has helped her a little but cannot continue to do so. One daughter, unable to help. Voted £12 in twelve instalments.

Widow, aged 69, of M.R.C.S.Eng. who practised in London, died in 1913, and left his widow totally unprovided for. Had commenced a boarding house but was seized with aphasia and

unable to carry it on. Made an annuitant of £20 and the Guild to try to get her into a home.

Widow, aged 65, of L.R.C.P.and S.Irel. who practised at Catford and Southend. Too old to work. Lives with a son and his family who cannot afford to keep her. Has an Epsom pension. The case strongly recommended by the Guild visitor. Relieved twice, £18. Voted £12 in twelve instalments.

Daughter, aged 71, of M.D.Lond. who practised in North London. Unable to work owing to defective eyesight. Has recently obtained an annuity from another society. Proposes to apply for the old age pension. Voted £2.

Widow, aged 51, of M.D.Edin. who practised at Newcastle-on-Tyne, has C.M.B. certificate and earned a living by nursing, but fractured her leg some time since, and is making very slow progress. A little help from a married daughter, but not enough to keep her. Voted £12 in twelve instalments.

Widow, aged 55, of M.D.Aberd. who died in 1904 and practised at Balham. Lost the little money left her by husband in assisting her only son, a mining engineer, in South Africa. The venture was a failure, and the son has joined the South African Army. Qualified mental nurse, but finds difficulty in obtaining work on account of age. Voted £10 in two instalments, and referred to the Guild.

Widow, aged 59, of L.S.A.Lond. who practised at Oldham and died in 1898. Youngest son, who has in the past entirely supported her, has joined the army, and up to the present has not had maintenance allowance. Two other children unable to assist. Voted £5 and recommended to apply to the Prince of Wales's Fund.

Son, aged 18, of L.R.C.P. and S.Ed. who is also a recipient of the Fund. Assistance wanted for completion of education as a dentist. The case recommended by the Glasgow branch of the Guild and the current fees wanted £13 13s. The Guild undertook to provide £9 9s. and the Fund £4 4s.

Daughter, aged 55, of M.R.C.S.Eng. who practised at Liverpool. Suffers from asthma and internal trouble and unable to work. Uncle pays rent, but otherwise no income. Previous relief five times, £56. Voted £12 in twelve instalments and referred to the Guild.

Widow, aged 59, of M.R.C.S.Eng. who practised at Liverpool. Has endeavoured to earn a living by nursing, but only earned £19 this year. Age makes it difficult to obtain patients. Relieved five times, £25. Voted £12 in twelve instalments and referred to the Guild.

Widow, aged 56, of L.R.C.P. and S.Edin. who practised at Grantown and died in 1913, and was a recipient of the Fund. Five children, all at school. Endeavours to earn a living by taking in boarders, but cannot make sufficient to support the family. Relieved once, £12. Voted £12 in twelve instalments.

Daughter, aged 63, of F.R.C.S.Eng. who practised at Chester. Acts as housekeeper when able to obtain posts, but has been unsuccessful of late. Relieved twice, £12. Voted £10 in two instalments.

Widow, aged 77, of M.D.Lond. who practised in London, suffers from rheumatic gout in hands and feet. Only income two small annuities. Relieved seven times, £35. Voted £10 in two instalments.

Daughter, aged 48, of M.R.C.S.Glasg. who practised in India and London. Unable to work owing to nervous breakdown. Only income £23 per annum from investments. Relieved once, £5. Voted £5 in one instalment, and referred to Guild to see if they can assist her to have her teeth attended to.

Daughters, ages 62 and 56, of M.R.C.S.Eng. who practised at Bexley Heath. They try to obtain a living by needlework, but so far this year have only earned £6 5s. Only other income £20 from a friend. Previous relief ten times, £154. Voted £20 in twelve instalments.

Widow, aged 67, of L.R.C.P.Edin. who practised at Cardiff. Health very bad. Only income £24 per annum from another charity. Previous relief nine times, £66. Voted £12 in twelve instalments.

Wife, aged 48, of M.R.C.S.Irel. who practised at Chesham, but deserted her in 1905. Three children, the youngest at Epsom and others at school. Health very unsatisfactory and eyesight defective. Only income about £24 per annum. Previous relief, £12. Voted £2, with leave to apply again, and referred to Guild.

Widow, aged 56, of L.R.C.P.Edin. who practised at Langley. Endeavours to earn a living by taking in paying guests, but unsuccessful of late. Lives in own house, but it is mortgaged. Relieved four times, £40. Voted £10 in two instalments.

Daughters, ages 55 and 64 of an M.D. who practised in Cornwall. They both have poor health, but try to earn a living by taking in paying guests, but this year has been very bad. They live in own house. Relieved five times, £82. Voted £18 in twelve instalments.

Widow, aged 76, of M.R.C.S.Eng. who practiced at Holderness. Health very bad. Has six children 30 to 53, but they are unable to assist. Takes in lodgers when she can get them, but too old to do much. Relieved four times, £48. Voted £12 in twelve instalments.

Widow, aged 54, of L.S.A.Lond. who practised at Islington. Practically blind, and her youngest son who practically supported her has joined the army. Her other son married, unable to help. Relieved ten times, £64. Voted £18 in twelve instalments.

Daughter, aged 60, of L.S.A.Lond. who practised at Longton. Is suffering from spinal curvature and internal trouble. Only income £25 per annum and a little help from the Guild. Relieved fourteen times. £152. Voted £18 in twelve instalments.

L.R.C.P.and S.Edin., aged 57, who practised at Old Kilpatrick. Suffering from spastic paralysis and unable to work. Lives with sister, who keeps a boarding-house. One son, aged 18, whom the Fund and Guild are helping to educate as a dentist. Relieved ten times, £120. Voted £12 in twelve instalments.

Widow, aged 63, of M.R.C.S.Eng. who practised at Highgate. Has been ill some months and recently operated on for uterine fibroids, and suffers from rheumatism. Used to earn a living by dressmaking. Relieved once, £12. Voted £12 in twelve instalments.

Daughter, aged 62, of L.R.C.P. and L.S.A.Lond. who practised at Brixton. Unable to earn own living owing to deafness and ill health. Only income a little from sister. Relieved nine times, £104. Voted £12 in twelve instalments.

M.R.C.S.Eng., aged 80, who at one time practised at Great Yarmouth. Advanced age prevents him from working, has an Epsom pension and occasionally obtains an appointment as ship's surgeon. Relieved three times, £36. Voted £12 in twelve instalments.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

THE CHEMICAL CONSTITUTION OF CERTAIN PROPRIETARY DRUGS.

(*Continued from p. 925.*)

THE contraction *B.P.* with date is used for the *British Pharmacopœia*, and *B.P.C.* is used for the *British Pharmaceutical Codex*, 1911.

Benzosol.

A name applied to guaiacol benzoate, which is said to decompose in the intestine into guaiacol and benzoic acid. The trade name Benzosol indicates the product of Meister, Lucius, and Brüning, Hoechst a. Main, Germany.

Biogen.

This is a name, synonymous with Hopogan, applied to magnesium peroxide. The trade name Biogen indicates the product of Kirchhoff and Neirath, Berlin, N.

Bornyval.

A name applied to borneol isovalerianate, which is also known as hysterol. The trade name Bornyval indicates the product of J. D. Riedel, A.G., Berlin-Britz, Germany.

Boroglyceride.

Boroglycerin of the *B.P.C.* is boric acid in powder 47 parts, glycerine by weight 64 parts. It is prepared by heating at a temperature not exceeding 150 degrees. The trade name Boroglyceride indicates the product of the Kreochyle Co., London.

Borovertin.

A name applied to the triborate of hexamethylenetetramine. It is put forward as a urinary antiseptic and disinfectant. The trade name Borovertin indicates the product of Aktiengesellschaft für Anilin-fabrikation, Berlin.

Bromipin.

This is a name applied to a bromine addition product of sesame oil; it is also known as brominol. The trade name Bromipin indicates the product of Aktiengesellschaft für Anilin-fabrikation, Berlin.

Bromlecithin.

Described as a compound of bromine and lecithin containing 30 per cent. of bromine. The trade name Bromlecithin indicates the product of Aktiengesellschaft für Anilin-fabrikation, Berlin.

Bromocoll.

This is a name given to di-bromo-tannin gelatin. It is put forward for use in epilepsy. The trade name Bromocoll indicates the product of Aktiengesellschaft für Anilin-fabrikation, Berlin.

Bromural.

A name applied to monobromisovaleryl-urea. It is stated to contain 36 per cent. of bromine. The trade name Bromural indicates the product of Knoll and Co., Ludwigshafen on Rhine.

(*To be continued.*)

British Medical Journal.

SATURDAY, DECEMBER 5TH, 1914.

GERMANS IN CONCENTRATION CAMPS.

AT the present time the air is, figuratively speaking, thick with charges and counter-charges of violations of the rules of civilized warfare, breaches of the Geneva Convention, cruelty to prisoners, and inhumanity of all kinds. This is inevitable, and the pity of it is that many of the charges are not unlikely to have some foundation of fact. All these charges will doubtless be investigated in due course; at present the evidence is not complete. In the meantime we feel bound to call attention to a protest made by the Hamburg Medical Association and addressed to the medical profession of Great Britain as to the treatment of "unarmed and innocent Germans who have been held imprisoned for some months in England in the so-called 'concentration camps.'" This document, which is signed by Professor Brauer, Professor Dencke, Professor Nocht, Professor Rumpel, and Professor Simmonds, and others, has special reference to the camp on Newbury Racecourse. It consists for the most part of vague denunciations of England in a style with which the utterances of the prophets of German *Kultur* have recently made us only too familiar. But there are certain definite and specific charges which seem to us to call for inquiry, especially as to the treatment of medical men who are among the prisoners. The appeal has been sent to the British Medical Association, among other bodies in Great Britain, and we feel confident that no difficulty will be placed in the way of accredited representatives of the profession examining the conditions at Newbury Camp, and gathering all the evidence procurable, in the impartial spirit which characterizes a scientific investigation. We are only anxious that the exact truth should be discovered and set forth, and in this wish we venture to think that His Majesty's Government is at one with the profession.

We do not propose to publish the document till the report of such an inquiry has been received, when the whole evidence will be fairly stated. It is sufficient in the meantime to say that the protest of the Hamburg physicians substantially repeats charges which have already been dealt with in the *Times* of October 30th. It was stated by our contemporary that the *Cologne Gazette* had reproduced in the form of a telegram from Hamburg a series of charges made by a certain Herr Emil Selcke, who said he had been arrested with a number of other Germans on his return from Brazil in a Dutch ship, and confined at Newbury. Being over 60 years of age, he was released at the instance of the American Embassy in London. His account of his experiences, as reported in the *Times*, is as follows: "He said that 1,340 Germans were confined in a training stable, eight or ten men lying together on old straw in a horsebox. Each man received two thin blankets and nothing else. There was no furniture and no light, so that at dusk they must all 'creep into their straw.' They had to cook their own food in the open air on a hearth consisting of a ditch and some bricks, on which stood saucepans which had to be used alike for cooking tea and thin soup. The tea was strained through old sacks, and was perfectly dirty. The soup contained a little fat and about a cubic inch of meat for each prisoner. The whole nourishment consisted of a cup of tea and piece of dry bread in the morning, one dish of soup, two potatoes, and a piece of dry bread at noon, and tea and dry bread in the evening. There were no sanitary precautions, and it was only through the energetic action of a number of doctors that 59 prisoners, whom they found to be suffering from a serious infectious disease, were 'shut up in a separate stable.' The names of the doctors are given as Professor Reutlinger, Dr. Steidel, Dr. Oscar Meier, Dr. Christian Johnson, Dr. von Mangelsdorf, Dr. Steinmeier, Dr. Lutz, Dr. Traubmann, and Dr. Oestetter." The *Times* sent a representative to investigate these charges. He reported that, while it was true the men slept in the stables in one part of the compound, the stables were well aired, the straw was clean, and each man was provided with two blankets, a towel, a tin mug, and a knife and fork. Several of them, interrogated without selection, described the charges as all nonsense. They said the cooking was excellent, and everything was clean. There were bathrooms with three baths, all of which were in use. There was a library containing a number of books, with a student of Bonn University as librarian. The names of the doctors given are authentic, but not one of them was ever obliged to intervene in any way whatever. A paper denying Herr Selcke's statements is said to have been signed on behalf of 1,200 prisoners.

Further, Mr. C. P. Anderson and Mr. Chandler Hale, officials connected with the American Embassy in London, were asked to make an independent inquiry into the treatment of Germans interned in the concentration camps. A translation of their report, which was published in the *Cologne Gazette*, was published in the *Times* of November 13th. It is dated October 14th, and it may be pointed out in passing that the Hamburg document is dated November 3rd. The food and the sanitary arrangements were declared to be satisfactory. The following paragraph in the report will serve to show its general tenor: "We spoke without being disturbed to a great many of the inmates of these camps, and any one who wished to address us was allowed to do so. No one complained of ill treatment by the troops on guard or by the commandant. On the contrary, they were spoken of with appreciation, and are liked by the prisoners. Except certain complaints by individuals, who said that they should not have been interned because they should have had immunity as belonging to the 'Red Cross,' the only protests that were made to us turned on matters of personal discomfort, which are unavoidably connected with the status of prisoner." We may add that the charges of ill treatment of the Germans interned at Newbury made in the German press were declared by the British Foreign Office to be "absolutely false."

Herr Selcke's charges naturally excited great indignation in Germany, and "reprisals" were threatened. In the *Times* of November 9th, however, it was announced that the *Cologne Gazette* on November 5th virtually admitted that there was no evidence in support of the charges, and said regard must be had to the favourable report from the American Embassy in London. The German journal proceeded to say: "We, too, consider the demand for reprisals against England, on the principle of reciprocity, to be

thoroughly justified and necessary, but, in order to be able to act effectively, it is necessary that the assertion that the treatment of German prisoners in England is inhuman, shall be definitely and certainly proved. Apart from isolated cases, this has not yet been done."

There for the present we leave the matter. We wish to say nothing that could appear to prejudge the case. But we think that men trained in the scientific weighing of evidence will see from the presentation of the facts that there is a similarity between the statements of the members of the Hamburg Medical Association and those of Herr Selcke so striking as to suggest that his evidence has been accepted by them too hastily. They would help very materially in the proposed inquiry if they would supply any further evidence they can procure in support of the charges which they make, with names and other particulars that could help in the testing of their accuracy.

In conclusion, we need only say that the character of the British profession and, we may add, of the British nation, for humanity stands at least as high as that of the German. If it is shown that the charges, or any of them, are true, we assure the Hamburg Medical Association and the whole German profession that nothing shall be wanting on our part to get any legitimate grievances among interned doctors and other German prisoners redressed and any unnecessary suffering or discomfort prevented.

THE MEDICAL RESEARCH COMMITTEE.

WE are able to print in this issue the full details of the grants in aid of medical research recommended by the Medical Research Committee established to administer the annual revenue accruing from the penny in respect of each insured person (payable out of moneys provided by Parliament) to be applied for the purposes of research. The scheme of the Committee was approved by the Advisory Council on November 17th, and has since been approved by the Minister.

The total amount available for the Medical Research Fund, 1914, is £56,000, of which sum £12,065 has been spent on the purchase of Mount Vernon Hospital, and other expenses, and £7,533 on repairs, equipment, and salary, making a total of nearly £20,000. Administration is estimated to cost nearly £3,000, and the research scheme, including a provision for additional grants for laboratory expenditure, over £24,000. This leaves an estimated balance of nearly £10,000, which, it is expected, will be reduced by the demands for special work needed in connexion with the war. This special work is the extension of existing facilities for bacteriological investigation of infected wounds and other pathological work at the general military hospitals, including Territorial general hospitals, and the organization for the adequate compilation of the medical and surgical statistics of the war, to which reference was made last week.

The publication of the scheme marks an epoch in the history of medical research in this country, for it is the first time that Parliament has granted any adequate sum of money for this purpose. Its previous contributions have been indirect and relatively small in amount. It will be seen that the scheme evolved by the Committee is ambitious in the sense that it covers practically the whole field of medicine, with the exception of cancer and venereal diseases, for which it is considered adequate provision is made by other public inquiries on foot. In consequence of the wide extent of its scheme, the Committee has found it advisable not only to organize inquiries in certain directions, but to subsidize other investigations not initiated by it, but already contemplated or in progress. It has, however, clearly been difficult to draw the line, for it will be seen that among the subjects for which elaborate organization has been made are such matters as tuberculosis, rickets, and rheumatic infections. On inspecting the scheme for tuberculosis, to take an example, it will be observed that the various directions from which the problems that arise can be approached are assigned to various workers in various localities. To meet this difficulty the Research Committee proposes, in order that researches carried out at different centres may be co-ordinated, to establish "special investigation committees" composed of one or more of the scientific members of the Research Committee, of members of the staff of the Central Institute, and of directors or workers in other research centres. It is intended that these committees at their meetings shall discuss the lines of attack to be followed by fresh research work, and prepare reports summarizing well-established results, both positive and negative, in particular subjects. It is also hoped to arrange conferences between the workers upon identical or closely related problems. There is, undoubtedly, the danger in this system of making a closed field of research in particular directions, but it is apparently hoped to obviate this by leaving all workers aided by the Research Fund, who are of such scientific status as to be assigned independent work, at liberty to publish their scientific results through the ordinary channels of the technical and scientific journals. Younger workers definitely under the direction of a professor or head of a laboratory would be free to publish only with the consent of the director—a salutary provision. The Committee also contemplates the publication of reports of work done upon special subjects with assistance from the Research Fund. The Committee is alive to the danger of the premature burial—as it rather oddly calls it—of scientific work in departmental archives, and will therefore, we have no doubt, take care that such official reports as it may issue are well printed in convenient form, with adequate illustrations. The latter point is one which often hampers the due publication of scientific work, for in spite of all the modern mechanical improvements the cost of the reproduction of fine drawings, especially coloured drawings, is a very serious consideration.

The Committee has invariably assigned a sum for personal remuneration for work done during a year, except, so far as we have observed, in the case of directors of laboratories, and will make it a principle to distinguish such personal remuneration from grants made to meet laboratory or other expenses. The Committee admits that it has still to gain experience in its work, and hopes that it may in future be able to proceed with greater confidence; but it believes that there will be a tendency towards enlargement rather than reduction of grants in future years. It has wisely resolved not to lay down a rigid policy to govern the general or particular conditions under which grants should be recommended. The main object it has set before itself, though obscured for the present by the calls made by the war, is to encourage a large number of young men in all parts of the kingdom to carry out definite researches under skilled direction, and finally to select the most competent investigators for grants on a higher scale. The Committee considers that those among the

younger workers who specially distinguish themselves should be promoted to a special *cadre* of extern workers, to whom continuous employment and a generous salary should be guaranteed for a term of years, and further, that from among them appointments of a more permanent kind, carrying pension rights, should be made.

The whole scheme is obviously an experiment, and an experiment on a very large scale, which may work for good or for evil. It is satisfactory, therefore, to know that the Committee itself regards its present scheme as tentative, that it is aware of the pitfalls in its path, and is ready to be taught by experience how best they may be avoided.

THE ROYAL ARMY MEDICAL CORPS.

DURING a debate in the House of Commons on November 26th (p. 984) very warm tributes were paid to the military courage and professional efficiency of the Royal Army Medical Corps. Lord Robert Cecil, who introduced the subject, and who spoke from experience in France, said that of all the corps which had rendered heroic service there was none that had done more heroic service than the Royal Army Medical Corps, whose courage and devotion were absolutely beyond the possibility of praise. Mr. Douglas Hall, who followed, also speaking from experience in France, said that the corps was one of the finest in the British Army. Lord Robert Cecil, however, asked whether it was, numerically, sufficiently strong, and Mr. Hall said that it was working under tremendous difficulties with great skill, but with poor tools. Mr. Tennant, Under Secretary, who replied for the War Office, said that the House would wish to endorse the testimony which Lord Robert Cecil had paid to the wonderful courage shown by the officers and men of the Corps, and added that the War Office could not praise its work too highly, and believed that there was now an ample number of officers and men for the great work that the Corps had to do. The British Medical Association has particular reason to congratulate itself on the high praise that the Corps is earning, for it was due to its persistent efforts through many years against the forces of inertia and prejudice that the recognition of the status of the medical service as one of the technical military corps ranking with other technical corps was due. The excellent results of the policy adopted when the Royal Army Medical Corps was constituted are not confined to the forces in the field. They are seen also at home, both in camps and hospitals. As soon, for example, as the order to prepare the Territorial general hospitals was given the medical officers "available on mobilization" were called up and fell into their proper places, and exercised proper authority without question or delay. We are glad to observe from the statement of its spokesman that the War Office recognizes that the sanitary difficulties must tend to increase as the campaign proceeds, and that precautions are being taken in advance. He stated that members of the Sanitary Committee, recently appointed, had made a tour of inspection of the field of operations, and had reported favourably on the sanitary condition of the actual trenches at the front. At the same time, in his peroration, he said that the dangers of disease became greater, almost day by day, when troops moved to ground recently occupied by the enemy. The means which the British Red Cross Society is taking to deal at Calais with the serious outbreak of typhoid fever among the Belgian troops, which seems to have begun about a fortnight ago, are mentioned elsewhere. The fact that some of the German prisoners arriving in this country from the neighbourhood of Ypres have been found to be suffering from the disease appears to indicate that the region is extensively infected. In these circumstances it is satisfactory to find that the War Office is alive to the situation, and that the military authorities are prepared to be guided by and to act upon the advice of experts in sanitary science.

MORE REPLIES TO THE GERMAN PROFESSORS.

IN the BRITISH MEDICAL JOURNAL of November 28th we quoted the reply of the universities of France to the ninety-three representatives of German universities who appealed to the educated world in defence of what M. Paul Cambon has so well described as "pedantic barbarism." The appeal has not been well received by those to whom it was addressed. Further replies to it have been made by the Paris Académie de Médecine, and the Académie des Sciences. The former body, at its meeting on November 17th, voted the following declaration: "The Académie de Médecine having, to its sorrowful surprise, seen at the bottom of the manifesto recently issued 'by intellectual Germany to the civilized world,' the names of some of its foreign members, feels bound to protest with indignation against the insinuative or lying assertions contained in that document. It holds that denials without proofs cannot invalidate the force of conclusive evidence such as is contained in diplomatic documents, public declarations made before the Reichstag, published inquiries, and the evidence of facts collected everywhere. The systematic crimes of German militarism are the condemnation of the intellectual and social medium which, after erecting them into a doctrine, now strives to excuse or deny them. A man of science could not sign such an apologia without dishonour or culpable blindness." It may be added that a letter addressed to the Academy by Dr. Labrevoit, of Nancy, was ordered to be published in full in its official *Bulletin*. In it he described the bombardment and systematic burning of the village of Gerbéviller on August 24th. The Château had been fitted up as a hospital, and on the top floated the Red Cross flag, which could be seen from a long distance. Yet this building was the first to be destroyed. As the village was burning a German officer whispered to him, "This is vandalism!" Dr. Labrevoit wonders what would be thought of this confession by Behring, Ehrlich, Fischer, Roentgen, and other "intellectuals." The Académie des Sciences has also denounced the "plundering and destruction systematically ordered by the chiefs of the German army, and the massacres of wounded, of women, and of children, committed by troops who call themselves civilized." It expresses the hope that "in reply to a propaganda which knows no scruple the Government will communicate to neutral Powers the results of the inquiries which it has made wherever the enemy has passed, together with the documentary evidence." It points out that "the Latin and Anglo-Saxon civilizations are those which produced during the last three centuries the majority of great creators in the mathematical, physical, and natural sciences, as well as the authors of the principal inventions of the nineteenth century. It protests, therefore, against the pretension of binding the intellectual future of Europe to the future of German science, and against the singular affirmation that the safety of European civilization lies in the victory of German militarism which is at one with German culture. It awaits with confidence the hour which shall deliver human civilization from the scientific barbarism produced by the union of German militarism and culture." To the Universities of America a special appeal—remarkable even among German attempts to influence opinion for its clumsiness and want of tact—was addressed. The American universities were asked to stand by Germany as "they know what German culture means to the world." Apparently they do know too well to express any sympathy with it.

NIETZSCHE THE MISUNDERSTOOD.

It is a source of unfailing delight to unsuccessful human nature to consider itself misunderstood. The successful man of business has no time to stop and consider whether the world misunderstands him; his every moment is fully occupied in thinking out plans for further advancement in life. Yet, even to him perhaps, when some enterprise has failed, and he is alone in the solitude of his chamber—even to him may come the feeling that he is not yet assessed at his true value—that is, at the value he places upon himself. The struggling artist, on the other hand, has far more time to contemplate the injustice of this world's appraisement; and formerly he was content to pour the vitriol of contempt upon the unsympathetic herd, or to nurse his grievances in loneliness. More recently, however, he has adopted another line of action, and has set himself to produce monstrosities which defy all the conventions in colour and drawing. Having announced these productions to be the acme of art, he and his admirers profess a lofty pity for the misguided creatures whose eyes are not sufficiently opened to understand the "new movement." Not otherwise is it with the followers of the German philosopher Nietzsche. Because mankind has seized upon one of the more obvious corollaries of his teaching, and definitely connected therewith the state of mind in the German which has led to the present war, the admirers of Nietzsche rush forward to tell us that their hero has been misunderstood; that he hated the Prussians and the Prussian brand of culture; that he was an idealist, a hero-worshipper, and, finally, a mystic. All these assertions are doubtless true, but they do not necessarily affect the more popular estimate of the philosopher's writings. It would seem that Nietzsche became obsessed by one idea—an *idée fixe*—to which he gave the name of "Will to Power." To him this became the philosopher's stone, whereby the whole range of human activities could be explained. Shutting his eyes to the possibility of the existence of any other motive in the human mind, he proceeded to build up something which he chose to regard as an entirely new scheme of philosophy, or, at all events, one which the world had forgotten for more than 2,000 years. He tried to impress the world that he had something strange and paradoxical to tell; but the world of multifarious experience refuses to accept his one and only way of progress. Thus Nietzsche has become one of the "misunderstood." Parenthetically it may be suggested that he did not understand himself, for nowhere does he succeed in giving a clear idea of whom he means by his "free spirits," nor what actually are their "virtues"; or else his courage failed him when he came to the description, and, having to admit to himself that the virtues he contemplated would lead to unforeseen results, he preferred to leave them indescribable and undescribed. Thus it follows, of course, that Nietzsche was an idealist—a propounder of ideas impossible of realization. Naturally he was a hero worshipper; hardly a man exists who is not so; but as a mystic he resembled the cuttle-fish, and poured forth a flood of ink to mystify his fellow beings. Some of his generalizations, however, may be regarded as a very useful, if extreme, counterblast to the soppy sentimentality of some modern disciples of what they believe to be democracy; while we may thank him at least for this apophthegm, which should be nailed over every German door: "One does not *hate* as long as one disesteems, but only when one esteems equal or superior."

THE LIGHTS OF LONDON.

It is interesting to learn that the Home Office has granted permission for a series of photographs and photometric investigations to be made with the object of recording the lighting effects of London under the pall of war. Such records will be of historical value in future years, and more immediately they will serve to guide illuminating engineers who may be called upon to advise the authorities with a view to making the illumination, although diminished, as effective as may be. The present condition of affairs, in which there is evident a lack of uniformity between the various areas, as well as a general patchiness and dangerous sharpness of contrast, show that the order "Lights down" has been carried out with more vigour than science. At the same time, the present lighting of London holds out certain prospective advantages. It was pointed out in the course of a discussion at the meeting of the Illuminating Engineering Society on December 1st that when normal times returned it was improbable that the lighting of London would revert entirely to ante-war conditions. The mass of the people, at whatever cost to their eyesight, have shown a certain fondness for glaring streets, but the experience of the past few months may have reconciled them to a milder illumination, and to the better visual effects obtainable by screened street lamps, although, of course, a permanent screening would be less complete and less amateurish than at present. Another desirable reform may be the final disappearance of excessively bright headlights on motor cars. It has required semi-darkness to bring home the danger of these flares to the authorities. At the same time, the present vogue for paper screens inserted in front of the lenses results only in destroying the value of the headlights for illuminating the roadway. It would be more scientific to screen the lens in such a way as to restrict the rays below the horizontal line. Another advantage is the eclipse—temporary at all events, and possibly permanent—of certain gigantic illuminated signs which hitherto have vulgarized and dazzled the metropolis in about equal proportions.

On Monday next a discussion will take place at the Medical Society of London on tetanus, with special reference to (*a*) prophylaxis, (*b*) the serum treatment of established tetanus-dosage, and method of administration. The discussion will be introduced by Major D. Embleton, R.A.M.C.(T.), and among others who intend to take part in the discussion are Professor F. W. Andrewes, Dr. John Eyre, Dr. R. B. Blair, and Dr. Carl Browning.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

On Wednesday, November 25th, the greater part of the sitting of the House was devoted to a discussion of the Government War Obligations Bill and the committee stages of this measure and the Trading with the Enemy Act (Amendment) Bill and with the report stage of the Finance Bill. A number of minor bills passed the second reading and were completed on Thursday, November 26th. Amongst them there was a small measure providing for compensation for disablement for persons other than soldiers and sailors employed abroad in connexion with the war. Another small measure provided for the continuance in benefit on the army and naval funds of soldiers and sailors disabled, on discharge from service, under the usual conditions attaching to sickness and disablement benefit. In order, however, to avoid any competition of the funds with the approved societies, it was further provided that the Insurance Commissioners might require any men remaining on the funds who were not disabled to seek entrance into approved societies.

The sitting of the House on Friday, November 27th, was chiefly occupied by an important statement by the Chancellor of the Exchequer, and at the conclusion of the sitting, before the adjournment, Mr. Churchill made an important statement in connexion with the Navy.

Treatment of the Wounded and Sanitation at the Front.

During the discussion on the third reading of the Consolidated Fund Bill on Thursday, November 26th, some

discussion arose over the arrangements made for the reception and treatment of the wounded during the war.

Tribute to the Work of the R.A.M.C.: The Need for More Medical Officers and Nurses.

The matter was raised in an interesting speech by Lord Robert Cecil, who asked questions with regard to the treatment of the wounded before their arrival at the base hospital. The wounds were inflicted under conditions which lent themselves necessarily to septic poison, and all depended, in the first place, on the way in which they were treated immediately, and in the second place, on the speed with which the wounded man was got to a hospital where he could be treated with the full appliances of science. With regard to treatment up to the time the man left the clearing hospital, he asked whether there were now an ample staff of members of the R.A.M.C. It was quite out of his wish to make any criticism of the work of that corps, for amongst all the corps which had done heroic service to the State there was not, he believed, any that had done more heroic service than the members of the R.A.M.C.; their courage and devotion was absolutely beyond the possibility of praise. All he asked was, Were there enough of them? He also asked whether there were nurses enough in the hospitals? At one time there were not enough nurses. In addition to the value of the high skill which an English trained nurse possessed, the psychical effect of having a woman to attend a wounded man was a very great element in the satisfactory progress of his injury. He asked, further, what was being done to bring the wounded down from the clearing hospitals to the base hospitals with the greatest possible speed. Was every use being made of motor ambulances, and whether, so far as it was possible to control it, the train service was working properly in those respects? Whether, in fact, there was a reasonably short interval between the infliction of the the wound and the treatment of the man at the base hospital. Great as was the heroism of the troops in the field of battle, it was equalled by the heroism in the hospitals, and it seemed to him that the astonishing patience and amazing courage put upon the House a tremendous duty to see that everything was done that could possibly be done to alleviate their sufferings at whatever expense or trouble, so that they might know that the country was not ungrateful for the services they have given.

Transport of Wounded.

Mr. Douglas Hall asked whether horse-drawn ambulances were still being used for bringing troops from the trenches. He thought that motor ambulances could go up further than they did, for in many cases the roads were good up to the trenches. At present a wounded soldier was taken from the trenches to the regimental dressing station, then on one of the horse ambulances to a field dressing station, then to a clearing hospital, then to the rail head, and then from the rail head to the base hospital. All this moving caused pain, and should be made as quickly as possible, and it was desirable to do away with at least one of the transfers. The Royal Army Medical Corps was one of the finest corps in the British army; the men worked under tremendous difficulties with great skill and with poor tools. Sometimes it had been found necessary to enlist men who had no training whatever in conveying and carrying the wounded; they did their best, but a couple of rough navvies could not be expected to know how to lift a man in and out of ambulances carefully; he thought a big reserve of R.A.M.C. orderlies should be formed in time of peace. A great effort ought to be made to get more hospital trains fitted up and to do away with the use of straw. It often happened that hospital trains were delayed for from ten to twenty hours owing to the railways being used for bringing up troops. Why were not the canals and rivers more used? Through the fighting area—Bethune, La Bassée, and Ypres—there was a fine system of canals by which the wounded could be evacuated. Hundreds of barges were lying idle in these rivers and canals, and he asked why the R.A.M.C. did not adopt this ideal form of conveyance? He had himself worked with a Red Cross barge fitted for fifty wounded, with operating tables, beds, and every comfort. It had been used on the Seine, and approved by the highest army authorities, but the scheme had not been developed. A great advantage of water transport was that the wounded man was taken along a road not wanted for troops, for which it was too slow. The big barges were 120 ft. long, 16 ft. wide, and 10 ft. deep. Eight or nine of such barges and the necessary doctors and nurses provided a floating hospital for over 400 wounded. The barges could be towed to the docks or quays at Havre, Calais, or Dunkirk, and wait there until the hospital ships were ready. As it was, if the wounded man had to wait only an hour or two for the hospital ship, he had to be taken out of the train, carried to a hospital, and then conveyed to the hospital ship. He objected to the use of tent hospitals. There were 300 or 400 wounded at Rouen in tents, and he thought that French houses, of which he believed there were plenty, might be requisitioned. He also thought that the sites selected were often unsuitable, in one instance a racecourse. The British Red Cross Society, which was recognized by the Government and had enormous funds at its disposal, did its best, but it had a great number of amateur administrators, and he thought that it would be a good thing if a Government official were appointed, since the Society had now become a part of the army medical scheme. He feared that there had been a good deal of extravagance and waste in the way in which the money has been spent.

Need for Increase of Medical Officers and Nurses.

Sir Frederick Banbury, while not desiring to make any criticism of the R.A.M.C., whose heroism he recognized, said that in some cases men who had not been seriously injured had been passed on without further attention to the base hospital. In one case in which the wounds were slight death ensued, owing to the retention of a piece of cartridge cloth. He thought that such incidents might be prevented by the employment of a larger number of doctors and nurses to be sent as near to the firing line as possible. He also asked that further houses might be taken up for hospitals.

REPLY FOR THE WAR OFFICE.

Mr. Tennant, in replying on behalf of the War Office, said that Lord R. Cecil had asked what were the arrangements for the treatment of the wounded at the front, and whether immediate steps were taken upon a soldier being wounded for his proper and careful treatment. That question could only be answered on the supposition that military exigencies of the case admitted of the men being taken away from the firing line at the moment of injury, and then treated, so that the question of the immediateness or otherwise of the treatment was really a military question, and not a medical one at the moment.

Tribute to the Work of the R.A.M.C.

Lord R. Cecil had borne eloquent testimony to the wonderful courage with which the officers and men of the Royal Army Medical Corps had discharged this duty, a testimony which the House would wish to endorse. The War Office could not praise its work too highly. Therefore there were grounds for hoping that everything possible was done to treat the wounded effectively at the earliest possible moment. He desired to assure the House and the country that the War Office had an ample number of Royal Army Medical Corps, officers and men. The medical and surgical treatment of the troops was in very high and competent hands, as the Royal Army Medical Corps supplied a number of most highly skilled and trained officers, and produced as fine surgeons and doctors as any other branch of the medical and surgical service. In addition, numbers of distinguished members of the medical profession from the civil side were employed and bacteriologists were engaged in endeavouring to solve some very difficult problems.

The Treatment of Wounds.

The wounds are inflicted almost entirely by shrapnel, and the vast majority were of an almost novel type; nothing like them had been seen during the recent history of medical science, and to match them it was necessary to go back to the days of the Crimea. There have been differences of opinion on scientific grounds as to what the treatment of these wounds should be. The aseptic school at the beginning of the war was in the ascendant, but it had been necessary to go back to what was considered a rather antiquated form of treatment by many people; the

antiseptic treatment was being used so much that the War Office was now sending out to every soldier, private as well as officer, fighting, a small amount of iodine for the immediate treatment of wounds when it was possible for the men to do so. A travelling bacteriological laboratory had been established, and also a small laboratory for sanitary purposes. Bacteriologists had been doing work which was bearing great fruit. The R.A.M.C. was working in close connexion with the Lister Institute and the Research Committee of the National Insurance and other institutions.

Clearing Stations.

Mr. Tennant said that when a man was wounded his wound was dressed as near to the firing line as might be, and he was then taken to the clearing station, and from the clearing station to the train which took him to the base. Thus there were three moves and not four. If Mr. Hall had different information from that, it must have been in the early stages of the war. Things did occur in the early stages which did not occur now, and, no doubt, on a tremendous military occasion of the most dangerous and difficult nature which occurred in the early stages of the war, that degree of precision of treatment which could be given in fixed trenches could not be attained. There was an ample number of nurses in the clearing stations. They did not get nearer to the firing line than that. There was also a waiting list. There were in France, roughly speaking—he was not certain of all places—nurses held in reserve. There was an ample supply both of personnel and of materiel. It was not true that there had been a shortage of chloroform so that operations had been performed without it. The statement that the St. John Ambulance Association had appealed for subscriptions for chloroform and other stores was categorically denied by Mr. Arthur Lee, member for Fareham, who had been doing very fine work for the State in inquiring into and reporting upon the treatment of the wounded. Not only were all demands complied with but they were anticipated.

Transport of Wounded.

With regard to the removal of the wounded from one place to another, there were three horse ambulances for every seven motor ambulances. It was necessary to have horse ambulances because there were parts of the country that horses could get over and motors could not because of the mud. Nearly all the horse ambulances were being replaced by motor ambulances from the front to the rear, and the War Office was not prepared to accept more motor ambulances at present, but would be glad to have the offer renewed in a month or two. Hospital trains had been supplied and had been very much improved since the date to which reference had been made, and were very comfortable at present. Three others were being prepared. The War Office was indebted to Lord Michelham and the Red Cross Society for these trains. Tetanus was extremely rare—remarkably rare—in the army at the present time; the use of straw in trains had, he believed, now been abandoned owing to the improvements mentioned. The time that elapsed normally between the clearing hospital and the base hospital varied enormously according to as and when vast numbers of troops and other necessaries were going up. All the railways were in the hands of the French Government, and it was not possible to send over from here officers and men versed in railway service, since the French Government had its own servants there. At the beginning of the war certain officers who had had experience of these matters—for the most part Army Service Corps officers—were accepted by the French Government and were doing excellent work now in endeavouring to expedite the trains, but the difficulty was prodigious, owing to the enormous masses of men and not great train facilities. For the Indian wounded, necessarily detained in England previous to their departure for India, it was hoped in a few days to have 3,000 beds at Brighton. In the meantime they were comfortably housed at Brockenhurst. Everything is being done to insure the comfort of the Indian sick and wounded, for whom everything was specially constructed with a special personnel. Arrangements were being made for the use of mobile hospitals during the winter. He hoped that it might be possible to put in force the suggestion as to barges. He feared that the distressing case mentioned by Sir F. Banbury, of a wounded officer who came home without having had his wound dressed except for the initial dressing after it was inflicted was true, and he could express the hope that with the more perfect organization now in existence there would be no recurrence of such a case. Down to the beginning of November 1,736 wounded had arrived at Boulogne, and the average will be somewhere about 500 or 600 a day. That would give the House and the country an idea of the amount of work which had to be overcome by the medical authorities.

Sanitation.

With regard to sanitation, which the country would consider as important as those with which he had already dealt, he could say that every effort had been made to preserve the health of troops in the field, and so far they had been entirely successful. The sanitary difficulties, of course, increased as the campaign proceeded. An endeavour was now being made to see in advance what the requirements would be and to meet them. Divisional sanitary companies, consisting of sanitary inspectors and men, were being prepared; and on the previous day Sir A. Keogh, the Director-General of the Army Medical Service, saw the members of a sanitary committee whom he had sent out to the front to examine into a phase of the situation which was causing anxiety. That committee had just returned from a tour of inspection, and reported that nothing could exceed the sanitary condition of the actual trenches at the front. That, of course, was where the danger occurred. Every precaution which science and the experience of these gentlemen could suggest had been taken, and the task had been admirably conceived and well carried out. The proof was that there were very few cases of enteric.

Magnitude of the Medical Task.

In conclusion he said: But who is not liable to lie awake at night thinking of the terrible hardships through which our troops have to go and are daily and nightly undergoing in the titanic struggle which is now going on. Our troops have all the horrors which they have before their eyes, with frost bites at night now added; and if the horrors of disease are to be added to all this, then indeed it would be that we were not serving the State in the manner in which the State has a right to expect. We cannot always be certain of these matters, especially as the campaign goes on, and, as I have said, the dangers which confront the troops in the field become greater and greater almost from day to day, particularly when our troops move to the ground which has been recently occupied by the enemy, and where there may be all the horrors of decomposition going on. I feel that the House realizes the task which lies before us. They will know that these are anxious times. I think that members will be glad to know that, so far as this phase of the situation goes, we have been successful. We have been successful through the skill, energy, activity, and scientific knowledge of the Royal Army Medical Corps, under Sir Arthur Sloggett. I should like the House not to withhold the meed of praise where it is due to men like Sir A. Sloggett and Sir Alfred Keogh.

War.

Dental Treatment of Recruits.

In reply to Mr. Boyton, Mr. Tennant said that general officers commanding were already empowered to spend money on any man's teeth to fit him for service. A large number of dental surgeons and dental institutions had patriotically arranged to treat, free of charge, recruits who would otherwise be rejected on account of their teeth, and what had been done in this respect was gladly recognized. Finally, dental surgeons were being appointed to all the larger military stations at home. They would devote their whole time to work with the troops.

Travelling Expenses of Officers Newly Appointed.

Mr. Bennett-Goldney asked whether young officers in the Royal Army Medical Service and other branches of His Majesty's army had been made to pay their own railway fares, as well as other travelling expenses, from their homes to the centres, sometimes over 400 miles distant,

where they had been ordered to join their respective units, and in some cases, after their services had been accepted, from their homes or stations to London or other centres and back in order to keep appointments made for them by the military authorities; and if he would take steps to see that in future travelling warrants were given to such newly-joined young officers so that this additional expense might be borne by the Treasury.—Mr. Baker said that free travelling for officers on first appointment was not admissible under regulations. Any journeys undertaken after joining for duty, authorized by competent military authority and on the public service, were paid for out of public funds.

The Lining of Military Huts.

In reply to Mr. D. Hall, Mr. Tennant said arrangements had been made some time ago for inside lining to be put in the huts occupied by troops at night, for at least some distance from the floors. In exposed situations the whole of the walls would be lined. All efforts had been concentrated, in the first instance, on getting the troops under cover.

Vaccination and Inoculation.

Mr. George Roberts asked the Under Secretary of State for War whether he would cause inquiries to be made of all medical officers in charge of the various camps and barracks throughout the United Kingdom in order to ascertain the extent of sickness and injury to soldiers caused by vaccination and inoculation, and present a report.—Mr. Tennant said that such a report would throw much labour upon the medical department of the army, and hoped he would not be pressed to cast this burden upon officers already overpressed.

In reply to Mr. Chancellor, Mr. Tennant said that he was informed that the death of Corporal Herbert Nichols, 3rd City of London Reserve, was due to pneumonia and not to antityphoid vaccination, but he would cause further inquiries to be made.

School Meals.—In reply to Mr. King, the President of the Board of Education said that inspection of the arrangements for the provision of school meals was undertaken by the medical officers of the Board, assisted by the inspectors of the elementary branch. Under the regulations for distributing the new Grants, one factor to be taken into account in determining the rate of Grant was the economical and efficient administration of the work. No complaints had been received from parents. One or two letters from other sources had drawn attention to the fact that the Act has not been put into operation in certain areas, but nothing was known of outstanding complaints. The average number of children fed in each of the five weeks ending October 31st, 1914, was about 183,000. The corresponding figure for 1913 was about 40,000. Since the end of September the number of children fed each week had decreased from about 195,000 to about 157,000.

Highlands and Islands (Medical Service) Committee.—In reply to Mr. Ainsworth, the Secretary for Scotland stated that the Highland and Islands (Medical Service) Committee had submitted a scheme which was at present under consideration of the Treasury.

Death Certificates.—Mr. King asked the Home Secretary whether his attention had been drawn to the practice, in cases under Section 1 of the Burial Laws Amendment Act, 1880, of requiring that the certificate of registry of death of the person interred should be handed to the burial authority; whether he was aware that the Act imposed no right on the burial authority to demand this, and no duty on the relatives of the deceased to give up the certificate; and whether, in view of the fact that the relatives often required this certificate for other legal purposes or as a record, he would issue instructions to burial authorities not to exceed their rights and cease to demand the handing over of these certificates.—Mr. McKenna said: I believe that it is a common practice for the burial authority to require the production of the registrar's certificate that he has registered or received notice of the death, but it is not limited, as the question appears to suggest, to the special cases in which a body is buried under Section 1 of the Act of 1850. The Registration Act of 1874 requires the certificate, as a general rule, to be delivered to the person who buries or performs the funeral or religious service, and that the only difference made by the Act of 1880 is that in cases under it, in view of the special conditions under which the interment is made, the certificate has to be delivered to the person responsible for the burial. I am advised that it is within the powers of the burial authority under Section 38 of the Burial Act, 1852, to require the production of this document, and as the authority are the responsible authority in regard to interments in their grounds and are also charged with the preparation of the register of burials, the requirement seems to be a reasonable one. The question as to who is entitled ultimately to retain the document is not expressly determined in the Acts, and I have no power to give any instructions in regard to it.

OUR BELGIAN COLLEAGUES AT HOME AND ABROAD.

The British committee was enlarged at the meeting held on November 24th at the offices of the British Medical Association, and since then the names of other adherents have been received, but it will be still further extended and a complete list will be published subsequently. Meanwhile a committee has been formed in Dublin, and comprises the Presidents of the Royal Colleges of Physicians and Surgeons in Ireland, of the University College, Dublin, of the Pharmaceutical Society, and of other representative members of the professions. The honorary secretaries of this committee are Dr. T. Percy Kirkpatrick, Registrar, Royal College of Physicians, and Dr. C. M. Benson, Secretary to the Council of the Royal College of Surgeons of Ireland, to either of whom subscriptions may be sent addressed to the Royal College of Physicians of Ireland, Kildare Street, Dublin. A preliminary list of subscriptions received by the Irish committee is published below, along with the second list of subscriptions received by the Honorary Treasurer of the British fund, Dr. H. A. Des Voeux, 14, Buckingham Gate, London, S.W., to whom cheques crossed "Lloyd's Bank, Limited," should be sent.

The Chairman and Secretary of the British Committee attended the last meeting of the Pharmaceutical Society of Great Britain, when Sir Rickman Godlee made a brief statement of the work so far done by the Committee and of its intentions for the future. Several members of the Council of the Society inquired as to how far any packets of medical material sent over to Belgium could be safeguarded from the enemy in occupation, and it was explained that the packets under dispatch were designed as a tentative measure of relief, and that other packets would follow only if the first consignment reaches its destination in safety. The Council expressed hearty sympathy with the movement, and promised to nominate members to the Committee and give the fund every assistance.

List of Subscriptions (in order of receipt).

Second List.

	£	s.	d.		£	s.	d.
Mr. L. Stearn ...	1	1	0	Mr. F. G. Harvey ...	1	1	0
Dr. P. Bowes ...	2	2	0	Mr. C. W. Goodchild (in memory of Mr. J. G. Goodchild, of H.M. Geological Survey)	2	2	0
Dr. G. Peterkin ...	2	2	0				
Dr. A. M. Edge ...	1	1	0				
Mr. Bayley Owen ...	5	5	0				
Dr. G. Edholm ...	1	1	0				
Dr. John Freeman...	2	2	0	Sir Thomas Barlow, Bart.	25	0	0
Mr. R. D. Attwood...	5	0	0				
Dr. R. Jamieson ...	5	5	6	Dr. James Ritchie ...	10	0	0
Dr. H. L. McKisack	2	2	0	Mr. Arthur Bullcid...	2	2	0
Dr. Maurice Craig ...	5	5	0	Mr. W. Johnstone ...	5	0	0
Mr. Bilton Pollard ...	25	0	0	Mr. E. B. Sherlock...	2	2	0
Dr. F. G. Bushnell...	1	1	0	Dr. Pearse	1	1	0
Dr. M. H. Taylor ...	2	2	0	Dr. Adams	1	1	0
Dr. T. Roberts-Williams	2	2	0	Mr. J. W. Papillon...	1	1	0
				Dr. F. E. Batten ...	5	0	0
Dr. C. D. B. Hale ...	2	2	0				
G. F. C. W. ...	0	10	0	Society of Apothecaries	50	0	0
Dr. A. Keith ...	1	1	0	Dr. B. H. Kingsford	2	0	0
Sir T. R. Fraser ...	5	5	0	Dr. J. B. Lawford ...	5	5	0
Dr. Alfred Cox ...	5	0	0	Mr. Bernard Roth ...	10	10	0
Dr. H. E. Croker Fox	1	0	0	Mr. H. Gaselee ...	3	3	0
Mrs. Cressall ...	1	1	0	Mr. T. B. Eames ...	5	5	0
Mrs. Grogan ...	1	1	0	Col. D. Wilkie, I.M.S.	1	1	0

	£	s.	d.
Dr. F. R. Mallett ...	5	0	0
Mr. A. Lister Harrison	5	5	0
Sir Rickman J. Godlee, Bart. ...	25	0	0
Sir Henry Morris, Bart.	20	0	0
Dr. Henry Humphreys	2	2	0
Dr. A. J. Campbell...	5	0	0
Dr. Daniell... ...	2	0	0
Mr. G. P. K. Grey ...	1	0	0
Dr. George Pernet ...	1	1	0
Dr. G. F. Barham ...	5	5	0
Mr. H. Cuthbert Dixon	5	5	0
Mr. L. Franklin ...	5	5	0
Miss Catherine Kirk	1	1	0
Dr. John Playfair ...	3	3	0
Miss Constance Pine	5	0	0
Sir Donald MacAlister	10	0	0
Dr. C. J. Evers ...	2	2	0
Dr. W. Britain Jones	1	1	0
Mr. W. B. Secretan	0	10	0
Mr. William Elmitt	1	1	0
Dr. H. T. Gillet ...	50	0	0
Mr. W. G. Williams	0	5	0
Mr. C. H. Walker ...	25	0	0
Dr. Maynard Horne	3	3	0
Mr. F. Swinford Edwards... ...	10	0	0
Miss Witts... ...	2	0	0
Dr. Arthur Court ...	10	0	0
Dr. M. Greenwood ...	1	1	0
Mr. W. Spyvee ...	2	2	0
Professor and Mrs. G. R. Murray ...	10	10	0
Mr. H. E. Mortis ...	2	2	0
Mr. P. A. Steedman	5	0	0
Dr. Walter Tate ...	10	10	0
Dr. C. Percival White	5	0	0
Dr. Frederick Taylor	10	10	0
Dr. N. S. Finzi ...	2	0	0
Dr. Ashley Leggatt...	5	5	0
Mr. W. H. Jalland ...	5	0	0
Mr. Raymond Johnson	5	5	0
Dr. Gordon Sharp ...	0	10	6
Dr. G. G. M. Black	0	10	0
Dr. H. Newsome ...	1	1	0
"F. Hill"	0	10	6
Dr. W. Alpin ...	5	0	0
Dr. J. T. Conner ...	1	1	0
Mr. R. C. Fuller ...	0	10	6
Dr. R. Warden Briggs	2	2	0
Mr. George H. Barton	1	1	0
Dr. Charles D. Muspratt	2	2	0
Dr. Arthur Whitfield	2	2	0
Sir Clifford Allbutt...	10	0	0
Dr. F. de Havilland Hall	3	3	0
Dr. J. Ratcliff-Gaylard	1	1	0
Mr. Arnold Gregory	0	10	6
Sir James Barr ...	5	5	0
Mr. Arthur H. Burgess	10	10	0
Surgeon-General F. J. Lilly, R.N. ...	5	0	0
Mr. Ernest W. Walsh	0	10	0
Dr. F. J. Smith ...	3	0	0
Anon	2	2	0
Mr. H. Lynch Burgess	1	1	0
Sir Dyce Duckworth	3	3	0
Mr. John Marshall...	0	10	6
Dr. T. H. Galbraith	2	2	0
Dr. J. Reid... ...	1	1	0
Mr. Edmund Owen...	5	5	0
Dr. Dawson Williams	5	5	0
Dr. S. Squire Sprigge	5	5	0
*Mr. W. E. Good ...	10	0	0
Anon	1	5	0

* Mr. W. E. Good will increase to £25 if three other Dorset medical men will give £25 each.

Preliminary list of subscriptions received by or promised to the Irish Committee:

	£	s.	d.
"Anonymous" ...	1	1	0
Dr. Arthur Atock ...	2	2	0
Dr. C. M. Benson ...	5	5	0
Mr. A. Blayney, F.R.C.S.I. ...	10	10	0
Dr. H. C. Byrne ...	2	2	0
Sir Charles Cameron	5	0	0
Dr. J. Galway Cooke	10	0	0
Dr. MacDowel Cosgrave, P.R.C.P.I.	10	10	0
Dr. S. M. Cowe ...	2	2	0
The Rt. Hon. M. F. Cox, P.C. ...	5	5	0
Dr. W. M. Crofton ...	5	5	0
Dr. G. Cope ...	1	1	0
Dr. Albert Croly ...	5	5	0
Dr. J. T. Daniel ...	2	2	0
Dr. De la Hoyde ...	1	1	0
Dr. Martin Dempsey	3	3	0
Dr. Patrick Dempsey	5	5	0
Dr. Frank Dunne ...	2	2	0
Mr. Conway Dwyer, P.R.C.S.I. ...	10	10	0
Miss A. S. Eustace...	1	0	0
Dr. H. M. Eustace ...	1	0	0
Dr. N. Falkiner ...	2	2	0
Dr. J. M. Finny ...	2	2	0
Dr. C. E. FitzGerald	10	10	0
Dr. William Fottrell	2	0	0
Dr. W. V. Furlong ...	5	5	0
Dr. M. J. Gibson ...	5	5	0
Dr. S. T. Gordon ...	1	1	0
Surg.-Gen. C. Joynt	2	2	0
Dr. T. P. C. Kirkpatrick	10	10	0
Dr. Wm. Lalor ...	2	0	0
Sir John Lentaigne...	10	10	0
Dr. Little	21	0	0
Dr. T. M. M'Evoy ...	2	2	0
Dr. M. M'Hugh ...	2	2	0
Prof. E. P. M'Loughlin	10	10	0
Dr. R. B. McVittie...	2	2	0
Dr. E. Magennis ...	1	1	0
Dr. Katherine Maguire	5	0	0
Dr. J. A. Matson ...	1	1	0
Mr. R. C. B. Maunsell, F.R.C.S.I. ...	2	2	0
Dr. P. Merrin ...	1	1	0
Dr. George Moore ...	3	3	0
Sir John Moore ...	5	5	0
Dr. T. H. Moorhead	2	2	0
Dr. John Murphy ...	5	5	0
Dr. Thomas Neill ...	1	0	0
Dr. George Nesbitt	2	2	0
Dr. C. M. O'Brien ...	5	5	0
Dr. J. F. O'Carroll, V.-P.R.C.P.I. ...	10	10	0
Sir Lambert Ormsby	5	5	0
Dr. Alfred R. Parsons	5	5	0
Dr. George Peacocke	2	2	0
Dr. Joseph Petit ...	1	0	0
Miss Purefoy ...	5	0	0
Dr. R. Dancer Purefoy ...	10	0	0
Dr. F. C. Purser ...	5	5	0
Sir Joseph Redmond	5	5	0
Dr. R. J. Rowlette ...	2	2	0
Dr. J. Spencer Sheill	2	2	0
Mr. Gregg Sherlock, F.R.C.S.I. ...	2	2	0
Dr. Alfred Smith ...	5	5	0
Mr. T. N. Smith, F.R.C.S.I. ...	2	2	0
Dr. Walter Smith ...	5	5	0
Dr. Bethel Solomons	5	5	0
Mr. J. B. Story, F.R.C.S.I. ...	5	5	0
Mr. Wm. Taylor, V.-P.R.C.S.I ...	10	10	0
Sir W. J. Thompson	3	3	0
Dr. D. Turner ...	2	2	0
Dr. Hastings Tweedy	10	10	0
Mr. W. I. de C. Wheeler, F.R.C.S.I.	10	10	0
Sir Stewart Woodhouse	10	10	0
The Clinical Club ...	10	10	0
The Odontoblast Club	10	10	0

INSTRUMENTS.

We have received the following letter from the Master of the Apothecaries' Society, who has undertaken to receive at the Hall of the Society, Blackfriars, E.C., instruments for the use of the Belgian medical profession:

Apothecaries' Hall, Blackfriars, E.C.,
December 1st, 1914.

(*To the Editor of the* BRITISH MEDICAL JOURNAL.)

SIR,—The appeal for surgical instruments made in your columns on behalf of Belgian doctors has met with a ready response, and I feel sure that the very urgent need for these has only to be more widely known for the Relief Committee to receive a greatly increased number. I ask especially for midwifery instruments, tooth forceps, scalpels, forceps of all descriptions, and scissors.

I enclose a list of those medical men and women who have up to the present given gifts.—I am, Sir, your obedient servant,

MEREDITH TOWNSEND,
Master of the Society of Apothecaries.

Dr. Gardner, Falkirk.
Lieutenant-Colonel Walsh, I.M.S., St. Faith's, Norwich.
Dr. G. Le Scelleur, Jersey.
Dr. A. E. Fiddian, Cardiff.
Dr. John Douglas, Norwood.
A.L.S.A.
Miss Igglesden, Torquay.
Dr. Gregson, Blackburn.
Dr W. Jack, Kendal.
Dr. Eveline Cargill, Cheltenham.
Dr. Campbell, Duns.
Dr. Papillon, Brent Knoll.
Mr. A. E. Tanner, Westminster Hospital, S.W.
Mr. J. B. Lawford, London, W.
Dr. Stormont, Tamworth-in-Arden, Birmingham.
Dr. E. P. Hardey, Hull.
Surgeon-Major R. E. Heath, Eastbourne.
Dr. W. B. Secretan, Reading.
Dr. Hulbert, London, N.
Dr. F. Milnes Blamer, Stafford.
Dr. F. L. Ford, Wimbledon Com.
Dr. Holden, Sudbury.
Dr. Grierson, Grimsby.
Dr. Hurry, Reading.
Dr. Edith Serjeant, Wolverhampton.
Dr. Ayling, Brixton.
Dr. Evershed, London, W.
Dr. Meredith Townsend, London, W.
Dr. J. W. Bell, London, W.
Dr. Aitchison, Blackburn.
Dr. Exton, Blackburn.
Dr. S. E. Baxter, Wollaston, Wellingborough.
Dr. C. J. Renshaw, Ashton-on-Mersey.
Dr. Herbert Marson, Stafford.
Dr. N. S. Twist, Normanton.
Dr. William Tibbles, Nottingham.
Surgeon-General F. J. Lilly, R.N., Weybridge.
Sir Lauder Brunton, London, W.
Dr. W. T. Scott, Banchory.

BELGIAN DOCTORS AND PHARMACISTS' RELIEF FUND.

SIR,—I earnestly hope that this most deserving fund will receive hearty support from the profession. It has special claims upon some of us. Nearly a thousand practitioners in Great Britain are medical graduates of the University of Brussels, and it is to be hoped that few of these will forget their Belgian fellow graduates in the time of their adversity.

A small contribution from every Doctor of Medicine of the University of Brussels in this country would be of considerable assistance, and could be well afforded by most.

In July, 1899, at the annual dinner of the Brussels Medical Graduates' Association, Dr. Burland of Liverpool being the then President, a complimentary telegram was sent to the King of the Belgians, and a courteous reply received from His Majesty before the festival ended. Surely the good wishes expressed by the representatives of the British practitioners with Brussels degrees to the head of the Belgian State meant something more than mere hollow phrases of courtesy. They were then intended to show the regard of Brussels medical graduates for the university that had conferred their degrees and their respect for the Government and beautiful city, now trodden down by an insolent foe, that had created that university.

Is it, then, too much to ask every Brussels medical graduate in this country to give a donation to this fund, if only to prove that the expressions of their representatives in 1899 to the King of the Belgians were sincere and honest, rather than hollow, meaningless words.—I am, etc.,

MAJOR GREENWOOD, M.D.Brux., LL.B.Lond.

London, N.E., Nov. 27th.

MEDICAL HOSPITALITY FOR BELGIAN MEDICAL REFUGEES.

We are informed that the demand for hospitality for Belgian doctors seems to be diminishing. All offers of such hospitality received by the Medical Secretary of the British Medical Association are placed before Viscount Gladstone, Honorary Treasurer of the War Refugees Committee, who is acting for the committee in this respect. Lord Gladstone states that the medical refugees desire not to leave London or its near vicinity.

THE WAR.

MEDICAL ARRANGEMENTS OF THE BRITISH EXPEDITIONARY FORCE.

[*From a Special Correspondent in Northern France.*]

FRACTURES OF THE THIGH.

In the early stages of the war tetanus and gas gangrene almost monopolized attention, but now, and for some time past, a topic that affords much room for discussion is the treatment of fractures of the thigh. The surgical difficulties in the way of dealing satisfactorily in civil life with a compound fracture of the femur in which an upper or lower fragment has been driven through the skin, and has, perhaps, torn a largish artery or nerve, are considerable, but those involved by the conditions found in fractures now coming under treatment in such large numbers are much greater. The bone, if not hopelessly comminuted for several inches of its length, is commonly split up towards the trochanters or down to the condyles, and even when the external flesh wound is small it commonly communicates with a large irregular cavity thoroughly infected with spore-bearing organisms in all its parts. Frequently also bits of clothing and one or more fragments of shrapnel or shell or a spent rifle bullet lie buried in its interior. The prime necessity, no doubt, is to get these wounds into a reasonably healthy condition, and to eliminate especially the risk of gas gangrene or osteomyelitis or acute septicaemia, but the need of keeping the parts at rest and of attending to the position of the fractured ends of the bones is also great, since to leave a fracture in the upper part of the lower extremity uncontrolled must have a serious effect on the patient's vitality. The need of control is often so compelling that there is a temptation to favour the fracture at the expense of the wound. It was, however, chiefly when working in Paris at a relatively early stage of the war that I noted any tendency to err in this direction. Everywhere now the vital importance of paying minute attention to the wound seems amply recognized, but to combine this with immobilization of the fractured ends is often a very difficult task. Looking back at what I have seen in the course of the last eight weeks, I can recall at least a dozen different methods. I recall, too, that with one or two exceptions, none of their users were particularly enthusiastic as to their merits. As a rule, an appliance which secures real immobility of the fractured ends and due extension is incompatible with frequent re-dressings, and in particular with keeping up a constant watch for pockets, and favouring drainage. In the early stages of a case it is not easy to foresee what course it will take, and at any time the course may change. Another difficulty is that sometimes after the wound has become reduced to a mere sinus, and a large firm callus has locked the broken ends together there is a sudden rise in temperature, and it is found that a fragment now deeply involved in the new bone has become necrosed. At the present time the general inclination seems to be to rest content in the early stages with securing a fair degree of immobility of the bones and deferring definite extension until the wound is relatively clean and its deeper parts obliterated. Consequently suspension appliances and plain long outside splints, like that of Liston, are commonly to be seen in use. The former appear to be comfortable and to allow ready access to the wound, but somewhat to favour the tracking upwards of secretion. The latter keep the parts more steady, perhaps, on the whole, but are not satisfactory if the wound is at the back of the thigh, owing to the amount of movement involved at each dressing. At some hospitals the effect of this is being lessened by applying another Liston to the sound limb and fixing the two together by cross-bars. Liston splints cut with a gap opposite the wound and bridged by a semi-circular bar are also in use. Another useful modification of the double Liston has a facultative hinge at the level of each hip. A further advantage of the double Liston splint is that so far as present experience goes it seems to offer a solution of an administrative problem of considerable importance. In the best of circumstances the treatment of any one of these cases of compound fracture of the thigh must occupy so many months that quite a small percentage of fractured thighs among the wounded would eventually throw a serious strain on the available hospital accommodation at the advanced hospital bases. Consequently it is very desirable to be able to transfer them for final treatment to some place where the pressure on accommodation is less severe so soon as the early difficulties and dangers of each case have been overcome. The few trials so far made indicate that when a double Liston splint is used and the wound has been reduced to a sinus, the case can be transferred by sea to a home hospital without any disturbance of the fracture and with much benefit to the *moral* of the patient. The suspension appliances chiefly in use are of two types. One bears a general resemblance to a Hodgen's splint, and is known as a "Balkan," while the other is simply a bar of bent aluminium running down the front of the limb. Both are attached to the limb by a series of flannel straps, and both are suspended by an overhead beam, fixed to uprights by two or more web or cord bands. If the latter are carefully adjusted, these splints exercise a certain amount of traction on the lower fragment, but less than that of a true Hodgen. So far these suspension appliances have been popular both with patients and surgeons, but the double Liston splints, which are of more recent introduction, seem likely to be much used. With regard to extension, those who have had the longest experience of these cases appear to agree that very little traction suffices in the majority of cases. The bone is usually broken in such a way that no overriding of the ends is possible. They also hold that it is well to be chary in the matter of clearing out fragments of bone when the initial cleansing of the wound is undertaken: if these seem still to possess any fairly firm periosteal attachments, it is better to give them a chance of recovering their full vitality and becoming incorporated in the new bone.

MARLBOROUGH CAMP, BOULOGNE.

The place known alternatively as the Convalescent Camp, Boulogne, or Marlborough Camp, lies on the downs between Boulogne and Wimereux. It is close to the well known column which marks the centre of the site occupied as a vast camp by the French troops just about 110 years ago, when an invasion of England was in question.

The worst thing that can be said about the camp is that its situation is not altogether suitable. It is established on sloping grass land, opposite the partly ruined Jesuit College, and it faces south; but it would not be easy to find a more suitable situation in the immediate neighbourhood of Boulogne, where the soil is a mixture of marl and sand, with a top layer about 18 in. to 2 ft. deep of rather rich loam. What has led to the selection of this site is no doubt the fact that it is near all the hospitals in Boulogne. Le Touquet, which has been suggested as a place for a convalescent camp, is twenty-three miles away and three and a half miles from a railway station. It has sandy soil, which would not hold tent pegs, and there are no suitable houses available there, as all have been taken up for the Westminster Hospital and the Canadian Hospital.

In its application to Marlborough Camp the term "convalescent" is not used in the same sense as in civil life. Of the men sent to it the greater number come from local hospitals, and are supposed to be practically fit for duty either in the fighting line or at a base. The local hospitals send real convalescents home to England. The longest time any man stays in the camp is about six days, the common period a couple of days or so.

The camp was started at the beginning of the fourth week in October, and eventually furnished accommodation for about a thousand men. To house them a sufficient number of marquees were erected. The officers in charge of the camp occupy bell tents, such as those in which soldiers camping out usually live. The marquees were drawn from the stores of various hospital units for whose use permanent buildings had been commandeered. The ground inside each marquee was covered with tarpaulin sufficiently wide and long for about six inches to be curled up against the walls all round. No bed was provided, but, in addition to the tarpaulin "flooring," each man had two blankets and a waterproof ground sheet to protect him from rain and wind and also from damp in the soil itself. This camp was started as a kind of emergency medical

unit; the ambulance trains were arriving with such rapidity that all the real hospital beds had to be reserved for the more serious cases; consequently the cases of very slight injury, as also men suffering from sore feet or minor medical disorders, were sent up to Marlborough Camp.

These observations apply to the camp as it was during the first three weeks of its existence, that is to say, until about a fortnight ago. It was then decided to maintain it as a permanent adjunct to the hospitals at the Boulogne base, and the medical officer in charge set to work on various improvements. As things now are, all the tents actually in use by the men—in fact, all the living tents in camp other than that used as an orderly room and principal medical officer's office—have board as well as tarpaulin floors, the former being raised a few inches from the ground, and a number of coir mattresses made in three sections have been secured. Several hundred have been in use for about seven days and meantime raised bed-boards have been available for other men. About nine days ago a number of iron buckets were obtained, holes were driven through the sides of these, and they serve as braziers. Filled with coke, they are lighted each morning at 7 a.m., and after the first fumes have burnt off one is placed in each marquee. There they remain until 9 p.m., when the camp police visit each marquee and remove each brazier. Two oil lamps are kept burning all night to steady the temperature; each marquee has in its inner roof four openings with an aggregate ventilating area of about 24 sq.ft. Between the lines of marquees paths have been laid out and are being paved with sandstone. A good many of these paths are complete; they communicate with the tents by sidepaths, which end in a strip of brick at the main entrance of each tent. Opposite each tent is a pole, sunk in brickwork; a bucket is placed on the brickwork at night to serve as a urinal, and a lamp on the pole shows its position. At various parts of the camp there are natural channels, and these, when they cut across a path, are being bridged by 4-in. trestles and boards. A good many of these little bridges are already completed. By utilizing these natural channels and digging surface trenches to meet them, the whole camp surface area is gradually being drained. The camp water supply is drawn from the town mains, but is used solely for washing and cooking purposes. The men drink nothing but tea, coffee, and cocoa, except those who frequent the "wet" canteen. This, like the "dry" canteen, is at present housed in a tent, but will, I understand, eventually occupy a hut. The skeletons of several huts have been standing for some days; they are to be used as dining and recreation rooms, as cooking and bath houses, and for other like purposes. The present cook-house is a shanty lying a little below the general level of the camp; it cooks the men's ordinary rations and also supplies beef broth, which is served out about 11 a.m., soup in the afternoon, and cocoa at night. Near the cook-house is an improvised clay-built incinerator, into which all rubbish, including empty tins, is thrown. Each night the tins, which now offer no attraction to flies, are removed and kept in a pile hard by, being eventually removed by a contractor. Close to the incinerator is an arrangement for dealing with kitchen waste water. It consists of a rough filter—built of brushwood, which is burnt each day—placed over a short gulley leading into a 3 ft. deep clay pit. The latter drains into a natural and steep channel leading to the lower drain. There are two latrines below the level of the camp, one being a wooden building with temporary trenches; the other is a canvas structure, which is now being replaced by a second wooden structure, which will be arranged on the ordinary bucket system already employed in the present permanent latrine. The buckets are changed each night by a contractor.

The last feature of the camp which it seems necessary to mention is a bath house; it has been in use for about a fortnight, a free supply of hot water being available all day long. It now has two full-sized baths and is in charge of an attendant. It has a brick floor and wooden walls and roof. It is to be replaced eventually by a large building of the same character, and to be supplemented by the provision of a room in which the men can dry their outer clothes when wet. I am not sure that the officers in charge of this camp will ever succeed in making it look "pretty" so long as the wet weather continues, for it is quite inevitable that the top soil between the tents shall get cut up, the grass being turned into mud. They hope, however, little by little to be able to secure enough broken stone and sand to cover the whole camp area. Meantime they have already secured all the main necessaries of a healthy camp, and it is rather remarkable that they should have succeeded in doing so. The huts are being erected by contractors working under the Royal Engineer department, but the whole of the rest of the work, beyond the laying of the water-pipes, has been, and is being, done by voluntary labour. The officers—an R.A.M.C. captain, a quartermaster drawn from a line regiment, and two temporary R.A.M.C. lieutenants—make the plans, and the non-commissioned officers and men carry them out. The men come and the men go, but the work goes on steadily, if not very rapidly. Camp laying is not really R.A.M.C. work, but the engineers appear to be unable to secure a sufficiency of labour to take this camp in hand, and it is well that an R.A.M.C. officer possessed of a personality likely to secure for him the willing assistance of a large number of voluntary workers should have been ready to step into the breach.

The camp is utilized in the following fashion: A certain number of cases of trifling injury are sent up straight from the casualty department of No. 13 Stationary Hospital, which receives all the "walking" cases brought by the ambulance trains, but the greater number are men discharged from the hospitals. They are inspected on arrival by the junior medical officers, and on the following day by the senior medical officer. The name of each man, besides being booked, is entered on a card record, which is transferred to an "out" card index when the patient is sent away. For camp purposes the whole of the occupants are divided into companies, each of which is submitted to a formal medical inspection three times a week. Meantime those reported sick or known already on their arrival to be in need of treatment, attend at the camp surgery and inspection room.

Theoretically, all the cases are sooner or later divided into five groups: men fit to return to the fighting line, men fit for temporary base duty, men suitable for permanent base duty, men who should be sent home, and men who must go to hospital. The latter are commonly cases which seem to have been discharged prematurely, or to require more active treatment than the camp can supply, but sometimes include cases arising in the camp itself—accidents, sore throats, and the like. The camp also frequently receives batches of men suffering from muscular and other forms of rheumatism—chiefly reservists—but does not keep them. It sends them down to Rouen.

To sum up, it certainly seems to me that the officers in charge of this camp are entitled to very great credit for what they have achieved, and I hardly think that the camp itself is open to much criticism. It is not only a war time camp, but a camp—regarded from an official point of view as a medical dépôt—still in the making.

The tents erected are of two kinds—the double-walled, double-roofed marquees which have been in use in the army as hospital tents for many years, and an entirely new pattern of hospital marquee. This has single walls, but an excellent double roof with eaves (which protect the walls from all but driving rain). The old-fashioned hospital tents mentioned, not being as warm and comfortable as the new ones, are being used as store rooms. They are commonly called four-way marquees; each has four entries, which are not mere openings in the sides, but regular porches. The sides are of canvas, with a double lining; these marquees measure about 36 ft. by 18 ft. The marquees with boarded and tarpaulined floors and braziers alight are distinctly cosy; in most that I inspected there was a big deal table and a number of forms, and even the orderly room, which is not warmed and has only a tarpaulin floor, is decently comfortable.

I believe I have visited practically every marquee and have seen no men who appeared to be ailing. They were all working, or sitting round braziers, or dressing, or shaving. At present, dinner being just over, a lot of them have started football.

PROPHYLAXIS.

A third consulting physician, Sir Bertrand Dawson, has now been attached to the Expeditionary Force, as has also Mr. W. T. Lister, ophthalmic surgeon to the London Hospital. The work of the consulting physicians seems

to be concerned mainly with prophylaxis. Every medical case in which the diagnosis is doubtful is submitted to them, and special watch is kept for cases of enteric fever presenting symptoms which are obscure or slight, and therefore liable to be overlooked. So far there has been very little enteric and no dysentery in the Expeditionary Force.

A number of goatskin coats have been supplied to each division and are allotted to men specially exposed, and it was almost inevitable that these men should have been nicknamed "Teddy bears." Woollen waistcoats are also being served out to the men, but I do not know whether all have received them.

Ambulance Trains.

Ambulance trains have been multiplied, and the best way of disposing the bunks or hammocks has given rise to a great deal of discussion. At first two tiers were fixed in most carriages, but some experts consider this a mistake, inasmuch as it materially reduces the total number of sick and wounded any single train can carry. This is a serious consideration, for, though any number of carriages can be built or converted, only a limited number of ambulance trains can be accommodated on the railway lines. It is thought by the experts to whom I refer that if the bottom berth were placed only an inch or two above floor level and the top berth a few inches higher than at present, there would be enough space for a third or intermediate berth. The carriages converted for use in ambulance trains are, so far as English rolling stock is concerned, chiefly what are known as bicycle vans. Those used by the French (who supply most of the ambulance rolling stock used up to the present by British troops) are either converted luggage vans or the closed trucks in which valuable horses used to travel. Open cattle trucks have never been used either for British or French wounded. A considerable number of ambulance trains are made up solely of compartment carriages, *lit-salons*, sleeping cars and restaurants. These are better than the vans, because the carriages communicate by corridors. They are also fitted with proper air breaks and hot-water pipes. The English rolling stock used for conversion into ambulance trains is rather smaller, I understand, than the French in respect of inside measurements, but has the advantage of being much more solidly and heavily built and of running more smoothly in consequence. In all the ambulance trains the gangways are narrow, but the ambulance men are extraordinarily clever in handling the stretchers. I have often admired their mixture of dexterity, gentleness and strength. Many of these men belong to the St. John Ambulance Corps, and are notably smart and well-disciplined.

The Geneva Convention.

In a recent note regarding the Geneva Convention and the neglect of the Germans to comply with its regulations, mention was made of the fact that the whole personnel of one particular ambulance unit had been charged with pillage. This unit, consisting of fifty-one persons, and including seven German Protestant deaconesses, in addition to three medical officers, fell into the hands of the French on the capture by them of Péronne, and reason was found to examine closely the goods in their possession. These were seen to consist largely of things which no ambulance unit would be expected to bring with it, including Tanagra figures, women's wigs, and opera glasses, while several members had upon them considerable quantities of jewellery which was seen to be of French manufacture. Finally, the suggestion of pillage was emphasized by the finding of a number of parcels containing valuables of different kinds ready for dispatch to different towns in Germany. Consequently, instead of being "respected," the members of this German ambulance unit were sent to Paris and there lodged in different gaols in the same fashion as ordinary civilian prisoners awaiting trial. Over this trial there was some delay, but it eventually took place last week, and after a hearing of three days resulted in most of the prisoners receiving sentences of imprisonment varying between one month and three years. The longest sentences were given to those in unlawful possession of most property, and eleven of the company, including one of the surgeons, were not sentenced at all, as they each had not more than a single piece of stolen property. All the prisoners were duly defended by counsel, and the general plea put forward was to the effect that they had not been guilty of true pillage. In various houses which had already been burned or otherwise destroyed, they had seen things which would be useful to them and had taken them. This excuse was proved to be inconsistent with the nature of many of the stolen goods, and was rendered further untenable by the fact that a good deal of household and body linen found in the possession of the deaconesses obviously came from one particular place of business in the area through which the German forces had passed. This place was known to have been assigned as a billet to a German ambulance unit, and though subsequently destroyed, it was intact when first occupied.

GERMAN, FRENCH, AND BRITISH BULLETS.

Though rifle-bullet wounds have formed a comparatively small part so far during the present war, most of the severe wounds having been caused by shrapnel or fragments of shell, a good deal of interest must attach to them and their manner of production. It has been thought worth while, therefore, to reproduce photographs of the types of bullet used by the German, French, and British, and to add that used originally by the Belgians.

A bullet, which receives its impetus or velocity of translation from the explosion of the powder in the cartridge and its rotation from the rifling of the barrel, is, so soon as it leaves the muzzle, acted upon by two other forces which in combination determine its trajectory or line of flight and its billet. The resistance of the air gradually arrests its flight forward, and gravity brings it to the ground. Gravity is an accelerating force; the rate at which a body falls *in vacuo* increases directly as the square of the time; it falls 16 ft. in the first second, 64 ft. (16 ft. × 4) in the second second, and 144 ft. (16 ft. × 9) in the third second, and so on. The point-blank range of a rifle bullet, therefore, is short, and for distance the muzzle must be raised; the bullet then rises almost immediately after it leaves the muzzle, reaches a culminating point, the distance of which from the muzzle, other things being equal, depends on the elevation, and then begins rapidly to descend. From a point near the muzzle to another point on its descending path its trajectory, when the rifle is sighted for distance, will be higher than a man mounted, and to a point somewhat further on higher than a man on foot. The "danger zones" are within the point-blank area and after the bullet has begun to descend. Taking a mounted man to sit 8½ ft. from the ground and a foot soldier to stand 5 ft. 8 in., the danger zone is obviously rather wider for cavalry than infantry. This is illustrated in the diagram, in which, of course, the height of the trajectory is greatly

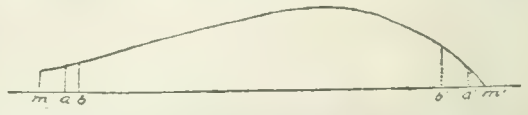


Diagram of trajectory (height much exaggerated). Point-blank danger zone: *m a*, infantry: *m b*, cavalry. Distance danger zone: *a' m'*, infantry; *b' m'*, cavalry.

exaggerated. It follows that the flatter the trajectory the wider the danger zones, and one of the objects in the recent changes in rifles and bullets has been to get a flatter trajectory. The trajectory of the German Spitze bullet is said to be flatter than that of the British.

How great the difference may be is shown by the fact mentioned by Stevenson, that whereas the bullet from the Martini-Henry rifle sighted for 1,500 yards rose to 178 ft. above the line of sight, the Lee-Enfield rose to only slightly over 81 ft.

The following table gives particulars of the French, British, and German service rifle ammunition:

Nation.	Name.	Length.	Calibre.	Weight of Bullet.	Velocity (f.s.) at—		
					Muzzle.	500 yds.	1,000 yds.
		in.	in.	grs.			
French ...	Lebel	1.55	.315	198	2,380	1,639	1,141
British ...	Mk. VII	1.28	.303	174	2,420	1,510	1,020
German ...	Spitze	1.105	.311	154.5	2,980	1,780	1,090

Both the German and British bullets consist of a central core of hardened lead with a hard sheath of an alloy of

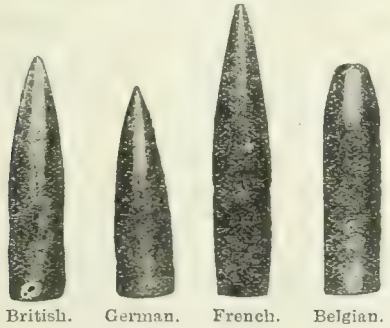
nickel open at the base. The French bullet is a solid mass of bronze (90 per cent. copper) with a circular groove where the cartridge case is clipped on to it. All the bullets are sharp-nosed, but the German is much sharper-nosed than the



British. German. French. Belgian.

CARTRIDGES WITH BULLETS.

others. The bullet originally used by the Belgians is of the same type as the German or British, but has a flat nose; they are said now to be using French ammunition. The object of the cylindrical form, pointed nose, and more or less sloping shoulder of the modern bullet is to diminish the effect of the resistance of the air. The object of using a nickel



British. German. French. Belgian.

BULLETS.

sheath for leaden bullets was not primarily humanitarian. In a rifle with the high muzzle velocity of the modern weapon a lead bullet would be too soft to take the grooves of the rifling; it would not therefore be given the necessary movement of rotation, and the rifling would quickly be choked by portions of lead torn off from the bullet driven straight through the bore.

Owing to its very pointed shape, the centre of gravity of the German (Spitze) bullet is near its base. A consequence of this, of some surgical importance, is that it has been found[1] by experiment that the resistance it encounters in traversing even soft parts or a layer of cardboard causes it to turn over on its short axis. It was found to begin to turn at once on striking the abdominal wall. In some cases observed in this war the turn over has been so complete that the bullet lies with its point towards the aperture of entrance. Of this Sir John Bland-Sutton quotes an instance in the lecture printed elsewhere in this issue. In consequence of this tendency the German bullet may produce severe wounds even when soft parts only are struck, and, as Surgeon-General Stevenson observes, "Its effects in this matter would therefore appear to be similar to those of an easily 'deformable' bullet."

Dr. EDWARD BIGG writes as follows from the Pinewood Sanatorium, Wokingham:

With reference to the "explosive effect" of small-bore rifle bullets at short range, the following may help to explain the same. The effect of rotation on the bullet in flight (imparted by the rifling) is to deflect its point somewhat downwards, and this position is maintained throughout. At short range, then, the axis of the bullet is not parallel to its trajectory, and the tendency for it to "fall over itself" on meeting with resistance is increased. At longer ranges, when the bullet is on a falling gradient, its axis and trajectory tend to coincide.

Also be it remembered that a ricochet shot may do anything. A ricochet also is more likely to be dangerous at short ranges, the projectile meeting the earth at a much smaller and therefore more effective angle than at long ranges. The angle of exit of such a shot is roughly double the angle of incidence, and the less the angle of incidence the less the probability that the projectile will bury itself.

[1] Fessler, quoted by Stevenson, *Wounds in War*.

ARROWS FROM AEROPLANES.

DUGALD DALGETTY scoffed at the bows and arrows used by the *Children of the Mist*. But as a scientific soldier he would doubtless have been interested by the new form of arrow now discharged from the sky. German surgeons have already gained some experience of arrow wounds inflicted by the Allies. In the Feldaerztliche Beilage of the *Muenchener medizinische Wochenschrift* for September 15th, Dr. J. Volkmann has published a paper, recently read at a special meeting of the Stuttgart Medical Society, devoted to surgical experiences of the war. Soldiers were resting at 5 in the afternoon of September 1st, three companies bivouacking at an interval of about eight paces. Two aeroplanes were circling overhead at a height of about 1,200 to 1,500 metres. Suddenly one of the soldiers felt a stabbing pain in the right foot just above the heel. At first he thought he had been pricked inadvertently by one of his fellows, but this illusion was quickly dispelled when he heard cries of pain all around him. The horses, too, became restive, and two were subsequently found to be wounded. Looking at his foot the soldier found an iron arrow which had penetrated to a depth of 1½ cm. He plucked it out at once. About fifteen of his comrades were also hit, and one of them was pinned to the ground by an arrow which had passed through one foot. The source of these arrows was quickly detected, and cover was taken under wagons. It was subsequently estimated that about fifty arrows had been discharged, and that thus every third arrow had taken effect. The importance of these weapons, particularly when dropped on resting soldiers, is therefore considerable, and the fact that about half the casualties consisted of wounds of the lower limbs, shows how vulnerable the resting soldier is to arrows from above. Apparently the arrows were of two sizes. One shown by Dr. Volkmann was about 10 cm. long and 8 mm. in circumference. It was of steel, its lower third solid, tapering to a sharp point. The upper two-thirds were drawn out to a mere skeleton, composed of four flanges, so that on transverse section this portion of the arrow was star-shaped. Evidently these arrows scatter considerably, for in one case four companies were simultaneously hit. As the weight of this arrow was 16 grams, very many cannot be carried by an aeroplane at the same time. Discussing the casualties in detail, Dr. Volkmann stated that in one case an arrow penetrated both calves, an incision being necessary for its removal. In another case an arrow passed through the sole of the foot just below the Achilles tendon; a haematoma developed at the point of entry. In another wound of the foot, below the ankle, some of the tarsal joints became inflamed. One arrow passed through the scalp without injuring the skull, but another caused instant death by entering the left temple and passing out again by the right coronary suture. One arrow passed though the cheek into the mouth, another passed between the index and middle finger, and a third penetrated one finger. The soldier who was pinned to the ground by an arrow pulled it back, dirty as it was, through the wound. Yet, during the following four days, while he was under Dr. Volckmann's observation, he did well. Treatment



Natura size

consisted of the application of dry dressings with or without a preliminary application of tincture of iodine. On the whole the cases treated with iodine did best; in fact, most of the wounds thus inflicted did well, bones and large blood vessels were seldom hurt, and apparently the only case that proved fatal, in addition to that mentioned above, was one in which the arrow entered at the shoulder and passed through the chest.

The drawing shows an aeroplane arrow which has been placed at our disposal. It consists of two parts, a head and a short flanged shaft. The head measures 5.7 cm. (about 2¼ in.), the total length of the arrow is 11.17 cm. (about 4½ in). Both the head and flanged shaft appear to be constructed of steel, the flange being formed of two flat pieces of metal set at right angles, the ends of the four flanges thus produced being let into the steel head. The diameter of the head is 8.5 mm. (about $\frac{5}{16}$ in.) tapering to a fine point. The weight of the whole arrow is 320.8 grains (about 21 grams).

FROST-BITE.

LIEUTENANT-COLONEL A. B. COTTELL, P.M.O., hospital yacht *Albion*, informs us that many men are now arriving from the front suffering from frost-bite of varying severity. He has, he states, carried more than sixty of them to England from Boulogne, and gives the following account of the symptoms and appearances.

The frost-bite has attacked the toes, and in many cases extended up the metatarsus, the limb being oedematous nearly to the knee. The toes stood wide apart, were extended, and of a purplish-black colour, and in all the severe cases bullae filled with clear gangrene-smelling fluid have formed on the extensor surface. In about 10 per cent. of the cases the glands in the groin were tender but in no case swollen. Some men said they were quite comfortable, and read, ate, and slept peacefully; others complained of pins and needles, and sharp stinging pain; but the majority said that the whole foot seemed heavy as lead, and that there was a dull ache all the time. The treatment adopted has been to dust the affected part with boracic powder, and to keep the foot slightly raised and covered with wool loosely bandaged. The highest temperature recorded was 102° F.; in most the temperature was slightly raised, while in a sixth it remained subnormal throughout. Owing to weather conditions and other circumstances I was able to keep 30 of the cases under my observation for forty-eight hours, during which time all of them showed signs of improvement except one.

G. S., aged 29, of nine years' service, a temperate man, a long distance runner, who had never suffered from chilblains, was in the advanced trenches from November 14th to 19th, during which time it was raining and freezing alternately. His feet felt very cold and numb on November 19th, but owing to the fighting he never took his boots off. On November 20th he could not stand and was carried back; he was seen by a medical officer, temporarily dressed, and sent to Boulogne. He embarked on November 24th. The frost-bite then (11.30 a.m.) included the toes of both feet, extending up the metatarsus; there were bullae the size of filberts on the big toes. The limb had a dull red irregular blush some 5 in. above the ankle, and the legs were oedematous nearly to the knees. The temperature was 100° F., and he complained of dull heavy pain, but there was no headache or definite constitutional disturbance. The temperature rose gradually to 102° F. at 8 p.m.; the pain and oedema had diminished under treatment, which consisted in raising the limb, which was wrapped in cotton-wool to the knees and lightly bandaged. On November 25th the temperature was 99.2° in the morning, and did not rise above 100° all day. The toes and metatarsus got deeper in colour, almost black, and smelt gangrenous. On November 26th the temperature was 99.4 at 8 a.m. The condition showed very little change, and he was sent to Netley Hospital.

The history was much the same in all cases—trench work in saturated boots and sharp frost at night, and dull aching pain in the feet and inability to stand in the morning. I was struck with the frequency with which frost-bite had supervened when men, to keep warm, had put on two pairs of socks and had in doing so restricted the superficial circulation. If the men had had "trench boots"—very large boots made of canvas stuffed with straw to pull on over their boots—much preventable suffering and loss of men in the firing line would have been avoided.

HOME HOSPITALS AND THE WAR.

BRIGHTON.

2ND EASTERN GENERAL HOSPITAL.

THE following two cases are quoted as illustrating the manner in which a bullet will traverse parts or cavities containing important and vital structures without any injury to these structures.

Wound of the Kidney.—A man was struck in the front of the abdomen, the ball passing right through him. The only definite sign of any injury to viscera was haematuria, which lasted five days and then ceased. There was no evidence of any injury to intestine.

Wound of the Neck.—This patient was shot right through the neck, the bullet entering between the scapulae and making its exit by the side of the thyroid cartilage. There was no sign of any injury of the many important vessels and nerves near which it must have passed in its course.

Importance of Dental Defects.

Five men were in a trench when the shelter was struck by a German shell. Three of the men were killed outright, one was wounded, and the fifth was buried completely under the earth. Fortunately for him a plank fell over his chest and protected him from the full weight of the soil. He was dug out by comrades four hours later, just after he had lost consciousness. He very soon recovered, and was back in the trenches fighting. He had unluckily lost his artificial teeth in the accident, and was unable to masticate or digest properly the rather hard food he obtained in the fighting line. As a consequence he began to get thin and ill, and was sent home for the purpose of obtaining fresh teeth. This case, as well as several others which have been admitted, shows the great importance to a soldier in the fighting line of good teeth. There are many cases in the hospital at the present moment invalided home simply on account of dental caries, or for the want of artificial teeth properly to masticate their food.

Complete Loss of Memory.

A man was admitted with no history whatever, and no sign of any injury. He had very complete loss of memory, and he could recollect only his name and regiment. All the rest of his history and life were a total blank. Probably he had had some severe shock.

Flesh Wounds.

There have been very few stab wounds of any kind admitted to the hospital, but one was of a quite exceptional nature. The man was digging in the trenches in the dark, when he was struck in the right upper arm by a comrade with a pickaxe. As it was clear that the wound was contaminated with earth, he was injected with a prophylactic dose of tetanus antitoxin. Many of the cases admitted have already been injected with this serum, in some instances even almost in the firing line.

Extensive flesh wounds have been common, generally made by shrapnel. The method of treatment adopted in a large number of cases is as follows: The wound is cleaned with hydrogen peroxide, and cyanide gauze soaked in chlorinated soda is applied to the wound This, with good food and plenty of fresh air, acts, as a rule, as a charm. In a few days the most extensive foul wound becomes clean and presents quite a different appearance. The following is a typical case.

A man was admitted with a large flesh wound of the back of the left thigh about 12 by 6 in., and another at the back of the right calf nearly as large. Both were suppurating freely and foul, but in a few days, under the treatment detailed above, took on a perfectly healthy appearance, and are making rapid progress.

Tetanus.

Not many cases of tetanus have been met with, so far only three, all following bullet wounds. In all the result was fatal in spite of treatment, which consisted in giving tetanus antitoxin and chloretone. In all cases the incubation period was less than twelve days, and the result seems to agree with what was already fairly generally recognized—namely, that if the disease has an incubation period of less than about twelve days, it is fatal in spite of treatment, whether by antitoxin or other means.

All the men were wounded in the arm, and presented very much the same features—tetanic symptoms such as trismus, rigidity, etc., began within about ten days of being wounded. In one case the patient had had a splint bound on very tightly, and as no facilities were available for dressing him during transport, it was found when the splint was removed three days after application that his arm was gangrenous, and amputation become necessary. Tetanus developed two or three days later. In another of the cases the man had had a previous attack of tetanus ten years previously after a wound received in India.

Fracture of the Jaw.

In one case a bullet passed through the open mouth, just grazing the angle on the left side, taking off a piece of the tongue, and then passing out through the body of the lower jaw on the right side, leaving a large wound here. There was a good deal of suppuration, and the wound was foul. Under treatment it very quickly improved, and the fragments can be kept in quite good position by means of a bandage.

In a second case the bullet passed through the lower jaw and entered the mouth, embedding itself in the tongue, a most unusual place for a bullet to lodge.

In another case the bullet entered by the right cheek, passed through the upper jaw, and then out through the mouth, which must have been open.

Wound of the Brain.

There have been many instances of wounds of the brain, among which are the following:

Depressed Fracture followed by Signs of Cerebral Irritation.—This patient was shot through the head, the bullet causing a gutter wound of the vertex, some inches long. On admission, the wound, which had been stitched up in France, was suppurating, and was opened up, and a fracture of the skull was found to be present. A few days later symptoms of cerebral irritation showed themselves (for example, stupor, slow pulse, slight optic neuritis, irregular fever, etc.). The skull was opened and several large loose fragments of bone were found, one of which had been driven through the dura mater into the brain.

Depressed Fracture of Occiput.—In another case there was a depressed fracture of the occiput, which was opened up. An abscess was found deeply seated in the brain, in which were loose fragments of bone. No trace of a bullet was found, and it is most likely that the fragments of bone were driven into the brain by the force of impact of the bullet, although the latter did not enter the skull.

Secondary Haemorrhage.

The following notes of cases of secondary haemorrhage open up a very important and interesting branch of military surgery:

1. A man was wounded in the knee by a bullet; suppuration ensued in the knee-joint, and in hospital he was suddenly seized with fierce haemorrhage from the popliteal artery. A tourniquet applied at once temporarily checked the bleeding; no other treatment but amputation was available in this case, and the operation was performed at the lower end of the femur.

2. A man had a bullet wound of the shoulder, which caused a compound comminuted fracture of the upper end of the humerus. When in the hospital a large subcutaneous bleeding took place under the pectoral muscles. An incision was made, but a search for the bleeding point was unsuccessful. The subclavian artery was therefore ligatured, but this did not stop the haemorrhage entirely. Bleeding took place on many occasions afterwards, and so weak did the man become that amputation at the shoulder-joint was performed.

3 to 5. In three other cases secondary haemorrhage was met with, but not of so severe a character as the two recorded above. One case was from a wound in the upper part of the thigh, the vessel being the external pudic artery; in another from a wound of the lower part of the thigh, the anastomotica magna being the vessel at fault; in a third case from a wound of the upper arm, the bleeding vessel being a branch of the brachial. In these three cases the treatment consisted in tying the artery at the bleeding point; not much difficulty was experienced in carrying this out.

6. A man was shot through the nose, the bullet cutting right through the palate, passing down the neck, and finally lodging under the sterno-clavicular joint. He was suddenly seized with haemorrhage from the palate about ten days after receiving the wound. This was easily controlled by pressure, but the man, who was in a very exhausted and wasted condition, died a few hours later of asthenia.

7. In this case the wound was in the groin and had perforated the bowel. Faeces passed freely through the opening, and severe bleeding occurred from the circumflex artery. This was treated by tying the vessel in the wound, a quite easy task.

8. As a final example may be quoted a case of wound of the neck, passing directly backwards, comminuting the clavicle in its course. Haemorrhage, of quite slight extent, occurred from the transversalis colli artery, but was readily stopped by slight pressure.

Secondary haemorrhage is not a very common occurrence in civil practice but is of much importance in military surgery. The general principles of treatment advocated by military surgeons are that, if possible, the bleeding vessel should be tied in the wound; but this is not always an easy task owing to the sepsis usually present. If this be impossible in the case of a limb, ligature of the main artery above the wound may in most cases be tried. But if the ligature is successful in arresting the bleeding it may cause gangrene; amputation must then follow. If it does not succeed in checking the bleeding, amputation is also necessary. The case of ligature of the subclavian artery referred to above illustrates this point.

Injury to Nerves.

There have been several cases of concussion of nerves causing loss of sensation and motion. In one instance a shell exploded close to a man without striking him, but the general shock and concussion caused facial paralysis. When the symptoms have cleared up rapidly, as they have in some cases in a few days, there could be no difficulty in the diagnosis, but in those instances in which recovery had not occurred in several weeks, the diagnosis from actual division of the nerve is very difficult. It seems, however, to be good surgery to wait at least two months, or even longer, before attempting any operative treatment, for many of the cases recover, even at as late a period as this.

Eye Injuries.

Not many examples of injury to the eye have been met with. In one instance the outer part of the orbit was shot away; the eyeball was lacerated, and was at once removed. Curiously, the man does not know that his eye has gone. Was it a blind eye? There have been a few cases of traumatic cataract due to the penetration of minute fragments of shrapnel, and also examples of traumatic iritis. One man had a gutter wound of the outer side of the orbit, and the eye on that side became completely blind without any obvious lesion. Was this an example of concussion of the second nerve?

Aneurysm.

Very few cases of aneurysm have been seen. In one there was a traumatic aneurysm of the first part of the axillary artery, and, in a second, of the brachial artery. In both cases the treatment undertaken was the same—namely, to cut down on the aneurysm, and ligature the vessel above and below.

BELFAST.

Some weeks ago the Board of the Royal Victoria Hospital, Belfast, opened three of the wards which, owing to lack of funds, had not been used since the building of the new hospital, for the wounded. Sixty were thus accommodated and put in charge of the surgeons of the hospital, and everything was done for their comfort and speedy recovery. Others were sent to the military hospital and to some of the infirmaries throughout Ulster.

An offer by the Ulster Volunteer Board to provide and equip a hospital of one hundred beds has been accepted by the War Office; the plans are well on the way to completion, and several thousand pounds have been collected to defray expenses. The military authorities have taken over from the Poor Law Board a group of buildings known as "Corry's Buildings," containing 200 beds; these are being changed so as to be suitable for the medical treatment of the Ulster Division. The board of management of the Royal Victoria Hospital has also under consideration a plan for offering 100 beds to the military authorities, so that in the near future several hundred wounded will probably find excellent accommodation and treatment in Belfast, and the sick from the Ulster Division will have similar advantages.

Altogether about 500 beds will be allotted in Belfast, and a large number more will be distributed throughout Ulster.

There is little doubt that if necessary double this number can be got ready without disorganizing the present hospital arrangements in the city.

DUBLIN.

Dublin Castle as a Military Hospital.

It was announced last week that the King had signified to the Lord Lieutenant his approval of a proposal to place Dublin Castle at the disposal of the City of Dublin branch of the British Red Cross Society as an emergency Red Cross hospital for wounded soldiers during the period of the war. The Board of Works is prepared to further the scheme in every way on the same lines as those adopted by the Office of Works in connexion with the conversion of the new Stationery Office in London into a Red Cross hospital. A special committee of medical men has reported favourably on the suitability of the Castle for the purpose, and it has been decided to substitute this scheme for that first recommended, which contemplated erecting emergency pavilions in the grounds adjacent to King George V Hospital. It is estimated that accommodation can be provided for 460 or 480 beds, and that in addition there will be ample room available for the hospital staff and nurses. The City of Dublin Red Cross Society proposes to provide the beds and necessary equipment, and to undertake the management of the hospital. The probable cost of each bed under this scheme will be about £10 instead of the £20 that would have been required under the other. A capitation maintenance grant will be allowed by the military authorities. The Presidents of the Royal Colleges of Physicians and Surgeons and the members of the Dublin hospitals staffs highly approve of the scheme, and have indicated their willingness to co-operate with the resident staff of the proposed Red Cross hospital.

Red Cross Convalescent Home.

Temple Hill House (Blackrock, Dublin) was the first convalescent home opened in Ireland under the auspices of the British Red Cross Society; several other districts in Ireland are now contemplating similar co-operation with the military authorities.

Temple Hill House is an ideal gentleman's residence and originally belonged to the first Earl of Clonmel. The grounds are large and well wooded, and the whole place is well sheltered. The home is under the financial supervision of the Joint Committee of the County Dublin branch of the British Red Cross Society and the St. John Ambulance, and is managed and financed by a local committee. There are 20 beds in the home, arranged in four wards. They are supported entirely by private and local subscriptions. The nursing staff, of some thirty ladies, is supplied by the St. John Ambulance City of Dublin Voluntary Aid Detachment, under the supervision of a doctor. The Lady Superintendent and the Quartermaster have temporarily given up their homes and reside at Temple Hill; the other ladies take a fortnight's duty at a time in sections of ten each. Whilst on duty they are subject to the ordinary nursing regulations. The cooking is done by two of these ladies in turn, who hold cooking diplomas; consequently there is absolutely no cost for a nursing staff, the only paid servants in the home being two kitchen-maids. Since the opening of the home, some weeks ago, the beds have been fully occupied, the soldiers, as a rule, remaining there for a fortnight or three weeks.

THE BRITISH RED CROSS SOCIETY.

Typhoid in the Belgian Army.

The British Red Cross Society received a visit on December 1st from Major H. Stedman, R.A.M.C.(T.F.), stationed at Calais, in order to discuss with him the disquieting situation produced by the outbreak of typhoid fever in the Belgian army. Cases began to be received in batches in Calais about November 20th, and every available house that could be used for isolating them was occupied by November 29th. Major Stedman stated that at a moderate estimate there were between twenty and thirty fresh cases daily, excluding any civilians who might be affected, and that he knew of one case of typhus fever. The Belgian Red Cross Society, owing to the restrictions which the condition of Belgium puts upon its resources, is hardly likely to be able to cope with the emergency of an outbreak of typhoid, and Major Stedman consequently represented to the War Office and the British Red Cross Society the immediate need of a hospital ship fitted for at least 300 beds in order to remove the cases now in Calais, and of a hospital of at least 600 beds in Belgium, preferably near a port. A meeting of the joint committee of the Society and of the Order of St. John was called for the same day, with the result that it was possible to announce on December 2nd that, without definitely deciding on the precise form in which assistance could best be rendered, the committee would make an immediate advance of £10,000 to be expended in Calais under the direction of the Chief Commissioner of the two societies, General Sir Arthur Sloggett.

Sir Frederick Treves has informed us that it is hoped to have a suitable vessel fitted up as a hospital ship within a very short time. The establishment of a special hospital in a public building near Calais would be undertaken immediately, and the accommodation would be increased by the erection of wooden huts. He had already obtained the services of Dr. Cassidy, Physician to St. Thomas's Hospital, as physician to the special hospital. No pathological bacteriologists had been selected here, as suitable men were available on the spot. The Society would be glad, if occasion arose, to make use of the services of Belgian doctors now in London in dealing with the outbreak. As to the source of the epidemic, Sir Frederick thought it to be too early to express a definite opinion. The cases were not indigenous to Calais; they were coming in in batches from that section of the fighting line held by Belgian troops. The cause might be found, therefore, in theconditions of existence in the trenches, and it was not clear what part, if any, the flooding of the country had played.

The King George Hospital.

The King has approved the name of "The King George Hospital" for the new Red Cross hospital now being established in the Government Stationery Office, Waterloo Road, by the joint committee of the British Red Cross Society and the Order of St. John. Over 170 beds have already been endowed. It will be some weeks before any part of the building can be ready for occupation.

The Red Cross Hospital at Netley.

The Red Cross hospital at Netley is now nearly completed. It has the general appearance of a town of grey huts, arranged with great regularity in a meadow behind Netley. The hospital will provide 500 beds (of which about 400 are now available), and is made up of 45 huts disposed as follows; 25 for patients, 9 for nurses, 5 for orderlies, 3 as recreation rooms, and 3 for isolation wards. The staff under Surgeon-Lieutenant-General Sir Warren Crooke-Lawless, C.I.E., consists of 18 medical officers, 65 trained nurses, 20 quartermasters, and 130 N.C.O.'s and men. The huts are of excellent type—light, airy, and well ventilated—and the many difficulties connected with the installation of a sanitary system have been overcome with complete success. Each hut contains 20 beds, and has a well arranged annexe. The meals are cooked in the hospital kitchen, but the rations are supplied from Netley Military Hospital. As each hut has been completed, wounded have been received, and up to the present a considerable number of Indian troops have been under treatment. Special arrangements are made for them. To each of the Indian wards one sister and three orderlies are attached. The sister attends to the general management and to the meals. She directs the nursing, but does not come in actual contact with the patient, the nursing being carried out by orderlies. Two Indian gentlemen attend the hospital regularly, and give their voluntary services as interpreters.

CASUALTIES IN THE MEDICAL SERVICES.

Royal Navy.

When H.M.S. *Bulwark*, a battleship of 15,000 tons, blew up at Sheerness on the morning of November 26th, practically the whole of her complement—between 750

and 800 men—perished with her. Among them were all three of her medical officers.

Fleet Surgeon Percival Kent Nix was educated at Cambridge and at the London Hospital, and took the degrees of M.B. and B.C. at Cambridge in 1896. He attained the rank of Fleet Surgeon on November 10th, 1912, and had been serving on the *Bulwark* since June 4th, 1912.

Surgeon William Miller took the degrees of M.B. and Ch.B. at Glasgow in 1906, and after serving as house-surgeon and house-physician of the Victoria Infirmary, Glasgow, joined the Navy on May 14th, 1909. He was posted to the *Bulwark* on July 29th last.

Surgeon Robert Traill Brotchie was educated at the London Hospital, where he was editor of the *London Hospital Gazette*. He took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1913, and after serving in the British Red Crescent Hospital in Tripoli during the war between Italy and Turkey, settled in practice at Tarbert, Loch Fyne, Argyllshire, where he was medical officer of health. He joined the Royal Naval Volunteer Reserve on February 12th, 1914, and was called out for the war and posted to the *Bulwark* on July 29th, 1914.

ARMY.

Died of Wounds.

Major Edwin Bedford Steel, R.A.M.C., died on the afternoon of November 23rd, of wounds received that morning at La Clytte. He was educated at Trinity College, Dublin, where he took the degrees of M.B. and B.Ch. in 1893, entered the army as surgeon-lieutenant on January 29th, 1895, became surgeon-captain on January 29th, 1898, and major on October 29th, 1906. He was recently stationed at Netley. He was 43 years of age.

Prisoners, previously reported Missing.

Jackson, Lieutenant J. L., R.A.M.C.
Rose, Captain A. M., R.A.M.C.
Winter, Lieutenant H. G., R.A.M.C.

Missing.

Robertson, Captain H. G., R.A.M.C.

INDIAN MEDICAL SERVICE.

Rejoined.

Lieutenant N. M. Mehta, I.M.S., reported missing after the late battle in East Africa, has rejoined.

DISTINGUISHED SERVICE ORDER.

A NOTICE in the *London Gazette* announces that the King has approved of the appointment of fifty-eight officers to be Companions of the Distinguished Service Order in recognition of their services with the Expeditionary Force. The list contains the names of three officers of the Royal Army Medical Corps as follows:

Captain JAMES STUART DUNNE, R.A.M.C.

During German attack on night of October 31st, near Messines, he established a dressing station just behind the trenches, and was the means of saving many lives, he himself going several times into the trenches to attend to wounded men who could not be moved.

Captain PATRICK SAMPSON, R.A.M.C.

Has shown frequent and conspicuous gallantry throughout the campaign, especially on October 21st and 22nd, attending wounded men under very heavy shell fire.

Captain SIDNEY JOHN STEWARD, R.A.M.C. (Special Reserve).

Went with party of stretcher-bearers across ground swept by rifle and shell fire to Langemark village, and removed eleven wounded men.

NOTES.

PROVISION FOR SICKNESS AMONG THE TROOPS.

AT the request of the War Office, the Metropolitan Asylums Board has agreed to place accommodation at the disposal of the military authorities for the treatment of sickness which may occur amongst the troops or the staffs of military hospitals. The Board will receive a limited number of cases, should any occur, of dysentery; of enteric fever among the nursing staff of the military hospitals in Woolwich; of infectious disease amongst the men of the Public Schools Brigade of the Royal Fusiliers at Epsom (provided the beds are not required by metropolitan patients); and of scarlet fever or diphtheria among the personnel of the Duke of York's Royal Military School. The Board has also informed the War Office that there are generally beds available at seven hospitals, which could be used for cases of enteric fever amongst the troops.

WOMEN'S HOSPITALS.

The response to the appeal of the executive committee of the Scottish Federation of Women's Suffrage Societies for funds to send out a series of hospital units staffed by women doctors and nurses has been generous. The sum actually in hand on November 28th was £5,000, and the money was coming in at the rate or about £1,000 a week. In addition, large quantities of shirts, dressings, and other equipment have been contributed, and Girton and Newnham Colleges had promised to raise £1,500 to equip a complete unit for France. The personnel and equipment of two hospital units are ready. The first will be sent to Servia, and the Admiralty has consented to provide a transport. For the other unit the French Red Cross Society, under which it would work, has provided the Abbey de Royaumont, twelve miles from Chantilly. Mrs. Owen (Merioneth) will act as administrator, and the medical officers are Drs. Deborah Hancock (Birmingham), Berry (London), Ivens (Liverpool), Ross (Paisley), and Ruth Nicolson (London), and for *x*-ray work Dr. Savill (London). In addition, the Scottish Committee is supplying nurses and cooks. At the request of Dr. Depage, the head of the Belgian Red Cross Society, the committee has arranged that the services of Dr. Alice Hutchison, Dr. Sharp, and ten nurses should be placed at the disposal of the hospital in Calais, which is under the patronage of the Queen of the Belgians.

MEDICAL OFFICERS WANTED.

Field Ambulances.

We are asked to state that the 2nd Northumbrian Field Ambulance R.A.M.C.(T.F.) is urgently in need of medical officers for the Reserve Unit. There may be one or two vacancies in the Foreign Service Unit for officers desiring to go abroad. Officers joining for the period of the war only will receive £30 outfit grant, and those joining as ordinary Territorial officers will receive £40. The pay on joining as Lieutenant is 14s. a day, *plus* field allowance of 3s. a day while under canvas.

Applications should be sent to Lieutenant-Colonel D. A. Cameron, Officer Commanding 2nd Northumbrian Field Ambulance R.A.M.C.(T.F.), Bensham, Gateshead.

There is a vacancy for one lieutenant in the South Wales Mounted Brigade Field Ambulance (Reserve Unit) at Hereford, which is under the command of Major Herbert Jones, R.A.M.C.(T.F.), to whom applications should be made at the Barracks, Hereford.

THE strain of warfare is apt to lead to the production of nervous disorder and insanity among soldiers. On the outbreak of the present war, Dr. Vaillard, Médecin-Inspecteur of the French army, suggested that measures should be taken to ascertain the facts and provide a remedy if necessary. Accordingly the Government invited him to study the question in conjunction with Professor Gilbert Ballet. The result of the inquiry convinced them that the amount of insanity caused by the war in the army was inconsiderable. There was a certain number of cases of delirium due to alcoholism in mobilized troops who had celebrated their departure rather too joyously. Almost all recovered quickly and were sent to the front. Then there were cases of slight general paralysis which became aggravated under the influence of the excitement of war. The same may be said of some melancholics. What was chiefly feared was mental disorder among men worn out by the fatigue of the campaign. Such cases, however, were extremely rare. Ballet therefore concludes that, with a few exceptions in which a pre-existing organic taint was always to be found, the war has not produced insanity. It were well, he adds significantly, if the opposite could be said—namely, that insanity has not produced war.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Trinity College, Dublin, and the War.

A special meeting of the University Senate was held on Friday, November 27th, for the purpose of conferring degrees upon those medical students who had completed their first examination this month and who are desirous of obtaining commissions in the Royal Army Medical Corps. Before conferring the degrees the Vice-Chancellor of the university, Mr. Justice Madden, LL.D., made a statement regarding the part the members of the university are playing in the present international crisis. He dealt especially with the work of the Officers' Training Corps, which is under the command of Major Tate, fellow and tutor of Trinity College and public orator in the University of Dublin. The total number of Trinity College men who have applied for commissions through the head quarters of the corps is 501. Of the 340 members who formed the corps at the beginning of the war practically all are now on active service, and as a result of good recruiting the corps has at the present moment 360 members.

By no class of students has the call of duty been more fully recognized than by students of the School of Physic. Since the war began a large number of young medical graduates have received temporary commissions or joined the reserve list of the officers of the Royal Army Medical Corps. The number of these amounted to 70 at the end of October. Many undergraduate students in medicine in their final year have been granted commissions in the reserve list on probation, but will not be called for active service until they complete their final examinations. We are informed that in addition to these no fewer than 70 students of the School of Physic have enlisted or received commissions in fighting regiments of the army or been appointed probationary surgeons in the Royal Navy.

The number of students who have matriculated in the school in 1914 is above the average, and if it were not for this fact the depleted ranks of the School of Physic would be even more striking than is actually the case.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Resignation of Professor Wyllie.

Professor John Wyllie's resignation of the Chair of Medicine in the University of Edinburgh, which was accepted by the Curators of Patronage on November 30th, has been received by his friends (and they are many) with great regret but with little surprise, for his failing health for some time had made it evident that such a step was to be anticipated in the near future. Professor Wyllie has held the appointment of Professor of Medicine since the year 1900, when the death of Sir Thomas Grainger Stewart rendered vacant the chair which had been occupied by Cullen, the Gregorys, Alison, and Laycock; then, after a strenuous contest in which the late Dr. G. A. Gibson was a strong candidate, Wyllie was elected, and, until recently when his health became impaired, has performed all the duties of the office with great acceptance. Many medical men in many parts of the world look back to-day with gratitude to the teaching received from Professor Wyllie in the Medicine classroom in the University and in the wards of the Royal Infirmary. Whilst Wyllie has made many contributions to medical science, there can be no doubt that his outstanding achievement was his book entitled *The Disorders of Speech*, which was published in 1894; it is a classic on the subject with which it deals, and many saw in the degree of LL.D. conferred upon him by his Alma Mater in 1897 a fitting recognition of the worth of the work and the eminence of the author. The Curators have authorized their Secretary, Mr. A. B. Fleming, W.S., 4, Albyn Place, Edinburgh, to receive applications from intending candidates up to January 15th, 1915.

Sydney.

[FROM OUR SPECIAL CORRESPONDENT.]

Sir Thomas Anderson Stuart.

The news that Professor Anderson Stuart, M.D., had received the honour of knighthood was received with great pleasure by the large number of medical students at the Sydney University, as well as by the profession and the public in general. Professor Stuart has been Dean of the Faculty of Medicine for thirty years, and it is largely due to his energy and wonderful organizing powers that the Sydney Medical School has attained to its present important position. He has also been chairman of the Board of Directors of the Royal Prince Alfred Hospital for the last thirteen years, and here again he has done an enormous amount of work in extending and improving the buildings. In addition to these positions he has held others outside those of a strictly professional character, and his work in various directions has been of such a character that the distinction now conferred upon him is recognized as well merited.

The late Dr. Critchley Hinder.

The late Dr. Critchley Hinder was surgeon to the Western Suburbs Hospital, Sydney, for twenty years, and to commemorate his work there the Hospital Committee recently ordered a portrait of the deceased surgeon to be hung in the hospital. The portrait is a basso-relievo, a work of a high order of merit, and shows the full face with singular fidelity.

Treatment of Venereal Diseases.

As a part of the crusade against venereal disease the Minister of Health has approached the boards of the metropolitan hospitals with a view to the establishment of night clinics for venereal diseases. This matter was fully considered at a combined meeting of the honorary medical staffs of all the metropolitan hospitals, and it was agreed to fall in with the proposals. This means that the Government will be called upon to provide the necessary funds and the extra accommodation required to carry on the work.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

The Christie Hospital.

At the annual meeting of the supporters of the Manchester Christie Hospital for Cancer on November 26th it was reported that the total number of cases treated during the past year was 168, of whom 133 were in-patients and 35 out-patients. Of the in-patients, 67 had been discharged, 47 had died, and 19 remained in the wards. Provision had been made for 61 patients, called "home patients," who were admitted in a late stage of the disease, when there was no hope of cure, simply for the purpose of alleviating their sufferings. Voluntary contributions from patients and their friends had amounted to £191, but the falling off in the income from annual subscriptions had made it necessary for the committee to appeal for additional contributions. A sum of £250 had been placed to the credit of a research fund. The total contributions to the Manchester Radium Fund had been over £31,000.

Professor Wild said that the money for the purchase of radium raised before the war began would provide sufficient radium for the needs of the district for many years. The work of the radiologist had not yet been commenced, as the alterations at the infirmary to provide for the radium department had been much greater than had been anticipated. Many of the cases were too far advanced for any effectual treatment by any quantity of radium, and one of the reasons for the existence of the Christie Hospital was to deal with such cases as well as possible. Other cases who came in the early stage of the disease would not be treated by radium. An intermediate class, however, too far gone for any surgical operation, but not so far gone but that improvement might be made,

d in some cases recovery effected, would be treated by dium, which, though it was not a cure for cancer, was ten of considerable benefit.

Dr. C. Powell White and Dr. W. F. Shaw thought it cessary to warn the public that radium should not be garded as a certain cure, and that the radium treatment is as yet only in the experimental stage.

The Drug Fund.

Among the various suggestions made from time to time safeguard the chemists under the Insurance Act, the llowing is noteworthy as perhaps showing the feeling at exists in certain quarters not without influence. Mr. P. Gilmour, President of the North British Branch of e Pharmaceutical Society, at a meeting of the Manester Rotary Club on November 25th, is reported to have id that if medical benefit is to be anything more than a am, more money will have to be found for it. Under e present system doctors were giving large quantities of edicines which were of very little value to the patients, d were encouraging malingering. What was called the floating sixpence" for drugs was in Manchester really a bmerged sixpence. The remedy for the shortage in the ug fund suggested by pharmacists was that the drug bill ould be made the first charge on the medical benefit nd, and that the doctors should only get what was left hen the drug bill had been paid in full. He believed that provision to that effect would have been embodied in the gulations but for the war.

Correspondence.

THE FUTURE OF THE LISTER INSTITUTE.

Sir,—The intervention of Professor Shattock in this ntroversy will command the interest of your readers, d his temperate argument their careful attention. Thus y his letter I am led to offer some reflections which herwise I should not have ventured to publish.

For, to tell the truth, at the Lister meeting I did not, either do I now, feel quite sure that the gathering of outside ersons, however eminent individually, was quite justified in ing beyond advice; that it was quite justified in defeating decision of the governing body—a decision with one exption unanimous—I am not sure. The governing body is timately acquainted with the working of the Institute, s needs, conditions, and prospects; moreover, some of its anagers have a personal stake in its prosperity. We, the tsiders—and here I have some reason to judge others myself—could pretend to no such familiarity, nor any ch stake. Few, if any of us, had frequented the Institute; ost of us, indeed, were surprised to find ourselves invited t only to give counsel but also to vote upon the destiny a corporation of whose inner life we had known so tle. Was there not some danger lest, in our comparative norance of its life and development, we should wander to abstract notions and prepossessions? And if now we e to override the confident decision of the governing ody, our objections should be, not vague forebodings, but finitely in touch with the facts. Yet even those who ame with the intention of an adverse vote, and confident n the inaccessibility of any such intention to a speech, nust still have desired that their advocates, if only for appearances sake had been more instructive, had dealt nore in facts and less in rather elderly—"Mid-Victorian"—vaticinations.

Professor Shattock begins his present argument by frankly admitting that "the proposal for confederation embodies advantages of the highest order." This, he says, "cannot be denied." Thus for the objector he sets a high standard of reply, of weighty, cogent, and practical criticism. As it appears that Professor Shattock was present at the meeting of the Institute, I, who made no notes of the discussion, may presume that his letter contains the main contrary argument; that other contrary reasons may be taken as of secondary importance, and, in view of "advantages of the highest order," negligible. In this I agree. And let us remember that no change, however beneficent, was ever made in any institution but in the face of quite considerable contrary arguments; that all such changes have to be made not on all but on a balance of reasons. Furthermore, governing bodies are not unaffected by the inertia which pertains to all institutions, to all co-operations of men; so that when a governing body speaks for a change the reasons for it are probably overwhelming. What, then, have we of the outer court to advance which so overtops the "promise of advantages of the highest order," and the phenomenon of a revolutionary governing body, that the balance of reasons is for refusal?

It would seem, according to Professor Shattock, and my own recollection of the debate, that the serious objections, however various its expression, may be summed up in one. It is argued that, if confederated with the Medical Research Committee, the "standard and value of the work carried out, if not solely a utilitarian one at the outset, would almost inevitably become so in course of time;" it would, "as a department, come to exist for the purpose of direct public benefit." Let us delete the word "department," which suggests a Government department; such the National Research Committee is not; it is endowed by a department, but with far-reaching and liberal powers. But still even then it is argued that it would be "restricted and even extinguished" (as a disinterested scientific body). This is the apprehension, the abstract notion which is supposed to outweigh "advantages of the highest order."

My mind being unhappily of a material bent, and abhorrent of a vacuum, I find it hard to deal with this kind of speculation. Can we not get nearer to realities? I have in my mind's eye, not a viewless notion but certain solid facts and figures. Let us suppose a sum of about £24,000 a year to be distributed amongst the university and collegiate institutions of the United Kingdom, in accordance with the unfettered requests of the directors of these bodies, and of certain private workers. Whatever we may say about the National Research Committee as a central body, are we to suppose that these many and several institutions throughout the kingdom are bitten by the utilitarian dog? These diverse bodies have, it is true, been visited by the committee, but only to ascertain the wishes and hopes of each and the adequacy of its plant and personnel, in no way whatever to dictate the direction of its own spirit and work. The schemes of such diffused researches were drawn up not before but after the reception of the requests of collegiate and individual investigators, so that the freedom of each and all is at two removes from "departmental" influences, and beyond the reach of the longest official arm.

In respect of the central work of the National Committee, one of the objectors to the confederation gave as his reason that he objected to any central institute, that all funds should be divided between the collegiate and other independent bodies. Well, after a long and patient discussion a scheme providing for some organized work in a central institution has been settled on moderate lines, and has received the approval of almost of all concerned, metropolitan and provincial. Much, indeed, of the functions of such a centre—such as the secretarial, the organizing, the statistical, the bibliographical, and so forth—is to be for the benefit of all workers everywhere, and these functions, at any rate, could not easily be captured by a utilitarian Minister. The research staff will, of course, have that free hand without which, as Professor Shattock will agree, no able scientific staff would accept or retain their offices. If, under special circumstances, a Minister were to invite the Research Committee to attack certain problems—as, for instance, during a great epidemic or a great war, offering at the same time facilities for attacking them—such a proposal, far from being meddlesome, would surely be esteemed and cordially accepted.

Weak as I am in conjectural arguments, to test Professor Shattock's distinction between disinterested and utilitarian researches, let me take a concrete instance. For some years the Home Office has had before it a statement that glass-workers are subject to a peculiar form of cataract. Evidence, medical and lay, was taken without definite result. The Minister decided to allot funds for the inquiry, and to ask for the help of the Royal Society. This I suppose was one of the insidious utilitarian researches for "direct benefit." A committee of the Royal Society undertook the research, and has pursued it quietly without any interference from the Government, and with a perfectly free hand. Now, of this committee Sir William Crookes has pursued laborious investigations at glass-works and in his own laboratory, with the result not only of furthering the special purpose, but also incidentally of discovering certain means not only of

purely scientific interest but probably also of great importance in the arts. Some similar by-results may come out of the physico-physiological side of this research by Messrs. Hill and Hartridge. The truth is that, outside the technical laboratories of some factories, Professor Shattock's distinction between disinterested and utilitarian research is illusory, at any rate in the hands of ardent and competent workers. But no voluntary institute, unaided by public money and encouragement, could or would undertake such labours. Such bodies, to please their subscribers, are too often driven to work for the short, not for the long, run. I can see but one way in which a meddlesome Minister could pervert research. He might say: You have been six months over this job and have done nothing. I give you six months more, and if at the end of this second period you have nothing popular to show I shall cut down your subsidy. But are we to imagine such silly Ministers?

The man in the street now knows all that Professor Shattock urges so well; all about Faraday and electromagnetism, Saul's search for asses and discovery of a kingdom, and so forth. When I pressed one of the most serious objectors to condense his misgivings into something practical, he did not urge this point, but only that members of the House of Commons might be getting up to ask bothering questions. Of course they may. My friend is one of those persons who refuse to see that they are born in a democracy. The times for superior persons to rule *in camera*, or by esoteric methods, are, for good or evil, over. To make progress now we must persuade the public; a slower process, but progress when made is far more solid and permanent. I have seen a good deal of four Government departments, and observed that this new advance by persuasion has wholly altered the official attitude. The older routine, narrowness, and officialism have given way to a breadth of view, to a trust without dictation in men who know their business; thus the services have gained efficiency on a scale far larger than English individualism—excellent ingredient as it is—can possibly achieve. Let us take courage from the National Physical Laboratory at Bushey, which happily combines private munificence and initiative with the scope of national resources; there no whisper of State meddling has been heard. The universities, again, feared the donations of State subsidies, but after experience of them they now admit unanimously that these subsidies are the easiest and most fertile money they receive, and that all their previous apprehensions were bogies.

Professor Shattock admits that an addition of clinical provision for these research institutes would be an inestimable "advantage"; it is not a mere advantage; it is the core of pathology. To set out to investigate disease in the absence of the very thing we are to study is a phantasy which will amaze our children. Without this seed-core of progress a pathological institute must lapse into a backwater. Thus I urge that to combine the Lister and the National Research Institutes would be not a mere addition, but a multiplication of the capacities of both.—I am, etc.,

Cambridge, Nov. 30th. CLIFFORD ALLBUTT.

THE WAR AND TYPHOID FEVER.

SIR,—I venture to criticize one or two of the statements made by Sir William Osler in his extremely interesting and valuable address on "The War and Typhoid Fever," which appeared in your issue of November 28th, because I believe that they may give rise to erroneous ideas. He describes in some detail the symptoms *following* inoculation (the italics here and below are mine), and under the heading "Cases with Untoward Effects, (*b*) General," he writes that symptoms suggestive of enteric, and even enteric itself, may *follow* inoculation. All through this portion of Sir William's address the words "follow" and "sequel" are used, as they are usually used by medical writers, to indicate that (in this particular case) the untoward event was caused by the inoculation.

Now I think that in some of these cases, especially the enteric cases reported by Dr. Walter Broadbent and Professor Boyd and the pneumonia cases, we are hardly justified in concluding that these diseases, although they followed the inoculations, were really due to them, unless we have more evidence before us. I am especially interested in the typhoid cases because at the present ti I have under my care a soldier suffering from typh fever, in whose case it was alleged that the antityph inoculation had given him that disease. Careful inves gation was made, and it was proved that the symptoms the disease were present before the inoculation was ma Yet, had the inoculation been made four or five days lat the attack of typhoid would have *followed* it. T patient, I may add, came from one of the camps n Brighton.

In both Dr. Broadbent's and Professor Boyd's cases shortness of the interval between the inoculation and onset of the attack of enteric, compared with the us length of the incubation period of enteric, suggests that patients had been infected before they were injected.

In respect of the pneumonia cases in the North Midla Division the question of coincidence has to be considere

One other—a minor—point. Sir William states that inoculation fever has many resemblances to the so-cal serum sickness. There are, however, two very mark differences. The latent period between the injection serum, and the onset of the sickness is rarely less tha week, and is usually nine or ten days; and in serum si ness a rash is almost invariably present.—I am, etc.,

Homerton, N.E., Dec. 1st. E. W. GOODALL

SIR,—In my lecture, which appeared in the JOURNAL last week, I was in error in stating that the Ebe bacillus would probably kill in this year in the Uni States as many as would the German shrapnel and bul in France and Russia. Judging from the recent figure would be nearer the mark to say that it would kill many as would die of wounds in the British force I am, etc.,

Oxford, Dec. 1st. WILLIAM OSLER

THE TREATMENT OF WOUNDS IN THE PRESENT WAR.

SIR,—I should like to add my gratitude to Sir Wat Cheyne for so clearly placing before the profession responsibilities to the wounded. Aseptic surgery sp disaster. In peace time the most that can be said aseptic surgery is that it is artistic, but it is a frigh waste of time and clean linen.

Aseptic surgery constitutes a second and more ser danger zone for our *braves*. The results of antise surgery being perfect, why have the tedious detai asepsis?

Assuming the first antiseptic to be carbolic or iod I wish to urge the use of salicylic acid later. My for chief, Lister, regarded salicylic acid as the only antise that would correct fetid feet, in spite of its low solubi I was very short of carbolic, and had to use iodine 10 per cent.), but later I found salicylic acid successful. I have never seen any wounds so offensiv septic, and at first was in despair. As the salicylic disappears in the wound, I fancy it is dissolved by serum. The sloughs quickly disappear, and bright gr lations cover the wounds, and all odour goes. I w like to note three cases:

1. A shrapnel wound in the perineum, which after b rendered superficial was as bad as anything one imagine, and *B. coli* was present. In three days it w clean granulating sore, and the area odourless.

2. A bayonet wound in the left thigh penetra 9 in. from above. The youth (Zouave) had slain opponent. Bayonet wounds are not seen often by re of their severity. It formed a lacerated wound, the le part contained an abscess, and the limb was purple. pected gas gangrene. After incising in two places I in duced salicylic acid daily on an india-rubber drainage t and it cleared in four or five days. The cellulitis grad dispersed under boracic fomentations.

3. An abdominal abscess, suprapubic. Here the pus very offensive and so abundant that I laid the man o side for drainage. The wound became rapidly sweet i salicylic acid introduced inside, and in time the diminished in quantity.

Every doctor has his own fads, but I certainly com this one as being very useful. I wish some bacteriol would test its efficacy *in vitro*.—I am, etc.,

London, W., Nov. 28th. ALBERT WILS

SIR,—I should like to direct attention to a valuable preparation which seems to be comparatively unknown, and which seems to me to be admirably suited for use on the battlefield. If crystals of carbolic acid and camphor (equal parts) are ground together in a mortar a fluid is formed which does not produce any discomfort when applied to the skin or mucous membrane. Camphor is an antiseptic and deodorant. It also augments the anaesthetic effect of the acid, but at the same time it prevents it from acting as an escharotic.—I am, etc.,

Glasgow, Nov. 30th. SAMUEL J. CAMERON.

SIR,—The best commentary on Dr. P. R. Cooper's letter is your report of Mr. Charters Symonds's speech at the Medical Society, wherein he says it is agreed for routine practice to wash the wound with some *mild* antiseptic. Mr. Symonds also draws attention to the value of the alcohol in the tincture of iodine, and no doubt, when he has tried petrol, he will agree with Sir Victor Horsley and myself.

If pure carbolic produces no bad results when applied to the trachea by Dr. Cooper, it would seem to be the ideal treatment for all membranes and septic conditions of the pharynx, but apparently his use of it has been only occasional, whereas I have used petrol constantly for swabbing in the early stages of these affections, and invariably with good results and little pain.

I agree with Dr. Cooper that too much emphasis cannot be made with regard to the prevention of evaporation when wounds are treated even by mild drugs.—I am, etc.,

Swansea, Nov. 30th. G. ARBOUR STEPHENS.

SIR.—Having entertained us with his vigorous denunciation of the scheme proposed by Sir R. Godlee, will not Sir Victor Horsley now detail the method he would suggest for the general treatment of wounds in the present war? "Every case," he says, "must be treated on its merits and not by any routine." But the merits of the situation are that practically every wound is infected. Under these circumstances it would seem to be only reasonable to have some sort of routine plan for dealing with this grave risk. Sir Rickman Godlee and Sir Watson Cheyne have detailed one perfectly intelligible plan. If to an eminent surgical authority like Sir Victor Horsley this plan seems fraught with danger, then he surely ought to indicate how he would deal with the situation. This matter is obviously of great importance and interest to medical officers of service battalions, and if Sir Victor's argument is superior there should be no difficulty in appreciating the fact.—I am, etc.,

ERIC D. GAIRDNER, M.B.,
Medical Officer in Charge 5th Royal Scots Fusiliers.

Stirling, Nov. 30th.

SIR,—To prevent any more laughable misunderstandings on this very serious subject, permit me to reply briefly but categorically, and first to Dr. Cooper.

I do not "deprecate the use of such a valuable antiseptic as phenol." On the contrary, I use it almost daily, but on suitable cases and in suitable strengths of solution.

I regret I spoke of his suggestion of November 14th that my "experience of operating under such conditions as must obtain in war, or even in the common accidents of civil life," was limited, as "good-natured banter." It seems Dr. Cooper meant it to be "a sincere compliment." I accept it as such, but, alas! like so many compliments, it is not true, as I showed in my last letter, from my hospital experience. I did not say petrol and alcohol were "antiseptic agents." I said (November 21st, 1914) the former was the "best *cleanser*" and the latter next best.

It did not need any addresses, in my opinion, to suggest that there is an "urgent indication" for prompt and thorough disinfection of wounds, probably septically infected, whether in this war or in civil practice. I am sure all surgeons are agreed on this, and no one but a surgeon unfit to have any responsibility would dream of dealing with these cases by simple asepsis.

It is quite another question what the "thorough disinfection" means. Personally, I use as disinfectants sublimate lotion and hydrogen peroxide 20 volume strength.

I do not consider it justifiable to use a slough-producing escharotic. The condition in which a large number of the wounded arrived in this country would have been prevented if their wounds had been thoroughly irrigated with hydrogen peroxide twice or thrice a day.

As to Mr. Peter Broome Giles's absurdly violent onslaught on my innocent statement of scientific history, all I have to say is: "*Honi soit qui mal y pense.*"—I am, etc.,

London, W., Dec. 1st. VICTOR HORSLEY.

SIR,—I read with interest Sir Watson Cheyne's address on the treatment of wounds. At a big out-patient clinic of which I had charge the routine was to apply crude carbolic acid to fresh cuts and similar injuries. I found the results were more favourable when the acid was left in contact for about two minutes, then removed by swabbing the wound with methylated spirit.—I am, etc.,

Liverpool, Dec. 1st. OLIVER CARLYLE, F.R.C.S.Edin.

AMATEUR WAR NURSES.

SIR,—It is satisfactory to learn from Mr. Edmund Owen's letter that the uniformed ambulance woman will in future exist under the designation of "woman orderly."

Previous to my first letter I had been told on reliable authority that 2,000 dressings a day were being changed by a detachment of untrained women at the front.

Does Dr. Bowhay suggest that a woman whose whole idea of nursing is based upon a short course of lectures is able during one or even two months so-called "hospital training" to acquire sufficient knowledge to dress a wound in accordance with the methods of modern aseptic or antiseptic surgery? Having given ambulance lectures to women for years past, I repeat that, in my opinion, the very slight knowledge expected in examination cannot in any way be compared to the proficiency a hospital nurse must exhibit in order to obtain her certificate. The statement that a trained nurse needs special study to compete with ambulance women is positively ridiculous. Further, I should like to point out to Dr. Bowhay that my letter dealt with nursing, not with cooking.—I am, etc.,

Whitley Bay, Nov. 28th. N. A. EDDLESTONE.

GERMAN SCIENTIFIC PRE-EMINENCE.

SIR,—Out of the horror of this war some modicum of good may come if it leads, at long last, to a revision of the exaggerated estimate that has prevailed so long in this country and in America of the achievements of the Germans in science. To me, who have for so many years been protesting—*vox clamantis in deserto*—against the infatuation of English alienists with German pseudo-science and pseudo-discoveries, it is extremely gratifying to note the change of tone in your leading article of November 28th, and in Dr. Greeley's article in the *Boston Medical and Surgical Journal* of September 10th. A few years ago you published a letter from me protesting against the laudation that you bestowed upon Professor Ziehen for a discovery of his which I had myself discovered and published, along with others, some years before, and which attracted no notice at all when I published them. The example was typical of our attitude towards the Germans and towards ourselves.

Those of us who remember the war of 1870 know that in spite of the ineptitude and divisions of the French higher command, in spite of the deficiencies in the French supply, the Germans on several occasions were within an ace of defeat; but as they were successful, the German army has since been worshipped as the utmost culmination of what is possible in human endeavour; and the admiration bestowed upon it has slopped over on all sides, so that in spite of the plain evidence of our senses, in spite of the fact that in almost every activity of life the Germans have come to this country to learn, we have cultivated a superstition of German pre-eminence in commerce, in machinery, in education, in everything, but especially in science, and more especially in mental science.

Against this superstition I have protested for many years, but my protests have been unheeded. If the Germans had made any discoveries in medicine at all comparable with the discovery of the circulation of the blood, of vaccination, of antisepsis and asepsis, of hormones—all made by Englishmen—if the suffrages of the medical world had identified with German names the discoveries

of Colles's fracture, Pott's fracture, Pott's disease, Bright's disease, Addison's disease, Jacksonian epilepsy, Hutchinson's teeth, or any other of equal importance, there might be some excuse for this superstition; as it is, there is none. But it is especially in mental science that the reputation of the Germans is most exalted and is least deserved. For every philosopher of the first rank that Germany has produced England can show at least three, and in the value of their contributions the comparison is immeasurably in favour of the English. It is absurd to compare the fumbling of Hegel and his disciples in impenetrable fog with the transparent clearness of English philosophy from Hobbes and Locke to Spencer and Mill. It is absurd to compare the logic of Sigwart and Lotze with that of Hamilton and J. S. Mill; and it is absurd to compare the lagomachy of Kraepelin and the filth of Freud with the classical writings of Maudsley and the clinical insight of Clouston. In every branch of mental science the English are immeasurably superior to the Germans.

But let me give the Germans their due. There is one department of activity in which they easily excel all other nations on earth. I do not speak of their skill in espionage, for a spy bureau that will give a handsome reward to a poor boy for information copied out of *Whitaker's Almanack* is not so magnificently competent. No, I refer to their genius for self-advertisement. They have contrived, upon a very slender basis of achievement, to impress themselves upon the world as the most scientific nation on earth. Never was there a greater imposture. Scientific, indeed, they are in one sense—more scientific than any other nation—for, as Dr. Greeley points out, there is a far greater proportion of medical men working at science in Germany than in any other nation; but what have they to show for it all? Less, in proportion to the number of workers, than even Japan, which has so lately entered the field. But in getting themselves accepted at their own valuation they are immeasurably superior to every known example—even to Mr. Bernard Shaw. True, they do not follow his method of beating the big drum with frenzied energy and blowing their own trumpet till their cheeks crack, but they display the same adroitness in foisting upon a gullible world their scientific achievements as their shoddy commercial wares, and the two are of much the same value—made for show and not for endurance—in short, made in Germany.—I am, etc.,

Parkstone, Dorset, Nov. 30th. CHAS. A. MERCIER.

NUTRITION AND MEAT EXTRACTS.

SIR,—Believing that what may be called the multiple body-building theory regarding meat extract had been definitely shattered, it was my intention, when last writing, not to trouble you again with it, but Professor Thompson sends you a third letter,[1] in which he shows so little disposition either to meet my criticisms or admit the illusory character of his doctrine that the facts of the case are obscured, and I feel that, in the interest of prescribers and consumers of meat extract, the following brief summary should be presented to them:

A body-building power of from 10 to 20 times the amount taken was claimed for meat extract as the result of two series of experiments: First, upon 5 dogs,[2] and secondly, upon 2 dogs and 2 human subjects.[3]

If the extract really had such a power, through (as the authors believed) a superior utilization of the other food, an animal previously in metabolic equilibrium upon a particular diet should, when regular additions of extract are made to that diet, show regular increments of weight, and these increments should be from ten to twenty times the quantity so added, for the diet previously sufficient has, according to the theory, become more than sufficient in consequence of its more efficient utilization.

Now, a reference to the figures quoted in my first letter,[4] and to the other abstracts from Professor Thompson's paper, prove:

1. That at the end of several days with extract the animal, as a rule, weighed no more than on the first day—sometimes less.
2. That an increase on the first day of a meat extract period was followed generally by no augmentation of weight on succeeding days, but, on the contrary, a fall usually occurred, notwithstanding successive doses of extract.
3. That after a period without extract the animal sometimes weighed more than after a similar period with extract.
4. That any spasmodic rise in weight which did take place was largely due to water.

This is, I consider, quite sufficient to show that the theory is untenable.—I am, etc.,

Hornsey, N., Nov. 30th. CHARLES E. SOHN.

[1] BRITISH MEDICAL JOURNAL, November 21st.
[2] Professor Thompson, British Association Report, 1910.
[3] Dr. Thompson, William Caldwell, and T. A. Wallace, BRITISH MEDICAL JOURNAL, September 16th, 1911.
[4] BRITISH MEDICAL JOURNAL, October 17th

BELGIAN MEDICAL MEN.

SIR,—Could not the services of these gentlemen be used for medical attendance on their fellow countrymen? In this immediate district we have 18 wounded and invalid Belgian soldiers and about 50 refugees. My knowledge of Flemish is *nil* and of French limited, so that I need an interpreter. My old friend and tutor, Dr. Gee, used to say it was an advantage that he could not understand what his patients said, thus leaving him to find out their ailments. This is true no doubt, but it is a disadvantage not to be able to direct them as to treatment.—I am, etc.,

GEORGE F. SYDENHAM,
M.O.H. South Molton R. District.

Dulverton, Somerset, Nov. 28th.

*** The Medical Act of 1859 provides that any person, not a British subject, having obtained from any foreign university a degree or diploma of Doctor in Medicine, and who shall have passed the regular examinations entitling him to practise medicine in his own country, shall not be prevented from being and acting as the resident physician or medical officer of any hospital established exclusively for the relief of foreigners in sickness, provided always that such person is engaged in no medical practice except as such resident physician or medical officer. The Medical Act of 1886, Part II, permits registration by the General Medical Council of a foreign general practitioner with a recognized diploma, provided that His Majesty in Council is satisfied that the foreign country to which the practitioner belongs affords to the registered medical practitioners of the United Kingdom such privileges of practising in the foreign country as to His Majesty may seem just. The application of the law to the foreign practitioner can only be set in motion at the instance of the Government of the foreign country which desires to establish reciprocity of practice with this country.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

Privileges to Students in the Services.

THE following privileges have been approved by the Senatus of the University of Edinburgh for students in the Faculty of Medicine who have joined or may join any of His Majesty's services in connexion with the war:

1. Bursaries, scholarships, etc., held by students absent on war service will, unless there are legal difficulties in any particular case, be reserved for the holders until they are able to resume their studies.
2. The period of war service will not be reckoned in calculating the time limit for honours or for scholarships, etc.
3. Students whose attendance on any course is interrupted by the absence on war service may resume and complete their attendance at a subsequent date without additonal fee.
4. The Faculty will do everything to facilitate the completion of the curricula of students who undertake approved service with H.M. Forces. On the conclusion of such service the case of each student will be individually considered, and steps will be taken to grant him any concessions which are consonant with carrying out the regulations of the General Medical Council.
5. Clinical service during the continuance of the war for any period of not more than twelve months in a medical unit of the Army (Regular or Territorial), or in a hospital or detachment of the Red Cross Society, or in any hospital recognized by the naval or military authorities for war purposes, will be accepted by the University as equivalent to the medical and surgical practice in a recognized hospital for an equal period; and, further, a portion of the time so spent, not exceeding six months, may be accepted as equivalent to clinical surgery or clinical medicine at the choice of the candidate.

Notice of war service should in every case be given to the Dean of the Faculty as soon as possible. These or similar arrangements will be in force during the war.

LIEUTENANT J. CROCKET, R.A.M.C., who was killed in action at the battle of the Aisne, left estate valued at £441.

Obituary.

ISAAC BURNEY YEO, M.D., F.R.C.P.,

CONSULTING PHYSICIAN TO KING'S COLLEGE HOSPITAL; EMERITUS PROFESSOR OF MEDICINE, KING'S COLLEGE, LONDON, ETC.

We regret to record the death of Dr. Burney Yeo in London on Friday, November 20th, at the age of 79.

He was born at Stonehouse, Devon, on March 3rd, 1835, and received his early education locally. There, too, he served an apprenticeship of some years to a local practitioner, Dr. James Sheppard, which he always maintained was the most valuable part of his medical education. Entering the Medical Department of King's College, London, at a rather more advanced age than most students, he had a distinguished career, gaining the Senior Medical Scholarship, and qualifying for the gold medal in the M.D. examination of London University. Thereafter he was appointed medical tutor, with residence in King's College, and held for some years this office, which involved the teaching of a variety of subjects, ranging from physiology to logic, to classes of students of varying standing. In 1869 he became assistant physician to King's College Hospital, and subsequently to the Brompton Hospital for Diseases of the Chest. The latter post he held for some ten years only, but maintained his connexion with King's College Hospital, first as assistant physician and afterwards as physician, until his retirement in 1899. At King's College he held successively the chairs of Clinical Therapeutics and of the Principles and Practice of Medicine, and on his ultimate retirement was appointed Emeritus Professor of Medicine. He was for many years physician to the Life Association of Scotland.



ISAAC BURNEY YEO.

Despite his small stature, Burney Yeo was a man of striking appearance — his massive head, strong features, and penetrating eye bespoke a man of intelligence and character, and such he was. Sport of any sort was anathema to him; art, too, was a closed book, as he possessed little or no artistic appreciation. Literature was his main recreation, and had he not adopted the calling of medicine, he might well have gained distinction in the world of letters. He wrote with remarkable facility in simple, terse, and effective language, never straying to right or left from the direct path of his subject matter. He respected the English language, as a Frenchman loves his, and held it to be the duty of every educated man to keep it pure and undefiled. His knowledge of English literature, especially of the drama and biography, was extensive, and his criticisms of what he knew were always acute and pithy. One had to search far afield for a book of the lighter French literature of the last century that he had not read; Dumas, Flaubert, Anatole France, Daudet, and Guy de Maupassant were his constant companions, and the maxims of La Rochefoucauld were often on his tongue. His letters were delightful, full of little details of human and personal interest; they had about them an eighteenth-century aroma which put to shame the illiterate off-scourings of the twentieth century letter writer. His contributions to medical literature are well known. The most widely read is his *Manual of Medical Treatment*, first published in 1893, which still fully maintains its early popularity, and has actually attained a circulation of over 30,000 copies. Two other works from his productive pen, *Food in Health and Disease* and *The Therapeutics of Mineral Springs and Climates*, enjoyed a considerable vogue in their day, and were pioneers of the more serious attention that has been devoted to these subjects by other writers in recent years.

Burney Yeo was not a great teacher just because his heart was not in the work. His house-physicians learnt much from him of those little resources that mean so much to the comfort of the patient, but he had not the patience requisite for the rudimentary teaching of his ward clerks, whom at the end of six months he was apt not to know by sight. As a lecturer he commanded attention because of his personality, his careful and picturesque language, and the sense that he was really master of his subject, tempered, however, by the disappointing impression that he could have given more if he would. As a physician, too, he showed to best advantage rather in his consulting-room than in his hospital wards. His very methods and mental attitude seemed to demand a close personal acquaintance with his patient to afford them full play, and this condition is ill satisfied by the birds of passage of a hospital clinic. He could scarcely be called a skilled physical examiner, and certainly did not possess the *tactus eruditus*. Yet his diagnosis seldom failed of the mark by reason of the meticulous attention he bestowed on the patient's statement of even the most trivial symptoms and circumstances in the course of his illness. He was an empiric in the best sense, in that he carefully pigeon-holed his experiences of success and failure for guidance in the treatment of future patients. His conversation teemed with terse apophthegms drawn from his ripe experience. "The gouty subjects whom I see are those who do too much not those who do too little; the difficulty is to get them to rest." Or, again, "I have never seen the albuminuric who was perfectly healthy," and a thousand more of like kind. His knowledge of the physical and chemical characters of drugs was excellent, and he was a deft and elegant prescriber. He had a profound belief in the efficacy of drugs if skilfully employed, and an equally profound contempt for the fashionable therapeutic nihilism of to-day. He woulds ay, "When I see how medical men use drugs now, I understand their abusing them." An eminent man of letters once said to the writer, "I have consulted many physicians, but Dr. Yeo is the only one who does not habitually contradict himself at successive interviews." The writer himself had offended by forgetting whether a pill of valerianate of zinc was to be taken after or midway between meals. Such a lapse would have been impossible to Yeo, who observed with Aristotelian strictness the how, and the when, and the where of administration. He certainly did obtain better results with drugs than are given to most prescribers, despite the fact that he knew little of modern pharmacological research. If his beliefs did not tally with this he would say, "Even pharmacologists are not immune to error."

It is never easy to estimate the degree of a medical man's success. If it is to be measured by the confidence of a man's patients Yeo was a man of superlative success. His was a most difficult team to drive: statesmen, financiers, men and women of social or literary distinction, leaders of the theatrical profession—just those who are most apt to wander—formed a large part of his patients, and the writer can testify that their wanderings were seldom continued after they had come into Yeo's hands. They felt instinctive confidence in a man whose mind was at their service in the most trifling detail and exhibited no lordly disdain for the subtle phenomena of disturbed function. They found in him, too, a man of the world, an earnest student of this multi-facetted world, able to

transport himself at pleasure into each individual patient's world. They imbibed, too, in large measure the confidence he justly reposed in himself.

In his relations with his colleagues and his profession, Yeo was not at his best. A sensitive but self-assertive man, apt to express his opinions with acerbity, he was bound at times to come in conflict with his professional brethren. The loss was mutual, for Yeo cherished at heart a very sincere regard for the dignity and welfare of the profession to which he belonged; he, in turn, suffered from some measure of professional isolation that served to embitter his outlook and retrospect.

Yeo was married late in life to Miss Winifred Helen Spyers, of Weybridge, who survives him without children. In his bachelor days he was a constant diner out, and made the acquaintance of many interesting people, whose conversation he heartily enjoyed, giving the best of his own to them. His holidays were mostly spent in the quest of health, and in this way he acquired an intimate knowledge of many health resorts and mineral springs. For the last few years of his life he was in feeble health, and slipped entirely out of active practice. His heart failed somewhat rapidly at the last. He was buried in Weybridge Cemetery on November 26th, and on the following day a memorial service was held in the chapel of King's College Hospital. R. C.

JAMES WILKIE SMITH, Jun., M.D., B.S.Dundee,
RYTON-ON-TYNE.

It will come as a shock to a great many of our readers to learn of the untimely death of Dr. J. Wilkie Smith, of Ryton-on-Tyne, at the early age of 29.

His father, Dr. James W. Smith, has for many years been closely identified with the work of the British Medical Association, and has filled the highest offices in his area, and has represented the North of England Division on the Council of the Association. His sons likewise were amongst the Association's warmest and unwavering supporters, particularly in the hours of its trial.

Dr. James, as he was known, was a man of splendid physique and a giant's strength; whilst apparently in robust health and overflowing with vitality he was struck down by Death's irresistible hand after an illness of a few hours. To add to the tragedy of it, he had been married but a short three months.

He received his medical education at the College of Medicine, Newcastle-on-Tyne, and graduated M.B., B.S. in 1907. After being house-surgeon to Mr. Rutherford Morison in the Royal Victoria Infirmary, he joined his father and elder brother in the large country practice held by them in the Ryton district. In 1910 he took his doctor's degree, being warmly complimented by the examiners on his thesis.

He shared the family characteristic of enthusiasm for his profession, few operative procedures being too difficult for him to undertake successfully, no technique too elaborate, and no diagnostic measure, whether it entailed microscopic work or the tracing of a blood pressure, too minute to engage his close attention. His thoroughness in his work and invariable kindliness made him more than usually successful in practice. Never indulging in that peculiar form of ingratiation known as "the bedside manner," he was always his natural self—a straight-speaking English gentleman.

The members of the local branch of the St. John Ambulance Association, in which he was a keen officer and energetic instructor, mourn his loss, not only on account of his value to them but also by reason of the affection in which they held him. His popularity may perhaps be best gauged from the fact that the greater part of the five miles' route of the funeral was lined by the villagers amongst whom he did his daily work. There they were—rough miners with tears streaming down their rugged faces, women with heads buried in their aprons, soldiers home on leave standing at the salute. One of the miners expressed the feelings of the mass in saying to the writer: "We feel we have lost our sheet-anchor." Words are inadequate to express our sympathy to his bereaved family, yet to us there seems great comfort in reflecting that

> He has fought the good fight,
> He has kept the faith.

EDGAR JOHN DONBAVAND, L.R.C.P.Edin., M.R.C.S.Eng.

The death of Dr. E. J. Donbavand, at the age of 60, which took place at a nursing home in Plymouth on November 23rd, is a severe loss to the medical profession in the Three Towns and district. He was a student of Guy's Hospital, and become M.R.C.S.Eng. in 1876, and L.R.C.P.Edin. in 1880. After practising in Cumberland, Lincoln, and South London, he settled in West Green, North London, where he quickly built up a very large practice.

Overwork caused a breakdown in health and he was advised to retire, but after a prolonged rest he recovered, and in 1903 went to Plymstock, where he entered into partnership with Dr. S. Noy Scott, with whom he had formed a friendship some twenty years before. The country life suited him, and he soon became interested in the local work of the British Medical Association. He was secretary of the Plymouth Division, and spared no pains in advancing and protecting the interests of his professional brethren. The introduction of the Insurance Act threw an enormous amount of work on him, but he devoted himself unsparingly to the demands thus made, and that at a time when his partner was also (as Representative) busily engaged on the same work. In June last, at the annual meeting of the Division, his colleagues marked their great appreciation of his services by presenting him with a handsome cheque and a service of plate, towards which nearly every member of the Division subscribed. His relations with his patients were very cordial; he was unremitting in his attention to them, and in return was highly esteemed by them. As a mark of respect the ringers rang a muffled peal on Sunday, November 29th. Dr. Donbavand was one of the pioneers of the local rifle club, the success of which was largely due to his keenness. He became a good shot, and was nearly always one of the team for local matches. He was a great reader and a fond lover of Nature, and especially of flowers. He spent most of his leisure time in his little garden, and nothing gave him greater pleasure than to send a gift of flowers to some of his "Town" brothers.

For many years he had occasional attacks of gall stone colic, which latterly became so much more frequent and severe that he decided to undergo surgical treatment. The operation proved very difficult and tedious, but he rallied from the immediate effects, and great hopes were formed of his recovery, but on November 22nd he collapsed suddenly, and died on the following day.

He was buried at Highgate Cemetery on December 1st, and the funeral was attended amongst others, by the Medical Secretary of the British Medical Association, on behalf of the Council of the Association.

Dr. Donbavand married about eighteen years ago, but has left no family. His widow has received many proofs of sympathy and of the esteem in which he was held.

We regret to announce the death of Dr. Angelo Celli, professor of hygiene in the University of Rome. He was born in 1857, and was therefore 57 years of age. When still quite young he was appointed to the chair of hygiene at Palermo, from which, twelve months later, he was transferred to Rome. There he continued to work—teaching, investigating, and promoting social legislation—till last May. To his persevering efforts were largely due the sanitary improvements that have been made in the Campagna, and the organized campaign for the suppression of malaria. His scientific work covered a vast extent of ground, including research on the parasites which cause malaria, on cholera, on pellagra, on cerebro-spinal meningitis, on dysentery, on flies as transmitters of disease, on rabies, and many other subjects. He was an untiring worker in the cause of social reform through the spread of scientific knowledge.

Dr. David Bradley, of Blackburn, who died recently at the age of 60 after a short illness, was born in co. Derry. He studied medicine at Queen's College, Belfast, and graduated M.D. in the Queen's University in Ireland in 1876. A year later he obtained the degree of M.Ch. and immediately started in practice in partnership with Dr. Jackson at Queensbury, in Yorkshire. After a few years he removed to Hebden Bridge. Whilst there

he took an active interest in the public and political life of the district. He was a prominent Freemason, and assisted in the formation of a lodge at Hebden Bridge. He settled in Blackburn in 1896. He had introduced the St. John Ambulance movement at Hebden Bridge, and maintained his connexion with it at Blackburn. He was also ambulance instructor to the London and North-Western Railway Company in Blackburn, and was held in the highest esteem by the employees. Dr. Bradley was devoted in his attention to his patients, and was especially popular among the poor. He was a member of the Blackburn Division of the British Medical Association and contributed reports of cases to the BRITISH MEDICAL JOURNAL. All his life he had taken a keen interest in dogs and canaries, and whilst in Yorkshire figured among the prizewinners at various leading shows. On removing to Blackburn he continued to take a very active interest in the canine world, was an enthusiastic member of the local canine association, and bred St. Bernards, Russian wolf hounds, and Irish terriers.

THE news of the death of WILLIAM ROBERT RIDLEY, of Rothbury, Northumberland, at the early age of 33, will be received by his large circle of friends with profound regret. He left England early in September to take charge of a field hospital in Servia, and died on November 3rd from an attack of dysentery, at Krajuevatz Field Hospital. Dr. Ridley graduated M.B., Ch.B.Edin. in 1910, and held appointments in Leith and Sunderland Infirmaries, as well as at the Newcastle-on-Tyne Dispensary. His work was marked by ability and great promise, and being of the most genial and kindly disposition, his friendship was highly esteemed wherever he went. A striking eulogy of his work and high devotion to duty has been received by his parents from the Servian Government, through the Servian Minister in London.

DR. ALEXANDER W. WOODMAN DOWDING, who died recently, was born at Westbury, Wilts, in 1852. He was educated privately, and in 1872 entered as a student at the London Hospital. He obtained the diploma of L.S.A. in 1875 and that of M.R.C.S. in the following year. He graduated M.B., M.S. at Durham in 1880, proceeding to the M.D. degree in 1882. In 1881 he became a Member of the Edinburgh Royal College of Physicians. He held several appointments at the London Hospital, and was for a time resident clinical assistant at the Borough Asylum, Newcastle-on-Tyne. He was also at one time physician to the Plaistow Dispensary for Women and Children. Later he practised during the winter at Algeciras. He was a member of the Gibraltar Branch of the British Medical Association, of which he was Vice-President. Dr. Dowding was the author of contributions to medical literature on the treatment of whooping-cough and on Algeciras and its climate. He leaves a widow, one son, and one daughter.

PROFESSOR AUGUST WEISMANN, who had been professor of zoology in the University of Freiburg since 1867, and whose name is known to all students of biology in association with a well-known theory of heredity, died recently, aged 80.

DR. CHAMBIGE, Senator for the Puy-de-Dôme Department, Vice-President of the General Council, and Mayor of Pont-du-Chateau, died recently. He took his M.D. degree in 1879.

DR. JULES GACON, Senator and President of the General Council of L'Allier, Mayor of Donjon, died there on November 22nd after a long illness, aged 67. He had been a member of the Chamber of Deputies for many years, and in 1903 was elected a member of the Senate, in which he retained his seat to the end of his life. He was Vice-president of the Left Democratic group of the Senate.

DR. T. P. FRASER, West African Medical Staff, who was killed in operations in the Cameroons, left estate valued at £770.

Medical News.

THE Chelsea Hospital for Women has received a second donation of £500 from the Drapers' Company to name in perpetuity a bed in the hospital now building.

SIR FREDERIC EVE, in his Bradshaw lecture before the Royal College of Surgeons of England on Tuesday, December 15th, at 5 p.m., will deal with acute haemorrhagic pancreatitis and the etiology of chronic pancreatitis.

A DISCUSSION on preventive inoculation will be opened by Professor G. Sims Woodhead at a meeting of the Royal Sanitary Institute at 90, Buckingham Palace Road, on Tuesday next. The chair will be taken at 7.30 p.m. by Sir Shirley Murphy.

THE last number of the *Proceedings* of the Royal Society of Medicine for the session 1913-14 presents a new feature in the form of a supplement, entitled, "New Books." In this supplement it is proposed each month to draw attention to the more important new medical works. It is not proposed either to praise or blame, but merely to analyse and to explain what the authors have attempted to accomplish.

AT its meeting on November 3rd, the Paris Academy of Medicine passed a resolution expressing its feeling that it was desirable that, for the duration of the war, Belgian doctors and dentists duly qualified to practise in their own country should be legally authorized to practise in the parts of France and Algeria which are insufficiently supplied with medical and dental practitioners. A similar resolution was passed in regard to pharmacists holding Belgian diplomas.

WE received recently from a correspondent some pills which are said to have a wide reputation in a part of the North of England as "female corrective pills." The directions were to take three night and morning. In one case the pills were taken according to directions for five days; on the fifth day haemorrhage occurred, and on the seventh day abortion at the fourth month. A qualitative analysis of the pills shows that they contain no diachylon or other lead compound. The ingredients are: Iron oxide and carbonate with a little sodium sulphate (evidently from a variant of Blaud's pill formula), oil of pennyroyal, vegetable tissue, and a small quantity of a bitter substance which appears to be aloes. Microscopical examination of the vegetable tissue shows a good deal of ginger, cinnamon, and what appears to be canella. There is no evidence of anything else being present.

AS already noted in the JOURNAL (December 20th, 1913, p. 1606) an agreement has been made between the London County Council, the London Insurance Committee, and the Metropolitan Asylums Board, that the Asylums Board shall provide the sanatoriums needed for tuberculous persons in London, the capital cost and expenses of maintenance to be borne proportionately by the other two bodies mentioned. Under this arrangement the Asylums Board has now submitted to the Local Government Board plans for the erection of sanatoriums: (1) For 232 women at Hyde Style, near Godalming, estimated cost £42,000; (2) for 168 men at Felbridge, near East Grinstead, estimated cost £30,000; and (3) for 175 men at Ellisfield, near Basingstoke, estimated cost £31,000. In the case of the sanatorium near Godalming the approval of the Local Government Board has already been received.

THE usual quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland was held on November 24th at the house of the Medical Society of London under the chairmanship of Dr. David G. Thomson. On the recommendation of the Council a resolution was adopted directing attention to the hardships of the staffs of the Royal Asylums of Scotland, which were not included under the benefits of the Asylum Officers' Superannuation Act. It was resolved to address letters on the subject to the managers of the Royal Asylums, the Scottish Board of Control, and Sir Robert Jardine. It was decided to hold the regular meetings of the association during the continuance of the war, but to abandon the projected visit to Birmingham next February, and to hold a meeting in that month in London. Resolutions of condolence with the families of Dr. Sidney Nelson Crowther, superintendent of the Netherne Asylum, who had enlisted as a motor cyclist, and was killed recently in action, and Dr. Harold Shaw, of the Isle of Wight Asylum, who died after a short illness, were adopted.

Letters, Notes, and Answers.

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

Telegraphic Address.—The telegraphic address of the EDITOR of the British Medical Journal is *Aitiology, Westrand, London.* The telegraphic address of the British Medical Journal is *Articulate, Westrand, London.*

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2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

Ignoramus writes: A patient weaned her last baby two and a half years ago. She now has milk in the breasts, periods are normal, and there is no other sign of pregnancy. Is this usual in the absence of pregnancy?

Abdominal Pain.

X. Y. Z.—A man aged 40, active, at work all day, who has never had any illness, suffers frequently in the middle of the night from diffused pain over the abdomen, not very acute, lasting about an hour. He has none during daytime. Is it some form of dyspepsia; if so, what is the treatment?

ANSWERS.

Post-Scarlatinal Rhinorrhoea and Otorrhoea.

Dr. William Wilson (Manchester) writes in reply to "T. W. J.": For rhinorrhoea with skin irritation it is essential not to employ an alkaline douche, for such tends to deposit upon the mucosa and adjacent skin, thereby increasing irritation. The following oily spray should be employed frequently:

Menthol ...	...	...	...	gr.v
Camphor	...	...	...	gr.iij
Chloretone	...	...	...	gr.v
Liquid paraffin	...	...	...	ad ʒj.

The external nares should be gently rubbed with a little compound resorcin or boric acid (half-strength) ointment. Do not forget that the condition may persist from infected adenoids.

Otorrhoea originating after the acute illness has subsided does not assume the virulent form which requires immediate extensive operation. Treatment must be thorough; it is futile to leave the condition to routine syringing by nurses or parents. Fortunately the patient is confined to isolation. Under direct vision by reflected light drops of 10 per cent. hydrogen peroxide must be instilled by means of an ear speculum and allowed to remain in the ear until all effervescence has ceased; then, very gently, a solution of boric acid (warm), one teaspoonful to half a pint of sterile water, should be run (not forced) through the tympanum, the ear being gently and thoroughly dried out by small pledgets of sterile wool. A small drain of sterile gauze (for example, bicyanide) is inserted. As soon as this drain becomes moist the gauze is removed and the ear cleared out by pledgets of wool soaked in mercury biniodide (1 in 2,500) and a drain of gauze replaced. The peroxide and lotion need only be employed twice daily, but the ear must be dried out every time moisture accumulates. Do not overlook infected adenoids. Massage with Siegel's speculum should be commenced when the acute stage has subsided. It will empty the middle ear and also prevent adhesions.

LETTERS, NOTES, ETC.

Prince of Wales's Fund.

Dr. E. Rowland Fothergill (Hove) writes: I have received, as a medical practitioner, a printed circular from a firm which sells a proprietary food, asking me to place on my waiting-room table a collecting box for the above fund, the label on which is an advertisement of that food. On inquiry from the subscription subcommittee of the fund, which the firm stated had approved the proposal, I am told "that it is impossible that any collecting scheme such as that promoted by the firm can take place without such aid as theirs." So, shortly, we may expect to receive attractive collecting boxes, bottles, ships, torpedoes, "John Johnsons," etc., advertising backache pills, soothing syrups, "wait and see" tablets, and so on, and be asked to decorate our halls and rooms accordingly. One is sorry to hear the subcommittee can report that thousands of doctors out of kindness of heart have decided to receive these advertisements. I would venture to express a hope that they get themselves out of the trap by scraping off all the advertisement portion of the label.

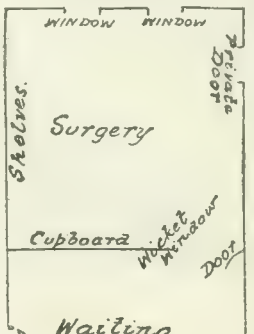
Mr. Herbert Tilley, F.R.C.S. (London), writes: I presume that many members of our profession, like myself, have had sent to them a tin box for the collection of subscriptions in aid of the National Relief Fund. Upon this box or canister is an advertisement of a food for infants. It seems impossible to regard this otherwise than as a peculiarly ill-timed method of advertisement, and I hope members of our profession will resent it in an appropriate and practical fashion. The box which was sent to me is on my consulting-room table, but the names of the advertisers and their wares have been carefully removed.

Ankylostoma Duodenale.

Dr. Stuart Oliver (Surgeon-Superintendent, Indian Emigration Service) writes: As an almost incredible proportion of the agricultural population in India is infected with the ankylostome, doubtless many of the Indian contingent are although probably not to an extent sufficient to show in their physical condition. Soil prepared for intensive cultivation especially when moist or wet, would presumably afford very suitable conditions for the preservation of larvae in their encystment stage. I know of only one sure method of dealing with infected faecal matter, and that is by heat. Efficient incinerators are usually not difficult to improvise from material to be obtained on the spot, but plenty of fuel is very necessary.

Planning a Surgery and Waiting-Room.

Gamma writes: "Crown Derby," in the British Medical Journal of October 17th, asks for hints in building a surgery and waiting-room. I had a surgery and waiting-room specially built a year ago; the details of such a building will depend on the class of patient, the district in which the practice is situated, and on the size of the practice. I practise in a colliery district; my panel is 800, with clubs and some private practice. I had a temporary wooden surgery erected. The whole building measures 24 ft. by 12 ft. A partition divides the interior into two compartments, each 12 ft. square. I advisedly avoided making the mistake many medical men make of having the waiting-room too small; a waiting-room 12 ft. by 12 ft. will hold a fairly large number of patients. As I do not keep a dispenser I have, near the door leading from the surgery to the waiting-room, a pigeon-hole through which I may give medicine to patients who do not wish consultation. The building stands, so to speak, end-on to the road, and at this end is the entrance door and corner window. Over this end I have an awning or canopy, and a seat so that any patients who wish to do so may wait outside, as they often wish to do in a colliery district, or if they have to do so owing to the surgery being crowded. In addition to this public entrance into the waiting-room, I have a private entrance to the consulting-room for my own use, as shown in the sketch. An important matter is the question of light, especially in the consulting-room; there I have two large windows occupying the larger part of the end of the surgery facing the back.



If a dispenser were kept in a large practice, it might be advisable to have the surgery part a little larger, and partition a part off for dispensing.

Alvarenga Prize.

In a notice as to the Alvarenga Prize, to be awarded by the Philadelphia College of Physicians in July, 1915, which appeared in the Journal of November 21st (p. 908), it was stated that the prize for 1914 had been awarded to Dr. H. B. Sheffield, of New York, for an essay on the fundamental principles involved in the use of bone graft in surgery. Dr. Francis R. Packard, Secretary of the College, from whom the information was received, states that there was an error in the title of Dr. Sheffield's paper, which was "Idiocy and Allied Mental Deficiencies in Infancy and Early Childhood."

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Note.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

"TRANSIENT PARAPLEGIA FROM SHELL EXPLOSIONS."

By T. R. ELLIOTT, M.D., F.R.S.,
LIEUTENANT R.A.M.C.

AMONG the injuries caused by high shell explosions in the present campaign on the Continent is a form of transient paraplegia, which has already led to mistakes in diagnosis in its early stages, and which will be still more difficult to recognize in the men who are invalided home with only the history that they can give as a guide to a correct opinion.

The chief features of the condition are as follows: Numbness and complete paralysis of the legs are complained of when the injured man receives help from his comrades immediately after the explosion, and yet there is no manifest wound of the body. The arms are generally unaffected, but the legs remain powerless, so that the patient has to be carried from the field on a stretcher. Within a week movement and sensation are returning in the legs, and after the lapse of a fortnight the soldier as a rule can walk about again, though he continues to complain of extreme tenderness in the lumbar region, and aching pains that shoot up the back. There is rarely any trouble with the sphincters. During the paralysis the leg muscles are slightly flaccid, and both the superficial and deep reflexes are depressed, while there is nearly always an area of hyperalgesia encircling the abdomen above or below the level of the umbilicus. The plantar reflex is never extensor.

The slightness of the objective signs and the prominence of the subjective features of pain and tenderness, especially in the lumbar spine, lead naturally to the belief that the paraplegia was functional and the residual tenderness is neurasthenic. That diagnosis is often made, and it is the most likely one to be chosen when the invalided man is first met with in England. In some cases it is undoubtedly correct, for hysterical and neurasthenic breakdowns are frequently met with in men who have been exposed to the shattering effects of the great German shells. An example of this nature is quoted later to illustrate the points of distinction between the true and the functional paraplegia.

A second diagnosis that is tentatively made at times is that of "gassing," which ascribes the weakness to a toxic action of the fumes evolved in the explosion. The bursting of these large shells is accompanied by a dense cloud of dark smoke, which may completely blacken the faces of those who are nearly exposed to it. A crater is formed in the earth 10 ft. to 25 ft. across and from 5 ft. to 10 ft. deep. The soil from this is thrown up more or less in a fine spray, so that it does not crush or bury those standing near to it. But when the shell explodes by the side of a deeply cut trench its commotion drives inwards the sides of the latter, and thus buries alive or crushes the men who were hoping for shelter within it. Death or direct injury may be caused in this way. "Gassing" would be expected to produce unconsciousness, followed by headache, giddiness, and a weakness or peripheral neuritis of general distribution. I have not heard any suggestion made by men returning from the trenches that they have suffered in this way from the German shell fire, and the explanation cannot be applied to the type of injury with which this account deals. The first example quoted is typical of the group:

CASE I.

No. 2047. Reservist, aged 34, in 1st Battalion King's Royal Rifles; a well developed man, who had formerly been army instructor in gymnastics.

October 30th. He was in a narrow trench and sitting, with bent back and legs fully extended, in his "dug out," a small recess excavated under the earth backward from the trench, but not timbered, as a protection against shrapnel. At 8 a.m. a "Black Maria" burst on the trench and covered him up to the chin in heavy, clayish soil. His comrades quickly built up the breach in front of the trench, and then dug him out, some twenty minutes after the explosion. His legs were powerless and numb, and he felt sick but did not vomit. There was no smell of gas about, and he did not feel dizzy or troubled in the head. He had no pain in the small of the back. When darkness came he was removed on a stretcher to the field hospital, and he arrived thence at the base hospital on November 3rd. There had been no difficulty with micturition.

November 4th. Power beginning to return in the legs.

November 6th. Examined. Slight movement in knees, ankles, and toes. Muscles somewhat atonic, and passive movements of the legs caused much pain in the small of the back. Knee-jerks and ankle-jerks were weak, especially on the left side. Both plantars flexor. Left cremasteric reflex weaker than right. Left leg a little more numb than right, but impairment of sensation only slight. Left lower abdominal reflex lost. Band of hyperalgesia over left side of abdomen below umbilicus (eleventh and twelfth thoracic segments), especially to painful pin scratch and to deep pressure. On the right side this hyperalgesia was present to a much less degree. On the back there was slight discoloration of the skin from deep bruising over an area from the eighth thoracic to the second lumbar vertebrae. The spines of the tenth and eleventh thoracic vertebrae were acutely tender when pressed upon, and the pains radiated widely up and down the back.

November 12th. He could move both legs fairly well, but was unable to raise them from the bed with knees extended. The legs could not bear the weight of the body in attempted walking. Reflexes still slightly depressed. Slight hyperalgesia of left side above Poupart's ligament, and an area of slight skin numbness over the front of the thigh below the anterior inferior iliac spine (first lumbar). No localized tenderness over the vertebrae, but only diffuse pain on deep pressure.

It is easy to picture what happened to this soldier. Sitting with bent back in his shelter, he received on his body the violent impact of the mass of earth that was pushed laterally from the crater excavated by the bursting of the shell. The vertebral column was forcibly flexed, its ligaments stretched, and haemorrhages produced in the great muscles of the back. The spinal cord itself received transitory damage at the usual weak spot of greatest bending, near the twelfth thoracic vertebra, and the roots of the cauda equina were probably injured in their passage through the vertebral foramina.

Similar injuries are met with in pit accidents at home, where a fall of stone and earth from the roof may break a man's back or cause only a moderate paraplegia by contusion; and the less severe cases of such injury in the pits are notoriously difficult to distinguish from those of neurasthenic or deliberate simulation.

The next example was of a more severe and fatal nature.

CASE II.

November 1st. Buried beneath earth by the explosion of a "Black Maria." When dug out his legs were numb and powerless.

November 5th. Examined at base hospital. He was too ill to give a connected account of his accident, but he was positive that subsequently to it he had passed no water. Bladder not distended. Legs flaccid and almost completely paralysed. All reflexes obtained, though feebly. Abdomen immobile, slightly tender, and the seat of continual pain. The patient's blanched appearance suggested internal haemorrhage, and consequently the abdomen was opened, but only a little blood-stained fluid was revealed.

November 6th. Died. At autopsy the right clavicle and the symphysis pubis were found to be smashed. The right lung, the right kidney, and the hepatic flexure of the colon were deeply bruised. Complete reflex anuria had resulted from the damage to the kidney. The erector spinae muscles were deeply infiltrated with blood right down to the sacral spines, but there was no actual deformity of the vertebral column, and the spinal cord appeared to be quite normal. The roots of the cauda equina were not examined.

The next example was intermediate in its severity between (1) and (2). An arm was involved in the paralysis as well as the legs, and the eruption of a small crop of herpetic vesicles showed that there was injury, probably a haemorrhage, of the posterior root ganglia of the cauda equina. Yet even in this case there was a strong inclination on the part of those in medical control of the patient to regard the phenomena as chiefly hysterical.

CASE III.

No. 5492. Sergeant in the 20th Hussars.

November 1st. In company with other dismounted cavalrymen he was chasing some Germans with the bayonet over turnip fields that were being pitted in all directions by fire from high explosive shells. This was at 9 a.m. on Sunday morning. He next found himself alone in a small house in a neighbouring village, to which his comrades must have carried him while in a state of unconsciousness. His face was blackened with smoke, and his clothes were covered and filled with soil. The bottom of his haversack had been torn off, which led him to imagine that he had been struck by some missile in the back. There was, however, no wound nor sign of bruising. His left arm was weak, and his legs powerless and numb. After staying in this house some time he was found by a scouting party of English, and at sunset was removed to a field hospital. That night the passage of water caused him pain, but there was no blood in the urine and no haemoptysis.

November 6th. Examined at base hospital. Legs completely paralysed and very numb. Knee-jerk and ankle-jerk obtained

only on right side and with difficulty. Both cremasteric reflexes weak. Pain felt in back on passive movement of legs, which were moderately flaccid. Zone of hyperalgesia around body on both sides just above Poupart's ligament, but most acute on the left side. Lower abdominals weakened on left side. Pain felt in lower part of the abdomen when bladder was full and at the onset of micturition, but no pain in penis. Pain and paresis of left arm but no numbness. Tenderness on pressure over lumbar and cervical vertebral spines. No bruising seen.

November 9th. Arm movements much freer. Can move right toes.

November 12th. Arm fairly powerful, and legs much stronger for movements at all joints. Still has pain with full bladder. Cannot quite stand or walk on legs. Three herpetic blisters on skin of left thigh from 3 to 6 in. above the knee (second or third lumbar segment). Hyperalgesia now only on left side of abdomen above Poupart's ligament. Legs still numb, so that the patient is completely unable to appreciate the position of the joints in passive movements. Movements of wider range still caused severe pain in the small of the back.

The final example is one of hysterical simulation of the true paraplegia, which can be at once recognized by the state of the deep reflexes, and a definite prognosis consequently given of the speedy recovery which will emphasize the distinction between it and the more prolonged results of real injury. Functional disorders of the nervous system are far from rare in the fright caused by a big shell explosion, and they assume very diverse forms. The man may become blind, or deaf, or dumb; he may be seized by a violent and coarse tremor that shakes his body for days; or he may be paralysed with a hemiplegia or paraplegia.

CASE IV.

No. 10348. 2nd Welsh Fusiliers.

November 4th. Was in the trenches when a large shell burst and killed the man next to him. He himself was not covered by soil, but he lost consciousness, according to his own statement, and afterwards was paralysed in the legs.

November 7th. Examined at base hospital. Legs incapable of movement, but not atonic. Deep and superficial reflexes all increased. No definite zone of hyperalgesia on the trunk. Headache and pains in the back of the neck. Hands tremulous.

November 9th. Up and walking about freely. Practically well.

Diagnosis is, therefore, easy in the first or second week after the injury. The *functional* paralysis reveals itself by an increase of tone in the leg muscles and by exaggeration of the knee and ankle jerks, with a tendency to clonic or coarse tremors. Tenderness and pain may be complained of, but they are felt all over the back, and not localized to the area from which spring the nerves that supply the paralysed limbs. *Organic* damage, on the other hand, depresses all the reflexes and lowers the tone of the muscles. There is generally a band of hyperalgesia at the upper limit of the area of numbness, and the back is acutely tender, but only over the corresponding spines. The worst cases may conceivably show change of electrical reaction, and subsequent wasting of muscles, but I have not been able to examine this point. Nor have the men been sufficiently long in France to follow the later history of their recovery.

The evidence is insufficient to determine whether the injury was confined to the spinal nerve roots, or whether it affected the lower segment of the cord itself. The absence of an extensor response and the freedom from paralysis of the bladder suggest that the cord was not injured. In Case III the outbreak of herpetic vesicles on one side made it certain that the posterior root ganglia were injured, and this would be at a level some inches below the corresponding part of the lumbar cord. On the other hand, the band of hyperalgesia around the body tends to support damage of the cord itself. But the lack of symmetry in the interference with function, and the fact that the hyperalgesia persisted much longer on one side than on the other, while it was in Case I associated with a unilateral root area of actual skin numbness, are all in favour of the view that the injury is one of the spinal nerve roots, perhaps as they pass through the foramina rather than while they lie free in the cauda. Damage of this character would explain the escape of the bladder, since its motor and sensory nerves pass by the sheltered second sacral roots.

The pain before micturition, which was complained of by Case III, is of interest in this respect. It was felt vaguely in the lower part of the abdomen as the result of a full bladder—that is, in the region of the hyperalgesic lumbar nerves. There was no pain in the penis, such as would have been expected with hyperalgesia of the sacral nerves. It further shows that the hyperalgesia affects the visceral as well as the ordinary nerves of the trunk.

Lumbar puncture was not made to ascertain whether haemorrhage had occurred around the spinal cord. There was no obvious bleeding either within or without the spinal cord in the single case examined *post mortem*.

However, the distinction between damage of the spinal roots and of the cord itself is one of no great practical importance. The cases recover. But the clinical diagnosis of injury is important, for it is only fair to the injured men that they should not be classed with the neurasthenic or hysterical.

ANTISEPTICS IN WAR.

BY

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ALL my experience in South Africa made me confident that wounds ought to receive efficient disinfectant treatment as soon as possible after their infliction and that they should not be treated only by the application of an antiseptic dressing.

That was the conception of Lord Lister, who gave me a supply of double cyanide of zinc and mercury to be used as a powder on the field. I found powder impracticable; wind and rain prevented it from reaching the wounds and its application to the under surfaces of parts was impossible without turning over the patient or limb. Hence I made the powder into a paste by mixing it with 1 in 20 carbolic acid and used it with complete success in many minor fights. The wounds healed beneath a mixture of paste and blood clots were beautiful to see. The surrounding skin was also well treated with the paste and retained its position for days. The dye with which the powder is stained acts as a mordant, and by it the chemicals are more firmly fixed in the tissues.

On my return I placed the paste into the collapsible tubes from which artists squeeze their paints. Although no oil and no fatty substance was inserted into the tubes I am describing, the paste remains to-day of the same consistency as it did fourteen years ago. The tubes have not been altered by the contained chemical.

Personally I am very sorry to see that our troops are being supplied with iodine solution as a disinfectant. Many wounds have arrived in this country in a disgraceful condition after the early application of iodine. I believe that iodine has proved a failure in treating large wounds.

Since being at Haslar I have made perfect—at least from my point of view—a better solution than iodine. It is a mixture of 1 in 20 carbolic acid and 1 in 500 mercury perchloride in absolute alcohol. It is coloured with rosaline. The value of this combination is as follows: 1 in 20 carbolic acid is a solvent of fat as well as a germicide. Mercury perchloride is a most powerful germicide. Rosaline has an important action in being a mordant. Wherever the dye is seen mercury perchloride is present even weeks after application. Alcohol dries sooner than water, it does not macerate the tissues so much, and it appears to encourage greater penetration of the antiseptic. No case has suffered from mercurial or carbolic acid poisoning, although it has been applied frequently and freely to large granulating wounds.

If a solution is to be carried by the soldier, this would be better than a solution of iodine. It is more efficient and absolutely non-irritating, and can be applied safely to the scrotum, eyelid, and other parts liable to show the results of irritants. Pure carbolic acid cannot be applied to skin, and there is every reason to be convinced that, in a wound splashed with mud, the mud and the bacteria it contains are also on the surrounding skin. A friend of mine here blistered his skin with pure carbolic acid, although it was at once washed off with spirit. I have seen cases become infected with *B. pyocyaneus*, although washed with saline solution and hydrogen peroxide. The *B. pyocyaneus* at once disappeared on the application of 1 in 2,000 mercury perchloride, or on the application of the rosaline solution I have described in this article. I do not like the constant application of hydrogen peroxide to wounds; the granulation tissue under its influence becomes anaemic and swollen. It may have its uses in removing blood clot and sloughs, but that is another matter.

COCKROACHES.

BY A. E. SHIPLEY, Sc.D., F.R.S.,
MASTER OF CHRIST'S COLLEGE, CAMBRIDGE.

I.

The Governess: And, perhaps, Mabel, as they are not black and they are not beetles, you will in future call them cockroaches.

Mabel: Certainly, Miss Smith, although they are not cocks and they are not roaches.

ALL this time we have been rather neglecting the navy, partly because it is less interfered with by insect pests than is the sister service, though the common pests of our

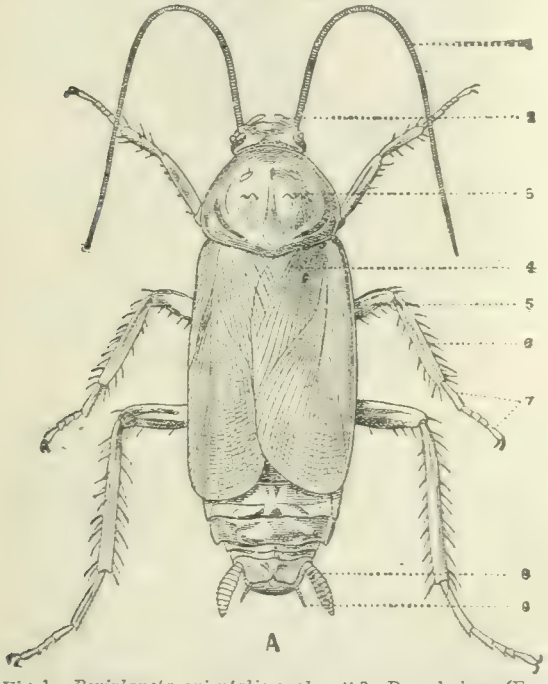


Fig. 1.—*Periplaneta orientalis*, male. × 2. Dorsal view. (From Kükenthal.) 1, Antenna; 2, palp of first maxilla; 3, prothorax; 4, anterior wings; 5, femur of second leg; 6, tibia; 7, tarsus; 8, cerci anales; 9, styles.

poor humanity—the flea, the louse, the bug—are, like the poor, "always with us." Like aeroplanes, insects have captured the air, like motors they have made a respectable show on land, but they have signally failed at sea. They have nothing corresponding to battleships or submarines, and a certain bug, called *Halsbates*, alone hoists the insect flag on the ocean, and that only in the warmest waters. But one insect at least causes more trouble to sailors than to soldiers, and that is the cockroach. Like the bed-bug, the cockroach came into England at the end of the sixteenth century, and, like the bed-bug, it came from the East. It seems to have been first introduced into England and Holland by the cross-sea traffic, and from about the end of the sixteenth century the cockroach began gradually to spread throughout the Western world. Like the rat, the bed-bug, and the domestic fly, it has become thoroughly acclimatized to human habitations, and is indeed an associate of man. It is very rarely found living apart from some form or other of human activity.

This insect seems to have been first described in England in Moufet's *Insectorum Theatrum*, 1634, and he speaks of it as living in flour-mills, wine-cellars, etc., in England, and he tells us how Sir Francis Drake took, in 1584, the *San Felipe*, a Spanish East Indiaman, laden with spices and burdened with a great multitude of flying cockroaches on board.

This species is *Periplaneta orientalis*, but there is another and a larger species, which presumably came into England from the West later than its Eastern cousin—*P. americana*—which can frequently be seen in England running about in the cages in our Zoological Gardens; but it is not on exhibition, it is a by-product, and is not counted in the fee for admission to the Gardens.

Latter tells us there are ten species of Blattodea which occur in Britain, but only three of these are indigenous, and these three all belong to the genus *Ectobia*. *Ectobias* are smaller than cockroaches, and do not frequent human habitations, but live in shrubs, under rubbish heaps, etc. Species of *Ectobia* have been known to destroy in one day the whole accumulation of dried, not properly salted, fish in a Lapland village. The remaining species of cockroach are mostly local, and occur sporadically in particular factories, or places where food is stored, but are not very widely spread.

As we have said above, *P. orientalis* is the common English cockroach, *P. americana* occurs especially in zoological gardens and menageries, but a third species, *P. germanica*, sometimes gets established. Mercifully, *P. germanica* does not seem to spread. Neither *P. germanica* nor *P. americana* seem to make much headway against *P. orientalis*, which appears to be predominant over both these other species.

P. germanica is probably most methodical, very thorough, very brave, very faithful—but stupid! If it has any association with its specific name, it illustrates the most striking example in the world's history of the divorce of wisdom from learning. "O Lord! give us understanding," should be the prayer of *P. germanica*.

Miall and Denny tell us that from the first introduction of *P. orientalis* into England it took two centuries before it spread far beyond London. It 1790 Gilbert White speaks of it as "an unusual insect, which he had never observed in his house till lately," and, indeed, at the present moment many English villages are still blissfully ignorant of this particular nuisance.

As Fig. 2 shows, the cockroach is a somewhat slackly put together insect. One might almost call it rather slatternly and loose-jointed—and the latter it certainly is. Its head moves freely on the thorax and the thorax on the abdomen. The successive segments of the latter move very freely on one another. The legs are long and mobile, and so are the antennae with which the animal is ceaselessly testing the ground over which it flits hither and thither in a restless activity.

Cockroaches are very difficult to catch. They practically never walk, but run with a hardly believable rapidity, darting hither and thither in an apparently erratic mode of progression. When caught they are not easily retained, for they have all the slipperiness of a highly-polished billiard-ball. They have great powers of flattening their bodies, and they slip out of one's hand with an amazing

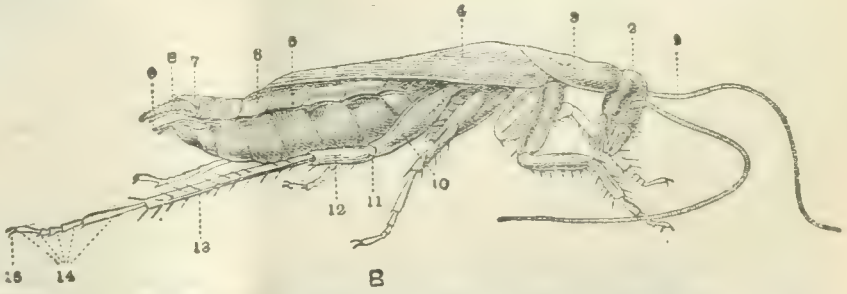


Fig. 2.—*Periplaneta orientalis*, male. × 2. Side view. (From Kükenthal.) 1, Antenna; 2, head; 3, prothorax; 4, anterior wing; 5, soft skin between terga and sterna; 6, sixth abdominal tergum; 7, split portion of tenth abdominal tergum; 8, cerci anales; 9, styles; 10, coxa of third leg; 11, trochanter; 12, femur; 13, tibia; 14, tarsus; 15, claws.

dexterity. Besides their slipperiness they have another weapon, and that is a wholly unpleasant and most intolerable odour, which is due to the secretion of a couple of glands situate on the back of the abdomen. The glands which produce this repellent odour are sunk in the soft membrane which unites the fifth and sixth abdominal segments, and the moment a cockroach is attacked it exudes a sticky, glue-like fluid, which gives out this most unpleasant smell. The fluid is extraordinarily tenacious and difficult to remove from the hand of those who have

touched them. No doubt the cockroach finds safety in this from the attacks of insectivorous animals.

Cockroaches, as has been said, very rarely walk, they nearly always run, and they advance the first and third leg of one side at the same time as the middle leg of the other, pulling themselves forward with their front legs and pushing themselves forward with the hindermost. They are thus constantly poised on a tripod. They occasionally, but not very often, use their wings for flight. When they do so, their anterior wings are stretched out at right angles to the body, and take no active share in beating the air. They act in effect as monoplanes. It is the hinder wings which really do the active flying. After a flight, the hinder wing is shut up something in the manner of a fan.

The flattened-shaped coxae, or thighs, of the leg are adapted for shovelling back débris from beneath the body when the insect is enlarging its habitation. When the cockroach gets into a dusty "milieu" the dust is immediately removed, the hairs on the legs act as clothes brushes and brush every part of the body, whilst the antennae, which attract any dust in the neighbourhood, are repeatedly drawn through the closed mandibles. A cockroach is able to walk on smooth surfaces because it possesses between the joints of the tarsus certain soft, white patches, very velvety, and these give the creature a good hold, and prevent slipping, even on glass.

Cockroaches will eat pretty well everything. They are a great nuisance on board ship, where they are said to gnaw the skin and nibble the toe-nails of sailors. Hardly any animal or vegetable substance is absent from their menu. It is said also that they devour bed-bugs, and that natives on the African shores, troubled by these semi-parasites, will beg cockroaches as a favour from sailors in passing ships.

The mandible (Fig. 3), with its strongly toothed surface, is capable of biting and grinding into fragments a very varied diet. The food is moistened by the secretion of the salivary gland, which is capable of converting starch into the more soluble sugar. The food is further ground up by a series of hard ridges projecting into the inner face of the gizzard (Fig. 4, 7). The secretion of the so-called hepatic caecums is capable of emulsifying fat and rendering proteins soluble. Thus the ordinary food substances are reduced to a condition in which they are capable of diffusing from the lumen of the alimentary canal into the blood which floods the body cavity.

The external movement—one might almost say "the panting"—which is very obvious in the abdomen, the alternately flattening and deepening of this part of the body, is a movement of inspiration and expiration, the air

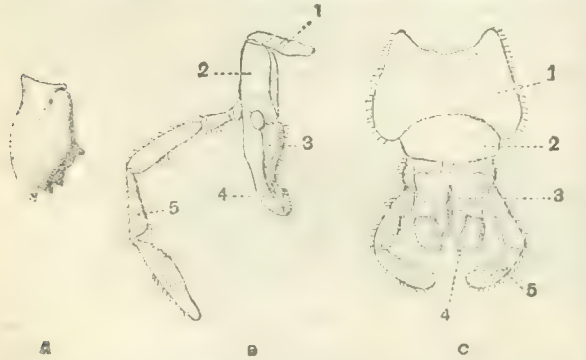


Fig. 3.—Mouth appendages of *Periplaneta*, magnified. A, mandible. B, first maxilla: 1, cardo; 2, stipes; 3, lacinia; 4, galea; 5, palp. C, right and left second maxillae fused to form the labium: 1, submentum; 2, mentum; 3, ligula, corresponding to the lacinia; 4, paraglossa, corresponding to the galea; 5, palp.

being driven into the stigmata and so into the trachea. There is a considerable variation in the number of these pulsations, but the cockroach's heart beats at an average rate of 70 to 80 contractions per minute.

Although cockroaches have fairly developed eyes, they seem to trust more largely to tactile impressions in appreciating their relations to the surrounding world. Their antennae and the palps of their first and second maxillae are constantly touching the surface on which they are resting or moving, and from time to time their antennae wildly wave in the air in a manner which suggests they are smelling out the external circumstances which environ them. The 39,000 sensory "nerve-endings" which are found in the antennae of the male cockroach are almost certainly olfactory in function. At the hinder end of the body the two "cerci" are also sensitive to tactile

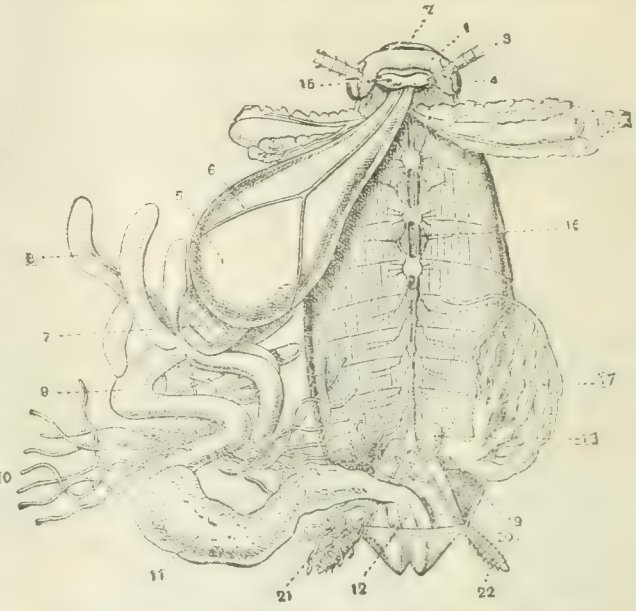


Fig. 4.—A female cockroach, *Periplaneta*, with the dorsal exoskeleton removed, dissected to show the viscera. Magnified about 2. 1, Head; 2, labrum; 3, antenna, cut short; 4, eye; 5, crop; 6, nervous system of crop; 7, gizzard; 8, hepatic caeca; 9, mid-gut or mesenteron; 10, Malpighian tubules; 11, colon; 12, rectum; 13, salivary glands; 14, salivary receptacle; 15, brain; 16, ventral nerve cord with ganglia; 17, ovary; 18, spermatheca; 19, oviduct; 20, genital pouch, in which the egg cocoon is found; 21, collateral glands; 22, anal circus

impressions, and probably act at the hinder end of the cockroach as the antennae act at the forward end. Cockroaches are certainly keenly sensitive to light, and, as every one knows, they shun the light, and when detected in daylight or candle light they make as quickly as they can for some dark hole or crevice in which to hide.

Cockroaches breed during the summer, and their eggs are laid in packets of sixteen in an oval capsule with rounded ends, and with an upper corrugated edge. This cocoon is very like the hand-bag ladies now carry since the dressmakers denied them pockets. There are sixteen ovarian tubes in the female, and each of these deposits one egg in each capsule. The ventral portion of the seventh segment in the female is shaped like the prow of a boat, and it is in this structure that the cocoon, or egg-case, is built up. Each egg is fertilized by a spermatozoon which has been deposited by the male in the spermatheca of the female. The eggs are placed in a double row, eight in each row, facing each other, and as they gradually develop it becomes apparent that the ventral face of one row faces the ventral face of the other row, and that their heads are all directed towards the corrugated ridge. The ripe embryos secrete some fluid, probably saliva, which dissolves the ridge, and it is through this dissolved or softened ridge that they make their way into the outer world.

After birth they are at first quite white but with black eyes, and it has often struck me how surprised they must be when they awake to consciousness and find themselves staring at their brother or sister just opposite, of which they have had hitherto no consciousness.

Young cockroaches are very active, running about and seeking everywhere for any food of a starchy nature. They are, in fact, miniatures of their parents, for a cockroach, like many of the primitive insects, has a direct development, and there are no such stages as caterpillar and pupa in their life-history.

But, like other insects, cockroaches change their skin from time to time, and they lose little time over this ecdysis, for they change it immediately they escape from the cocoon. The second ecdysis is four weeks later, and the third at the end of the first year, and after this time they moult annually. At the seventh moult, when the

animal is now 4 years old, it assumes the form of the perfect insect, and is capable of reproduction. The later moulting falls in the summer time, and so does fertilization and oviposition.

Male cockroaches may be distinguished from the females by their well-developed wings and wing covers. They stand higher on their legs than do the female, whose abdomen often trails upon the ground. In spite of the noxious secretion of their abdominal glands there are creatures who habitually feed on cockroaches—hedgehogs, for instance, are frequently imported into our houses to check these pests. Rats, cats, polecats, frogs, and wasps have been known to eat them, and some few of the digging wasps lay them down in their larders for the use of their progeny.. Some birds will also tackle them. But even the most devoted friend of the cockroach can find little to say in its favour, except that it is currently reported to form the basis of the flavouring of a very popular sauce, but even wild cockroaches will not drag from me which particular sauce that is.

THE INCIPIENT PULMONARY PHTHISIS OF SCHOOL CHILDREN.

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I.

Introduction.

In the present communication the discussion will be mainly limited to the ages between 5 and 15, when the tuberculous process tends to become localized within the ducts and glands of the lymphatic system of the respiratory organs. This is practically the time of school life. During the earlier period of childhood, and particularly the first and second years—that of the first dentition—the conditions differ; the lymphatic system remains embryonic; its channels appear wider, and less able to prevent dissemination into the blood and distant areas.

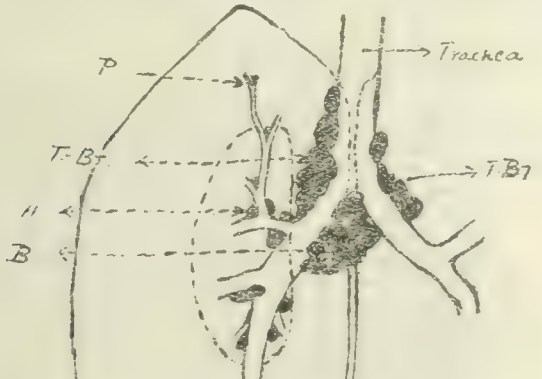


Fig. 1.—Diagram of the lymphatic glands concerned, modified from Sukiennikow. T.Br, Tracheo-bronchial. B, Bifurcation. H, Hilum, and P, pulmonary glands. Above the tracheo-bronchial group is a tracheo-bronchial chain of glands on each side of the trachea, reaching as high as the thyroid gland.

In other words, children of this age are practically defenceless, and the little resistance they may possess must be ascribed to increased efficiency of the leucocytes, since the opsonic indices are negligible.

The radiological appearances of the healthy infant's chest consist of a few indistinct bronchial streaks, radiating from the hilum towards the periphery. The hilum opacity and its ramifications become more obvious as age advances. Constant irritation of the walls of the lymphatic vessels, by particles, organized or inanimate, leads to a small-cell infiltration and a thickening of perivascular and peribronchial trunks—a process which emphasizes the central and arborescent opacities of the radiogram.

II.

Anatomical and Pathological Considerations.

Bartels[1] divides the glands into four categories: (*a*) Tracheo-bronchial, (*b*) bifurcation, (*c*) hilum, and (*d*) pulmonary glands.

(*a*) *The tracheo-bronchial glands* lie on each side of the thoracic portion of the trachea and on the outside of the extrapulmonary bronchi. They number from five to nine on the right, and from three to four on the left. Normally each is about the size of a large pea. The right glands lie nearer to the margin of the sternum. They receive branches from (*b*) and (*c*), from the posterior mediastinal glands, and from the trachea and bronchi. They send efferents to the broncho-mediastinal trunk on the right, to the thoracic duct on the left, and to the deep cervical glands (supra-clavicular). Since they lie at and above the level of the bifurcation of the trachea, they are situated in the superior and just above the middle mediastinum. In front of the right tracheo-bronchial glands lies the superior vena cava; behind, the right vagus; internally, the trachea; externally, the internal surface of the right lung; below lies the right bronchus, the right pulmonary artery and the terminal bend of the azygos major. The left tracheo-bronchial glands lie behind the ascending arch in front of the left vagus; above is the horizontal arch and left recurrent nerve; externally is the internal surface of the left lung. This group of glands is connected with the lymphatics of the upper and middle lobes of the lung.

(*b*) *The bifurcation glands* are ten to twelve in number and more closely related to the right than to the left bronchus. They lie between the pericardium and left auricle on the one hand, and the oesophagus, aorta, posterior pulmonary plexus and posterior borders of both lungs on the other. They receive ducts from the hilum glands and send branches to the tracheo-bronchial. They are connected with the lymphatics of the middle and lower lobes.

(*c*) *The hilum glands* lie buried in the pulmonary parenchyma at the root of the lung and occupy the angles of the first four divisions of the bronchi. They are in intimate connexion with branches of the pulmonary artery and receive afferent vessels from the pulmonary glands.

(*d*) *The pulmonary glands* lie outside the hilum in the substance of the lung at the divisions of the bronchi. Minute glands are even found just beneath the visceral pleura.

Surface Anatomy.—The trachea bifurcates at the level of the upper border of the fifth dorsal vertebra posteriorly, and about the junction of the manubrium with the sternum anteriorly. The extrapulmonary right bronchus is nearly vertical and reaches to the level of the upper part of the sixth vertebra. It gives one eparterial branch close to the hilum. The left extrapulmonary bronchus ends at the same level as the right. Each hilum is about 1½ inches broad and extends on either side at the level of the vertebral ends of the fifth, sixth, and seventh ribs. Within it are the branches of the bronchi, pulmonary artery and veins, bronchial arteries and veins, lymphatics and lymph glands, nerves and connective tissue. Robinson[2] gives three excellent figures of the mesial surface of the lung with sections of each hilum, showing the arrangement of these structures. The pulmonary artery and veins possess branches corresponding with the bronchi. After the eparterial branch is given off on the right side, the stem sends a ventral branch to the middle lobe. The tracheo-bronchial glands lie at the level of the vertebral ends of the third, fourth, and fifth ribs; the bifurcation at the level of the sixth vertebral extremity, and the fifth spine is dull from this cause and from the proximity of the right pulmonary artery (Ewart[3]). The apices of the upper lobes reach the level of the first rib; the apices of the lower lobes that of the vertebral ends of the fourth rib, but the left lower apex is a little higher (Ewart[3]). In front the middle lobe of the right lung occupies the third and fourth intercostal spaces. In front of the root of the lung lie the anterior pulmonary plexus and the phrenic nerve.

The lymphatics commence in irregular lacunae situated just beneath the walls of the air sacs; and also below the surface of the pleura. They form fine networks around the lobules, the bronchi, and the blood vessels. Superficial collecting trunks arise from the subpleural lobules and deep collecting ducts from the veins, arteries, and bronchi.

These trunks communicate. The lymphatics of the visceral pleura also empty into the superficial collecting vessels. Finally they all reach the hilum. The pressure within the vessels is not more than 15 mm. of mercury, but they possess valves which open only towards the hilum. The subpleural plexus communicates with the pleural cavity by means of stomata, and with the interalveolar lymph vessels. There are numerous adenoid nodules in the deeper parts of the bronchial mucous membrane. With regard to the minute anatomy, the lymphatics of the lung often contain large mononuclear phagocytes conveying carbon particles within their interior. In sections of the lung leucocytes are often visible within the alveoli (Schäfer[5]). Carbon pigment is taken up by these cells in the alveoli and transported through the lymph spaces towards the hilum. Sometimes they are caught on the way and produce proliferation of connective tissue, which may embarrass the lymphatic drainage. The endothelial leucocytes are more important as phagocytes than the polymorphs.[6] They are not transient but *normal* scavengers. Beitzke thinks the pigment phagocytes are sometimes derived from the alveolar epithelium. Probably they remain for some time within the alveolus, at any rate, until they are well loaded with granules. Tubercle bacilli will be incorporated by these cells in a similar manner.

Post mortem the glands exhibit four stages: (1) Inflamed pink; (2) enlarged grey, studded with minute tubercles; (3) caseous, containing a cheesy deposit; and (4) calcareous, containing an accumulation of lime salts, with fibrous matting, due to periadenitis, uniting them to neighbouring glands, nerves, bronchi, and vessels.

III.

Channels of Infection and Dissemination.

The great channel or portal of entry is undoubtedly that of the respiratory tract. Bacilli enter with inspiration, the majority settle on the mucous membrane of the trachea, larger and smaller bronchi, and are usually driven outwards again by the activity of the ciliated epithelium. But some permeate the smallest bronchioles and the alveoli, becoming scattered freely over the periphery, and being transported thence along lymphatic trunks towards the hilum. Dissemination, as a rule, takes place gradatim, from one gland to the next in accordance with Cornet's[7] law of localization. In spite of repeated investigations, undertaken with the idea of repudiation, this law still holds good. Some authorities have even denied the aërogenous origin of anthracosis in the hilum glands. Scepticism could scarcely be more obstinate, since pigment is never found in the mesenteric glands.[8] After the ingestion of tuberculous food, the mesenteric glands may be attacked; after infection of the mouth, throat, and tonsil, the cervical; after abrasion of the limbs, the axillary and inguinal glands may become enlarged if the wound becomes infected with tuberculous material. Mesenteric infection under normal circumstances can only affect the bronchial glands indirectly—that is, by way of the thoracic duct, reaching the lungs through the pulmonary artery (Most and Beitzke[9]). It has been suggested that bacilli may enter the fetus from a tuberculous mother, penetrating the placenta, and pass a *larval* existence within the lymph nodes and the bone-marrow until favourable conditions obtain for future development. This could only be possible in the presence of tuberculous foci within the placenta itself; otherwise, we might relegate infection to the Garden of Eden—an obvious absurdity. Moreover, the newly-born do not react to tuberculin.

The child is really exposed to an infection, which may enter either by the respiratory or by the alimentary channel. Consequently mistaken conclusions are liable to be made as to the manner of infection and dissemination. There appears, however, to be no reason why bacilli should not be arrested within the lymphoid tissue of any one of the terminal bronchioles or in one of the pulmonary glands intervening between the alveoli and the hilum, and there lie dormant until an opportunity arises when they might, if superficial, infect the pleura.

There is much difference of opinion as to the manner in which the bacilli reach the bronchial glands, and as to whether a primary tuberculous affection of the glands really exists. Gohn[10] has made a careful analysis of *post-mortem* investigations in the pulmonary tuberculosis of children, and finds in general one, at times two, primary foci within the lung itself, situated just beneath the pleura. The focus is most frequently found in the upper, anterior, and inner half of the right and left upper lobes; behind, chiefly at the base and apex of the left lower lobe, and apex of the right lower lobe. Sometimes the focus is found on the mesial surface, especially at the right base. According to Gohn the hilum, bifurcation, and tracheobronchial glands are affected secondarily, even although the foci in these situations may be much larger than those within the lung itself. In 1898 Küss described a form of pulmonary tuberculosis in children which he recognized *post mortem* by the occurrence of small subpleural tuberculous foci. The condition might remain stationary for years or become entirely arrested. Gohn is a firm supporter of the aërogenous origin of the pulmonary foci, and can find no trace of retrograde infection. These pulmonary foci, however, are not necessarily primary, since their existence and formation may be due to conduction along other lines of transportation. By direct continuity from a tracheo-bronchial or bifurcation gland an infection—which has entered these structures through the mucous membrane of the trachea—may pass directly to one of the lobes of the lung, and induce the formation of a pulmonary focus. Gohn's investigations afford—by the proof of the very common occurrence of an extensive tuberculous pleurisy, particularly affecting the upper lobes, the hilum, and the base—a third method of dissemination which is well seen in the radiogram of Phyllis P. (Fig. 3), and will be described later. It remains for the radiologist to localize these pulmonary foci where possible, and to corroborate their existence by *post-mortem* control.

When the infection has reached the hilum and established itself within its glands, as well as in the tracheobronchial and bifurcation glands, the bacilli have proved victorious over the leucocytes, and have commenced to multiply. The result is the formation of tuberculous foci within the glands, consisting of epithelioid and giant cells. All the groups of glands appear liable to become involved, but in varying degrees. The tracheo-bronchial and bifurcation glands may be infected directly, that is, without implication of the lung, if the *materies morbi* penetrates the mucosa of the respiratory and alimentary tracts lying immediately adjacent to them (Walsham[11]). The infection may be disseminated by simple continuity from the tracheo-bronchial and bifurcation glands, to the upper and lower lobes, and hilum, and subsequently infiltrate the lung.

There are several possibilities:

1. *Caseation of Glands.*—The glands may caseate, calcify, and becoming surrounded by a fibrous periadenitis, the process may be arrested or completely healed. Several glands may become matted together and form a prominent object within or outside the hilum. In the healthy adult it is quite common to see a few small fibrosed glands at the root of the lung.

2. *Caseous Pneumonia.*—The bacilli may escape through the capsules of the glands and induce a slow infiltration in the middle and lower lobes (caseous pneumonia). Walsham[12] described several instances in children where the disease was found to be confined to the parts of the lung, particularly the middle lobe, in immediate contact with the softened bronchial glands. There is a gland on the right side of the trachea—one of the right tracheobronchial group—which is often found to be caseous (Still).[13] "From this gland the caseous process may pass directly by continuity to the adjacent pleura, forming local adhesions and spreading into the right lung towards the apex." No doubt the infection may spread by continuity from the tracheo-bronchial glands upwards along the chain into the neck, implicating amongst others the deep cervical glands. It has been stated that the thoracic glands may be infected from the abdomen by way of the hepatic and propericardial glands.[14] But this must be very exceptional.

3. *Irruption into a Bronchus.*—The bacilli may pass from the glands into the walls of the bronchi, particularly behind, where the cartilage is deficient, enter the mucosa, producing small tubercles, which subsequently ulcerate. The currents of air will then aspirate them into adjacent or even distant parts of the lung. "It is not uncommon for one of the diseased glands to perforate a bronchus, and if this occurs beyond the first division of the bronchus

the caseous débris of the gland may be discharged into one lobe only of the lung and set up an acute tuberculous process, sometimes with rapid cavitation throughout the whole of that lobe."[15]

4. *Irruption into a Blood Vessel.*—As a result of periadenitis and the formation of adhesions to an arterial or venous twig bacilli may enter the vessel and induce in the former case a localized miliary tuberculosis in the arterial area of distribution; in the case of the vein a wider dissemination takes place.

5. *Lymphatic Dissemination.*—In the more chronic cases, where resistance is sound, the infection may apparently spread centrifugally along the lymphatic sheaths of the vessels and bronchi to distal parts of the lungs, inducing a thickening and thrombosis in its course. For many years there has been a current belief that a lymphatic tuberculosis may pass along the ducts in a centrifugal direction opposed to the centripetal course of the lymph itself (retrograde flow, retroimpulsion). It has even been asserted that the lymphatic circulation is carried on in a manner not analogous to that of the blood. There is said to be a backward and forward flow of lymph within the chest, and this phenomenon has been invoked in order to explain the facts of dissemination within the lungs. If the flow is of this nature, it can be of little service as an effectual drain. Moreover, the presence of valves is forgotten. When a small lymphatic is blocked, a collateral circulation will be established, just as occurs in the venous system when a vein is thrombosed. It is really unnecessary to assume the existence of a normal retrograde current. It must be of infrequent occurrence, and the facts may be just as well explained by a dissemination along the walls of these vessels. Although the bacilli themselves, being immobile, cannot swim against the stream, the leucocytes containing them possess this power, and they can also creep along the intima and perforate it. Perhaps it is too dogmatically assumed that all the lymphatic striae on the radiogram are produced centrifugally. They may be formed early and in a centripetal direction from the alveolus towards the root. Since blocking of the ingress to the hilum glands would produce an engorgement and stasis in the implicated areas of the lymphatic circulation, even as far back as the alveoli themselves, a repetition of an aërogenous infection would then be more likely to lead to irritation and thickening of the walls (tuberculous lymphangitis). In some middle-aged healthy individuals radiograms show extensive mottling and numerous lymphatic striae, the latter sometimes reaching from the apex to a gland in the hilum (Stürtz). It is quite feasible to regard these as produced centripetally, as well as centrifugally. At the extreme apical end a few obsolete tubercles may be seen. If the affection had spread from the hilum in the reverse direction, and the disease was chronically progressive, why remain at the apex *in statu quo* for a couple of decades?

It is unreasonable, however, to deny the tendency of a hilum infection to extend outwards into the lung. Several methods by which such dissemination may take place have already been described. But it is never possible to exclude the incidence of second or even multiple aërogenous infections. Very many adults possess dense hilum opacities, containing cirrhotic or calcified glands, which must have been originally tuberculous. The infection, therefore, appears to be practically universal and the manner by which it has been acquired is naturally often obscure. Subsequent infections may just as readily occur. A second aërogenous infection might, however, not be so easily transferred to the hilum. If we accept Birch-Hirschfeld's[16] conclusions with regard to the adult—namely, that there exists a particular area, in the upper lobes, of increased danger, produced after puberty by mechanical means, a "summation of bacterial supply" to this region might strain the leucocytic and bactericidal defences, and the nearest subalveolar glands would provide a suitable nidus for development, particularly if the deeper lymphatic channels should be closed. In this manner succeeding aërogenous infections would be more certain to infiltrate the lung. For a time the disease would remain apical, and the sequence would depend on the individual resistance. If there be a coexistent smouldering focus or bacillary residuum within the hilum glands, or if the second infection accidentally should also be carried thither, the old infection would be more likely to burst into flame. It is difficult to see how the principle of centrifugal dissemination can explain the preponderating vulnerability of the apical lobe in adults. There is no anatomical design in the lymphatic system which would explain the fact. Moreover, the additional difficulty remains of determining the priority of an infection. It is possible to decide whether one focus is more advanced than another, but difficult to say which is primary, as the one may progress more quickly. And if we seek for an older lesion by the side of a new one, the search is often successful (Hutinel).[17]

In many instances positive proof can be afforded of the occurrence of second aërogenous infections after puberty. Von Pirquet[18] states "that if an organism has once become infected, it has altered its reactivity towards the tubercle bacillus and its products. It has become allergic. The bacilli can no longer penetrate without hindrance the mucosa and reach the lymphatic glands, but they produce at the portal of entry inflammatory changes which usually heal. This pulmonary form, typical of adults, and found rarely in children, is therefore most probably a reinfection in individuals who have become allergic through a pulmonary infection in childhood." The facts are equally well explained by accepting Birch-Hirschfeld's views and by assuming the existence of stenosis within the lymphatic trunks. Von Pirquet adds, "the interesting statement that no tuberculous child reacts to tuberculin for a definite period—about a week—during an attack of measles and probably also of influenza." During this time the individual is anergic and deficient in necessary antibodies. A mobilization of the bacilli within the hilum takes place leading to an advance. At such a time, both in children and adolescents, a reinoculation may take place at the periphery.

IV.

Clinical Symptoms and Signs.

These are at first obscure, indefinite, and due to a slow and chronic absorption of the products of bacillary metabolism and to the compression exercised upon adjoining structures by enlargement of the glands. The toxaemia induces a delicacy of constitution, a debility, and disinclination for exercise; a loss of appetite and weight, anaemia, and myoidema. Such children are said to "catch cold" easily, and often suffer from "bronchitis."[*] Where there is no apparent cause for feebleness of health, such as adenoids, enlarged tonsils, etc., suspicion should be directed to a possible affection of these glands. There may be swelling of the cervical, axillary, mesenteric and inguinal glands. The statement has been made that blonde children with long dark eyelashes and a blue iris are especially vulnerable.[19] There may be pain, difficult of localization, within the chest on deep inspiration and vigorous exercise (pleuritic?). Some children exhibit scrofulous scars, otorrhoea, rickets, flat-foot, and spinal disease. Many are said to be "threatened with consumption."

Signs of pressure are not obvious in early cases. Cough and congestion of veins over the chest and upper three or four dorsal spines are usually present. The capillary veins over the spine are, without doubt, produced by compression of the superior intercostal veins by enlarged tracheo-bronchial glands.[20] Lombardi[21] designates this area "the varicose zone of alarm." Tenderness over the dorsal spines,[22] or spinalgia, to firm pressure may be present (first to eighth). Petruschky[23] ascribes it to disturbances of collateral circulation, to periosteal irritation, or to the presence of minute tuberculous foci within the spine. It is probably a referred pain, produced on irritation of the mediastinal nerves by the enlarged tracheo-bronchial and bifurcation glands. Noeggerath and Salle[24] found hyperalgesia in the region of C_4, D_2, and D_3 (Head's zones), and adduce this as a proof of incipient bronchial gland tuberculosis in children. They mapped out the areas by stroking lightly the skin with a smooth metal pencil or a blunt needle. There may also be tenderness on pressure in the interspaces.

Cough is often absent or present only at night. It may be intermittent and paroxysmal, due to pressure on the mucous membrane of the trachea at its bifurcation, or to irritation of twigs in the pulmonary plexuses. The vagi

[*] Are not these attacks due to exacerbations produced by the fluctuating size of the glands, by gradual involvement of neighbouring glands, and by periodical oozing of toxin?

carry both inspiratory and expiratory afferent fibres from the lungs to the medulla (Starling[25]). There is no sputum. There may be dyspnœa and asthmatic attacks at night, the latter produced by irritation of afferent or efferent vagal branches.[26] French[27] thinks the chronic cough in town children may be due to irritation of the right phrenic nerve.

The temperature curve may be normal. It is often subnormal, with occasional fluctuations to 100° in the afternoon or evening. Cornet insists on a two-hour chart. Rest and exercise temperatures are necessary. Night sweats may occur. Pressure on the cardiac branches may induce a slowing of the heart (Dautwitz[28]), but the usual condition is an increased rate, due to irritation of sympathetic fibres.

Physical Signs.

Riviere[29] describes these fully. Briefly they are:

(*a*) *Impairment to light percussion* at one apex, often the right, in front and behind, sometimes dullness over manubrium, the interscapular region, an increased oval interspinous area (Ewart), due to enlargement of tracheo-bronchial glands, and dullness over the fifth and sixth dorsal spines (bifurcation glands).

(*b*) *Auscultatory* changes produced by increased conduction are harshness of breath sounds over apices, with a prolonged expiration and increased vocal resonance; weak inspiration, possibly over the rest of the lung; vertebral bronchophony, with whispering echo on repeating the number 33, as far down as fourth and fifth dorsal spines,[30] or even lower still. Fine crepitations are to be heard occasionally at the apex and within the middle and lower lobes. They may be produced by a condition of slight oedema occurring within the air cells as a result of lymphatic and venous congestion.

V.

Radiological Examination.

Technique.

1. The little patient lies flat on the couch, and perfectly straight (in order to keep the manubrium and spine in the middle line), and the head is turned a little to one side. A small piece of lead is fastened to each nipple and the target is arranged midway between. It is always preferable to radiograph each child in the same way. The tube is of medium hardness (Bauer 6-7) and a moderate current is employed (2-3 milliampères).

On the screen several points are noted:

(*a*) The movements of the diaphragm.
(*b*) The appearances of the apices on deep inspiration and coughing.
(*c*) The hilum opacities.
(*d*) The pulmonary fields, especially the second and third anterior intercostal areas during inspiration.

The screen is then raised 1 to 2 feet above the patient and the hilum again examined for glands.[31] At any selected area, the diaphragm is focussed down. When the screening is finished, with the target in the original position, the diaphragm is opened wide and a radiogram taken on an ordinary plate, making use of a soft tube (6-7 Bauer), a current of 10 milliampères, and an exposure of about 10 seconds. During this time the little patient fixes the chest in deep inspiration.

2. The patient then lies on the face, and similar precautions are again observed. The target is moved upwards to strike a small piece of lead on the fourth dorsal spine, opened out, and a second radiogram is taken as before. This will be a ventro-dorsal view.

3. The patient is then turned into the right oblique or semilateral position, in order that the mediastinum behind the aortic arch may be explored.

4. In cases with pronounced arborization stereoscopic plates are useful.

Examination of the Plate.—1. This shows the central mediastinal shadow, the hilum, and the lung fields. In order to explain the parasternal shadows I have examined several cases of lymphadenoma of the thorax. In Fig. 2, taken from a boy aged 17, the intrathoracic glands are much enlarged. A diffuse homogeneous shadow is seen on each side of the upper mediastinal opacity extending from the vertebral ends of the third to the sixth rib. It is due to the enlargement of the tracheo-



Fig. 2.—Radiogram 1, Lymphadenoma of chest.

The letters in the radiograms are similar. T.B., Tracheo-bronchial opacity. T. Bg., Tracheo-bronchial gland. B., Bifurcation opacity. B.G., Bifurcation gland. H., Hilum opacities. 1S., 2S., etc., Sternal ends of ribs. 3 V., 4 V., 5 V., etc., Vertebral ends of third, fourth, fifth ribs, etc. C., Clavicle. H.A., Heart apex. R.A., Right auricle. D., Diaphragm. L.N., Left nipple. R.N., Right nipple. R.B., Right bronchus. L.B., Left bronchus: A pleuritic shadow arising from tracheo-bronchial opacity.

bronchial glands, and may be termed the "tracheo-bronchial" or "superior opacity." It is visible in many cases of pulmonary tuberculosis in children and adults as a fine shadow, outside the sternum, sometimes on both sides, and at times more easily detected in a ventro-dorsal plate. It has been stated by many pathologists that of these three sets of glands those at the bifurcation are the most frequently attacked. They lie on the body of the fifth dorsal, a little more to the right than to the left of the middle line. A shadow just below the level of the vertebral end of the sixth rib, running directly into the hilum and obliterating the narrow isthmus which often intervenes between the hilum and the cardiac opacity, must be produced by congestion of these glands. It may be termed the "intermediate" or "bifurcation opacity." The hilum glands are so commonly affected, on the radiogram, that it makes one doubt the statement of the particular vulnerability of the bifurcation glands, and surmise that in some instances the condition of the hilum glands has been overlooked.

2. *The interspaces*—particularly the first, second, and third—are examined for signs of lymphatic mottling (which is perivascular as well as peribronchial), tuberculous infiltration, and pleurisy. Sometimes these spaces, although becoming more translucent during inspiration, seem, on the screen, to be veiled by a delicate haze or dimness, suggesting either a very close interlacement of lymphatics or a fine uniform but intangible pleuritic shadow. After a focal reaction, the lymphatics as well as the blood vessels would be congested and the interweaving more pronounced.

3. *The hilum* is now carefully observed for signs of swollen, caseous, and calcified glands, the density of the shadows increasing in this order. The hilum opacity lies at the level of the vertebral ends of the fifth, sixth, and seventh ribs. If it is abnormally dark, broad, and contains a large number of circumscribed shadows, these are enlarged and diseased glands. If the hilum is broad, irregular in outline, and uniformly diffuse or cloudy in appearance, the process is active. The branches running to the diaphragm should be carefully followed for signs of tubercles or localized patches of tuberculous broncho-pneumonia.

4. *The sternal ends of the osseous ribs* are examined for signs of calcification, especially the first. In a young subject, if these edges are sharply cut and there is some

calcification of the first rib cartilage, the prognosis is more favourable. At the same time the width of the interspaces on each side is compared. Narrowing of these spaces on one side due to falling in of ribs produces a unilateral drooping of the shoulder. It leads to deficient expansion and weakened breath sounds.

5. *The heart* in older children may suggest cardioptosis (pendulous heart). It is *apparently* smaller than normal in some instances. There may be a convexity on the right side of the heart, due to a dilated right auricle—although this may in some measure be due to the negative pressure within the chest during a fixed inspiration (Walsham).

6. *The pulmonary fields* are to be explored for striae, networks, and small tubercles or tuberculous foci. In itself mottling is a sign of phthisis, but not of activity, since it may be merely evidence of a healed tuberculous lymphangitis. Morton and Owen[32] think that mottling is due to the crossing shadows of thickened lymphatic vessels which are on different levels. The coarser the interlacements are, the more suggestive is the picture of an arrested lesion (Boardman[33]). But the occurrence of small pinhead-sized foci standing separately or in conglomerate groups, producing a cloud effect, is diagnostic of activity (Rieder,[34] Morton[35]). If they become fibrosed, the opacities will be denser and more sharply defined.

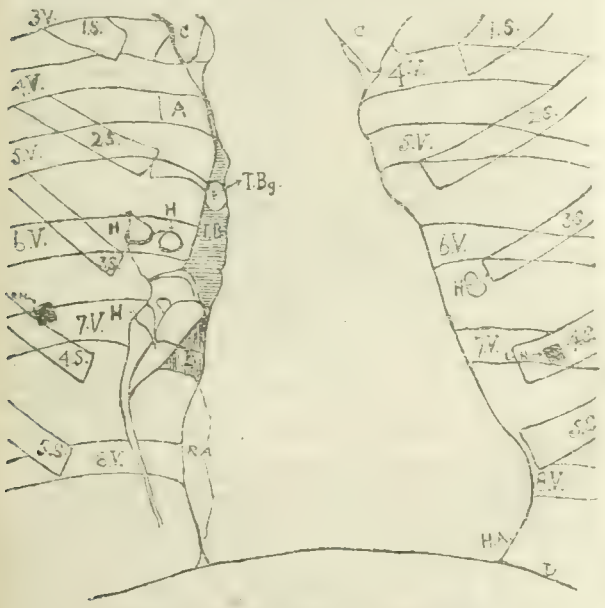


Fig. 3.—Radiogram 2, Phyllis P., aged 10 years.

Interpretation.—Before attempting a diagnosis, the family, the personal, and clinical history, symptoms and physical signs should be examined in order to avoid errors and to command a more reliable prognosis. The radiologist endeavours to make a diagnosis:

1. As to the presence or absence of the disease (von Pirquet's reaction may here assist if it should be negative).
2. As to its activity or latency.
3. If active, as to whether it is open (manifest) or closed.
4. As to the probable direction or otherwise of its dissemination (prognosis).

In cases of difficulty the occurrence of an increased lymphocytosis after the administration of tuberculin may suggest a positive diagnosis as regards activity (Schulz[36]). Or a second or third radiogram may be taken at intervals of a month.

The histories of two cases are now given:

CASE I.

A girl, aged 10 years; family history good; had measles and a septic throat four years ago; has a chronic cough; suffered from pains in chest—pleuritic?—four months ago.

Present Condition.

Cough little but hard; no sputum; no night sweats; no dyspnoea; no palpitation; a well nourished child. Examination reveals diminished expansion of left upper lobe, harsh breath sounds and prolongation of expiration in this locality. At the right apex breath sounds are weak; vocal vibration diminished; dilated capillary veins over the spine. Temperature 97.8° mornings, 98.8°-99.5° evenings; spleen and liver normal; occasional attacks of vomiting; glands not palpable.

Radiological Examination.

Diaphragmatic movements good; both lungs appear dull, but light up well during inspiration, also the apices; increased hilum shadows. On the plate (Fig. 3) increased hilum opacity and arborizations; right tracheo-bronchial opacity containing one visible gland, bifurcation opacity, and gland visible on right; lymphatic mottling within upper interspaces with scattered tuberculous foci. Shadows and strands passing to right diaphragm are dense. Cardioptosis and dilated right auricle. The condition is active.

There is a dimness, radiating from the right tracheo-bronchial shadow, which is due to a fine pleuritic infiltration. Opacities are visible along the lower borders of vertebral ends of fifth and sixth ribs. The inner strands of Stürtz, running upwards and backwards towards the tracheo-bronchial glands, may be produced gradually by a centripetal dissemination from the pleuritic infection intervening between the glands and the striae. We consider that the subpleural foci of Gohn may arise through the medium of the tuberculous pleurisy, which has spread over the visceral pleura from affected tracheo-bronchial and bifurcation glands. Such a pleurisy may be ultra-clinical, but none the less effectual as a means for the dissemination of tubercle from paratracheal glands to the substance of the lung.

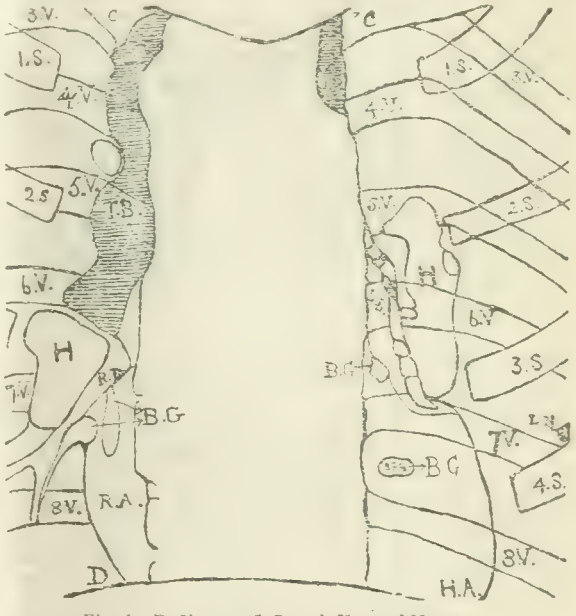


Fig. 4.—Radiogram 3, Joseph Y., aged 12 years.

CASE II.

A boy, aged 12 years. Complains of cough, shortness of breath, and general weakness; has always been delicate.

Present Condition.

Complexion is pale; tonsils enlarged (scraping is negative); glands in axillae, along sterno-mastoids, in anterior and posterior triangles; they are firm and discrete; spleen just palpable; blood count, 4,240,000 red; white 10,800; haemoglobin, 80 per cent.; polymorphs, 53 per cent.; lymphocytes, 47 per cent.; small, 36 per cent.; lymphocytosis; pulse 76–96; respiration 20–24; temperature, morning average 97.6°, evening, 98°. Chest expansion moderate; abdominal respiration increased; percussion note over left upper lobe in front and behind is impaired; breath sounds at apices harsh and expiration prolonged; vocal resonance increased; over the rest of lung the breath sounds are weak and vocal resonance is diminished. The radiogram (Fig. 4) shows massive shadows within the hilum on both sides; a right tracheo-bronchial opacity with a shadow just outside between vertebral ends of fourth and fifth ribs, which may be a pulmonary focus in right upper lobe; a right bifurcation shadow internal to the large right hilum opacity. There is not much mottling and no signs of activity. In the oblique radiogram some of the calcified glands are seen to lie along the left internal mammary vessels; the left axillary glands are also visible. The channel of infection appears to have been from the trachea viâ the tracheo-bronchial and bifurcation glands.

The coexistence of the five conditions:

1. Intermittent sudden cough in the absence of cases of pertussis;
2. Wasting, pallor, and tiredness;

3. A subfebrile temperature, rising occasionally to 100°;
4. The presence of capillary veins and a growth of hair over the upper thoracic spines; and
5. The absence of any obvious disease;

should induce the school medical officer to examine carefully for pulmonary tuberculosis and enlarged bronchial glands. If in doubt the little patient should be sent to the radiologist. The most difficult glands to materialize are the left bifurcation glands.[57] Special contrivances must often be adopted to bring them, as well as the tracheo-bronchial glands, into prominence.

VI.

Treatment.

If there is the slightest doubt, the patient should receive the benefit. All hygienic measures—such as proper diet, graduated exercise, sea air or sanatorium, open-air school or entire freedom from school routine for several months—should be adopted. Virol, red bone marrow, and cod-liver oil are said to increase the bactericidal powers of the blood. Ichthyol[58] (tabloids) and calcium sulphide are believed to hasten the fibrotic changes we desire; iron is useful to tone the erythrocytes, which, according to Spengler, manufacture the immune bodies. With regard to the curative value of the several varieties of tuberculin, the special treatises must be consulted. On the analogy of the cervical glands, the *x* rays may be suggested, making use of a hard tube and of filters, and treating a circular area around the spine of the fourth dorsal vertebra with a third of a pastille dose once a week.

A radiogram should certainly be taken first in order to localize the situation of the affected glands.

In conclusion, my best thanks are due to Dr. Walsham, who provided me with several typical cases and assisted me throughout with valuable advice.

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Lieutenant-Colonel Andrew Arthur Macrobin, R.A.M.C., left estate valued at £13,335.

In the *Revue Médicale de la Suisse Romande* there is a note from the President of the Swiss Medical Commission stating that certain members of the medical profession have taken advantage of the absence of doctors called out for service with the army to establish themselves within the area of practice of their absent brethren. The President calls upon all the cantonal medical societies to do whatever lies in their power to safeguard the interests of the mobilized practitioners. He deplores the fact that men capable of such conduct should be found in the ranks of the profession, and expresses regret that there are no means at present available to prevent such action.

THE "ELDERTON" METHOD OF CONTROL IN TESTING THE VALUE OF NEW TUBERCULIN.

By H. BATTY SHAW, M.D., F.R.C.P.,

PHYSICIAN TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, AND TO UNIVERSITY COLLEGE HOSPITAL.

Professor Sahli has published a criticism[1] of the way in which an endeavour has been made by myself and fellow-workers to arrive at definite conclusions as to the therapeutic value of tuberculin. Such criticism is the main topic of his contribution; but he has also referred to other matters in which we evidently are at variance, and I feel it is due to Professor Sahli that a reply should be made, not only because of the extreme interest of the arguments he puts forward, but also because his point of view is different from the one which, I think, activates practice in this country.

The first duty is to give answers to some of Professor Sahli's remarks: that I have "not the least chronological sense" in reverting "time after time to the experiments of Koch"; that I am wrong in assuming that "no one bases himself now . . . on these far-distant experiments"; that "there is, therefore, a grave injustice" in my "comparison between the quack doctor's lack of criticism and the similar lack which" I assume "in the tuberculin therapist"; that I see "only harmful action in these anaphylactic phenomena"; that my view, "that in anaphylactic phenomena . . . no curative side is to be recognized, should find little approval"; that "the significance of the modern reactionless tuberculin treatment appears to be little recognized" by me.

Professor Sahli does "not think that any thoughtful adherent of tuberculin treatment can nowadays be found to contend that tuberculin produces immunity against tuberculosis." It is an "old argument, which is scarcely used nowadays, that tuberculin treatment is an immunization, and that from the possibility of a protective inoculation against typhoid . . . it might be concluded that such an inoculation must also succeed in the case of tuberculin."

I am sorry that Professor Sahli thinks I have failed in the chronological sense. This is my answer: that I went to the fountain source of Koch's experiments under date of 1890, that I then read Löwenstein's and Römer's articles in Kraus and Levaditi's *Handbuch*, 1908; Cornet's *Die Tuberculose*, 1907; Bandelier and Roepke's *Lehrbuch*, 1908; and Wolff-Eisner's *Handbuch*, 1910, which I had hoped had brought all the experimental work on tuberculin up to that date.

It is my misfortune if I have missed any reference to the experimental proof of the specific cure by means of tuberculin of any animals since the year 1910. At the time of delivering my lecture none of my friends in this country who are following the matter with the greatest acumen knew of any further experimental work supporting Koch's original contention (reiterated by authorities abroad as shown above, and shown by Römer to be wrong) that tuberculin could cure animals of tuberculosis. I submit to Professor Sahli that his charge is not justified, and I fail to find in his own publication any reference to further experimental cure. I am obliged to revert to Koch's experiments, as they are the only ones which it is stated prove the specific curative value of tuberculin. The advocates of the use of tuberculin also revert to these experiments repeatedly as a foundation for their practice.

Now as to the grave injustice done to the tuberculin therapist. As shown in my lecture, all the experimental proof put forward by Koch and reverted to by modern workers is of doubtful value, and Professor Sahli joins me in saying Koch's experiments have never been confirmed. Then I submit that a tuberculin therapist who, in face of the inability to repeat and confirm Koch's experiments, says that he can cure tuberculosis of the lungs or any other organ in human beings by means of tuberculin, lays himself open to the charge of quackery—it makes no difference whether he is a qualified practitioner or not. The injustice so severely commented on by Professor Sahli can only be felt by those who say they "treat" rather than "cure" the disease. My lecture was

in no way meant to be an attack on those who did not use the word "cure." It is common knowledge that some tuberculin therapists use tuberculin to affect the temperature chart, much as many others reduce temperature by using cold baths or antipyretics; but they do not pretend to "cure" by such means. Professor Sahli objects to my seeing only harmful action in anaphylactic phenomena. The answer I would make is that until experiment shows that such anaphylactic phenomena when provoked are curative and not harmful, or that when such small doses of tuberculin are given as to produce no objective or subjective signs of anaphylaxis that cure can be experimentally proved, I am obliged to hold to this statement: Given the development of anaphylactic phenomena, the patient suffers harm varying in degree from the slightest injury to the grave effect produced by Koch and his immediate followers.

I fully admit that I do not recognize the significance of the modern reactionless tuberculin treatment in so far as such treatment effects a cure. It has not been proved in animals because so far it has been impossible to prove it, and I feel that attempts to cure human beings on the same lines are *a priori* bound to be failures too. Without controlled experimental proof, or controlled proof in human beings, I feel that the reactionless dosage with tuberculin is merely doing something to let the patient feel that something is being done—suggestive tinkering, in fact.

So far from condemning the argument that because vaccination against small-pox can, and does, for a time, prevent subsequent attacks of small-pox, and typhoid vaccination can and does prevent for a time the infection by the typhoid organism, it is thinkable that preventive vaccination by means of tuberculin may prevent infection by tubercle bacilli, I am quite open-minded enough to admit the possibility. But admitting such a possibility is quite different from asserting that tuberculin, typhoid vaccine, or small-pox vaccine can cure the diseases, tuberculosis, typhoid, or small-pox, when once these diseases have established themselves.

The reader who cares to peruse the lecture which Professor Sahli attacks, will see that this reply of mine merely reiterates what I have already said. My apology must be that I really have no alternative—that is, if I give any answer at all to Professor Sahli's criticism.

A final point needs discussion, and it is the most important of all. Professor Sahli has thrown up the statistical method, and if I read his criticism aright, his condemnation of my remarks on the points for and against the use of tuberculin as a specific cure is dependent on this fact. In common with other workers in the same field, I feel that until figures are forthcoming which prove, or disprove, the value of tuberculin, I ought not to give up the statistical method. Thanks to Professor Karl Pearson and his pupil, Mr. W. Palin Elderton, I can see that the statistical method shows that the specific cure of tuberculosis by tuberculin is not proven, and that our methods in the past of establishing a cure are at fault. The pernicious and utterly illogical plan of simply treating what we call "suitable cases" without instituting controls is responsible for a large amount of useless clinical work. I fully admit that that is a matter for great regret; energy has simply been turned into the wrong channel, and time and money have been wasted. Dr. Thompson Rigg,[2] Dr. Arthur C. Watkin,[3] and recently Drs. G. V. Stockdale and Ronald Hodson[4] have carried out the treatment of pulmonary tuberculosis by tuberculin under what is a controlled method, the details of which are given in their respective papers.

Professor Sahli does not approve of the scheme, but, as he has abandoned the statistical method, his criticism is hardly to the point. He relies on pontifical assertion; we rely upon convincing our readers by figures. The following table gives an analysis of the cases—84 in number—which were treated by reactionless doses, Dr. Rigg's being omitted because they were treated by reacting doses. The criteria of improvement, etc., was the diminution or increase of râles; all the cases had tubercle bacilli present in the sputum.

It is a matter for regret that the total of 84 cases is so small, but, as was originally pointed out in an earlier paper, the figures are published in the hope that others will follow out the "Elderton" method of control. There

Observer.	Tuberculin or Not.	Afebrile.			Intermittently Febrile.			Febrile.		
		Improved.	Worse.	In statu quo.	Improved.	Worse.	In statu quo.	Improved.	Worse.	In statu quo.
Dr. Watkin ...	Tuberculin	1	0	1	2	4	0	0	0	3
	No tuberculin	0	2	1	3	3	0	0	0	2
Drs. Stockdale and Hodson	Tuberculin	5	1	3	3	11	6	0	0	2
	No tuberculin	2	2	5	7	5	8	0	1	1
Total (84 cases)	Tuberculin	6	1	4	5	15	6	0	0	5
	No tuberculin	2	4	6	10	8	8	0	1	3

(*a*) Of 23 cases which improved, 11 had been treated with tuberculin, 12 had not.
(*b*) Of 29 cases which were worse, 16 had been treated with tuberculin, 13 had not.
(*c*) Of 32 cases which remained *in statu quo*, 15 had been treated with tuberculin, 17 had not.

can be no denial of the fact that, so far as afebrile cases are concerned, the reactionless dosage with tuberculin gives more favourable results than treatment without tuberculin, as far as these cases (23 in number) are concerned. Before complete satisfaction can be given more cases should be tested, and it is most desirable that the numbers should be increased very much—a task which can only be rendered possible in the near future by the sympathetic co-operation of those whose lot it is to have cases under observation.

I sincerely hope that readers will not conclude from the above analysis of 84 cases that my figures prove that it is justifiable to give tuberculin in small reactionless doses. They should, I submit, merely feel that so far as 23 afebrile cases are concerned, 11 of which were treated by reactionless doses, and 12 of which were not, but merely left to what may be called expectant methods, more improved, less got worse, and less remained *in statu quo* with tuberculin treatment than without it. The plan by which the choice of cases to be treated with or without tuberculin has been left to chance, will, when a larger series has been completed, give a true estimate of the value of tuberculin. I frankly confess that I hope tuberculin will be found to be efficacious, but I am told on high authority that many more cases must be studied by the controlled method we have adopted before such favourable verdict as our 23 cases give can be accepted as final.

That the criticism made by Professor Karl Pearson of the methods adopted by medical men to prove the value of tuberculin is bearing still more fruit, is shown in the preliminary report on the treatment of pulmonary tuberculosis with tuberculin at the King Edward VII Sanatorium, Midhurst, by Dr. Noel D. Bardswell (London: H. K. Lewis, 1914), and I cannot do better, in order to encourage others to help in elucidating this most important question on scientific lines, than to ask readers to peruse this volume, which contains salutary remarks by Professor Karl Pearson (pp. 1 to 13), and in the concluding section of which will be seen the following statement by Dr. Bardswell:

> Experience has shown that tuberculin, as at present used, is not a remedial agent which can be depended upon to revolutionize either our sanatorium results or our conception of the outlook for the average consumptive. Tuberculin has not proved itself to be a remedy in the ordinary sense of the term, and no immediate or striking results are to be expected from it, even in the most favourable cases. Even if it be assumed that good effects are produced by tuberculin, they occur almost imperceptibly, the slowness of its action being such that it is often difficult to determine, as regards patients treated under favourable hygienic conditions, how much, if any, of the improvement that takes place is due to its use.

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ANDREW CROLL, M.D.Edin., F.R.C.S., of Saskatoon, Canada, has been elected a Fellow of the American College of Surgeons.

ARTIFICIAL PNEUMOTHORAX.

BY

H. DE CARLE WOODCOCK, M.D.,

LEEDS,

AND

J. A. M. CLARK, M.D.,

LEEDS.

THE suggestions we have to offer as to the value and dangers of artificial pneumothorax are based upon experience gained in over 2,000 operations. Many were done in nursing homes, but by far the greater number in the hospitals at Armley and Killingbeck, to which we are attached. Our cases are of three types:

1. Early cases with localized unilateral disease, characterized by little pleuritic thickening and few constitutional symptoms.
2. Medium cases with more extensive disease, generally bilateral, with more evidence of pleuritic thickening, and with (*a*) slight or (*b*) marked signs of constitutional disturbance.
3. Severe bilateral cases with much constitutional disturbance, offering no hope of cure by ordinary methods of treatment.

Preparation of Patient.

The patient should spend one day in bed before the first operation; more is not needed, except for cases in Class 3. A hypodermic dose of urea hydrochloride (grains 2) and quinine sulphate is given overnight, together with $\frac{1}{6}$ grain of morphine and $\frac{1}{100}$ grain of atropine. Just before the operation the spot selected for puncture is painted with tincture of iodine, and novocain and adrenalin are injected into the site of puncture, the injection being so managed that both the superficial and the deep parts are anaesthetized. Again urea hydrochloride and quinine are administered subcutaneously, since deep injections sometimes cause violent spasm in the intercostal muscles, which should be avoided.

Site of Operation.

With us the site of election for operation is the junction of a mid-axillary line with a line running straight out from the nipple, but this point may have to be abandoned, especially if there is much basal pleuritic thickening. The thickened pleura has to be regarded as a continent shelving into an open pleural sea. We seek, therefore, a resonant spot, preferably in the axillary line, and push the needle in until the manometer shows that it is in the free pleura. Often it may be necessary to forego the local anaesthetic, for novocain must not be given beyond the dose of safety, and therefore cannot be frequently injected at the same operation.

1. *Early Unilateral Cases.*

The operation is easy, though the shock is always severe. Embolism is unlikely, and has never, we think, occurred with us. Patients of this type are not very ill; they are in no urgent dread of a fatal termination to their illness, and they rarely see any imperious need for operation. Extreme nervousness is often shown by patients who have, it may be, received exaggerated accounts of the pain of puncture. At the first introduction of the patient to the operation couch we go through all the steps of preparation, not going beyond the injection of the local anaesthetic. When after four days the patient again presents himself, the process is carried farther, and the special needle (we use Saugman's) is pushed in until oscillation of the manometer shows that it is in the pleural cavity. At the third meeting a small amount of gas is introduced. By this method nitrogen may be injected forthwith; it is not necessary to use air or oxygen. The fear is not of embolism but of shock.

If the oscillation of the manometer is 1 in., the dose given may be 300 c.cm. Should there be any doubt as to the position of the needle, or should the manometer not oscillate freely, then no more than 30 c.cm. should be introduced. The entry of this small amount of gas will not cause embolism, while if the needle is slightly blocked it will push aside the obstruction, on which the oscillations will jump to view. The manometer is the guide.

After the gas has been injected, the patient is made to lie still for half an hour; then, if all is well, he may be sent by ambulance back to the ward.

Some patients suffer from shock even with this careful method. The effects are not necessarily shown on the instant. The operator may be injecting gas into the pleura, encouraged by the smiling comfort of the patient, when suddenly it is seen that all is not right. The drugs used may so have deadened the patient's sensation that he is not mentally aware of his physical distress until a dangerous point is reached. The pulse may quicken and intermit, the patient may become distinctly blue, the respiration may quicken, and pain may suddenly occur and rapidly become excessive. It may be necessary to give morphine to ease the pain; it is at any rate advisable to stop the supply of gas, and also to open the tap of the needle and thus allow the gas to regurgitate, so to speak, from the pleura. The escape of a little gas may at once give ease to the patient and relief to the operator. The severity of the shock in these cases which are unilateral and limited in extent is probably due to the healthy condition of the pleura. It is not thickened; it is not adherent; its nervous mechanism is sensitive, and there is no bar to immediate displacement of the heart. Movement on the part of the patient seems to precipitate the distress. Well do we remember completing a first operation on a girl who thought the whole affair a triviality until we had finished; then she showed acute distress and immediate fear. For a few minutes she was in considerable danger; we had let the gas run in too quickly and had given her too much, and all at once cardiac and respiratory resentment showed itself.

2. *Medium Cases.*

In medium cases, often with bilateral disease and a considerable amount of pleuritic thickening, the shock of needle puncture is not marked. The difficulty is to find the pleural space and the danger is embolism. It may be necessary to try several times before the manometer oscillates; the oscillation is often slight and may even be due to the needle being in loose tissue immediately outside the parietal pleura. Even when the needle reaches the pleural space, it may be in a pocket, and there may be only the possibility of inducing a very partial inflation. The shock, apart from fear, is not great, and the heart is not violently displaced. The thing to be feared is gas embolism.

If an attempt is made to force in gas at any pressure above 3 in. of water, there may be severe local pain, and in an hour surgical emphysema may be recognizable. The occurrence may be guessed at if there is a feeling of constriction in the neck. The necessary precautions are to limit the first introduction of gas to 50 c.cm., and to watch respiratory rather than cardiac movements. If oxygen is to be given at all it should be given in these cases.

Another point is worth mentioning: after four or five injections it is necessary to alter the point of puncture. We take it that a local patch of pleurisy has resulted from the frequency of the trauma. Another trouble in these chronic cases arises from a change in the pleural lining; it becomes haemorrhagic and is apparently turned into something resembling granulation tissue, and the needle may again and again draw blood, as is shown by the reflux into the bulb, which in our instrument is inserted in the line of india-rubber tubing leading from the gas bottle to the needle. There may then be great anxiety lest a vein has been tapped. If the manometer does not show its initial rise, followed by the welcome oscillations, the operation must be stopped. Often when filling the pleural space slowly the gas at a moment rushes in rapidly; this is due to peeling off the softly adherent pleura; the pressure must be lowered or the gas even shut off for a time, or there may be severe pain or even shock.

Haemoptysis of the severest kind allows any risks; nothing else does. In one patient we introduced 1,800 c.cm. of gas at one time; we did it slowly and it took an hour. There was no shock—indeed the patient said he was quite comfortable, and the haemoptysis, which had threatened to be fatal, terminated. There was just an ounce of blood on the morrow, and then no more.

In all cases of severe haemoptysis threatening life, artificial pneumothorax should be thought of. The only contraindication would be such a massive amount of disease that the pressure of a large quantity of gas in the

pleura might lessen the available breathing space until the minimum necessary for life had been passed.

3. Cases of Very Severe Disease.

In severe cases with bilateral cavities and much of both lungs affected, the danger of artificial pneumothorax is obvious. The patient has little lung left; he may therefore be suffocated if any of that little is taken away. Still, this is not the last word. In these cases we have many times given the patient the only chance left to him, and in a few instances the result has been good.

The apparatus made at Dr. Woodcock's suggestion by Messrs. Reynolds and Branston, Limited, of Leeds, seems to offer some advantages over the instruments used by most workers, and the plan of it has been approved by a great Continental authority. It is well made and accurate, easily kept clean, and simple in its working. In the latest form of this apparatus a regulator is used, which controls all the pipes by manipulating one indicating needle. This regulator is an invention of Dr. T. D. Lister of London.

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

H. LAMBERT LACK, M.D.Lond., F.R.C.S., President.

*ABSTRACT REPORT.**

PRESIDENT'S INTRODUCTORY REMARKS.

THE President, after welcoming the members, went on to consider the significance of the two subjects which had been selected for general discussion—the treatment of inoperable growths of the nose and throat, and oto-sclerosis in its various aspects. The fact that the former had been chosen was itself an indication that some progress had been made in the direction of alleviation, if not of cure.

Marvellous progress had marked the last year, as was shown by the introduction by Killian of suspension laryngoscopy and by Nagelschmidt of diathermy, which had been found useful not only in malignant disease, but also in intractable lupus of the upper air passages. In conclusion, the President alluded to the use of the intratracheal administration of ether as a great step in advance, and to the efforts which were being made by Freeman to provide a rational and successful method of treating hay fever.

DISCUSSION ON THE TREATMENT OF INOPERABLE GROWTHS OF THE THROAT AND NOSE.

OPENING PAPERS.

I.—W. D. HARMER, M.C.Cantab., F.R.C.S.,

Surgeon, Throat Department, St. Bartholomew's Hospital, London.

DIATHERMY.

THE subject of treatment by diathermy had been discussed, Mr. Harmer said, by Nagelschmidt in his *Lehrbuch der Diathermie* (Berlin, 1913). A paper on the treatment was also read by him before the Electro-therapeutical Section of the Royal Society of Medicine in 1910.

The apparatus produced a high frequency current of great power. It had two electrodes, one large which was wrapped in wet cloths and applied to the patient's chest, and the other small which was applied to the growth. The passage of the current produced intense heat at the small electrode only. The instrument must be controlled by a skilled person, and the operator should wear rubber gloves to avoid shocks; the current was not turned on until the small electrode was buried in the growth, and was turned off before the electrode was removed from the tissues; this was necessary in order to avoid sparking; strict aseptic precautions were necessary. A general anaesthetic was required for large growths. Atropin internally and frequent sponging locally were necessary to keep the parts dry. The passage of the current blanched the tissues around the electrode in a few seconds. After a series of punctures had been made the cauterized areas might be removed by forceps or curette and the deeper parts of the growth attacked. Although bleeding did not result from the burning of even vascular growths it was necessary not to remove sloughs too boldly. In large tumours dyspnoea during or subsequent to the operation might require tracheotomy. Too rapid burning was to be avoided as it might lead to dangerous swelling of the neck. More than one sitting was necessary, as a rule.

Mr. Harmer had treated by this method 21 cases of cancer of the tonsil, tongue, palate, pharynx, and larynx. Naevi of the nose and tongue and naso-pharyngeal fibroma had also been successfully dealt with. The subsequent pain was slight, there was rarely any oedema or inflammation, and the patient was able to swallow about forty-eight hours after the operation. Sepsis was less frequent than after cutting operations, and there was no shock. The wounds left healed rapidly, with but trivial scarring. Nearly all the cases he had treated were enormously improved, and in one instance (cancer of the tonsil and tongue) life was prolonged in comfort for about two years. These were striking results in what were cases of very advanced disease. Cases in which the growth had reached the neck or had invaded bone were unsuitable for this treatment.

The advantages over the knife were the rapidity and ease of operation, the absence of haemorrhage, and the sealing up of the vessels and lymphatics by the thermal agent. Mr. Harmer believed that diathermy retarded the subsequent progress of the disease, both in its original site and in the cervical glands. Local recurrence seemed to be less frequent than after a cutting operation. For simple vascular tumours, such as naevi, the results were all that could be desired.

II.—WILLIAM HILL, M.D.,

Surgeon for Diseases of the Throat, Nose, and Ear, St. Mary's Hospital, London.

RADIUM.

RADIUM, Dr. Hill said, was worth trying in inoperable cancer in these regions if an adequate amount were available, if the primary growth were accessible and not too extensive, if metastases were absent, and if the general health was fairly good. When extensive growths were irradiated massive doses of toxins were liberated and might lead to serious complications. In pharyngo-laryngeal cancer radium should not be tried if the growth had invaded the lower air passages or if there was marked glandular involvement.

Sarcomata and endotheliomata reacted better to radium than cancers, but nevertheless some epitheliomas of the nose, throat, and gullet did react well. So well did sarcomata react that accessible sarcomata of the jaw and naso-pharynx might be treated in the first instance with radium and operation postponed until the effect of the radium was manifest. This applied particularly to sarcoma of the tonsil.

As regards the quantity of radium to be used, Finzi held that the equivalent of at least 50 mg. of radium bromide—that is, about 26 mg. of the metal, should be employed. Success might follow the use of smaller quantities, but the necessary increase in the exposure time was inconvenient and even dangerous in cavities like the throat and gullet. Doses as large as 100 to 200 mg., suitably screened, were advantageous in that they permitted a decrease in the time of exposure. There was no reason to believe that the salt itself was more deleterious than the emanation. The great advantage of emanation was that special tubes to suit regions might be employed. Dr. Hill believed that efficient screening was of importance in the case of oesophageal cancer. The needles used by Mr. Pinch,

*A full report has appeared in the *Journal of Laryngology*.

however, in which the screen was thin, might prove to have a wide field of usefulness for embedding in laryngeal and pharyngeal growths. In order to anchor the tube at the selected spot in the oesophagus or elsewhere, Dr. Hill used a flexible silver style. By shifting the style up or down even a moderately long stricture might be thoroughly irradiated. While embedding a tube had its advantages in large or thick growths, it should be avoided if possible, as sepsis was liable to supervene after inserting a tube through a mucosal incision. For this reason embedding, if unavoidable, was best effected through a skin incision if practicable.

Dr. Hill related the history of a number of cases exemplifying the foregoing points, and especially showing the great improvement which followed the use of radium in malignant stricture of the oesophagus. In one such case the patient had had nine applications in four and a half years, and was still alive, with what looked like an ordinary fibrous stricture. Dr. Hill concluded by expressing the opinion that radium therapy was worth trying in epithelioma of the throat, but that diathermy had probably a wider sphere of usefulness in these areas. In the oesophagus the converse was the case.

III.—John Macintyre, M.D.,

Surgeon for Diseases of the Throat and Nose, Glasgow Royal Infirmary.

X RAYS.

After defining what was meant by the phrase "inoperable growth," Dr. Macintyre said that in round-celled and other sarcomata some good results followed the use of x rays, and the same was true of epitheliomata of the lip, tongue, nose, and naso-pharynx. The effects were not cure, but arrest or diminution of growth, relief of pain, and arrest of haemorrhage. The nearer to the surface of the body the better were the results. But in the case of the oesophagus and mucous membranes of the respiratory tract the results were not very promising. The use of the x rays might be combined with that of other agents, such as radium and diathermy. Dr. Macintyre concluded with the narration of two cases of sarcoma of the naso-pharynx which had responded favourably to the x rays passed directly through the nose.

DISCUSSION.

Dr. Watson-Williams (Bristol) advocated radium for sarcoma rather than carcinoma. In malignant growths of the oesophagus the mere temporary relief and prolongation of life were sufficient excuse for using x rays or radium.

Mr. Somerville Hastings (London) gave from an experience of 16 cases treated by radium the following encouraging synopsis of results: 2 markedly improved, 7 temporarily, and 7 not improved at all. The silver tubes used were 0.3 to 0.8 mm. thick. The dosage was 50 to 200 mg. of radium bromide. The duration of exposure was four to twenty-four hours. This duration was, Mr. Hastings said, an important point, and he described one case in which too long an exposure led to serious sloughing, with adenitis extending to the axilla. In this same case he drew a moral from the fact that the patient had some septic teeth which were not removed before applying radium. For oesophageal growths the radium tube could be fixed in a Symonds's tube.

Dr. H. Pegler (London) quoted a case in which radium followed by x rays was successful.

Dr. Syme (Glasgow) did not think that the results of radium treatment up to date justified any statement to the laity that there was any successful treatment other than surgical removal.

Dr. Livingstone (Newcastle) quoted a case of sarcoma of the maxillary antrum treated by radium. The primary growth disappeared and an attendant sinus healed. The patient died of recurrence in the liver.

Mr. Jefferson Faulder (London) advocated experiments with diathermy on the cadaver. It would be regrettable if lay patients, having been told that diathermy cured inoperable cases, should therefore present themselves late in the disease for treatment. Even now cases were not seen sufficiently early. He asked whether Mr. Harmer had found that diathermy caused any such change in the glands of the neck as to make it advisable to remove these first.

Mr. O'Malley (London) remarked that sarcomata were amenable, but carcinomata much less so. His experience of diathermy led him to think that this process seemed applicable to growths of any size, and in any situation; there was freedom immediately from haemorrhage, and, remotely, from scarring.

The President recounted sixteen cases treated by diathermy. The process always produced glandular swelling, rendering difficult the removal of glands. The freedom from pain and fever after diathermy operations was remarkable. In his experience both radium and x rays had failed in every case of carcinoma of the throat.

Replies.

Mr. Harmer (London) congratulated Dr. Lack on his excellent results with diathermy. Asepsis was of paramount importance. In answer to Dr. Watson-Williams, he expressed the belief that there was no limit to the size of a blood vessel which could be coagulated, but there was the constant danger of secondary haemorrhage when the slough separated. In answer to Mr. Faulder and Dr. Lack, he said that he did not think glands were more difficult to remove after diathermy unless there had been inflammation in the tissues of the neck.

Dr. William Hill referred to Dr. Syme's contention that the public should not be lulled into a sense of false security by the pronouncement that it was permissible to use radium and diathermy in the first instance instead of the knife, and thus much valuable time might be lost. Dr. Hill said that there was, as a fact, no such loss of time, because any sarcoma which reacted to radium at all reacted at once, and after diathermy a less extensive operation might suffice. He advised Mr. Hastings to discard the plan of placing the radium tube in a Symonds's funnel. In one case treated by the speaker the loose tube was displaced by post-anaesthetic vomiting. It was necessary to fix the radium tube with a style.

DISCUSSION ON OTO-SCLEROSIS.

Mr. J. S. Fraser (Edinburgh), in an opening paper, after marshalling the various known theories as to the causation of oto-sclerosis, favoured the suggestion that the disease was due to a chronic local infection in the muco-periosteum of the tympanum in the region of the anterior margin of the oval window, and showed lantern slides to prove that ostitis vasculosa might follow otitis media. Out of a series of 153 collected cases, 99 were females, and 52 were between 20 and 30 years old. The etiological points in the histories included chiefly pregnancy, anaemia, and rheumatism; and suppurative otitis in only 6 cases. Mr. Fraser had been struck by a peculiar mask-like lack of facial expression in this disease. In 8 cases there was slight neuralgic pain, and in 26 opacity or loss of gloss in the membrane. He had found Gellé's test unreliable. In many normal people he had failed to get any reaction; and if the Eustachian tube was very patent (as was alleged to be frequently the case in oto-sclerosis) the test failed owing to air escaping into the naso-pharynx when the meatal compression was applied, so that the intratympanic pressure was never raised. He regarded the loss of perception by air conduction of the C_{32} fork as the most important clinical sign of oto-sclerosis. The sensibility to tickling of the meatus was diminished in every case, and more so on the worse side. There was a close relationship between the degree of deafness and the tone at which Rinne's test became positive; in slight cases the test was negative only with the lower forks; in advanced cases it was negative up to C_{2048}. Again, in early cases the upper tone limit approached the normal, whereas in bad cases it might be only 8,000 D.V. The latent period of reaction to caloric stimulation was reduced, suggesting a hypersensibility of the vestibular apparatus in the later stages of oto-sclerosis,

or an alteration in the labyrinthine fluid favouring the production of vestibular nystagmus.

Mr. G. J. JENKINS (London) considered that clinical and experimental evidence showed that there was a change in the labyrinthine fluid. The subject of glandular internal secretions was so complicated that treatment by their extracts must be resorted to by slow degrees only. He had tried opening the perilymphatic space of the external canal, with a resulting improvement in hearing which was brilliant but transitory; in three months the patient's condition was almost as bad as before. Intranasal operations or Eustachian inflation were only justifiable if there were danger of a superaddition of Eustachian deafness. Noisy surroundings undoubtedly increased the symptoms, especially high-pitched noises. Mr. Jenkins's views on instrumental aids may be summarized under three headings: (1) In slight cases the patient was better with no such aid. (2) When the patient could only hear conversation at 2 to 3 feet, an artificial auricle was most useful, and better than electrical instruments. (3) In advanced cases an ear-trumpet should be used.

Dr. W. S. SYME said that in the examination of over 1,100 skulls he had not once found the stapes fixed. After making an opening into the external canal, the usual rapid closing of this opening might perhaps be prevented by implanting a strip of periosteum into it.

Dr. J. MACKENZIE (Inverness) referred to a case which had relapsed despite the constant use of a miniature kinesiphone.

Dr. WATSON-WILLIAMS (Bristol) felt that the absence of gross catarrhal conditions did not necessarily exclude infection as a determining cause; and quoted, in analogy, cases of optic neuritis or atrophy associated with a sphenoidal sinusitis which was quite latent.

AUDITORY RE-EDUCATION.

By F. F. MUECKE, M.B., B.S., F.R.C.S.,
Assistant Surgeon, London Throat Hospital.

MR. MUECKE said that of the 36 cases treated 1 was cured, there was definite improvement in 3, improvement but relapse after treatment in 10, and no change in 22. Two of the "re-education" machines were tested, and the speaker had been associated with a third. The instruments were complicated and ingenious from the electrical and physical standpoint. The objectives aimed at were: (*a*) The production of sound vibration from 80 to 3,500 per second; (*b*) the control of the intensity of the sound; (*c*) regularity in the emission of the sound wave; (*d*) regulation of the waves to each ear separately; (*e*) vibration of the drum by the sound waves and transmitted vibration by the air cushion in the meatus. Each sitting lasted from three to five minutes, and if after fourteen consecutive sittings no improvement occurred the treatment was not continued. The cases tested consisted of old suppurative otitis with large perforations of the membrane or with adhesions and scars, oto-sclerosis, chronic middle-ear catarrh, and various forms of nerve deafness. In patients with old suppurative otitis no benefit was obtained from the treatment. In oto-sclerosis temporary relief of tinnitus was obtained but no improvement in hearing resulted. In early chronic catarrh improvement in hearing or tinnitus was obtained in nearly every case, but no more than what could be got by the use of the Eustachian catheter and less than that which resulted from the use of pneumo-massage; relapse was usual. In late chronic catarrh similar findings were reported. In nerve deafness no benefit whatever resulted, showing that "re-educators" were useless when the labyrinth was affected. As a result of his experiments, Mr. Muecke concluded that what little benefit was obtained was referable to the mechanical effect of the vibration. The solitary case of cure was one of neurasthenic deafness.

In conclusion, he expressed the strong opinion that the treatment should not be resorted to until the older and more orthodox methods had proved useless.

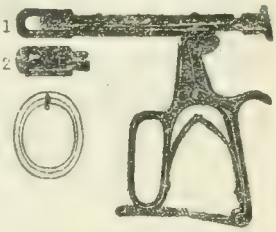
Dr. MACKENZIE BOOTH described a method used by Dr. Maurice, of Paris, of combining diathermy with the use of the "kinesiphone," his instrument for the "re-education" of hearing. Dr. Booth had been using the kinesiphone for five months, and reported that manifest improvement in hearing resulted from its use, but sufficient time had not yet passed to enable him to estimate the permanence of the benefit.

Dr. WILLIAM HILL (London) said Mr. Muecke had, by work on auditory re-education, rendered a signal service, not only to the profession, but also to that section of the lay public who were obsessed with a leaning towards quackery.

THE HAEMOSTATIC TONSIL GUILLOTINE.

By WM. HILL, M.D., and G. J. F. ELPHICK, M.D.

THE history of tonsil operations was reviewed from the time of Celsus onwards, especially with regard to the methods of avoiding serious haemorrhage. It was urged that, for clearness, the terms "total," "subtotal," and "partial" removal should be used instead of "tonsillotomy" and "tonsillectomy." The various guillotines and guillotine methods resolved themselves into two distinct groups—Physick's method for partial removal, and Whillis's or Sluder's for total removal; the authors gave a clear description of these in detail. The principle of the Elphick haemostatic guillotine was that it possessed two blades. The first was blunt, and crushed the tonsil stump, being held in this closed position by a catch. The coagulation period of the patient's blood having been previously ascertained, the guillotine was left *in situ* for a little longer than this period. The second, sharp blade, working parallel to the first and between it and the luxated tonsil, was then closed to cut off the latter without disturbing the crushed stump. The blood lost hardly amounted to more than a smear in some cases.



1, Crusher open. 2, Crusher closed.

Sir W. MILLIGAN, on the point of nomenclature, said he looked upon a complete enucleation as leaving nothing, in the faucial bed, except the superior pharyngeal constrictor.

Dr. MACKENZIE BOOTH deprecated unnecessary complications in guillotines.

Dr. WATSON-WILLIAMS approved of O'Malley's guillotine, fitted, in addition, with a grasping handle instead of a thumb-sliding blade.

Mr. O'MALLEY claimed that with his guillotine the average loss of blood was only a fraction over 3 drachms. The slot of the frame was filled with lead, into which the blade was driven home; the lead need not necessarily be renewed until after 500 operations. The D-shaped opening gave more space for encompassing the tonsil.

Dr. HILL, in reply, admitted that the haemostatic guillotine was expensive. A simpler and cheaper instrument was contemplated by adding, to the ordinary Mackenzie guillotine an additional blunt blade with a crushing edge.

THE INTRANASAL OPERATIVE TREATMENT OF FRONTAL SINUS SUPPURATION.

By P. WATSON-WILLIAMS, M.D.Lond.,
Lecturer on Diseases of the Nose, Throat, and Ear, University of Bristol.

IN frontal sinus suppuration, whenever operative measures were called for, an efficient intranasal operation was preferable to external operation save when there was bony necrosis

or osteomyelitis, or when ocular or other serious complications were present. After a historical survey of the methods adopted for operating on the frontal sinus through the nose, the clinical anatomy of the fronto-ethmoidal region was described. Stress was laid upon the limitation of operative measures to the outer side of the vertical plate of the middle turbinal, since by keeping in this region the danger of wounding the cribriform plate was avoided. The method of operation followed by Dr. Watson-Williams consisted in clipping away the agger cells and "anti-conchal" ethmoidal cells with suitable forceps as far as the nasal crest. Then the anterior ethmoidal cells lying behind or above the fronto-nasal duct, including the bulla ethmoidalis, were removed, their thick partitions being broken down. Graduated bougies were next passed through the widened fronto-nasal duct into the frontal sinus in order to estimate the width of the duct. The bony boss in the anterior wall of the duct was smoothed down with a suitable raspatory, and after that the anterior end of the middle turbinal was removed. The amount of operative removal of bone varied with each case, but the object to be attained was the formation of a naso-frontal passage sufficiently roomy to drain the sinus freely and to provide for easy lavage. Details of 51 cases operated on in this manner were related.

Sir WILLIAM MILLIGAN doubted whether Dr. Watson-Williams's operation would prove to be devoid of danger in the hands of average operators. He asked whether any comparison had been made between the results obtained by the extra-nasal operation and those obtained by the intra nasal.

Dr. WILLIAM HILL said that he had recently employed Dr. Watson-Williams's bougies in the intra-nasal operation on the frontal sinus, and had found them of great service.

THE DIFFICULTIES AND DANGERS OF EXPLORATORY PUNCTURE OF THE ANTRUM OF HIGHMORE.

By A. BROWN KELLY, M.D., D.Sc.,
Surgeon for Diseases of the Nose and Throat, Victoria Infirmary, Glasgow.

EXPLORATORY puncture of the maxillary antrum was usually made through the outer wall of the nasal cavity under the inferior turbinal. In doing so when the nose was prominent and the anterior wall of the superior maxilla sunken, the puncture should be made further back than usual, otherwise the antral cavity might be traversed by the trocar and cannula, and the tissues of the cheeks infected.

Occlusion of the ostium of the antrum by swelling of its lips or by polypi might prevent perflation of the cavity; the application of cocaine and adrenalin, or the removal of the polypus, might obviate the difficulty. No attempt at forcible perflation should be made, as fatalities had thereby been produced. Even simple puncture and washing out of the antrum had been followed by alarming symptoms, and, indeed, in some rare cases, by death. Cases had been reported in which such disquieting events as apoplexy, transient hemiplegia, abscess of the cheek, hystero-epilepsy, cyanosis and dyspnoea, with or without syncope, had followed this trivial operation. Disturbance of vision affecting the eye corresponding to the antrum which had been washed out, had also been recorded, and this Killian attributed to reflex contraction of the central artery of the retina. The same authority ascribed the occurrence of fatal syncope after puncture of the antrum to vagus irritation. Two cases of fatal air-embolism experienced by Bowen had led that observer to advise that perflation should be avoided, and only washing out practised. Dr. Brown Kelly had himself encountered a case in which air seemed to pass into the jugular vein—fortunately without any harm resulting. It was supposed that the point of the needle had penetrated a vein in the pterygo-maxillary region. The tendency on the part of some authors was to refer these accidents to the action of the local anaesthetic, but Dr. Kelly was strongly of opinion that there was no evidence in favour of this view.

Attention was directed to the similarity of the accidents to those known to attend at times upon puncture of the pleural cavity; in neither instance could it be said that any satisfactory explanation of the occurrences had been given.

Mr. T. JEFFERSON FAULDER, in order to prevent cellulitis, advised that air should be blown through the cannula before any attempt at washing out was made, for if the point of the cannula was lying in the soft tissues instead of in the antrum, then the formation of emphysema—not a serious accident—advertised the error and the patient was saved the risk of the injection of septic fluid into the cellular tissues. He detailed a case in which a patient, after the antrum had been punctured, was seized with epileptiform convulsions which ushered in a fatal illness. In this case the event had probably nothing to do with the puncture, as the patient had previously shown signs of nervous disease. Nothing to account for death was, however, found *post mortem*.

Mr. SOMERVILLE HASTINGS, after experiencing several cases in which collapse had followed puncture of the antrum and perflation, had made it a rule always to move about the cannula after its insertion in order to ensure that its point was in the antrum. He agreed with Dr. Brown Kelly that many of these accidents were due to the trocar traversing the antral cavity.

Dr. OLIVER ST. JOHN GOGARTY recommended the use of strong solutions of cocaine as less liable to absorption from mucous surfaces than weak solutions.

Mr. J. S. FRASER said that he had never seen any of the serious symptoms described by Dr. Brown Kelly; this he attributed to the fact that in Dr. Logan Turner's clinic perflation of the antrum was not practised. After puncture the cavity was at once washed out.

Dr. MACKENZIE BOOTH, in like manner, had never seen any serious sequela follow, and agreed with the last speaker in deprecating the blowing of air into the cavity.

Dr. L. H. PEGLER pointed out, with reference to the theory that ascribed these accidents to vagus irritation, that there was no direct anastomosis between the vagus and the trigeminus. The nerve connexion between the antrum and the heart should more correctly be referred to the sympathetic nerves by way of the carotid plexus.

Dr. WATSON-WILLIAMS drew attention to the advantages of the suction method of exploring the antrum which he had devised. He had used it in hundreds of cases without any untoward results.

LATENT EMPYEMATA OF THE NASAL ACCESSORY SINUSES.

By OLIVER ST. JOHN GOGARTY,
Dublin.

OUT of 300 cases of disease of the maxillary antrum operated upon, 250 were of a chronic nature, and the majority of the patients complained of nothing more definite than "catarrh." The symptoms in the cases detailed by the author were such that without actual puncture and irrigation of the antrum, the existence of disease in that cavity would have been entirely unsuspected. For this reason it was maintained that no examination of the nose was complete without the washing out of the antrum of Highmore on each side. The speaker concluded by making a vigorous protest against the operative injury of the inferior turbinal body, which he believed was followed several years later by the loss of what he called the "air-taste" in the nose.

Mr. J. S. FRASER had never known any harm result from the removal of the anterior end of the inferior turbinal. Indeed, without this step in the operation on the antrum the ventilation and free drainage of the cavity could not be secured.

Dr. J. W. KILLEN held that the removal of the inferior

turbinal was unnecessary if the antro-nasal septum was resected to a low level.

DR. WATSON-WILLIAMS considered Dr. Gogarty's paper of great value in directing attention to a group of nasal affections which frequently escaped detection.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SUBCUTANEOUS INJECTION OF OXYGEN IN SEPTIC AMPUTATIONS.

SOME of the most disappointing cases in the present war are the compound fractures. Partly owing to the impossibility of giving early and effective treatment they arrive at a base hospital, or even a more distant centre, very seriously infected. Varying with the nature of the fracture, the size and character of the wounds, and the length of time that has elapsed, there may be merely local sepsis and sloughing, cellulitis far beyond the proximal joints, or extensive gangrene may have already set in. As has so frequently been said in the surgical literature of war, each case must be treated on its merits, but the principle may be laid down that the surgeon's duty is to save as much as possible. It is questionable if it is doing a man a service to disarticulate a limb at the hip or a right arm at the shoulder. It is often worth while giving such a man the chance of a more useful limb by such measures as abundant injections of oxygen both above the apparent limit of infection and deeply into the tissues nearer the wound, and free incisions and drainage.

In any case it may be said with fair confidence—and I appeal to the experience of many others to confirm me—that it is reasonably safe to incise through tissues evidently involved in a process of severe infection, as indicated by obvious signs of comminuted fracture with a black and gaping wound, oedema, and cellulitis. A large injection of several litres of oxygen with Bayeux's instrument into the stump during the operation, or soon after it, will go far to assure a satisfactory result. The flaps can be rapidly formed and very loosely sutured; they need not be left altogether unstitched.

It may be thought that oxygen is not easily obtainable; but since the oxyhydric flame has been so much used in motor and other industries every small town has its cylinders of oxygen. Even if Bayeux's instrument (which accurately measures the amount and regulates the rate of the injection) be not available, a simple system of the oxygen bag adapted to a tube passing through some dilute antiseptic solution can easily be organized.

My points, then, are:

1. Be economical in lopping off limbs.
2. Do not hesitate, in aiming at the preservation of tissue, to cut in deeply infected areas.
3. Drain freely.
4. Inject oxygen abundantly—till there is widespread emphysema. It is not toxic and it will be absorbed in twenty-four hours.

Our experience here as well as in other parts of France make it unnecessary to illustrate these principles by the details of special cases which are of daily occurrence. A recent instance is that of one of our patients now convalescent:

E. C., aged 25, a French soldier of the —— Infantry regiment, wounded in the trenches near Dixmude by an exploding shell which fell a few yards away. Though wounded at 8 a.m. on Saturday, November 21st, it was not till Tuesday morning that he reached the base hospital. In the interval he had been carried on a comrade's back for several kilometres, passed most of one night in a horse ambulance and another in a train. Though he had been dressed several times the shattered fracture of both bones of the leg and the wounds leading to them were very gravely infected, a red blush of cellulitis extending above the knee. I amputated through the knee-joint, pus welling freely from my incision, stitched the flaps loosely together, draining freely and the same day injected about 3 litres of oxygen gas well above the dressing in the upper part of the thigh. Like many other similar cases the wound is healing perfectly.

Malo-les-Bains. A. A. WARDEN, M.D.

A SERIES OF SEVEN THOUSAND ANTITYPHOID INOCULATIONS.

IN view of the attention which is being given to the question of antityphoid inoculation at the present time, both in the medical press and in a certain section of the lay press, the following notes of a series of cases may be of interest. In this communication it is intended to demonstrate not only the utility of the measure in the prevention of the disease, but also to point out how very trivial is the inconvenience caused, and how absolutely devoid of risk the operation is when ordinary precautions against sepsis are taken.

The observations are based on some 7,000 inoculations performed in an alien concentration camp in England where typhoid fever had already broken out, nine cases having occurred at intervals of a few days during the previous three weeks.

Although the sanitary conditions were good and the cases were isolated as they occurred, it was difficult to control with any degree of certainty the further spread of the disease, as prisoners were arriving daily from overseas—in many instances from areas already infected by typhoid. It was all the more striking, therefore, that not a single case of typhoid developed after the inoculations had been carried out.

The average number inoculated daily was about 400, those who had been in closest contact with the patients being done first. The vaccine employed was that prepared at St. Mary's Hospital, and the doses were 500 million and 1,000 million organisms at intervals of ten days. The site of inoculation was for the first injection the forearm and for the second the pectoral region. The usual technique was employed, the skin being painted with tincture of iodine and the needles sterilized either by boiling in water or by hot olive oil—a rapid and most satisfactory method. Inoculation was optional, but it is very satisfactory to note that over 85 per cent. submitted themselves to the first injection and over 60 per cent. had the second.

The reactions after the first injection consisted of a local redness and oedema for the first twenty-four hours, which rapidly subsided. There was no case of high fever and the general reaction was never more than a rise of 1° F. in temperature, with slight malaise. In no single instance was it necessary for the man to give up his ordinary camp duties and working parties carried on light work uninterruptedly. After the second inoculation there was practically no reaction, local or general.

Enteric fever has already broken out in France, and it is of vital importance that everything must be done to check its spread. The value of inoculation has been proved again and again. Is it not unfortunate, then, that the liberty of the press should be abused by the circulation of false reports calculated to influence our soldiers against inoculation, which may result in the loss of thousands of lives and the impairment of our military efficiency? It becomes the duty of every medical man to demonstrate the falsity of these reports, and to use his influence to counteract them.

I wish to thank the commandant of the camp for his permission to publish these notes.

D. GORDON CHEYNE, M.D., D.P.H., R.A.M.C.

A SUBSTITUTE FOR THE WASSERMANN REACTION.

IN the BRITISH MEDICAL JOURNAL for April 5th, 1913, I tried to show, as the result of some research work on surface tension, that syphilis can be treated satisfactorily by the subcutaneous injection of distilled water, and the cases then published have been corroborated by others equally interesting and important, and at the present time there are patients undergoing the treatment successfully at the Union Infirmary, Swansea.

Following up such a successful issue of a treatment arrived at on theoretical considerations, I decided to compare the response of healthy and syphilitic blood to various solutions, including one of ammonium chloride which has the unusual effect of raising the surface tension of distilled water.

In all these experiments it is important to have all the reagents pure and the glasses clean, for otherwise any impurity will negative the rise that ought to take place.

After using various strengths of the solution, I found that one of about 12 per cent. was the most satisfactory.

My method of procedure is as follows: I clean the lobule of the ear with petrol, prick it and draw off in a haemocytometer pipette a sufficiency of blood—that is, up to the 1 mark, and fill up the remainder with a 12 per cent. solution of pure ammonium chloride in distilled water. The blood and solution should be thoroughly mixed, and *at once* a drop should be placed on the slide and examined under the microscope forthwith. Delay in this case, as in all other things, is dangerous, for as soon as evaporation begins to take place the ammonium chloride tends to crystallize out, and the test is worthless.

Examined in this way the red corpuscles show a marked change, for in healthy blood the darker centre tends to contract into an irregular mass, whilst in syphilitic blood the darker centre seems to expand almost to the circumference. The effect is due to the different response to the altered surface tension caused by the presence of the ammonium chloride solution, and to the altered osmotic condition associated therewith.

Naturally there are gradations in the results from complete contraction to the point when doubt arises, and if in doubt use mercury, preferably in the colloidal form, combined with subcutaneous injections of distilled water.

My test takes, at the outside, three minutes, and can be done at a nominal cost by any medical man, whereas the Wassermann is a little more expensive, and outside the powers of the general practitioner.

Swansea. G. ARBOUR STEPHENS, M.D., B.S., B.Sc.Lond.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

THE LONDON HOSPITAL, E.

A CASE OF TUBERCULOUS ANEURYSM OF THE ABDOMINAL AORTA WITH RUPTURE INTO THE DUODENUM.

(By E. A. TOZER, M.B.Lond., M.R.C.S.Eng., L.R.C.P.Lond., late House-Physician to the London Hospital.)

A WELL-BUILT single man of 32, who had been a diver in the Royal Navy for eleven years, was admitted to hospital on September 12th, 1913, fourteen months after he had been invalided out of the service.

History.

Eighteen months before admission there had been a gradual onset of diffuse abdominal pain passing back to the loins. The pain, at first felt only at night, gradually increased in severity until the patient could get no rest by night or day. It was of a throbbing, gnawing character, made worse by recumbency, relieved by sitting up. He improved under medical treatment. Three months before admission there was a recurrence of all the symptoms. There was nothing noteworthy in the previous history or the family history. Venereal disease was denied.

Condition on Admission.

In the abdomen was a visible, expansile, pulsating tumour, about three inches long and two inches wide, situated just above and to the left of the umbilicus, in the course of the abdominal aorta. The pulse was 118 and regular. Both femoral arteries were thickened, and the impulse in them forcible. The radials were synchronous, and the stroke and tension moderate. There was marked pulsation at the sides of the neck. The apex beat of the heart was felt in the fifth space just external to the nipple line, and the impulse was forcible. The second sound was accentuated, especially over the aortic area.

There were no symptoms pointing to derangement of the digestive, respiratory, nervous, or urino-genital systems, and a routine physical examination of these systems showed nothing abnormal. The temperature was 98.8°. The Wassermann reaction, tested independently and on different dates by Dr. P. N. Panton and Dr. P. Fildes, was found to be negative on each occasion.

Laparotomy was performed by Mr. F. S. Kidd on September 16th, 1913. He found a large aneurysm of the abdominal aorta which involved the greater part of the vessel, so that any operative interference with it was not considered practicable.

The patient was subsequently transferred to a medical ward under the care of Dr. Percy Kidd. Rest in bed and the adoption of other medical measures soon considerably relieved the symptoms. The pain would disappear for days at a time, and when present was slight. The pulse decreased in frequency to an average of 88. The apex beat of the heart was in the nipple line. The appetite was good, and the patient felt quite comfortable in bed. On October 12th, 1913, whilst lying quietly in bed, he had sudden profuse haematemesis, followed by collapse and death two hours later.

Post-mortem Examination.

The body was well-nourished and developed. There was a wide-mouthed, saccular aneurysm, measuring 8 cm. by 4 cm., full of laminated clot, on the front of the abdominal aorta, below the orifice of the superior mesenteric artery. The neck of the sac extended above to within 2 cm. of the coeliac axis artery, and below to within 2 cm. of the bifurcation of the aorta. The aorta was extensively scarred and wrinkled in the neighbourhood of the coeliac axis artery, and there were succulent thickenings in the ascending arch of the aorta. The third stage of the duodenum contained a perforated ulcer 4 cm. long, and it was seen that the aortic aneurysm had ruptured at the site of this ulcer. A tongue of clot projected into the ulcer from the aorta.

Caseous tubercles measuring up to 2 cm. in diameter were found in a matted mass of lumbar glands. Smaller tubercles and a few calcareous nodules were found in the coeliac, pancreatic, and iliac glands. Caseous tubercles up to 3.5 cm. in diameter were found in the inguinal, mediastinal, axillary, supra-clavicular and cervical glands.

The lungs showed evidence of tuberculosis in a caseo-calcareous nodule in the apex of the right upper lobe, and a subpleural calcareous nodule at the hilum of the same lobe. Calcareous nodules were found in the right bronchial glands and in the gland at the bifurcation of the bronchi. A moderate degree of alveolar emphysema was present.

The heart showed hypertrophy of the left ventricle, and weighed 11 lb. 2 oz. There was a slight degree of atheroma at the base of the great vessels arising from the aortic arch.

The kidneys showed large areas of focal fibrosis in the interlobar portion of the cortex, and tuberculous endarteritic nodules. The stomach and intestine were filled with blood clot. The testicles showed simple atrophy; there was no fibrosis. Permission was not obtained for an examination of the head.

Microscopic Examination.

(*a*) *Lumbar Lymphatic Gland.*—Sections showed caseous tubercles. Sections stained by two methods for tubercle bacilli showed thin, rod-shaped, acid-fast bacilli with beading.

(*b*) *Abdominal Aorta (above the Aneurysm).*—Sections showed a tuberculous aortitis. The intima was greatly thickened, and mainly composed of collagenous fibres with some wavy fibres of elastic. The lamina was not quite intact. The media was markedly thinned and its elastic fragmented. There was a diffuse fibrosis replacing muscle and elastic, but no wedge-shaped scarring as is seen in syphilitic aortitis. The media was also slightly vascularized, and there was some infiltration by lymphocytes. The adventitia was somewhat thickened and fibrosed. A lymphatic gland in the neighbouring fatty tissues showed tubercles and caseation.

(*c*) *The Aneurysm.*—Sections through the edge showed a similar extreme degree of fibrous intimal thickening. The media was very thin, and also showed fibrous scarring. On following it down the side of the aneurysm, the media was found to be entirely destroyed and replaced by the dense, laminated, fibrous tissue which formed the wall of the aneurysm. At a point proximal to the total destruction of media there was a vascular area with lymphocytic infiltration. On the intimal side of this, projecting into the thrombus, was a nodule of tuberculous granulation tissue containing giant cells. The dense fibrous tissue forming the wall of the aneurysmal sac blended with the adventitial fatty and fibrous tissues. Another section cut from the anterior wall of the aneurysm showed some fibrin clot which was invaded by a granulation tissue containing Langhans's giant cells. This bunch of granulation tissue was seen to be breaking through the remnant of the fibrous wall of the aneurysm. A few shreds of elastic in this fibrous wall indicated the position of the media. In the surrounding fibrous tissues there were large areas of caseation and tuberculous granulation tissue.

(*d*) *Kidney.*—Sections showed tuberculous arteritis with periarterial caseation.

This is the first case of aneurysm of the aorta due to tuberculous changes that has been discovered at the Pathological Institute of the London Hospital.

The *post-mortem* examination and subsequent pathological examinations were carried out by Dr. G. B. Bartlett, the Assistant Director of the Institute.

I wish to express my indebtedness and thanks to those who undertook the various clinical and pathological investigations in this case, to Dr. Percy Kidd for permission to publish it, and to Dr. H. M. Turnbull, the Director of the Pathological Institute, for allowing me access to the pathological report.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

Pathological Section.

A MEETING was held in the laboratory of St. Bartholomew's Hospital on December 1st. Dr. LAZARUS-BARLOW read a paper and gave a demonstration touching on his recent work as to the *Effects of radium rays on different kinds of epithelium*, when used in different quantities for varying periods, the total dose, however, always being kept constant. There was a marked difference in activity of the squamous and columnar epithelial cells when submitted to the same dosage. He said radium activity could distinguish better between the various tissue cells than could the ordinary histological methods of examination.

Mr. MACKENZIE WALLIS demonstrated the use of the *Polarimetric method in the detection and estimation of the protective ferments in the blood*. The method of preparation of the various tissue peptones was given. The value of this method as an aid to diagnosis was illustrated by reference to investigation upon the serum of pregnant women in cases of eclampsia and of chorion-epithelioma. The technique of isolating the active principle of the test was described; the results tended to show that such observations were of value not only in simplifying the test but also with reference to improvements of the dialyzation method. The addition of a specially prepared barium sulphate suspension was found sufficient to isolate the active principles, and the actual polarization readings were increased tenfold.

Dr. ANDREWES brought forward a case of *Thyroid metastases in the humerus* of a woman, which histologically differed from other cases recorded in that the histological picture resembled that of exophthalmic goitre and did not contain any colloid. He also showed a case of a growth which he held to be a *True myeloma* which had grown on the periosteum of a humerus at the site of an oblique fracture, which antedated the tumour by some years. This he thought could be explained on the view that at the time of injury some marrow cells had got displaced beneath the periosteum and then took on an independent growth.

Professor S. G. SHATTOCK and Dr. L. S. DUDGEON read a paper entitled, *Wound inoculation in carcinoma, with experiments upon the action of local cytocides as a means of dealing with it*. After referring briefly to the heredity, the infectiousness, and contagiousness of carcinoma, they dealt with autoinoculation and wound infection, and concluded with a detailed account of a series of experiments made upon mice with the object of ascertaining what substances might be of practical use in killing cancer cells accidentally implanted upon the face of a surgical wound. Autoinoculation was an example of autoplastic grafting. There was no evidence that carcinoma ever arose from the transference of cells from one individual to another; that was to say, the disease was not isoplastically engraftable. The transference of the disease to the human subject from the lower animals (heteroplastic grafting) was something of which even the possibility might be ignored. The first record of autoinoculation was that by John Hunter, the specimen illustrating which was in the museum of the Royal College of Surgeons. The patient was a woman, who had a tumour at the verge of the vagina, which, when seen, was about the size of an egg. To quote from the Hunterian MS.:

> But by this time it had contaminated the parts that had been continually in contact with it, which was the back end of the right labium, both externally and internally; with the inside of the left labium, and the angle uniting the two, . . . as the surfaces seemed evidently to have become diseased in consequence of being in contact with the others . . .

The growth was a squamous-celled carcinoma. It was in this position, indeed, that the occurrence of autoinoculation by contact had been most frequently observed. The cells might, however, be transferred to a more distant spot on a free surface, and there reproduce the disease, either on the cutaneous and more often a mucous surface. Transference in the course of the oesophagus, or from the kidney to some lower part of the genito-urinary tract, could be illustrated from clinical and pathological observation. Distant infection of the peritoneum in gastric carcinoma had been fully described and explained by Virchow (*Krankhaften Geschwülste*, lect. iii). The bilateral infection of the ovaries in similar cases, now a well recognized event, might be connected with certain peculiarities in these organs. The surface of the ovary was covered with germinal epithelium. Whether this played a selective and a biologically adjuvant part was worth consideration and experiment; but, setting this aside, the normal rupture of the Graafian follicle exposed the interior in a peculiar way to the access of free carcinoma cells that may happen to lie on the exterior. In plexiform sarcoma (the so-called malignant endothelioma) of the pleura, the complete involvement of both the parietal and pulmonary surfaces was probably largely due to autoinoculation facilitated by the incessant movements of respiration. Nor was the part possibly taken by the stomata of the serous membrane in intercepting such detached cells to be lost sight of, and the fact that the stomata themselves opened into subjacent lymphatic vessels, by the permeation of which further extension would be facilitated. The duplication or triplication of carcinoma of the large intestine received, perhaps, its best explanation as being a result of autoinoculation. The well-known observation of L. Hermann had shown that in normal circumstances shed epithelium constituted an integral part of the intestinal contents. The authors had found that the contents of the normal vermiform appendix not infrequently consisted of a long cylinder of white friable material, which the microscope showed to consist solely of shed columnar epithelium. If the free surface of an ordinary columnar-celled carcinoma of the colon were gently rubbed in the recent state with a cover glass, the smear would be found to contain plaques of well-conditioned carcinoma cells detached by this simple process. It could hardly be doubted that from such a surface during life a shedding of epithelial cells and their displacement by the passage of the firmer intestinal contents was something in constant progress. Had the possibilities for evil which all this implied been realized, not only as a potential cause of distant autoinoculation, but as an explanation of some cases of local recurrence after excision of carcinomatous tumours of the colon? It was a significant fact that whilst duplication of carcinoma of the large intestine (caecum and pelvic colon) was not so very uncommon, no instance was known in which carcinoma of the stomach had been accompanied with one of the colon. The reason might be that any viable cells detached from a gastric carcinoma, supposing that they escaped digestion in the stomach, would not escape tryptic digestion in the small intestine, whilst in the large gut the digestive process was at an end. The grosser forms of cell infection in surgical operations were now unknown amongst surgeons of the higher rank—cases, for instance, of stitch cancer. But in lateral pharyngectomy for carcinoma, when the diseased structures were reached through the side of the neck, and had to be delivered through the wound, the risk of inoculation was not easily avoided. In the removal of carcinomatous organs, again, when the disease had perforated their capsule, the same risk arose. Nor could one fail to perceive that the area around any carcinoma of a mucous membrane, seeing that it might be contaminated with shed and scattered cells, should be sterilized before excision as much against cells as against bacteria, and that the free surface of the neoplasm should be treated in the same way, with the object of preventing the possible implantation of living cells on to the faces of the surgical wound. The authors, before detailing their experiments made with solutions to test their cytocidal powers, referred to their investigations carried out in order to ascertain (1) whether

any antagonism subsisted between tuberculosis and carcinoma; (2) whether a selective anticarcinomatous cytolysin could be raised by the (heterologous) grafting of mouse cancer into the rabbit; and (3) whether the hypertrophied liver of mice suffering from grafted mouse cancer was cytocidal for mouse cancer. In regard to the last, it had been observed at the Imperial Cancer Reseach that in carcinomatous mice the liver underwent hypertrophy. The authors mixed the minced liver with an equal bulk of carcinoma pulp, and after incubation at 37° C. for twenty minutes the material was injected subcutaneously into a series of mice. The result was negative; that was to say, the growth of the grafted material was not inhibited; and it confirmed Dr. Bashford's conclusion to the effect that as the hepatic overgrowth was proportionate to the size of the tumour, and was not inversely to its retrogression, the hypertrophy could not be concerned in hindering growth but promoted it. The attempt of the authors to raise a cytocidal serum was made by the weekly intraperitoneal insertion into the rabbit, of mouse carcinomata (twenty in all); the rabbit was then bled periodically from the ear, and the blood serum used upon mice in which grafted carcinoma had commenced to grow; focal necrosis of the liver occurred in several, but in those which survived no curative effect ensued, and if any necrosis was induced in the tumour it was not of practical avail in stopping its growth. The view that an antagonism existed between tuberculosis and malignant disease originated with Rokitansky. Their concurrence was not common. The two diseases might be present simultaneously in different organs, or they might coexist in the same, either in different positions, or intermingled at the same spot. The authors had experimentally tested the supposed antagonism, upon mice, but with a negative result. Living tubercle bacilli (of human source) were mixed with the mouse carcinoma pulp, the mixture being then inserted subcutaneously; no hindrance resulted to the growth of the tumours. This experiment was repeated upon another series of mice, and the insertion followed by the subcutaneous injection of Koch's old tuberculin, but no check to the growth of the tumours took place. Concluding with inorganic cytocides, the method of experiment adopted by the authors was to submit the tumour pulp to the action of the solution to be tested—usually for five minutes—to pipette off the fluid, and, after washing the pulp, to inject it subcutaneously into a series of mice. If no tumours grew, the solution was proved to be an efficient cytocide. The following proved to be inefficient:

Distilled water, colloid mercury, colloid selenium, hydrogen peroxide, radium emanation (freshly prepared emanation from the Radium Institute, allowed to act 15 minutes), taurocholate of soda in distilled water (highly lytic for red corpuscles).

The solutions which proved quite efficient were:

Sulphate of zinc, 1 in 240 (2 grains to the ounce); liquor hydrargyri perchloridi, 1 in 500 or 1 in 600 (1 in 1,000 was ineffective); aqueous solution of iodine 2 per cent. or 1 per cent.

Such coagulants as alcohol and carbolic acid would, of course, be cytocides as efficient as mercury perchloride.

Section of Ophthalmology.

At a meeting on December 2nd Sir Anderson Critchett showed a patient with *Small optical iridectomies in a case of lamellar cataract.* He described the operation, which was initiated by his father fifty years ago, and narrated cases so treated in which the result was very permanent. Mr. W. H. Jessop spoke favourably of the procedure, which he had himself carried out with great success, in adults as well as in children. In one case, operated upon twenty-two years ago, the result was as good to-day as at the time. Dr. Angus MacGillivray (Dundee) said he had done the operation described several times. The results by removal of the lens were not so satisfactory in lamellar as in other forms of cataract. Mr. Leslie Paton showed a case which he regarded as *Mikulicz's disease*, and gave his reasons for the view. Colonel R. H. Elliot referred to a case of the disease which he published in *The Ophthalmoscope*, that of a Hindu woman, aged 49. Removal of the lacrymal glands not only improved the appearance, but was followed by subsidence of the other glands. The tissues removed presented a close resemblance to the appearance of round-celled sarcomata. Mr. Robinson exhibited a case of *Iridocyclitis*, and Mr. Eason one of *Bilateral temporal hemianopsia*, to illustrate the importance of taking the fields of vision in every case of optic atrophy. The patient became so blind that he had to be led about. His fields had not then been tested. He could make out moving objects and lights on the nasal side only. The onset of blindness within six months was unlike the history of the optic atrophy of tabes, and Mr. Eason thought he might have pituitary tumour. Within a month of taking thyroid there was remarkable improvement of vision. He still took the extract, for if he went long without it he noticed a relapse. The sella turcica was somewhat enlarged. Mr. Harold B. Grimsdale, in opening a debate on the *Necessity for an exact definition of blindness*, stated that the importance of defining, if possible, the condition of blindness had long exercised the minds of those concerned in the teaching and maintenance of the blind. On the recently appointed Committee on the subject, he was the sole representative of ophthalmic surgery; he had, therefore, invited this section of the Royal Society of Medicine to try and arrive at something like unanimity on the question. Many members of the profession whom he had asked found it impossible to define the status of a blind child otherwise than was done in the Act of 1893—namely, that for educational purposes a child was considered blind who was too blind to read the ordinary school books. Yet all children who did not come into this definition were not fit for the ordinary school—for instance, subjects of high myopia. It was desirable to have some rule for evaluation as a guide in each case. For certain employments a greater acuity was needed than for others. Those having no perception of light were but a small proportion of those ranked among the blind, while among children the proportion was still smaller. The blind persons in the United Kingdom numbered about 27,000, according to the census, but these figures could not be accurate. The ratio of the totally blind to the economically blind was about 1 to 9. The causes of economic blindness in children differed considerably from those in the adult. In the former, the chief trouble was loss of central acuity from corneal conditions; while in adults disease of the optic nerve, with contraction of the visual field, operated chiefly. There was a tendency to make the standard of vision too high, and thus throw a large number of children into the "blind" class. Once labelled "blind" a child was liable to be drafted into a blind workshop. The co-education of the blind and the seeing was one of the most interesting experiments which had been conducted; the blind child was first started in a special school until he had mastered the elements of Braille writing and reading; then he took his place among sighted children in the universal school, and often competed successfully with normal children. Between the "blind" school and the normal school there should be a third school for children who had such visual defect that they could not be taught by the aid of the blackboard. His suggestion was that a distant acuity of $\frac{6}{60}$ should be taken as the highest limit of vision for a blind school child. Those whose vision was better than $\frac{6}{24}$, unless otherwise recommended by a medical man, he would send to an ordinary school. All special schools should be inspected at least once a year, and the vision of each child tested and recorded. After dealing with the question in relation to various trades, Mr. Grimsdale, in conclusion, suggested the appointment of a subcommittee to deal with the question in all its bearings. Mr. Rockcliffe said that during thirty years he had examined and admitted into a blind school large numbers, and his decisions had not been questioned. He divided cases into (*a*) blind, (*b*) partially blind. The latter were those who were able to differentiate fingers at a greater distance than 3 ft. There should be a clear distinction drawn between capacity for ordinary school education and for technical education. A good broad distinction was those who could count fingers at 3 ft. and those who could not. Dr. Angus McGillivray said that for industrial purposes so-called blind people could be divided into three classes: (1) Totally blind, those who had no perception of light; (2) practically blind, those possessing perception of light, but unable to take part in industrial occupations owing to marked impairment of vision; (3) the partially

blind, whose defect prevented them obtaining employment in ordinary sighted workshops, their vision yet being such as to disqualify them from entrance to a blind institution. Thirty per cent. of the inmates of blind institutions belonged to the category "partially blind." Mr. BISHOP HARMAN contended that there was only one exact definition of blindness, the dictionary one—"want of sight." But the term was used to include many varieties of partial blindness, and for those that definition was sought. Vision was a complex act; acuity, field, mobility, mentality, and effects of difference of lighting, habit, and custom, all took a share in the sensation. It was not possible by any sufficiently simple definition to gather up possible varieties any one of which might constitute partial blindness of serious order. Any attempt to pass a definition of blindness drawn in professional terms, to operate through the Legislature, was doomed to failure, and was liable to be altered out of recognition. He advocated a certification of blindness by two independent and duly approved medical men, who should be required to state their opinion, and the facts upon which that opinion was based; such opinion being subject to the scrutiny of the medical officer of the proper authority. Mr. RICHARDSON CROSS held that if a child's sight was such that it could not attend the ordinary school, some other arrangement for its education must be made. There were blind schools for those nearly blind, and intermediary schools for myopes. Anything brought forward to deal with the infirmity in adults would not influence the good work being done for the children. He thought the registrar would accept two classes. One would embrace those who had no more than perception of light; the other either Snellen's types, or finger-counting, the latter for preference. Any one who could not count fingers at a greater distance than a yard should be regarded as practically blind. Mr. HOLMES SPICER contended that the persons to decide this question should be expert ophthalmologists, not lay members of a county council. The PRESIDENT pointed out how well qualified this section was for giving expert advice on such a matter, which was of the first importance. Miss ROSA FORD showed a case in which *an eyelash pierced the lid border backwards*. Mr. HOLMES SPICER showed a case with *Angioid streaks*.

The PRESIDENT made sympathetic reference to the death on the battlefield of Mr. Angus Macnab, an active member of the Section, and proposed a resolution of sympathy with his family, which was passed.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on December 4th, Mr. BISHOP HARMAN read a paper on the *Cure of squint*, confining his attention to fixed squints in children. He said that in a school of 1,000 children no less than eighteen were squinters, and that girls were nearly twice as much affected as boys. In 1,400 children seen at a children's clinic on account of poor vision 199 were squinters; the incidence in these cases was from 100 in the years 4 and 5, to 5 in the 14th year. Of these 199 cases 166 were fixed convergent squints, 16 alternating convergent, 8 divergent; the rest were associated with disease of the eyes. He proceeded to trace the evolution of the binocular vision, and the profound effect it had had on the form of man; he maintained that the upright position and "his fair large front" were directly associated with the evolution of vision. The effect on the brain was similar, for the area of visual cortex was incomparably greater in the hunting animals than in the hunted, and greatest of all in man. The balance of the eyes was maintained by the fusion faculty of the brain; if that were poor then squint would ensue even though the eyes were good. Defects of the eyes were adjuvant factors. In not a few cases there was a strongly hereditary tendency to squint. Treatment could be put into three grades:—(1) Balancing the vision of the eyes: First there must be correction of any error of refraction by retinoscopy, next exercise of the vision of the squinting eye. (2) The awakening of the fusion faculty: This had been first attempted by Erasmus Darwin in 1778, and modern practice was of the utmost value in ascertaining the power of the brain to resume control under favourable condition. (3) Operation: The *rationale* of this step lay in the fact that squint of any duration was associated with changes in the tendons, and that these acted as insuperable obstacles to the resumption of brain control. In convergent squint the internus tendon was shortened and thickened, the externus thinned and lengthened. If a true cure was to be effected—that is, the restoration of binocular vision—then, if stages (1) and (2) of the treatment failed to effect a speedy cure, operation should be done before time had stereotyped the vicious effects of the squint. If that time had passed, then they were no more than beauty doctors intent on removing an ugly cast. The advocate of early and regular operation must be prepared to present an operative procedure which was both expeditious and reliable. And in this connexion he showed photographs of the steps of his combined operation for lengthening the contracted tendon and shortening the stretched tendon. He maintained that effects could only be secure when both the affected tendons were adjusted; indeed, it was the only method whereby the full mobility of the eye could be secured without subsequent deformity. His operation for shortening a tendon—"Subconjunctival reefing and advancement"—was performed as follows:

The tendon is not cut or exposed to view. The upper and lower edges are cleared by two button-holes cut through the conjunctiva and capsule. The tendon is freshened by a rasp. Special forceps of simple design are then passed into the button-holes to secure the tendon. The movement of the forceps folds the tendon. The reef is sewn up or advanced, as the case indicates, and then the antagonist is lengthened by a graduated partial tenotomy.

The steps of the reefing advancement are as follows: (1) The eye is secured with an anchor stitch placed at the limbus in the axis of the tendon to be shortened; (2) the position of the tendon is noted, it is pointed out that there are well-defined surface markings and colour differences; (3) the button-holes are cut above and below the tendon close to the canthus; (4) the tendon is lifted and both surfaces rasped with the instrument provided; (5) reefing forceps are applied, adjusted to the extent of the shortening required, and rotated; (6) the reef is sewn up by a double over-and-over stitch; and (7) the reef is advanced by fixing the stitches into the limbus.

Then the antagonist was lengthened by the "jigsaw" operation. The tendon is exposed, secured in "director forceps," which checked bleeding and gave a guide to the incisions. Three cuts were made athwart the tendon, the middle extending two-thirds from one edge, the lateral each one half across from the other edge. The tendon thereon extends lengthwise without loosing its attachments or alignment.

The author showed how the cuts could be varied to secure vertical deviation also. Results: Of the first 100 serial cases, including the early experimental operations, the results obtained after the average interval of nine months were binocular vision 4, straight 36, error less than 3 degrees 22, less than 5 degrees 23 (these make 85 per cent. successes), error 10 degrees (since corrected) 9, over that 4, relapsed six months after operation 1, during severe keratitis 1, and over-correction found six months after operation 1. He had now almost completed the second hundred cases, and the percentages of successes were still higher. One of the advantages of this combined operation was the power for nice regulation of effects. This was of the utmost importance when operation had to be done early to save binocular vision, for at an early age a general anaesthetic was commonly needed, and the operator was entirely dependent on his own judgement and technique.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

AT a meeting on November 20th, the President, Dr. J. A. LINDSAY, read an address on the *Threshold of disease*, which was published in the JOURNAL of December 5th (p. 955). After some remarks by the Chairman (Dr. WALTER SMITH) Dr. O'CARROLL said he was not at all sure, when all was said and done, that the early diagnosis of disease had not as many disadvantages as advantages. He thought there might be much to be said for keeping going on as long as possible and try to be guided by nature rather than getting every ill diagnosticated. As to pulmonary tuberculosis, he did not think one should wait until physical signs in the lungs were found before suspecting phthisis and treating the case as such. Dr. DRURY

suggested that in children with rheumatism the diagnosis of the condition of the heart was not the greatest difficulty, but rather to diagnosticate the rheumatism. Dr. MOORHEAD said a distinction should be drawn between the early diagnosis of phthisis on which one would start treatment and the early diagnosis from which statistics might be compiled with fairness. Dr. PARSONS mentioned cases of gastric cancer where there was progressive gain in weight by the patients. The autopsy in one such patient who died of a ruptured heart showed quite extensive cancer of the stomach. Dr. CRAIG also spoke, and Dr. LINDSAY replied.

SECTION OF SURGERY.

AT a meeting on November 13th, the President, Mr. F. CONWAY DWYER, President of the Royal College of Surgeons in Ireland, read an address on *The treatment of perforating gastric and duodenal ulcers*. For many years he had given up the use of lavage, which he believed to be responsible for many untoward results. He removed the septic fluid with large swabs, and relied on pelvic drains for getting rid of any fluid left behind. Although formerly he was of opinion that gastro-enterostomy should be done, if the patient's condition permitted it, in the cases to be detailed he had performed that operation only in one case, and then only because the perforation was so large and the edges so friable that when the rent was sewn up he feared the lumen of the bowel was too much narrowed. Details were given of 12 cases which had been under his care during the past fourteen months. Eight made a complete recovery, 3 did not survive operation more than a few days, and 1 died a fortnight after operation from pneumonia. Mr. H. STOKES showed a case of *Regeneration of ruptured sciatic nerve*. The case was one of arthritis of the hip-joint accompanied by intense pain. Operation was performed for excision of the hip-joint, in the course of which the sciatic nerve was accidentally ruptured. The suturing of the nerve was done about three weeks after the excision. Two and a half years had elapsed since the operation, and the case was shown to demonstrate the amount of regeneration that had taken place. The small loss of sensation now present in the case was most remarkable. Mr. W. C. STEVENSON showed cases treated by *Radium emanation needles*: (1) A case of malignant polypus removed by Mr. Graham about the end of May, 1914. The whole of the anterior wall of the antrum was afterwards removed for recurrence, but the tumour began to grow again. The patient came under Mr. Stevenson's care at the end of June with a large gland on one side and a smaller one on the other, accompanied by considerable proptosis of the eye. He inserted six needles into the gland, and two or three days afterwards six more needles were put in, and left in for about twenty-four hours. When the needles had been inserted four times the tumour showed considerable diminution. A recurrence of the swelling having taken place six weeks after the first application, further needles were applied, and the patient showed the effects of the radiation. He had put on a considerable amount of weight. Although he had to take hypnotics regularly before the treatment, since the radiation was started he was able to do without them. (2) Case not yet treated. Opinion was invited whether it was suitable for surgical interference. He intended to bring the patient forward again after treatment. (3) A case pronounced by Professor McWeeney to be epithelioma of the palate. The ulcer now seen was only about half of its original size. Mr. A. BLAYNEY read a paper on *Intestinal stasis*, discussion on which was postponed.

HARVEIAN SOCIETY OF LONDON.

AT a meeting on November 26th, Dr. H. CRICHTON MILLER opened a discussion on *Drug habit and its treatment by modern methods*. He said the treatment consisted of two stages: (1) The withdrawal of the drug, which could be carried out largely on group lines; (2) the "cure proper," or a reconstruction of the patient's whole mental and nervous dispositions on natural lines. The latter could only follow strictly individual indications. Having spoken of the causes and of the procedures employed in the withdrawal of drugs, he discussed the "cure proper." This was closely related to the etiology. He spoke of the parts played by psycho-analysis and hypnotic suggestion in this part of the treatment. Dr. J. F. WOODS recounted his experiences of the treatment of 25 cases of drug habit. Mr. CAMPBELL WILLIAMS, Dr. R. H. COLE, Mr. ERNEST CLARK, Dr. W. H. WILLCOX, and Dr. J. A. DAVIDSON also took part in the discussion.

Reviews.

PREVENTION OF DENTAL CARIES.

IN the second edition of PICKERILL's *Prevention of Dental Caries and Oral Sepsis*[1] a considerable amount of new material will be found. Of this the part dealing with the anatomy and physiology of mastication is of most interest, since the author concludes that the use of tough food leads to narrowing of the jaws. The note on thyroid insufficiency and dental caries, though, as the author admits, too inconclusive to allow of deductions being drawn from it, yet shows the fallacy of concluding that the sound condition of the teeth was necessarily the result of administration of thyroid extract.

In a new chapter on alimentary secretions considered as a whole, the author claims to show that "what is best for the mouth is best for the remainder of the alimentary tract," "and, further, that from the point of view of initiating and maintaining normal alimentary secretions and peristalsis, the mouth is the most important part of the whole canal." He quotes experiments by Pawlow, Starling, and others, using the "miniature stomach" and pancreatic fistulae, showing that foods which stimulate or fail to stimulate salivary secretions have a similar effect on gastric or pancreatic secretions. He claims that gastric, pancreatic, and biliary secretions, just as salivary secretion, depend to a very large extent on the sensitiveness of a reflex arc of which the glosso-pharyngeal part is common to all. He has experimented on dogs with a miniature stomach and an oesophageal fistula, and finds the digestive power of gastric juice about doubled when the food introduced into the miniature stomach has first been masticated by the dog and passed through the oesophageal fistula—that is, when the glosso-pharyngeal reflex is excited. Rabbits fed on boiled food neutralized with Na_2CO_3 gave remarkable results. Young animals died within six months and only developed to a quarter or a half of the weight of controls. Starch and calcium were excreted in excess in the faeces. The salivary glands were under-developed and polyneuritis supervened. In this connexion he points to the habitual use of alkalis for indigestion, as tooth-powders and in "artificialized foods and drinks." Furring of the tongue he ascribes to viscid saliva following excessive use of alcohol, tobacco, sugar, and salivary depressants such as tea, bread and butter, and alkalis. He holds, further, that the endotoxins of the stagnant material produce a definite effect on the sympathetic system, a stimulation which explains the cold extremities, the pale grey complexion, the headache, the constipation, the anorexia, and the furred tongue of oral sepsis and alimentary toxaemia. There is a vicious circle, beginning with diminished oral stimulation, running through oral and intestinal sepsis, and joining up again at the salivary glands in a further diminished secretion due to action on them of the sympathetic system irritated by toxins. The remedy is a more liberal use of weak organic acids. The author's enthusiasm, perhaps, carries him too far, but he presents an interesting case for his views, and the appeal for clean-tasting food is timely.

In discussing saliva, the action of ptyalin as a cleanser of the mouth in contradistinction to its supposed use as a digester of starch is strongly urged. There was no more undigested starch in the faeces of a rabbit whose salivary glands had been excised than in those of a normal control. The use of ptyalin is to convert insoluble starch granules into sugar, which is washed away, thereby preventing stagnation and sepsis.

The author has given up the view that adenoids are produced by a contracted jaw, and now thinks they are part of a vicious circle. The vicious circle includes a contracted mandible, which Grevers has shown by

[1] *The Prevention of Dental Caries and Oral Sepsis*. By H. P. Pickerill, M.D., Ch.B., M.D.S.Birm., L.D.S.Eng. Second edition. London: Baillière, Tindall, and Cox. 1914. (Demy 8vo, pp. 386; 74 figures. 12s. 6d. net.)

numerous measurements is not the case. The author also overlooks the fact that adenoids are a post-nasal and not an intra-nasal condition.

Throughout the book the author's original thesis—the value of weak acids in the prevention of dental caries and oral sepsis—is ably supported, but the claim which has been adduced by others—that stickiness of the food is a more important factor than absence of acidity and sapidity, and is quickly capable of swamping these factors when present—is overlooked.

The whole book makes interesting, often fascinating, reading, and those who possess the first edition will not regret the outlay on the second.

SIR ALMROTH WRIGHT ON PNEUMONIA.

SIR ALMROTH WRIGHT has republished in a book, entitled, *Pharmaco-therapy and Preventive Inoculation applied to Pneumonia, etc.*,[2] the report on his own and his collaborators' researches, directed to the discovery of means to check the ravages of pneumonia among the native labourers employed in the Rand mines, which originally appeared in the *Lancet*. The report is not confined to a bare recital of the investigations in South Africa, since out of 124 pages 26 are devoted to a discussion of the logical methods appropriate to the study of therapeutic problems, and 6 contain a full bibliography of the author's scientific publications. These additions certainly do not detract from the interest of the book.

The general result of Sir Almroth's experience is to suggest that prophylactic inoculations of pneumococcus vaccines are of distinct value. Twenty-four to thirty-six hours' cultures upon glucose blood broth, killed by exposure to a temperature of 55° to 56° C., to which ½ per cent. carbolic was subsequently added, are recommended. A dose of 1,000 million pneumococci, to be repeated after the expiration of four months, is the routine procedure suggested. The *pièces justificatives* of this conclusion are a series of statistical returns derived from mass experiments, in which large numbers of inoculated and uninoculated natives are contrasted. The differences of both incidence and mortality rates between the two groups are considerable in the first two months after inoculation, but subsequently tend to disappear. Sir Almroth justly remarks that the re-establishment of equality does not necessarily mean that, after two or three months, the effect of inoculation has passed away; weeding out of susceptibles, self-immunization, and other factors may have come into operation. The interpretation of these statistics is, however, necessarily difficult, and the reader who desires to form a judgement on the whole problem might do well to supplement his study of Sir Almroth's book with a perusal of Dr. G. D. Maynard's recent report, in which the inoculation returns are examined from a different point of view. We reviewed Dr. Maynard's work in a recent issue (May 30th, p. 1189).

Sir Almroth's discussion of the general principles of immunization on pp. 52–59 is of special interest, and his reasons for insisting upon the view that it is not so much the quantum of vaccine incorporated as the quantum of antigen set free from it in the organism of the patient which is of importance, deserve careful study.

We shall not attempt to criticize Sir Almroth's discussion of scientific methods, which includes a vigorous onslaught upon the statisticians, and evoked at the time of its original publication an equally vigorous reply (Greenwood, *Lancet*, January 18th, 1913). It is hardly necessary to add that the work is composed in the lucid and picturesque style which always characterizes Sir Almroth Wright's publications.

OCCUPATIONAL DISEASES.

To Dr. W. GILMAN THOMPSON[3] belongs the honour of having written the first book on occupational diseases in the United States of America. It is a distinction of which he may well be proud, especially as the work has been well done. The book will serve a useful end. Dealing with the history of occupational diseases in his own country, he points out the backwardness of legislation and how this might be improved. Considering the industrial wealth and the commercial progress of the States, it is astonishing how little America has done in this matter. But the task has been begun, so that within the next few years, having profited by the experience of other countries, she is sure to outstrip them in industrial legislation. It would be advantageous if some classification of occupational diseases could be agreed upon, and also if there could be uniformity in the various States as to penalties imposed for breaking laws. Under the heading of General Pathology and Etiology such subjects are dealt with as tuberculosis and occupation, cancer and occupation, and the influence of sex, age, and exercise. Dr. Gilman Thompson presses, and properly, for the notification of diseases due to occupation.

A review of the book would be incomplete if it failed to take notice of the prevention of these diseases, since it is well known that the author has given considerable attention to prophylaxis. In prophylaxis and industrial hygiene, the kind of work followed, the physique and the home of the workman and his factory environment have all to be considered. The ventilation of factories, for example, is frequently difficult owing to the necessity of excluding outside dust in the manufacture of certain textiles. While, therefore, pleading for the open window, Dr. Thompson maintains that this is not enough to remove toxic gases and fumes. The opening of side and roof windows is always desirable, but the use of electric fans and vertical flues in the walls is necessary also. Too much attention, he thinks, has been paid to the amounts of CO_2 in the air of factories and to hygrometry. Within limits neither of these is a complete test of the fitness of the air for breathing. A chapter is devoted to the hygiene of the workman; details are given as to what he should eat, how he should dress, and the amount of sleep he requires. Rules are given for the cooking of his food. The insertion of these rules, while hardly called for, can do no harm.

Much occupational disease would undoubtedly be prevented if workmen were medically examined before undertaking work. This question was raised some time ago by our own Workmen's Compensation and Insurance Acts, but nothing came of it. No doubt it is difficult to adapt legislation intelligently to the varying needs of rapidly growing industrial enterprises. In some instances it might be well to leave the duty of carrying out of details to factory inspectors; but inspectors vary—they have not all had the same training, nor have they the same experience and method of interpreting the requirements of law. In the United States, as in Great Britain, industrial legislation must be ever changing and ever extended to meet new inventions and new processes of manufacture.

The chapters devoted to toxic metals and their compounds are exhaustive, and cover the ground well. British and other European authorities are freely laid under contribution. The ground covered by the book is extensive. In consequence there is a lack of fullness in the way in which some of the subjects are dealt with, nevertheless in *The Occupational Diseases* Dr. Gilman Thompson has given to the medical profession a book which many will find useful and interesting reading.

NOTES ON BOOKS.

WAR is naturally the dominant note of the Christmas number of *Truth*. The principal literary feature is the Williad, a "potted epic." Jupiter, fearing that the Kaiser's vaulting ambition would lead him to attack Olympus, calls a council of the gods, who decide to defend themselves by a practical application of the maxim *Quem Deus perdere vult prius dementat*. Accordingly we are shown Wilhelm of Hohenzollern in the various phases of his madness, as the Super-Statesman, the Super-Amateur, the Super-Bagman, the Super-Hausfrau, the Super-Evangelist, the Super-Nelson, and the Super-Napoleon. Finally he visits Hades where the finger of scorn is pointed at him by Frederick the Great, Blücher, Moltke, Bismarck, and representatives of the true German culture which he has disgraced, and as the involuntary peace-maker among

[2] *On Pharmaco-Therapy and Preventive Inoculation applied to Pneumonia in the African Native. With a Discourse on the Logical Methods which Ought to be Employed in the Evaluation of Therapeutic Agents.* By Sir Almroth E. Wright, M.D., F.R.S. London: Constable and Co. 1914. (Demy 8vo, pp. 133. 4s. 6d. net.)

[3] *The Occupational Diseases: their Causation, Symptoms, Treatment, and Prevention.* By W. Gilman Thompson, M.D. New York and London: D. Appleton and Co. 1914. (Roy. 8vo, pp. 750; 118 figures. 25s. net.)

the nations. The Williad is illustrated by full-page drawings by Mr. Stanger Pritchard, who also contributes a large coloured cartoon showing the horrors of war. Another coloured cartoon by Mr. Roland Hill ("Rip") shows the two Kaisers arraigned in a police court before a bench of neutral sovereigns with the President of the United States in the chair. The whole number is excellent alike in conception and in execution.

The *Medical Directory* for 1915[1] is the seventy-first annual issue of this useful publication. A numerical summary of the medical profession in the British Isles shows a total of 36,656 names. This is an increase of 528 as compared with the number in 1914. The names are arranged in seven sections—London, the Provinces, Wales, Scotland, Ireland, and the Naval, Army and Indian Services. A list of practitioners holding British qualifications resident in other parts of Europe and in North Africa has taken the place of the old section of practitioners resident abroad. This is a saving of space, but we think it will cause a considerable amount of inconvenience. We regard the omission of British practitioners in the Overseas Dominions as particularly unfortunate. There is a separate list of dental practitioners. Mr. W. Oliver Hodges, barrister-at-law, contributes an abstract of the principal laws affecting the medical profession. There are lists of sanatoriums, convalescent institutions, and private asylums which are likely to be useful to the public as well as to the profession. A short account of the principal British and some of the Continental spas and climatic health resorts is given by Mr. Norman Hay Forbes, F.R.C.S.Edin., F.R.S.Edin.

MOTOR AMBULANCE DEVELOPMENTS.

By H. MASSAC BUIST.

THE work of educating the public to some appreciation of the problem of establishing motor ambulance services proceeds apace. It is beginning gradually to be realized, for example, that it is useless subscribing to individual efforts. The collective ambulance organizations officially recognized are receiving a generous response to their appeals for funds, so that there is manifest a tendency to diminish waste of effort. Nevertheless, much remains to be done in this direction, particularly as the old trouble of multiplicity of types of chassis is as pronounced as ever.

NEED FOR STANDARDIZING MOTOR AMBULANCE CHASSIS TYPES.

The fact is, we are learning the business only by degrees and through cumulative experience. To begin with, we had to improvise a motley variety of vehicles. We have now got to the stage when there is at least some attempt to produce ambulance bodies on more or less recognized lines. Now that we have secured large numbers of chassis, however, and that the motor industry has had time to settle down to the new demands created by the war in place of those existing before August, it is time we attacked another basic problem. None of the chassis used for motor ambulances produced in Britain to date have been designed or built for that particular work. We have instead taken one chassis after another of the widest possible variety of types, no one of which was ever designed in the original instance for motor ambulance work. By far the majority of the chassis have been made for pleasure car service. There is little or no similarity between the coachwork accommodation necessary for a motor carriage body and for an ambulance body. This is the prime cause of the difficulty of overhang. Every example that comes to hand, no matter from what company, whether it be an English or a Scottish built vehicle, reveals this same fault; instance the vehicles presented by the King and Queen to the Indian Expeditionary Force. These have the cantilever type of spring, with the driver's seat about midway between the front axle and the mid-length of the rear cantilever springs where those members are attached to the frame of the vehicle. The result is that nearly two-thirds of the ambulance bodywork where the patients are accommodated projects behind the rearmost point at which the cantilever spring is attached to the chassis frame.

ACCOMMODATION OF THE DRIVER.

Unless we are to consider that the prime object in producing motor ambulances is to give an opportunity to motor-car manufacturers to work off chassis which they may have on stock, or to continue making patterns of pleasure-car chassis rather than go to the charges of devising mechanism specially suitable for motor ambulance work, there is, in the light of experience to date, no excuse any longer to continue to accept vehicles schemed on ordinary pleasure or even commercial car lines. In every type of motor ambulance yet produced the driver's seat invariably occupies space that ought to be used for the accommodation of patients. The construction of all the varieties of pleasure-car chassis being employed is such that this is unavoidable, by reason more particularly of the steering column and connexions and of the control levers and pedals.

Yet in the story of the motor car to date we have had experience of something that suggests a line on which chassis might be schemed. I refer to the placing of the driver over the engine, in the manner seen in a large variety of French and German motor omnibuses, and as schemed in the original Wolseley motor omnibus, with the result that for that particular class of service the great advantage of proportionately shorter wheelbase in relation to the number of passengers accommodated was achieved and the great objection of overhang was avoided. If memory serves me right the Austin Company, making a smaller class of chassis intended for private cab work some years ago, also employed this idea of saving space.

Yet earlier in the story of the motor industry we have had examples of putting the engine further back, sometimes midway between the axles. But this has never become commercially practicable, nor does it seem to me to be desirable for motor ambulance chassis, as it would cause heat and undue vibration beneath the patients.

WHY NOT OVER THE MOTOR?

The motor ambulance is a vehicle that is not required to progress at the fast speeds ordinarily needed for touring carriages. There is therefore no inherent objection to placing the driver above the engine, particularly in these days when, if a reasonable price is paid for the vehicle, it can be made so reliable and designed in so accessible a fashion that the engine and kindred details can be got at quite well for such attention as they need.

Therefore in face of the urgent necessity for us to do something to produce a type of chassis that shall really be primarily designed for motor ambulance work, serious consideration must be given to the problem of where the driver is to be accommodated. On all types of motor ambulance produced to date, the driver is in the wrong position for the purpose to be served by the vehicle. The expenditure of money subscribed in future by the public should be controlled on such lines that the motor industry should not be permitted to work off stock chassis. The first and only consideration is the benefit of the wounded. As Lord Kitchener has pointed out, men who have been to the front are very much more valuable to the nation than those who have no experience of war, therefore every additional man whose life is saved and who is restored to health during the campaign is doubly precious to the nation in this time of crisis.

DIFFERENCE BETWEEN PEACE AND WAR CONDITIONS.

Moreover, let us not overlook the fact that a type of motor ambulance which might be most suitable for the average conditions of service obtaining in peace is quite a different sort of vehicle from the one needed in war. In peace, the motor ambulance is called on to deal with cases, as it were, retail; whereas in war it has to deal with them wholesale; in peace the motor ambulance is kept and worked under the most favourable circumstances possible; in war it is neither properly housed nor used under ideal conditions for the mechanism. Therefore the ambulance for war service has to be a vastly sturdier and more powerful vehicle, for it carries greater loads over rougher roads, and every detail of the mechanism must be far more hardy. Indeed, the premium on reliability is incomparably greater for war service than for peace use, because in campaigning the facilities do not obtain for attending to a hundred and one minor details on the stitch in time principle. The car must be hardy, yet it is particularly essential that the machine should embody exceptional degrees of refinement so as to reduce vibration and jarring to the minimum, since this is so essential to the saving of life and suffering.

[1] London: J. and A. Churchill. (15s. net.)

These circumstances practically dictate that the speed of the motor ambulance for active service should be slower than that of the average touring car. We do not want to hurtle the wounded over the roads, bumping and jarring them about, despite the fact that the saving of time between the receipt of an injury and its treatment at the base hospital is one of the prime uses of the motor ambulance. There is to be observed an intelligent compromise between the question of killing your patient in your haste to transport him to a place where he can be treated, and taking a little longer about the business, but depositing him at the destination in a condition in which a serious drain has not been made on his vital forces. Consequently, the most important problem before those concerned with motor ambulance work to-day is that of evolving a special type of chassis.

Problem of Maintenance in the Field.

On the grounds of economy and efficiency there is every reason for following this policy as regards ambulances to be manufactured for future use. At present the wastage and failures in service due to the extraordinarily wide variety of chassis employed represents a margin of at least 50 per cent. that could be avoided by some official action such as that the Government should approve of one special type of motor ambulance chassis designed for that work, and quite unsuitable for touring car or any other use, and issuing that to all manufacturers who are to receive any future orders for motor ambulance vehicles. As various sizes of car may be needed, the scheme of the vehicle might be made in three sizes; though for my part I think two should be the greatest number necessary. This would mean that, no matter from which factory the individual vehicle hailed, and no matter how many had to be sent out to replace losses at the front, the problems of maintenance and of replacing parts damaged in service, and so forth, would be simplified to the extremest possible extent, because it would not matter who the maker of the individual ambulance, any given part needed made by any other maker to the same specification would fit perfectly well as a replacement.

As it is, individual donors of motor cars are only doing half the good that could really be achieved by their generosity, because each will choose the type of chassis for which he has an individual preference when considering the problem of his own private motor car, as instance the numerous six-cylinder chassis that are being offered for work of this sort. While the engine is in its present place and the driver as ordinarily accommodated, there is no gain, but actual loss in using the six-cylinder chassis, because at least half, and usually something like three-fifths, of the frame length of the vehicle is occupied by engine and driver, only the remainder being available for the accommodation of ambulance body work. The engine must occupy the briefest possible over-all length in the chassis frame, and the driver should be accommodated somewhere or other, preferably above the engine, where he will not be using up any part of the frame of the car between the two axles, all which space it is absolutely essential should be placed exclusively at the disposal of the patients.

How to Utilize the Situation.

The longer the campaign progresses the greater the number of motor ambulances we shall need. No mistake could be more absolute than to imagine that we have anything like sufficient vehicles yet. Therefore there is no reason why it should be assumed that we shall have to go through this war with the type of chassis that have been available up to the present. On the contrary, the fact that ever since the outbreak of war some makers have actually been producing types of pleasure car chassis solely for motor ambulance work because they have not enough in stock shows how unenterprising it is to neglect the opportunity thus presented for causing the motor industry to produce a type of vehicle absolutely suitable for ambulance work.

How are we to go about the business? Obviously, the designing staffs of nearly all motor manufacturers are quite capable of evolving very ingenious fresh chassis schemes for the particular purpose in view; but we should only have solved one part of the problem if we allowed each to exploit the special type of motor ambulance chassis he might evolve. Yet to put a check on the use of the wide variety of inventive talent thus available, and, instead, to select some single firm, or even some quite independent designer, for the work would be to miss a hundred and one little practical details, and therefore to produce for the nation's need a chassis inferior to one that might be evolved were there some competition about the business and all the available brains engaged on it.

Employ all our Inventive Talent.

It seems to me that the really practical way to set to work would be for the British Red Cross Society and the St. John Ambulance to agree, in the light of experience in the war to date, as to the power necessary for two classes of ambulance chassis which should be sufficient for the needs. The price at which such chassis should be available, with the understanding that the individual manufacturer would be asked to tender for a minimum of fifty or a hundred machines over a given period, should be indicated by way of assisting the designing department, that they may be able to estimate what materials and degrees of refinement they could embody for the money. All the faults of chassis in service to date should be collected and issued in summary fashion that designers might further learn, not from the experience of an individual vehicle, but from that of all employed, exactly the details of ordinary chassis in use that have failed in service to date.

Individual manufacturers desirous of making motor ambulances should thereupon be required to produce designs within a period of, say, a month, for the designing departments are not over busy at the moment. The results should be collected and selected. There should then be available an enormous amount of excellent material, and the practical motor engineers of two or three firms should be instructed to embody all the best points in a sort of composite design.

In face of the nature of the work there cannot be a firm in the motor industry of the country that would be so wantonly unpatriotic, as well as unenterprising, as to refuse the services in a consultative capacity of its designers towards so grand a thing for the good of the nation, particularly as there would be a business end to the matter also. When the composite chassis had been schemed, orders should be distributed for them among the manufacturers who had competed and whose work is known to be of a suitable sort.

Problem of Quantity Production.

It may be said that there would be difficulty in placing fifty or a hundred orders with individual firms. But this would not happen if the public were properly educated through the medium of official communications to the general press, pointing out that our present methods are wasteful, and unsatisfactory, and that there is an urgent need for designing special ambulance chassis to accommodate motor ambulance bodies. We must produce special vehicles to standard designs for purposes of future war, and in face of the probable duration of the present war it would be lamentable lack of enterprise on our part to continue merely muddling through as we have perforce had to do to date, but as we need not to an appreciable extent hereafter.

Admittedly even the crudest motor ambulance is a vast advance on the old horse-hauled wagons, which a wounded officer of the North Lancashire Regiment has described from personal suffering as "the wickedest anachronism of all our British war gear—slow, cumbersome, springless, creaking, jolting, with no accommodation in comparison with their size and unwieldiness. They wallow and bump along, an everlasting monument to the inhumanity of their designer." Later in the morning on which his case was being dealt with, there came along "a fleet of motor ambulances, quick, well sprung, and holding twice as many as the old horse wagons. They soon shifted a lot of cases to the railhead."

The point to have in mind, however, is not that any motor ambulance perchance represents a degree of advance, great or little, on the horse-drawn variety, but that such motor ambulances as we have and are at present employing are merely makeshift examples, and in no way comparable with the excellent vehicles which the motor industry of the day has the ability and the resources to

produce, provided the national organizations concerned with the work co-operate on lines which will give the proper direction to the motor industry in general.

Let us have in mind that motor ambulances are needed not only for the British forces, but also for the French and for the Russian, and that the demand for these classes of vehicles must increase to an extraordinary extent, as instance the fact that, starting the campaign with an army of about 186,000 men, the British forces to be in the field by next summer will be increased by anything up to 1,000,000 men. Hence the urgency for ceasing the policy of drift and makeshift, and for substituting one of co-ordination and logical direction in face of the lessons of the war to date.

The Ambulance Construction Commission.

Mr. Henry S. Wellcome, founder of the Bureau of Scientific Research bearing his name, has intimated that the bureau will provide a sum of £2,000 to be distributed in the form of prizes for the best plans and designs of motor ambulances. The functions of the Ambulance Construction Commission, which is being appointed on behalf of the bureau, will be to collect, judge, and report upon such plans, designs, and ideas as may be submitted to it. It is to be of an international character, so that it may obtain information from all sources, even, if it sees fit, from Germany and Austria. The competition will close within six months. This Commission is empowered to arrange for the publication of such designs and particulars as it may approve, or which it may consider meritorious. Apart from the prizes for it, there will be no payments made for plans, designs, inventions and ideas submitted to the Commission. All these are to become public property, so that, when considered advisable, they can be utilized in the cause of humanity. The Commission met last week to discuss such questions as that the design should be for one type of ambulance only; that the specifications submitted by Lieutenant-Colonel James should be accepted, with such alterations as may be necessary; that the last day for the receipt of designs should be June 30th, 1915; that the competition should be open to all nations; and that a subcommittee should be appointed to draw up for the information of competitors a pamphlet embodying the views of the Commission, including the specification of the ambulance required, together with the substance of results already accepted, and to make the necessary arrangements for securing publicity.

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Continued from p. 978.

Germany.

In 1863 Dunant went to Berlin to press his scheme on the attention of the members of the Fifth International Congress of Statistics, which met in that city in September of that year. The fourth section of the Congress was composed of medical officers of the army, who, among other things, discussed the comparative statistics of health and mortality in the civil and military population. Dunant asked for the neutralization of the medical services, a matter which the Geneva Committee had not then considered. His propositions were adopted by the fourth section, and Drs. Boeger and Loeffler, physicians to the King and Queen of Prussia, were charged by these sovereigns with messages of congratulation to Dunant. At its final general meeting the Congress expressed its gratitude to Dunant, and passed a sympathetic resolution. The Crown Prince Frederick, afterwards Emperor, had a long interview with him, and afterwards, at the instance of Queen Augusta, Dunant was presented by Dr. Boeger to General von Roon, Minister for War. The Minister received him with the words, "Ah, ah, you wish, then, to make all our doctors neutral!" As Dunant insisted on the importance of the neutralization of the wounded, the General replied, "We will come to that later." After some minutes of reflection he added, "Of course the neutrality of the doctors and voluntary helpers entails that of the wounded." The cause was won. Von Roon became an enthusiastic supporter of Dunant's scheme, and expressed his approval of a uniform and international flag. Prince Karl of Prussia, brother of the King, promised the co-operation of the Order of St. John of Jerusalem, of which he was Grand Master. It was he who sent Prince Henry XIII of Reuss to represent that powerful hospital association at the Geneva Conference. Count Otto von Stolberg-Wernigerode, later Prince and President of the German Red Cross Societies, who died in 1896, fostered the beginning and promoted the progress of the work in Germany.

From Berlin Dunant went to Dresden, where Baron von Weber and General von Engel procured for him an interview with the King of Saxony. Dunant's account of this interview so well illustrates the combination, simplicity, and steadfastness of purpose characteristic of him that we cannot forbear quoting it:

> Baron von Weber hastened to inform me at the Hôtel de France, where I was staying, that everything was arranged for the audience which was fixed for the following morning, Thursday, October 2nd, 1863, at half-past ten precisely. I went to the Royal Palace. On getting out of the carriage an official of the Palace, who was waiting for me before the entrance gate, took me to a kindly old chamberlain, M. de Gersdorf. The latter, with a quite paternal benevolence, took me by the hand and conducted me across a part of the Castle. We came at last to a little room, very plainly furnished. Before retiring M. Gersdorf said to me, "The King will come in by this door which is in front of you. You will bow three times and wait for him to address you." I followed exactly the instructions of the Chamberlain, conforming to the ceremonial required by etiquette, when His Majesty appeared. With great kindness the King, speaking in French, asked me as to the purpose of my visit. "What can I do for you?" said he. I laid my request before him; then I ended with much earnestness by saying, "Sire, I should be profoundly grateful if Your Majesty deigned to accept the patronage of this work in your states, and if you would be good enough to send a delegate to the conference which will open at Geneva on the 26th of this month." I added that as the result of an interview with the Minister of War at Berlin, I hoped that at that conference the proposal of a general agreement intended to make the wounded soldiers and all those who look after them sacred, would be considered. The King began to smile on seeing my animation, but with an air so kind that I was not intimidated. "I will willingly grant my patronage to so excellent a work," he replied. "But as for sending a delegate, for that I must consult my Chambers." I at once replied with the same respectful animation, "Sire, for a work which is wholly for the sake of humanity, Your Majesty is sure that the Chambers will ratify whatever it may please the King to ordain." The King again smiled. Then, after some questions relative to the project of neutralization, he ended the audience with these precious words: "I will do all I can, for certainly a nation that should not take part in this work of humanity would stand disgraced before the bar of public opinion of Europe."[1]

Dunant that evening wrote to the correspondents he had in most of the capitals of Europe, and soon the various rulers were made acquainted with the result of his interview with King John of Saxony. "Thus," he says, "the cause which I pleaded was won." He attributes the success of his endeavours to get Governments to send delegates to the conference especially to the declaration of the King, none of them wishing to be disgraced before public opinion.

The organization of the German Red Cross Society is described by Professor Antony, of the Val-de-Grâce,[2] and more fully by Surgeon-General W. G. Macpherson.[3] On these articles the following account is based. The German Red Cross Society had in 1905 700,000 members distributed among a hundred local societies, and possessed funds to the total amount of £800,000. There are other bodies, such as the religious orders of the Knights of Malta, St. John, and St. George, intended for rendering voluntary service to the sick and wounded. These bodies are recognized for the purpose because it is understood that they already devote themselves in peace and within the German Empire to the care of the sick and wounded. Under exceptional circumstances permission may be given to others to take part in voluntary aid. Application for such permission has to be made through a high official known as the Imperial Commissioner and Military Inspector of Voluntary Aid, and in the event of approval by the War Office, the society or individuals

[1] *Les Origines de la Croix-Rouge.* Par Ch. F. Haje et J. M. Simon. Stuttgart: Imprimerie de A. Lindkeimer; Amsterdam: Academische Boekhandel, Delsman and Nolthenius. 1905, p. 22 et seq.

[2] *Archives de médecine et de pharmacie militaires*, t. 46, 1905, p. 253 et seq.

[3] *Journal of the Royal Army Medical Corps*, vol. i, July-December, 1903, p. 160 et seq.

concerned are attached to one of the recognized Red Cross territorial societies or to one of the orders of knighthood. Voluntary aid from foreign countries may be accepted under the same conditions, but its sphere of action is confined to the home territory. Finally, it is laid down that voluntary aid will not be permitted to form any independent unit, and its co-operation with the official units is permitted only in so far as it can be dovetailed into the official organization and placed under official control. Otherwise, the regulations state, it will not further but only hamper the administration of the services in aid of the sick and wounded. It must, therefore, submit itself unconditionally to the orders of the military authority and individual representatives of that authority.

In supplementing the regular Army Medical Service, voluntary aid is confined to (*a*) the nursing of sick and wounded; (*b*) the transport of sick and wounded; (*c*) dépôt duties—that is, in stores. This supplementary help must be given in the rear of the fighting force, either in the home territory or on the lines of communication. The employment of voluntary aid in the first line will be permitted only in special emergencies, and with the approval of the Commander-in-Chief. In such emergencies the voluntary aid personnel must be attached to a bearer company or field hospital placed under its commanding officer. It will be seen from this that the organization in the German Red Cross Societies is very elaborate, and that it is in every detail strictly subordinate to the military authorities.

The following is the scheme of work which the regulations lay down as forming the general duties of Voluntary Aid Societies:

(1) The organization of male and female nurses and cooks for duty in military reserve hospitals on the lines of communication and stationary field hospitals. A proportion of the male nurses must be trained as stretcher bearers. (2) Similar organizations of male and female nurses for duty in connexion with the conveyance of sick and wounded from the lines of communication to the reserve hospitals, and also of stretcher bearers in the same sphere. (3) Appointments of individuals trained in merchants' or forwarding agents' offices for the management of voluntary aid dépôts. (4) Collecting and forwarding gifts. (5) Supplementing the military reserve hospitals, either by taking over special branches of hospital management, such as the dieting, laundry work, etc., or by supplying certain portions of equipment such as beds, linen, clothing, kitchen and messing utensils, etc., or by the establishment of special Red Cross Society hospitals; or, finally, by the reception of convalescents into private nursing homes. (6) Supplying information to the relatives regarding the sick and wounded in hospitals, and sharing generally in the duties of the official Central Information Bureau. (7) The establishment of dressing and rest stations at those places along the line of railway where no special provision is made by the regular service. This can only be done with the concurrence of the military director of railways, the committee for sick transport, and the officer commanding the lines of communication. (8) The preparation and equipment of hospital trains out of the Society's own funds, and under its own management and direction. This, however, will only be permitted when the military authorities consider it necessary.

The Prussian voluntary societies rendered great services to the army in the Schleswig-Holstein campaign and in the war with Austria. Under the active direction of Queen Augusta they devoted the years before the Franco-Prussian war to the completion of their organization and the development of their efficiency. In 1870–71 they gave aid to thousands of wounded. Since that time their activity has continued. Besides accumulating large funds and creating great dépôts of sanitary material, they have trained thousands of nurses, sisters, bearers and "samaritans." They supply personnel to work the hospitals, dressing stations, and buffets along the lines of communication, and they place at the disposal of the army numerous transport detachments for the wounded. There are more than 700 of these detachments. Every year, in order to complete their instruction, the detachments of a whole region are gathered together for combined manœuvres. For the purpose of giving practical instruction to the sisters and nurses, the societies also maintain small hospitals, convalescent homes and sanatoriums, and furnish voluntary male Red Cross nurses to the accident stations in the large towns and important factories. The societies of voluntary aid in time of war are an integral part of the medical service, and are under the orders of its chiefs. At their head is an officer with the title of "Imperial Commissioner and Military Inspector of Voluntary Aid." This officer is in constant touch with the Minister for War and the chief medical officer of the army. He sees that their orders are carried out, and transmits the instruction to the delegates and subdelegates at various stations.

In principle their action is limited to the rear of the army and to the home territory. Exceptionally and with the sanction of the General in peace, the societies are allowed to send their transport columns to the front in order to carry away the wounded, and to aid some hospitals with their own material. In such circumstances voluntary detachments are placed under the commanders of medical services and their personnel is subject to the exigencies of military discipline. The chief function of the societies is to form and supply the personnel necessary to the working of the services of evacuation, and to organize numerous war hospitals, dressing stations, and so forth; they receive and distribute voluntary gifts and supply information to the families of the sick and wounded. At home, they assist in the sanitary service of fortresses and auxiliary hospitals.

The Voluntary Aid Associations commence their war duties on reception of the order to mobilize. The Imperial Commissioner proceeds at once on a communication from the War Office to the head quarters of the Commander-in-Chief in the field, in order to undertake the direction of the voluntary aid service with the army. The Territorial delegates get ready as quickly as possible lists showing the personnel and material that is ready for immediate use, along with a statement of the number of persons ready to proceed (1) for duty on the lines of communication with the field army; (2) for general duty with the home garrison; and (3) for duty only in the places where their homes are. The lists are sent to the Imperial Commissioner. The Territorial delegates commence courses of instruction and exercises for the personnel already trained during peace, as well as for those offering their services for the first time. The voluntary aid companies for hospital duties and for duty with sick convoys are equipped and got ready first, and the voluntary gifts and hospital material intended for the army in the field are prepared for dispatch.

According to a table published in the *Journal of the Royal Army Medical Corps* (vol. xi, July-December, 1908, p. 375) the total membership of the German Red Cross Territorial societies was at that time 388,002 persons (94,780 men and 293,222 women). Their funds amounted to £462,350, whilst their revenue was nearly £50,000. There were 53 civilian doctors for the field army, and 460 for an army of occupation. Under the head of "Trained nurses available" were the following: Female helpers 933, voluntary nurses 2,515, of whom 865 were for the field army and 1,650 for the army of occupation; professional male nurses 852, Volunteer Nursing Association 6,988, male nurses 1,255 for field army and 1,092 for army of occupation. There were also 144 unskilled helpers in the Samaritan Society. Under the head of "Field medical units" there is the following: Hospitals to accommodate 11,951; 53 can provide commissariat, etc., of reserve Government hospitals, but 83 only with assistance; 815 sanitary transport columns; 577 rest stations; 518 branches have arranged with families to take in sick and wounded. The total provision is for about 40,000 sick and wounded.

The societies possessed material for three hospital ships and two barges. It had also 147 carriages for hospital trains and 5 for light railways. Besides the Red Cross societies there was the National Society of German Women with 85 parish nursing stations, 69 hospitals, 15 of which were used for the training of Red Cross sisters. In regard to the Knights of St. John and the Teutonic Knights, no statistics were available; but these ancient orders take a practical interest in ambulance work in Germany and Austria.

(To be continued.)

CAPTAIN FRANK FORREST, killed in action on September 13th, left unsettled estate valued at £1,032.

AT a meeting of the Dermatological Section of the Royal Society of Medicine held on November 19th, Dr. Winkelried Williams showed a case of leprosy treated with benefit by a vaccine prepared from the patient's own lesions. Dr. Little had seen improvement take place in a patient treated in a similar manner at St. Mary's Hospital.

THE CHEMICAL CONSTITUTION OF CERTAIN PROPRIETARY DRUGS.

(*Continued from p. 979.*)

THE contraction *B.P.* with date is used for the *British Pharmacopoeia*, and *B.P.C.* is used for the *British Pharmaceutical Codex*, 1911.

Camphosan.

This is a name applied to the neutral sanatol ester of camphoric acid or sanatol camphorate. The trade name Camphosan indicates the product of J. D. Riedel A.G., Berlin-Britz, Germany.

Chinosol.

A name given to potassium oxyquinoline sulphonate. It is put forward as an antiseptic and deodorant. The trade name Chinosol indicates the product of Franz Fritsche and Co., Hamburg.

Chinotropine.

A name applied to hexamethylenetetramine quinate. The substance is stated to be of use in the treatment of gout and bacilluria. The trade name Chinotropine indicates the product of E. Schering, Berlin.

Chloralose.

This is a name given to anhydro-glucochloral, which occurs in the *B.P.C.* as Glucochloral. The trade name Chloralose indicates the product of E. Merck, Darmstadt, Germany.

Collargol.

A name given to colloidal silver or soluble silver, which is also known as Argentum Crédé. Collargol is said to contain 85.87 per cent. of silver and a small percentage of albumin, with products of its oxidation. The trade name Collargol indicates the product of Chem. Fabrik von Heyden, Radebeul, near Dresden.

Coryfin.

Defined as the ethylglycollic ester of menthol or menthyl ethylglycollate, and put forward as a succedaneum for menthol in nervous headache, coryza, hoarseness, and pharyngeal irritation. The trade name Coryfin indicates the product of Farbenfabriken vorm Fr. Bayer, Elberfeld, Germany.

Creosal.

Described as a combination of creosote and tannin, sometimes called Tannosal. The trade name Creosal indicates the product of E. Feigel, Mülhausen, Germany.

Creosotal.

This is a name applied to creosote carbonate, which is described in the *B.P.C.* under the latter name. The trade name Creosotal indicates the product of Farbenfabriken vorm Fried. Bayer, Elberfeld, Germany.

Cystopurin.

This is a name adopted for hexamethylenetetramine and sodium acetate. The trade name Cystopurin indicates the product of J. A. von Wülfing, Berlin, S.W.

Dermatol.

A name applied to bismuth subgallate or oxygallate. The trade name Dermatol indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main, Germany.

Diaspirin.

A name given to the succinic acid ester of salicylic acid. It is put forward as an antirheumatic, analgesic, and antipyretic, and is stated to be more strongly diaphoretic than aspirin. The trade name Diaspirin indicates the product of Farbenfabriken vorm Fried. Bayer, Elberfeld, Germany.

Diplosal.

This is a name applied to the salicylic acid ester of salicylic acid, put forward as a substitute for salicylic acid and claimed to be free from untoward effects. The trade name Diplosal indicates the product of Boehringer and Söhne, Mannheim-on-Rhine.

Diuretin.

This is a name applied to theobromine sodio-salicylate, which is official in the *B.P.*, 1914, under the name theobromine and sodium salicylate; it is also described in the *B.P.C.* The trade name Diuretin indicates the product of Knoll and Co., Ludwigshafen-on-Rhine.

Dormiol.

A name given to amylene-chloral or dimethyl-ethyl-carbinol-chloral. It is put forward as a hypnotic. The trade name Dormiol indicates the product of Kalle and Co., Biebrich, Germany.

Duotal.

This is a name applied to guaiacol carbonate, which substance is official under the latter name in the *B.P.*, 1914, and is also described in the *B.P.C.* The trade name Duotal indicates the product of Farbenfabriken vorm Fried. Bayer, Elberfeld, Germany.

Ektogan.

Zinc peroxide is described in the *Codex*, and it is there stated that it is also known under the trade names Ektogan, Dermogen, and Zinc Perhydrol. The trade names Ektogan and Dermogen indicate the products of Kirchhoff and Neirath, Berlin; Zinc Perhydrol that of E. Merck, Darmstadt.

Elarson.

This is a name applied to chlorarsenobehenolate of strontium. It is said to contain 13 per cent. of arsenic and 6 per cent. of chlorine. The trade name Elarson indicates the product of Farbenfabriken vorm Fried. Bayer, Elberfeld, Germany.

Emanosal.

A name given to tablets for the preparation of radio-active, emanation-giving baths, put forward for the treatment of rheumatism, gout and neuralgia. The trade name Emanosal indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main.

Epicarin.

A name applied to beta-oxynaphthyl-ortho-oxy-meta-toluylic acid. It is described as a condensation product of naphthol with cresylic acid, and is put forward as a parasiticide in 5 to 20 per cent. ointment or alcoholic solution. The trade name Epicarin indicates the product of Farbenfabriken vorm. Fried. Bayer, Elberfeld, Germany.

Epinine.

This is a name given to dihydroxyphenylethylmethylamine. Its action is said to be similar to that of adrenalin. The trade name Epinine indicates the product of Burroughs Wellcome and Co.

Estoral.

Described as boric acid menthol ester, or menthyl borate, obtained by the action of boron trichloride on menthol. It is offered for the treatment of nasal catarrh, and a 50 per cent. lactose trituration of it is supplied under the name Estorin. The trade names Estoral and Estorin indicate the products of Zimmer and Co., Frankfort-on-Main, Germany.

Eucodin.

A name applied to codein methylbromide. It is offered as a less toxic succedaneum for codeine. The trade name Eucodin indicates the product of J. D. Riedel A.G., Berlin-Britz, Germany.

Eunatrol.

Described as sodium oleate, and put forward as a cholagogue. The trade name Eunatrol indicates the product of Zimmer and Co., Frankfort-on-Main, Germany.

(To be continued.)

A BILL is now before the United States Senate providing for the creation of a special division of Mental-Hygiene in the Public Health Service. It is said by the *Boston Medical and Surgical Journal* that there is good prospect of its being passed by Congress in the course of the present session, which ends on March 4th, 1915. The duties of the proposed division of Mental Hygiene will be the study and investigation of mental disorders, their causes and prevention. It is believed by the promoters of the bill that with the help of such a division the Government would be enabled to deal more efficiently than it can at present with problems of psychiatry and mental hygiene that may arise in the daily work of the various departments of State, and would also be enabled to do more for the improvement of the treatment of the insane and mentally defective, and for the prevention of mental diseases.

British Medical Journal.

SATURDAY, DECEMBER 12TH, 1914.

THE PROGRESS OF A PEACEFUL CAMPAIGN.

THE concentration of national energy against a visible and tangible foe has for a time overshadowed the steadily progressive campaign against our insidious and elusive enemy the tubercle bacillus, but the provision of means for combating tuberculosis in the various counties proceeds apace. With each succeeding year the medical officers have been able to present reports of work done, or of schemes in progress, which give a comparatively correct impression of the magnitude of the task.

The results achieved vary considerably. Death-rate statistics of pulmonary tuberculosis prove a steady, but not very marked, decline in the mortality per 1,000 in rural districts, but this is not always to be noted in the urban districts and boroughs, although numbers vary considerably from year to year. This is well shown in the report for 1913 presented by Dr. T. Eustace Hill to the Durham County Council.[1] In that county a comprehensive scheme has been formulated for dealing with tuberculous persons, both insured and uninsured. It includes a sanatorium with 240 beds for early cases; hospital accommodation with 160 beds for educational purposes and isolation in various parts of the county; tuberculosis dispensaries, fully equipped for diagnosis and treatment; provision for home visitation and the spread of knowledge by means of lectures and demonstrations. All preventive measures are carried out by co-operation of the local sanitary authorities with the County Insurance Committee. In addition to these, a somewhat new feature has been introduced to deal with cases of surgical tuberculosis in the various hospitals. Many of these cases call for operative interference, and almost all of them for prolonged care. A uniform fee of 3 guineas, payable to the medical officers, and inclusive of a general anaesthetic, has been fixed for all such operations, while a charge of 30s. a week has been established to cover all expenses of maintenance. We understand that the financial arrangement between the Insurance Committee for the County of Durham and the County Council is that the former has entered into a contract with the latter, under which the County Council undertakes responsibility for the treatment of tuberculosis under the Insurance Act. The Insurance Committee has agreed to pay 8d. for each insured person per annum to the County Council, *plus* any unexpended money (that is, from the remaining penny) which may remain over at the end of the year. The sum derivable from this source will probably be quite insufficient to pay for the full scheme, but the County Council considers that with money from the other sources it will probably be able to carry the matter through at a cost to the ratepayers of the county not exceeding £10,000 a year. The probable cost of treatment of surgical tuberculosis in hospitals (other than sanatoriums) is variously estimated at from £6,000 to £8,000 a year, but whatever the sum may be, the County Council accepts responsibility for payment both of the maintenance and surgical operation fees.

These arrangements, and especially the fixation of a uniform fee for operations, are worthy of note. The tendency on the part of the central authorities to utilize the charitable instincts of the medical officers of hospitals has been made very manifest in numerous reports and recommendations that have emanated from Whitehall and Spring Gardens and elsewhere. The services rendered gratuitously to charities supported by voluntary contributions cannot reasonably be expected so extend to State-supported institutions without remuneration, and the example thus set in the County Palatine of Durham may be commended to the authorities of other local areas in which the treatment of surgical tuberculosis has to be undertaken.

Another county report recently issued well illustrates the fact that the organization of a system to deal effectually with a large industrial and agricultural area calls for more than ordinary administrative acumen. Such an area is that of Lanark in Scotland, including as it does the vast industrial population about Glasgow and the mixed community inhabiting the country to the south-east of that city, familiar to all travellers approaching it by the London and North Western and Caledonian Railways. A voluminous report of the scheme that has been developed and of the results that have been obtained, down to the end of the year 1913, has recently been presented to the Local Government Board in Scotland by Dr. John T. Wilson, M.O.H., Administrative Officer of the Tuberculosis Staff.[2]

The aim of the whole scheme is to provide treatment for all forms and stages of the disease and for all classes of the community. For this purpose the area has been divided up into three wards, each fully staffed, with provision for sanatorium, hospital or home treatment, as may be required. Domiciliary visitation has been carried on extensively, and hence the system of tuberculosis dispensaries has only been slightly employed.

A vast amount of statistical information is made available, and a long series of cases is tabulated for detailed examination by any one who has leisure to analyse it. The value of early notification has not yet penetrated into the industrial or bucolic mind in Lanark, and hence a very large proportion of the cases seen come under notice too late. Public education upon this point must of necessity take a long time, but no efforts are spared to keep the subject in the public eye by means of meetings, lectures, and demonstrations. A comparison between the results of home and institutional treatment respectively shows a very marked preponderance in favour of the latter. The employment of tuberculin, usually of the bovine type, does not appear to have been attended by any brilliant results, and no definite criticisms are offered as to its utility in general.

Dr. Wilson's report as a whole, and the sections relating to individual institutions supplied by his fellow workers, is worthy of a prominent place in the series of publications supplied by medical officers of health in the leading counties. Each of these reports contains a vast amount of practical experience condensed in tabular form, but it would undoubtedly be more useful to the average reader if some uniform system could be adopted whereby comparison could be made between one sanitary area and another in different parts of the United Kingdom.

[1] Annual Report of the Medical Officer of Health, T. Eustace Hill, M.A., M.B., B.Sc., etc., to the Council of the County Palatine of Durham, and other records for the year 1913. (Sunderland, 1914.)

[2] County of Lanark. *Tuberculosis: Prevention, Detection, and Treatment.* Annual report by the Medical Staff. 1913.

PATHS OF INFECTION IN ANTERIOR POLIOMYELITIS.

It has been recognized for some years that the minute microbic virus of infantile paralysis, to give its common name to anterior or epidemic poliomyelitis, has a special affinity for nervous tissue. Experiments upon apes have shown that it readily reaches the central nervous system when it is brought into close relation with peripheral nerves—with the sciatic nerve, for example, or the nasal nerves derived from the olfactory lobes of the brain. Flexner and Amoss[1] have recently shown that the virus, when injected into the vitreous humour of the eye, can travel thence to the brain, producing characteristic paralyses in a few days, without apparent injury to the retinal structures.

Other experiments have brought out further interesting points. It has been found that the virus may survive for a considerable period in the interior of the body without producing an infection of the central nervous system; the spleen and bone marrow, but apparently not the kidney, may harbour it thus. Even large quantities of the virus often fail to produce infection of the nervous tissue when administered by intravenous injection; while small or even infinitesimal doses suffice to induce quite constant infection by the intranervous mode of inoculation. There are good reasons for believing that if the virus does make its way from the blood to the brain, it does so by means of the cerebro-spinal fluid: and it may be added that, while it is in this fluid, the virus may be neutralized by intraspinal injections of immune serum. The passage from the blood to the cerebro-spinal fluid takes place by way of the choroid plexus, in which a lymphatic invasion and a widespread infiltration around the vessels are caused by the virus in transit. And it has been proved that an aseptic inflammation of the choroid plexus, such as is caused by an intrathecal injection of horse serum, facilitates and ensures the passage of the poliomyelitic virus through it.

The authors conclude by pointing out that in the main, under natural conditions, it is the upper respiratory mucous membrane that would most often become contaminated with the poliomyelitic virus, and most readily favour its conveyance to the brain. This series of events is determined by the manner in which the virus is thrown off into the air by the patient; by the fact of its presence upon the nasal mucosa even in healthy persons who are in contact with cases of poliomyelitis; and, finally, by the demonstration that it passes, on the whole easily, along the olfactory fibres to the brain, medulla, and spinal cord. This may be regarded as the normal mode of infection in poliomyelitis. But since the virus may reach the brain by way of any nervous channel to which it may gain access, and even, although with great difficulty, from the blood, it is, of course, possible that in exceptional conditions other modes of infection may become effective.

[1] S. Flexner and H. L. Amoss, *Journ. Experim. Medicine*, New York, 1914, xx. 249.

NEW SCHEME OF MEDICAL CERTIFICATION OF INCAPACITY OF INSURED PERSONS FOR WORK.

THE Insurance Commissioners have issued this week a most important Memorandum, 211/I.C., in which the new scheme of uniform certification of insured persons is described. It will be remembered that the form of the certificates to be given to insured persons depends at the present time upon the rules of the various approved societies, and this gave rise to a multiplication of forms and a diversity of requirements that have led to much confusion, legitimate dissatisfaction on the part of the medical profession, and often to hardship to insured persons. The British Medical Association has steadily impressed upon the authorities the necessity for the adoption of some uniform system. As a consequence of the numerous complaints that were made by the approved societies as to the quality of the certification, and by the medical profession as to the anomalies in the present system, the Commissioners have been led to introduce this new system, which will, we believe, be welcomed by the medical profession as a great improvement. But the Memorandum is not merely the announcement of the introduction of a uniform certificate. It deals with many points in connexion with certification of great importance to the profession. We have, for example, a frank recognition by the Commissioners of the impossibility in a certain limited number of cases, of stating the whole truth upon certain certificates; the Memorandum sets out a plan of dealing with such cases, which, while recognizing the delicacy of the position of the medical profession, strives to conserve the interests of the approved societies. We can do no more at the present time than indicate thus briefly the extent and importance of the Memorandum, to which we propose to return at greater length next week. In the meantime, we urge all members of the profession engaged in Insurance Act work, to whom, we understand, it has been sent, to study the Memorandum closely, recognizing that, though it contains some sharp criticisms of the methods adopted by some doctors, it is in great part an attempt to meet grievances which have been put forward on behalf of the medical profession.

A MOTOR THEATRE AMBULANCE FOR THE FRONT.

IN his "Notes and Reflections from the Front," which appeared in the JOURNAL for November 28th, Sir William Collins urged the need of a "field theatre or surgery" as an adaptation of the motor ambulance, with a view to secure the earliest practicable disinfection of wounds with greater care and deliberation than are possible on the open field or in the trenches. This proposal has been in the air for some time, and it is to be hoped will not have to wait, as the motor ambulance did for many years, amid much hostile criticism and more apathetic neglect, before the advantages which it presents are realized and made practicable. Since attention was first called to the matter in the JOURNAL, we have received from the Paragon Thermo-Electric Vehicle Company plans and specifications of an "electric ambulance car," propelled, heated, and lit by auto-generated electricity, which it is claimed can be fitted up as an operating theatre with *x*-ray apparatus ready for use just behind the fighting line. We have also been favoured with copies of *Cooper's Vehicle Journal*, recent issues of which have contained designs of improved motor ambulances for Red Cross work. Here also we find a proposal for transporting *x*-ray apparatus by motor for the purposes of field service. Plans are shown for packing commodiously the dynamo, coil, break, switchboard, etc., tube, and stand into a body mounted on a suitable chassis. We gather, however, that the suggestion here made is for a light-proof tent to be carried in the body and erected on the ground for radiographic work. It would, in our opinion, be infinitely preferable so to utilize the body of the car as to make it serve the purpose of an electrically lit theatre and surgery on the one hand and of a radiographic laboratory on the other. If more space were needed one side of the ambulance could be made to let down and thus afford additional elbow-room. In this connexion attention may also be called to a valuable and suggestive paper which appeared in the *British Journal of Surgery*, vol. i, No. 1, 1913, by Mr. G. H. Colt, F.R.C.S.,

assistant surgeon to the Royal Infirmary, Aberdeen, describing "a portable operating theatre." Mr. Colt's mechanical knowledge has enabled him to devise a singularly compact theatre with fixed operating table and all needful apparatus fitted into a car body of 9 ft. 6 in. by 6 ft. by 7 ft. high. In this case electricity is supplied by a double set of accumulators connected with a dynamo worked from the engine, and the warming is effected by superheated steam. We understand that Messrs. Dennis Bros., who are supplying the motor ambulances to the London County Council, have prepared a complete drawing and specification based on Mr. Colt's suggestion, and that this has been before the War Office for several months. It is really high time that these valuable life-saving and suffering-avoiding proposals took practical shape. It requires the co-operation of the surgeon, the radiographer, the electrician, and the engineer. A little cross-fertilization of the sciences in this case is sadly needed, and it should not be difficult of attainment. When we reflect on the years of persistent advocacy by ourselves and others, against official and obscurantist opposition, to establish the superiority of the motor ambulance, while to-day "the multitude make virtue of the truth they then denied," we cannot but regret the leisurely handling of such questions as these, and marvel at the potency of the *vis inertiae*.

TREATMENT OF RUSSIAN INVALIDS IN GERMANY AND AUSTRIA.

M. CLEMENCEAU'S paper, *L'Homme Enchaîné*, of November 15th, published a protest of Moscow doctors, dated November 3rd, addressed to the whole world, against the treatment of Russian invalids who happened to be in Germany and Austria at the time of the declaration of war. The following passages may be quoted: "What was not our indignation and our terror when we learnt the deplorable state in which our patients in Germany and in Austria found themselves, and to what ill treatment they were subjected? . . . We had sent thousands of patients to the watering places of Germany and Austria in the firm conviction that we were placing them in the safe hands of enlightened doctors, and that our patients would be relieved of their physical and moral sufferings by the science and delicate attention of these practitioners. Never should we have supposed that a time would come when the oath of these doctors and their feeling of professional duty would lose all value. This, nevertheless, is what happened at the time of the declaration of war. Our patients who were surprised by the war when in Germany and in Austria, found themselves in the most deplorable bodily and moral condition. Many of them have died. Their relations and friends in Russia have suffered scarcely less. Our duty as physicians compels us to raise our voice in defence of our patients. The German physicians must answer plainly and tell us if they have taken the necessary measures to relieve the lot of Russian patients, and if these invalids have found the protection due to them in painful circumstances. We await their answer, and demand that they shall insist on the necessary steps being taken to allow Russian patients left in Germany and in Austria, without exception of age or sex, to return to Russia." The address is signed Dr. Maikoff, Moscow, rue Tverskafa, Ruelle Blagovechtchenskj, numero 6. There were complaints some time ago as to the treatment of British invalids detained at German and Austrian watering places, and in at least one particularly pitiable case the intervention of a person very near the All-Highest was invoked. The only answer was that "war is war." From later statements we get the impression that British invalids have been more humanely treated and some have been allowed to return home. But this mitigation of barbarism, dictated as it doubtless is by motives of policy, comes too late. We venture to predict that it will be long before British invalids care to face a German "cure" again.

CARE OF THE FEEBLE-MINDED.

IT was mainly owing to the long and persistent work done by the National Association for the Feeble-minded in stirring up public opinion, culminating in the introduction in Parliament in 1912 of a private bill dealing with the control of feeble-minded persons, that the beginnings were made which issued in the Mental Deficiency Act of 1913. The bill, both in its preliminary stages and after it was placed on the Statute Book, naturally called for exceptional work by the association and its committees. During 1913 Lady Frederick Brudenell Bruce, who had been its president for eleven years, died, and the association has been fortunate in securing the support of H.R.H. Princess Christian in that office. It is interesting to learn from the report for that year that the association, by its own homes and those federated with it, supplied accommodation for no fewer than 3,000 mentally defective persons. The importance of this will be appreciated when it is recollected that there are very large numbers of cases for which the local authorities under the new Act are not called upon to provide, and for the first few years, and especially under the existing abnormal circumstances, they are not likely to go much beyond what is required of them—namely, to provide for defectives who have become criminals, inebriates, the mothers of illegitimate children from workhouse maternity wards, or neglected, abandoned or cruelly treated. It is common knowledge that the local authorities are in great difficulties to find the accommodation necessary for these cases. An important result of the Act to the association has been the division of its work and the transference of the care of mentally defective children living outside institutions to the State-aided scheme formed under Section 48 of the Act—the Central Association for the Mentally Defective—in the initiation of which the National Association took the leading part. The National Association itself can get no share of the Government grant, and it is much to be hoped that its work may not suffer from the loss of the necessary subscriptions. The report contains besides much matter of internal interest to its members and a brief bibliography, compiled by Dr. Shuttleworth, of recent publications in this field.

AN AMERICAN DEPARTMENT OF PUBLIC HEALTH.

A SCHEME for the establishment of a National Department of Health under the United States Federal Government, with a secretary who should be a member of the President's Cabinet, has for years been advocated by the medical profession in America. A bill by which this proposal should be made law has, however, according to the *Boston Medical and Surgical Journal*, twice been defeated by interests which opposed the so-called "doctors' trust." At the annual meeting of the American Medical Association last summer the subject was again discussed, and a resolution embodying fifteen reasons for the adoption of such a measure was passed. Besides ordinary provisions for sanitary protection the resolution included the need of establishing a central organization of such dignity and importance that health departments of States and cities would seek co-operation and pay heed to its advice, and that should influence health authorities, State and municipal, to enact reform legislation in respect of health matters. The National Department would further study the conditions and causes of disease occurring in different parts of the United States; consolidate and co-ordinate the many separate Government bureaus now engaged in health work, and draw up a model scheme of sanitary legislation for the assistance of State and municipal officers. Our contemporary refers to an article in the *Southern Medical Journal* urging the expediency of developing the existing United States Public Health Service into such a department, and the appointment of Dr. William C. Gorgas, Surgeon-General of the United States Army, as its first secretary. But the project does not seem to be destined

to be fulfilled, at any rate in the near future. According to the *Journal of the American Medical Association* of October 10th, President Woodrow Wilson recently issued a legislative programme for the remainder of his period of office. In this he has not included a bill for the creation of a National Department of Health.

THE CORNISH RIVIERA.

THE war must necessarily interfere to a considerable extent with the facilities of travel to health resorts in the South of Europe. Many, therefore, who are in the habit of wintering abroad will be glad to learn that they can get most of the advantages offered by the Riviera without going further from home than the Delectable Duchy of Cornwall. The Great Western Railway has issued a useful and interesting guide-book to the Cornish Riviera. Within easy reach of London, the Midlands, and the North, it has great attractions not only for the invalid but for the sportsman, the artist, and the antiquarian. The booklet contains all information likely to be of use to those who may wish to take refuge in Cornwall or South Devon from the bleakness of winter in other parts of England, and is excellently illustrated.

NEWBURY CONCENTRATION CAMP.

IT was officially announced on December 9th that the Newbury Concentration Camp is to be closed forthwith. Reference to complaints as to the treatment of the interned aliens there was made in the BRITISH MEDICAL JOURNAL of December 5th. These complaints have been proved to be unfounded. The Prime Minister recently paid a visit to the camp, and made inquiries. The open compound is said to have been closed for a fortnight, the prisoners having been transferred to hulks on the South Coast.

THE MEDICAL SERVICES OF THE ARMY.

WE understand that the waiting list of medical men who have offered their services to the War Office has been reduced considerably by recent demands made on it, and that at present not more than about 500 can be said to be available. The age limit is 40, but in special cases medical men may be taken beyond that age.

SIR FREDERIC EVE, whose period of thirty years' service as surgeon and assistant surgeon to the London Hospital terminated last week, has been elected Consulting Surgeon to the Hospital.

OUR BELGIAN COLLEAGUES AT HOME AND ABROAD.

AT the meeting of the Provisional Committee on November 24th, the Chairman of the Council of the British Medical Association said that in order to bring the appeal before the members of the profession generally, it would be sent to the Divisions and Branches of the Association in the United Kingdom. In a circular letter issued by the Medical Secretary on November 28th to the Honorary Secretaries of Divisions and Branches in the United Kingdom, it was stated that the officers of the Association fully realized that the claims on the profession at the present time are very great, but that they believed that this special appeal to doctors and pharmacists on behalf of the Belgian doctors and pharmacists was one to which nearly every member of the two professions would be glad to respond according to his means. It is understood that the Pharmaceutical Society of Great Britain is making a similar appeal through its local branches. It is known that already several Divisions of the British Medical Association have arranged to call meetings, and to appoint committees to raise subscriptions, and at a meeting of the Northamptonshire Division on December 1st it was decided to send a circular to all members of the profession in the area.

The following additional subscriptions have been received by the honorary treasurer; this list does not include any additional subscriptions received by the Irish Committee:

LIST OF SUBSCRIPTIONS (IN ORDER OF RECEIPT).

Third List.

	£	s.	d.
Mr. R. Macfie Johnstone	3	3	0
Sir Lauder Brunton Bart. (second donation)	4	4	0
Mr. R. C. Fuller (second donation)	0	10	6
Miss A. M. Pilliett, M.B.	1	1	0
Dr. John P. Uhthoff	5	0	0
Mr. Charles Heaney	2	2	0
Mr. C. S. Ashton	1	1	0
Mr. A. Stooke	1	1	0
Mr. J. G. Edwards	0	5	0
Mr. Arthur Toone	1	1	0
Mr. Cicero S. Clark (collected by his daughter)	2	6	4
Mr. W. Thornton	1	1	0
Mr. G. Henry Pedler	5	0	0
Mrs. M. A. Rideal	5	5	0
Mr. C. J. Bond	2	2	0
Dr. R. Arderne Wilson	0	10	0
Dr. Robert Saundby	5	0	0
Dr. Claude Wilson	2	2	0
Mrs. Thornton Levy	5	5	0
Mr. George Heaton	2	2	0
Mr. J. Y. W. MacAlister	5	0	0
Dr. W. A. Hollis	1	1	0
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Mr. Edmund Owen	5	5	0
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Colonel C. H. Joubert de la Ferté	5	0	0
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Mr. J. P. Ellerington (second donation)	5	0	0
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Mr. J. Copeland Poole	2	2	0
Mr. R. H. Dreaper	5	0	0
Dr. H. Bowen-Williams	0	10	6
Sir Anderson Critchett, Bart.	10	0	0
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Dr. G. A. Leon	1	1	0
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Dr. Smallwood	2	2	0
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Mr. O'Dowd	5	3	0
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Mrs. Thornton Levy (second donation)	5	5	0
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Mr. Robert Harris	2	2	0
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Dr. Mary H. Carew Hunt	2	2	0
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Mr. H. Bellamy Gardner	3	3	0
Dr. A. R. G. Pocock.	2	2	0
Dr. Henry Wilson	0	10	0
Dr. A. J. Rodocanachi	1	1	0
Dr. F. S. Palmer	2	2	0
Dr. William Collier	5	5	0
Dr. Clement Dukes	5	0	0
"A Friend" (per Mr. J. Y. W. MacAlister)	2	2	0
Dr. and Mrs. Templeman	10	10	0
Sir Watson Cheyne	25	0	0
Sir W. Arbuthnot Lane, Bart.	20	0	0

Subscriptions should be sent to Dr. H. A. Des Voeux, 14, Buckingham Gate, London, S.W., and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, and crossed "Lloyd's Bank, Ltd." Subscriptions by members of the profession in Ireland may be sent to Dr. T. Percy Kirkpatrick or Dr. C. M. Benson at the Royal College of Physicians of Ireland, Kildare Street, Dublin.

Among those who have recently joined the general committee are the Presidents of the Royal College of Physicians of Edinburgh and of the Royal Faculty of Physicians and Surgeons of Glasgow.

INSTRUMENTS.

The Master of the Society of Apothecaries acknowledges the receipt of surgical instruments, etc., kindly contributed by the following gentlemen since the publication of the last list:

Dr. R. Arderne Wilson, Guernsey.
Dr. W. Horton Date, Barnstaple.
Dr. Pollock, Tiverton.
Dr. W. Habgood, Sutton.
Dr. Leishman, Slough.
Mr. James Watson, Norwich.
Dr. W. H. P. Sheehy, Totteridge.
Dr. J. B. Berry, Keighley.
Dr. P. C. Maitland.
Dr. J. E. Thomas, Bangor.
Dr. G. A. Pirie, Dundee.
Dr. H. A. Des Voeux, London.
Dr. W. J. Harnett, Barnet.
Dr. Leon, Torquay.
Dr. C. J. W. Dixon, Hawick, N.B.
Dr. E. Smallwood, West Norwood.
Dr. A. J. Ballantyne, Glasgow.
C. W. J.

THE WAR.

MEDICAL ARRANGEMENTS OF THE BRITISH EXPEDITIONARY FORCE.

[From a Special Correspondent in Northern France.]

Enteric Fever.

The extent to which the British troops have suffered either from typhoid or paratyphoid fever has so far been notably small, but it is not certain whether it will be possible to make the same observation a couple of months hence. The favourable points in a forecast are that most of the men sent out during the past six weeks have undergone prophylactic inoculation and that a considerable proportion of the original Expeditionary Force had likewise been submitted to the same precautionary measure; that the general sanitation of the army is conducted on very sound principles and by a very active-minded lot of men; that extreme care is taken to secure that any water served out for drinking purposes shall be free from harmful germs; that there is no dust; that there are no flies, and that for the most part all ranks appreciate the value of hygiene and are prepared to comply with its rules so far as circumstances render this possible. Unfavourable points are that circumstances might arise which would render use of untested water almost inevitable; that it is quite impossible for either men or officers to keep their hands, clothes, or general belongings free from mud and muddy water, and that this mud may be infected with typhoid and paratyphoid organisms. It seems indubitable that some of the trenches at present occupied by the Germans and others occupied by the Belgians and French are infected, and military considerations might render it at any time necessary to move British troops into these same trenches.

Evidence of the condition of the trenches is afforded by the existing state of affairs both at Calais and at Dunkerque. In regard to Calais, a good deal seems already to have been heard in England, but I have seen no statement in regard to Dunkerque. At Calais there is certainly need for activity, but the position is hardly as grave as might be supposed from what has appeared in some of the newspapers. Down to the end of last week the total number of cases did not exceed 150, and the time during which this number accumulated was not ten days, but very much longer. The earliest cases were observed nearly four weeks ago, the patients being the men of one particular battery, which had been fighting near Nieuport; a large proportion of the others belong to Belgian regiments which for some time were unable to leave the trenches; it was impossible to provision them, and they consequently drank unboiled trench water.

Much more serious in some respects is a corresponding outbreak which seems to have begun somewhat earlier among the French troops fighting in much the same area. It was a somewhat sudden outbreak, the men attacked belonging to certain regiments which had only just arrived from quite another part of France. This is much the more important outbreak of the two, partly because in any consideration of either of these outbreaks it should be borne in mind that neither of the towns in question can itself be regarded as an infected area. We owe the presence of cases of typhoid fever in this region to the system adopted in evacuating the sick and wounded on the line between Nieuport and Ypres. The railways subserving this line converge more or less on Dunkerque, and consequently this town is used as a sort of clearing-house for the sick and wounded from the extreme left of the allied line; a certain number are also brought in by sick convoys. In whatever way they arrive, they are all examined at a kind of casualty department established at the station. Occasionally there is a stray British case amongst them, but, practically speaking, the sick and wounded arriving at this town are always either Belgians or French troops, or German prisoners. The Belgian sick and wounded are almost invariably sent straight on to Calais, while all German prisoners, as also the great majority of all the French wounded, are put on board hospital ships for transport to Cherbourg. The remainder of the cases, which consist of wounded men whose condition is grave, or of cases recognized as typhoid fever, are detained at Dunkerque, the wounded being distributed amongst hospitals in the town itself, and the cases of typhoid fever sent to special hospitals established at three small towns within easy reach. There is also a fourth hospital at a considerable distance from Dunkerque and not very far from the British lines, which is in the nature of a large clearing hospital, and has recently, I understand, been utilized for the reception of obvious cases of typhoid fever arising in the trenches in its neighbourhood.

Hospitals for Troops from India.

There are at present three hospitals in the Belgian area devoted to the reception of sick and wounded men belonging to the Indian Expeditionary Force, in addition to a convalescent dépôt, and a fourth is being prepared at Hardelot. Two of these are general hospitals, and the third a stationary hospital. Of the two general hospitals, one recently established at Wimereux, and not yet complete, is for white troops from India as distinct from regiments and units formed of natives; the other two hospitals, both intended solely for native troops, are established in buildings on the edge of the downs above Boulogne. They lie close together, and the general hospital—the larger of the two—has not yet got its full complement of wards and beds. It seems, in fact, not improbable that it will never be fitted up as a real general hospital, and that, so far as circumstances permit, the new hospital at Hardelot will be utilized in preference to both these institutions. The situation of the buildings at Boulogne is rather exposed, and the buildings themselves, though the best available when it was found necessary to make special arrangements for the Indian troops at this base, are not at all easy to render comfortable. The new Indian hospital at Hardelot, on the other hand, is housed in a modern first-class hotel of large size. It is, in fact, considered that when this hospital is ready its occupants will be more happily situated in point of environment than those of any other building utilized in like fashion within the area of the Boulogne hospital base. The convalescent dépôt for Indians at Boulogne lies in a field alongside the two hospitals on the downs that have just been mentioned. It is formed of an array of hospital marquees, but has few occupants. Though this convalescent dépôt is intended for the temporary reception of Indians who have been discharged from hospital as fit again for service in the trenches, it is, I understand, thought better that it should not be used to any large extent until the marquees have been replaced by huts.

Marlborough Camp, Boulogne.

In my previous note regarding the convalescent dépôt, sometimes called Marlborough Camp, Boulogne, I omitted to mention that every morning a number of nurses attend to do any dressings that may chance to be required. This is sometimes the case despite the fact that the majority of all the occupants of this camp are men who have been discharged from one or other of the local hospitals as requiring nothing further in the way of formal treatment. The balance, as has already been mentioned, are the slightly wounded or footsore men brought down by the ambulance trains but not deemed on examination at the casualty department on the quay to require for their recovery more than a few simple dressings or a little rest. These are mainly the men who furnish work for the nurses, though at times, of course, a case requiring dressing may arrive in the camp itself. The men are never idle if the weather is in the least degree decent, and are frequently engaged as volunteer path builders, and other like jobs, in which small cuts and abrasions are liable to occur. They also play football vigorously. During the past ten days the path building and drain digging have made distinct progress, despite the atrocious weather conditions and the fact that all stone used has to be brought from a ruined building which lies some distance away, but serves as a very useful quarry. There are also more skeleton huts to be seen, and to some of them galvanized iron sides are beginning to be fitted. This part of the equipment of the camp is in the hands of civilian contractors, but is making very slow progress, owing to the difficulty of securing labour. The same circumstance is interfering with the subsoil drainage of the general site. The domestic arrangements of the camp are being perfected more rapidly. A camp book-lending

library has been started, and the Y.M.C.A. has provided a second recreation tent and dry canteen. One of the huts is to be devoted to recreation purposes and the rest to—dining-rooms, messes for non-commissioned officers, guard-rooms, bath houses, and the like, and there is a suggestion that the whole of the marquees should be replaced by huts. The new pattern hospital marquees—the four-way tents—which alone are used for sleeping purposes by the men, are warmer and more cosy than huts, and probably quite as capable of standing up against tornados of wind and rain. Those now in place have been tested to the full during the recent bad weather, and withstood windstorms which were whirling into the air paraffin cans and the like. The general appearance of the camp and the ease in running about it must entirely depend on the extent to which it proves possible to cover the whole camp area with broken stone and gravel. It is impossible that this can be done quickly, even if at all, and meantime the camp must look an unattractive place of abode. From a practical point of view, however, it seems to meet the needs of the situation, and an examination of its admission and discharge records suggests that it is in nowise an unhealthy place of residence. Taking, for instance, the last 353 discharges, it appears that 315 were marked as fit for duty either in the firing line or at a base, and 38 as requiring hospital treatment. The stay of the whole 353 men discharged ranged between thirty-six hours and six days, and of the 38 who were sent to hospital only 5 were suffering from conditions which could have been acquired in camp. The 5 men in question were respectively marked tonsillitis, diarrhoea, and pyrexia of uncertain origin (two cases). The diseases for which the remaining 33 men were sent to hospital were orchitis (1), tapeworm (1), scabies (6), impetigo (4), hernia (3), rheumatism (6), wounds (1), frost-bite (2), and haemorrhoids (9). The men suffering from rheumatism and frost-bite arrived in camp in this condition and were forthwith sent out for formal hospital treatment elsewhere. These figures make it clear that about 90 per cent. of the men sent to this camp from the hospitals must be practically fit for duty on their arrival (a view which is supported by their general appearance and the fashion in which they get through their time) and that there is no ground for assuming that among the habitual population of the camp there is any ill-health due to the nature of their environment. The total accommodation of the camp is 1,000, and the average (but daily changing) population during the first six days, 550.

At Calais the hospital accommodation suffices, I understand, for actually existing needs; it would, however, be overtaxed if the stream of cases continued—relatively small though this is at present—and in any case it is considered to be a mistake to bring cases of enteric fever down to Calais at all. Consequently the Belgian authorities propose that special accommodation for cases of enteric shall be provided at La Panne, a place on the sea coast within the Belgian frontier, and within easy reach of the Belgian fighting line. They also desire to arrange for the detention or observation of suspicious cases at a place in the same neighbourhood. From a professional point of view these Belgian authorities seemed to me exceptionally well informed, up-to-date, and active-minded men, and that to enable them to grapple successfully with the situation all that was necessary was a certain amount of monetary assistance. I left Calais, in short, with a strong impression to the effect that probably the best course for the British Red Cross Society to adopt would be to restrict its efforts to assisting the Belgians by placing a certain amount of money at their disposition and leaving them to disburse it according to their own lights. Incidentally, I heard at Calais that Vincent's antityphoid serum had been used in the treatment of a considerable number of cases, and that the experience thereby gained had caused it to be regarded as of much value.

MEDICAL ASPECTS OF SEVERE TRAUMA IN WAR.

[BY A CORRESPONDENT.]

By the above title I wish to imply that a severe wound or severe exposure, or even severe psychic trauma, are of interest from the reaction produced in the injured individual. Such cases are seen by medical men at times unfavourable for the making of any but mental notes, and even what is actually before the eyes is not easily judged of in a quite dispassionate spirit—especially on a first campaign. These facts notwithstanding, it is hoped that the following notes may be of interest.

Wounds and Prolonged Exposure.

At the battle of the Aisne, in particular, we met with a not inconsiderable number of cases in which the wounded had remained where they fell for periods up to as much as three or four days. In a few cases it was even more. These cases when brought to the dressing station were found to be only partially conscious of the nature of their surroundings. After a short time, and particularly after a hot drink or subsequently to a dose of rum, they regained consciousness sufficiently to appreciate what was being done for them, but spoke little or not at all, and were terrible examples of "dumb misery." There was a distinct tendency to muscular immobility, and this was, I believe, due to the fact that they had been very cold for a long time. The odour arising from these cases was quite characteristic, but I was not able to be certain as to its origin. It was certainly not due to incontinence of faeces, but may have been due to urine. Any wound present was septic, and the edges adhered to the clothing. In cases other than head injuries—and even in some of them—the whole picture often changed with great rapidity to one of comparative well-being and contentment within a short time of their coming under treatment. But it must be mentioned that some of these cases had probably laid unconscious for some time and were just recovering consciousness when picked up and brought to us. Except in cases of head injury or of severe injury to the legs, the wounded man manages to crawl to his lines; but even amongst the former classes the sudden and gratifying recovery from a condition of mental and physical stupor was obvious to all.

Amongst really severe cases of head injury—that is, with hernia cerebri and comminution opposite the wound of entry, of which class of case I once saw five in one day—recovery of consciousness was not usual. The following are notes on some of these cases, which I can now call to mind:

(*a*) Two men who exhibited the same type of involuntary movement—namely, the placing of the right hand in the right trousers pocket within a few minutes of its being taken out again. Opposite side of brain no doubt injured; rigidity and paresis of right side.

(*b*) A German, said to be showing the action of the arm in working a machine gun—namely, a circular movement of right arm. I doubt the machine gun hypothesis.

(*c*) A German with continual flexion and extension movements of the right leg. None of the above regained consciousness. The last lived four days after admission.

(*d*) A German, admitted unconscious but who regained enough consciousness to speak to another and to take food. He also died.

(*e*) A German, who actually walked in with the support of an unwounded comrade. (It is noteworthy that they walked to our lines and not to their own.)

(*f*) A German, who remained out about three days calling out to the English to help him. Eventually, at great risk, our men brought him in. In addition to a severe head injury he had both arms broken, but did well, at least until he passed out of our hands.

(*g*) Several cases brought in unconscious who died within twenty-four hours, having shown no sign of recovery. Many of these showed continuous motor agitation, and required mechanical restraint.

All the above had practically the same injury—namely, a wound of entry from which was extruding cerebral substance, often only in very small amount and no wound of exit, but palpable comminution of the skull in a position remote from the entry wound. Most of them had been lying out for one or two days at least. I heard of but did not see one man, a German, who was out in sight of our trenches for some days, and was supposed to be dead. One day he took off all his clothes and staggered in our direction. He lived some days in a state of acute mania.

Insanity and Psychic Trauma.

Considering the stress of conditions at the front, it is wonderful that there were not more cases of insanity; I saw only two, both at the Aisne.

(*a*) A man who had distinguished himself by his bravery. He was brought to the dressing station by two men, and was

then oblivious of the nature of his surroundings, mildly agitated and speaking or muttering continuously. He called to mind the appearance of those who suffer from auditory hallucinations, and these may have been present. He was not violent. I do not recollect whether or no he refused food.

(*b*) A man who had the aspect of profound melancholy which distinguishes most cases of melancholia. He was similarly devoid of initiative, but quiet and gave no trouble. It was not possible in the circumstances to inquire if these cases were hereditarily predisposed to insanity.

Terror (like the unreasoning terror of a child frightened by the dark) was not often seen. It is not the same as "funk," and I would call attention to the following differences: Terror is not abated for some time after reaching a place of safety; it is an unreasoning process, and it is produced by some sudden and unexpected happening. Funk abates in a place of safety unless there is a prospect of having to return to one of danger (terror continues even if the man have a wound which will certainly prevent any further service). Funk is essentially a reasoning process, and in fact depends largely on imagination for its full development, and it has no necessary relation to anything that has happened recently and suddenly. But a man suffering from funk is the more prone to terror. Of the latter I can give two examples:

(*a*) A certain regiment newly out from home came almost direct to the firing line, and was immediately attacked in force. Ignorance of the ground and of the whole conditions of this warfare were probably largely to blame for the failure of the defence. Many men were wounded and were brought to us. A certain number of these showed what I describe as "terror." They showed a tendency to faint, which was allayed by an assurance that there was no need for them to do so. More than one, if not supported, would have fallen to the floor. They could give no coherent account of what had been happening. They looked at their wounds with a solicitude out of all proportion to their severity or else with an aloofness and curiosity which might have made one think the wounds belonged to someone else. One man stated that he was wounded in the leg, and was enormously excited about it, but on examination no sign of any wound here or anywhere else was discovered. He may, of course, have been hit by some piece of stone or material thrown up by a shell. In the case of officers an exaggerated solicitude for their kit and its safety sometimes took the place of any anxiety about their still undressed wounds—this had reference to articles of kit which they had not brought with them, and which in the nature of things could not be sent for until the more immediate business of attending to the wounded had been seen to. What I have here called "terror" seems to be a sort of temporary insanity—a pathological state.

(*b*) A shell fell and burst amongst a column of men marching in fours along a road which was comparatively safe—that is, by comparison with the trenches to which they were going. They had all been in action before. Some eight men were killed or wounded, and one of these—an officer—had three wounds, one of considerable severity. He was extremely agitated, and was only with difficulty persuaded to submit quietly to the necessary dressings; he spoke and called out continuously, but could give no account of what had happened (he was possibly not in a position to know). He proved very quickly susceptible to the influence of morphine. He died from his injuries a few days later.

Possibly cases of "hysterical paralysis," deafness, etc., should be mentioned here, although I am unable to agree with the term "hysterical" as applied to them. They tend to recover gradually without any such treatment as given to hysterical patients. I can only call to mind at all definitely one such case. A physically splendid man was wounded in the shoulder by a shrapnel bullet (apparently). There was no wound of exit, and there was no sign of the bullet. The wound was not deep, and it is probable that the bullet had not stayed in the body. Both legs were paralysed—that is, he was unable to move them. Time did not allow of any prolonged examination, but in the absence of any rigidity or pain in the spine there was no reason to hypothecate a spinal injury. The case was not followed. Deafness and blindness were also met with in other patients, but the writer did not examine any such cases.

Fortitude.

Terror is one of the most distressing phenomena with which the medical man has to deal in war—at least this is my experience—but it has to balance it many examples of extraordinary fortitude. Some cases may be cited:

(*a*) A young officer applied personally to me to ask me to look at his back. This was in the evening, and the officer stated that he had felt a blow "which nearly knocked him off his horse" during the afternoon, and "supposed that he ought to have a dressing on or something of that sort." I had not made any sort of local examination until then. On examination he had a wound over the spine of one of his lower lumbar vertebrae, but no bullet was obvious. There was not unnaturally some impaired mobility. It was the writer's practice to urge all wounded men to "go down"—that is, to leave the firing line for a few days at least—this with a view to avoiding sepsis. This officer refused to do anything of the sort. He is one example of many in all ranks.

(*b*) A private of the Black Watch, who remarked after being wounded for a second time, "This is the second time they've got me, but I'm coming back." I cannot reproduce the Scottish accent or the emphasis on the last words.

(*c*) A man who had a rifle bullet sticking into his ligamentum nuchae, but who refused to take any notice of the same. It is true that he was preoccupied to some extent with another injury, but it is remarkable that the severe blow which he must have felt had made no more impression.

It may be noted that a rifle wound is felt as a severe blow, and not as a sharp pain. It is often only the sight of blood which assures the wounded man that he has been hit by a projectile, although the shock of the blow is felt at once. It is possible that during a charge or other strenuous military operation the soldier may be entirely unconscious of a wound, but I was never able to ascertain that this had been the case, although more than one stated that they had "carried on" for a time after being wounded.

(*d*) An officer who, after being wounded—that is, after feeling that he had been hit—retired with his men to the trenches, led another advance from them and retired again. Then, struck with the amount of blood which he saw he was losing, he refrained from going on with a further advance and left the trenches to walk back. After a short time he was overcome, partly from loss of blood and partly from shock, and fell into or sat in a ditch, where he was found by a wounded fellow officer later. The wound was through the palm of the hand from side to side.

(*e*) A man who was brought to the ambulance on a stretcher, and who stated that he had walked a mile before finding the stretcher bearers. He demanded immediate amputation of his arm and a cigarette. His wounds were very severe. He had a large omental hernia in the upper part of the abdomen, the right arm was hanging by a portion of the deltoid, the nerves and vessels; the bone was shattered. There were also wounds in each thigh and in the left hand. None of these was trivial. He lived thirty-six hours.

(*f*) An officer who, although wounded through both knee-joints, showed no sign of pain until the dressings were concluded. He realized that he was not likely ever to be fit for service again, and asked the medical officer attending him whether any part of his kit would be of any use as he would not want it again. The only sign he made that he was in pain was to acknowledge that it was "pretty bad" in reply to a direct question.

I can say without any hesitation that such cases as the above are the rule—the fortitude of the wounded man is amazing. In all fairness one must add that this fortitude is also shown by our enemies.

It is requested that the above notes may be read merely as some reflections on what one medical man has seen during some three months at the front. They are founded on none but mental notes, and it is difficult even to say whether the facts here related were necessarily those which impressed the particular case on one's mind. It may have been that one's mind was especially ready at different times to take a gloomy or bright view of all that was happening, and that contemporaneous incidents were coloured in this way. The stress involved by a rush of work in conditions far from ideal, by the appalling volume of noise, and by the necessity of keeping oneself alive to the importance of every side of one's work creates an atmosphere quite foreign to that which produces the best scientific work and the most accurate observations.

SURGICAL EXPERIENCES OF THE PRESENT WAR.

DISCUSSION AT THE MEDICAL SOCIETY OF LONDON.

TETANUS.

IN continuation of the discussion on surgical experiences of the present war, the subject of tetanus was debated at a meeting on December 7th, with Sir JOHN BLAND-SUTTON, President, in the chair.

The Micro-organism.

Major D. EMBLETON, R.A.M.C.(T.) said that there were two features of the bacillus of tetanus which must be clearly remembered: (1) The spore, and (2) the fact that the micro-organism was a strict anaërobe. In order to produce the disease by inoculating a clean spore—that

is, one which had been washed clean from its toxin—it was necessary to inoculate at the same time some lactic acid or some other organisms, or to produce considerable trauma—all processes which lowered the vitality of the tissue or killed it locally. He quoted experiments to show that for the development of the disease dead autolyzing tissue was of more importance than the exclusion of oxygen. The bacillus of tetanus was said to occur at the site of the inoculation and in the nearest lymph glands only, but in his opinion it was practically certain that the bacilli migrated rapidly by way of the lymphatics to the thoracic duct, and thus entered the blood stream and became disseminated throughout the body. It was thus possible that toxin might be liberated from many points in the body as well as from the original focus, and this might account for the frequency with which the first spasms started at a distance from the original lesion. It had recently been stated before the society that if a wound was swabbed out with pure carbolic acid tetanus and sepsis would be practically abolished. Against this assertion might be raised the following points: (1) 1 in 20 carbolic acid was the most efficient germicidal dilution of phenol; pure carbolic acid was no more potent than it. (2) 1 in 20 carbolic acid took fifteen hours to kill tetanus spores, and the disease was caused by spores. (3) It damaged the tissues, and these would subsequently undergo autolysis. (4) Kanthack used broth having a strength of 1 in 20 carbolic acid to isolate and cultivate the tetanus bacillus. (5) Dr. Thiele and he (Major Embleton) had shown that carbolic acid, either pure or in a 1 in 20 solution, swabbed on to a wound artificially produced in a guinea-pig and infected with spore-bearing organisms, would not protect the animal even when applied two minutes after the infection had been produced, the bacteria even in this short time having migrated beyond the range of the antiseptic. To sum up, pure carbolic appeared to be of little value in the prevention of tetanus, and in fact by damaging the tissues seemed dangerous. The same argument applied to other strong antiseptics. The fact that the tetanus bacilli had only been demonstrated in the wound and the nearest lymph gland showed that the blood could deal with the organisms if it could gain free access to them. This suggested that no substance likely to damage the tissues should be used, and that free access of blood to the part should be ensured, either by hot baths, fomentations, or Bier's treatment.

Prophylactic and Therapeutic Use of Antitetanic Serum.

Major Embleton considered that the value of antitetanic serum for prophylactic purposes had been definitely established, both experimentally on animals and also from statistics in the case of man. It was probable that nearly every wound received by our troops operating in the highly manured districts of France and Belgium was infected with tetanus spores, but only a relatively small number of cases of tetanus occurred. Although theoretically every wound should be treated with serum this was practically impossible. It had been suggested that this treatment should be reserved for shrapnel wounds; this would include most of the cases which ultimately developed tetanus, but the probability of tetanus arising depended on the extent of laceration and not on the nature of the projectile. It was impossible to lay down rules as to the prophylactic dose. Ideally, at the time of operation a sufficient dose of antitetanic serum should be circulating in the patient's system. It seemed probable that 5,000 units some three hours before the operation sufficed.

He then considered the treatment of established tetanus. Seeing that the nervous system was being severely poisoned by the tetanus toxin, hypnotics being only palliative measures, should, he said, be withheld unless there was urgent need for them. Those which seemed to have given the best results were chloral and bromide, chloretone, and, for rapid action, paraldehyde and ether suspended in saline and administered intravenously. It had been proved experimentally that the administration of antitetanic serum in established tetanus was of value. The intraneural method of injection had been advocated under the impression that the serum would neutralize the toxin and prevent its passing to the central nervous system, but non-diffusible substances like serum did not pass up the axis cylinders but by the perineural lymphatics. The routes of the toxin and the antitoxin were thus different. Intrathecal inoculation of the serum had been recommended on the assumption that the antitoxin could by this means get into rapid and intimate contact with the toxin in the nerve cells. There was no evidence that non diffusible substances such as serum could penetrate to any depth into the nerve tissue when injected either into the subarachnoid space or into the lateral ventricle. Experimental evidence was to the contrary. Roux had obtained very satisfactory results by intracerebral injection of the serum into the frontal lobes, but non-diffusible substances when injected into the brain either leaked back along the track of the needle or remained localized at the point of inoculation. The amount of serum that could be inoculated without producing serious damage was exceedingly small. It was possible that Roux's successes might be ascribed to the relief of tension followed by a pouring out of fresh fluid, as in meningitis. The intravenous route had the danger that it might produce acute anaphylactic symptoms or death in a person primarily hypersensitive to the horse serum or one who had previously been inoculated with an antiserum prepared from the horse.

The subcutaneous route was undoubtedly the safest, since the absorption was slower, and serious anaphylaxis was less likely to occur. Absorption was sufficiently rapid for the purposes of treatment, and very large quantities could be used. The object of administering antitetanic serum was to (1) destroy the circulating toxins, (2) promote phagocytosis of the bacilli, (3) destroy the toxin already causing symptoms. Immediately after the first symptoms appeared 10,000 units should be inoculated, and subsequently 3,000 units every two hours, until the symptoms abated. The injections should not, however, be continued beyond the third day.

Selection of Cases for Serum Treatment.

Professor F. W. Andrewes pointed out that the tetanus bacillus was not an inhabitant of soil as such, but of the animal dung with which cultivated soil was mixed. The risk of tetanus was that of deep implantation, in wounds, of cultivated soil or other matter polluted with the dung of horses or cattle. In any given wound this risk might be roughly estimated by the evidence of such contamination, either on clinical or bacteriological grounds. The bacteriological test on which he was disposed to place chief reliance was the presence of anaërobic bacilli in the wound discharges. A smear of the pus, stained by the Gram-fuchsin method, was commonly a sufficient clue to their presence. Unless an unlimited supply of antitoxin was at hand, it was necessary to exercise some selection of cases in the administration of tetanus antitoxin as a prophylactic. He considered the presence of large Gram-positive bacilli resembling *B. aërogenes capsulatus* a good indication for a prophylactic dose of serum. The evidence went to show that 500 U.S.A. units was an adequate prophylactic dose in ordinary cases, since it was known to be enough to protect a horse; 1,000 units might be safer in a severe and very foul wound, or one in which a considerable time had elapsed since its infliction. He considered it right to give serum in a suspicious wound, even though two or three weeks had elapsed since the infliction of the injury. As regards the treatment of declared disease, Professor Andrewes expressed himself in favour, on theoretical grounds, of amputation or free excision of the wound where this was possible. The route of administration of antitoxin which he advocated was the intrathecal one, as being better than the subcutaneous or intravenous routes and safer than the intracerebral. Statistics showed clearly that, when given, antitoxin should be given in large doses—15,000 or 20,000 U.S.A. units, repeated if necessary. As an adjuvant to keeping up a high concentration of antitoxin in the central nervous system, large doses should also be given subcutaneously. More, however, could not be expected from antitoxin than that it should turn the scale in doubtful cases. In the use of sedatives for the palliation of pain and other symptoms, it must be remembered that death was often due to respiratory complications, and that such drugs as morphine might, in some circumstances, be dangerous.

DR. JOHN EYRE said that he was in accord with what Professor Andrewes had said with regard to the value of finding Gram-positive organisms resembling *B. aërogenes capsulatus* in the discharge from an infected wound, but he had met with several cases of tetanus in which they were not found. Inoculation of a mouse caused tetanus after two or three days. It was clear, therefore, that the decision as to treatment must depend mainly upon the surgical aspect of the case. Badly lacerated, contused, or deeply incised wounds were those which should be chosen for prophylactic treatment against tetanus. Referring to treatment with carbolic acid, he pointed out that the spore was not the entity which gave rise to the toxin, but the bacillus, which was very susceptible to the influence of carbolic acid. The site of production of the toxin should, in his opinion, be dealt with as soon as possible. With regard to the prophylactic dose, 500 units probably afforded good protection if they could be used immediately. The amount required, however, increased rapidly with delay, and at the end of twenty-four hours from infection twenty or thirty times as much was needed. The serum conferred immunity for about a week, and at the end of that time a second dose was necessary. When tetanus had become established, it was well, on theoretical grounds, to get rid of the site of manufacture of the toxin; in experimental work infection did not remain localized to the focus of inoculation. He thought that intracerebral injections, in view of the grave lesions produced, should only be used as a last resort, though they sometimes seemed to turn the scale. The intrathecal route was the most important and efficient. In his own experience cases treated thus had usually recovered, whilst those only receiving subcutaneous injections had usually died. The cerebro-spinal fluid was often under considerable pressure and ran freely away, so that a considerable dose of serum could be given. Intravenous inoculation acted quickly and subcutaneous slowly, but the latter kept up a persistent dosage. He advised that all three methods should be employed simultaneously.

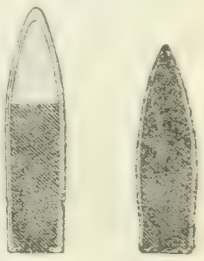
Results of Treatment.

Lieutenant R. B. BLAIR, R.A.M.C., said that he had treated 17 cases of tetanus at the Herbert Hospital, Woolwich; 6 had died, 9 recovered, and 2 were still under treatment; 10 of the cases were very acute. The wounds were mostly severe and all very dirty. They were generally gunshot wounds, not shrapnel. In 4, prophylactic doses of serum had been given before the patient had been admitted to the hospital; 3 of these had died, and it would seem that the doses given were too small, and not given early enough. He thought that unless the patients were seen within two days, 4,000 units should be given intraspinously. The treatment employed at the hospital for the cases of established tetanus was intrathecal injection of 4,000 units daily. No difficulty had been experienced using a light anaesthesia. The cerebro-spinal fluid was under very great pressure; it was allowed to run until it began to drop slowly, and then the serum was injected, the volume introduced being less than that which ran away. The hypnotics used were morphine, chloral, and bromide (60 grains of each two or three times in the twenty-four hours), and chloretone (40 grains in two ounces of olive oil, two or three times daily, per rectum). When the chloretone was retained it relieved the spasms for several hours, but it was often expelled. Stimulants might be necessary if exhaustion appeared. It was seldom necessary to amputate the limb during the attack of tetanus; all but one of the few cases in which this had been done succumbed. The total quantity of serum given varied greatly, 62,000 units being the maximum amount which had been employed.

DR. CARL BROWNING said that one point was clear, that the amount of serum required grew enormously with the lapse of time from infection. Consequently the earliest symptoms of tetanus must be carefully watched for. The danger of anaphylaxis might probably be avoided by the previous injection of dilute solution of antitoxin, and an antianaphylaxis thus produced. The blood pressure could be used as an indication of the amount of serum to be injected intrathecally. If there was a fall of blood pressure in an average adult of 40 cm. of mercury the limit of dosage had been reached.

GERMAN AND BRITISH BULLETS.

WE published last week photographs of British, French German, and Belgian bullets, and of the bullets in their cartridge cases; we now give sections of the British and German bullets, for which we are indebted to Sir John Bland-Sutton. The German bullet has a solid core of hardened lead and a sheath of ferro-nickel. The British has a cupro-nickel sheath; its core consists of two parts, as seen in the drawing of the section, the front portion being an alloy of aluminium 90 per cent., zinc 10 per cent., or pure aluminium, and the rear portion an alloy of 98 per cent. lead, 2 per cent. antimony, in an envelope of 80 per cent. copper and 20 per cent. nickel. A shallow cannelure is formed near the base, into which the case is secured by three indents. The diameter of the bullet at the base is 0.311 in. and its length 1.28 in. The portion of the bullet which enters the case is coated with beeswax. The weight of the British bullet (Mark VII) is 174 grains, and of the German bullet 154.5 grains. In both bullets, as will be seen, the nickel sheath is open at the base, through which it is filled



a *b*

a. Section of British bullet (Mark VII), showing aluminium front of core. *b*. Section of German bullet (Spitze). The British bullet is natural size (1.28 in.); the length of the German bullet in the drawing is slightly shorter than the standard size, which is 1.105 in.

In the JOURNAL of October 31st (p. 762) we mentioned that M. Tuffier, surgeon to the Beaujon Hospital in Paris, who was commissioned by the French Minister of War to inspect the medical arrangements of the French army, had, in a report to the Académie de Médecine, stated that although a large number of cases had been shown to him in various hospitals in which large wounds of exit were supposed to be evidence of the use of explosive (that is to say, expanding) bullets, he had not satisfied himself that this was in fact true in any case. He believed that all the instances could be explained by a normal bullet having struck a bone, and concluded that, in order to establish the existence of the use of a prohibited projectile, it would be necessary to find it in a bandolier or in the magazine of a rifle in use. M. Tuffier, in a communication to the Académie de Médecine on November 24th, stated that when recently making an inspection in the neighbourhood of Arras he had seen among men brought from the trenches wounds in which the shape of the orifice of the wound of entry and the conical form of the wound produced in the tissues was difficult to account for if an undeformed bullet had been used. In one case seen by Dr. Potherat, chief surgeon of one of the ambulances of the tenth French army, he had found a bullet undeformed, but embedded in the hand with the point still protruding from the skin; as was pointed out last week, however, there is experimental evidence that the German bullet may turn over on encountering even so slight an obstruction as a layer of cardboard, but M. Tuffier says that cartridge cases have been found on German soldiers in which the bullet had been reversed and pushed in again, so that the flat base was in front. A bullet so treated would, no doubt, act as a deformed or expanding bullet. M. Tuffier says that such reversed bullets are used only for short distances, as when the trenches are near together, and that the manœuvre no doubt diminishes the accuracy of fire. The German bullet, M. Tuffier said, is easily removed from the cartridge case by putting the point into the end of the muzzle and pulling lightly. The portion of the German bullet contained within the cartridge case is shorter than in the British, has a less defined neck, and there appear to be no indents in the case.

HOME HOSPITALS AND THE WAR.

2ND LONDON GENERAL HOSPITAL.

LIEUTENANT-COLONEL EUSTACE M. CALLENDER, the Commanding Officer of the 2nd London General Hospital (St. Mark's College, Chelsea), considers that it is now possible to estimate roughly the extent to which the results of wounds would be of a permanent character. The hospital had dealt to date with about 5,000 men,

including those at present under treatment, and only 106 amongst soldiers of more than six months' standing had been invalided out of the service. No record was kept of a further considerable number, principally Territorials, invalided out with less than six months' service. It was impossible to say what proportion of recoveries would return to the front, for in many cases it had still to be seen what degree of recovery to injuries of the nerves would be attained. In a number of cases of severe compound fracture of the limbs, where comminution had been considerable, there remained, after the wounds had healed, injuries to nerves, causing paralysis of various kinds, according to the nerve involved. In some cases operations had been performed to free nerves that had been caught in a big scar, or to suture nerves seriously damaged. Down to this week there had only been ten deaths at the hospital, although the condition of a great many patients might have been thought hopeless. There had only been four or five amputations since the hospital opened. In many cases in which amputation seemed indicated the operation was delayed as long as possible, and ultimately was found to be unnecessary. A considerable time, however, was necessary to obtain recovery in bad cases of compound comminuted fractures. In the case of a man admitted eight weeks ago with bad compound fractures of the thigh, the wounds being in a septic condition, there was as yet little or no sign of union, but eventually, in similar cases, fairly good union had been obtained.

The number of cases of sickness was small; no more cases of enteric fever had been received from the front, but two cases had come from the Home Forces. Amongst the men admitted from France were many cases of rheumatism of the legs and sciatica, and a very considerable number had frost-bitten feet. The feet were considerably swollen, and generally had the appearance of being scalded without blistering; but here and there were small ulcers, almost like the perforated ulcers of tabes dorsalis. In some cases the feet were almost black and shrivelled, as if mummified. So far there had been no gangrene or loss of toes. When first admitted the men said the feet felt dead, and had no sensation, but as recovery began there was a great deal of pain, variously described as aching and burning. It lasted for many days. Where the symptoms were those of constant burning, the most successful treatment appeared to be to apply lead lotions and evaporating lotions, but the more usual method was to apply hot boracic fomentations.

From the Home Forces two or three cases of perforated gastric ulcer had been received, and were doing quite well. Several operations had been performed for acute appendicitis, and all the patients were recovering. In one young man in the Home Forces, admitted with fever, and obviously very ill, the symptoms were found to be due to acute disease of the middle ear and thrombosis of the lateral sinus. After an operation he lived for some days, during which he had repeated rigors. A *post-mortem* examination showed that the patient had acute septic endocarditis and pus in one pleural cavity. He was suffering really from pyaemia, and the case was chiefly interesting because the symptoms made it extremely difficult to diagnose.

One case of tetanus was removed recently from a hospital train arriving at Chelsea. The man was very ill, and antitoxin was administered — 1,500 units subcutaneously. As he did not improve he was given 3,000 units intravenously. Finally, 1,500 units were administered into the spinal canal, and the patient is now recovering.

By the addition of further sections the hospital now contains 900 beds. The sections are established at St. Thomas's Hospital, the Great Northern Hospital, the Victoria Hospital, and a convalescent establishment at Richmond with 40 beds. Latterly the wounded reaching the hospital have not been in such a serious condition, many having been already in hospital in France for two or three weeks. On the morning of Monday, December 7th, a trainload of wounded arrived consisting of men who were in the fighting line on the previous Thursday.

This trainload of 110 men, 30 being cot cases, arrived at 12.8, and the last patient was in bed by 12.30.

1st Southern General Hospital, Birmingham.

The Hospital and Section Hospitals.

The 1st Southern General Hospital, which has been mobilized in the new buildings of the university at Edgbaston, and which originally consisted of 520 beds, has been expanded. At the present time there are 680 beds in use, and in another ten days, when further sanitary arrangements have been completed, there will be 800 available. This is the total number of beds the university building will hold. This is probably the largest number of beds in one building for a temporary hospital. All the various administrative offices, rooms for the resident medical staff, operating theatres, *x*-ray rooms, out-patient department, dispensary, dining rooms for patients and staff, kitchens, recreation room for patients, and a canteen, are in different parts of the same building. The barracks are in a detached building, and the sisters' quarters are in the Women's Hospital of the university, which is about 300 yards away. The whole hospital is lighted and heated by means of a large power station in the university grounds. There is plenty of room to expand the hospital further by placing temporary buildings in the various quadrangles or at either end of the building.

Many of the wards are very large, and the ventilation is extremely good in all of them. A very large number of operations have been performed for hernia, varicocele, varicose veins, etc., and in every case healing has been by first intention. All who work in the hospital remark upon the excellent results that have been obtained. The hospital is situated in a very healthy but rather exposed spot, over 500 ft. above sea level, and on the edge of a plateau. The wind is extremely keen up there, and often very boisterous. This is considered to be an objection to the establishment of open-air wards.

A large number of section hospitals are attached to the 1st Southern General Hospital, and all of these are excellently staffed with medical officers and one or more trained nurses. There are between 600 and 700 patients at the present time in the section hospitals, all of them transferred from the central hospital. The administrative staff is responsible for all the soldiers in the section hospitals.

It is reported that over 2,600 patients have been treated in the hospital, and at the time of writing there are nearly 600 patients. There are also a large number of out-patients who attend daily at 9 a.m.

Transport of Sick and Wounded.

The hospital is about three miles from the centre of the city, and the ambulance trains travel by the Midland Railway to Selly Oak Station, which is under a mile from the hospital. Owing to the shortness of the distance, the wounded can be got to the hospital by means of less transport, as more than one journey can be made. The train is unloaded by the R.A.M.C.(T.) men of the hospital in a siding in a goods station, so that the traffic of the main line is not held up. The transport from the station has been entirely arranged by the staff of the hospital. The police and the city health authorities lend all their ambulances, numbering about fifteen. The proprietors of Heath's Garage have converted two cars into ambulances. Mr. Tailby has constructed an ambulance to attach behind a motor car; it has only two wheels, being on the trailer principle, and carries two stretchers. It is most useful, very simple in design, and can be made for less than £25. The ambulance is attached to the car by means of a drop-pin which fastens into an iron cross-bar fixed on the back of the car. Any car could be fitted to take this ambulance. The car with the ambulance behind is found quite easy to drive, and only very little more room is required when steering round corners. The sitting-up patients are taken to the hospital in motor omnibuses, which the Tramway Committee supply, charging a small fare, and also in motor cars which are very kindly lent by people in the neighbourhood. The secretary of the Automobile Association has organized quite a fleet of cars, which does a large amount of transport work not only of patients to the hospital but also for taking them away again to the section hospital. The work these cars do is very valuable, and without their help, which is offered any time of the night or day, the transport of this large number of patients to and from the hospital would be an impossibility.

Tetanus.

Five cases of tetanus have occurred, and of these two died; in one of them pneumonia was the determining factor. Three had an incubation period of under twelve days and one recovered; in the other two who recovered the incubation period was longer. In addition to the usual hypnotics and special nursing, the chief treatment adopted was the administration of large amounts of antitetanic serum intrathecally and intravenously.

Medical Cases.

There have been a large number of very interesting and curious bullet and shrapnel wounds, and about six cases of traumatic aneurysm. The last two batches of patients from the Expeditionary Force have shown a large increase in the number of medical cases; they included also a considerable number of cases of frost-bite and so-called "trench rheumatism."

BRITISH RED CROSS WORK.

Inspection of Red Cross Hospitals in France.

Sir Frederick Treves left London for France this week on a tour of inspection of the hospitals under the direction of the joint committee of the Order of St. John and the British Red Cross Society. His object will be to learn whether excessive work is being thrown on any of the hospitals, so that they need more help, and whether any need to be weeded out as having served the purpose for which they were established. In the meantime, Mr. Edmund Owen is working in the personnel department of the two societies at Pall Mall. The pressure upon the Red Cross organization is much lessened by the circumstance that the fighting line is so near the French ports. It is found more convenient to bring the wounded to England direct than to draft them in any large numbers into hospitals in France. There have been instances of men who were wounded at six o'clock on one morning being in a hospital in England the next morning. The Red Cross work at points on the lines of communication is thus greatly lessened.

The King George Hospital.

Progress is somewhat slow in the adaptation of the new buildings of the Government Stationery Office near Waterloo Station to serve as the King George Hospital. The reason is that the sanitary provision has to be much extended and bathrooms added before the premises will be suited for hospital purposes. As the building is of concrete, work on alterations to the fabric is necessarily slow. Arrangements are being made, however, by Sir Rowland Bailey and others, so that as soon as the wards are ready there will be no delay in equipping them. Thanks to the generosity of the public, every one of the 1,650 beds which the hospital will contain has been endowed. Appeals will soon be issued for the provision of *x*-ray installations and for the decoration of the day rooms. The following are the members of the consulting staff of the hospital.

Sir Thomas Barlow, Bart., K.C.V.O., President of the Royal College of Physicians; Dr. Mitchell Bruce, Consulting Physician to Charing Cross Hospital; Sir Watson Cheyne, Bart., President of the Royal College of Surgeons; Sir Bertrand Dawson, K.C.V.O., Physician to London Hospital; Sir H. Bryan Donkin, Consulting Physician to Westminster Hospital; Sir Dyce Duckworth, Bart., Consulting Physician to St. Bartholomew's Hospital; Sir Rickman Godlee, Bart., Consulting Surgeon to University College Hospital; Sir James Goodhart, Bart., Consulting Physician to Guy's Hospital; Mr. J. Warrington Haward, Consulting Surgeon to St. George's Hospital; Sir Henry Morris, Bart., Consulting Surgeon to Middlesex Hospital; Mr. Edmund Owen, Consulting Surgeon to St. Mary's Hospital; Sir Seymour Sharkey, Consulting Physician to St. Thomas's Hospital.

The list of visiting physicians and surgeons who have generously undertaken the charge of the soldiers in the wards will be published shortly.

Typhoid in the Belgian Army.

Very little information has reached the head quarters of the British Red Cross Society this week with regard to the outbreak of typhoid in the Belgian army, but information has reached London that to a large extent isolation is to be provided by means of barges converted into small floating hospitals and moored in the tideway. An ample supply of suitable barges is available. The fact that the Order of St. John and the Red Cross Society was able to place £10,000 at the disposal of those responsible for dealing with the outbreak has enabled immediate steps to be taken.

The Chloroform Supply.

Statements have appeared in the lay press that owing to a shortage of chloroform operations have had to be performed upon wounded soldiers without the use of an anaesthetic. The result of the circulation of these rumours has been the receipt by the Red Cross Society of many offers of liberal financial assistance towards providing a supply of chloroform. There is, however, no foundation for the statements, and the public may rest assured that our soldiers are being deprived of none of the benefits of modern science in this or any other respect.

CASUALTIES IN THE MEDICAL SERVICES.

Army.

Killed.

Two officers of the Indian Medical Service, serving with the Expeditionary Force in Flanders, were reported as killed, in the casualty lists published on December 4th—Major P. P. Atal and Captain K. I. Singh. It is ten years since the Indian Medical Service lost a member killed in action, the last being Captain F. Syme, who fell in the small force annihilated on April 15th, 1903, at Gumburin, in Somaliland. Though Indians have served in the Indian Medical Service, and have served with credit and success, for just half a century, this is the first occasion on which an Indian member of the service has fallen in action.

Major Pundit Piaraylal Atal, I.M.S., was born on August 2nd, 1872, educated at Bart's, took the M.R.C.S. and L.R.C.P.Lond. in 1898, and after acting as house-physician and junior house-surgeon to the Clayton Hospital, Wakefield, entered the army as lieutenant on January 28th, 1899, becoming captain on January 28th, 1902, and major on January 28th, 1911. He was medical officer of the 129th Baluchis. He served in the China war of 1900, and received the medal.

Captain Kanwar Indarjit Singh, I.M.S., was the son of Sir Haman Singh, K.C.S.I., and was born on December 27th, 1883. He was educated at Cambridge and at King's College Hospital, London, and took the M.B. and B.C. at Cambridge in 1911, the M.R.C.P.Lond. in 1912. He entered as lieutenant on January 29th, 1911, and became captain on April 23rd, 1914. He was medical officer of the 57th Rifles (Wilde's Rifles).

Wounded.

Paterson, Major T. G. F., I.M.S. (Persian Gulf).

Prisoners.

Edmunds, Captain C. T., R.A.M.C.
Garland, Captain E. J., R.A.M.C.
Middleton, Captain E. M., R.A.M.C.
Pollard, Captain A. M., R.A.M.C.
Robertson, Captain H. G., R.A.M.C. (previously reported missing).

NOTES.

Distinguished Service Order.

The King has approved of the appointment of twenty additional officers to be Companions of the Distinguished Service Order in recognition of their services with the Expeditionary Force. The list contains the names of three officers of the Royal Army Medical Corps, as follows:

Lieutenant Henry Beddingfield, M.B., R.A.M.C.:
For coolness and daring in repeatedly superintending removal of wounded from the firing line under heavy fire.

Major Sidney George Butler, R.A.M.C.:
At Missy, on September 15th. For coolness and courage in continuing all day to collect wounded under severe shell fire.

Captain Malcolm Leckie, R.A.M.C. (deceased):
For gallant conduct and exceptional devotion to duty in attending to the wounded at Frameries, where he was himself wounded.

Dispatches.

Royal Navy.

Appended to the dispatch from Major-General A. Paris, commanding the Royal Naval Division, with reference to the operations around Antwerp, from October 3rd to October 9th, the name of the following medical officer appears in the list of those mentioned for good services:

Fleet Surgeon E. J. Finch, R.N.

Army.

The following additions to the list of medical officers mentioned in Sir John French's dispatches of September 17th and October 8th, dealing with the operations of the Expeditionary Force from August 28th to October 8th, were published in the *London Gazette* of December 4th:

Colonel S. Westcott, Staff R.A.M.C.

Lieutenant H. Beddingfield, R.A.M.C.

Students in Medical Units of the Territorial Force.

Dr. Henry Hick (New Romney) writes: It may interest others, as much as it did me, to know that the War Office letter, dated November 28th, states that "it has been decided that any students who have joined medical units of the Territorial Forces, and wish to immediately resume their studies, shall be released from service."

Croix Rouge Française.

Dr. James Donclan has been appointed medical referee to the Committee of the French Red Cross in London to act in respect of the acceptance of medical men for service in France. The offices of the Committee are at 25, Knightsbridge, London, S.W.

Medical Officers Wanted.

North Midland Mounted Brigade Field Ambulance.

We are asked to state that the North Midland Mounted Brigade Field Ambulance are in urgent need of four medical officers in the reserve unit. The pay as lieutenant is 14s. per diem, with 2s. for food allowance and 3s. for billeting expenses when necessary; £30 allowed for uniform and £7 10s. for field equipment. Applications should be made to the officer commanding reserve unit, North Midland Mounted Brigade Field Ambulance, R.A.M.C.(T.F.), The Drill Hall, Nineveh Road, Handsworth, Birmingham.

South-Eastern Mounted Brigade Reserve Field Ambulance.

Major Hamilton, R.A.M.C., Officer Commanding South-Eastern Mounted Brigade Reserve Field Ambulance, requires four medical officers to complete his Staff. He will be glad to hear from medical men wishing to take up commissions during the war. This Reserve has now been formed, and is at present stationed at the Cricket Ground, Canterbury.

2nd East Anglian (Reserve) Field Ambulance.

There are still a few vacancies for medical officers in the Reserve Unit, 2nd East Anglian Field Ambulance. Pay and allowances as for officers of the Regular R.A.M.C. Applications should be made at once to Colonel Blake Marson, 2nd East Anglian Field Ambulance, 148, Broadway, Peterborough.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LIVERPOOL AND DISTRICT.

Belgian Doctors.

The Liverpool Medical Institution, at the meeting on December 3rd, considered the question of forming a Belgian Doctors' Relief Fund. The president, Dr. E. W. Hope, introduced the subject in fitting terms, and it was unanimously resolved to appoint a committee to promote this beneficent scheme. It is earnestly hoped that the medical men in Liverpool and district will show their practical sympathy in alleviating this sad distress, so little looked for or deserved by their Belgian professional brethren.

The Liverpool Panel Committee.

Aqua was recently the subject of discussion, as the chemists who dispense under the Insurance Act used *Aqua destillata*, which added ½d. to the dispensing fee. It would appear that *aqua*, as such, is not official in the *British Pharmacopœia*. However, as the water supply of Liverpool and its environs is above reproach and exceedingly potable, the committee decided that *aqua* when prescribed should be the *aqua fontis*—tap water. *Aqua destillata* should only be employed when expressly indicated or when the nature of the medicament required its use from a chemical standpoint.

The Liverpool Medical Committee.

Like many medical committees under the Insurance Act, the Liverpool Medical Committee in 1913 prepared a formulary not by any means as large as those of other medical committees, but sufficiently compendious to be of practical service to the panel practitioner. As Bootle is contiguous to Liverpool it was decided to bring the formularies of both county boroughs into harmony, so that the title of the medicine prescribed should not only be the same, but contain the same medicaments and identical proportions. The Committee, not unmindful of the interests of insured persons, passed a resolution that those engaged in public institutions should not be deprived of free choice of and free access to a doctor, that nothing should interfere with that confidential secrecy in their dealings with their medical attendant, and that no practitioner on the panel should allow the records of his patients to pass out of his personal control.

Liverpool Merchants' Base Hospital at the Front.

Liverpool is once more to be congratulated upon the munificence of its citizens. Lord Derby recently presided at a meeting of leading commercial men at which Dr. Haden Guest delivered an address. It would appear that £13,000 will be necessary for capital outlay, and the maintenance will amount to a monthly charge of £1,500. It is gratifying to note that the amount subscribed up to November 28th is over £20,892. The Committee, which has charge of the medical arrangements, has appointed Lieutenant-Colonel Nathan Raw, M.D., senior physician, and Mr. T. C. Litler Jones, senior surgeon to the base hospital. Other medical appointments will follow in due course. Motor ambulances were generously placed at the disposal of the Committee, who, however, found that the control of such vehicles is wholly vested in the War Office, and consequently could not be reserved for the sole use of the Liverpool Base Hospital. The Committee had therefore to decline regretfully such gifts, which need not go astray as the Red Cross Society would thankfully accept them. All the funds will be entirely administered in Liverpool, and it is earnestly hoped that the citizens will keep these so replenished that the Liverpool Merchants' Base Hospital will be an enduring memorial of the noble efforts of its citizens to assuage the sufferings of the wounded in this great war.

MANCHESTER AND DISTRICT.

Disabled Soldiers and Approved Societies.

At a meeting of the Trade Union Approved Societies' Association, held in Manchester on December 1st, a question of great importance to approved societies was raised—namely, the question of the payment of sickness and disablement benefit to returned soldiers and sailors from the war. The association represents about half a million insured persons, and the Committee stated that it viewed with the greatest concern the fact that insured soldiers and sailors discharged from active service who had been incapacitated in the war would be entitled to claim sickness and disablement benefit from their approved societies. This meant that a large number of their members who had been the "best lives" would be returned to their societies as "bad lives," many requiring probably disablement benefit for the rest of their lives. This was an extra liability never contemplated by the actuaries in estimating the cost of State sickness and disablement benefits, and it would have the most serious effect on their funds. The association therefore suggested that the soldiers and sailors incapacitated during active service should be a charge on the military and naval authorities until they recovered from such incapacity, and that health insurance benefits should not be taken into account when arriving at a decision as to pensions and allowances to be paid in respect of illness or disablement arising out of active service. The association was anxious to see the very best treatment given to soldiers and sailors, but thought that insured persons through their societies should not be called upon to bear a liability which the whole nation ought to accept. The association was quite prepared to administer the benefits in these cases for the Government, provided that the Government would guarantee that the increased

amounts paid out were repaid to the societies by the Treasury.

The question is also of great importance to the panel practitioners. The panel funds are at present being considerably lessened by the temporary withdrawal of insured persons who are on active service; when they return and are discharged from the services, they will require from the panel doctors an enormous extra amount of medical attendance which would never have been necessary but for the war, and it is felt in many quarters that though the medical profession has shown its readiness and in fact its eagerness to render freely its services during the war, it deserves equal consideration with approved societies in the circumstances alluded to above.

LONDON.

District Nursing Council.

A Central Council for District Nursing in London was formally constituted at a conference which was opened by Mr. Herbert Samuel, President of the Local Government Board, who was accompanied by Mr. Herbert Lewis, M.P., Parliamentary Secretary. Mr. Samuel said that his department, among many other duties, had to perform the functions of a ministry of health, and consequently took a keen interest in the organization of an adequate nursing service. Though the war had greatly increased the demand for nurses, the requirements of the civil population had to be met. Ultimately he hoped that the war would assist the work, for it had brought home to the population the importance of the nursing service, and the dignity and value of the nurses' work. On behalf of the Government he expressed an earnest hope for the success of the movement. Sir William, J. Collins, K.C.V.O., was elected chairman, and Dr. Christopher Addison, M.P., Vice-Chairman of the Council. Sir William Collins, in taking the chair, said that he understood that it was desired not to supersede or supplant existing organizations, but to supplement, support, and perhaps subsidize the benevolent operations of voluntary agencies. It was resolved that the Executive Committee should consist of twenty-five members, of whom twenty-three were appointed at the meeting. The committee was instructed to obtain full information as to existing provision for district nursing and to take steps to promote an adequate and efficient service.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Scottish Medical Service Emergency Committee.

A meeting of the Committee was held at the Royal College of Physicians of Edinburgh on December 5th. The Presidents of the Royal Colleges of Physicians and Surgeons, and of the Royal Faculty of Physicians and Surgeons of Glasgow, the Deans of the Faculties of Medicine of Glasgow and Edinburgh Universities, and Dr. Ashley Mackintosh, representing the Dean of the Faculty of Medicine of Aberdeen University, Drs. J. C. McVail, J. R. Currie, J. Stevens, and Norman Walker (Convener) were present.

The Convener reported that there had been numerous applications to the Committee for assistance in procuring locumtenents, and many offers of service from practitioners retired or temporarily unemployed. Though it had not been possible to provide direct supply in all cases, the influence of the Committee had been of considerable value in promoting arrangements for the carrying on of the work of the men on service, while the recommendation of the Committee that five guineas should be the maximum fee charged to men serving with the colours had apparently been loyally accepted. From several communications he had received it was evident that the financial arrangements between the men called out and their neighbours who were doing their work were not always satisfactory; and, indeed, in many cases no arrangements at all had been made. It was remitted to a subcommittee to consider whether it would be advisable to issue a series of model arrangements suitable to different varieties of practice to help in averting difficulties which might arise and to advise on any cases of immediate difficulty brought under the notice of the convener.

It being evident that more men would before long be called out, the Committee decided to make a fresh appeal for assistance to medical men and women who were in a position to help. A suggestion that the convener should address a meeting, or meetings, on the work of the Committee was approved.

The Royal Faculty of Physicians and Surgeons.

At the monthly meeting of the Royal Faculty of Physicians and Surgeons of Glasgow on December 7th, the following were admitted to the Fellowship, both *in absentiâ*: Major Robert James Blackham, R.A.M.C., C.I.E., L.R.C.P.E., L.F.P.S.G., L.R.C.S.E., D.P.H., Simla, India, and Harry Cecil Darling, M.B.Lond., F.R.C.S.Eng., North Sidney.

The president reported his attendance at a meeting of the Scottish Medical Emergency Committee, and intimated that Dr. Norman Walker had arranged to address a meeting of practitioners in Glasgow within the Faculty on the difficulties which had arisen, and will present themselves still more in the future owing to the large number of medical men on active service both at home and abroad.

The President of the Royal Faculty, Dr. John Barlow, F.R.C.S., has been posted to the Scottish Command, joining the 4th Scottish General Hospital with the rank of Lieutenant-Colonel R.A.M.C.(T.). Major Thomas Forrest, F.R.F.P.S., has been posted Senior Medical Officer, Gailes Command, to the Glasgow Battalion of the Highland Light Infantry.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Belfast Municipal Sanatorium at Whiteabbey.

The Belfast Corporation and the Poor Law guardians recently completed the arrangements for the transference of what was formerly the Poor Law consumptive sanatorium at Whiteabbey to the municipal authorities. Under the Poor Law Board the patients were under the medical care of Dr. Robert Hall and Dr. J. C. Rankin as visiting physicians; and there were two resident medical officers. The Local Government Board recommended the City Council to appoint one resident medical superintendent; this appointment has been made, Dr. Hans Gilliland being elected out of eight candidates at a salary of £500 per annum, with personal board and residence. The position of Dr. Hall and of Dr. Rankin is not yet settled. Dr. Hall qualified twenty-eight years ago, and, as far as one medical officer could, was the originator and developer of the first Poor Law consumptive sanatorium in Ireland; under the Poor Law Board he undoubtedly brought this sanatorium to its present state of perfection, and he has proved one of the most competent and most advanced officers of the board. Dr. Rankin's connexion is much more recent. Dr. Gilliland qualified in 1912, and has devoted his time to the study of tuberculosis. He has been resident medical officer at the Royal Victoria Hospital for Consumption at Craigleith. Considerable feeling has been shown in the public press and in medical circles as to the qualifications and ages of the other candidates, which have not been made public. It is hoped that the advantage of the abilities and large experience of the present two visiting physicians may be retained, at any rate for a few years, in the active service of the town.

Scarlatina in Belfast.

Considerable discussion took place at the last monthly meeting of the City Council on the increasing prevalence of scarlatina. This is the fifth year in succession in which an epidemic has occurred. The public, which pay so heavily for the public health department, did not grudge the cost of building one of the finest fever hospitals and spends large sums for its upkeep, is clamouring for an explanation. This was not forthcoming at the meeting. Discordant opinions of sanitary authorities were freely quoted; schools are being examined, and everything that can be done is apparently being done, and yet, as one

member said, no other city had suffered from an epidemic of scarlatina for five years in succession.

Students' Union, R.C.S.I.

The inaugural meeting of the Students' Union of the Royal College of Surgeons in Ireland was held on December 3rd in the hall of the college, when the President, Mr. F. Conway Dwyer, presided over a large attendance, which included a number of members of the Officers' Training Corps. Mr. Thomas E. Gordon, F.R.C.S.I., delivered an inaugural address, in the course of which he reviewed the events which preceded the war. He discussed some of the problems of military surgery and said that he need not urge his hearers to prepare themselves to join their fellow-students at the seat of war, for of the present class 75 had in one capacity or another given their services to the country, and already there were serving with the army 400 former students of the Royal College of Surgeons. Major-General Friend, in proposing a vote of thanks to the lecturer, said that, in addition to the splendid record of the Royal College of Surgeons, Trinity College had furnished 500 men.

Dublin University Biological Association.

At the opening meeting of the fortieth session of the Dublin University Biological Association, the biological medal was presented to Mr. James S. Robinson, the Bennett medal to Mr. Arthur Chance, the Cunningham medal to Mr. E. D. M'Crae, and the Purser medal to Mr. R. W. Fearon. The President-elect, Dr. Joseph T. Wigham, delivered an address upon the influence of science on modern medicine. In the discussion which followed it was stated that 130 members of the association were at present serving with the colours.

Correspondence.

ACCOMMODATION FOR TROOPS.

Sir,—The large number of men who have recently been called up for training in all parts of the country has placed the War Office in a difficult position as regards their accommodation.

I imagine that at present there are few under canvas, and that they are either billeted on the civil population or housed in temporary or permanent buildings more or less adapted for the purpose.

In addition to the housing question, it is necessary to have space for training, and therefore large towns would naturally be avoided; but there must be some military camps which have some features in common with the one in which I am interested—namely, Guernsey.

At the beginning of the war we suddenly and without warning had 1,500 men sent over here for training. They came from Staffordshire and were mostly dwellers in towns; indeed, many of them had never been near the sea before. I believe work had been slack with them, and they were badly clothed, as a rule, and looked as if sea air and good food would work wonders with them.

The authorities here did their very best to receive them properly; that must be fully acknowledged. Yet their lot has been an unenviable one, although they have borne the hardships and inconveniences they suffered with a cheerfulness that is beyond all praise. They were crowded into unsuitable tents; no latrines, ablution benches, or clothes were available for them, their food and the cooking left much to be desired, and wet and rough weather severely tried them.

The condition of affairs slowly improved, but, as was inevitable, many men became verminous and suffered from their uncleanly surroundings, without having any chance to help themselves. Indeed, the contrast with the treatment of the men of the North Staffordshire Regiment and the well-fed and well-housed men of the Royal Guernsey Militia was most marked.

It will probably be said that such conditions are unfortunately by no means unusual, and need not be mentioned in your columns, but there is a moral to be drawn from them, and this is my excuse for asking you to publish my letter. In my opinion the community did not do its duty to these men, and the reason probably was the "business as usual" attitude of the general public, who require that a great war must be successfully waged, but that they must not be inconvenienced by it.

We are told—and we know it is true—that the success of our army in this almost pan-European war must depend upon its being reinforced at the earliest possible moment by hastily trained troops, and that the comparatively few valiant men who draw the sword and are bearing the burden of the many, are in danger of being overwhelmed by force of numbers and exhaustion at the fighting line. We must clearly, then, sacrifice everything to the necessity of making our new army as efficient as we can at the earliest possible date. It is impossible for men, badly housed, clothed, and fed, and verminous to be at their best, and some of these disabilities might have been avoided. Here we have well built modern schools, with good lighting, ventilation, floors, and latrines. With but little alteration the latrines would serve for troops, and would be ample for the purpose; cooking arrangements, gas or other, could be provided, the heating apparatus could be modified, so as to provide hot water for portable baths of a cheap description and for washing clothes, and by watering the floors with a solution of cresol the appearance of vermin could have been prevented. These unselfish men who are serving their country would have been living under conditions of comparative comfort, which would be the more valuable as the days shorten, and would be quickly able to prepare for the stern ordeal of active service, and take their place in the fighting line. The authorities would have been able to provide without undue haste, which means loss of efficiency, for the accommodation of these men and those who must follow after them.

What is the other side of the question, and what is its value compared with that of the interests of the nation, vital as they are? Children would have been kept away from school for a few months, but this could easily be dealt with by raising the age of school attendance for a limited period. What is that when we are in the throes of the greatest war the world has ever known? I hope there will be many men placed in a similar position to myself who will share my opinions, and will realize that if it is late in the day, it is not too late to help the men of the new army in their efforts to become efficient soldiers of the King.—I am, etc.,

Hy. Draper Bishop,
M.O.H., States of Guernsey.

Guernsey, Dec. 6th.

CONCUSSION OF THE SPINAL CORD.

Sir,—I have been much interested in reading accounts of surgical experiences in the war to notice the effects which simple "concussion," uncomplicated by gross lesion, appears to have had upon both spinal cord and peripheral nerves. Mr. D'Arcy Power, for instance, in the Journal of November 28th, p. 238, says that "the most interesting injuries to the nervous system and nerves were those to which the non-committal name of 'concussion' must for the present be applied. They had to be distinguished from laceration, haemorrhage, compression, and other tangible conditions by the fact that no gross lesion was presented by examination during life."

Some years ago, in an endeavour to disentangle "concussion of the spinal cord" from "concussion of the spine"—an elusive term which was the parent of much faulty diagnosis and spinal malingering—I made a scrutiny of, and brought together, all the cases up to the time recorded both in civil and military surgery, and was able, as I believe, to establish the exceeding rarity of concussion symptoms apart from gross discoverable lesion of the spinal column or the contents thereof. A singularly small number, not more than three or four, of unequivocal concussion was to be found, and I wrote: "It should, however, be especially noted that these cases occurred in military practice, and it is not inconceivable that a blow inflicted on a small area with the prodigious momentum of a bullet may be more likely to cause structural damage to the spinal cord or other contents of the spine by concussion than is any other injury which befalls the vertebral column." Anatomical facts, moreover, warranted the surmise that the symptoms of simple concussion were most likely to be met with, if anywhere, after blows upon the lowermost regions of the spinal column, where the nervous elements pretty nearly fill the spinal canal, akin to the condition of things pertaining to the skull and brain.

The opening chapter of *Injuries of the Spine and Spinal Cord* (second edition, 1895) is upon "Concussion of the Spinal Cord," where the whole subject is fully dealt with, and I venture to bring it to the notice of those now interested in the subject, or who may meet with cases in military practice, in the hope that such cases, if any, may be published in full detail, so that this important and difficult subject may be further elucidated.—I am, etc.,

December 1st. HERBERT W. PAGE.

RADIOGRAPHY IN THE DIAGNOSIS OF BULLET WOUNDS.

SIR,—In Sir John Bland-Sutton's exceedingly interestingly clinical lecture on the value of radiography in the diagnosis of bullet wounds, published in the JOURNAL of December 5th, reference is made to the care which is necessary in the interpretation of radiograms, especially when it is desired to determine the relation of a retained bullet to a bone. A case is recorded and figured in which "it required several plates to determine accurately whether the bullet was lying at the back of or in front of the bone" (the femur), and in which operation showed that it was "firmly embedded in the condyle near the adductor tubercle."

My object in referring to this matter is to insist upon the great value of the stereoscopic method in this as in so many other circumstances.

By this means, and with the expenditure of only two plates, the surgeon may have the great assistance of actually seeing that the bullet is *in* a bone, before he proceeds to an operation, if such be undertaken.

I may well illustrate the value of this method by referring to a case in which the omission to employ it nearly resulted in a fruitless search. A shrapnel bullet had been carefully localized in the upper part of the thigh and was believed to be lying behind the femur. For a while it could not be found until a little patch of swollen periosteum over the base of the great trochanter attracted attention and led to the discovery of the bullet in the bone at a depth of about a third of an inch beneath the surface.

The examination of a sufficient number of plates taken in various planes will, no doubt, eventually give the information required, but surely the stereoscopic method is the most conclusive. The value of the method in determining the exact relation of a bullet to the ribs is particularly striking.—I am, etc.,

Royal Naval Hospital, Plymouth, Dec. 8th. RAYMOND JOHNSON.

THE TREATMENT OF WOUNDS IN THE PRESENT WAR.

SIR,—So convinced am I of the absolute necessity of some simple common-sense precaution against all the horrors and dangers of sepsis, and so fatally true is it here that "prevention is better than cure," that I think every soldier at the front should be taught how, and provided with the means, to disinfect his own wounds, or at least that the men at the front should be able to do this for each other on the spot. Having had considerable experience of teaching all classes of people "first aid," and of explaining to them the principles and essentials of antisepsis, I feel quite certain that it would be no difficult or impossible task to instruct our soldiers in the objects of surgical cleanliness and in a simple method of wound disinfection, and I am satisfied that our men are sufficiently intelligent and sufficiently alive to the importance of the matter clearly to understand and carry out this teaching in practice.

As to the means to be employed, I have a simple practical suggestion to make which will meet the case, better at any rate, I think, than the carbolic suppositories suggested by Sir Watson Cheyne. I send you a sample of a little apparatus I have made. A hollow wooden shell or tube,* open at one end and closed at the other (such as is used for conveying tubes of vaccine, etc.), is fitted with a cork at its rounded opening. This cork should project slightly, so as to admit of ready removal. Into the centre of the lower, or narrower end of the cork a piece of thick aluminium wire is fixed, several inches long (the size may be varied according to the size of the container). The free end of the wire may be twisted, or bent upon itself so as to give a secure hold to the pledget of wool or gauze which is wound on to it; the pledget is then soaked in pure liquid phenol, placed in its container, securely corked, and the whole wrapped in paper or in a thin cardboard case. It need take up very little room, and should form an essential part of the first field dressing that every soldier carries upon him at the front. I should suggest that as soon as possible after the infliction of, say, a shrapnel wound the man himself, if able, or one of his companions, in the absence of any medical man, should, after arresting haemorrhage by the application of a tourniquet, etc., swab the wound as thoroughly as possible, using, if necessary, a number of these swabs; any foreign particles, unless ingrained, could at the same time be removed by brushing them off with the swab; the wound should then be covered with an antiseptic (for example, double cyanide) dressing, and bandaged firmly in position until the patient can be removed to the rear hospital for more thorough surgical cleansing and treatment. Bullet wounds should also have their edges swabbed before the antiseptic dressing is applied. (In severe wounds the shocked condition of the patient would make the application of the phenol almost painless, and in no case does the pain of the application last long, and it then acts anaesthetically.)

I do not suggest that this method is ideal, but I submit that it is simple, inexpensive, and worthy of trial, and I would ask the authorities to provide large quantities of these "protected swabs" for immediate use at the front. Their cost will be but trifling, and they will, in my opinion, if properly used, save endless suffering and loss.—I am, etc.,

Bowdon, Nov. 21st. P. R. COOPER, M.D. and B.Sc.Lond., F.R.C.S.Eng.

* To prevent evaporation this can be lined with a thin coating of paraffin, which is simply done by pouring in melted paraffin (melting point, 120° F.), and after allowing to stand a few seconds, pouring it out again so as to leave a thin film, which, on cooling, forms a damp-proof lining.

THE PREVENTION OF TETANUS.

SIR,—In reference to Dr. Stuart Oliver's letter (November 28th, p. 949), it is true that the use of quinine hypodermically and intramuscularly has been considerably restricted during the last two or three years, because tetanus was noticed occasionally to supervene, but such cases were attributed chiefly to the action of quinine stimulating latent spores into activity, and not to an infection through contaminated needle or faulty technique.

This question was investigated by Lieutenant-Colonel Sir David Semple when he was director of the Central Research Institute, Kasauli. The results of his experiments and his conclusions were embodied in a report published by the Government of India in 1911; and I believe it is entirely due to Sir David Semple's investigations that quinine is no longer given hypodermically as a routine practice in malarious countries.

The following extracts from the report are particularly interesting just now:

> At first sight it would seem impossible, when given a sterile syringe, sterile quinine solution, and sterile skin at the site of inoculation, to produce tetanus, and so it would be except for the fact that there are people who harbour in their bodies tetanus spores, which may lie dormant, either in a recently healed up wound or abrasion, or possibly in a old healed-up injury long forgotten. There are also many healthy individuals who harbour tetanus germs in their intestinal tracts. . . .
>
> In a latent tetanus spore infection there are many more conditions, in addition to the hypodermic injection of quinine, which would favour the growth of spores. . . . It has long been known that in campaigns where soldiers are subjected to great fatigue, coupled with extremes of heat and cold, many cases of tetanus occur. Here the depressing influences of fatigue, in conjunction with great heat or great cold, would diminish the resistance in those who harboured infection. . . .
>
> We know that hypodermic injections of morphine, cocaine, strychnine, or digitalin are rarely (if ever) followed by tetanus. I cannot remember ever hearing of a case of morphine injection giving rise to tetanus, and I am sure it is a method of treatment more generally adopted than quinine injections.

With an experience of more than twenty years in Assam, I also cannot call to mind a case of tetanus arising from a morphine injection, and I trust our wounded soldiers will not be denied this means of relief and benefit; due precautions for sterilizing needle, skin, etc., being taken.

Dr. Oliver's suggestion that the needles should be of some non-corrosible metal will commend itself to all who have used them, and they are cheaper in the long run. Steel needles are an abomination: they rust, the bore gets choked, and they are apt to break in use, especially if they have been sterilized by being passed through a flame.—I am, etc.,

Bath, Nov. 30th. E. WELLS WITHAM, Surgeon-Captain (ret.), Assam Valley Light Horse.

BRITISH IN GERMAN CONCENTRATION CAMPS.

SIR,—I was much interested in the leader, "Germans in Concentration Camps," which appeared in your issue of December 5th.

I have myself recently returned after three months' interment in Germany, and can personally vouch for the malicious efforts now being made by the German press (inspired?) to stir up popular feeling against the British. My own experience of a "lager" (concentration camp) at Linden, Hanover, may be of interest to your readers.

This lager was an old disused percussion cap factory—dirty, damp, and dilapidated. In it were men, women, and children; one child was born there. The men were of British, Belgian, French, and Russian nationalities; the women and children were, I believe, all Belgian. On arrival we had to give up all knives, razors, pocket scissors, and sharp instruments of every kind; also pipes, tobacco, matches, and all forms of smoking material; likewise all money had to be deposited with the authorities.

Each man was served with one coarse blanket, a bundle of wheat straw, a small enamelled basin, and an iron spoon; this was our complete outfit. Our beds were made by spreading the straw on the cement floor of one of the outbuildings assigned to us, care being taken to avoid drips from the roof, rat-holes, and suchlike inconveniences.

Roughly one-third of the place was assigned to the women and children and two-thirds to the men, the only common ground being a path, between the male and female side, on which fathers could meet their wives and children and pace up and down to pass the long weary hours.

As for sanitary arrangements there were none. The old privies of the factory had never been cleaned out, and were as full of filth as to be almost unusable. The only water supply was a fire hydrant at one end of the common path. There was no heating apparatus of any kind.

Food was both scarce and coarse. In the morning between 7 and 7.30 we had to line up in front of a central building—which served as an administration block—and wait for bread to be served out. Each one received a chunk (about 4 oz.) of coarse brown bread (*Graubrod*), then we proceeded in batches to receive a large ladleful of very weak "coffee," without milk or sugar, the receptacle being our enamelled basin. For dinner we had lentil, pea, or bean soup with a few potatoes and another vegetable mashed in it. Occasionally there were fragments of meat, liver, lung, or heart in the "soup." Supper, at 6 p.m., consisted of bread only. Women and children all had the same fare.

Truly we lived the "simple life," and for this "kultured" treatment 1 mark (1s.) a day was docked off the sum of money which we had been compelled to deposit with the authorities on entering.

The only redeeming feature was that we were allowed to have visitors occasionally, who brought us white bread, butter, sugar, and sometimes jam or other dainty.

I have recently had post-cards from friends who were with me at the Linden lager, and who are now interned on the racecourse at Ruhleben, near Spandau, and they state that the conditions there are certainly an improvement on those which obtained at Linden.—I am, etc.,

JAMES J. PATERSON, M.D.Lond., D.P.H.,
M.O.H. East Berks United Sanitary Districts.

Guildhall, Maidenhead, Dec. 7th.

THE RESEARCH SCHEMES OF THE MEDICAL RESEARCH COMMITTEE.

SIR,—In the research schemes of the Medical Research Committee published in your issue of December 5th no recognition is given to the study of heredity. While so much is being spent on the study of environmental conditions it is a pity that nothing can be spared for the study of innate constitutional or diathetic factors. The splendid work on hereditary diseases of the eye carried out by the late Mr. Nettleship is just as much a part of medical research as an investigation into the characters of the tubercle bacillus.

Professor Bateson and his co-workers have shown that the analytic study of genetic constitution is of the utmost importance in the understanding of life in all its forms, and man is no exception.

In a national and comprehensive scheme of medical research, this aspect in all its bearings, individual as well as social, should not be overlooked.—I am, etc.,

Warrington, Dec. 16th. J. S. MANSON.

POPULAR FREUDISM.

SIR,—In the review of an English translation of Freud's *Psychopathology of Everyday Life*, published in the JOURNAL of December 5th, it is said that in this book the "strength and the weakness" of the Freudian system of psychology are made clear. But the reviewer shows up the "weakness," and says nothing about the "strength." Nothing is here for wonder—*De non apparentibus et de non existentibus eadem est ratio*. The general theory advocated in the book is that many seemingly accidental slips of speech and pen, etc., are determined by "unconscious" psychical motives. The reviewer especially condemns Freud's explanation of the momentary forgetting of a proper name—a failure common to most people, and very frequent in those of advanced years—as "too full of assumption to be anything but sophistical." Now Freud's explanation is that the temporarily forgotten name is connected with an unconscious painful idea or system of ideas! To argue against such a statement as this is surely unnecessary, its absurdity being patent to all who think about it for a moment, quite apart from the further question as to whether the words *unconscious painful idea* have any meaning whatever.

Surely the time has at last come when all psychologists, psychiatrics, and medical societies should join with Dr. Mercier in ceasing to regard this modern and alien jargon about the "unconscious" as matter for serious consideration, and follow the better course of killing the abounding nonsense of the Freudian "Philosophy" by ridicule, or by letting it perish, at least in this country, from neglect of cultivation. At present it plays the part of a virulent pathogenic microbe in the wells whence psychiatrists drink.—I am, etc.,

December 8th. H. B. D.

EPSOM COLLEGE.

SIR,—Will you allow me to call the attention of your readers to the educational and pecuniary advantages offered by Epsom College to the sons of medical men? These are briefly described in the advertisement which appears on p. 59 of the BRITISH MEDICAL JOURNAL of December 5th; but I should like in this letter to emphasize the facts that this year ten boys out of thirteen passed the whole of the First Examination for Medical Degrees of the University of London, and that eighteen boys out of twenty-three passed the Matriculation Examination of the same university, six of them gaining a first class.

May I also take this opportunity to remind those of your readers who are not already subscribers to the Royal Medical Foundation attached to Epsom College that this Foundation provides gratuitously an education of the highest class, together with maintenance, clothing, and pocket money, for fifty necessitous sons of medical men, and gives pensions of £30 each to fifty aged members or widows of members of our profession in reduced circumstances.

It is necessary to procure a sum of about £4,500 a year in voluntary contributions to enable the continuance of these benefits to the medical profession; and as the numerous calls in connexion with the war are causing the withdrawal of some and the curtailment of other annual subscriptions, I trust that numerous fresh contributors will be forthcoming to assist and encourage the council at a particularly anxious time.—I am, etc.,

HENRY MORRIS,
London, W., Nov. 24th. Honorary Treasurer.

DR. C. E. SHERRINGTON, F.R.S., professor of physiology at Oxford, has been appointed Fullerian professor of physiology at the Royal Institution, London, for a term of three years from January next. During the session which begins after Christmas, Dr. H. G. Plimmer will give three lectures on modern theories and methods in medicine. The Friday evening meetings will begin on January 22nd, when Sir James Dewar will give a discourse on problems of hydrogen and the rare gases. Other Friday evening discourses will be given by Dr. Dugald Clerk, Professor A. W. Crossley, Dr. William S. Bruce, Professor E. B. Poulton, Rev. A. L. Cortie, Sir Rickman John Godlee, Professor G. H. Bryan, and Professor Sir J. J. Thomson.

Obituary.

THE LATE CAPTAIN R. S. RANKEN, V.C.

By the courtesy of his father, the Rev. Henry Ranken, minister of the parish of Irvine, Ayrshire, we reproduce a portrait of Captain Henry Sherwood Ranken, R.A.M.C., on whom the Victoria Cross was conferred for his bravery in tending the wounded in the trenches under rifle and shrapnel fire at Hautvesnes on September 19th and on September 20th, and continuing to attend the wounded after his thigh and leg had been shattered. Captain Ranken, who graduated M.B., Ch.B. in the University of Glasgow in 1905, entered the Royal Army Medical Corps in 1909, and to the brief account of his scientific work already published we may add the following particulars. In 1910 Captain Ranken was appointed by the Tropical Diseases Committee of the Royal Society to be an assistant to Mr. Plimmer in certain researches he had undertaken on the experimental treatment of trypanosomiasis. In November of that year a paper on this subject by Mr. Plimmer, Major W. B. Fry, and Captain Ranken was published by the Royal Society (*Proc. Roy. Soc.*, vol. 83 B.). It was principally concerned with the treatment of trypanosomiasis by the intravenous injection of precipitated metallic antimony, and owing to Captain Ranken's skill this method of treatment was made possible and safe in animals.



CAPTAIN R. S. RANKEN, V.C.
[Photograph by Brinkley and Son, Glasgow.]

Having convinced himself of the possibilities of this method Captain Ranken accepted an appointment in the Sudan Sleeping Sickness Commission and went out to the Yei camp in the Lado enclave in the autumn of 1911. He there carried out this method of treatment on a large number of cases of sleeping sickness, and discovered that the same treatment was effective also for yaws. The results of the work he did there during the first year were published by the Royal Society (A Preliminary Report on the Treatment of Human Trypanosomiasis and Yaws with Metallic Antimony, *Proc. Roy. Soc.*, vol. 86 B.) in February, 1913. He came back from his second year in the Lado in the summer of this year, and unfortunately he had not completed his second report when he was required at the front, where he so bravely died. He was to have gone out to the Lado again last month, and he hoped, after three years there, that he would have been able to have brought his work on the treatment of trypanosomiasis to a practical conclusion. During leave at home in 1913 he was not idle, but worked with Mr. Plimmer again and with Major Fry, with whom he wrote a paper on the subject of the granules extruded from trypanosomes, which was published by the Royal Society (*Proc. Roy. Soc.*, vol. 86 B.). His work, although none of it is finished, was of the best, and by his death research in these subjects is deprived of one of its best workers. He was extremely careful and accurate in his observations, and most patient in his work. He had withal excellent fingers for the delicate technique his microscopic and experimental work demanded. He was, Mr. Plimmer tells us, a delightful colleague and a loyal friend.

HERBERT TAYLOR, M.B.LOND.,

KENNINGTON.

THE friends of Herbert Taylor—and they were many—will have heard of his death with the deepest regret. He was born on August 4th, 1850, being the third son of Dr. David Taylor of Kennington Park Road, who for many years practised in that part of South London. He was educated at Epsom College, where he gained many prizes, and in 1867 the entrance scholarship from that school to St. Bartholomew's Hospital. After taking the degree of M.B.Lond. and the diploma of M.R.C.S. in 1872, he held the posts of ophthalmic house-surgeon, resident obstetric assistant, and house-physician at the hospital. After leaving the hospital he joined his father in practice, and led a busy life of work till his death on December 2nd. He was a member of the British Medical Association, and represented the Lambeth Division on the Metropolitan Counties Branch Council for several years.

It is not too much to say that Herbert Taylor was beloved by all who knew him. His bright, cheery manner, his hatred of shams, and his affectionate nature gave him a host of friends in his student days, and his kindness and gentle care for his patients will make his loss very greatly felt in South London. Herbert Taylor was very musical and had a beautiful voice. Nothing pleased him more than to get a few friends together for a musical evening.

A severe illness a few years ago made a great demand on his strength, and it is doubtful whether he ever quite recovered it. On the Sunday before he died he was able to make his Communion, but in the evening did not feel well, and in spite of all the devoted care of his brother, Frederick Taylor of Guy's, he passed with a gentle sigh beyond the veil in the early hours of Wednesday morning.

He married in 1884 Gertrude Louisa, youngest daughter of Mr. Charles D. Carter, F.R.C.S., of Pewsey, Wilts, and leaves four sons, two serving their King and country in the navy and army, one is in the Colonial Medical Service, and one is a master at Clifton College.

Medico-Legal.

ALLEGED MISREPRESENTATIONS BY A MEDICAL PRACTITIONER. VERDICT FOR DEFENDANT.

ON December 1st Mr. Justice Bray, sitting with a special jury, heard a singular case in which Mr. Gilbert Fox Allom, an electrical engineer, sought to recover damages from Dr. Alexander Cuffe of Tadworth, Surrey, for alleged misrepresentations.

Mr. Colam, K.C., and Mr. Szlumper (instructed by Messrs. Baxter and Co.) appeared for the plaintiff; Mr. McCall, K.C., and Mr. Neilson (instructed by Messrs. Le Brasseur and Oakley, solicitors to the London and Counties Medical Protection Society) appeared for the defendant.

It appeared, according to the report in the *Daily Telegraph*, that in 1911 the defendant, who was the plaintiff's family doctor, advised him to go away for his health. In 1912 the plaintiff went abroad on the advice of a specialist, and when he returned to England, the relations between him and his wife became strained. In 1913 she commenced separation proceedings, and the defendant gave certain information to her solicitors. He was subpoenaed by both sides. The defendant was requested by the wife's solicitors to break to her husband (the plaintiff) the news that he was going to give evidence to the effect that the plaintiff was suffering from a form of epilepsy. This the defendant did, saying that he had formed an opinion which was confirmed by Dr. Fawcett and Dr. Verling-Brown. It was alleged that in making this communication the defendant exceeded his instructions, and that he so acted in order to use his influence to prevent the plaintiff from fighting his wife's petition, and to terrify him into settling the case.

The plaintiff, in giving evidence, said that what was told him was a great shock, and the result was that the suit with his wife was settled. He was so upset that he was totally unfit to fight the action. Cross-examined by Mr. McCall, he said that he had known the defendant since 1907 and down to January 15th, 1912, had every confidence in his skill and care. He fully appreciated that he was charging the defendant, in whom he had had all this confidence, with false and fraudulent representation. Asked whether he could suggest any motive for the defendant telling him lies in order to deceive him, he said it was not for him to suggest any motive. In reply to the Judge, he said that the defendant might have been anxious to see his wife

come through the case successfully. He admitted that neither in his letter to the defendant nor in the pleadings had any such motive been suggested.

Dr. Fawcett, in giving evidence, said he had found no trace of minor epilepsy, but that a brother practitioner might have formed an honest opinion that the plaintiff had minor epilepsy.

Dr. Verling-Brown also gave evidence for the plaintiff.

The defendant, in giving evidence, said that when he first saw the plaintiff in 1908 he had collapsed in a fit on the floor of his bathroom. Subsequent examination of the plaintiff (in 1911) confirmed the view that he was epileptic, and when witness had interviews with Dr. Fawcett he considered that Dr. Fawcett agreed with him. When he informed the plaintiff of this, at the request of the solicitor, the plaintiff thanked him.

Mrs. Constance Allom, in giving evidence, said that the defendant had shown her Dr. Fawcett's letters, and that the defendant had no interest in her success in the suit with her husband.

Dr. H. C. Thompson and Dr. Woodwark having given evidence for the defendant,

The jury intimated that in their opinion there was no case of fraud.

His Lordship: I think I should have held that there was no evidence, but I thought it would save the possibility of appeal to let the jury give a verdict.

Mr. McCall: It is much more satisfactory to the defendant that the jury should have given a verdict.

Judgement was then given for the defendant with costs.

The Services.

ARMY PENSIONS TO THE FAMILIES OF OFFICERS.

THE following are the rates of pensions and gratuities allowable to the families of officers (under the rank of colonel) of the Regular Army, the Special Reserve of Officers, and the Territorial Force, and to the families of officers holding *only* temporary commissions for the purposes of the present war.

Widows and Children.

CLASS A. Families of Officers killed in action or dying of wounds received in action within seven years after having been wounded.					CLASS B. Families of Officers dying from disease caused by fatigue, privation, or exposure incident to active operations in the field or from wounds or injuries sustained on duty (not in action) within seven years after removal from duty for the disease or injury.	
Rank of Officer—(that is, permanent rank, unless the Officer holds *only* temporary rank.	Pension to Widow (during widowhood). Yearly.	Compassionate Allowance for each child (Sons till 18, Daughters, unmarried, till 21). Yearly.	Gratuity in addition to pension, etc.		Pension to Widow (during Widowhood). (No gratuity is payable in these cases).	Compassionate Allowance for each Child (Sons till 18, Daughters, unmarried, till 21)
			Widow	Each Child.	Yearly.	Yearly.
	£	£	£	£ s. d.	£	£ s. d.
Lieut.-Col.	180	24	450	150 0 0	135	20 0 0
Major ...	140	21	300	100 0 0	105	17 10 0
Captain ..	100	18	250	83 6 8	75	15 0 0
Lieut. ...	80	15	140	46 13 4	60	12 10 0
2nd Lieut.	80	15	100	33 6 8	60	12 10 0

Motherless Children.—Twice the above rates of compassionate allowance may be granted to motherless children. If an officer (Class A) leaves a *daughter only* (unmarried and under 21) she may be granted, in lieu of the above rates a special allowance varying from £40 to £90 a year, according to rank. These awards are in addition to the gratuity.

Mothers.—If an officer (Class A) leaves neither a widow nor legitimate child, his mother, if a widow without other pension or adequate provision, may be granted a special pension varying from £40 to £90 a year, according to rank, provided that she had been mainly dependent on the officer.

Sisters.—If an officer (Class A) leaves neither widow, legitimate child, parent, nor brother, a similar pension may be granted to his sister or sisters, jointly, if unmarried, subject to the above proviso.

Applications.—All applications for the grant of pensions, as above, should be addressed to the Secretary, War Office, Whitehall, S.W.

ROYAL NAVY MEDICAL SERVICE.

Report on the Examination of Candidates for Entry as Acting Surgeons, R.N.

THE medical department of the Admiralty requests us to state that the marks shown against Surgeon F. C. Hunot, on page 952 of the BRITISH MEDICAL JOURNAL of November 28th, are those obtained by him at the Entrance Examination only, when he took first place, he having been prevented by illness from attending the Greenwich course and from competing at the subsequent examinations.

Universities and Colleges.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on November 18th.

The War.

It was resolved:

1. That military service during the war be counted as equivalent to not more than two terms of a course of study in military science for internal students in any one of the three years over which such course of study would ordinarily extend.
2. That, in the session 1914-15, in the case of an internal student entering for an examination of the university, 120 hours of military training in the University of London contingent of the Officers' Training Corps, duly certified by the Commanding Officer be counted as equivalent to 25 per cent. of the hours of attendance prescribed for the student's course of study in that session.
3. That, during the continuance of the war only, the Second Examination for Medical Degrees, Part I, be held in December as well as in March and July.

Recognition of Teachers.

The following were recognized as teachers in the subjects and at the institutions indicated:

Guy's Hospital.—Mr. Patrick P. Laidlaw (Pharmacology) during the absence of Dr. Clark on military service.

London School of Tropical Medicine.—Dr. G. C. Low (Tropical Medicine).

Royal London Ophthalmic Hospital.—Mr. R. F. Moore (Ophthalmology).

General Physiology and the Intermediate Examination in Science.

The regulations for the intermediate examination in science for internal students were amended by the substitution of the words "120 hours" for the words "160 hours" at the end of section (2) of the curriculum in general physiology on p. 231 of the Red Book, 1914-15.

Second Examination for Medical Degrees and B.Sc. Honours in Chemistry.

The regulations for the B.Sc. honours examination for internal students were amended by the insertion of the words "Chemistry or" after the words "B.Sc. (Honours) in" in line 3 of the last paragraph on p. 256 of the Red Book, 1914-15; and the regulations in the Faculty of Medicine were amended by the addition of the words "Chemistry or" before the word "Physiology" in the fourth line of the third paragraph on p. 190 of the Red Book, 1914-15. It was resolved also that candidates who have passed the second examination for medical degrees, Part II, should be admissible after an interval of not less than one year to the B.Sc. Honours examination in chemistry for external students without having passed the intermediate examination in science.

B.Sc. Honours Examination in Physiology.

The regulations for the B.Sc. (Honours) Examination in Physiology for internal students was amended by the insertion of the following paragraph on p. 268 of the Red Book, 1914-15, before the words "Subsidiary Subjects":

No Honours course in this subject will be allowed to run concurrently with a course for the Final M.B., B.S. Examination.

Appointment of Examiners.

The following appointments to examinerships have been made: Dr. W. G. Ridewood, as staff examiner in biology for the first examination for medical degrees for internal and external students in December, 1914, in place of Mr. T. G. Hill, absent on military duty. Dr. M. S. Pembrey to be internal examiner in physiology in the second examination for medical degrees, part ii, for internal and external students in March and July, 1915, in place of the late Mr. C. F. Myers-Ward. Dr. S. P. Phillips (Medicine) and Professor A. Carless (Surgery) to act as examiners at the M.D. and M.S. examinations for internal and external students in December, 1914, in place of Dr. H. D. Rolleston (Medicine) and Mr. F. F. Burghard (Surgery) respectively, who are absent on military duty.

The Reitlinger Prize.

The Paul Philip Reitlinger Prize, offered this year for an essay embodying the result of research work on a medical subject, has been awarded to Alfred Hope Gosse, M.A., M.B.Camb., M.R.C.P., London Hospital Medical College, for an essay on The Heart in Acute Rheumatism, with Special Reference to Graphic Methods of Investigation. The prize, this year of the value of £40, was founded with funds given to the university by Mr. Albert Reitlinger in memory of his son, a student of

St. George's Hospital Medical School, who died on December 3rd, 1911. Next year the prize will be offered for the best essay on the economic condition of the people of England in 1815 in comparison with the present day.

UNIVERSITY OF SHEFFIELD.

THE Council of the University has appointed Mr. William MacAdam, M.A., M.D., B.Sc.Glas., D.P.H.Camb., to be demonstrator in public health; and Mr. T. Chetwood, M.D.Lond., D.P.H.Oxon, to be lecturer on hygiene in the training department.

UNIVERSITY OF DUBLIN.

SCHOOL OF PHYSIC, TRINITY COLLEGE.

THE following candidates have been approved at the examinations indicated:

INTERMEDIATE MEDICAL (*Part I, Anatomy and Institutes of Medicine*).—J. R. Brennan, P. Rocks, J. G. Bird, H. J. Rice, P. H. S. Smith, D. S. Prentice, Marie A. Hadden, W. F. Wicht, H. Brill, T. H. R. McKiernan, P. A. Hall, Rita Henry, Millicent Hamilton-Johnstone, R. W. Pritchard. (*Part II, Anatomy and Physiology*).—T. P. Chapman, C. L. McDonogh, J. B. Taylor, L. Blumberg, E. Lipman.

FINAL (*Part I, Materia Medica, Medical Jurisprudence, and Hygiene and Pathology*).—Esther V. Adderley, C. H. Commerford, J. H. C. Walker, F. Healy, C. F. Brady, M. McG. Russell, G. W. Doran, *T. E. B. Beatty, *W. Hunt, *J. A. C. Kidd, ‡T. W. Sweetman, ‡L. Murphy, §J. E. Jameson.

* Medical Jurisprudence and Hygiene, Pathology.
† Medical Jurisprudence and Hygiene, Materia Medica.
‡ Materia Medica, Pathology. § Pathology (completing examination).

FINAL (*Part II, Surgery*).—F. Harris, G. B. Hadden, E. P. H. Vickery, G. A. Hoffman, E. A. Lumley, E. L. F. Nash, D. S. Martin, E. G. Fish, Hilda M. Marsh, E. Robinson. *Medicine*: E. A. Lumley, F. Harris, W. J. Ronan, E. P. H. Vickery, B. C. O. Sheridan, F. A. L'Estrange, A. G. Varian, R. A. Anderson, G. B. Hadden, Kathleen D. Wallace, J. P. Quinn, R. W. Chapman, F. R. Dougan, D. S. Martin, T. J. L. Thompson. *Midwifery*: *I. W. Corkey, E. D. T. Hayes, E. W. Craig, R. W. Shegog, Violet M. Deale, E. J. McSwiney, H. Mitchell, D. C. Pim, Geraldine Murphy, Hilda M. Marsh, G. Stanton, H. Daniel, C. C. Albertyn, E. Mannix, A. W. P. Todd, S. W. Fisher, F. J. O. King, M. B. King, D. H. Hall, C. McL. West, J. H. C. Walker, A. W. D. Magee, A. C. Bateman, G. Joughin, A. J. Horne, D. S. Martin.

* High marks.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Thursday, December 3rd, Sir Thomas Barlow, Bart., K.C.V.O., the President, being in the chair.

Narcotic Drugs.

A letter was read from the Foreign Office, dated November 4th, thanking the College for its communication concerning the sale of narcotic drugs.

Belgian Doctors' and Pharmacists' Relief Fund.

The Treasurer (Sir Dyce Duckworth) announced that the Finance Committee had recommended that the sum of 50 guineas should be presented to the Belgian Doctors' and Pharmacists' Relief Fund. The recommendation was adopted.

Early Clinical Thermometers.

A gift by Dr. J. E. Squire of two old clinical thermometers in use up to 1870, which had belonged to his father, Dr. William Squire, was accepted with thanks.

Election of Censor.

Dr. Newton Pitt was elected a Censor in the place of Sir Wilmot Herringham, M.D., resigned, owing to his absence with the army abroad.

New Regulations for the Weber-Parkes Prize.

Hitherto the Weber-Parkes Prize has been awarded triennially to the writer of the best essay upon some determined subject connected with the etiology, prevention, pathology, or treatment of tuberculosis. A silver medal has been awarded to the holder of the prize, and a similar medal, distinguished as the second medal, to the essayist who came next in order of merit. New regulations were adopted by the college, providing that the prize shall be awarded triennially for the best work already done in connexion with the etiology, prevention, pathology, or treatment of tuberculosis. A silver medal will still be awarded to the holder of the prize, but the second medal will not be continued.

Recognition of School.

A report was received and adopted from the Committee of Management, dated November 17th, recommending that the Newcastle-on-Tyne Royal Grammar School should be added to the list of institutions recognized by the Examining Board in England for instruction in chemistry and physics.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Diploma of Fellow.

THE following candidates were approved at the First Professional Examination:

J. Adhya, Marian N. Bostock, L. S. Debenham, S. G. Dunn, B. T. Edye, A. N. Hooper, J. B. Hume, Helen Ingleby, H. G. V. Mence, A. E. Moore, S. D. Rhind, T. O. Shah, J. R. White, D. Whyte, G. S. Wilson.

Medical News.

THE Mayor of Lyons suggests the creation of institutions in which soldiers rendered incapable of resuming their old trades in consequence of amputations should be taught new occupations suitable to their condition.

MR. P. JENNER VERRALL, M.B., B.C.Cantab., F.R.C.S., has been appointed medical officer to Epsom College, in succession to Mr. W. W. Coltart, L.R.C.P., M.R.C.S., who has resigned the position after holding it for twenty-eight years.

THE total number of medical students in Switzerland during the summer semester of 1914 was 2,705. They were distributed among the several universities as follows: Bâle, 327, of whom 20 were women; Berne, 617, of whom 69 were women; Geneva, 879, of whom 223 were women; Lausanne, 316, of whom 70 were women; Zürich, 566, of whom 74 were women.

THE British Fire Prevention Committee, which has already issued 4,712 copies of its poster "Fire Warnings" to military hospitals and 4,355 to 474 Red Cross hospitals, offers to send copies to any hospital taking in wounded, or any refugee home or hostel not yet supplied. Application should be made to the Registrar of the British Fire Prevention Committee, 8, Waterloo Place, London, S.W., stating the character of the building and the number of beds.

THE National Council of Trained Nurses of Great Britain and Ireland has transmitted to the Secretary of State for War a resolution recording its disapproval of the present organization of the nursing of the sick and wounded soldiers in military auxiliary hospitals at home and abroad, and protesting against the dangerous interference of untrained and unskilled women, who have been placed in positions of responsibility for which they are not qualified.

WE are sorry to learn that the Notts County Council, which has in contemplation the appointment of a whole-time tuberculosis medical officer to have charge of the tuberculosis dispensaries and the general arrangements for the provision of tuberculosis treatment in the county, intends to offer a salary of only £450 to that officer. Even if offered in ordinary circumstances such a salary (which is substantially below the minimum of £500 now almost universally recognized in respect of responsible work of the kind) would, in our opinion, be inadequate. At a time like the present it is practically certain that the suggested salary cannot attract candidates fitted, by experience and ability such as would secure cordial co-operation with the members of the local medical profession, for such a post, and in our opinion the county council would, in the interests of the community, do well to reconsider its decision.

MAJOR LEONARD DARWIN presided over the December afternoon meeting of the Eugenics Education Society on December 3rd, when Professor J. L. Myres gave a lecture on the rise and fall of the ancient world. Eugenics in the modern sense of the word was, he said, a very recent branch of knowledge, although ever since practical politics had existed the question had been debated as to what kind of man made the best citizen and how this type might be obtained. This was especially true of the Greeks; the Oriental peoples valued population precisely as they did area, for its quantity rather than for its quality. Though little definite knowledge was obtainable it was possible to trace certain great rises and falls in the population of the ancient world. They were largely due to geographical rather than to political causes. Thus, a succession of bad seasons would lead the inhabitants of the high mountainous regions to emigrate in large numbers to the more fertile lowlands, with the result that one area would be almost denuded whilst another was overcrowded. There was every reason to believe that at certain periods the ancients, like ourselves, were confronted with the problem of over-population. Indeed, Hesiod went so far as to speak of the Trojan war with approval as a means of ridding the earth of its surplus population. Constant wars, of course, acted as a corrective to the natural tendency to increase and multiply, and the problem was also partly solved by colonization. Even this outlet, however, was not always available, for in the sixth century B.C. Greek colonization came to a standstill owing to the fact that all the available sites were already occupied. It was then that the Greek politicians began to preach a policy of restriction, whilst the Greek philosophers anticipated modern eugenists by endeavouring to teach the wisdom of substituting quality for quantity in the birth-rate of the country.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

THE OCULO-CARDIAC REFLEX.

ATROPOS asks as to the oculo-cardiac reflex of Aschner, whether it is of any practical use in diagnosis, and how is the test performed?

We have referred the question to Dr. Leonard J. Kidd (London), who writes: If an assistant be available, put the patient in the dorsal decubitus, with the head well supported. The physician then compresses the eyeball by the pulp of the index finger, gently at first and then progressively more strongly: after progression has continued for some seconds, the assistant counts the pulse for at least fifteen seconds, and during this time strong compression is kept up. Then compress the left globe, and finally both globes simultaneously. If no assistant be available, the patient lies on his side, and the physician's left finger compresses the globe, while his right feels the pulse. The oculo-cardiac reflex is the slowing of the cardiac rhythm; in 70 per cent. of normal persons this is produced almost immediately by ocular compression. A slowing of from five to thirteen beats a minute is a normal O.C.R.; one of thirteen to fifty or more an exaggerated O.C.R.: one of five to one a diminished O.C.R.; if ocular compression give cardiac acceleration the O.C.R. is "inverted." The diagnostic value of the O.C.R. cannot be usefully stated briefly. If "Atropos" will consult (1) a leading article on the subject in the BRITISH MEDICAL JOURNAL of April 25th, 1914, p. 929, and (2) the exhaustive review by Vernet and Petzetakis in the *Gazette des Hôpitaux* for May 2nd, 1914, p. 837, he will be able to form his own conclusions on that question.

EMPLOYMENT OF SENIOR STUDENTS IN HOSPITALS.

C. P. N. writes: Owing to the impossibility of obtaining house-surgeons, senior students are being employed in the hospital to which I am attached. One of the duties of the senior student allotted to one of my colleagues consists in giving anaesthetics on my operation day. What is my position? Am I covering an unqualified assistant, and in case of accident should I be liable to censure by the coroner?

The notice of the General Medical Council with regard to the employment of unqualified persons as assistants or otherwise does "not apply so as to restrict the proper training and instruction of bona fide medical students as pupils, or the legitimate employment of dressers, midwives, dispensers, and surgery attendants, under the immediate personal supervision of registered medical practitioners." We think that the position described comes within this proviso, and believe that in present circumstances it would in practice be so regarded. The whole of the responsibility would rest upon the medical practitioner employing the student. The views of coroners' juries can never be foretold. At one provincial hospital where large numbers of wounded have been treated a similar difficulty has been met by practitioners in the town, but not on the staff of the hospital, volunteering their services as anaesthetists on specified days.

ANSWERS.

MUSHROOMS AND URTICARIA.

VASO-MOTOR.—Mushrooms are well known as a cause of urticaria, and Dr. W. H. Willcox informs us that he has met with such cases. He has, however, not encountered cases of urticaria following the eating of chestnuts, though it is quite possible that in a susceptible person urticaria might follow their consumption. It is unlikely that severe cases would occur from chestnuts.

LETTERS, NOTES, ETC.

HEALTH RESORTS.

DR. J. F. HOLLAND, British Consul at St. Moritz, states that the Engadine will be open to visitors this winter and that St. Moritz already has a fair number of its old patrons. He states that the journey out can be made by Paris, Lyons, Culoz, and Geneva with sleeping cars. From the *Davoser Blaetter* it appears that in the middle of November this was not the case, and that it was necessary to sleep in Paris and Zurich. Travelling facilities to Arosa will be as convenient or inconvenient as to Davos or St. Moritz. Probably the majority of English people will prefer to winter in this country at some of the numerous health resorts which it possesses.

REFORM OF VITAL STATISTICS.

DR. J. REID (London, W.C.) writes: At page 788 of the BRITISH MEDICAL JOURNAL of November 7th occurs the remarkable statement, "of course the 'neuritis' cases are really deaths due to alcohol." I wonder what the teetotalers certified as suffering from neuritis—often backed by experts—would think if they read the sweeping statement? Again, hiccough is laughed at as a cause of death. Does Sir Victor Horsley ever consider the number of different causes of death in a case of cerebellar disease? The immediate cause of death is demanded by some coroners—for example, congestion of lungs, failure of heart, etc. Surely, Sir Victor has oftener than once found the appearances on the *post-mortem* table puzzling, and the reason why a person should die and others live in worse pathological circumstances. I believe I have heard of a case of uncomplicated hiccough proving fatal. Sir Victor should know that attempts may or may not be crowned with success or failure.

PATENT MEDICINES AND THE PRESS.

MR. HENRY SEWILL (Earlswood Common) writes: I trust that full acknowledgement may be made of the obligation under which medical law reformers have been placed by the article in the *New Statesman* of October 31st. The article occupies two full pages. It forms a most lucid and complete epitome of the Select Committee's reports, and strongly insists upon the need for immediate drastic legislation. The keynote is struck in one of the opening sentences. It affirms "that there has never been issued a Government publication containing so damning an exposure of commercial fraud, shameless exploitation, and legislative muddle; but for reasons of which the war is not the only one, it has received very little notice from the press." The *New Statesman* must be now included in the small minority of papers, led by the *Spectator*, that keep their pages clean and are not afraid to denounce the abuses named in the quoted sentence. In their editorial columns all the papers assume the rôle of censors of morals, guardians of the popular welfare, and protectors of the national honour, whilst the proprietors and managers seem guided by the cult of degraded commercialism. The papers did not need the report of the Select Committee; they have all long ago been made fully aware of the fraudulent, cruel, and murderous character of quackery in every form, and yet the majority go on making money or amassing wealth from this foully-tainted source. It forms a scandal of the first magnitude, and since the attitude of the vast majority of papers forms the greatest obstacles to medical law reform, some means which the Association might devise ought, I submit, to be adopted at once to deal with it.

CONSULTING SURGEONS TO THE FORCES.

DR. W. J. MCCARDIE (Birmingham) writes: I understand that some time ago seven consulting surgeons to the forces were appointed at high, or comparatively high, salaries, and that all but one were London men. If this be so, it is distinctly unfair that the provincial, Scottish, Irish, and Welsh surgeons should not have had an equal opportunity of holding these appointments. The profession, I have no doubt, would like to know the names and rank of the consulting surgeons, their salaries and duties, and also the authority by whom they were appointed.

The consulting surgeons so far appointed by the War Office are Sir Anthony Bowlby, C.M.G., Mr. G. H. Makins, C.B., Mr. F. F. Burghard, Sir Berkeley Moynihan, and Mr. W. T. Lister, F.R.C.S. (consulting ophthalmic surgeon), all serving with the Expeditionary Force in France; Sir Arbuthnot Lane, Aldershot Command; Sir Frederic Eve, Eastern Command; Mr. James Swain, Southern Command; Sir Charles B. Ball and Sir Thomas Myles, Irish Command. The consulting physicians with the Expeditionary Force are Sir Wilmot Herringham, Sir John Rose Bradford, K.C.M.G., Sir Almroth Wright, and Sir Bertrand Dawson, K.C.V.O. The consulting officers serving abroad hold the rank and receive the pay and allowances of a colonel, those at home those of lieutenant-colonel. The pay of a medical officer holding the rank of colonel is £2 5s. a day with allowances, that of a lieutenant-colonel £1 10s. a day; the field allowances are 7s. 6d. and 6s. respectively.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE WORK OF THE "CLEARING HOSPITALS" DURING THE PAST SIX WEEKS.

BY

COLONEL SIR ANTHONY BOWLBY, C.M.G.,

SURGEON-IN-ORDINARY TO THE KING; SENIOR SURGEON TO ST. BARTHOLOMEW'S HOSPITAL; CONSULTING SURGEON TO THE EXPEDITIONARY FORCE.

It is nearly three months since I joined our army in France. I spent most of the first fortnight in Rouen, where were two excellent general hospitals, and where I had a very interesting experience.

Two months ago the British army moved from the Aisne to the North of France, and I was then invited to go up with the general head quarters and found myself acting as consulting surgeon to the "clearing" hospitals behind the firing line.

It is already well known that we occupy the line from near Ypres to La Bassée, a distance of some thirty to forty miles, and the northern part of this is hilly and undulating, while south of Bailleul the country is very flat and marshy along the river and canal of the Lys.

This town is some miles from each end of our line, and we have had "clearing" hospitals at the towns at each end, and in three other centres between.

THE FUNCTIONS OF A CLEARING HOSPITAL.

For the sake of those who are not yet familiar with army nomenclature, I will premise that a "clearing" hospital is placed conveniently near to the field ambulances of the different corps, and that the wounded are sent into it as soon as possible after being injured, and after their first field dressing. In actual practice this generally means that the men wounded during the night-fighting are brought in in the morning, and those wounded in the day may either be got in during the afternoon, or else it may be necessary to wait till darkness permits of their being brought in safely.

A "clearing" hospital is essentially a "mobile unit," and must be able to move with the army at the shortest notice. Consequently, it is not equipped like a "general" hospital, for it has no tents or huts, and it has stretchers instead of beds, and no such luxuries as x rays and a pathological outfit. It consists really only of a staff with a sufficient amount of surgical and medical equipment for emergencies, and is in future to be called a "casualty clearing station." But, although these are the normal conditions, we were very fortunate in that we found some excellent buildings in this town and in the neighbouring ones, and we occupied school houses, hospitals, lycées, and colleges, many of which had a few excellent beds and bedding, and two of which had sisters of charity as nurses, and operating theatres. What is very striking is that these small towns have far more commodious buildings than would be found in any similar places in Great Britain.

We arrived at this town one afternoon and were informed that fighting had taken place that day 14 miles away, and that there were 450 casualties to be sent for. There were 50 motor ambulances ready; suitable buildings were found for a clearing hospital staff to occupy, and preparations were at once made to house, feed, and attend surgically on the wounded.

It must be realized that a clearing hospital is supposed to be staffed and equipped for 200 patients, but warfare and necessity know no laws, and sufficient accommodation was at once found in a derelict college and in a jute factory, and all night the staff laboured hard and got through their work splendidly. But this was only the beginning of a month of unprecedented difficulties, all of which have been surmounted in the same spirit of prompt decision and energetic action which characterized this first incident.

As the divisions came up and moved into line other hospitals were started, and very soon the fight known as the "battle of the Lys" or the "battle of Ypres" developed along the whole front. But the pressure of the fighting would be at one part of the line one day, and at another point another time, and it was therefore my duty to go to the place which was the most busy, and either to stay there or else to go on to some other hospital as might be required.

It is quite impossible really to describe the scene at a clearing hospital when the fighting was at its height, but I will try to give some idea of it. Picture a large open space surrounded by buildings. Into this there drives a motor ambulance. The tail curtains are opened and reveal four "lying-down cases" on stretchers. These latter are swiftly and carefully slid out, and carried into a large receiving room 30 or 40 ft. long. Another ambulance draws up with six or eight men who are "sitting-up" cases, and these are helped out and walk into the receiving room. The clothes of the patients are all thick with mud. Ambulance follows ambulance, for the field ambulances at the front have been filled up during the night, and there has been heavy fighting again at daybreak—a common hour for attacks—and thus it has happened that on many days from 500 to 1,000 or more wounded have arrived at a single clearing hospital in a single twenty-four hours.

And now look inside the receiving room. Here are half a dozen or more surgeons, often some dressers who are medical students, and a score or two of well-trained and very efficient orderlies. Men with simple flesh wounds are sitting on the benches round the room while the surgeons look at their wounds, and perhaps decide that a simple dressing is all that is required; the skin is painted with iodine, the wound is washed with an antiseptic, a dressing is put on by the orderly, and the patient goes off to another room for rest and food.

In another patient the arm bones are fractured, and splints have to be applied before the wound is dressed. In another case there is a bad smash of the thigh or the leg bones, and an anaesthetic is required and given, while the clothes are cut off, the wound washed out with an antiseptic, and splints and dressings applied.

Here is a man in whom it is only too evident that the limb is hopelessly smashed, so the patient is put into the ambulance and sent round to a neighbouring building where a surgeon is in waiting ready to amputate, so the work of dressing the wounded is not interrupted by an amputation. But, in addition to the dressing of wounds, you will see that one surgeon is detailed to inject every man with antitetanic serum, and you will notice that all the men are given hot soup or milk, or perhaps stimulants, while they wait their turns to see the surgeon.

And so on some days for hour after hour, and for most of both day and night, the same scene is enacted with constant variations of detail. But consider for a moment what forethought has been necessary for such a condition to be successfully dealt with. Picture what stores of dressings and bandages are required to dress many hundred wounded men day after day at each of several hospitals, and remember that it has all to come from England and has all to be got to railhead in quantities greater than have ever been required in any previous war. Think of all the stretchers and blankets and a score of other requisites without which the whole thing would be a failure; then realize that we have never once run out of chloroform, dressings, or any single thing, with the sole exception that for some days, after using 30,000 doses, we had not quite enough tetanus antitoxin.

But you must next appreciate that the hospital is only a "clearing hospital" or "station," and in its turn it must be promptly cleared of all cases that can be moved, so as to be ready for next day's wounded. Therefore, ambulance trains must be ready daily to remove their hundreds to Boulogne or Rouen, or to hospital ships waiting to go to England. You might, at first thought, consider that there should be no difficulty about these trains, but there is a great one. The first duty of every general is to defeat the enemy, and trains for troops, and guns, and horses, and stores are the very first consideration, and Red Cross trains must wait their turn.

Remember that we are in the country of our ally, and the trains on the railways are all French, and under French management. We must take what they can afford to give us, and it is not in our power to provide facilities or engines, or engine-drivers, etc. So it comes about that the train question is a most difficult one; yet it is another of those difficulties that has been completely overcome by the energy and foresight of those in charge.

The Wounds.

And now a few words about the wounds themselves. In the first place, a certain number of the men are obviously dying, and this is specially true of wounds of the brain. In such cases there is little to do, and most of the patients are happily unconscious. But all patients with cranial wounds who are not too ill are operated upon subsequently. Wounds of the face are sometimes horrible. Many of these patients die, partly from shock and haemorrhage and partly from loss of blood and difficulty of swallowing.

Thoracic and Abdominal.

Chest wounds are tolerably common, for, now that the range is shorter and often very short indeed, many more men are wounded by rifle bullets.

There is always in lung injuries some dyspnoea at first, and the difficulty of breathing may be very great. Most men are relieved if given morphine and allowed to rest in a half-sitting position, and in twenty-four hours or less they get more comfortable. As a whole they do well, in spite of haemothorax, and wounds near the apex do better than those in the middle of the chest. Many of the latter are fatal from injury to a large vessel or to the heart. In all of these chest wounds operations are to be avoided.

The abdomen is to a great extent protected in the trenches, and abdominal wounds are not as relatively common as they were in South Africa. They have, however, been more common in the recent fighting, and I have seen, I suppose, between fifty and sixty. The conclusions of recent wars are confirmed—namely, that they should not as a rule be operated upon. The minority of those I have seen have recovered, although some of them have had such rigidity and vomiting as to make one feel sure of some peritonitis. Wounds through the upper part of the abdomen do better than those below the umbilicus, and bullets through the liver do not generally do much harm, although I have seen severe vomiting follow haemorrhage into the peritoneum, and have seen fatalities from bleeding.

We have established a general custom of keeping all patients with thoracic and abdominal wounds in the clearing hospitals for several days before allowing them to go to Boulogne, and I feel sure the quieter they are kept the better they do. I like to see them kept in the clearing hospital for at least five or six days if possible.

Extremities.

Wounds of the extremities vary immensely, of course, and while in some cases there are only small flesh wounds, in others, where the limb is not absolutely smashed by a shell fragment, the bones are powdered and the muscles extruded through huge rents in the skin. Many of the worst of them are due to shells, but by no means all.

The fighting has been practically hand to hand in and around the trenches, and huge lacerated wounds of exit, with or without fractures, are quite common and very numerous when bullets have been fired at such close quarters. Many such wounds are thought to be due to "explosive bullets" or to shells, but the explosive effect of bullets fired at very short ranges are unfortunately only too common in reality and are well known to all who have any experience of gunshot wounds.

Blood Vessels.

Injuries of blood vessels have in many cases caused gangrene without causing serious bleeding, and have often necessitated amputations. My very strong impression is that this is a much more common event with the present German pointed bullet than with the old blunt Mauser bullet of the South African war, and I am sure that the new bullet inflicts much more injury on the soft tissues than the older one. On the other hand, aneurysms and arterio-venous aneurysms, which were of frequent occurrence in South Africa, are relatively rare. I can only recall having seen six of all kinds amongst many thousand wounded. They may, perhaps, develop later.

Wound Infections.

Tetanus is probably not so common as on the Aisne, partly, perhaps, because we are on different ground and also because of the preventive inoculation. It is quite a mistake to suppose that it does not occur in bullet wounds but only complicates shell injuries. I have seen it in both, and I have seen it in slight bullet wounds as well as in serious ones. It has been treated by carbolic acid injections, by magnesium sulphate, by antitoxin, and by chloral and potassium bromide; but early acute cases almost always die whatever treatment is adopted, and a good many more chronic cases recover.

True "hospital gangrene," or "sloughing phagedaena," I have neither seen nor heard of in any hospital in France. On the other hand, the "spreading gas gangrene" or "malignant oedema" has attacked, as a rough guess, perhaps a half per cent. of the recent wounds of all the armies. Mr. Sidney Rowland has proved that it is due to one or other of a group of anaërobic spore-bearing organisms, and, as he and I have already written a report on it, I will not further describe it. It is, however, very noticeable that, in all the cases we have seen, it complicated wounds of the extremities only. The wounds of the head and neck, of the thorax and the abdomen, were all free from it. I take this to mean that it occurs especially in those injuries of limbs which are followed by much interference with the circulation due to swelling and stasis, and by oedema and blood extravasation, all of which also tend to produce sepsis, and which are all rare in wounds of the trunk and head, where the circulation is not materially affected. Consequently I believe that gangrene is to be prevented to some extent, at least, by avoiding all constricting bandages, which lead to congestion and oedema, and by opening up and washing with antiseptics wounds which seem to require it, so as to relieve tension and permit the removal of dirt, bone débris, and clothing, and all such wounds require the most free draining, and of course no such wounds are to be sutured.

There is also no doubt that if dressings are allowed to stay on too long, so that they dry and cork up the discharge, gangrene is specially likely to occur. Frequent dressings are therefore most necessary, and this is specially the case in shell wounds, where the contusions and lacerations of the tissues are far more extensive than can be seen, and are in no way limited to the obviously wounded area. The muscles and fasciae far away from the wound may subsequently slough from the mere traumatism, and in such dead tissues the spreading gangrene is specially likely to start.

True pyaemia I have never seen, and I have not heard of its occurrence in the base hospitals either, and wounds as a whole, though they have usually suppurated, have done well, when one considers the very wide-reaching and destructive effects of modern bullets and shells, the mud-covered clothes of the soldiers, and the difficulty or impossibility of helping the wounded at once when under heavy fire. The soil of a richly manured agricultural country, which is also very thickly populated, is a very different matter from the sun-dried South African veldt. The one is full of septic organisms, the other is practically sterile. When many hours, or even days, have elapsed, it is evident that in such cases as these antiseptic treatment comes all too late to prevent suppuration.

As regards wounds by bayonets, I can only say I have seen but three, and I have seen none caused by sword or lance. I am also not aware that I have seen a wound caused by a revolver bullet.

The Wounded.

I cannot close these notes of the clearing stations without a word as to the demeanour of the patients. Nothing could be more admirable than the *sang-froid* and cheeriness of men and officers alike. Many of them were cold, wet, and hungry. All of them had more or less pain. Some of them had suffered exceedingly during their transit from the front, some of them were faint from loss of blood. A few were obviously dying. Yet no one really grumbled or made querulous complaints. At the most they asked for something to drink or for some one to move them to a more comfortable position. Many of them were so tired that, in spite of pain, they went to sleep on their stretchers, but, unless they were too tired, they were cheerful and grateful to those who helped them. Their spirit was not broken by their misfortune, and they were still as steady and self-reliant as when they endured the shell fire in the trench or advanced to a counter attack. "The men are splendid," said Sir Redvers Buller fifteen years ago, and this is still true to-day.

PERMANGANATES IN SLOUGHING AND TETANUS-INFECTED WOUNDS.

BY

LIEUT.-COL. SIR LEONARD ROGERS, K.C.I.E., M.D., F.R.C.P., B.S., F.R.C.S., I.M.S.,

PROFESSOR OF PATHOLOGY, CALCUTTA.

THE prevalence of sloughing wounds, and those infected with tetanus and gas-forming anaërobic organisms, among the wounded in the war, appears to make it advisable to record my experience of the value of permanganate solutions in the first two conditions, and to suggest the possibility of their usefulness in the third.

Permanganates in Sloughing Tropical Ulcers.

In 1909, in a paper read before the Assam Branch of the British Medical Association, but not published, I described a form of spreading sloughing ulcer, known locally as Naga sore, which was causing so much loss of labour on tea estates that the Tea Association sent some cases to Calcutta for me to investigate. A fusiform bacillus, which would not grow on ordinary culture media, was found to be present in enormous numbers and to extend deeply into the tissues. Under ordinary antiseptics the ulcers continued to spread rapidly, and, thinking the organism might be anaërobic, I decided to try the effect of the oxidizing agents potassium permanganate and hydrogen peroxide. The results were most striking. A sloughing ulcer 2 in. in diameter, which had doubled in size within a week under mild antiseptic fomentations, within two days of the frequent application of a 1 per cent. solution of potassium permanganate in the form of cold compresses, presented a healthy red granulating surface; after two more days it had commenced to heal around the whole circumference, and proceeded rapidly to complete repair. In a second case a 10 per cent. solution of hydrogen peroxide cleaned up the ulcer quickly, although less rapidly than the far cheaper permanganate. I subsequently received reports from two Assam medical men that they had empirically come to the conclusion that strong solutions of potassium permanganate, 1 to 4 per cent., had a remarkable effect in cleaning up this form of sloughing tropical ulcer.

Cancrum Oris.

This is a common and very fatal complication of kala-azar, and most difficult to control in those emaciated and exhausted subjects with greatly reduced number of phagocytes. For several years past I have treated this gangrenous condition with very frequent washing with a dark purple solution of potassium permanganate (about 1 in 500), together with swabbing the ulcerated surface with a 1 per cent. solution two or three times a day. In several cases this treatment has stopped the sloughing of the tissues, and complete healing has followed, while in more than one patient recovery from kala-azar has ensued. A simple remedy which can control such a very septic condition as cancrum oris is worthy of trial in any form of sloughing wound.

Bedsores.

Encouraged by the success of permanganate in sloughing tropical ulcer, I soon after tried it in the case of a most extensive and deeply sloughing bedsore right across the sacrum, occurring in a remarkable case of streptococcal pneumonia and septicaemia, who had got over the lung inflammation, but was slowly sinking, apparently through septic absorption from the sloughing sacral ulcer. Several layers of lint soaked in 1 per cent. solution of potassium permanganate, and covered with waterproof material, were placed under the bedsore and changed every four hours, with the result that the ulcer rapidly cleaned up, and began to heal, and the man ultimately left hospital cured. In another case of a severe bedsore in a bad case of typhoid in an obese subject, an equally favourable result was obtained by this treatment after other means had failed. It is sometimes necessary to change the cold compresses every two hours to get the best results.

Suppurative Onychia.

Purulent inflammation around the finger-nails is sometimes a very troublesome affection in the tropics. In two cases, after a variety of antiseptic applications, during several weeks, had completely failed to control the infection, the application of a strong solution of permanganate, until it was no longer decolourized on coming into contact with the discharge squeezed out from around the nail, completely cleared up the condition within three or four days.

Secondary Infection of Liver Abscess Pus.

Although amoebic liver abscesses are nearly always sterile as regards bacteria when first opened, in a damp hot climate the profuse discharge almost invariably becomes infected with a variety of organisms, and is often foul smelling. By irrigating the cavity with a solution of 1 in 500 potassium permanganate, until it returns unchanged in colour, I have repeatedly seen the discharge become sweet and greatly reduced in amount, much to the benefit of the patient.

Explanation of the Above Results.

Potassium permanganate is not usually looked on as a very powerful antiseptic, although very strong solutions do possess considerable bactericidal properties. We must therefore look for some other explanation of the results above recorded than the effect of this salt in destroying pathogenic bacteria. I believe that its most important action is its power of oxidizing, and rendering harmless, the toxins produced by bacteria, which produce a negative chemiotaxis, and thus prevent the phagocytic polynuclear leucocytes from dealing with the invading organisms. When their toxins are destroyed by the permanganate they no longer repel the phagocytes, which can now protect the system against their invasion in a manner which non-oxidizing antiseptics fail to allow.

Another advantage permanganates possess is that their oxidizing powers can be exerted by strengths which are too weak to injure the tissues themselves, and, by continuing their application until the solution is no longer decolourized, we can be certain that their full effect in destroying any easily oxidized substances, such as toxins are, has been obtained. I have already recorded experiments demonstrating the action of permanganates in destroying the toxins of the cholera and dysentery bacilli, and the successful application of this knowledge in the treatment of these diseases.

Permanganates in the Prevention of Tetanus and other Infections due to Anaërobic Organisms.

It may further be worth recalling at the present time that several years ago I recorded in this JOURNAL (1905, vol. ii, p. 1290) some experiments illustrating the action of permanganates in preventing the infection of wounds by the tetanus bacillus. Five out of six rats, under the skin of whose backs a small quantity of Calcutta street dust had been inserted, died of tetanus; but of six more in which a crystal of potassium permanganate was added to the dust, only one succumbed to the disease. In a second series of animals multiple incised wounds were made in the thigh down to the muscles, and some street dust rubbed in. Of six controls four died of tetanus and one of staphylococcus septicaemia. In three other rats the wounds were washed with a strong permanganate solution half an hour, and in another three one hour, after infection with the same dust. In all six animals treated with permanganate the wounds healed rapidly without any sloughing or tetanus infection.

It is well established that if tetanus spores are thoroughly washed, so as completely to deprive them of their toxins, they may be injected with impunity into a susceptible animal, as the phagocytes can destroy the toxin-free organisms. The destruction of the toxins by an oxidizing agent, such as permanganate, would appear from the above experiments to have a similar effect.

It is not unlikely that permanganates may similarly be able to deprive virulent septic organisms of their powers of infection, but I have never been able to find time to test this experimentally.

The infections with gas-producing organisms, which are being reported among the wounded, are probably due to anaërobic bacilli. Permanganate irrigations may very possibly prevent such infections as well as that of tetanus. Antitetanus serum is certainly an effective prophylactic against tetanus, and has been successfully used in dust

infected wounds in Calcutta. It should never be omitted when available, but under war conditions it may often not be at hand when required.

Conclusion.

In view of the experiences recorded in this note the use of strong permanganate solutions, not less than 1 in 500, for irrigating all dust and earth infected wounds appears to me to be well worthy of trial in the field. The crystals are so easily carried, and the solutions so harmless, that this simple plan could be easily carried out at the dressing stations in the case of all wounds in which any sloughing or suppuration has already commenced, or into which dust or earth is likely to have penetrated, with good hope of lessening the number of cases of tetanus, septic and anaërobic bacillary infections.

IODINE AS AN ANTISEPTIC IN JOINT INJURIES.

By A. GASCOIGNE WILDEY,
DEPUTY SURGEON-GENERAL, ROYAL NAVAL HOSPITAL, HASLAR.

The accompanying case of severe lacerated wound exposing the knee-joint following an aseptic course after treatment by no other antiseptic than iodine is of special interest at the moment when the claims of the more caustic applications are being advocated:

S. McD., aged 30, shipwright, employed in Portsmouth Dockyard, while at work on November 18th, 1914, in the upper part of an ammunition hoist in a battleship under construction, fell with the staging to the bottom of the hoist, a distance of 40 ft., striking his right leg on some angle-iron. He suffered a severe lacerated wound rupturing the ligamentum patellae and the anterior capsule, widely exposing the interior of the knee-joint. He was with difficulty removed from the bottom of the hoist and received first aid in the dockyard. He was admitted to hospital at 11 p.m., about four hours after the accident.

Condition on Admission.

He was suffering from shock and collapse from haemorrhage. The pulse was 120. The interior of the right knee-joint was exposed by a lacerated wound forming a **V**-shaped flap, the point 5 in. below lower border of patella, the wings extending to either side of the joint. Part of the tubercle of the tibia was torn away and attached to the patellar ligament which was badly damaged. The anterior part of the capsule of the joint was torn through and was ragged. The crucial ligaments were intact. The joint was full of clot and the whole wound begrimed with oily dirt. There had been considerable haemorrhage and a tourniquet was on the limb.

Operation.

An operation was performed immediately under open ether anaesthesia. Intravenous saline was given at the same time. The wound was protected and the skin of the whole limb was shaved and shampooed with ether soap, cleaned with spirit biniodide (1 in 1,000), dried and sprayed with iodine 2 per cent. in alcohol. A very thorough toilet was performed. The edges of the skin wound were pared about ⅛ in. all round. The gauze protection was removed from the wound, and all clots and dirt washed out of the joint by irrigation with normal saline solution. All badly soiled and damaged tissue, including the greater part of the patellar ligament, was cut away, and the joint thoroughly swilled with iodine solution, a gloved finger puddling the solution into all the synovial pockets. The iodine was immediately washed out with saline and the process repeated. The remains of the patellar ligament were sewn to the remains of the periosteum and deep fascia about the tubercle of the tibia with iodized catgut. The capsule was not completely closed. The skin was sutured with a special form of mattress stitch of silkworm gut. To allow for oozing of serum the extremities of the wound were not completely closed, but artificial drainage was not employed. The closed wound was sprayed with iodine and covered with sterile gauze and cotton-wool, and the limb placed in a back splint with side protection.

Progress.

The subsequent course was that of an aseptic operation on the joint. There was slight rise of temperature for the first forty-eight hours, after which it fell rapidly to normal; there was some slight oozing for the first day. Pain and constitutional disturbance in this case were less than occurred in a case of excision of semilunar cartilage performed on the same day after long preparation and under the strictest aseptic precautions. The wound has been sprayed with iodine daily, and has healed by first intention except at one corner where drainage was allowed. On the fourteenth day after the accident there was no pain, no effusion, and passive movements were commenced. The patient was sitting in a chair with the leg on a back splint.

The routine described above—that is to say, thorough skin toilet, paring of every particle of soiled and badly damaged tissue, swilling with iodine 2 per cent. in alcohol and with saline alternately, closure of the wounds by piling up the skin edges with mattress sutures to ensure complete coaptation, and the avoidance of artificial drainage—has been employed in all cases of lacerated wounds and compound fractures, and wounds of joints treated by me in the naval hospitals of Chatham, Plymouth, and Haslar during a period of four years. No other antiseptic than iodine is used in contact with the wounds. The results have been most gratifying. Sepsis has been extremely rare, and when it has occurred has invariably originated in the skin wound and never in the depths of the wound. The mattress sutures employed reduce the chances of infection by the skin wound. Every effort is made to secure rapid healing of the skin. Every particle of damaged skin is removed, plastic manœuvres being sometimes necessary to secure easy coaptation. A loose stitch or two permits free drainage of serum, and these gaps are closed as soon as possible. It is a great safeguard to spray the wound daily with iodine.

The case here recorded is the severest test to which I have subjected this method of treatment by iodine. If the repair of the ligamentum patellae proves efficient there is every prospect of a perfect functional result. Would such a functional result be likely after an application of pure carbolic?

While recording the almost uniform success of the iodine treatment without drainage in my experience, it is only fair to say that the cases admitted into the naval hospitals have generally received their injuries in ships or dockyard workshops, where they are not likely to be infected by very virulent organisms; also, we receive the patients very shortly after the occurrence of the injuries, and not infrequently iodine has been immediately applied to the wounds on giving first aid.

It will be noted that I have referred to "spraying" iodine. Iodine applied by means of an ordinary continuous bellows spray-producer is a most handy, efficient, and economical method. By this means the expenditure of iodine in this and other naval hospitals has been reduced to one-tenth of the amount formerly used when the solution was applied with swabs and brushes. A spray-producer with hook attachment, by which it can be fastened to the belt or coat, should prove useful for ambulance work in the field.

A SIMPLE FORM OF PORTABLE DRESSING STERILIZER.

By CHARLES W. CATHCART, F.R.C.S.,
SENIOR SURGEON, ROYAL INFIRMARY, EDINBURGH.

As there is much need at the present time for surgical equipment which combines simplicity of construction, and therefore moderate cost, with efficiency I think it right to publish an account of an improved form of the sterilizer for dressings which I introduced a good many years ago. The appliance was originally devised for sterilizing steel instruments with steam without rusting them, and for this purpose I introduced the method of controlling the direction of the current of steam by means of a three-way stopcock inside the sterilizer.[1]

This device enabled me to give effect to a suggestion made to me at the time by Professor John Haldane, of Oxford, which was to heat the instruments before the steam came in contact with them and thus avoid condensation of moisture on their surface.

Shortly afterwards, however, the method of boiling instruments in a weak solution of alkali was introduced, and as this was a better method I adopted it for instruments and applied the sterilizer to the sterilizing of dressings.[2] For this purpose it has proved relatively better adapted than it was for instruments. The control of the direction of the steam by means of the internal stopcock with the pipes leading from it has two advantages—it enables one to finish the dressings practically dry, and it makes it possible with a very simple mechanism to introduce the steam into the inner chamber at the point or points most suitable for rapidly permeating

the dressings. A change recently made in the shape of the sterilizer is dependent on the shape of the simplified "drum," which now takes the form of a cube instead of a cylinder. Other details of improvement are chiefly concerned with the question of portability.

By adopting the cubical form for the "drum" or "kettle" I am able to dispense with the complication of sliding shutters, which were an essential feature of most drums previously used. The cubical box, which now forms the drum, is open at two opposite sides, which, for the sake of distinction, we may call ends; one constitutes the top, the other, provided with a false bottom of open-wire work, forms the bottom. Each of these open ends has a detachable cover, which fits equally well upon the open ends or the closed sides of the cube. During sterilization the covers are placed on the sides of the drum, leaving the top and bottom ends completely free for the current of steam to pass through the dressings. When the steaming is finished the covers are replaced in position, and the drum is lifted about by rings at the side.

The sterilizer, now also made cubical, retains as its essential feature the control of the direction of the current of steam by means of a stopcock which, with the exception of the handle, is enclosed within the outer chamber. The steam generated in the outer chamber, when so directed by the stopcock, is first of all led by means of a pipe from the stopcock into the open air. This allows the dressings to be heated. Afterwards, by a turn of the stopcock, the steam is directed through

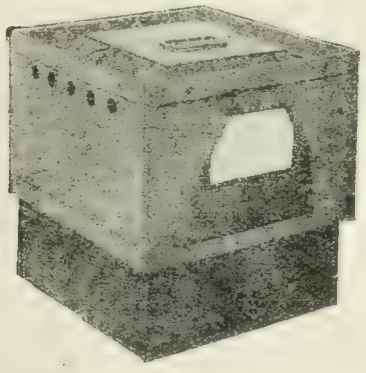


Fig. 1.—Sterilizer packed ready to be placed in its woollen travelling case.

another pipe to the floor of the inner chamber where the open bottom of the drum stands. A single opening in the centre has been found sufficient for the present 9½ in. cubical drum, but to allow of even more rapid permeation as well as of enlargement in the size of the drum the steam will be admitted by several openings in future. The present size of drum was made to have the same cubic capacity as the smaller size of cylindrical drum in common use. In rising up through the dressings to escape at the lid above, the steam drives all the air before it, and maintains a through current as long as the surgeon wishes. After sterilization is finished, the steam is again directed into the open air for fifteen or twenty minutes longer, and the lid of the sterilizer is lifted off. This gets rid of most of the steam. During this drying process, and afterwards, the dressings are protected from contamination by being wrapped, previous to sterilization, in a closely-woven fluffy cloth, such as flannelette about 6d. a yard, or by there being at the top and bottom of the drum a large pad of Gamgee tissue between them and the outer air.

Owing to the kindness of Dr. McGowan, of the Royal College of Physicians Laboratory, Edinburgh, who conducted the bacteriological inquiry, I find that sporing cultures of anthrax laid in the centre of the drum filled with dressings are killed after half an hour's steaming.

In working out the details of this improved drum and sterilizer I have received much assistance from Mr. Spence, the manager of Messrs. Stewart and Co.'s tinplate factory, Edinburgh. He has devised a stand on which the sterilizer can be placed when being heated by a Primus stove, and which, when reversed, fits over the top of the sterilizer as a protection when packed for travelling. The stand is bolted together without solder, and therefore cannot be loosened by the action of heat. He has also invented a simple method of introducing the steam by as many apertures as one wishes through the floor of the sterilizing chamber, and in many other ways has made valuable suggestions.

The sterilizer can be boiled equally well on a gas ring, a kitchen fire, a camp fire in the open air, or a Primus paraffin stove; but for a movable hospital the latter will probably be found the most convenient.

A simple form of water gauge is provided, and consists of an open groove of tin furnished with a handle. A piece of brown paper is slipped into the groove, and when there is any doubt as to the quantity of water in the outer chamber the screw tap is undone, and the tin groove with its brown paper is inserted to the bottom. The discoloration of the brown paper at once shows the level of the water. Marks on the tin groove indicate the number of ounces in the boiler (outer chamber) at the maximum, medium, and minimum levels. The ordinary form of water gauge, which involves a piece of glass tubing, is liable to be broken, and was therefore not employed.

The cubicle drum is well suited to nesting. A second slightly smaller drum fits inside the chief drum, and the Primus stove fits inside the inner one. A third drum could be added if required, and it would still be large enough to contain the Primus stove.

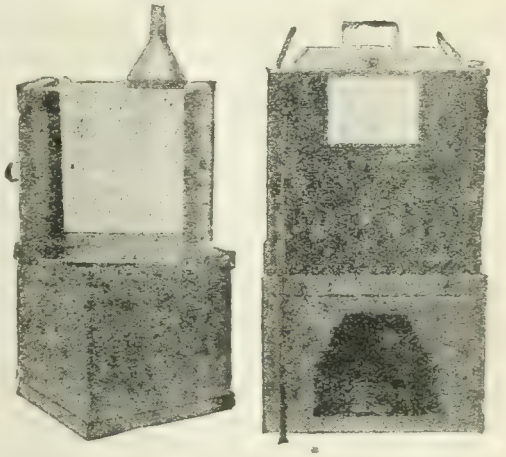


Fig. 2.—Sterilizer unpacked, with its contents displayed.

My first patterns were made entirely of tin. Made of this metal they would, with careful treatment, last for several years. With the view, however, of ensuring greater durability the sterilizer itself is now made of copper, while the stand, drums, and other fittings are of tin.

In order to have an independent opinion as to the efficiency of the sterilizer in its present form I sent one to Professor Woodhead. After having tested it and submitted it to Colonel Griffiths, the officer commanding the 1st Eastern General Hospital at Cambridge, he writes as follows: "We consider the sterilizer, with its various improvements, as being a really practical, economical, and efficient sterilizer for surgical dressings and instruments."

It is quite a simple matter to make larger sizes of this sterilizer. One to hold two drums side by side was frequently made when the cylindrical pattern of drum was used. One of these is now being made. The inner chamber will measure 21½ in. long, 11 in. broad, and 11 in. deep. It will hold two cubical drums with 10½-in. sides, and the steam will enter by four apertures beneath each of them. When packed for travelling this sterilizer can hold eight drums, that is, two of each of the following sizes of cube: 10½, 9½, 8½, and 7½ in. respectively, besides two Primus stoves. An advantage of ranging the drums side by side instead of above one another, as is usually done, is that an enlarged heating surface is available for the enlarged boiler.

The accompanying illustrations show the cubical sterilizer (1) when packed for transport, (2) when its contents are taken out and displayed. In the latter case the lower drum is shown closed as it would be after sterilization, while the upper one is shown with its covers fitted on to its sides, and laid on its side to make evident how free a passage is left for the steam during sterilization. The

card of instructions for use is shown in its fitting just below the stopcock.

During the war Messrs. Stewart and Co., 6, Gilmore Place, Edinburgh, are prepared to sell the instrument with fittings at the cost of production. At the present market price of metal the cubical copper sterilizer will, on this basis, cost 28s. 6d., while the tin stand will be 2s. 6d., the drums 3s. each, and the filler and water gauge 6d. each. The Primus stoves are sold at 8s. 9d., and will be sent at that price with the sterilizer, if required. Particulars as to cost and any other information required will be furnished by Messrs. Stewart and Co.

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[1] *Edinburgh Medical Journal*, 1890. [2] *Scottish Medical and Surgical Journal*, October, 1900.

EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

Held in Aberdeen on July 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF TROPICAL MEDICINE.

Professor W. J. R. SIMPSON, C.M.G., M.D., President.

DISCUSSION ON KALA-AZAR OR PARASITIC SPLENOMEGALY AND ALLIED INFECTIONS.

OPENING PAPER.

By Fleet Surgeon P. W. BASSETT-SMITH, C.B., R.N., M.R.C.P.

LEISHMANIASIS, which is the term used to cover all forms of disease dependent etiologically on the presence of the peculiar protozoal organisms known variously as *Leishmania donovani*, *L. infantum*, and *L. tropica*, may be divided clinically into two main groups. First, those in which the diffusion of the parasites is widespread in the body and in which the constitutional symptoms are very severe; and, secondly, those where the parasite causes a very local and superficial infection with practically no constitutional symptoms. I wish chiefly to speak of the former, though the local disease, especially as found in South America, is becoming more and more important.

Geographical Distribution.

The early history of kala-azar, meaning the black disease, as the condition was then called, was mainly centred in a small area in the Gangetic district of India, proceeding in an epidemic form to the foot-hills of the Himalayas, devastating the tea plantations in Assam and the villages in that region. The course of the epidemic has been very fully described by Rogers, and several Governmental Commissions were instituted to determine the cause and prevention. After the cause had been discovered in 1903 by Leishman and Donovan, many cases were found in other parts of India, particularly in the Madras Presidency, where Donovan and Patton have so continuously worked, showing that many of the irregular fevers known previously as non-malarial remittents were really kala-azar.

The extension of the disease eastward, probably through Tibet into China, is now definitely recognized, the most infected region being in the north-eastern part between the Yangtse and Peiho rivers. Cochran has shown the disease to be practically restricted to the north of the Yangtse river in the provinces of Chili, Shantung, Kiangsu, and part of Honan and Hupi. To the west India is linked up with Southern Europe by way of Arabia, Persia, and the Caucasus. Endemic centres appear to be present in Central Africa, Abyssinia, along the Blue Nile, and by the Sudan to Egypt, in which regions it has probably existed a long time.

In 1905 Pianise found Leishmania parasites in Southern Italy. Throughout the whole of the Mediterranean area that form of the disease known as infantile kala-azar has been proved to be prevalent—in Tripoli, Tunis, Algeria, the east coast of Spain, Southern Italy, Sicily, Greece, Southern Russia, Portugal, and Egypt, and in most of the islands, Malta, Crete, etc. Laveran and Nicolle at the International Medical Congress, 1904, in a masterly paper, have described this form most fully.

We thus see that over a wide subtropical and tropical region of the Eastern hemisphere cases are to be found, but, as stated by Laveran, in these endemic zones the amount of sickness due to this cause is very incompletely known, many cases being erroneously diagnosed as malaria and other conditions giving rise to enlargement of the spleen. In the Western hemisphere, one case of the constitutional disease has been reported from Brazil, in a man who had not been out of the country for over twenty years.

Etiology.

The formidable character of the disease, with its high mortality, renders its prevention one of the most important problems of tropical medicine, especially as year by year the number of Europeans affected is steadily increasing. This, in the naval and military services, gives rise to anxiety to those in medical charge of bodies of men in the endemic areas.

From a morphological standpoint there appears to be no distinguishing character which can differentiate the parasite as found in China, India, or the Mediterranean. In man it is mainly an intracellular organism, chiefly affecting the endothelial cells, in which the parasites multiply, as many as 200 being found by Leishman in a single cell. The swollen cell is destroyed, but first tends to block up the lumen of the vessel and thus gives rise to pathological changes in the organ affected; from the ruptured cells some of the free bodies may be carried in the plasma and are found in the peripheral blood, but they are generally taken up by the polynuclear leucocytes, more rarely by the mononuclear cells, and very occasionally found in the eosinophiles. The frequency of their appearance in the peripheral blood appears to vary very greatly in different endemic areas; for instance, in Madras the percentage of positive findings is very high, as demonstrated by Patton and Donovan, but in other parts they can only be demonstrated in the later stages of the disease, their presence then being an indication of serious prognosis. It is, however, probable that with more accurate methods they will be found with greater frequency.

The examination of films is a very laborious procedure, but by cultivation of the blood on suitable media the possibility of showing that the bodies are really present when not detected in films has been demonstrated by Mayer and Werner and by Wenyon.

When studying the etiology, the amount of infection of the peripheral blood must determine the probability of bugs, fleas, and other arthropods acting as carriers of the infection. As shown by Patton, the frequency of the organism in the peripheral blood in the Madras cases points to the conclusion that the infection there is very severe, and that the rôle of the bed-bug (*C. rotundatus*) as a carrier is more likely, especially as he has so frequently demonstrated the flagellate stage of the organism in their intestinal tract. There are no doubt many controlling factors which may influence their doing so, as temperature, moisture, and the number of infected carriers biting a non-immune; also, as Patton has shown, the ingestion of a second feed of blood within a limited time tends to cause the destruction of the growing organism in the gut.

In a recent paper by Rogers and Dodds, the transmission of the disease by a non-flying insect carrier is ably put forward, and the evidence of house infection in Assam is very strong. On the estate of Rangamata, where new coolie lines were provided only a short distance away from the old ones, no case occurred in the 150 healthy coolies transferred to them, yet of the 50 who went on living in the old lines 16 per cent. died and others became quickly infected.

During the last sixteen years in which these preventive measures have been taken they have been uniformly successful. In a labour force of 7,000 workers the disease has been stamped out, where before it had caused a mortality of 207 per thousand.

Whether the bed-bug is the true carrier is not definitely certain, but in this district there appears much in favour of the hypothesis. Many observations have been made with other blood-sucking insects in India, and though

Herpetomonas forms like those of the Leishman body have been found in mosquitos, the evidence of their acting as carriers is very slight.

We have seen that in most cases during some period of the disease the infecting organism is present in the peripheral blood, sometimes in considerable abundance; this indicates transference by blood-sucking arthropods, yet it is known that the organism is not uncommon in the intestinal mucous membrane, where it gives rise to ulceration, and that the bodies have been found by Critien in the faeces. It is therefore possible that they may be the source of infection—namely, that infection may take place directly from the sick to the healthy. All modern research, however, indicates that the organism has an extra-corporeal phase, no matter by what means it escapes from the body.

Another important factor to ascertain is whether in the endemic areas other vertebrates are subject to the parasites on whom it is non-pathogenic or only slightly, so that these animals act as reservoirs of infection. In India none have, so far, been demonstrated, but in the Mediterranean area it has been shown by Nicolle, Basile, and others that the native dogs are not infrequently the hosts of similar parasites, and it is generally believed that the dog and human infections are similar, for they occur in the same endemic areas, the pathological lesions are the same, the parasites cannot be distinguished from one another, and they can be cultivated on the same media, and by experiment the dog is shown to be susceptible to the human strain. The method of conveyance of the organism from dog to dog and from dog to man, by means of fleas, is strongly supported by Lemaire, Sergent, Basile, and Spagnolio, but is controverted by Wenyon and others, though not disproved.

The evidence is sufficiently strong in certain areas to make those in charge of the public health regard dogs with suspicion, and to require the destruction of all unhealthy and ownerless animals. At Hydra, Lignos found 16 per cent. of the dogs infected; in Tunis the proportion was much less, 1.8 per cent.; in Algiers 7 were found infected out of 279 examined. To obtain anything like reliable results, the examination of the liver is not sufficient, the spleen, and bone marrow must be also examined and cultures made, otherwise many infected animals may not be recognised, for, as described by Wenyon, out of 46 dogs in which liver puncture proved to be negative he found the bodies present *post mortem* in the spleen in 6.

In Turkestan, where leishmaniasis is common, Yakimoff found 22 out of 76 dogs infected, or 28.9 per cent. (In examining dogs canine piroplasmosis must be remembered, and errors from this cause avoided.) Basile describes two types of the disease in dogs, a chronic form of long duration and an acute condition. There is no doubt that dogs are able to be experimentally infected with the Indian virus, yet apparently never naturally—so different from the Mediterranean area; this immunity of the dogs there may be due to differences of the transmitting host, as suggested by Wenyon, namely, one that is not in the habit of feeding on dogs.

The presence of flagellate parasites in the gut of numbers of insects—fleas, bugs, etc.—which are normal to them renders it very difficult, without definite transmission experiments, to say whether those found in them after ingesting blood of kala-azar patients are of any pathogenic importance or not; in particular, those found by Basile in fleas are looked upon by some of his critics as the normal *Herpetomonas* forms common to this insect.

Wenyon summarizes the relationship of the various Leishmania-like bodies found in man, animals, and arthropods in the following words: "It is most probably correct that all the blood-inhabiting flagellates of the trypanosome group were originally parasites of the insect's gut alone, but some have adapted themselves to develop in warm-blooded mammals. When this has occurred the insect may become infected either by feeding on the blood of an infected vertebrate or by eating the faeces of an already infected insect."

The Indian, Chinese, African, and Mediterranean forms are probably identical. Laveran, in reviewing the characters of the Indian and Mediterranean forms, believes that the diseases are the same, for the differences of age, culture, and infectivity to animals have gradually broken down—the chief characters on which the separation of the species were founded. With the Indian virus Row has caused both local and general infections in monkeys and white mice, and Donovan has inoculated a young dog, while Patton has infected four monkeys, four dogs, one jackal, and white rats. Cultures from India were, at the Pasteur Institute, inoculated successfully into monkeys and dogs, as was also done with the Mediterranean virus. There is, therefore, no advantage in retaining more than one name for the infecting parasite causing the generalized infection, either in the Far East, India, Africa, the Mediterranean, or America, and the original name (*Leishmania donovani*) should be retained.

Pathology and Treatment

Clinically the term *Leishmania infantum* is misleading, for though in the Mediterranean infants suffer most, yet the disease is not restricted to them, which fact was brought prominently forward a short time ago at the Royal Society of Medicine, when a typically affected child from Calcutta, aged 5, the offspring of a father who had recently died from the disease, was shown almost at the same time as a man aged 29 who had contracted the disease in Malta. To this last case I would like time to draw attention. A young man with good previous health was landed at Malta, and was employed on the rifle range there for about six months; three dogs were constantly in attendance at the camp, and one of them became thin and unhealthy. During the following year the patient remained fairly well, except for some shortness of breath after exertion, but fourteen months after leaving the rifle range he was admitted to hospital for anaemia and boils. On examination in March, 1913, he showed considerable emaciation of the limbs, with a big belly. The spleen was very large and hard, the liver less so; the blood showed a marked leucopenia and a decrease of the red cells. Leishman bodies were found on splenic puncture. Since that time he has been under my care, and I obtained the bodies three times from the liver but not on the fourth puncture, and twice since from the spleen. During the whole time he has received twice a week intramuscular injections of atoxyl (3 to 5 grains) and also an autogenous vaccine of his own flagellates.

After four and a half months' treatment no bodies were found by liver puncture, either by smears or cultural methods, but they were still present in the spleen; after twelve months, though they were found in small numbers in smears from the spleen, no growth could be obtained in the cultures. Have we had here a gradual destruction of the parasites in a heavily infected case, the remaining ones in the spleen not having sufficient vitality to grow in suitable media (the media had been recently prepared and other strains of Leishmania grew well in it)? Was this due to the continuous action of the atoxyl? Since the last splenic puncture weekly attempts to grow the organism from the peripheral blood have failed. This is the laboratory picture; the clinical course is less satisfactory. The enlargement of the liver and spleen remain much the same, the anaemia and leucopenia is very marked, but the decrease in the red cells points to a further extension of the infection to the bone marrow. He has maintained his weight except during periods of pyrexia, and is as strong as on admittance. This long course—almost three years—since contracting the disease in Malta is, I feel sure, due to the treatment he has received, and possibly a cure may be effected. The following table gives a summary of the blood counts:*

Total and Relative Blood Counts.

Date.	Red Cells.	White Cells.	Polynuclear.	Mononuclear.	Lymphocytes.	Eosinophiles.
1913.						
May 21 ...	4,000,000	3,400	54.0 %	10.0 %	35.5 %	2.5 %
July 16 ...	3,200,000	2,500	41.6 %	8.0 %	50.0 %	0.4 %
1914.						
Jan. 21 ...	3,500,000	3,600	42.5 %	6.0 %	40.0 %	1.5 %
March 21...	2,800,000	3,300	48.0 %	11.0 %	40.0 %	1.0 %
May 14 ...	2,500,000	3,500	44.5 %	8.0 %	46.5 %	1.0 %
June 14 ...	2,620,000	2,800	40.0 %	9.0 %	50.0 %	1.0 %

* This patient has now been discharged from hospital, has regained his former weight. His blood picture is almost normal, and spleen is very much smaller, and there has been no fever for three months.

A noticeable feature in these cases with marked cachexia is the low systolic blood pressure and extreme dicrotism of the pulse, due probably to the deficient quantity of blood in the vessels and the want of tonicity of the muscular coats of the arteries.

In the Mediterranean area recovery at times takes place with or without specific treatment, more particularly in the older cases, but Caronia states that in his experience arsenic in some form is certainly helpful, and Quilichini describes a complete recovery of a severe case treated with hectine and Robin's iodine injections. Other cases have been cured by inducing or acquiring a secondary septic infection producing a marked leucocytosis; unfortunately more frequently the development of such septic infections carries off the patient.

Injections of salvarsan and neo-salvarsan do not appear to have been attended with any marked success, and the injection of large doses of quinine, as recommended by Muir, are also of doubtful benefit. In Burdwan, where Muir describes the disease as being very common and so successfully treated with quinine injections, Mackie found that the splenomegaly was very prevalent, but of 58 selected cases as probable kala-azar, in only 39 per cent. were the bodies found on spleen puncture; he therefore concludes that a large proportion were malarial and not true kala-azar.

For diagnosis various other methods have lately been employed with success. Cochran removes a superficial lymph gland, smears being made from this. Serological tests are made either by complemental fixation, as recommended by Caronia, or an anaphylactic reaction by Ascolti.

Infections by Leishmania tropica.

The local condition produced by this parasite has received a great variety of names, of which the best known is Oriental sore—a term which does not now cover its geographical distribution. In Persia almost every one becomes infected, but the constitutional form never follows. The specific character of the disease is definitely recognized by the inhabitants there, as they frequently inoculate themselves to prevent contracting the sores in conspicuous parts, and they do not regard it as a dangerous disease. In most areas where these sores are common dogs are very frequently affected, usually on the nose. In both man and animals the infecting parasite is very similar to the *L. donovani*, being culturable in the same media, giving rise to the flagellate forms. Experimentally, when inoculated into animals it gives rise to local infections, but if given in large doses intraperitoneally or intrahepatically it has occasionally multiplied and caused generalized infections. Besides being found in India, Persia, Arabia, and the eastern part of the Mediterranean, other endemic areas are Southern Italy and Sicily (where it is very common), Northern Africa, and the Sudan. Wagon has also described cases from Nigeria. In the Sudan non-ulcerating forms like keloids have been described by Archibald—a condition which is now known to be not uncommon in other areas. There is first a papule, followed by a chronic nodule, which desquamates on the surface but does not necessarily break down.

In tropical America a great number of cases have been described under the term Forest Leishmaniasis or Forest Yaws and Espundia. According to Brumpt, the disease in Brazil may be either benign in character, like Oriental sore, or in about 10 per cent. it is a much more serious condition, affecting the mucous membranes of the mouth, pharynx and nose. Brumpt in his investigations believes that the most likely insects that transmit the disease are species of *Tabanidae*, which are very common in the endemic areas and are persistent biters, but no definite proof was obtained.

Minett has also shown this dermal form of Leishmaniasis to be common in British Guiana. In Peru a disease called "Uta," which was formerly supposed to be a form of syphilis, leprosy, or tubercle, and is very common, has been proved by Strong and others to be due to Leishmania parasites, which have, without sufficient reason, been called *Leishmania peruviana* by Velez. These parasites go through the same flagellate stages on culture media as the oriental form, and can be inoculated into dogs, which appear to be naturally infected in the endemic areas.

In Central America, at the Ancon Hospital, Panama, five cases of dermal infections, one with implication of the mucous membranes, have been described; it is therefore similar to the South American form.

The infection of the mucous membrane, which is such a marked feature of the American cases, is not limited to them, for La Cava and Pulverinti have described similar conditions in Southern Italy and Sicily in four cases. This indicates that the diseases are the same, though probably influenced by local conditions in their clinical manifestations.

DISCUSSION.

Professor GABBI (Rome) read a short communication on the transmission of kala-azar, relating certain experiments he himself had performed, the results of which were contradictory to Basile's; this investigator had asserted the disease to be transmitted by the flea (*Ceratophyllus fasciatus*). Non-infected puppies were brought by Gabbi from Modena and remained for several months in the company of an infected bitch who reared them, but on being killed and thoroughly examined they were found to be free from disease. Subsequently in a village in Calabria Professor Gabbi found a naturally infected dog; the fleas were collected from the animal and placed on two younger specimens which by splenic, hepatic, and bone-marrow puncture had been proved free from infection; sixty-two days after experiment commenced the two experimental dogs were killed and were found free from infection. This experiment fully bore out similar ones instigated by Wenyon in Malta.

Dr. D. E. ANDERSON (London) said that "Uta," the naso-pharyngeal leishmaniasis of Peru, at the time of his visit to that country had been held to be a form of tertiary syphilis.

Dr. P. H. BAHR (London) drew attention to the remarkable absence of both canine and human leishmaniasis in Ceylon, a country so closely related both geographically and zoologically to Southern India. The nasal ulceration sometimes termed "gangosa," which was common in certain portions of that island, he considered to be a form of tertiary yaws as it was only encountered in those districts where that disease was extremely prevalent.

Professor FERGUSON (Cairo) referred to an interesting form of splenomegaly which was extremely common in Cairo, and in which, despite the most rigorous examination both during life and after death, no Leishman-Donovan bodies had been found in recent years. Injection of material into puppies and monkeys had likewise given negative results. These cases had been termed Banti's disease, but he did not consider this to be correct. It was a curious fact that while kala-azar was absent, as far as could be at present ascertained, from Egypt, cutaneous leishmaniasis was common enough in the Nile Valley. The sores were often 12 to 14 cm. in diameter, and were at first papillated, but with the advent of sepsis the protozoön parasites disappeared, and could only be ultimately discovered at the depth of about 1 cm. in the growing margin of the sore. Another form was encountered in which the epidermis remained intact, though it was raised and had a glistening appearance.

Dr. G. A. WILLIAMSON (Aberdeen) said that his experience in Cyprus tallied with that of Professor Ferguson in Egypt.

Professor FERGUSON, in answer to Dr. Bahr, affirmed that twenty-five good results had followed splenectomy in the twenty-five cases of non-febrile tropical splenomegaly in which this operation had been performed.

Captain MARSHALL, R.A.M.C. (London), remarked on the fitful disappearance of the Leishmania in fatal cases of kala-azar; cases which recovered showed a persistent high eosinophilia. All experiments with insect intermediaries, including lice, which he had instituted had so far proved negative. He had never encountered dermal leishmaniasis in Abyssinia.

Professor GABBI (Rome) said that he had seen cases such as described by Professor Ferguson in Sicily. The clinical history was to a certain extent similar to that of kala-azar, but the cases were certainly not examples of Banti's disease, with which he was familiar, as he had formerly acted as assistant to Banti himself. From his experiments and researches he had come to the conclusion that the virus in the disease under discussion was ultramicroscopic. Regarding splenic puncture, it needed to be repeated several times before a positive opinion could be expressed; bone marrow puncture was preferable, and wherever possible should be performed as well. In some of his fatal cases also the parasites disappeared before death. He had seen but one case of kala-azar in Tripoli. In his opinion the *Leishmania tropica* and *donovani* were not identical. The biological properties of the parasites differed; the former never produced flagellate forms in the human body, though the latter had been found to do so. He considered that Patton's experiments on the transmission of *L. donovani* by *Cimex rotundatus* required repetition before being accepted.

Fleet Surgeon P. W. BASSETT-SMITH, in replying to the discussion, remarked that though evidence of the exact mode of transmission of kala-azar to man still remained to be determined, it was essential that prophylactic measures be immediately instituted so as to guard our soldiers and sailors from naturally infected animals, especially dogs.

IS EMETIN SUFFICIENT TO BRING ABOUT A RADICAL CURE IN AMOEBIASIS?

By LLEWELLYN PHILLIPS, M.A., M.D., B.C., F.R.C.P., F.R.C.S.,
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IT is now quite unnecessary to describe the good results obtained with emetin by injection in amoebiasis, but in many cases they are not permanent. The patient may go on well for some time, then some indiscretion perhaps may bring about a return of symptoms. Thus, early in 1913, I treated an Englishman for dysentery with emetin, and after a few injections he was apparently cured, but in a few months the dysentery recurred, to be cured again by a few injections. Other similar cases have been published by Orticoni, Allain, and others.

It is true, in my experience, that most cases of hepatitis and cases of amoebic abscess in the lung treated by emetin or ipecacuanha have been completely cured, and this is borne out by Chauffard, who says he has not seen relapses of hepatic amoebiasis after emetin treatment, except in a case reported by Tuffier. I have seen such a case, however. It was that of an old man whom I saw with a liver abscess in 1904, cured by operation; this was followed by acute hepatitis in 1912, cured quickly by emetin; only a few doses were necessary, and owing to the pain of the injections he was unwilling to continue them. In 1913 he had another attack of hepatitis, which also yielded to treatment, but not so readily. Then, again, I published a case of amoebic abscess of the brain, which occurred some months after the cure of a liver abscess by operation secondary to dysentery. Had prolonged treatment been adopted in this case, the abscess might never have occurred and a life have been saved.

This tendency to relapse after apparent cure brings amoebiasis into line with other protozoal diseases and diseases caused by animal parasites, such as malaria, syphilis, and trypanosomiasis, which may quickly and readily react to drug treatment, but which require a prolonged course to fully eradicate the parasite, if ever, and cure the disease.

Recent investigations by Walker, Kuenen, Wenyon, and many others have all shown that in acute dysentery and in hepatitis the *Entamoeba histolytica* is found in the amoebic stage, the amoeba as such, being demonstrable in the tissues; this amoebic or active stage is very vulnerable and quickly dies when the faeces are passed. Further, Vedder conclusively showed—and his results were fully confirmed and adopted by Rogers (whom we must all congratulate on the honour just conferred on him in recognition of his valuable work)—that emetin in a dilution of 1 in 10,000 within a few minutes killed the active stage of the *Entamoeba histolytica*, having no action on the non-parasitic *Entamoeba coli*.

This explains the rapid action of emetin, especially in cases of hepatitis. But unfortunately, as the patient recovers, the cystic form (*tetragena* stage) appears in the faeces, and may persist indefinitely and give rise to fresh relapses, the *minuta* stage appearing in conjunction with it and when loose diarrhoeal motions are being passed. Walker and Sellards found that the infection persisted in their artificially infected cases for as long as two years and four months in one case, and he was then still passing cysts in large numbers.

It has been further discovered that whereas emetin will remove and kill the active amoebic stage very quickly, it has no effect on the *minuta* or *tetragena* stages, hence the patient remains a carrier, and therefore a danger to others, and is liable himself to further complications or relapses. The problem, therefore, is to find some other means of killing the cysts. It might be thought that emetin given by mouth, or ipecacuanha so given, might exert a direct action on the parasite; but the experiments already quoted and clinical experience show that this is not so, nor is rectal administration any more efficacious, besides being at times painful.

We must therefore seek some other drug or drugs which will destroy the encysted *tetragena* stage. I consider that it is advisable to continue emetin hypodermically for a time, either in separate courses, or by mouth in the form of keratin-coated pills, or ipecacuanha combined with tannin. Personally, when possible I give a first course of injections of half a grain night and morning for three or four days, then half a grain daily for another seven or six days, making ten in all, this being followed by its oral administration for some time longer—the treatment to be repeated from time to time. By this means any fresh invasion of the tissues may be stopped and cicatrization assisted.

Quinine is often used in the treatment of amoebiasis, for solutions of 1 in 20,000 will kill amoebae, and I use it largely as enemata in a solution of 1 in 1,000. The good general effects may be caused by its absorption, for cinchonism can occur after an enema. But it is no more efficacious against cysts than is emetin. As you know, it has often been used for injection into a liver abscess cavity. Ujihara has employed quinine by mouth combined with tannin to delay its absorption in the upper bowel.

Tannin enemata 1 per cent. I frequently use, and copper sulphate 1 in 1,000, for the treatment of chronic dysentery, but they do not completely get rid of the parasite, nor apparently do silver salts.

Kuenen observed that when calomel is mixed with faeces containing the encysted form, after three hours half the cysts are found to be dead, and we know that calomel is sometimes very useful in chronic dysentery; its continued use might effect a permanent cure.

Ujihara finds that thymol in doses of 3.00 grams and male fern in doses of 7.00 grams will also kill off cysts; one or other of these drugs should be tried, preferably the thymol, as I have found male fern to be a dangerous drug if given repeatedly.

I suggest, therefore, the following line of treatment: The administration of emetin hypodermically for at least ten days or longer if the state of the patient demands it, followed by the oral administration of the drug. This is to be followed by subsequent courses at increasing intervals, as is the practice with syphilis or malaria, and in the intervals courses of calomel combined with thymol; if this is not sufficient, some other intestinal parasiticide should be tried. No man should be considered cured until after several examinations no cysts of *Entamoeba histolytica* are to be found in the faeces. Further, all carriers, even though they may never have had dysenteric or other symptoms, are to be considered as cases of amoebiasis, and treated as such.

Salvarsan and neo-salvarsan have been employed for the treatment of dysentery and excellent results have been obtained; arsenic has been detected in the stools after its use. But the experimenters have unfortunately not recorded if the cysts were destroyed. I always administer at the same time salines to aid in the expulsion of the parasites.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

AT a meeting on December 11th DR. ALEXANDER MORISON showed a case of *Precordial thoracostomy for heart disease*. The patient was a boy aged 16, who suffered from tachycardia, irregular action of the heart, and breathlessness. A mitral systolic murmur was present and the area of cardiac dullness much increased. Forcible heaving of the left ribs and cartilages in the precordial region was noticed; 4½ in. and 5½ in. of the fifth and sixth ribs and cartilages respectively had been removed. There were no pericardial adhesions. The object of the operation was to relieve the enlarged heart of the labour of raising the chest wall. DR. A. F. HERTZ showed a case of *Cardiac achalasia* (so-called cardio-spasm). The term "achalasia" denoted want of relaxation, and was used to replace the word "spasm," which was incorrect for the following reasons: (1) Hypertrophy of the cardia was never observed after death, even after many years; (2) the mercury tube passed without any sense of obstruction through the cardia; (3) the mercury tube could be withdrawn without difficulty. In this case the patient was a woman, aged 36, showing characteristic symptoms, and by radiography dilatation of the whole œsophagus. DR. A. F. HERTZ and MR. C. H. FAGGE contributed notes of a case of *Spontaneous gastro-enterostomy*, with subsequent perforation and recovery after operation, in a woman aged 48. An opening had formed between the stomach and jejunum, and through this the greater part of the stomach contents passed.

LARYNGOLOGICAL SECTION.

AT a meeting on December 4th SIR STCLAIR THOMSON demonstrated a case of *Early malignant disease of the larynx*, shown at the last meeting, and referred to some details of the operation of laryngo-fissure which he had performed under chloroform after a preliminary injection of eudrenine. He had injected 10 to 15 minims of cocaine solution into the trachea before making the opening, thus abolishing the spasm of the glottis. No Hahn's tube was used, as he had found that an ordinary tracheotomy tube was sufficient for such cases. He referred to the difficulty in removing the whole of the disease, especially from the arytenoid and subglottic regions, and showed sections from the case. As it was evident that some of the growth had not been removed, he performed a second operation ten days after the first, and the patient made an excellent recovery. The case was discussed by DR. WILLIAM HILL, DR. DAN MCKENZIE, MR. HERBERT TILLEY, DR. DUNDAS GRANT, DR. JOBSON HORNE, and DR. STUART LOW. SIR STCLAIR THOMSON replied. SIR WILLIAM MILLIGAN showed three *Foreign bodies removed from the bronchi*. MR. HERBERT TILLEY said that the results of radiography in these cases were often unreliable, and drew attention to the value of instantaneous photography. SIR STCLAIR THOMSON, DR. D. R. PATERSON, and DR. IRWIN MOORE agreed that as soon as the object had been grasped it was advisable to withdraw the bronchoscope and forceps together, rather than to attempt to bring the body through the tube. SIR WILLIAM MILLIGAN said that in young children it was advisable to perform tracheotomy, so that a wider tube and shorter forceps could be used. DR. WILLIAM HILL referred to the value of combined x rays and bronchoscopy in operations of this kind. SIR WILLIAM MILLIGAN showed a case of *Angio-fibroma arising in the maxillary antrum*. He said that, although the microscopical section demonstrated tissue that appeared to be innocent, the case was clinically malignant. DR. WILLIAM HILL, MR. HERBERT TILLEY, and DR. DUNDAS GRANT said such cases could often be cured by radium. MR. HERBERT TILLEY showed a *Choanal polypus* with an ulcer on its posterior surface the size of a shilling, the latter leading to some difficulty in diagnosis until the growth had been removed. In many such cases there was no recurrence, but if the polypus reappeared twice it was essential to open the antrum. DR. G. ELPHICK showed a patient with a *Retropharyngeal swelling*, in whom the Wassermann reaction was positive. It was agreed that the disease was probably syphilitic. DR. C. W. M. HOPE showed a patient from whom he had removed a *Tuberculoma of the nasal septum*. SIR STCLAIR THOMSON had seen a similar case in which the disease lasted for seventeen years, during which time it spread from the nose to the pharynx, later to the larynx, and finally to the lungs. DR. DAN MCKENZIE showed some *Soft metal tubes for insertion into the nose after submucous resection of the nasal septum*, which greatly relieved the discomfort caused by nasal obstruction. DR. H. CLAYTON FOX showed a case of *Malignant disease of the tonsil and pillars of the fauces*, which in its first stages appeared to be a simple tonsillitis with abscess. Later the growth appeared and was microscopically papilloma, though the case was probably malignant. DR. H. PEGLER showed a superior maxilla from an aged female with an *Abnormal malar antrum* behind the true maxillary cavity.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 17th DR. EURICH read short notes on three unusual cases of *Bacillus coli infection*. The first was that of a workman who was supposed to have strained himself whilst lifting a heavy weight. Shortly afterwards double orchitis set in, which could not be accounted for in the ordinary way. Bacteriological examination of the urine revealed *Bacillus coli* in great abundance. The second case was that of a clergyman, aged 58, with swelling of both testicles, with a history of a knock two years previously; since then he had had periodic attacks of orchitis. Bacteriological examination of the urine revealed enormous numbers of *Bacillus coli*. The third case was that of a lady, aged 45, who on December 13th, 1913, had what appeared to be a slight conjunctivitis of one eye. Four days later there was some iritis. After ten days' treatment her condition improved, but on January 23rd she had a relapse, with slight irritation of the bladder. On February 16th *Bacillus coli* was discovered in the urine, and a vaccine prepared. In a fortnight recovery was complete. MR. GOYDER read a paper on the *Treatment of infantile and other forms of paralysis in general practice*. The treatment was based on the principle enunciated many years ago by Hugh Owen Thomas, and rediscovered by Mr. Robert Jones of Liverpool. The first rule was to fix the limb in such a position that the paretic muscles were relaxed. Operations such as tenotomy might be required for this purpose. Plaster-of-Paris splints might be used, or, better, the much lighter celluloid splints. Walking should be encouraged with the patient in the splints. Even after many years of paralysis the improvement was often astonishing. No operation for tendon grafting should be undertaken until many months after the application of the splints. If as soon as possible after the initial attack such splints were applied, since the paretic muscles never became overstretched, recovery from paralysis, if it were going to take place at all, was certainly hastened. This principle could be applied to nearly all forms of paralysis, irrespective of their cause—for instance, wrist-drop from lead, or musculo-spinal injury, or Erb's obstetrical paralysis. In Little's disease the element of spasm was also present, but much good could be done if the child had any intelligence, by simple fixation in the over-corrected position for some months after simple tenotomy of the adductors or tendo Achillis according to the region affected. In many cases no tenotomy was required. More complicated procedures should be reserved for cases in which simpler ones had proved insufficient. Hence, apart from operation, much could be done by the general practitioner, especially in the early stages of infantile palsy.

LIVERPOOL MEDICAL INSTITUTION.

MR. G. P. NEWBOLT read a paper on *Appendicitis in the elderly*. He reported three cases, and emphasized the fact that appendicitis occurred in persons over 60 more commonly than was generally recognized, and also that perforation not infrequently took place without causing any serious initial symptoms. MR. A. A. BRADBURNE read a paper on *Bilateral optic neuritis due to sphenoidal sinusitis* in which the left sixth nerve was involved. The vision of the left eye was somewhat impaired with severe occipital pain. Spontaneous discharge of pus from

sphenoidal sinus was followed by gradual improvement. Total absence of any trouble in the nose pointed to sinus infection. Captain C. THURSTAN HOLLAND read a paper on the *X-ray treatment of the wounded* at Fazakerley Hospital, fully illustrated by lantern slides. There were numerous lantern slides showing the destruction of bone and the character of the injuries produced by bullets and pieces of shell. The PRESIDENT opened the discussion. Dr. BARCLAY described the instrument which he had devised to facilitate rapid estimation of the depth of foreign bodies and deprecated indiscriminate removal of bullets. Dr. ORAM described another method based on the series of curves. Captain ARTHUR EVANS referred to his experiences in the Boer war, and compared them with those at Fazakerley base hospital. He was strongly in favour, when removing the bullet from the fleshy parts, of making a free incision in order to save the muscles as much as possible. The muscles should be separated rather than cut across. The bullet of to-day made a much more serious wound than the bullet of the Boer war. Attention was drawn by the PRESIDENT to the Belgian Doctors' Relief Fund, and a Committee was formed to work with that of the Royal College of Physicians.

Reviews.

INSANITY AND OTHER MENTAL DISEASES.

WHEN the first edition of this book[1] was published, twelve years ago, it was recognized by many thoughtful beginners in the study of insanity, as well as by some older men scientifically or professionally interested in the subject, as a work which, before all others, gave a clear account of what insanity consists in and made a serious effort to establish a logically sound and useful classification of instances of insanity as met with in practice. On grounds such as these the book on its first appearance was confidently recommended to students in this JOURNAL. This larger edition, owing to much new matter and to the great amount of careful thought that has been bestowed on its revision throughout, will, we believe, gain the attention it deserves from all students, teachers and practitioners, as the most comprehensive, well reasoned, and instructive review of the whole subject of insanity—from its foundation upwards—that has as yet been produced in any country. There is no other book which lays such a sure foundation for this study in the consideration of normal mind and conduct, or builds upon this foundation a scheme of the disorders of mind and conduct among which insanity must find its true place.

Although the first edition, intended primarily for the use of medical students as an introduction to the study of insanity, has been largely used as a textbook in several universities and some other medical schools both here and in America, its real originality and importance have not been adequately recognized. Before its appearance, even the best textbooks on insanity, though unquestionably of high clinical value and replete with evidence of practical knowledge, consisted largely in descriptions of cases arranged under a few more or less conventional and ill-defined headings, involving much cross-division and consequently disconcerting confusion in the minds of those desirous of forming clear conceptions of the subject of their study. There was little or no reference to the normal processes of which insanity is the disorder, and the very definition of insanity was usually given up as a hopeless task. Since the publication of Dr. MERCIER'S book, however, and since his teaching in lectures and monographs on insanity have become more widely known, most works on the subject have contained some account of the normal processes of mind, and no longer give prominence to the description of individual cases. And the two-fold causation of insanity in hereditary tendency on the one hand, and "stress" on the other, first explicitly insisted on by Mercier, is now generally accepted, although without due recognition of its originality.

In this new edition the author has expanded and emphasized his teaching that the description, or analysis of insanity into disorders of conduct and mind, is the key to the comprehension of insanity. Notwithstanding the fact that disorders of conduct play far the largest part among those symptoms of insanity which raise the question whether a given person is insane or not, and the further fact that many persons are certified insane on the evidence only of disordered conduct, most writers on insanity either implicitly or explicitly regard insanity as disorder of mind alone. We cannot but think that a careful study of Part I of this book must succeed in convincing all intelligent readers of both the truth and the importance of this fundamental part of Dr. Mercier's teaching. They will thus understand that insanity and unsoundness of mind are not the same thing, as they are generally assumed to be both by Law and Medicine; that there are many disorders of mind that are not insane—a fact which is rendered prominent in the title of this book; and that there is much disorder in insanity that is not disorder of mind.

Dr. Mercier supplies the student in this book with an exposition of psychology that is exactly suited to his needs. The chapter on mind, indeed, would alone distinguish this work as furnishing by far the best basis for the alienist's study of mental pathology and psychiatry, which is already held to necessitate a knowledge of the normal constitution of mind.

The second part of the book—on the forms, types, and kinds of insanity—cannot be adequately dealt with within the limits of this review, but we would note especially the distinction between "symptoms" and "disease" as of great importance, extending far beyond the application of this distinction to insanity. Dr. Mercier has here supplied a model for a future scheme of nomenclature of diseases and death certification which would be far superior in clearness and accuracy to any previous attempts in this direction. As an outcome of the distinction he makes, it is shown that insanity may be either a disease or a symptom, and that the failure to grasp this has hitherto rendered any acceptable classification of insanity well-nigh impossible. He submits a classification which has the welcome qualification of being at once clear, logical, and comprehensive. We think that he justifies the claim made in the preface that in his classification there is no inclusion of anything that is not insanity; that insanity is distinguished from everything else, including unsoundness of mind; and that there is no attempt to divide any class on several principles at once, and consequently no cross-division.

Many points made in this edition are new, and some others have not as yet been fully appreciated. With respect to these, we can but refer to a few: for example, to the author's Preface; to the remarks concerning the equivocal use of the term "melancholia" on p. 127; to the use and import of the term "anoia" as denoting the defect of mind and conduct that constitutes insanity (pp. 158–164); and to "sequelar" insanity as distinguished from "symptomatic" (p. 236).

There are but a few places in which we call in doubt the author's teaching. He gives, in our opinion, too little weight to hallucinations, both of sight and hearing, as premonitions of insanity; and is scarcely justified in his assertion of the great frequency with which an attack of delirium tremens is brought about by cutting off, and cured by administering, alcohol. There are, we think, many attacks of delirium tremens that begin when the patient is drinking up to his full amount, and many that are cured by greatly reducing, or entirely and even suddenly cutting off, the alcoholic supply. We are also inclined to differ from Dr. Mercier anent his "Index," which is "expurgatory" of indices altogether. We *have* read the book, and have not "rejoiced greatly" over the absence of an index when writing this review.

What strikes us most forcibly after reading this book is that the definition of insanity, the description of its true nature, and the construction of a water-tight classification, taken all together, raise the study of insanity to the level of a science—of a systematized scheme of knowledge. Hitherto it has been treated of in unorganized fragments supplying isolated, though often important and instructive, information; but leaving the subject as a whole in a stage of chaos, and the student's mind in a high degree of

[1] *A Textbook of Insanity and other Mental Diseases.* By Charles Arthur Mercier, M.D., F.R.C.P., F.R.C.S., etc. Second edition, enlarged and entirely rewritten. London: George Allen and Unwin, Ltd. 1914. (Pp. xx, 348. 7s. 6d. net.)

confusion. And this criticism is especially applicable to certain foreign works on insanity, in which novelty of terminology has been mistaken for originality of thought, and has caused them to be accorded an undue authority as manuals of instruction.

BELGIUM.

King Albert's Book[2] was published on December 16th by Messrs. Hodder and Stoughton for the proprietors of the *Daily Telegraph*, the *Daily Sketch*, and the *Glasgow Herald*, to accomplish, in the words of Lord Kitchener, the "twofold object of bearing further testimony to our admiration of the courage and devotion to duty shown by King Albert and his army, and of securing material help and comforts for the Belgians who have suffered so terribly at the hands of an invading enemy." The preface, written by the editor, Mr. Hall Caine, is dated Christmas, 1914, and the book will be a seasonable gift, for the text is well printed and the illustrations admirably reproduced. It contains contributions from statesmen, sailors, soldiers, poets, artists, men of letters and men of science in the neutral countries—the United States, Italy, Spain, Portugal, Holland, Denmark, Sweden, Norway, Poland; and also in the allied countries —France, Russia, and Japan, as well as in Canada and India. There are five or six articles from members of the medical profession, but among men of science we may perhaps refer especially to Sir William Ramsay's declaration that "every scientific man who is not a Teuton (and I hope and trust many who are of German race) deplores the barbarity, incredible if it were not true, with which Belgium has been treated. We had hoped that the universality of the spread of science, both pure, and applied to industry, would have made it impossible for any nation to revert to barbarism, and to destroy what it has taken so many centuries to create. The scientific achievements of the Belgians have always stood on the highest plane; to quote only two instances, taken from my own subject, the name of Stas, in pure science, and of Solvay, in applied science, are among the most illustrious in their particular spheres, which the world has ever produced." The volume concludes with a short note of thanks by Macterlinck, and perhaps the spirit of the book and the motive with which it will be preserved are best expressed by his translator, Mr. Alfred Sutro, when he writes, "Her cities are laid waste now, and her people scattered—but her people will return and rebuild the cities, and the enemy will be dust. The day will come when the war will be far distant, a thing of the past, remote, forgotten—but never, while men endure, or heroism counts, will it be forgotten what the Belgians did for Liberty's sake, and for the sake of Albert their King."

In *Fighting in Flanders*[3] Mr. E. ALEXANDER POWELL gives an account of what he saw as correspondent of the *New York World* during the period between the flight of the Belgian Government from Brussels and the fall of Antwerp. The author is a practised journalist of the most modern school; he knows the value of condensation; he can draw a vivid picture, but he lets it tell its own tale. Therefore we believe that the book, slight and informal though it be, will prove itself to possess permanent historical interest. One of the most curious chapters contains an account of the journey of Mr. Powell and his companion photographer to dine with the Commander of the Ninth German army, "composed of the very flower of the German empire, including the magnificent troops of the Imperial Guard." It was, we think, published in a London newspaper at the time, but well bears repetition. Mr. Powell was impressed with the completeness of the organization—down to cobblers working in boot-mending wagons, pedicurists who examined and treated the feet of the men, and hair-cutters with clipping machines which were used on any man whose hair an inspecting officer at a cross roads considered too long. He seems to have been less impressed by General von Boehn's denials and explanations of German atrocities. The story of the fall of Antwerp, as told by Mr. Powell, is not a story of which Englishmen can feel proud, but it is not tinged by any partiality for the Germans, for he tells us that when he left Antwerp he was as pro-Belgian as though he had been born under the red black and yellow banner, for he had "seen a country, one of the loveliest and most peaceable in Europe, invaded by a ruthless and brutal soldiery," and its people "resourceful, unafraid, and fighting, fighting, fighting." It is a book to read now, and a book to keep for the future, when German professors may be expected to take up General von Boehn's parable, trusting to the shortness of human memory.

[2] *King Albert's Book.* Hodder and Stoughton. 1914. (Demy quarto, pp. 187; illustrated. 3s. net.)

[3] *Fighting in Flanders.* By E. Alexander Powell, Special Correspondent of the *New York World* with the Belgian Forces in the Field. London: W. Heinemann. 1914. (Pott quarto, pp. 250; 62 illustrations. 3s. 6d. net.)

NOTES ON BOOKS.

DIARIES.

THE enterprise of the publishers of diaries shows no diminution on account of the war. Messrs. John Walker and Co. make a special feature of loose-leaf pocket diaries, which can be increased or diminished in bulk as the user's convenience requires: the leaves are retained in position by rings at the back, which can be easily opened by pulling a slide. They also make many other forms of pocket diaries in various shapes and sizes. The paper is good, and the workmanship throughout of a high quality.

Messrs. Cassell and Co. make many varieties of diaries, but are specially strong in desk diaries of various sizes, ranging from large foolscap forms to small octavo. Pocket diaries are also produced in various convenient forms. The diaries continue the name and traditions of Letts's diaries, so well known to many past generations.

Messrs. T. J. and J. Smith have sent us specimens of quarto half-hourly appointment books, which can be obtained either with or without interleaved blotting paper. The books are provided with an index.

Messrs. Hazell, Watson, and Viney have issued *Smith's Physicians' and Surgeons' Visiting List* for 1915, being the sixty-ninth year. It is strongly bound, and has been specially designed to meet the needs of general practitioners, to many of whom its merits are already well known.

PREPARATIONS AND APPLIANCES.

Maple Sugar and Syrup.

WE have received from the Canadian Maple Products Company, Limited (1, Endell Street, London, W.C.), samples of maple sugar and maple syrup, which they are selling under the "Pride of Canada" brand. These articles, made by concentration of the sap of the sugar maple, enjoy considerable popularity in Canada; their distinctive character lies in the flavour, which is due to non-saccharine constituents of the sap which remain in the product. The sample of maple sugar submitted is in the form of a brown cake, or tablet, breaking with a short crystalline fracture, and sufficiently pleasing to the palate to be eaten as a sweetmeat without further preparation. The syrup is brownish-red in colour, and a good deal thinner than ordinary "golden syrup." Our analyses gave the following results:

	Maple Sugar. Per Cent.	Maple Syrup. Per Cent.
Cane sugar	77.8	60.4
Reducing sugar, calculated as glucose	7.8	1.7
Acidity, calculated as malic acid	0.13	0.08
Ash	0.9	0.6
Water	8.3	33.7
Undetermined matters ...	5.07	3.52

There appears to be every reason to regard these products as a very wholesome form of saccharine food.

A Carpenter's Brace for Bone Plating.

Mr. W. SAMPSON HANDLEY (London) has designed an instrument which combines a brace with a Sherman's screw-holding screwdriver. The screws used have a drill end so that the previous use of a drill is unnecessary, and have either a coarse or a fine thread. Mr. Handley finds the coarse-threaded wood screw preferable, as there is less likelihood of overdriving it, so causing it to lose its grip. The instrument is new only as a combination and not in its separate parts. Its use is found to simplify the technique and shorten the duration of bone-plating operations. In favourable circumstances it will enable the operator to plate a fractured femur in an adult in less than half an hour.

THE DEPARTMENTAL COMMITTEE ON SICKNESS CLAIMS UNDER THE NATIONAL INSURANCE ACT.

THE report of the Departmental Committee on Sickness Benefit Claims under the National Insurance Act, which has been presented to Parliament, deals with matters of such great importance to the medical profession and is so likely to be regarded as a basis for future legislation seriously affecting the profession, that no excuse is needed for giving a somewhat lengthy summary and at the same time a suggestion that all members of the profession who are now or may be in the future engaged in working the Insurance Act would be well advised to procure a copy of the report and study it in detail.[1]

The Committee was appointed in August, 1913, by Mr. Masterman as Chairman of the Commissioners, with the reference "to inquire into and report upon the alleged excessive claims upon, and allowances by, approved societies in England in respect of sickness benefit and any special circumstances which may cause any such claims or allowances." Sir Claude Schuster was appointed Chairman of the Committee, which consisted of fourteen members, three of whom were women, and was representative of the Commissioners, the approved societies, and the medical profession. With the exception of a week at Christmas and two weeks at Easter, the Committee sat continuously on two days of each week and examined 94 witnesses, whose evidence fills three volumes apart from the report itself. Of the witnesses, 52 represented 49 approved societies of different types from all parts of the country, with a total membership of 6,900,000 insured persons. Out of 26 medical witnesses, 20 were panel practitioners, while the British Medical Association, the Association of Registered Medical Women, and Sir Thomas Barlow as representing the Royal College of Physicians, consented to nominate representative witnesses. Insurance Committees were represented by nine witnesses, and several other persons were heard as having made a special study of the principles of sickness insurance. The Committee was not expected to undertake any actuarial investigation, but merely to examine into the actual working of the insurance machine as exemplified in the action of its several parts, taking into account the interests, often somewhat conflicting, of insured persons, doctors, and approved societies. The report, with attached memoranda, fills 94 folio pages, and is dated July 24th, 1914, but has only recently been issued.

The reference to the Committee related solely to sickness benefit, but disablement benefit was regarded as merely a continuation of sickness benefit, and medical and maternity benefits are so closely related that they were practically to a very large extent included in the investigation. The number of approved societies actually operating in England is given as 1,891, ranging from the great centralized societies and affiliated orders with hundreds of thousands of members down to small village clubs with not over a hundred members, and with every conceivable type of organization. A brief survey is given of the relations between the societies and their doctors in the past, and evidence was given that as a rule the societies had seldom thought of questioning their doctors' certificates. At the same time, it is pointed out that the medical certificate, though in law and theory it is not the sole evidence available to establish incapacity for work, was in practice always regarded as the chief evidence to be relied on. This was at a time when there were far more intimate relations existing between societies and their specially appointed doctors. But under the Insurance Act the old intimate relationship between societies and doctors exists to a far less extent, and this has had, it is stated, a considerable effect in modifying the value set upon medical certificates.

Much evidence was given as to the extent of double insurance, that is, insurance both under the Insurance Act and as members of voluntary societies, and numerous cases are mentioned in which insured persons, when incapable of work, received as sickness benefit sums considerably in excess of their normal wages when working. Some of the witnesses urged that double insurance showed a spirit of thrift and prudence which would be generally opposed to attempts to exploit the sickness funds, that expenses were greater in sickness than in health, and that though doubly insured persons might remain longer on the funds they were thereby enabled to avoid a second illness by getting completely cured from the first, so that in this way the total effect on the funds was not so bad as generally thought. In the Insurance Bill as originally drafted there was a provision for reducing the amount payable from the National Insurance Funds in such cases, so that it would be impossible for a man's income to be more when sick than when well, but this provision was rejected by the Legislature. The Committee states very distinctly that it considers over-insurance offers to some persons a temptation to declare on the funds unnecessarily and to remain on longer than they otherwise would. But the only suggestion is that societies, when they find evidence of over-insurance, should encourage the adoption of alternative benefits and apply the strictest tests possible through sickness visitors and by communicating with the doctors.

In considering the alleged frequency of cases in which there is unwillingness to bring the period of incapacity to an end, the report says:

> Even in recording this fact, it must be stated also that the main feeling in the mind of any one examining the operation of the Act, is one of wonder that it should proceed as smoothly as it does. Practically all the witnesses, medical and lay, repudiate the idea that any appreciable amount of fraud exists. Falling short of deliberate fraud, however, there is a considerable body of evidence, both from representatives of approved societies and of the medical profession, of an unwillingness to bring the period of incapacity to an end, and of the difficulty in getting an insured person who has once declared on the funds to declare off.

Numerous witnesses spoke of the difficulty in the supervision of married women while receiving sick pay. A tendency was often noticed to remain on the sick funds in order to do housework and often a disposition to make use of the sickness benefit while out of employment, and a certain amount of evidence of an intention to get the most out of the Act. Many of the medical witnesses spoke of the tendency to claim for trivial complaints and to remain on the funds longer than was necessary, but the difficulty that faced the doctors was the practical impossibility of fixing an exact day when incapacity for work ended. On considering the whole evidence on these points, the Committee concludes:

> It would be idle and extravagant to base upon such experience as we have before us a general charge of malingering or of greed against the insured population generally.

Evidence was also given to show that there is in fact far more sickness than was expected when the Act came into operation, and that among women, and especially those employed in the lower-paid industries, the real amount of illness is enormously greater than was ever imagined, even after allowing for the fact that in a sense the Act had to treat a large arrears of sickness which had hitherto gone untreated. It was pointed out, however, that when such sickness had been treated for a time the average amount of sickness might be expected to show some decrease. Some of the medical witnesses expressed a fear that a valetudinarian habit of mind might be induced through over-attention to health and disease, and in support of this it was repeatedly stated that an enormous number of the persons who consult panel practitioners are only suffering from the most trivial complaints. The Committee suggests that to avoid claims in such cases it is essential that the insured should recognize that the insurance is a mutual one, and that fraud or laxity of one may result in the impoverishment of all, that the old friendly society spirit of mutual self-help and good fellowship did much to lessen the sickness claims, and that if this gives place to a mere business idea, or a feeling that through the intervention of the State the funds are now a bottomless purse, it will lead to ruin.

[1] To be purchased through any bookseller or direct from Wyman and Sons, London, H.M. Stationery Office, Edinburgh, or F. Ponsonby, Dublin. [Cd. 7687.] Price 9d. The Minutes of Evidence are printed separately in three volumes as follows: Vol. i, Minutes from October 15th, 1913, to December 18th, 1913, as [Cd. 7688], price 3s. 7d.; vol. ii, Minutes from December 31st, 1913, to March 5th, 1914, as [Cd. 7689], price 4s.; vol. iii, Minutes from March 11th, 1914, to May 22nd, 1914, as [Cd. 7690], price 3s. 4d. The Index to the Minutes of Evidence is printed separately as [Cd. 7691], price 10d.

A large quantity of statistics as to the cost for sickness benefit in the various societies was given. The actuarial estimates were, of course, based on averages for the whole country on the unavoidable assumption that each society would have average lives exposed to average sickness risks through their employments and environment. A process of segregation was, however, inevitable, with the result that some lodges and clubs have a large proportion of the best lives living under the best conditions, while others have a great preponderance of members engaged in unhealthy occupations and living in the worst possible conditions. On this account it was only to be expected that some societies and branches would show a low rate of sickness, while others would have an almost ruinous amount of claims. In the Foresters the cost for sickness benefit was about 2.75d. a member a week, taking men and women together. In the Manchester Unity of Oddfellows it was 1.96d. for men and 1.95d. for women; in the Druids 3.06d. for men and 2.97d. for women; in the Sons of Temperance 2.11d. for men and 1.95d. for women. Wide variations occurred, however, in the separate lodges of these societies—for example, at Barnsley the men in the Sons of Temperance cost 4.25d. per week, while in Birmingham the cost was only 1.65d. When separate trade groups were taken the variations were still more marked, and especially was this the case among women workers. To take a single example out of many given, the half-yearly cost for women (domestics and mixed occupations) in one district was 2s. 9d., but in another district 8s. 2d. The Committee found it necessary to be on its guard against assuming that the healthiness or unhealthiness of a place or trade was the only or even the chief factor in deciding the amount of the claims for sickness benefit, as other important factors had to be taken into account—for example, local conventions as to the degree of illness necessary to claim benefit, idiosyncrasies of local medical practitioners, and, perhaps most of all, the type or adequacy of the organization of the local approved societies. The common-sense view is expressed that the most efficient administration could only be obtained when there is a happy combination of centralized control with a certain amount of local independence.

A considerable amount of evidence was given to show the great value of the society sick visitors when properly employed, and though some complaints came from medical witnesses of undue interference by sick visitors with the work of the doctors, there was much evidence to show that the profession would welcome the assistance of properly trained and discreet sick visitors.

A considerable portion of the report deals with the question of excessive sickness claims viewed in relation with the work of medical practitioners under the Act. The sections dealing with this are well deserving of the attention of the whole profession, and the report itself ought to be carefully read by all practitioners who are willing to see themselves as others see them. It is recognized throughout that the successful working of the Act cannot be hoped for unless the medical profession stands in relations of sympathy and understanding with the machinery of the Act. The medical evidence as to the proportion that exists between the number of persons treated and the number to whom certificates for sickness benefit were given, varies enormously. In one area, where the bulk of the patients were teachers, journalists, and superior servants, only 2 per cent. of those receiving treatment applied for sickness benefit. In an industrial area the proportion rose to 32 per cent., and in a large number of estimates it varied from 25 per cent. to 35 per cent., and in some areas it reached 53 per cent. for men and 66 per cent. for women. The correct interpretation of the term, "incapacity for work," has caused the greatest embarrassment to both doctors and approved societies. To interpret this strictly and literally as meaning "incapable of any kind of work whatever," is evidently regarded by the Committee as somewhat absurd, for we read that "under such an interpretation it would be difficult for any one, apart from the completely paralysed and the unconscious, to establish a claim for sickness benefit." Before the Insurance Act came into operation the friendly societies had used terms which simply meant "unable to follow the usual occupation," and the Committee believe that the natural instinct of the doctors would have been to regard this as sufficient to entitle to the benefit, but questions raised by societies in particular cases had produced a state of doubt among medical men. The Committee calls attention to the fact that the finances of the Act were based on the experience of the Manchester Unity, which before the Act paid sickness benefit when a member was unable to follow his usual occupation, and it is suggested that such a meaning is "more in consonance with the intention of the Legislature in passing the Act than the adoption of the strict and literal interpretation of the clause."

At the same time it was evident that such an interpretation could not be taken as of universal application, especially in cases of prolonged incapacity. For example, an engine-driver may be for ever unable to resume his usual occupation if he has minor epilepsy, but it does not follow that he should be for ever on the sick funds, because he may be quite capable of finding another occupation, and in such a case some time limit might, it is thought, reasonably be placed on the payment or sickness or disablement benefit. Taking everything into consideration, the Committee therefore recommends that "it should be provided by statute that sickness benefit should be payable when an insured person is incapacitated by disease or bodily or mental disablement from following his usual occupation," but a person who, without ever regaining his ability to follow his previous occupation, becomes able after a time to follow some other occupation which is reasonably open to a person of his training and education, should become disentitled to sickness or disablement benefit, and this should apply especially in the case of women.

(To be continued.)

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Continued from p. 1031.)

AUSTRIA.

IN 1863 Dunant, after his visits to Berlin and Paris, went to Vienna, where M. Steiger, Minister Plenipotentiary of the Helvetic Confederation, presented him to the Archduke Rénier, the Emperor being absent. Dunant says:

> After a long explanation, and when I had mentioned my idea of the neutralization of the victims of the war and those who helped them, as well as that of a universal flag of humanity, His Imperial Highness deigned to say three times in French these words of approval, with a convinced and cordial expression, "What a magnificent idea!"

This was a great encouragement for Dunant. He insisted particularly on the expediency of there being one flag for all countries. He pointed out that all nations had indeed a flag for their ambulances, but the colours differed, being white in Austria, red in France, yellow in Spain, black or green elsewhere. The soldiers of opposing armies knew only the colours of their own ambulances. This confusion would be prevented by a uniform flag for the ambulances of all armies. The Archduke promised Dunant that Austria would be represented at the Conference, and accordingly Dr. Unger, Staff Surgeon of the Austrian Army, was sent to Geneva.

Major C. E. Pollock, in an address delivered to the officers of the 2nd London Division, Territorial Force, on November 20th, 1913,[1] stated that in the Austrian army medical organization voluntary aid societies fulfil a number of duties. Thus the Teutonic Order furnishes 5 ambulance wagons for the divisional medical unit; the same order provides the equipment for 4 field hospitals of 200 beds each, the personnel is furnished by the Landwehr; each hospital has a wounded transport column attached to it. The Austrian Red Cross Society provides 33 wounded transport columns, with a total of 648 wagons; the War Office finds the personnel from the Landwehr. This Society also provides a number of field medical dépôts, with supplies to replenish field medical units, and has two field hospitals of 200 beds each. In addition it is prepared to accommodate some 4,000 officers and 23,000 men in

[1] A Comparison of Foreign Army Medical Methods with those of the British Army, with special reference to the Territorial Force. *Journal of the Royal Army Medical Corps*, January to June, 1914, p. 35 et seq.

hospitals and convalescent homes in Austria. It also provides all the first field dressings for the entire army.

The following account of the resources of the Austrian Red Cross Society is taken from a speech by Surgeon-General Ritter von Uriel, late Director-General Austrian Army Medical Service, published in *Das Rote Kreuz*, No. 1, 1912 :[2]

	£
I. War funds (£417,870)—	
(*a*) Central Red Cross Society	147,610
(*b*) Austrian Patriotic Society	42,040
(*c*) Other affiliated Societies	100,570
(*d*) Branches of the Society	127,650
II. Funds allocated for special purposes ...	140,685
III. Peace funds	24,010
IV. Value of equipment, stores, etc. ...	72,000
V. Value of buildings	81,260

The total capital in cash and property belonging to the Red Cross and affiliated societies amounted to £735,825. About two-thirds of this total has been provided by members' subscriptions and the interest on investments. Of the remaining one-third more than half has been derived from the proceeds of lotteries; about a quarter belongs to the Austrian Patriotic Society, and the balance has been derived from Government subventions, gifts, legacies, etc. The war funds shown in Section I constitute a reserve for war purposes. The £147,610 belonging to the Central Committee of the Red Cross Society is intended to cover expenditure in rendering assistance to the Army Medical Service at the front and on the lines of communication, and for expenses in connexion with the Central Information Bureau. The sums shown in the other three subdivisions would be expended in the home territory in the provision of hospital accommodation, convalescent homes, rest stations, etc.

The funds in Section II are mainly allocated for the provision of pensions to soldiers incapacitated by war, to widows and orphans of soldiers who die or are killed in war. Of the values shown in Sections IV and V, 2 per cent. per annum is written off for depreciation. In addition to this £13,260 was struck off, that sum representing the cost of first field dressings which had become obsolete, and of first field dressings which the Red Cross Society supplied free of charge to the army. The Society's head quarters cost £12,250, and the dépôt for transport vehicles £12,720.

Dr. Richter (*Das Rote Kreuz*, No. 8, 1913, p. 168), gives the following account of the preparations made by voluntary aid societies for war:[3]

The Austrian Red Cross Society has in store a large quantity of medical and surgical material, among which may be mentioned 1,400,000 first field dressings for the army. It has also 35 medical store wagons with all the contents complete, and 3 mobile field medical store dépôts packed in 50 covered vehicles to replace material expended by field medical units.

For the transport of wounded the Society has 500 ambulance wagons and 4,000 field stretchers. It has also 84 medical carts with complete equipment for mountain warfare. Two complete field hospitals have been provided for use with the fighting troops; the personnel is supplied from the Landwehr. Three hospital ships can be fitted out by the Society at short notice. Recently Voluntary Aid Detachments, consisting of two doctors, four to six male attendants, and thirty female nurses have been organized to reinforce immobilized field medical units.

In the home territory the Society has 39 reserve hospitals, 19 hospitals for slight cases, and 25 convalescent homes; together these afford accommodation for 317 officers and 9,400 men. In addition beds have been promised in civil hospitals for 249 officers and 1,943 men, and in private nursing homes for 4,170 officers and 12,183 men. Thus the Society can find accommodation for a total of 4,736 officers and 23,526 men. The railway rest stations, 50 of which have been prepared, can accommodate for one night 50 officers and 5,064 men. A large sum of money has also been set aside to assist invalids and widows and children of men injured in war, and to institute an information bureau for wounded and prisoners. To combat epidemics sixteen mobile field laboratories have been organized with a specially trained staff. The Sovereign Maltese Order has prepared twelve hospital trains. The Teutonic Order has a large number of ambulance wagons, and also four fully equipped reserve mobile field hospitals.

During the present war hospital trains have been organized for the transport of the wounded. These trains, organized by the Order of Malta, have special wagons in which operations can be performed. At all the important stations on the line of route local committees offer refreshments to the wounded and give them cigars, cigarettes, and flowers. The organization of aid to the wounded in all the provinces is said to be excellent, and wounded prisoners of war are treated by the people with the same care as Austrian wounded. Members of the imperial family are at the head of all the humanitarian and military organizations in Vienna and Budapest. The Archduchess Maria Theresa, mother of the murdered Archduke Francis Ferdinand, works in the hospital as a Red Cross Sister. The Archduchess, daughter of the Commander-in-Chief, the Archduke Frederick, before the war did work as a nurse; she is now in a base hospital in Galicia.

HUNGARY.

We take the following account of the Hungarian Red Cross from the *Boston Medical and Surgical Journal* of October 8th, where it is quoted without any indication of its source:

"The Hungarian Red Cross Society, whose aim has always been to keep itself in constant readiness to take the field, issued shortly before the war broke out a circular in which it was stated that in the event of war Hungary would probably find herself responsible for 100,000 wounded and 250,000 sick soldiers, many of whom would be Hungarian subjects. The circular further stated that it had been estimated that, in addition to those of the military nurses, the services of some 7,000 civilian nurses would be required to meet this sudden demand; and since the number exceeded the total number of trained nurses throughout the whole of Hungary, it was obvious that it could not be recruited from the ranks of the nursing profession alone. Even when the country was at war the work in the general hospitals would have to be carried on as usual, and if, as was quite likely an epidemic broke out, would become considerably heavier. It was therefore a matter of necessity to obtain the assistance and co-operation of all women who were willing to offer their services as nurses in time of war. The response to this appeal was both prompt and gratifying. In almost every town in Hungary courses of lectures were at once organized, and held in the wards of the local hospitals, and at the conclusion of each course the candidates were examined in the presence of a delegate of the Red Cross Society and other civil and military authorities."

The total membership of the Red Cross Societies is stated to be 100,000, while the total amount of funds in their possession was estimated in 1908 at £494,915.

(To be continued.)

MOTOR NOTES FOR MEDICAL MEN.

By H. MASSAC BUIST.

MOTOR SHOWROOM WEEK.

THIS is the season of the year when, in times of peace, a concerted effort is made by the motor industry to introduce to the notice of the public at Olympia, Kensington, novel features embodied in chassis and coachwork for the succeeding year. For about eight weeks after the outbreak of war the Society of Motor Manufacturers and Traders made no definite announcement, but in the result it was fain to decide that the pleasure carriage show, planned for this month at Kensington, should be abandoned—a decision which was immediately followed by one also to abandon the light car show, planned to follow it in the same building, at an interval of ten days. Nevertheless, manufacturers and concessionaires have been busy making an effort to have a showroom show, as they are styling it, this week. They are taking the opportunity to display their new cars in their showrooms about London. From the point of view of the public, this is by no means as convenient a method as the centralization scheme, possible

[2] Abstract in the *Journal of the Royal Army Medical Corps*, July to December, 1912, p. 138.
[3] Abstracted in the *Journal of the Royal Army Medical Corps*, January to June, 1914, p. 479.

only by employing a large public building for the purpose of a collective display.

All things considered, it is somewhat remarkable that at a time like this so much should be done in the way of incorporating new features, and particularly sound improvements, in motor chassis as is being done by the industry. Ordinarily, in times of stress like the present, manufacturers are content merely to go on reproducing their models as they have been making them in the past season, awaiting the advent of a revival in trade before changing the machines in any respect. It is indeed a sign that there is no appreciable amount of stock on hand that manufacturers can now come forward with new features incorporated in their chassis.

THE 1915 TENDENCIES.

From a general consideration of the material brought forward, it would appear that only a minority are continuing to make their cars as before, and that a slight majority are incorporating fresh features in them. In broad terms, the movement for providing still better value for money continues. This, however, is not all. Last year some of the most costly and luxurious chassis, such as do not fall to be considered by the average medical man, were fitted with mechanical engine-starting devices; whereas this year there is no little evidence to the effect that the middle-powered, medium-sized car of moderate price is now furnished with some form of mechanical engine-starter. Instance in this connexion the enterprise of the Napier Company in furnishing an electric engine-starting apparatus to the four-cylinder 16 to 22 horse-power chassis having the longer of the two wheel-bases supplied.

In nearly all cases, too, these engine-starting devices are supplied at the inclusive price of the chassis, and it need hardly be added that wherever they are supplied electric lighting apparatus is also a standard fitting. Very few chassis are now marketed that have not electric lighting equipment furnished as standard; but the same remark does not apply concerning the mechanical engine-starting movement, about which much has yet to be learnt. It will be a year or two before no manufacturer will think of putting a car on the market that has such a thing as a starting handle. In the case of light cars, of course, the little engines are so easy to spin round that it may well be questioned whether it is in any case worth while going to the trouble of fitting an engine-starter. It adds to weight, and, no matter how perfected the apparatus may be, it necessarily involves complication. That, of course, is a thing always to be avoided, not only on grounds of cost, but because the more there is on a car the more are the chances of something going wrong multiplied.

The ideal car would be a vehicle with as few parts as possible, whereas the whole tendency of motor development up to the moment has been constantly to multiply the number of parts that go to build up a complete motor vehicle in the most modern sense. The motor engineer himself has displayed remarkable ingenuity in gradually simplifying each part of a chassis. But every time he succeeds in eliminating some part his ingenuity, or that of his colleagues, immediately devises some other luxurious fitting of a more or less complicated character, which promptly becomes semi-essential, or at least such a vogue that none will do without it, whereby anything from three to a dozen extra parts are added to the equipment for the one that has been eliminated from some other portion of it.

Nevertheless, there is not the call this year to sound a warning note to the medical man against using a car with a mechanical engine-starter, such as it was necessary to utter twelve months ago. In the interval a great deal has been learnt not only by the manufacturers of such specialities, but also by the firms that fit them as standard. It should be understood that half the troubles that arise in dealing with novelties come not necessarily from any fault of design, but from lack of knowledge of exactly the materials of which to manufacture every minor part of them, and, even more often, from lack of sufficient experience in the actual manner of fitting and applying them to the chassis.

LARGER DIAMETER BRAKES.

A welcome sign is that this year very considerable attention has been given to brakes, in which connexion mention must be made, for example, of the 12 to 16 h.p. Sunbeam car, which is marketed with hand brakes on the rear wheels of what we at present call extraordinarily wide diameter, though in a season or two we may be sure that this feature will become quite ordinary.

The value of having a brake of wide diameter is that you are able to "finish off" your braking very much better. Thus if the diameter of the brake is small, but the width of the brake surfaces is proportionately considerable, it is possible to reduce the speed of the car from very fast travel to comparatively slow travel with ease, but the final action of braking is weak, because the rubbing surfaces begin to travel past each other quite slowly as the vehicle's speed dies away. The object of having a wide diameter brake is that when the vehicle begins to travel slowly, nevertheless the friction surfaces are passing by each other at a very much faster speed than when the diameter is small. By this means the large diameter brake completes the action of bringing a car to a standstill very much more efficiently than a brake of small diameter.

These points have been arrived at in two different ways in two hemispheres. In the New World, where efficient braking is needed by reason of the very treacherous, ill-graded, and poor surfaces that have to be traversed, the Cadillac Company had the happy idea some years ago of sending some of its experts with three cars to the Rocky Mountains for several months, where they experimented with all sorts of brakes and learnt the principle that it was necessary to make them of much larger diameter and more ample surface than had been the practice previously. In Europe we have arrived at the same conclusion by quite another method of procedure. Many leading firms, such as Peugeot in France, Sunbeam in England, and the like, use racing as a means of developing the efficiency of their machines. In connexion with racing they learnt the necessity for having very much more efficient brakes than were used on touring cars. Efficiency was reached in the cases of such firms as have been instanced by making brakes of proportionately very large diameter.

THE PRINCIPLES EMPLOYED.

In the original notion the use of the wide break was merely to slow the car from a very high rate of travel to what is proportionately a slow rate, as, for example, when negotiating corners. But it was found that when these cars were not being raced this style of brake also enabled the machine to be brought to a standstill very much better. The designers thereupon began to realize that what had originally been considered a special feature suitable for racing only was really an essential need of private car equipment.

It should be understood that these large diameter brakes do not necessitate the use of appreciably more material or weight of metal than is employed on the medium-sized type of back-wheel brake hitherto used. The alteration is almost entirely in the designing. In some cases the total of the friction surface area is no larger than in that of brakes of small or medium diameter, the superiority of action being achieved merely by the greater rate of travel of the friction surface. If the latest Sunbeam brakes be compared with any of the hitherto ordinary sort, it will be found that there is a surprising difference in the way in which the braking can be "finished off" without imposing any extra strain on the tyres. Of course at need and in emergency the bigger diameter brake gives stronger control. But to use this carelessly is necessarily to wear out tyres at a greater rate. All that the average user, and especially the medical man with an eye to service with economy, needs is a brake the action of which will not become less and less efficient as the speed of the car dies down, but which can "finish off" the action of braking and bring the car to a standstill, because it can be made to absorb the momentum of the machine as well when it is travelling quite slowly as the medium diameter brake can while the car is travelling proportionately fast.

INCREASING USE OF CANTILEVER SPRINGS.

In the matter of suspension it is to be observed that the movement in favour of using the cantilever spring—otherwise a half-elliptic member, the mid-length of which is

attached not to the axle but to the frame of the car, and the rearmost extremity of which is attached to the axle of the machine—is coming into increased popularity. Thus the Napier firm, which this year is making only two classes of pleasure car—the 30 to 35 h.p. six-cylinder model, and the 16 to 22 h.p. four-cylinder model—uses the cantilever spring. The four-cylinder model, by the way, is made in some variety of types, in that the Colonial Napier for overseas service is a highly specialized product, strikingly distinct from the 16 to 22 h.p. machines for home use.

THE CHEMICAL CONSTITUTION OF CERTAIN PROPRIETARY DRUGS.

(*Continued from p. 1032.*)

THE contraction *B.P.* with date is used for the *British Pharmacopoeia*, and *B.P.C.* is used for the *British Pharmaceutical Codex*, 1911.

Euporphin.

A name applied to apomorphine bromomethylate. It is offered as a substitute for apomorphine hydrochloride, and is claimed to give more permanent solutions than the latter salt. The trade name Euporphin indicates the product of J. D. Riedel A.G., Berlin-Britz, Germany.

Euquinine.

Euquinine or euchinin is a name given to quinine ethylcarbonate, under which name the substance is described in the *B.P.C.* It is put forward as a complete substitute for ordinary quinine, free from taste and less apt to produce cinchonism and other disturbances. The trade name Euquinine indicates the product of Zimmer and Co., Frankfort-on-Main, Germany.

Euscopol.

A name given to optically inactive scopolamine hydrobromide. Scopolamine hydrobromide is given in the *B.P.* as a synonym of hyoscine hydrobromide, but nothing is said about its optical activity. According to the *B.P.C.*, it is a mixture of the hydrobromides of the laevo-rotatory and inactive stereo-isomeric varieties of the alkaloid. The trade name Euscopol indicates the product of J. D. Riedel A.G., Berlin-Britz, Germany.

Eustenin.

A name applied to theobromine-sodium sodio-iodide. It is put forward for the treatment of arterio-sclerosis, angina pectoris, and aortic aneurysm. The trade name Eustenin indicates the product of Zimmer and Co., Frankfort-on-Main, Germany.

Exalgin.

This is a name applied to methylacetanilide, under which name it is described in the *B.P.C.* The trade name Exalgin indicates the product of McKesson and Robbins, New York.

Ferratin.

This is a name applied to a synthetic ferric acid albuminate containing about 6 per cent. of iron. It is also known as ferralbumin. Ferratin is the chief constituent of ferratose, a liquor containing 3 per cent. of iron. Arsenferratose is an elixir of arsenated ferratin. The trade names Ferratin, Ferratose, and Arsenferratose indicate the products of C. F. Boehringer and Soehne, Mannheim, Germany.

Ferripyrine and Ferropyrine.

Described as ferric-chloride-antipyrine, a compound containing about 64 per cent. of antipyrin and 36 per cent. of ferric chloride. The trade name Ferripyrine indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main, Germany.

Ferropyrine is stated to have the same composition as ferripyrine. The trade name Ferropyrine indicates the product of Knoll and Co., Ludwigshafen-on-Rhine.

Fibrolysin.

A name applied to thiosinamine sodio-salicylate. Thiosinamine is described in the *B.P.C.*, where it is stated that its use was advocated by Hebra as an injection for the removal of scar tissue; thiosinamine-sodium salicylate, a double salt, is more soluble in water than thiosinamine and is used in sterilized solutions for similar purposes. The trade name Fibrolysin indicates the product of E. Merck, Darmstadt.

Formidine.

This is a name applied to methylene-iodo-disalicylic acid, an iodized derivative of salicylic acid and formaldehyde. The trade name Formidine indicates the product of Parke, Davis, and Co., Detroit, Mich.

Formitrol.

A name applied to pastilles yielding formaldehyde when dissolved. The trade name Formitrol indicates the product of A. Wander, Ltd., London.

Glutol.

This is defined as glutoform or formaldehyde gelatin, and is put forward to be used pure as a wound antiseptic; it is said to liberate formaldehyde on contact with the wound secretions. The trade name Glutol indicates the product of E. Schering, Berlin.

Glycosal.

This is a name for salicylic acid glycerin ester, also known as glycerin salicylate. It is put forward for use internally in place of sodium salicylate, and externally as a paint in articular rheumatism. The trade name Glycosal indicates the product of E. Merck, Darmstadt.

Gujasanol.

This is a name given to guaiacol-diethylglycocoll hydrochloride. It is put forward mainly for the treatment of tuberculosis. The trade name Gujasanol indicates the product of Meister, Lucius, and Brüning, Hoechst a/Main, Germany.

Gynoval.

Defined as the isoborneol ester of isovaleric acid, and offered as a substitute for the customary valerian preparations. The trade name Gynoval indicates the product of Farbenfabriken vorm Fried. Bayer, Elberfeld, Germany.

(To be continued.)

CAPTAIN THOMAS SCATCHARD, R.A.M.C., who was killed in action on September 8th, left estate valued at £1,190.

ACCORDING to the New York *Medical Record*, an examination of the male members of the freshman class of Indiana University, recently made by the physical director, Dr. F. P. Holland, revealed the fact that about 17 per cent. of the students were physically defective, the chief faults being flat chests and pes varus. Of the female students less than 11 per cent. were defective.

THE report of the Bureau of Health shows that during the first quarter of 1914 the health conditions of the Philippine Islands were very much better than at any time during the past ten years. The death-rate of Manila for March was 20.39 per 1,000, which is the lowest on record, and compared with the rate of 40.23 per 1,000 for March, 1904. Cholera gradually decreased, but 14 cases of plague and 10 deaths occurred. Sixty-seven rats, dead of plague, were found in one building in which human cases occurred. Owing to lack of funds, it is not possible to stamp out the disease among rats. Occasional cases of human plague are likely to appear. A severe outbreak of small-pox occurred in the province of Samar, where the vaccinations had probably not been efficient. In the climate of the Philippines vaccine remains potent only for about one week after it leaves the ice, and there are many regions in Samar in which it is impossible to deliver vaccine in a potent condition. The principal causes of death were tuberculosis (pulmonary), beri-beri, and acute bronchitis. Appended to the report is a series of interesting tables dealing with vital statistics, showing that Dr. Heiser, Director of Health, and his assistants devote much time and trouble in their endeavour to improve the public health of the Philippine Islands.

British Medical Journal.

SATURDAY, DECEMBER 19TH, 1914.

CLINICAL WORK WITH THE EXPEDITIONARY FORCE.

We have been able to publish in this and our last issue papers dealing with some of the surgical and medical problems raised by this war, written by members of the consulting staff with the Expeditionary Force.

There are at present four consulting physicians with the Expeditionary Force; they have the rank of Colonel in the Army Medical Service, and attached to each is a junior officer, or more than one. In this way Dr. T. R. Elliott, F.R.S., Assistant Physician to University College Hospital, is associated with Sir John Rose Bradford, and to Dr. Elliott we were indebted last week for an extremely interesting and helpful description of transient paraplegia, due to the effect of the enormous German shells with their massive charges of high explosives. The cases, in which the precise nature and severity of the lesions vary, have given rise to difficulties in diagnosis and prognosis, and on both these heads Dr. Elliott affords information which, we have no doubt, will be helpful to the staffs of military hospitals at home. The paralysis he describes at once follows the bursting of a large shell in the near vicinity of the patient. It involves immediate numbness and complete paralysis of the legs, while the arms are generally unaffected and the sphincters are not impaired in their activity. The reflexes, both superficial and deep, are lessened, and perhaps unequal on the two sides—a point of great importance in distinguishing these cases from those of hysterical paraplegia, where the reflexes are exaggerated and there is a tendency to the occurrence of clonic or coarse tremors. In the cases described by Dr. Elliott great improvement takes place in a week or a fortnight, and the patient is able to walk about again, but a great deal of pain is felt in the loin and back, and there is generally a girdle of hyperalgesia round the body above or below the level of the umbilicus. In the severer instances it seems probable that the muscles and ligaments of the back and vertebral column are directly injured or overstretched, with the result that the spinal cord itself receives transitory damage and the roots of the spinal nerves are injured as they issue from the vertebral foramina. In some instances it may be impossible to say whether it is the nerve roots that are injured or the cord itself, but the distinction is one of no great practical importance. If there is organic damage the reflexes and the tone of the muscles are lowered, and the patient complains of pain and tenderness in the injured region of the back, and in the area supplied by the nerves arising therefrom, rather than of pain and tenderness all over the back. These points should suffice to prevent the wrongful diagnosis of hysteria or neurasthenia from being made. As Mr. Herbert Page pointed out in his letter (p. 1046), the war appears to furnish ample opportunity and material for clearing up the pathology and diagnosis of the obscure and hitherto largely medico-legal disease known as "concussion of the spine."

This week Sir Anthony Bowlby, who was one of the first of the five consulting surgeons appointed to serve with the Expeditionary Force in France, gives a very graphic description of the work of the clearing hospitals, in future to be called "casualty clearing stations," for they are not in the ordinary sense of the word hospitals, although when convenient they may be established in buildings. Sir Anthony says that he finds it impossible really to describe the scene when the fighting was at its height, but we are inclined to think that the description he gives will survive as a sketch not unworthy to be set beside Zola's famous picture in *La Débâcle* of the similar hospital at Sedan. He gives also some interesting provisional conclusions to which he has come with regard to the treatment of wounds of the thorax and abdomen, and as to spreading gas gangrene. Incidentally he makes an observation which is perhaps not in accord with the opinion prevalent among the staffs of the military hospitals in this country when he says that the present German pointed bullet inflicts much more injury to the soft tissues than the old blunt Mauser bullet of the South African war.

In recent issues we have been able also to publish a series of notes written on the spot by a correspondent who enjoys special facilities for observation. Many of these notes deal with administrative matters, but they have also raised several interesting clinical questions which are proving worthy of further investigation and discussion.

THE NEW SYSTEM OF MEDICAL CERTIFICATION.

All panel practitioners and officials of Insurance Committees and approved societies ought by now to have received a copy of the Memorandum (211/I.C.) issued by the Insurance Commissioners dealing with the new system of medical certification for insured persons which is to come into operation on January 1st, 1915, throughout England, Scotland, and Wales. As intimated in the Journal in a brief note last week, the system is in great part an attempt to meet grievances which have been put forward on behalf of the profession, and to replace the present multiplicity of forms of certificates by a uniform system. It is clear, too, that in framing the system the Commissioners have been guided very largely by the report of the Departmental Committee on Sickness Claims, some of the recommendations of that Committee being adopted almost in their entirety. As the Memorandum, with the rules for certification, will be in the hands of all practitioners, it is unnecessary to enter into any detailed description of the system, but some comments on its chief features may not be out of place, especially in the light of the further Circular (A.S. 156) on the "supervision of claims for sickness and disablement benefit," which has been issued to approved societies during the last week.

The outstanding feature of the new system is that in future all certificates for sickness or disablement benefit are required to be given on the forms that will be supplied to each practitioner by the Insurance Committee of his area, the approved societies being compelled to adopt these forms to the exclusion of all their present forms. This uniform system is to be embodied in the agreements of panel doctors with the Insurance Committees for the coming year, and in a note to Circular (A.S. 156) the Commissioners further

state that "insured persons who have made their own arrangements for medical benefit under Section 15 (3) of the Act of 1911 and those receiving treatment through an approved institution under Section 15 (4) of the Act, will also be furnished by their doctors with certificates in the standard forms." At the same time the societies are clearly told by the Commissioners that the panel doctors "cannot be required, and societies should not attempt in any case to induce them, to do any of the following things: (1) To furnish certificates in any other form or on any other occasions than those required by the Medical Certification Rules; (2) to furnish certificates on any particular day of the week; (3) to ante-date or post-date certificates, that is, to append to their signature on the certificate any date other than that on which they sign it."

That the introduction of some uniform certificate had become necessary and was greatly desired by the profession can hardly be doubted, but it is necessary to point out that the special forms now imposed will entail far more clerical work on the doctors. Up to the present the continuation certificates of the majority of the societies with the largest number of members have simply required the doctor's initials and the date, but in future every weekly certificate will have to be fully entered up with the patient's name, full diagnosis, full signature, date of signing, and at times with "other remarks by the doctor," such as his instructions to the patient to remain in bed and so on, these "other remarks" being optional and for the guidance of the society's sick visitors. The object of all this weekly repetition is, of course, to ensure more careful consideration on each occasion, but while it entails extra work in every case and on each occasion, and will tend to make the careful practitioner still more careful, it is doubtful whether, if there be any tendency to carelessness, it can be prevented in this way. There will, too, be the risk that in some cases the societies may receive a different diagnosis in succeeding weeks, because the patient has developed new symptoms which may be of the nature of sequelae of the initial attack. Thus a case might be certified successively as influenza, bronchitis, bronchial catarrh, or dyspepsia, etc., according to the most prominent symptoms at the time when the certificate was given. Something of this sort is evidently anticipated by the Commissioners (Memorandum, Section 51), and we can imagine that societies that have hitherto drawn up statistics of the different diseases that have led to claims on the sickness fund will find themselves in considerable difficulties on this account.

Attention is drawn to the fact that in a case of incapacity for work, the first and intermediate certificates need only be given when the patient asks for them, but the final certificate must be given when the doctor considers the patient fit for work, whether a request is made for it or not. This is clearly imperative. During incapacity the certificates will generally be required every week, but if the doctor considers that the patient may be able to resume work before the end of the week then running, he may name on the certificate a particular day on which the patient must call on him without waiting for the end of the week, in order to receive his declaring-off note. On the face of it, this is an excellent provision to prevent the very prevalent custom of "having the week out" which has led to a considerable drain on the societies' funds, and if strictly carried out by the doctors, as it certainly ought to be, it will prevent the still worse trick, which some patients have resorted to, of not going to see the doctor for ten days or a fortnight and then coolly going and saying that they think they are now ready to declare off.

As a rule all certificates must be dated and signed on the day when the patient is seen. This rule may, however, be modified in certain events—for example, in rural areas which have been specially approved for this purpose by the Commissioners. When a declaring-off certificate is being contemplated for a patient who resides more than two miles from the doctor's residence in one of these approved areas, a special (blue) certificate may be used, which states in effect that though the patient was examined on the date named on the certificate, the practitioner was of opinion that the patient would not be able to resume work until a future date, which must not be more than three days after the date of examination. This will often prevent the need of an extra visit for the mere purpose of giving the final certificate, and so far it is good; but there can hardly be any doubt that this arrangement will often be desired by the rural patients simply to enable them to "have the week out," and practitioners will incur just as much odium if they refuse this as they now incur when they insist on signing-off a patient in the middle of the week, and it is doubtful whether the remedy by its mere suggestiveness may not aggravate the complaint in the rural areas. The safeguard of the doctor is, however, the strict rules laid down for him, under which, as he can easily show his patient, he has no option in the matter.

The suggestions to societies that weekly certificates should not be required for certain chronic cases, and the arrangements about certificates for patients who are allowed to go away for a short holiday to recuperate after a severe illness, and for patients who are receiving hospital treatment, were much needed, and appear to meet the requirements fairly well. The fact that when a patient during incapacity is receiving his full wages from his employer and is thus not claiming sickness benefit, certificates are nevertheless still required for other purposes under the Act, such as calculating arrears, has certainly not been appreciated in the past by a large number of the insured or by many panel doctors. Though the doctor can only be compelled to furnish such certificates when specially requested by the patient, we have little doubt that as an act of grace and in the interests of their patients, most practitioners will be ready to remind their patients that if certificates are not sent in, certain penalties may be incurred even though sickness benefit is not being claimed.

An important part of the new system is intended to meet those classes of cases in which practitioners up to the present have undoubtedly refused to state the real nature of the disease on a certificate which is handed to the patient personally and has to pass through the hands of officials of societies—cases, for example, such as certain forms of heart disease, cancer, and incipient insanity, where it would be prejudicial to the patient to know the exact character of his disease, or certain diseases of women and cases of congenital syphilis, where unjustifiable distress or injury would be caused by giving the information to other parties. In all such cases the Commissioners are satisfied that the rule that the cause of incapacity must be stated precisely on the certificate cannot be enforced. In these circumstances the doctor on the certificate handed to the patient may describe the disease in less precise terms than his knowledge would enable him to use, but undertakes to send to the society on the same day a notice, on a form

supplied, informing the society that he has given such a certificate, and also to send to the Government referee, or, if there be none, to the Commissioners, on a form supplied, a precise statement of the true nature of the disease, and his reasons for not stating it on his certificate. In this way no one except the Commissioners need know the real nature of the disease, and the Commissioners will only communicate to the society such information as they think right. To this procedure the objection will certainly be made that while, in a certificate handed to a patient personally, there can be no breach of professional confidence, seeing that the patient is at liberty to use or not use the certificate as he thinks fit, apart from possible legal objections that might arise, it would be a breach of professional confidence to communicate the true nature of the disease even to the Commissioners, without the express consent of the patient. In certain cases, of which gynaecological cases may be quoted as examples, the point could no doubt be discussed with the patient, but in others obviously this course could not be followed without rousing the patient's suspicions and defeating the whole object of the concealment. This being so, in actual practice every practitioner must use his own discretion as to how he carries out the provision in question. In all such cases the lesser of two evils that would arise would be the cloud of suspicion cast round the patient in the minds of the officials of the society, who, not being fully told the nature of the disease, would often imagine the worst. The position will undoubtedly be difficult if either the society or the Commissioners are not satisfied with the certificate of the doctor that the patient is incapable of work through no fault of his own, but the Commissioners having made an attempt to meet an undoubted difficulty, and there being no other solution suggested, it seems incumbent on the profession to give this experiment a fair trial.

There is one other point that must be mentioned, namely, the almost undue insistence which the Commissioners lay, not only in the Memorandum but in the circular to societies, on the fact, which we do not dispute for a moment, that a medical certificate is only one part of the proof that an insured person is entitled to sickness benefit through incapacity for work. No one can deny the value of the work of the sick visitors if properly done, and the Commissioners distinctly warn societies against allowing their sick visitors to interfere in any way with the functions of the doctors. If this warning be heeded no difficulty need arise, seeing that with a proper understanding between the doctors and the societies the sick visitors may be of the greatest assistance in detecting malingerers. But, presupposing, of course, that a patient has fulfilled his legal obligations as regards contributions, arrears, and such matters, it will be a matter for the greatest regret if the societies show the least inclination to belittle the paramount importance of the medical certificate in deciding on an insured person's fitness to receive sickness or disablement benefit. The risk to which we have referred will be avoided if all members of the profession are equally scrupulous in observing to the letter the requirements which must be fulfilled if the new system is to work efficiently. It seems to be a distinct move in the right direction, and this, we believe, will be the view of the large majority of members of the medical profession who are engaged in working the Act.

Numerous other points in the Memorandum will probably present themselves when the system has been in operation for a time, but in spite of the difficulties that are so obvious at present, on the whole it must be acknowledged that it shows a clear desire on the part of the Commissioners to deal with difficult matters in a way that shall be fair to all concerned—patients, societies, and doctors alike.

ANTITYPHOID INOCULATION.

CIVILIAN members of the medical profession throughout the country have already given proof of a desire to aid their brethren serving in the military forces of the Crown in the performance of the duties devolving upon them during the present crisis, and we venture to think that they may usefully second the efforts of officers in the Royal Army Medical Corps to combat the attacks on the employment of prophylactic inoculation against typhoid which we have reason to know are being vigorously carried on.

Medical men who have not had personal experience of the controversial methods employed in connexion with such subjects are in danger of both underrating and overrating the calibre of their opponents. On the one hand, the perusal of idle vapourings imputing the lowest personal motives to members of the medical profession, or of assertions affording evidence of the grossest ignorance of facts within the knowledge of all third-year medical students on the part of their authors, generates a feeling of contemptuous confidence, and may lead the professional man to forget that his opponents are often sufficiently expert in the detection of real or apparent inconsistencies in and omissions from statistical evidence. On the other hand, there is a danger of forgetting that evidence, the value of which would be instantly grasped by a scientifically trained intellect, may seem, even to an intelligent and candid layman, either very mysterious or irrelevant.

To apply these principles to the case before us, we would remark that what the average recruit requires is evidence that inoculated men placed under the same conditions as uninoculated men do in fact suffer less from enteric fever, and, further, evidence that the process of inoculation does not itself entail dangers commensurate with those it prevents. It is very important to provide him with data which are substantially and formally complete, and to be prepared to meet the objections with which he may have been furnished by interested or fanatical opponents. To illustrate this point, we think that a comparison between the incidence of typhoid upon inoculated troops in one year and that upon inoculated troops at a much earlier period is both unsatisfactory and unnecessary. It is unsatisfactory, because the medical man using the argument is not in the least likely to be able to meet the stock objection that improved "sanitation" is responsible for the result he desires to attribute to inoculation; it is unnecessary, because reliable evidence not subject to the stock criticism is available. Such evidence is provided in the report of the War Office Antityphoid Committee. We noticed the findings of this Committee in our issue of October 3rd (p. 597), but it will be convenient, for the reason mentioned, to deal more explicitly with the statistical data contained in it.

To begin with, can we take the responsibility of informing the recruit that the conditions of the inoculated and uninoculated men in these returns were strictly comparable? The following statement can be made. The test units were drawn from all arms of the service; neither commissioned officers, women nor children were included in the returns, while the technique of inoculation and of confirming the

diagnosis of enteric was carefully standardized and as nearly as possible uniform.

Two objections, and two only, are likely to be made to the general conditions of the experiment. The first is that non-commissioned officers were not excluded from the returns, and that they are likely to be older than privates and more ready to submit to inoculation. We have no evidence that the latter assertion is correct, and, with regard to the former, it is certain that in a short service army such as ours the postulated difference in mean age is too small to introduce any sensible error in the statistics.

The second criticism is that the inoculated men were not taken at random but volunteered, and that their relative immunity from disease was not due to the inoculation but to their being more careful in their habits of life, willingness to submit to inoculation being a proof of greater natural forethought. The reply to this objection, which seems formidable on paper, is that the etiology of typhoid fever is such that no precautions an individual soldier living under the service conditions of the test units could adopt would sensibly diminish his risk of infection. Food contaminated by a "carrier" prior to distribution creates a danger only to be countered by the soldier who sterilizes every mouthful of his rations before consumption, and we make bold to say that no such soldier ever has existed, or ever will exist. The use of water from forbidden supplies would only raise a serious difficulty in active campaigning—a factor which did not complicate the Committee's returns. It may be said that typhoid stands at almost the opposite end of the series headed by venereal disease. In the former, personal prophylaxis (apart, of course, from inoculation) can be of small avail to the soldier; in the latter he can, if he chooses, almost entirely avoid the possibility of infection. We have no doubt that the cogency of these arguments can be made clear to the average recruit and the objection completely refuted.

These preliminary difficulties having been removed, we may pass to the actual statistics. They show that among 10,378 inoculated men 56 cases of typhoid occurred, or 5.4 per 1,000, and among 8,936 uninoculated, 272 cases, or 30.4 per 1,000. The numbers are considerable, and the difference so marked that no one needs to be told that the probability of the difference being due to "chance" is infinitesimal. What special objections can be raised to invalidate the obvious inference? The first is, that the proportion of inoculated men notably increased after arrival at the foreign station, so that some of the 10,378 inoculated men were possibly uninoculated during part of their period of exposure to risk. To meet this objection, let us assume that the cases of typhoid should be allotted entirely to the men actually inoculated or uninoculated at the time of arrival in the first foreign station. That is to say, we assume that the 56 cases of typhoid in inoculated men should be placed to the credit of the 6,815 who were inoculated at the time of arrival and the 272 among uninoculated to the 11,668 who were uninoculated at the same period; this arrangement yields rates per *mille* of 8.2 and 23.3 respectively. Even so the difference is substantial, but in making this arrangement we have enormously over-estimated the probable force of the objection, since in many of the units the great rise in the number of inoculated men actually took place shortly after arrival at the foreign station, so that those stated to be inoculated at the time of the last report were really in that condition during practically the whole period of exposure.

The next criticism is that several of the units never returned any cases of typhoid fever, and that, if these regiments consisted mainly of inoculated men, the case in favour of inoculation is bolstered up by numbers of persons never really exposed to risk. It will be noted that the latter supposition involves a *petitio principii*, since it might be retorted that freedom from disease was due not to absence of risk but to presence of acquired immunity. We can, however, allow for it by confining our comparison to those units in which at least ten cases of typhoid occurred. If we do so, we find that 46 cases were found among 3,387 inoculated men and 227 among 2,656 uninoculated men, rates of 13.6 and 85.5 respectively.

The final criticism is that the exclusion of cases of paratyphoid fever was unjustifiable and was practised with the object of showing a lessened rate of typhoid fever among the inoculated as compared with the uninoculated. We must apologize to scientific readers for the necessity of refuting this argument, but it is gravely adduced in a pamphlet entitled *The "Cooked" Statistics Concerning Antityphoid Inoculation Used During the Recruiting for the Great War, 1914*, emanating from the British Union for the Abolition of Vivisection. Numerous clear accounts of the essential differences between organisms of the paratyphoid group and the *Bacillus typhosus* are available, one of the most convenient being that contained in Kolle and Hetsch's *Lehrbuch*.[1] We think that most laymen would have no difficulty in following an argument arranged on the following lines. In the first place, the clinical diagnosis of typhoid has always been subject to error; even a member of the British Union for the Abolition of Vivisection could hardly contend that the distinction between pneumonia and typhoid is "a pure statistical trick," for so expert a physician as Sir William Osler has told how he has "brought such a case before the class one week as typical pneumonia and a fortnight later shown the same case as undoubtedly one of typhoid fever."[2] It should be pointed out that the diagnosis of typhoid fever is usually rendered precise by the agglutination test and that in performing this test in cases clinically similar to typhoid the discovery was made that another group of diseases occurred, due to organisms culturally different from the typhoid bacillus and frequently responsible for clinically dissimilar conditions. The fact may be emphasized that these discoveries were due to workers neither interested in nor concerned with the employment of antityphoid vaccines. The work of Achard and Bensaude in 1896 and of Schottmüller in 1900 and 1901—that is, before antityphoid inoculation on a large scale had become a practicable measure—should be mentioned. In this way it ought to be easy to demonstrate that the assertion of the British Union for the Abolition of Vivisection is a mere example of either crass ignorance or wilful falsification, alternatives which indeed cover the majority of such statements with respect to scientific problems.

We think we have exhausted the criticisms to which the data provided by the Antityphoid Committee are subject, and we are strongly of opinion that members of the profession engaged in educational work would be well advised to confine their statistical arguments to this field. We do not deny that the experience of other countries and observers affords strong *prima facie* confirmation of these results, but

[1] Kolle and Hetsch, *Die experimentelle Bakteriologie und die Infektionskrankheiten*, vol. i, pp. 281–296.
[2] Osler's *Principles and Practice of Medicine*, eighth edition, p. 57.

we feel at the same time that it might be difficult, without much more familiarity with details than can readily be obtained, to rebut arguments of the type noticed above. It is a capital error to overstate a fundamentally strong case.

We now turn to the alleged danger of the inoculation in itself. Major Russell, of the United States Army Medical Service, reported, in 1912, the results of twenty thousand inoculations—that is, the experience of 6,690 men each vaccinated three times.[3] Out of this number only 223 men were even excused from duty—a rate of about 1 in 90. The degree of reaction varies, and it is only prudent to observe the precautions recommended by the Antityphoid Committee. The first is that the inoculation should be made in the afternoon, so that the man has the benefit of rest in bed; the second is that undue muscular fatigue should be avoided on the following day, even though the man himself feels perfectly well; and the third is to avoid alcohol in any form for at least twenty-four hours following inoculation. When these simple precautions are observed, the Committee states that "in nine cases out of ten the symptoms, both general and local, are trivial, and in twenty-four to forty-eight hours the inoculated man is quite himself again except perhaps for a slight tenderness at the site of inoculation, which may last for a day or two longer." Arrangements should always be made for the men to be excused by the commanding officer from drill and heavy fatigues for one or two days after inoculation.

If a man is told that inoculation will diminish his chance of contracting typhoid to something between a fifth and a third of that appertaining to his non-inoculated comrades, while the price he has to pay is measured by a probability of at most about one in ten of being moderately indisposed, the dreadful tales of strong men cut off in their prime by the machinations of the vaccinists—a phantom army blessed with the reproductive powers of Falstaff's men in buckram—are likely to be received with the contempt they deserve. We have incidentally referred to the utterances of the British Union for the Abolition of Vivisection, and we think it is only just to express our gratitude to that society for stating that medical men who advocate the use of antityphoid inoculations do so on pecuniary grounds. Thus, they remark that the performance of a process, facetiously termed by them "statistical examination," "would not suit Sir Almroth Wright, and, if pursued, might reduce to infinitesimal proportions the sale of his precious quackery, of which he has had the good fortune to supply 1½ million of doses recently for the soldiers of the British army." When the recruit learns that the most ardent supporters of inoculation are the officers of the Royal Army Medical Corps, that its practice throws upon them considerable work and responsibility, and that they derive therefrom no more pecuniary advantage than he does himself, he will know what to think of the British Union for the Abolition of Vivisection.

We have no doubt that if the facts above set forth are brought to the notice of men serving or about to serve with the colours, the consequence will be to popularize still further the practice of antityphoid inoculation, and to inflict another crushing defeat upon the ignorant and malicious obscurantists represented by the British Union for the Abolition of Vivisection.

[3] *Journ. Amer. Med. Assoc.*, 1912, lix, 1362.

Dr. E. F. Bashford has, on account of the state of his health, resigned his position as General Superintendent of the Imperial Cancer Research Fund.

EPSOM COLLEGE.

In the British Medical Journal last week Sir Henry Morris, the Honorary Treasurer of Epsom College, made an appeal on behalf of the Royal Medical Foundation, which, like all other institutions of the kind, is feeling the financial pressure caused by the war. The benefits of the Epsom Foundation are, or should be, well known to every member of the profession. The school provides gratuitously an education of the highest class, with maintenance, clothing, and pocket money, for fifty sons of medical men with whom the battle of life has, for one reason or another, gone ill. It does for them what the oldest and most famous of our English public schools were intended to do for a larger class. In some of these the stream of charity has been diverted into channels certainly not foreseen by the pious founder. Although Epsom as a school has far outgrown the dreams of those to whom it owes its existence, the benefits of its endowments are strictly applied to the purpose for which they were intended. In addition to the foundationers, the school has accommodation for 250 boys. The excellent quality of the education given at Epsom is shown by the fact, mentioned by Sir Henry Morris, that this year 10 boys out of 13 passed the whole of the First Examination for medical degrees at the London University, while 18 out of 23 passed the Matriculation Examination, 6 of them in the first class. But it is important that it should be understood that, though science has a prominent place in its teaching, the classical and other intellectual training given at Epsom is of the same kind as that of the older public schools. It fits a boy for any sphere in life, and it fosters in him the spirit of citizenship, as is proved by the fact mentioned in the Journal not long ago, that more than 200 old Epsomians are serving their country with the forces in the present war. Although Epsom cannot claim the venerable traditions that cluster around Eton and Winchester, it has already sent forth not a few who have written their names in the roll of honour of our "rough island story." Another part of the work of the Royal Medical Foundation is the payment of pensions to members of the medical profession in need of such help or to their widows. The Foundation has, therefore, a special claim not only on the benevolence of the profession, but of the public which benefits so largely by the ill-paid work of doctors. At this time, particularly when so many young practitioners have thrown up their prospects in civil life to help the sick and wounded, it is to be hoped that Sir Henry Morris's appeal will receive the widest and most generous response.

GERMAN DRUG DIFFICULTIES.

Though Germany is the home of the synthetic drug, her supply of natural drugs is largely dependent on foreign produce. She is, therefore, faced with serious difficulties in this respect if the war is protracted. These difficulties are discussed in the *Muenchener medizinische Wochenschrift* for September 29th, by W. Straub, who states that the importation of drugs through neutral countries cannot be relied on, as they have already prohibited the export of the most important drugs. It is practically certain that the German army is supplied with drugs for a long time to come; and the Belgian supplies constitute a further source on which the German writer dwells complacently. The wants of the public are less likely to be met satisfactorily if the war continues for more than a year. As Germany's synthetic drugs are no longer exported, their supply should be more than sufficient, and in many cases they can be used in place of imported natural drugs. There is no lack of raw material, such as benzene, nitric acid, and chlorine, from which so many of the synthetic drugs are prepared. The writer gives a list of drugs which may be expected to fail in the near future. Aloes, he points out, comes from South Africa, and is so highly valued by the pill-consuming (*sic*) English that this aperient is sure to be kept back. As a substitute

or aloes, alder buckthorn bark (frangula) is suggested, as well as the synthetic drugs istizin and phenolphthalein. Balsam of Peru, being most useful in war as a dressing, should be reserved for this purpose and should not be prescribed in scabies, for which styrax should be used. There are also many synthetic balsams, such as peruscabin and peruol, which may be used as substitutes, though their value is doubtful. As for quinine, though the principal clearing-house of cinchona bark is Amsterdam, most of the quinine factories are in Germany, so a sufficient store of quinine and its derivatives should be available. Cocaine, too, is principally imported through Amsterdam. A shortage of this drug would not be serious, as there are sufficient quantities of eucaine, novocain, and alypin, not to mention the insoluble anaesthetic powders, anaesthesin and orthoform. Caffeine can be prepared synthetically from uric acid, and the supply should therefore be unlimited. The same remark applies to theobromin, diuretin, and theocin. Large stocks of simaruba bark have been accumulated, and the host of antigonorrhoeal drugs is so great that cubebs, which is obtained from the Dutch colonies, can be dispensed with. For kousso, which comes from Abyssinia, male fern, it is said, may be used, while the same substitutes may be given for senna as for aloes. Hydrastis root can be replaced by the synthetic hydrastinin. Though iodine is largely imported, its extensive industrial use should assure a supply more than sufficient for medicinal purposes, and the same consideration is said to apply to castor oil, which comes from India and Italy, though the purity of this drug, as supplied for industrial purposes, is questionable. Another valuable aperient, with the loss of which the Fatherland is threatened, is rhubarb root, which comes from China. The supply of morphine hydrochloride, and of all the other derivatives of opium, threatens to run short, for in every neutral country the export of this group of drugs is prohibited. Though developments in the Balkans may release large quantities of opium stored in Asia Minor, Germany cannot definitely count on this source, and should, therefore, limit the use of morphine to the relief of pain. In this respect morphine and codeine are indispensable, but as hypnotics they can be replaced by the synthetic drugs, veronal, etc. Physostigmine, though it comes from Africa, should not run short, as its uses are much limited and only high dilutions are required. The same considerations hold good for pilocarpine. The suspension of the import of ipecacuanha from Brazil may become serious if dysentery breaks out in Germany. In bacterial dysentery bolus alba, Straub suggests, might be given as a substitute internally, its action being supplemented by 0.5 per cent. enemata of sodium salicylate; bolus alba is the term used in the German Pharmacopoeia for kaolin. In amoebic dysentery, quinine enemata might, it is suggested, be given. As the santonin used in Germany is said to be made from flowers grown in Southern Russia, it may in the future be necessary to resort to chenopodium anthelminthicum (American wormseed) in the treatment of ascarides. Of ergot, which is imported chiefly from Spain and Russia, it is said that its action is uncertain, as is also that of the new synthetic drug, uteramin, which is said to be equivalent to certain elements of ergot. Unfortunately, the action of uterine drugs prepared from the pituitary body is not identical with that of ergot. Strophanthus, though an imported drug, should not run short for a long time, as the factories in which it is refined are chiefly German, and large stocks are in hand. Still, should this drug be used up, a satisfactory substitute could be found in the lately introduced drug, cymarin.

A HISTORICAL MILITARY MEDICAL EXHIBITION.

THERE is, perhaps, no branch of medicine which shows more clearly the advance of science than the care of the wounded in time of war, and the contrast between modern field surgery and nursing and the rough and ready methods in vogue less than a century ago is demonstrated in a very striking manner in the special exhibit of objects connected with naval and military surgery now on view at the Wellcome Historical Medical Museum in Wigmore Street. This interesting section, which was opened on December 14th, includes every variety of object connected with the medical equipment of an army in the field; and many of the exhibits should appeal almost as strongly to the student of history as to the student of medicine. A case in point is a couple of modest boxes which formed the travelling pharmacopoeias of Lord Nelson and the Duke of Wellington, and a bulky medicine chest belonging to an Italian army surgeon of the seventeenth century, a few of whose vast array of bottles still hold the remnants of once-powerful drugs. Close by is a large collection of amputation saws and knives, which illustrate the gradual change in the shape of these instruments, whilst in another case may be seen the evolution of the tourniquet, and a third contains a number of antique bandage winders, one of which, beautifully carved in ivory, was evidently intended to be carried at the nurse's waist. A set of field dressings, such as were used during the Crimean and Boer wars, are exhibited side by side with a telephone probe for locating bullets, whilst another section shows a number of formidable looking instruments once employed in extracting them. Near at hand are cases of surgical instruments used on the fields of Vittoria, Waterloo, and other battles of the Peninsula. Another interesting section is composed of models of improvised stretchers used by the Japanese army during the Russo-Japanese campaign. These afford good proof of the extraordinary ingenuity and fertility of invention in the face of difficulties on the part of our allies. A quantity of autograph letters of Miss Nightingale, Baron Larrey, and others, are also on view, the most remarkable being one written by George Washington to his dentist, in which the champion of American independence arranges for the payment for a set of false teeth, a cast of which is displayed near by. A large collection of portraits and pictures is included in the exhibition, which should prove a popular feature of the museum for some time to come.

THE ROYAL EARLSWOOD INSTITUTION FOR MENTAL DEFECTIVES.

THE "Report 1914" of the institution at Earlswood recently issued was presented at the annual general court, held on April 30th, 1914. It gives an account of the proceedings of the "past year," and contains the report of the medical superintendent (dated March, 1914) with the statistical tables for the year 1913. The board of management, after referring with gratitude to a much needed generous bequest, expresses anxiety as to the future of the charity under the operation of the Mental Deficiency Act. Reference is made to certain alterations in the certification of patients as "irksome and objectionable to the friends of cases" as compared with the simpler method in use under the Idiots Act, now repealed. In consequence of the fact that under the new Act the mental defectives of the poorer classes will be provided for by the local authorities, the board looks forward to Earlswood ministering in future more especially to the needs of the middle classes who are relatively poor and unable to pay the charges for private treatment. It is pointed out that, subject to a modified election, admission may be obtained at a minimum contribution on the part of friends of 15 guineas a year. Consequent on altered conditions under the new Act, it was proposed to alter the name of the society to the "Royal Earlswood Institution for Mental Defectives," and it was announced at the general court that His Majesty the King had sanctioned this alteration in title. The report of the medical superintendent (Dr. Charles Caldecott) for the year 1913 states that 49 patients (39 male and 10 female) had been admitted. 35 cases

(26 male and 9 female) had been discharged, and 20 cases (14 male and 6 female) had died, leaving in the asylum on December 31st, 1913, 490 patients (338 male and 152 female), as compared with 496 on January 1st, 1913. The average number resident during the year was 489, and the percentage death-rate calculated on this was 4.09. Of the deaths 8 were due to measles (108 cases), a serious epidemic of which occurred in the early part of the year; 4 deaths only are attributed to tuberculous disease. We note that three patients died aged 60 years and upwards, and that in the table of patients resident no fewer than 20 are recorded as having attained 65 years and upwards. This should be borne in mind in comparing the death-rate of Earlswood with that of similar institutions where the average age of the inmates is lower. In conclusion the medical superintendent emphasizes the appeal of the board for the continued charitable support of the benevolent public by stating that under the operation of the Mental Deficiency Act the voluntary charitable institutions "will not receive the slightest financial support from the State or the rates," and that "the necessity for their existence will, in all probability, be greater than ever, and consequently there will really be a demand for increased, rather than diminished, charitable support in the future." It is now nearly seventy years since the benevolent work carried on at Earlswood was inaugurated on a charitable basis by the efforts of the Rev. Dr. Andrew Read, and its success, both from a social and scientific standpoint, are well set forth in an appreciative communication recently received by the Board from Sir James Crichton-Browne, in the course of which he wrote: "Earlswood remains to-day, as it has always been, in all senses, the premier institution in this country for the care and education of the weak-minded. It first awakened interest in the work, and drew to it sympathetic support; and it has pursued the work with ever-growing success to this hour. . . . Making no exaggerated pretensions, it has done a signal public service; has carried consolation into many afflicted homes, and made multitudes of useless beings—mere cumberers of the ground—capable in some degree of contributing to their own support. Earlswood is eminently deserving of generous aid. It is, I know, under wise scientific guidance, and should lead the way in that campaign against mental defect which is now being vigorously undertaken."

CEREBRO-SPINAL FLUID.

DR. LOUIS H. WEED has published an essay[1] on the cerebro-spinal fluid, the first section of which deals with the theories of drainage of cerebro-spinal fluid and contains an analysis of the methods of investigation. After giving a complete and interesting account of previous researches, he details his own experiments and concludes that the observations of previous investigators have in fairly definite fashion established the fact that cerebro-spinal fluid escapes chiefly by way of the venous system, and to a lesser extent along lymphatic pathways. There is as yet no agreement as to the exact pathway of escape. The injection methods of past investigators have been such that any deductions made from them are open to adverse criticism. Dr. Weed has introduced a new method by the intravital injection of the cerebro-spinal spaces with true solutions and the subsequent precipitation of the chemical body *in situ* which enables him satisfactorily to study the manner of escape of the cerebro-spinal fluid from the subarachnoid spaces. The solutions he used were of potassium ferrocyanide and iron ammonia citrate. The second section deals with the pathways of escape from the subarachnoid spaces, with particular reference to the arachnoid villi. After discussing fully observations previously recorded, he concludes that the chief method of return of cerebro-spinal fluid to the general circulation is by a process of filtration through arachnoid villi into the great venous sinuses. He admits the possibility of an accessory but relatively unimportant drainage of the fluid into the lymphatic system. He found no evidence of the escape of cerebro-spinal fluid into cerebral veins or capillaries. But in the next section he gives definite support, by his observations of an intramedullary canalicular system, to the view which Mott advanced; moreover, he agrees with him when he asserts that the cerebro-spinal fluid "undoubtedly possesses an active function in maintaining the metabolic exchange and elimination of the nerve cells." He observes that nervous tissue lacks entirely a lymphatic system; it would appear that its place is taken by the perineuronal, pericapillary, and perivascular systems with the contained fluid, and that this fluid is poured into the subarachnoid space, where it mixes with the fluid of the choroid plexus. He concludes that the cerebro-spinal fluid is derived from two sources—the choroid plexus in the cerebral ventricles and the perivascular system of the nervous tissues. He has been able, by injection of the ferrocyanide solution into the subarachnoid space and subsequent precipitation, to show the particles of Prussian blue in the ganglion cells and in the perineuronal, pericapillary, and perivascular spaces. This valuable monograph is illustrated by five excellent plates.

[1] *Studies on Cerebro-spinal Fluid.* By Louis H. Weed. (From the Laboratory of Surgical Research, Harvard Medical School.) The *Journal of Medical Research*, vol. xxxi, No. 1. (New series, vol. xxvi, No. 1.) September, 1914. (Pp. 21-117.)

TUBERCULOUS GLANDS IN THE NECK.

AFTER considerable experience of the various conservative methods of treating tuberculous glands of the neck, the surgical clinic at Utrecht has arrived at a plan of which an account is given by H. Verploegh and C. L. W. Reis.[1] Naturally the treatment varies somewhat according to the number of glands involved, the stage to which the disease has advanced and the degree of extraglandular reaction, but it may be divided into two main methods, injection and radiation, with excision as an occasional auxiliary expedient later in the treatment. The case *par excellence* for injection is the large solitary infected gland with or without caseation. A needle is pushed into the gland through the nearest part of the skin, and as a rule this will decide whether caseation has occurred or not. Through it is then injected either camphorated thymol or a gum-oil mixture. The use of camphorated naphthol recommended by Calot is considered to be too dangerous. The former consists of thymol 30 parts, camphor 60 parts, and sulphuric ether to 100 parts, and the dose injected varies from a few drops up to 1 c.cm.; the early injections usually cause some pain. The gum-oil is composed of ol. cajuputi 10 (or 20 or 33) parts, and sterile ol. sesami to 100; it is given in doses varying from 0.5 c.cm. of the 10 per cent. solution to 1 c.cm. of the 33 per cent. or even higher; it is painless. The effect of these injections is to produce a breaking down of the gland, the content of which becomes at first gelatinous, then thin, yellowish, and purulent, and finally serous and bloodstained, before the gland is completely absorbed and converted into a knot of connective tissue. The difficulty is to control the rate at which the breaking down occurs. As a rule, more than one injection is necessary to bring it about, and occasionally in simple hypertrophied glands sclerosis occurs without any breaking down. But sometimes it proceeds very rapidly, and unless care is taken a fistula may be formed, which requires scraping. Commonly, however, the results are entirely satisfactory. Radiation is more suited to the case in which a mass of glands in varying degrees of enlargement is involved. The apparatus is arranged to deliver in about forty minutes a dose producing reddening; half this amount is given at one sitting, at least a week being allowed to elapse before another dose is given. The

[1] *Nederlands Tijdschrift voor Geneeskunde*, 1914, No. 16.

first injection is followed by a general reaction resembling the tuberculin reaction; but this becomes less and less after subsequent sittings. Locally the effect depends on the state of the glands. A simple hypertrophied gland at first enlarges and becomes hard, while an extensively caseated gland swells very little and contracts very slowly. A gland with small areas of caseation swells markedly, and may break down, great care being required to prevent it breaking through the skin. At the same time a marked improvement occurs in the periglandular tissues, the glands becoming free and movable as they diminish in size. A neck, even very extensively enlarged, may be brought back to normal size in a few months. Combination of the radiation and injection methods may frequently be employed with advantage; and if operation is eventually undertaken to expedite the final clearing up, it is a much smaller affair, and the condition is not liable to recur.

DAY NURSERIES.

THE term "day nursery" contains for many of us pleasant recollections of early youth, and it is said that the institution of afternoon tea originated there. The term has not lost its earlier meaning, but its connotation has been extended, so that the Board of Education has now decided that the time has come when Day Nurseries should receive some assistance from the State. It has recently issued regulations under which it will make grants, and in a covering memorandum—after observing that many of the ailments from which children suffer when they enter school are attributable to the absence of adequate care during their earliest years—it points out that this lack of care arises from various causes. The mother may be ignorant of the simple laws of health, or the conditions of employment or other circumstances may lead to her being absent from home during a large portion of the day; unable herself to take proper care of her child, she may find it impossible to secure proper care by other persons. The day nurseries which are eligible for recognition by the Board are those which provide primarily for infants and young children under 3 years of age; though the Board will not object to the admission of children over that age, it is not prepared to recognize day nurseries intended primarily for older children. The person in charge of the home will be a matron, not necessarily a trained nurse, but one who has had practical experience in the training and care of small children. She must have at least one understudy, and usually two or three probationers or other assistants will be considered necessary. Every child must be seen by a responsible person daily on arrival; every day nursery must have a medical officer who will visit it at regular and frequent intervals, and whose services will be available at other times in case of emergency. The matron will watch the state of the children daily in order to deal promptly with any cases of illness or possible cases of infectious disease, and in this respect will act under the general supervision of the medical officer. A day nursery must make adequate provision for the suitable feeding of the children, and arrangements must be made for allowing them to sleep under healthy conditions, so far as possible in the open air. When necessary the children must be provided with special clothes to wear in the nursery while their ordinary clothes are disinfected. Further, each nursery should as a rule include two apartments—one for infants and one for young children—baths, a kitchen and larder, and accommodation for the staff. It should also have a playing ground, and the medical officer of health of the district should be consulted as to the accommodation to be provided and the maximum number of children to be admitted. Pains are to be taken to secure that only those children are admitted for whom adequate care cannot be provided in their homes by reason of the unavoidable absence of the mother. The matron will be required to keep a register giving information as to the home circumstances of the child, and a note as to the extent to which the children have suffered from measles or other forms of epidemic disease. The grant will be based on the number of attendances, and applications should be supported by an assurance that the medical officer of health is satisfied with the work. It is recommended that every endeavour should be taken to keep in close touch with the local education authority and the sanitary authority. The first grant will be based on the work during the year ending March 31st, 1914, and will be paid not later than March 31st, 1915.

WE regret to have to announce that Dr. Albert Van Gehuchten, Professor of Neurology in the University of Louvain, who has recently been residing and working at Cambridge, died on December 9th after a short illness. We hope to give next week some account of Professor Van Gehuchten's valuable contributions to the physiology and pathology of the nervous system.

OUR BELGIAN COLLEAGUES AT HOME AND ABROAD.

GENERAL COMMITTEE.

AT a meeting of the Executive Committee on December 10th it was announced that the following nominations had been made to the General Committee by the Pharmaceutical Society of Great Britain: Mr. Edmund White, President of the Pharmaceutical Society of Great Britain; Mr. J. H. Cuff, Mr. W. H. Gibson, Mr. R. L. Gifford, Mr. A. Hagon, Mr. P. F. Rowsell, Mr. G. E. Pearson (Messrs. Burroughs, Wellcome and Co.), Mr. F. P. Sargeant, Mr. W. S. Glyn-Jones, M.P., Mr. J. C. Umney, Mr. D. Gilmour, Mr. J. C. Gilmour, Mr. W. L. Currie, Mr. T. Guthrie, and Mr. J. Rutherford Hill. It was also announced that Mr. Lynn Thomas, C.B., and Professor E. W. Hope of Liverpool had been added to the General Committee. At the same meeting, Mr. E. T. Neathercoat, Vice-President of the Pharmaceutical Society of Great Britain, was elected a member and Mr. W. J. Uglow Woolcock, Secretary and Registrar of the Pharmaceutical Society, was associated with Dr. Squire Sprigge as joint honorary secretary. The Committee also received promises of co-operation from univesities, provincial centres, and individual medical men and pharmacists.

The following subscriptions to the fund have been received by the Honorary Treasurer, Dr. H. A. Des Voeux, up to Tuesday evening, December 15th, in addition to subscriptions, amounting to £1,444, previously acknowledged:

Fourth List.

	£	s.	d.
Mr. J. D. Malcolm ...	2	2	0
Mr. Stanley Boyd ...	5	0	0
Dr. E. P. Wrinch ...	1	1	0
Dr. W. E. M. Wright	1	1	0
Dr. F. W. Mason ...	1	1	0
Sir Alfred Pearce Gould, K.C.V.O. ...	25	0	0
Dr. Eveline Cargill...	2	2	0
Mr. Abram Leach ...	3	3	0
Mr. Irwin B. Richardson	1	1	0
Dr. J. F. Weir ...	0	10	6
Dr. J. C. McVail ...	5	5	0
Dr. G. N. Stephen ...	2	2	0
Dr. W. A. Bond ...	3	3	0
Drs. Macfie and Gray	5	5	0
Mr. E. T. Collins, F.R.C.S.	3	3	0
Mr. F. B. Bannister, R.N.	2	0	0
Mr. F. R. Todd ...	5	0	0
Dr. A. Kempe ...	1	1	0
Dr. J. P. Scatchard...	2	2	0
Dr. A. E. Larking ...	2	2	0
Dr. D. Dickson ...	1	1	0
Dr. Lewis Reynolds	1	1	0
Mr. W. F. Haslam ...	2	2	0
The Lady Betty Leslie Melville ...	25	0	0
Dr. R. P. Jones ...	2	2	0
West Herts Division of B.M.A. (per Dr. K. J. Aveling, Hon. Sec.)	10	7	0
Mr. F. R. U. Atkinson	1	1	0
Dr. J. Stewart ...	2	2	0
Mr. G. F. Gubbin ...	1	0	0
Mr. Sangster ...	2	0	0
Mr. Meredith Townsend	2	0	0
Mr. R. H. Parker ...	1	1	0
Mr. W. A. Bell ...	2	2	0
Peterborough and District Pharmacists' Belgian Refugee Committee...	7	2	0
Mr. F. Pilkington Sargeant	5	0	0
Mr. W. J. Uglow Woolcock ...	5	0	0
Mr. H. S. Phillips ...	2	2	0
Mr. J. H. Cuff ...	2	2	0
Mr. R. L. Gifford ...	1	1	0
Mr. E. F. Young ...	1	1	0
Mr. A. Smith ...	1	0	0
Mr. R. Anderson ...	0	10	0
Mr. W. Warren ...	0	5	0
Mr. G. A. G. Simpson	5	5	0
Dr. Charles Burland	1	1	0

	£	s.	d.
Dr. G. A. Sutherland	2	2	0
Mr. J. P. Fennell ...	1	1	0
Dr. J. H. Philpot ...	5	5	0
Dr. F. A. Hepworth	1	0	0
Dr. J. Taylor ...	5	0	0
Dr. Inman	3	0	0
"A Poor Doctor" ...	0	3	0
Mid-Cheshire Division of B.M.A. (per Dr. A. T. Bleasc)...	1	1	0
Dr. J. H. Sequeira ...	3	3	0
Dr. and Mrs. A. P. Pugh	1	1	0
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Dr. J. W. Grange ...	3	3	0
Dr. J. M. Clarke ...	2	2	0
Dr. W. S. Syme ...	2	2	0
Sir Frederic Eve ...	15	0	0
Dr. Luff	3	3	0
Dr. M. Tench ...	1	1	0
Mr. C. H. Fagge ...	5	5	0
Dr. J. W. Russell ...	5	0	0
Mr. H. R. Ley ...	5	0	0
Dr. T. M. Callender..	1	1	0
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H. B. S.	3	0	0
Dr. S. Phillips ...	5	0	0
Surgeon-General Sir Lionel Spencer ...	5	0	0
Miss Aird	1	1	0
Dr. J. C. Warren ...	5	0	0
Dr. H. W. Webster...	2	2	0
Dr. W. S. A. Griffith	10	0	0
Colonel Geo. Wilson, A.M.S.	2	2	0
Dr. J. Braithwaite ...	1	1	0
Dr. N. F. Lock ...	1	1	0
Dr. S. S. Rendall ...	1	1	0
Dr. W. H. Smith ...	1	1	0
Dr. O. L. Theobald...	1	1	0
Dr. F. Vicars ...	1	1	0
Dr. Given	2	2	0
Dr. J. W. Eastwood	1	1	0
Mr. C. B. Fairbank	2	2	0
Mr. H. A. Wanklyn	1	1	0
Dr. A. D. Jules ...	1	1	0
Dr. F. Cassidi ...	5	0	0
Dr. Fiske	1	1	0
Dr. A. P. Gibbons ...	2	2	0
Dr. H. R. Andrews...	5	5	0
Dr. J. W. Carr ...	5	0	0
Dr. T. E. Honey ...	3	3	0
Mr. R. B. Wall ...	2	2	0
Dr. Burgess ...	2	2	0
Mr. E. T. Neathercoat	5	0	0
Mr. Walter Hills ...	5	0	0
Mr. F. A. Rogers ...	2	2	0
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Mr. W. Gowen Cross	2	2	0
Mr. J. E. Edwards...	0	10	0
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Mr. G. Lapthorn ...	2	2	0

By a clerical error the addition of the letter "k" was made to the name of Dr. Mary Acworth in the list published last week.

Subscriptions should be sent to Dr. H. A. Des Voeux, 14, Buckingham Gate, London, S.W., and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, and crossed "Lloyd's Bank Limited."

SCOTLAND.

The first meeting of the Edinburgh Obstetrical Society for the session was held on December 9th, the President, Sir HALLIDAY CROOM, in the chair.

The President of the Royal College of Physicians, the President of the Royal College of Surgeons, and a large number of Fellows of the Society and of other members of the profession in the city and neighbourhood were present.

The PRESIDENT in a brief speech introduced Professor JACOBS, of Brussels, who gave a thrilling and appalling account of the state of Belgium, and more particularly of the sufferings of the medical profession there. He pointed out that the Belgian medical men are sharing to the full in the general distress. A strong sense of duty is alone keeping many of them in districts which have been absolutely devastated by the Germans, and before these men there stand many months during which they know that they will have to suffer, whilst giving all their services to their country. Professor Jacobs mentioned numerous instances of suffering which he personally knew about. Many doctors, for example, had to work as navvies in order to gain a few coppers for a livelihood. Others had to sell such few and meagre belongings as were left to them. Many he knew who had not even seen bread for a fortnight, and who had to sleep on a little straw on the bare ground. Several of his own colleagues were so reduced that their very clothes and boots were falling to pieces. One professor of Louvain University had with his wife subsisted for three days on wayside herbs. Another he found looking for his wife and family whom he had not seen or heard of for six days. One Belgian professor was shot after having had his ears cut off and his eyes put out, and the German soldiers then carried his head round the town on the end of a lance! Professor Jacobs then related a few instances of German "Kultur." One example may be stated here. Three weeks before the war broke out he operated on a lady near Namur. In the beginning of August she was convalescent. A day or two after the outbreak of hostilities she was, before the eyes of her husband, violated by seven German soldiers, as a result of which she died two days later.

Sir A. R. SIMPSON moved a hearty vote of thanks to Professor Jacobs. Germany was trying not to conquer but to murder and obliterate Belgium, and the nation that attempted such a crime must perish. The Germans had no word of their own for culture; they did not know the real meaning of it, and they had given the word a debased significance for all time. Germany's methods were the end of all true culture. He believed that ever since 1870 Germany had steadily deteriorated through pride and material success. She would have to learn to serve before she could ever hope to be able to rule.

Sir JAMES AFFLECK seconded the motion in a few words, and assured Professor Jacobs of the hearty sympathy of the meeting.

The PRESIDENT, in conveying the thanks of the meeting to Professor Jacobs, was able to inform him that a sum of well over £100 had been promised by those present, which they hoped he would accept and administer for the medical profession in Belgium.

Scottish Committee.

The Presidents of the Royal Colleges of Physicians and Surgeons of Edinburgh and of the Royal Faculty of Physicians and Surgeons of Glasgow announce that steps are being taken for the formation of a Scottish Committee in connexion with the Belgian Doctors' and Pharmacists' Relief Fund. The Presidents state that according to recent information in their possession the condition of the Belgian doctors and pharmacists is deplorable and their need very great.

IRELAND.

We are informed that in Belfast the Ulster Medical Society and the Ulster Branch of the British Medical Association are making arrangements to draw the attention of their members to the movement.

The first list of subscriptions received by the Irish Committee contained the following names in addition to those in the preliminary list published in the BRITISH MEDICAL JOURNAL of December 5th, p. 987:

	£	s.	d.
J. G. Allen	1	1	0
S. H. B. Allison ...	1	1	0
Dora E. Allman ...	1	1	0
G. Atkins	3	3	0
C. A. Ball	2	2	0
Sir C. B. Ball ...	5	5	0
C. Preston Ball ...	2	2	0
A. P. Barry ...	1	1	0
Jerome Barry ...	0	10	0
John M. Barry ...	1	0	0
Joseph Beatty ...	2	2	0
Wallace Beatty ...	5	5	0
Sir Hawtrey Benson	2	2	0
Henry Bewley ...	10	10	0
His Hon. Judge Bird	5	0	0
A. Birmingham ...	1	0	0
J. Booth	1	1	0
William Bradley ...	1	0	0
F. Brannan ...	1	0	0
C. Brew (Bray) ...	1	1	0
J. Mitchell Bruce ...	5	5	0
L. Buchanan ...	1	1	0
Cornelius Buckley ...	1	1	0
Eugene Byrne ...	2	2	0
Sir Arthur Chance ...	5	5	0
William Clifford ...	1	1	0
John Coffey ...	1	1	0
T. J. Considine ...	2	0	0
F. C. Crawley ...	5	5	0
J. T. Creery ...	1	1	0
J. D. Cummins ...	1	0	0
W. H. Cummins ...	1	1	0
N. Cunningham ...	1	1	0
P. J. Cusack ...	1	1	0
M. E. Cussen ...	1	1	0
W. J. Dargan ...	2	2	0
Henry Davis ...	1	1	0
J. H. Davys ...	1	1	0
W. R. and Mrs. Dawson ...	3	3	0
J. Marshall Day ...	2	2	0
Arthur Dobbs ...	1	1	0
J. A. Dockeray ...	1	1	0
Patrick Dolan ...	1	1	0
P. Donnellan ...	1	0	0
J. E. Dormer ...	1	1	0
Th. Drapes... ...	1	1	0
H. C. Drury ...	2	2	0
H. C. Earl	2	2	0
J. T. Elliott ...	1	1	0
F. C. Ellison ...	2	2	0
H. M. Eustace ...	3	3	0
W. N. Eustace ...	2	2	0
E. M. Faunin ...	2	2	0
A. A. Ferguson ...	1	1	0
P. Ferris	1	1	0
Victor G. Fielden ...	2	2	0
J. F. FitzGerald ...	1	1	0
J. J. FitzGerald ...	1	0	0
Gibbon FitzGibbon	2	2	0
T. P. Flynn ...	1	0	0
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A. Fullerton ...	2	2	0
Nicholas Furlong ...	1	1	0
J. Geraghty ...	1	1	0
W. J. Gibson ...	1	1	0
T. C. Gilmore ...	1	0	0
G. J. Goldie ...	5	5	0
T. D. Good... ...	1	0	0
T. K. Greenfield ...	1	1	0
H. C. Groves ...	1	1	0
C. Denys Hanan ...	3	3	0
Allan H. Hanley, C.M.G.	2	2	0
Richard Hatch ...	1	1	0
M. R. J. Hayes ...	2	2	0
M. J. Hayes ...	1	0	0
James Henderson ...	2	2	0
Eileen A. Hewitt ...	1	0	0
T. D. Honan ...	1	1	0
S. Wallace Hudson ...	1	1	0
W. Brown Hunter ...	2	2	0
J. W. H. Jellett ...	1	1	0
Deputy-Surg.-Gen. Joynt	5	5	0
R. Lane Joynt ...	5	5	0
Miss Kavanagh ...	0	10	0
M. Kearney ...	1	0	0
J. F. Keenan ...	1	0	0
G. Kelly	1	1	0
W. P. Kelly ...	0	10	0
J. B. Kelso	0	10	6
Hugh T. J. Kennedy	1	1	0
P. J. Kiernan ...	1	1	0
J. W. Killen ...	2	2	0
W. M. Killen ...	2	2	0
R. J. Kinkead ...	1	1	0
M. O'Malley Knott ...	2	2	0
S. A. Lane	2	0	0
E. Lapper	2	2	0
W. F. Law	1	1	0
W. K. Law	5	0	0
R. R. Leeper ...	2	2	0
W. R. Lemon ...	1	1	0
J. A. Lindsay ...	5	5	0
M. E. Lynch ...	1	1	0

	£	s.	d.
Thomas Lyndon ...	1	1	0
Anthony McBride ...	0	10	6
P. A. McCarthy ...	1	0	0
James McCloskey ...	1	1	0
Joseph McDonnell ...	1	1	0
Maurice G. McElligott (of Listowel) ...	3	3	0
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John McMichael ...	1	10	0
J. T. Macnamara ...	1	1	0
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J. C. McWalter ...	2	0	0
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W. A. Magill ...	2	0	0
William J. Maguire..	1	1	0
R. B. Mahon ...	1	1	0
M. J. Malone ...	2	2	0
Mrs. M. J. Malone ...	1	0	0
Mrs. F. Manning ...	1	1	0
F. C. Martley ...	2	2	0
Everina S. J. Massy.	5	5	0
Euphan M. Maxwell.	1	1	0
G. Pugin Meldon ...	2	2	0
W. K. Miley ...	5	0	0
A. Nixon Montgomery	1	1	0
H. C. Mooney ...	2	2	0
Edward E. Moore ...	1	1	0
T. G. Moorhead ...	5	5	0
J. P. Moran ...	1	1	0
J. S. Morrow ...	1	1	0
William A. Morton...	2	2	0
Edward Murphy ...	2	0	0
P. F. Murphy ...	1	1	0
H. Murray	1	1	0
George Myles ...	1	0	0
J. A. Oakshott ...	2	2	0
Daniel J. O'Brien ...	1	1	0
Kennedy J. O'Brien	1	0	0
Peter H. O'Connell...	1	0	0
Daniel M. O'Connor	1	0	0
W. J. O'Donnell ...	1	0	0
William O'Donnell...	1	0	0
John O'Donoghue ...	1	1	0
The Odontoblast Club	10	10	0
J. Conor O'Farrell ...	2	2	0
William H. O'Meara	1	1	0
Francis J. O'Reilly	1	0	0
Cecil Orpin ...	5	0	0
Gawin Orr	2	2	0
John J. O'Sullivan ...	1	1	0
George E. Palmer ...	1	1	0
Edward Phillips ...	1	1	0
Blacker C. Powell ...	2	2	0
G. A. Pringle ...	2	2	0
Seton Pringle ...	5	5	0
J. J. Purser ...	2	2	0
James Quirke ...	1	0	0
J. M. Redington ...	1	1	0
Hugh J. Ritchie ...	1	1	0
Lieut.-Col. E. A. Roe	1	1	0
Charles H. G. Ross...	2	2	0
J. Ralph Ross ...	1	0	0
W. S. Ross	0	10	0
T. J. Rossiter ...	1	1	0
R. A. Rutherford ...	1	1	0
Henry M. Scott ...	1	0	0
J. Alfred Scott ...	2	2	0
George Scriven ...	3	3	0
Reginald W. Scully	5	5	0
Edward Sheridan ...	2	2	0
Thomas Sinclair ...	5	5	0
Joseph Smyth ...	1	1	0
Alex. B. Stephenson	1	1	0
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Mary S. P. Strangman	1	1	0
Henry Stokes ...	2	2	0
H. Stoney	1	0	0
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Robert J. Taaffe ...	1	1	0
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H. Sneyd Torney ...	3	3	0
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Joseph Wallace ...	1	1	0
Wm. Patrick Walsh	1	1	0
Hugh T. Warnock ...	1	1	0
Joseph J. Waters ...	1	1	0
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W. E. Waters ...	1	1	0
Louis Werner ...	5	5	0
Joseph T. Wigham...	2	2	0
George S. Wigoder...	1	1	0
T. Henry Wilson ...	5	5	0
Francis A. Winder...	1	0	0
W. A. Winter ...	3	3	0
John F. Woodroffe...	1	1	0
Sir Robert Woods ...	10	10	0
Albert E. Wynne ...	2	2	0

Subscriptions by members of the profession in Ireland may be sent to Dr. T. Percy Kirkpatrick, Registrar of the Royal College of Physicians of Ireland, at the College, Kildare Street, Dublin.

INSTRUMENTS.

The Master of the Society of Apothecaries begs to acknowledge with thanks the receipt of surgical instruments, etc., kindly contributed by the following donors since the publication of the last list:

Dr. A. E. Whitehead, Bridlington.
Anonymous, Birvie, Montrose.
Dr. M. H. Taylor, Johnstone.
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Dr. W. J. Harnet (2nd contrib.), Barnet.
Dr. J. Robertson Crease, South Shields.

LIEUTENANT-COLONEL CHARLES DALTON, R.A.M.C., who died from wounds on September 18th, left estate valued at £4,412 3s. 2d.

THE New York Health Department, in its *Weekly Bulletin*, gives tables showing the department's work in venereal diseases during the second quarter of 1914, and calls attention to the fact that approximately three-fifths of the cases of syphilis reported are reported through the results obtained in its serological laboratory. The number of specimens sent to the laboratory, it is stated, is steadily increasing, showing that this diagnostic aid is appreciated by medical practitioners.

THE WAR.

MEDICAL ARRANGEMENTS OF THE BRITISH EXPEDITIONARY FORCE.

[From a Special Correspondent in Northern France.]

HOSPITALS AND CHLOROFORM.

I UNDERSTAND that the stories to the effect that, owing to a shortage of chloroform, operations are being performed in British Red Cross and British army hospitals without the preliminary establishment of anaesthesia have already been authoritatively denied in the public press at home, but it may be worth while to say that I have often seen anaesthetics used when nothing beyond wound dressing and quite small surgical procedures have been in question. Anaesthesia has been induced in these cases because the patients were quite broken down in respect of their nerve power and capacity for self-control. Some of these patients are officers who have been subjected for weeks not only to the hardships of life in the fighting line but also to the strain of great responsibility. I merely mention these cases and the use of anaesthetics in connexion with them by way of illustrating the fact that in the British war hospitals in France there is no lack of chloroform. There is, indeed, no lack of anything. Supplies of all kinds are ample. I believe, too, that, so far as anaesthetics are concerned, the same statement would be made in regard to the hospitals under French control. One acquaintance told me a week or two ago that he had brought out a few days previously from England a large quantity of chloroform, and offered it to an institution—a French Red Cross hospital—which, though it had plenty of work, was situated a long way from any supply centre. The offer was declined on the ground that the hospital already had more chloroform than could conveniently be stored. Another acquaintance, living in a town in which four or five French Red Cross hospitals are established, told me a couple of days ago that he had received from England for distribution several consignments of chloroform, but nowhere did he find it to be specially required. I also learn on inquiry at the shops of various chemists in the quite moderate-sized town from which I am writing that they have plenty of chloroform on sale, and have no difficulty in obtaining fresh supplies from the manufacturers when they require them. In view of these facts, it appears clear that if there be any basis whatever for stories of shortage of chloroform, it is to be found in the maladministration of some small private hospital enterprises in France. There are hundreds of these in existence, and some of them have been started by persons who have no knowledge of hospital administration whatever. They have brought to their self-imposed task nothing but enthusiasm and a few thousand francs collected amongst their friends, and it is not difficult to believe that at times they allow themselves to run short not only of chloroform but of many other necessaries. The amount of control that the various French Red Cross societies, under whose aegis they work, are able to exercise over them is very small. Now that the first difficulties created by the outbreak of the war have been overcome, the fact that the existence of these small institutions—excellently staffed sometimes, from a surgical point of view, but often inadequately equipped—is not always an unmixed blessing, is beginning to be recognized. A cry, in fact, for the abolition of a good many of them was raised in Paris some weeks ago, but whether any practical steps towards this end have yet been taken I am unable to state.

RED CROSS HOSPITALS.

It seems sometimes to be assumed in England that Calais and Dunkirk are British hospital bases. This is not the case; neither of them is occupied by the British forces, and our own Army Medical Service exercises no control over the medical arrangements existing therein. It occasionally happens that a British soldier gets included in a batch of French or Belgian wounded, and is taken to one of these towns for treatment, and since these towns are not far removed from the British lines, insanitary conditions in them, or rather the existence of a considerable amount of epidemic disease, might complicate matters for our own army authorities. These towns have, however, a direct interest for the British public owing to the fact that there

are established within them an aggregate of about ten voluntary hospitals of British origin. For the most part they are working under the nominal control of the French or Belgian authorities, but at one time and another nearly all of them have received more or less extensive assistance from or through the British Red Cross Society itself, and still require it. Moreover, the ambulance work connected with those at Dunkirk is under the direct control of this Society.

Of the two hospitals at Calais, one is concerned with the special arrangements proposed for the benefit of the Belgians suffering from typhoid fever. I am unable to describe it more precisely, for at the time of my last visit to Calais it was not complete. The other hospital has been at work for some weeks. It owes its foundation, I understand, to a subscription got up in the Baltic Exchange in London, and is fortunate in having its nursing arrangements in the hands of a lady who, at the time of her appointment, had only recently returned from a long tour of corresponding work in the Balkans. This hospital, which ranks as a British Red Cross institution, shares the Sophie Berthelot School—a very large building—with a French Red Cross hospital, and can accommodate 80 or 90 Belgian wounded. A third extemporized institution in the town should also be mentioned, though except for the fact that most of its nurses have been supplied by the British Red Cross Society, I do not know that it can be regarded as in any wise British. This is the Jeanne d'Arc Hospital. It is under the control of Professor Depage, whose chief assistant is Dr. J. van de Velde, and is doing some very admirable surgical work.

Of the seven hospitals in Dunkirk, much the largest is that known as the Duchess of Sutherland's Hospital. It has about 70 beds, and, under the very active control of Millicent Duchess of Sutherland herself, has been leading a useful if somewhat ambulatory existence almost since the beginning of the war. Another—and one of the youngest—is supported by the Quaker community, and is apparently very well organized. A third, which represents Edinburgh and the Border towns, has a very strong staff, but seems to be badly off for funds—a malady from which most of the hospitals in Dunkirk appear to suffer. As they are all quite small institutions, and with one exception are all housed in rather flimsy buildings of the summer residence order, it is possible that their common object would be better attained if a process of amalgamation were carried out. That object is the benefit of the French wounded, and its desirability is not in the least diminished by the fact that the principle on which the French medical authorities are working is that of evacuating to his own territorial area every wounded man who can possibly be moved. It might be well if the small committee which represents them with the French authorities, besides bringing about one or more amalgamations, were strengthened by the inclusion of a larger French official element.

The voluntary hospitals at British bases, such as Boulogne, Rouen, Paris, and Havre, are in a different position; they all work under the general authority of Sir Arthur Sloggett in his double capacity of Director-General of the Army Medical Service (overseas) and of Chief Commissioner of the British Red Cross Society and St. John Ambulance Association. As the operations of the British Red Cross Society in France now extend over so wide a field and it is obvious that they will have to be continued for a very long period, it seems to be thought best that general administrative control should be placed in the hands of someone accustomed to the management of large commercial undertakings. The gentleman selected for the position, with the approval of Sir Arthur Sloggett and of the War Office, is Sir Courtauld Thomson, who is well known as the capable business manager of more than one important commercial concern.

General Progress.

The latest addition to the list of consultants attached to the Expeditionary Force is Sir Berkeley Moynihan, of Leeds, who, after a short stay at Boulogne, proceeded south to act as surgical consultant to the hospitals in the Rouen area.

Owing to the fact that the fighting has been much less severe during the past week or two than previously, the number of wounded men reaching the various bases has fallen. Cases of tetanus and gas gangrene have become comparatively rare. Some points of practice arising out of the special character of the injuries seen in this war seem to have been settled, provisionally at least, so far as general principles are concerned, but both the consultants and the ordinary staff are, of course, still learners and must so remain for probably at least six months longer. Not until some such interval has elapsed will real knowledge of the final results of the various treatments adopted begin to accumulate in respect of cases deemed initially satisfactory. Meantime, however, it is certain that in the surgery of twentieth-century warfare marked progress has occurred. Seemingly every one now has shaken off the shackles of aseptic surgery. The French were at first perhaps a little disposed to confound conservative surgery with non-intervention. It will be interesting to learn how the German surgeons and their patients fared. Judging from one thing and another, I fancy they, too, made some errors at the beginning. The application of gypsum bandages to cases in which tumefaction was bound to occur was one of them. I saw, too, early in the war instances of what seemed exceedingly crude surgery among some batches of wounded men who had been under treatment in the German lines. This applied particularly, perhaps, to amputations, but it is possible that all these were cases in which it was considered that the right initial course was to remove the limb as low down and as rapidly as possible, and to defer covering the end of the bone until a later date. Fortunately for our own wounded, the principles and value of antiseptic surgery have always been impressed upon the minds of officers of the Royal Army Medical Corps by those whose task it has been to give instruction on the special conditions of military surgery; but in the French army medical schools, as also in French civilian hospitals, the fervour with which the principles of aseptic surgery were held is illustrated in a paper published a few weeks ago by a fairly well-known French surgeon. Writing on the subject of military surgery, the author, after referring to differences of opinion as to how often it was legitimate to change dressings, boldly declared himself as in favour of changing them not a given number of times each week, but as often as they began to smell.

GERMAN EXPERIENCES.

Treatment of Wounds.

The lack of unanimity among English surgeons as to the best treatment of wounds in war is also to be observed in the utterances of German military surgeons. Surgeon-General O. von Angerer,[1] who acted as a volunteer surgeon in the war of 1870, holds conservative views on the treatment of bullet wounds which involve no injury to important structures. When the wounds of entry and exit in such cases are small, he treats them as if they were uninfected, though the bullet has of course penetrated the clothing and skin of the patient. He admits that germs are carried into the body under these conditions, but considers their existence of no importance so long as they are left strictly alone. In other words, he thinks the danger of sepsis begins only when the surgeon interferes. The routine he favours in such cases is the application of tincture of iodine and the plugging of the wound with iodoform gauze. He removes this plug before applying a sterile, dry dressing. He is not in favour of using gutta-percha sheeting between the wound and the dressing, as the moisture retained under these conditions facilitates the growth of germs. He is also against the use of collodion and similar preparations, which many surgeons advocate in the hope that the germs on the skin will be fixed there. Exploration of the track of the wound with a probe or finger, laying open the wounds of entry and exit as well as the track of the bullet, disinfection of this track with injections of antiseptics, and the insertion of a drain are, he considers, not only superfluous, but actually harmful measures, when the wound is simple. He contents himself with bandaging the part affected, and expresses the opinion that antiseptic solutions do not kill the germs in a wound, but merely stimulate it to more active secretion. So much

[1] Feldärztliche Beilage, No. I, *Muench. med. Woch.*

for simple, uncomplicated wounds. When, however, the wounds of entry and exit are large, and nerves and large blood vessels are injured, the track of the wound must, he says, be explored and opened, and crushed tissues, which may form a nidus for germs, must be removed. Blood vessels must be ligatured, nerves sutured, and foreign bodies removed, the operation being completed by irrigation with physiological saline solution, and light plugging of the wound with iodoform gauze. But though he advocates the removal of a foreign body in a much lacerated wound, which must in any case be freely opened to remove necrotic tissue, he deprecates the relentless search for bullets which some surgeons indulge in, on the supposition that a retained foreign body implies suppuration sooner or later.

In his discussion of the treatment of wounds of bones and various organs, von Angerer again expresses a preference for conservative methods. Even if a bone has been splintered as well as perforated by a bullet, he advises conservative treatment with plaster-of-Paris splints, provided the wounds of entry and exit are small, and the track of the wound has not been severely lacerated. Abdominal wounds should, he says, also be treated in a conservative spirit; and it may often be advisable to abstain from laparotomy even in cases in which, in times of peace, there would be no doubt as to the necessity for an operation. He upholds this view in the face of the acknowledged fact that the modern bullet is apt to wound the intestines sideways, and thus inflict severe injuries. Bullet wounds of the chest and skull are, he says, also often best left alone. When a wound has become infected he advocates free incisions, plugging with tampons, irrigation with hydrogen peroxide, and frequent change of dressings. Bier's hyperaemia treatment is, he says, admirable in such cases, as it helps to irrigate the wound and dilute the toxins in it; but expert knowledge of this treatment is necessary. Treatment of suppurating wounds for two hours, once or twice a day, in a hot-air bath is also advocated, but von Angerer has nothing good to say of the antiferment treatment of suppurating wounds. He is an ardent supporter of scrupulous cleanliness among surgeons. Though he recommends the routine use of rubber gloves by both the surgeon and his attendants, he insists on exhaustive disinfection of the hands as well. For this purpose he uses a soap containing 80 per cent. of alcohol, which has been shown to kill staphylococci, streptococci, the colon bacillus and that of diphtheria within half a minute. He rubs this soap well into his hands till it has become dry, and then rinses them in sterilized water.

Dr. Linkenheld[2] is not satisfied merely with painting the skin with tincture of iodine, because in the course of the operation it disappears, leaving the skin unprotected. He therefore fixes the iodine with a coating of varnish, containing 1 part of turpentine to 50 parts each of colophony (resin) and ether. He strengthens this with a single layer of muslin. Apparently it is no more difficult to remove than ordinary sticking plaster. To the objection that this procedure complicates matters, he replies that it may be simplified by mixing the tincture of iodine with the varnish beforehand. He has never found the skin injured by this application, but when other ingredients, such as mastic or chloroform, have been added, the skin has suffered. He never washes the skin with soap and warm water before an operation, as this measure is not effective, and predisposes the skin to dermatitis if tincture of iodine is subsequently applied. He therefore cleans the skin by rubbing it with cotton-wool, slightly moistened with benzine. He sterilizes his hands with iodine and alcohol, and then puts on rubber gloves. As a substitute for these he sometimes wears cotton gloves soaked in alcohol, which he also finds useful for hardening the skin of his hands.

Tetanus and its Treatment.

In the German medical press the most suitable methods for combating tetanus have, as might be expected, been receiving much attention of late. The remedies to which most attention is devoted are antitetanic serum and magnesium sulphate. Both are, on the whole, admitted to be efficacious in a certain number of cases, but neither can be regarded as wholly reliable and satisfactory.[3]

Dr. Ludwig Kirchmayr of Vienna has published a critical analysis of statistics of tetanus treated with or without antitetanic serum. His conclusions are favourable to the serum treatment although the statistical evidence is somewhat meagre. The difficulties of estimating its value by statistics are, he recognizes, much enhanced by the capricious variations in the disease. The incubation period may be long or short, the temperature and pulse may from the outset be practically normal or alarmingly altered, and the virulence of the disease may be much affected by the locality in which it occurs. Thus in Italy, for example, the mortality from tetanus hardly exceeds 20 per cent., even in the absence of specific treatment. The arguments of the statistician are therefore apt to be unusually misleading in this disease, and the experience of the clinician in severe cases carefully observed and recorded, is most valuable. In this connexion Dr. Kirchmayr gives details of a case which, by virtue of its severity, before antitetanic serum was given, illustrates its effectiveness under certain conditions. The patient was a man, aged 55, whose head was severely wounded by the wheel of a cart as he lay in the road. This accident occurred on July 22nd. On July 26th the muscles of the jaws began to twitch, and on the following day he could no longer open his mouth. The temperature was 38.6° C. (101.5° F.), and the pulse 86. The wound in the scalp was freely opened, and some thick frothy pus was squeezed out. Dry antitetanic serum was carefully distributed over the whole wound, and in its immediate neighbourhead intra- and sub-cutaneous injections, each containing 20 c.cm. of fluid antitetanic serum, were administered; 30 c.cm. were at the same time injected into a vein. During the next two days two intravenous injections were given. At the end of this period all the most serious symptoms had vanished, but some rigidity of the muscles of the jaws and facial paralysis persisted for some time longer. The total dose of Paltauf's antitetanic serum given in this case was—150 units applied to the wound itself, 100 units injected into the skin, and 650 units injected into veins. The outstanding features of this case are the shortness of the incubation period, the severity of the symptoms, and the high temperature. Dr. Kirchmayr holds that statistical evidence supports the conclusion to be drawn from this case that antitetanic serum is valuable even after the disease has been well established. He doubts whether any great part of the antitetanic serum is conveyed from the site of injection along the nerves, and prefers intravenous injections to all other methods.

The treatment of tetanus with injections of magnesium sulphate is based on the investigations of Meltzer and Auer, who found that magnesium sulphate and chloride, when injected in animals subcutaneously in the proportion of 1.5 gram to the kilo of body weight, produce deep sleep with muscular relaxation and abolition of all the reflexes except the conjunctival and trigeminal. Dr. A. Falk[4] has reported some severe cases of tetanus in which the subcutaneous injections of magnesium sulphate were strikingly successful. He states that the intralumbal administration of the drug was first attempted by Kocher's assistant, Dr. Pellavel, who treated 5 severe cases of tetanus in this manner during the recent Turco-Bulgarian war. Two of the patients recovered, although the disease was advanced and the patients were extremely exhausted when the injections were given. Dr. Falk prefers subcutaneous injections on account of their greater simplicity, and he finds they rapidly banish pain and ensure sleep. He reports 3 cases of tetanus neonatorum of which 2 appear to have been severe. The treatment was continued for a fortnight, three injections being given every twenty-four hours. The amount of magnesium sulphate given every twenty-four hours was determined by the severity of the symptoms from day to day, and ranged from 0.45 to 4 grams. The larger doses were dangerous, alarming symptoms, including apnoea of twenty minutes' duration, being observed after the treatment had been carried out for ten days. Possibly the drug has a cumulative effect when thus given. In both cases presenting signs of magnesium sulphate poisoning, a rapid recovery was effected after 5 c.cm. of a 5 per cent. solution of calcium chloride had been given by intramuscular injection. Poisoning by magnesium sulphate is, apparently, more frequent when the intralumbar route is chosen, and Kocher has advised tracheotomy as a precautionary

[2] Feldärztliche Beilage, No. VI., *Muench. med. Woch.*
[3] Ibid., No. VI.
[4] *Deut. Med. Woch.*, August 27th, 1914.

measure when magnesium sulphate is given in this way. Other precautions include rectal injections of 0.3 to 0.9 gram of chloral, which Dr. Falk found exceedingly useful, and injections of small quantities of physostigmine. Profuse bronchorrhœa following the injections of magnesium sulphate can, he says, be checked by injections of atropine. Serious symptoms following the injection of magnesium sulphate are, however, in his experience, practically limited to young children, and adults and adolescents tolerate fairly large subcutaneous injections. Intravenous injections, even of small quantities of the drug, are rapidly fatal. There is still some uncertainty as to the most suitable dosage. Mielke gives from 0.5 to 0.7 gram a day for every kilo of body weight in a child between 5 and 6 years old. Stadler gives 8 to 20 grams a day to adults. The strength of the solution has varied from 10 to 40 per cent., and Stadler has found the latter strength the least irritating. He has experimented with these injections on himself, and has found it advisable to relieve the pain they cause by giving chloral, omnopon or morphine beforehand. The magnesium sulphate may cause some dysphagia, necessitating light and frequent meals.

Some interesting pathological notes on tetanus have been published by Professor Aschoff,[5] who has been conducting a series of necropsies at Metz. In the course of four weeks he supervised 251 necropsies, including 28 cases of dysentery and 23 of typhoid fever. The latter were characterized by severe intestinal haemorrhage and perforation, caused, no doubt, by the severity of the disease in subjects already physically exhausted. There were 25 deaths from tetanus and 19 from sepsis. Professor Aschoff associates the frequency of cases of tetanus in this war with the preponderating part played by artillery. Of 133 cases of wounds inflicted in battle, 23 were caused by fragments of shells. Of these, again, 13 showed wounds of the muscles, and all developed tetanus. On the other hand, wounds of the bones, cranium, and pleura were not complicated by tetanus. He argues from this that even if the tetanus bacillus can produce toxins in serous cavities, absorption of the toxin from these cavities does not occur. Further, it is not, he thinks, frayed clothing, carried into a wound by fragments of shell, but freshly ploughed-up earth, which is responsible for the development of tetanus. Professor Aschoff adds that the German projectiles, as a rule, cause greater damage than the French, as the former, when striking bones, break up and expose the leaden core.

[5] *Aizinische Klinik*, November 29th.

HOME HOSPITALS AND THE WAR.

ST. BARTHOLOMEW'S HOSPITAL.

THE whole of the east wing of St. Bartholomew's Hospital was placed at the disposal of the War Office on September 1st, and now forms a section of the 1st London (City of London) General Hospital, with head quarters at St. Gabriel's College, Camberwell. The General Hospital contains 520 beds, while the section at St. Bartholomew's has 180 beds, and there have passed through it already 127 wounded Belgians and about 400 British soldiers.

This series of cases has enabled some idea to be formed as to the types of wounds being sent from the front to general hospitals in Great Britain; percentages have been worked out and injuries have been classified. The distribution of wounds has been found to be approximately as follows: 71 per cent. are in the extremities, upper and lower limbs being about equally affected; head and neck wounds, 10.6; thorax, 8.2; back, 5.3; abdomen and pelvis, 4.8. That wounds of the abdomen and pelvis should show such a small percentage is attributed to the fact that bad cases of this type of injury are only sent over in small numbers, being generally retained in hospitals at the military base.

Wounds have been classified under two heads—non-perforating and perforating. The non-perforating wounds are generally markedly lacerated and usually very septic. They have been produced in the majority of cases by round shrapnel bullets and fragments of shell casing. These wounds have certain marked characteristics which enable them to be grouped under five headings as follows:

1. Superficial or "brush-burn" wounds, where the bullet just scrapes off the superficial tissues.
2. A deeper wound, the "trough" wound. This is a very characteristic wound, often seen on a finger, and inflicted while the finger grips the trigger. These wounds are troublesome, and take a long time to heal.
3. A much deeper lacerated wound is the broad "pit" wound.
4. A penetrating wound, the narrow "pit" wound; and
5. The "total" wound, in which the part is blown away, as when a foot or forearm is entirely removed by the missile.

The greater number of the non-perforating wounds fall into one of these five classes, and it has been found convenient to use the descriptive names given in referring to each type of injury in the course of hospital work.

Perforating wounds are usually caused by the sharp-nosed bullet. In many cases the bullets have done practically no harm beyond the small wound of entrance and exit; one soldier who was sent to St. Bartholomew's was struck by a bullet which entered just in front of the right tragus and escaped over the left malar bone. No symptoms whatever, except some immediate bleeding from the nose, have followed. The bullet probably passed through both antra, although evidence of this is not obtainable by skiagram. Several instances have been observed of a similar passage through the thoracic cavity, and consequently a lung, with only slight haemoptysis. In one case in which stereoscopic skiagrams showed the missile to be in the root of the right lung no untoward symptoms have manifested themselves. Sometimes the sharp-nosed bullet remains in other and deep tissues, causing in many cases little inconvenience, provided there is no sepsis.

In addition to gunshot and shrapnel wounds, cases have been admitted of frost-bite, appendicitis, and fractures from accident. Only two cases of enteric fever have been seen; both were infected probably ten days before admission. One had been wounded and the other was sent home "sick." Cases of frost-bite have been characterized chiefly by swelling and pain rather than sloughing or gangrene. They have been treated by careful cleansing and drying of the skin with methylated spirit, particularly between the toes, with subsequent dusting of the parts with a powder consisting of equal parts of boracic acid, zinc oxide and starch, and then lightly covering the whole foot with sterile wool. One case of tetanus has supervened after admission to the hospital; it was very acute and death occurred within twenty-four hours, in spite of treatment. Several patients have suffered from a rise of temperature and malaise, believed to be the result of injections of antitetanic serum given before they left France.

THE INDIAN SOLDIERS' FUND.

THE LADY HARDINGE HOSPITAL.

WE fear that the Indian Soldiers' Fund has been encountering a good many difficulties and disappointments in the fulfilment of its beneficent mission. Its general idea was to make the Indian soldiers feel that in coming to Europe to help the Empire in this great crisis they were coming among friends anxious to provide them with those smaller attentions and comforts by which a host seeks to express the welcome he extends to a guest. The British War Office is responsible for the supply of clothing and food and other necessaries, and also for the treatment of the sick and wounded, but there are comforts for the men at the front and special advantages in hospitals and convalescent homes which private benevolence can with advantage supply without casting any reflection on the official organization.

We mentioned a month ago that a hut hospital for 500 beds was about to be established in Brockenhurst Park, and indicated the staff which the Indian Soldiers' Fund was providing. This hospital, which will be known as the Lady Hardinge Hospital, has been pushed on as rapidly as possible and will, we understand, be available at a very early date. It was mentioned also that a general hospital had been established by the War Office in two hotels at Forest Gate, and Balmer Lawn, near Brockenhurst. These, however, we understand, turned out to be buildings unsuitable for the purpose and the men were removed to temporary quarters elsewhere, pending the

completion of the Lady Hardinge Hospital in Brockenhurst Park, and the establishment of hospitals at Brighton. Sir John Hewett, the Chairman of the Executive Committee of the Fund, stated at a recent meeting that provision would be made at Brighton for over 3,000 sick and wounded from the Indian contingent. There will be, in fact, four hospitals under one centralized administration; the Pavilion and Dome will afford accommodation for 600, schools in the neighbourhood for as many more, while the workhouse and infirmary will afford room for two hospitals of 1,000 each. As soon as the arrangements at Brighton are sufficiently advanced the Indian wounded in the Royal Victoria Hospital, Netley, and the Red Cross Hospital adjoining it, to the number of over 1,000, will be removed to Brighton.

Sir Walter Lawrence, who was private secretary to Lord Curzon when Viceroy of India, and afterwards a member of the Council of India, has been appointed to take over the general superintendence of the Indian wounded both in France and in England, and the Indian Soldiers' Fund has accepted his suggestion that the more serious cases which would suffer by travelling should be sent to the Fund's hospital at Brockenhurst Park, which is only a few miles from Southampton. With the assistance of Sir Havelock Charles the Fund has obtained the services of a number of retired Indian medical officers, and through the help of the St. John Ambulance Association an adequate supply of nurses speaking Hindustani. It has also obtained from the same body thirty British orderlies, and through Mr. Mallet and Colonel Baker has been promised the services, should they be needed, of some young Indian students who have been formed into an ambulance corps. The authorities in India are supplying a number of Indian orderlies and menial servants for the hospital. Pending the opening of the hospital at Brockenhurst Park, the Fund has placed at the disposal of the medical officer in charge of the hospitals at Brighton all its medical officers, with the exception of Colonel Perry and Colonel Meyer, who are engaged in arranging for the equipment of Lady Hardinge's hospital at Brockenhurst Park.

Among other arrangements which the Fund is making, one has reference to the supply of good milk, which is an essential article of diet in hospitals for Indians. The Fund has also received an offer from the planters of the West Indies to send large supplies of fruit, especially bananas and apples.

It is believed that the difficulties which recently seemed to stand in the way of the Fund carrying out its plan of having its own motor lorries to carry comforts to the commands and units in the field are in a fair way to be overcome, and Sir James Willcocks has expressed his sympathy and promised his co-operation in carrying out the Fund's plans for the benefit of the Indian soldiers at the front. Sir John Hewett also announced that an appeal made in Dundee had met with a very generous response, and that within the first fortnight the Fund benefited to the extent of nearly £3,500.

As our correspondent in France mentioned last week, the principal general hospital in France for Indian troops is being established at Hardelot. At present the projects for establishing a hospital in Egypt, probably at Alexandria, are in suspense, although it is realized that circumstances may ultimately lead to the survival of the proposal.

BRITISH RED CROSS WORK.

The Stores Organization.

As in the case of other departments the pressure upon the stores and transport branch has considerably diminished since the middle of November. The military stores in France are well stocked, and can supply hospitals abroad with all scheduled requirements, so that the British Red Cross Society has been able to concentrate upon the supply of its own hospitals and the furnishing of articles not included in the War Office schedules. It has been freely admitted by the heads of the Army Medical Department that the aid given by the Red Cross Society during the period of pressure was invaluable, and it is realized that periods of severe stress may again arise. It has been arranged, with the approval of the Director-General of the Army Medical Service, that as long as the present conditions continue the Red Cross Society will limit its supplies to its own hospitals, the ambulance trains (comforts and garments only), the rest stations, ambulance ships (garments only), and will supply military hospitals abroad with comforts and garments not included in the army schedule. If an emergency arises, the Society will send over stores of all kinds as quickly as possible. During periods of calm the stores department will steadily prepare for times of pressure, and have considerable quantities of stores ready packed for dispatch.

The Netley Red Cross Hospital.

Plans have been prepared for an extension of the British Red Cross Hospital at Netley to provide 200 more beds (made possible by the generosity of Lord Iveagh), and it is hoped that the additional beds will be available by the end of January. More than half the wounded at present in the hospital consist of Indian troops.

British Hospital at Wimereux.

Sir Henry Norman reports that the British hospital at Wimereux, near Boulogne, has been opened at the Hotel Bellevue. It has its own private fleet of six motor ambulances, a motor lorry, and two cars. The military medical officer in command is Lieutenant-Colonel Copeland, R.A.M.C., the chief surgeon Major H. M. W. Gray, R.A.M.C.(T.F.), the assistant surgeons Dr. A. H. Rabagliati and Mr. Wm. Pearson, the physician Lieutenant-Colonel A. H. Lister, R.A.M.C.(T.F.), and the radiographer Mr. P. Lake-Hope. The hospital has 102 beds, and during its first month has treated 484 cases.

Voluntary Hospitals in France.

The War Office has announced that no further voluntary hospitals are required at present for the British Expeditionary Force in France, and that any voluntary hospitals at present on the Continent, or which may at some future time proceed to the Continent, will work as base hospitals only and will not be allowed to proceed further.

Help for Servia and Montenegro.

The British Red Cross Society has already sent a considerable quantity of medical stores and a Red Cross unit to Serbia. Requests are now being received for further help in this direction for Montenegro as well as for Serbia. The question of the extent of the aid that can be afforded to these countries is now under consideration.

CASUALTIES IN THE MEDICAL SERVICES.

ARMY.

THE official lists of casualties published since our last issue contain the names of the following officers of the Royal Army Medical Corps.

Died of Wounds.

In the announcement of the grant of D.S.O. to Captain Malcolm Leckie, R.A.M.C., in the *London Gazette* of December 9th, it was stated that Captain Leckie was dead. His name appeared in the casualty lists long ago, as wounded, but his death had not previously been reported. He was educated at Guy's Hospital, took the diplomas of M.R.C.S., and L.R.C.P.Lond. in 1907, and entered the army as Lieutenant on February 4th, 1908, becoming Captain on August 4th, 1911. He was recently attached to the Egyptian army.

Wounded.

Charnock, Lieutenant J. P., R.A.M.C.
Osburn, Captain A. C., R.A.M.C.
Stack, Captain G. H., R.A.M.C.

Prisoners, previously reported Missing.

Hayman, Lieutenant J. R., R.A.M.C.
Hepper, Lieutenant J. E., R.A.M.C.
Russell, Lieutenant W. A., R.A.M.C.
Thompson, Major A. G., R.A.M.C.

NOTES.

WAR HOSPITAL SUPPLY DÉPÔT AT IPSWICH.

THE War Hospital Supply Dépôt at Ipswich is the outcome of a meeting called by the Mayoress and Deputy

Mayoress on the outbreak of the war. A committee was formed, and offers of help came from all sides. The workers have the use of an empty house, in which bandages and other surgical dressings are made in large quantities. There is a great demand for pinewood sawdust dressings, as recommended by Mr. Charles W. Cathcart of Edinburgh in the BRITISH MEDICAL JOURNAL of October 17th, 1914, p. 661. Garments for the wounded are made or altered in large quantities; old linen is made into sheets or used for padding splints. The following consignment, which was sent to Limoges in October, may be taken as representing the contents of a typical consignment sent abroad in response to requests: 35 nightshirts, 33 dayshirts, 15 pairs bedsocks, 68 pillowcases, bundles of old linen, 10 nightingales, 528 bandages, 900 swabs, 22 many-tailed bandages, 58 splints, 58 sheets, rolls of iodoform lint and cotton wool, 6 Gamgee pneumonia jackets, 30 bed jackets, rolls of gauze sublimate and carbolic. Crates have also been sent to Brussels, Calais, Dunkirk, Servia, Antwerp, Dieppe, St. Malo, Rouen, British East Africa, and to various regiments, battleships, an ambulance train, and to military and naval hospitals. The Ipswich dépôt has undertaken to keep the Moka Hospital, St. Malo, of which Mr. James F. C. Hossack, of Ipswich, is in charge, supplied with dressings and as far as possible with drugs. Although the dépôt was started independently of any society, it co-operates with the St. John Ambulance Association and with the British Red Cross Society. All who have helped or are helping in this admirable work may be congratulated on the success of their philanthropic labours.

MARLBOROUGH CAMP, BOULOGNE.

Lieutenant R. H. GREEN, Quartermaster, R.A.M.C. (Boulogne, France), writes: Referring to the article in the BRITISH MEDICAL JOURNAL of December 5th, on the above camp, which mentions the camp staff as partly comprising a "quartermaster drawn from a line regiment," I think it is only fair to the R.A.M.C. to explain some facts apparently not known to your special correspondent when writing.

The camp mentioned was originally pitched by R.A.M.C. N.C.O.'s and men, under the direct supervision of a R.A.M.C. quartermaster. Not only that, but the camp was organized and commanded for the first fortnight by him, during the heaviest pressure period on the medical department at Boulogne. Nearly 1,200 men (lighter cases of sick and wounded) passed through the camp before the present staff arrived from St. Nazaire to take charge. The staff originally consisted of the quartermaster (commanding), two temporary lieutenants, and about twenty N.C.O.'s and men, all R.A.M.C., who were temporarily detached from No. 13 Stationary Hospital for the purpose, under arrangements made by the Assistant Director of Medical Services, Boulogne.

The Boulogne Base authorities expressed entire satisfaction with all the camp arrangements during that very strenuous period of late in October and early in November.

Many R.A.M.C. Quartermasters, although it may not be generally known, have passed the qualifying examinations in military law, administration, organization, etc., for the rank of captain, and have so fitted themselves for such commands as the one in question from the military point.

MEDICAL OFFICERS WANTED.

2nd South Midland Mounted Brigade (Reserve) Field Ambulance.

We are asked to state that there are vacancies for one or two qualified medical men as officers in the 2nd South Midland Mounted Brigade Field Ambulance, R.A.M.C.(T.) Reserve, Head quarters, Great Missenden, Bucks. Full particulars can be obtained by applying to the Officer Commanding, Great Missenden.

4th (R.) Battalion, The Buffs.

Lieutenant-Colonel E. O. Skey informs us that the 4th (R.) Battalion, The Buffs (East Kent Regiment), is in need of a medical officer. The battalion is now stationed at Sunninghill, and communications may be addressed to Lieutenant-Colonel Skey there.

THE new order issued by the Home Secretary with regard to lights in the metropolitan police district and the city of London prohibits the use of any lights whatever for outside advertising or the illumination of shop-fronts; and requires all vehicles, including cycles and hand-carts, to carry a red light at the rear; the red glass reflectors largely used by cyclists will no longer be considered sufficient.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

INVESTIGATION OF DIABETES.

CIVIL ASSISTANT SURGEON B. K. NARAYANA RAO, B.A., M.R.C.S., D.P.H.Lond., D.O.Oxon., has been posted for preliminary training at the physiological laboratory, Medical College, Madras, before being placed on special duty in connexion with the investigation of diabetes.

THE PAREL BACTERIOLOGICAL LABORATORY.

The Government of Bombay have just published a pamphlet in language as untechnical as possible on the work of the bacteriological laboratory at Parel. The pamphlet contains several useful plates illustrating the work done by the laboratory and is divided into five chapters. The first gives a brief history of the institution; the second deals with the efficacy of antiplague inoculation, how it protects and reduces the chance of an attack from plague and assists recovery. The other chapters deal with the preparation of antiplague vaccine and other activities of the laboratory. Originally started by Mr. Haffkine, the discoverer of antiplague vaccine, the laboratory has grown from a small institution into one of considerable dimensions and of first-rate importance. For ten years it bore the name of the "Plague Research Laboratory," but its present designation indicates more aptly the wider field of investigation over which its activities now extend.

The measures described in the pamphlet are of two kinds—measures of permanent utility and measures of temporary utility. The former are designed to mitigate those habits which bring out the association of rats with men. They include the erection of well-built houses, separation of shops, warehouses, granaries, and stables from human habitations, and the construction of concrete floors and roofs of materials which cannot harbour rats. But as these measures cannot be carried out in their entirety at once, recourse must be had to measures of temporary utility. They include the protection of the people in their homes from rats and other parasites, measures for removing the people from their homes to avoid infection (evacuation), and measures rendering the individual largely immune from attack and death from plague by means of inoculation. Like vaccination against small-pox, inoculation reduces the chances of plague attack, and those who are attacked recover more frequently and more easily.

TOWN PLANNING IN THE PUNJAB.

The Punjab Government has appointed a committee which is now sitting with a view to the preparation and issue of a manual on town planning, designed for the guidance of officers engaged in planning new towns or in extending present towns in the Punjab canal colonies.

WAR PRISONERS IN INDIA.

The Bengal Government announces that 354 of the enemy subjects have been dealt with since the outbreak of war as follows: Handed over to the military, 275, of whom 266 are interned at Ahmednagar, and 9 are temporarily on parole. Eight who exceeded the reservist age or are members of the consular service left India for Venice. Of the remainder, 71 are under civil control, of whom 28 have been sent to Katapahar; 16 persons, having families dependent or over age of 55, are under surveillance in Calcutta; 27 in various districts of the Presidency, mainly missionaries and priests, are under the control of the district magistrate.

LADY HARDINGE MEMORIAL MEDICAL COLLEGE, DELHI.

The offer of Dewan Bahadur Daya Kishan Kaul, C.I.E., Finance Minister, Alwar State, of a gold medal in connexion with the Lady Hardinge Memorial Medical College for Women at Delhi has been approved by the Viceroy. It will be given to the student of the first year who distinguishes herself most in the preliminary scientific subjects. Thirteen girls are receiving instruction in scientific subjects at various lay colleges in anticipation of their joining the Lady Hardinge Medical College as soon as it is ready for opening, and it is hoped that they, as well as other students contemplating entering the college, will

prepare themselves for the examination in connexion with the grant of this medal.

INDIAN MEDICAL SERVICE OFFICERS AND MILITARY DUTY.

The following forty-four officers of the Indian Medical Service have reverted to military duty from civil employ: Lieutenant-Colonels Lumsden, Parry, Dawes, Stodart, and Prall; Majors Husband, Fayrer, Harley, Foster, Satisbose. Forrest, Paymaster, Tuke, Betts, Hamilton, Wolley, Beit, Thorneley, Watling, Delany, Ross, Ritchie, Walker, Willmore, Pearson, Wells, Clements, Mell, Greig, Dalziel, and Mackenzie: and Captains Stewart, Drake, Hunter, Barker, Jones, Steel, White, Goil, Watson, Scott, Macrea, Macmillan, and Rutherfoord. This list, and a reference to the *Gazette of India*, will show that altogether over 200 officers of the Indian Medical Service in civil employ have reverted to military duty, thus effectively disposing of the assertions which have appeared in the past as to the impossibility of utilizing these officers in time of war.

MADRAS ALLOTMENTS FOR MEDICAL BUILDINGS.

The Madras Government has ordered the distribution among certain district boards and municipal councils of a sum of Rs.2,31,007 out of the provision of Rs.10 lakhs made in the Civil Budget Estimate for 1914–15 for the construction of medical buildings.

MEDICAL ORGANIZATION IN BENGAL.

Two notable advances have recently been made by the Presidency of Bengal tending towards the organization and elevation of the medical profession. By an Act passed by the Legislative Council in April last the Bengal Council of Medical Registration was constituted to fulfil functions relating to the medical profession and to medical education analogous to those performed by the General Council of Medical Education and Registration of the United Kingdom. More recently an order has been issued by the Governor of Bengal in Council establishing a State medical faculty for Bengal—an examining body empowered to grant licences to practise medicine, surgery, and midwifery. The need of some system of distinguishing qualified from unqualified medical practitioners has long been felt in India, and efforts have been made, notably in Bombay, to put the public in possession of a means of discriminating the two classes, and to restrict the performance of important public duties to persons properly educated and publicly proclaimed as qualified. Difficulties exist in India in attaining these purposes; but the law which has now been enacted in Bengal is an important step in that direction, and it is hoped that in time it will be possible to extend its operation throughout the Indian Empire. The members of the Council have been nominated and elected, and may now proceed to carry out the provisions of the Act. The creation of the State medical faculty was rendered necessary by a resolution passed by the University of Calcutta in the year 1906, discontinuing the examination for the Licence in Medicine and Surgery (L.M.S.) and restricting its functions to the granting of degrees (M.B., M.D., and M.C.). It was also felt desirable to adopt measures to grant licences to practise on terms less exacting and difficult than those imposed by the university for obtaining its degrees. The regulations constituting the State Medical Faculty were published in the *Calcutta Gazette*, and have been reproduced in the October number of the *Indian Medical Gazette*. They represent fully the constitution and operations of the faculty, setting forth the requirements as regards education and examination for obtaining the membership or licence (M.S.M.F., and L.S.M.F.). A limited number of Fellows (F.S.M.F.) may be elected *honoris causa* by the governing body, the members of which have already been nominated. The Faculty will work in harmony with the Council of Medical Education, to which is assigned the duty of declaring what institutions are sufficiently provided in respect of teaching staff and appliances to entitle their students to appear for examination for these licences.

THIRTEEN cases of plague and eleven deaths from the disease were reported in Mauritius during the fortnight ending December 3rd.

Sydney.

[FROM OUR SPECIAL CORRESPONDENT.]

HOSPITALS ADVISORY BOARD.

THE first meeting of the Hospitals Advisory Board appointed to assist the Minister of Health in his dealings with the public hospitals was held last month. The Minister of Health, Mr. F. Flowers, presided, and there were present representatives from the Sydney, Royal Prince Alfred, Royal Alexandra Hospitals, Royal Hospital for Women, Royal North Shore Hospital, St. Vincent's, South Sydney, and Lewisham Hospitals, and the Hospice for the Dying.

In the course of his introductory remarks the Chairman said that he did not wish in any way to lessen the powers or the authority already possessed by the various bodies which had executive control over the great hospitals of Sydney. But there were grave problems with which he was confronted from time to time on which the secretaries of the hospitals could afford valuable advice and information, and that without in any way interfering with the loyalty that they owed to the organization with which they were connected. One very important matter was the serious increase in the cost per bed in many of the hospitals: he quoted figures to show that the cost ranged from £56 to £111 per annum. He also referred to the cost of the food and drugs, and suggested that it would be worth while to consider whether by the establishment of a common drug factory and dépôt for supplying all the hospitals a considerable saving could not be effected. He suggested, also, that it might be possible and economical to arrange with the State bakery to supply all the hospitals, and thus to effect a considerable saving.

Mr. Flowers is a pronounced socialist, and a member of a Labour-Socialist Government, and all his public utterances have to be considered from his point of view. It is well known that since the present Government assumed office wages have gone up by leaps and bounds, with proportionate increase in the cost of living. The wages of the hospital porters and attendants have been increased very considerably, and the increased expenditure at the hospitals is to a large extent due to these two factors. At the same time we must agree with Mr. Flowers that some attempt may well be made to reduce the annual expenditure per bed at the large public hospitals in the metropolis.

Mr. Flowers has on several occasions expressed his views on the functions of hospitals, and on the occasion of the opening of two new wards at the Royal North Shore Hospital, he stated that "he did not look upon hospitals as a charitable movement, but as a commercial movement. Every healthy individual in the State is a distinct asset to the State, and in curing those who are not in good health we are doing a good to the State by increasing its assets." On this principle Mr. Flowers considers that the hospitals should all be State institutions, and should be open free to all sick persons, irrespective of their financial position.

THE SYDNEY DENTAL HOSPITAL.

A complete rearrangement of the management of the Dental Hospital has been arrived at as a result of a conference between Mr. Flowers, the dental board, and representatives of the Sydney University and the Education Department. Mr. Flowers told the conference that the Dental Hospital, mainly through financial embarrassment, had not been able to accomplish the work it had intended to do, and the reconstitution of its management was in no way a reflection on the present committee. He thought that more use should be made of the hospital as a training school for dental students, and to this end suggested the establishment of a chair of dentistry. It was also desirable that the hospital should afford adequate facilities for the treatment of dental defects in school children. Sir Thomas Anderson Stuart agreed that a professor of dentistry was needed, who would devote his whole time to the work and share in the labours of the Dental Hospital. It was agreed that the present twelve members of the Dental Board should remain and that six additional members should be appointed—three to represent the Department of Health and three the Department of Education. The main feature will be a business committee of five, two to be elected by the existing twelve members and

three to be chosen from the new six. Two of the latter three will represent the Department of Health, and one the Department of Education. The Chief Secretary to the Government is to be chairman. This rearrangement amounts practically to a nationalization of this hospital.

Correspondence.

SANITATION IN INDIA.

SIR,—The letter of Colonel W. G. King, C.I.E., which appeared in the BRITISH MEDICAL JOURNAL of September 26th, seems to call for some answer, as the views which he expresses are not those held by a large number, at least, of the officers of the Indian Medical Service.

Colonel King states that the present Director-General of the Indian Medical Service was selected for that position on account of his ability as a physician, and objects to the sanitary department being placed under that branch of the medical profession which is specialized for cure, and also to the post of Director-General of the Indian Medical Service being always filled by a member of the Bengal Service.

The present Director-General, Sir Charles Pardey Lukis, is certainly a distinguished physician. On entry to the service he was first of his term. Ten years after entering he took the M.B. of London (1889), and in 1904 the M.D. After holding important posts in the United Provinces, he was appointed, in 1905, Principal and Professor of Medicine in the Calcutta Medical College, and first physician to the College Hospital, and held that post for five years, till his promotion to his present rank. He was also, before his appointment to a purely medical post, a successful surgeon, and took the F.R.C.S.Eng. in 1890. The principalship of the Medical College is an administrative as well as a professional appointment, and the ability with which he discharged the administrative duties of that post probably had more to do with his selection for the highest medical administrative post in India than purely professional merit. Rightly so, most would think, for administrative ability is the main requisite in the holder of an administrative appointment.

To speak of one branch of the medical profession as being specialized for cure seems also a curious way of putting things. Treatment and cure are the original objects of the whole medical profession, and still remain the duty of the great majority. A branch dealing particularly with preventive medicine, or sanitation, has gradually developed, and to some extent has split off from the general profession. But those who take up this speciality must still qualify in medicine and surgery before entering on their special line.

Colonel King says that the subordination of the Sanitary Commissioner to the Director-General is much as if the chief medical officer of the Local Government Board in England were placed under a physician, and that physician always selected from one county—Middlesex. The comparison of Middlesex in England to Bengal in India is, to say the least of it, hardly fair. Middlesex is one county out of forty in England, and a very small county, though it contains part of London. There are, or were up to 1896, three branches of the Indian Medical Service—the Bengal, Madras, and Bombay "establishments." And the Bengal service has always been of greater strength than the other two put together.

Previous to 1895 the Surgeon-General with the Government of India was head of the Bengal service only, and necessarily a Bengal man. In 1895 this appointment was made that of Director-General, and head of the whole Indian Medical Service of the three Presidencies. Since 1895 five officers have held the post of Director-General. These five, certainly, have all been Bengal men. But there does not appear to be any absolute rule restricting the post to Bengal officers, while the appointments of Surgeon-General of Madras and Bombay are restricted to members of the Madras and Bombay services. In any case all the appointments will be open to the whole service in another twelve years or so, when the last men of the separate services have retired, and only those of the new combined or general service list, started in 1896, remain.

As regards the subjection of the sanitary department to the Director-General, in 1880 the head of the Bengal medical service, formerly known as Surgeon-General, was made Surgeon-General and Sanitary Commissioner with the Government of India. As he was both Surgeon-General and Sanitary Commissioner, there could be no doubt that the sanitary department was under his orders. This state of affairs lasted for twenty-four years, till in 1904 the late Lieutenant-Colonel J. W. T. Leslie was appointed Sanitary Commissioner with the Government of India, and placed in a semi-independent position. When Lieutenant-Colonel Leslie went on furlough in 1911, the Director-General took up the duties of Sanitary Commissioner in addition to his own. Some months later, after Lieutenant-Colonel Leslie's death, a new Sanitary Commissioner was appointed, the present holder of the post.

The statement that the administrative policy of the Sanitary Commissioner must be submitted to the Director-General for his approval is also hardly correct. The Sanitary Commissioner appears to have power to put forward any sanitary policy which recommends itself to him. He must, of course, be prepared to lay before the Government of India reasonable arguments in favour of any sanitary policy which he puts forward, but the same holds good with the head of every department—military, civil, or political. The administration of research is in the hands of a board, on which the Director-General and the Sanitary Commissioner each have a seat and a vote.

This letter is already too long. But in conclusion, it may be stated that the service can have only one head. That head must be, as the name implies, the Director-General. He administers the sanitary department, as he also administers the various provincial medical departments, the political medical department, the gaol department, etc. There is no rule which prevents the holder of the office of Sanitary Commissioner from rising to the higher post of Director-General. But for his premature death the late Sanitary Commissioner might not improbably have done so.—I am, etc.,

November 29th. I.M.S.

TREATMENT OF FRACTURES OF THE THIGH.

SIR,—Your special correspondent, in his interesting letter from Northern France, published on December 5th, emphasizes the difficulty experienced in treating compound fractures of the thigh. He points out that the surgeons find it all but impossible to combine immobility of the fractured ends with easy access to the wounds. Plaster-of-Paris, as advocated by Lange, the Liston, both double and single, and Hodgen's splints and their modifications, do not meet the requirements. In my opinion, there is no support comparable with what is known as a Thomas's knee splint for any fractures of the middle and lower thirds of the thigh, or fractures of the knee and upper tibia. It allows of easy access to the wound without disturbing the fragments, adequate and constant extension, while correct alignment is automatically secured. In addition, a patient can be transported any distance and in any conveyance with the minimum discomfort. Its application requires little special knowledge, as its construction is so simple.

For injuries of the upper third of the thigh, including the hip-joint and pelvis, what I have so often described as the abduction frame secures immobility and easy access to the wound. The splint is carried with the patient on it, is self-contained and transport does not interfere either with extension or alignment. It is adjusted in the following manner: The patient is laid on the abduction frame with natal cleft immediately over the cleft in the splint—this cleft in the splint serving for nursing purposes. Extensions of adhesive plaster having been applied as high as indicated by the injury, the leather groin strap is then fixed around the uninjured limb to the splint, then slight traction is made on extension of this limb to prevent pelvic tilting. Having done this, the degree of traction desired on the injured leg is obtained by pulling on the extensions, the extensions being "made fast" to the iron loop of the splint. The tension is maintained by keeping the groin strap tightly applied.

The general use of these two splints at our base hospitals would be an incalculable boon both to the surgeon and the patient.

The initial cleansing of the wound is most important, and great effort should be made, whatever the antiseptic used, to spend reasonable time over it. Carbolic acid

and iodine are often of great service, but I should prefer hydrogen peroxide as a routine injection to any other. Where shrapnel is embedded near the surface, drainage should be secured by free opening.

I strongly advise surgeons not to remove and destroy loose pieces of bone in comminuted fractures, even when they have no periosteal attachment. It is a practice fraught with danger, leading to non-union and functionless limbs. Loose pieces may be taken from the wound, scrubbed and sterilized, and replaced to reinforce the fracture. I have known them to become attached even in the presence of infection.—I am, etc.,

Liverpool. ROBERT JONES.

PREVENTION OF TYPHOID IN OUR HOME CAMPS.

SIR,—The exclusion of typhoid epidemics from the camps of our Expeditionary Force during the four months of service in the field is a notable event, probably a record in the history of our campaigns—an achievement to be attributed to various factors, but chiefly, no doubt, to the systematic organization of our Army Medical Service, to the ability, vigilance, and devotion of our army medical officers, and to the genius and foresight of those who are responsible for the preparation and direction of the various preventive measures required in order to ensure security from this subtle foe.

Our regular troops have entered into this present war with all the advantages acquired since our last campaign—not merely the protective influence of antityphoid inoculation, but also of all the instruction and knowledge which has been gained from the South African war itself, and more especially from the history of the violent epidemics amongst the Volunteers of the U.S.A. when encamped in their own country during the war with Spain, and finally from Japan's triumphant and unprecedented reduction of typhoid during her war with Russia.

Our army medical officers, we know, have made intimate study of all the hygienic and sanitary measures which have been shown to be necessary for the exclusion of epidemic typhoid from the camp, whilst the combatant officers, and even the rank and file generally, have been well instructed and drilled in the necessary precautions—to such an extent, we hope, that the precautions have become a matter of routine and instinct instead of a matter of compulsion.

With regard, however, to the hundreds of thousands of recruits at present encamped or billeted throughout the United Kingdom, who to a large extent seem to be under the care of civilian medical men, it is difficult to see how they will enjoy the protection of the same precautions unless the medical men and also the combatant officers, as well as the rank and file, are being consistently instructed and drilled in the routine measures required for the maintenance of the best health and the exclusion of infection. Who are the officials responsible for the organization of all the necessary protective measures for the home camps? Will this organization be as complete and thorough as that of the Japanese army in 1904? The public may justly ask to be reassured on these matters.

It may be well to recall the chief preventive measures by means of which, in face of extraordinary difficulties, the Japanese achieved their unparalleled triumph over "the secret foe":

1. Systematic instruction and education in military hygiene and sanitation of medical and combatant officers, and also of the rank and file.

2. Careful inspection, with cleansing and disinfection (if necessary) of all camps and billets previous to occupation.

3. Boiling of all water before drinking (when possible). This implies the provision of means for boiling and strict water discipline.

4. Cleanliness of individuals, with ample provision for baths, and the regular cleansing of camps and billets.

5. Constant daily inspection of cases reported sick, rapid diagnosis by bacteriological methods, separation of suspected cases. All cases with pyrexia or diarrhoea were treated as suspects, and their blood promptly examined.

The importance of all these measures will probably be generally recognized. But the detection of incubating and ambulatory cases of typhoid by bacteriological methods is an additional safeguard the importance of which was first fully realized during the epidemics among the U.S.A. Volunteer encampments, when the Commissioners appointed to inquire into these epidemics came to the conclusion that many of the cases of recorded diarrhoea, "simple continued fever," etc., were in reality cases of typhoid; that they were to a large extent the sources of the epidemics, and that the infection spread from them—from tent to tent, and from man to man within the tent. Those who have not studied this evidence may very easily overlook the great importance of detecting these "first cases," of disinfecting all the various articles with which they may have come into contact, and of separating them from their tent; especially as it is very generally supposed that typhoid is not infectious or contagious, and that the infection is conveyed almost solely by water. These two prevailing ideas have long ago been confuted by close and careful study of the disease. The infection, no doubt, has in a large number of cases been conveyed by water—sometimes by other carriers—and generally speaking the disease is not very "infectious," but it must be remembered that in military camp life the soldiers are frequently in close contact with their neighbours, their clothing, bedding, etc., and that soldiers are of the age most susceptible to typhoid.

They may be regarded as a highly inflammable material in which a spark may readily give rise to a conflagration. Successful preventive inoculation makes them more resistant to flame and prevents the fire from spreading in the individual. At the same time it is not difficult to realize that the exclusion of all sparks by whatever paths they may be conveyed should be provided for by all possible means.

> A little fire is quickly trodden out,
> Which being suffered rivers cannot quench.

The importance and great advantage of immunization by preventive inoculation appear at present to overshadow the measures required for keeping typhoid infection entirely out of the camp.

It has been usual both in civil and military life, from want of prompt detection of the earliest cases, to realize the presence of a typhoid epidemic some two or three weeks after many infections have actually taken place.

If, however, constant and regular examination be made, with the aid of rapid bacteriological methods, of suspected cases in our home camps, we may hope that no explosive outbursts may occur, with consequent long lists of sickness and death.—I am, etc.,

CHRISTOPHER CHILDS, M.D., D.P.H.

Boscarn, Cornwall, Dec. 8th.

SENIOR STUDENTS AND THE WAR.

SIR,—In my presidential address to the General Medical Council on November 24th I expressed the opinion that "the need for efficient physicians and surgeons, in the field and at home, is not less urgent than the need for efficient soldiers and sailors"; and I said that I had "felt it my duty to press this consideration on senior students, who, though they have nearly completed their curriculum, are ready to forego the prospect of early qualification, and to enrol themselves straightway in the combatant forces."

To-day I have received a letter from Surgeon-General Sir Alfred Keogh, which contains the following passage: "I think with you that the senior student is best fulfilling his duty to the country by getting his degree, and then joining the army. The need for young qualified men will become great, and I should regret that the supply should be diminished."

As I daily receive letters from senior students and their parents, who desire guidance in their choice of apparently conflicting duties, I shall be grateful if you will make known the opinion held at the War Office on the subject.—I am, etc.,

DONALD MACALISTER,
President, G.M.C.

Medical Council Office,
299, Oxford Street, London,
December 10th.

THE TREATMENT OF WOUNDS.

SIR,—If a few simple principles are kept in mind the *rationale* of the treatment of these wounds is surely quite simple. The soldier, lying in the trench for considerable periods, has his exposed parts encrusted with a varying thickness of mud; his clothes likewise become saturated with the same material. This mud is derived from a soil

that has been intensively cultivated with animal manure, with which, owing to the exigencies of warfare, is often an admixture of human excrement. It is therefore rich in virulent organisms. Travelling with great velocity through the tissues, the bullet sets up along its track centrifugal currents. As a result, the organisms are driven with considerable force into the surrounding living tissues and lodge there. These tissues are devitalized by the bruising action of the bullet; they therefore lose both their power of phagocytosis and their ability to generate antibodies. The organisms in consequence can readily grow in such a medium.

Assuming these data to be correct, it must follow that in order to kill the organisms it is necessary to kill the tissues which shelter them; pure carbolic acid effects this object. Moreover, by causing a coagulation of the raw tissues to which it is applied, it seals up the open mouths of the torn afferent lymphatics, and so prevents infection of the system.—I am, etc.,

London, W., Dec. 3rd. KENNETH CAMPBELL.

ANTISEPTICS IN WAR.

SIR,—Correspondents have asked me the percentage of rosaline in the antiseptic mixture I advocated in the JOURNAL of December 12th. It is rosaline ½ per cent., carbolic acid 1 in 20, mercury perchloride 1 to 500 absolute alcohol or pure methylated spirit.—I am, etc.,

Haslar, Dec. 14th. G. LENTHAL CHEATLE.

SIR,—I see that in your issue of December 5th Dr. Stephens maintains his championship of petrol in the treatment of wounds, etc., with, as he says, "invariably good results and little pain." Results which one man may consider good may far from satisfy another, while the term "little pain" is entirely relative; and if, as I think it is fair to assume, taking this letter of Dr. Stephens with his previous communication, this summing up of his results with petrol applies to wounds as well as septic pharyngeal conditions, it remains for me to remind him that the case I quoted in the JOURNAL of November 21st is one of which the details are all too familiar to himself. It would be interesting and instructive to know whether Sir Victor Horsley also uses petrol freely, repeatedly, and without anaesthetics in large suppurating cavities.—I am, etc.,

Swansea, Dec. 9th. W. F. BROOK.

THE CAUSE OF HERNIA IN INFANTS.

SIR,—Sir Victor Horsley, in the Sir William Banks Memorial Lecture published in the JOURNAL of October 17th, urges that every hernia should be cured by radical operation as soon as it is discovered, and regards as clearly untrue a statement quoted from a textbook to the effect that "during the first few years of life herniae show a great tendency to undergo spontaneous cure."

In discussing the cause of hernia Sir Victor Horsley makes no mention of a group of factors which tends powerfully to its production in young infants. Although hernia is not rare in strong, muscular, and well-nourished babies, it is nevertheless true that it is much more commonly met with among infants suffering from chronic dyspepsia and malnutrition, marked by abdominal distension, flatulence, and colic. In such cases the accumulation of gas in the coils of intestine is accompanied by a rapid loss of subcutaneous and extraperitoneal fat, while the abdominal musculature becomes stretched, thinned, and atrophied. Finally, the abdominal wall gives at its weakest point—the umbilical cicatrix, the inguinal canal, or the line of junction between the recti muscles.

What part is played in this hernial formation by developmental defect I do not know. Inguinal hernia is certainly more common in premature infants than in children born at full time, but so also are the symptoms of flatulence, colic, and dyspepsia. In Mongolian infants, too, and in cretins, among whom hernia is very common, abdominal distension and atrophy of the abdominal musculature is also the rule. Certain it is that with efficient treatment of the dyspepsia, with the disappearance of the abdominal distension, and the replacement of the thinned and stretched abdominal wall with muscle of good quality, very many, perhaps most, of the hernias present in the first six months of life disappear. In how many cases the aperture remains closed for many years only to give way again in later life I know of no statistics to show, and Sir Victor Horsley does not furnish any. It seems to me highly unlikely that this happens with such regularity as to make it prudent to operate on all cases of infantile hernia without exception.

The essential part of the treatment in these cases is to secure by proper modification of the diet the growth of a satisfactory abdominal wall. No one now imagines that the woollen truss advised by the surgeon is of itself curative. Nevertheless its use is justified, because it helps to reassure anxious parents, who, noticing that the hernia bulges during a painful spasm of colic, are persuaded only with difficulty that the hernia is itself painless. To prescribe the truss without correcting the colic and flatulence is useless. Strangulation of inguinal or umbilical hernia in infancy, although not unknown, is very rare.

The importance of phimosis as a cause of hernia is, I think, very slight, and bronchitis, because of the poorly developed cough, has less effect relatively than in adult life. On the other hand, the part played by infantile dyspepsia and malnutrition is so marked that I do not think the profession will be easily persuaded to abandon its present practice and submit all cases to immediate operation until full play has been allowed to the marvellous power of growth and repair inherent in the abdominal wall in the first year of life. Within a few months of the disappearance of the dyspeptic symptoms the hernia may have gone and a firm muscular wall may have developed.—I am, etc.

London, W., Oct. 25th. H. CHARLES CAMERON.

NUTRITION AND MEAT EXTRACTS.

SIR,—I have read the correspondence on this question with special interest, and I hope you will allow me to call the attention of the whole profession to its importance. It is a long time since Dr. Bright pointed out that dropsy coincided with some change in the kidney, and albuminuria and dropsy have been regarded as due to disease of the kidney. The dropsy of Bright's disease pits on pressure, but there is a dropsy of the skin, lately discovered, which does not pit on pressure. Professor Laycock taught that the dropsy in Bright's disease was a neurosis, from the fact that he had observed that it was not symmetrical in every case. Whether the dropsy that pits on pressure, which may be called oedema although coincident with changes in the kidney is due to kidney disease, is a question not easily answered; but, from my experiments and observations, I am inclined to think that, whatever organic lesions may be discovered in any disease, they are due to failure in function of the nervous system—are, in fact, neuroses.

When on my recommendation a late well-known physician, who carried little or no fat, weighed his food and restricted himself to 12 oz. in the twenty-four hours, he lost 6 lb. in weight, as he observed, "All from the belly;" but I find my weight varies according to the loss by the kidneys and lungs and skin, as well as by the bowels, the loss by the kidney being the chief regulator. It is said that the intestine contains normally 7 lb. weight of food refuse, but with abnormal accumulations that weight will no doubt be exceeded. I do not suppose any one has ever ventured to say what the weight of fluid in the system may be in any disease; but we know that, reduced to ashes, the body weight is very small. I have little doubt that the system may hold 7 lb. of fluid under abnormal conditions, and any food which not only stops elimination of fluid, but causes thirst which makes one drink, is likely to increase body weight, but such increase is dangerous to health. Whatever may be the effect of meat extracts, further experiments and observations will prove that increase of weight generally precedes an illness, and is really more dangerous than loss of weight; and further, that the increase in weight is due largely to retention of fluid in the system generally, although it can only be seen in the skin. In conclusion, I should like to emphasize the fact that what comes out is really of more importance than what goes into the body.—I am, etc.,

Hawick, Scotland, Nov. 14th. JOHN HADDON, M.D.

YELLOW FEVER.

SIR,—On my return from a somewhat prolonged tour in the "bush," a friend of mine has to-day forwarded me your issue of July 18th, pointing out the review you publish (p. 106) of a paper by Dr. J. W. Scott Macfie and myself in the *Yellow Fever Bulletin*, vol. iii, No. 2, April, 1914. With your permission I should like to review your review.

The statement that the general opinion amongst experts at the present day is that these bodies are not parasitic in their nature is not wholly accurate. The question is still *sub judice*, and unbiassed opinion is still divided.

Your reviewer lays great stress on the variations in the forms shown in our coloured plate, making no charitable allowance for the fact that we were finding these bodies *de novo*, not merely describing well-known and easily recognizable parasites. Surely under such conditions it is permissible to make some slight errors, and to include a few bodies which later we might consider to be a different nature.

Writing solely for myself, I admit that I am doubtful of Figs. 1 and 35. Fig. 1 may possibly be a distorted malarial parasite; Fig. 35 I deliver into the hands of your reviewer. But as to the remainder I am afraid I am not so pliable.

Let us consider a simple case—say, *Plasmodium vivax*. There is very great variety in form between the segmented and sporulated schizont, the early ring-form, the parasite of, say, half-growth, and the gametocytes. Further, the careful study of very large numbers of malarial blood-films will lead one to recognize that bodies, perhaps grotesquely distorted, are yet the identical parasites. Therefore, Sir, when your reviewer considers it "rash to say, for example, that the bodies in Figs. (1), 7 and 14 of the coloured plate are the same bodies or in any way similar to those represented in Figs 9 and 10," I beg to utterly disagree with him. When he is even so unkind as to refuse to see any connexion between Figs 20, 25 (and 39), and "the bodies depicted as coming from the human cases," I must really beg him to look at Fig. 13. It is unfortunate that he referred to Fig. 39. Reference to the text, with which he does not appear to be very familiar, would explain its presence in the plate.

I have recently collected a large number of blood-films from cases of piroplasmosis in oxen. One film alone would provide your reviewer with all the forms shown in our plate, with the exception of Figs. 1, 22, and 35. The fact that similar bodies may be found in guinea-pigs at home is surely a singularly weak disproof of our suggestions. Can any sound reason be brought forward why English guinea-pigs should not have them? Because piroplasmata occur in various animals, it in no way follows that they are of similar species, or that any one, expert or other, could differentiate their species purely by the microscope.

Were a new bacillus to be described as the causative agent of some disease, it would hardly be a sound criticism to say that similar bodies—similar, that is, from a microscopical point of view alone—had been found in animals in a country where this disease did not occur. I am aware of no experimental method by which it has been proved that these bodies found in guinea-pigs at home are of similar species to those described by us. If an unwise criticism as regards bacilli, of which much is known, how much the more so as regards piroplasmata!

Your reviewer makes a curious paraphrase of our paper when he states that "... they found bodies similar to those described by Seidelin in the blood of guinea-pigs ... etc." Surely he should make it clear that this was only after experimental inoculation (except in the case of certain dogs), instead of leaving your readers to suppose that we found the animals naturally infected with our parasite (and therefore considered them a carrier of the disease), which is a complete misrepresentation of the facts.

I must apologize, Sir, for the length of my letter, but must refer the ultimate blame to your reviewer.—I am, etc.,

J. E. L. JOHNSTON.
West African Medical Staff.

Medical Research Institute,
Yaba, West Africa,
Sept. 22nd.

POPULAR FREUDISM.

SIR,—In your current number a nameless correspondent, "H. B. D.," proclaims the need of an organized policy of ridicule and neglect in order to kill the Freudian system of psychology. Your readers will not fail to notice the implicit admission that rational argument and open discussion are not to be relied on to this end. And, incidentally, how vivid the glimpse your correspondent affords us of a mind not yet liberated from a belief in prejudice as the court of appeal in matters of science!—I am, etc.,

London, W., Dec. 14th. DAVID FORSYTH.

SIR,—Your correspondent "H. B. D.," in the JOURNAL of December 12th hopes that the time has at last come when "all psychologists, psychiatrists, and medical societies" should cease to regard "this modern and alien jargon about the unconscious as matters for serious consideration." Taking the sentence literally, what is meant is perhaps that "H. B. D." is dissatisfied only with Freud's writings on the "unconscious," but I gather from the tone of the letter that it is the study of the "unconscious" generally that merits his disapproval. If I am right in this assumption, I trust that the psychologists, etc., will do nothing of the kind. There are many writers on the "unconscious," for example, Janet and Morton Prince, to mention two only, and the study of their books cannot be neglected by the student of psychology.—I am, etc.,

City of London Mental Hospital,
near Dartford, Dec. 14th. R. H. STEEN.

SIR,—However undesirable it may be that the complete Freudian system should be established in this country, the danger of such an invasion is not likely to be met by such a letter as that of "H. B. D."

Freud's statement that a forgotten name has a connexion with some painful idea which has been pushed out of consciousness is not patently absurd to every one who thinks about it for a moment. In all the literature which deals with this subject careful proof is given on this point. It is possible that the proof is faulty, it is possible that it is not complete; but it must be met by counter reasoning and not by ridicule, which will certainly not kill it.

The words "unconscious painful idea" have no meaning as they stand in an ordinary English sentence. They have a perfectly definite technical meaning, and they assuredly represent a fact.

Freud's teaching could not have claimed such widespread attention if there was nothing in it at all. It is clear that there is something. It is clear that the German mind has exaggerated the sexual part of the theory. Our duty now is to endeavour to separate the grain from the chaff. I have no doubt that English psychologists will be equal to the task.—I am, etc.,

Ventnor, Dec. 14th. T. A. ROSS.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

THE following candidates have been approved at the examinations indicated:

FINAL EXAMINATION (*Forensic Medicine*).—A. F. Campbell, J. F. M. Campbell, R. P. Cormack, H. J. Davidson, H. F. Ferguson, H. J. Foote, H. C. Fox, Helen M. Gall, A. M. Gosh, Helen G. Hewat, E. Jamieson, T. Janakiramiah, D. H. Jones, N. B. Laughton, A. R. Laurie, P. M. Little, T. J. Lloyd, W. K. M'Intyre, C. F. Maclachlan, J. B. P. M'Laren, E. S. Mellor, O. D. Price, A. Ravunni, C. Russell, W. Shanks, J. W. Simpson, G. H. Sinclair, C. I. Stockley, T. J. W. Sveinbjornsson, A. J. Taylor, G. M. Torrance, A. A. Watson, E. W. Wilbourne, M. E. Willcock, P. H. Young.

FINAL EXAMINATION (*Public Health*).—M. H. Alikhan, A. Aziz, H. J. Bruwer, A. F. Campbell, J. F. M. Campbell, J. E. Chow, A. Clarke, R. P. Cormack, A. J. Ferguson, H. J. Foote, A. M. Gosh, E. B. Israel, E. Jamieson, T. Janakiramiah, F. J. C. Johnstone, D. H. Jones, J. L. Lamond, T. J. Lloyd, W. K. M'Intyre, C. F. Maclachlan, J. B. P. M'Laren, J. Macqueen, P. C. MacRae, W. B. Postlethwaite, P. V. Ramanamurty, J. W. Simpson, G. H. Sinclair, C. J. Stockley, T. J. W. Sveinbjornsson, G. M. Torrance, A. A. Watson, J. D. Whitfield, E. W. Wilbourne, M. E. Willcock, P. H. Young.

FINAL EXAMINATION (*M.B., Ch.B.*).—J. H. Baird, M. Barseghian, E. G. von B Bergh, D. G. Boddie, W. K. Chalmers, C. J. Cherry, W. A. Coats, R. P. Cormack, Georgina E. Davidson, A. M. Duarte, A. J. Ferguson, Agnes R. H. Greig, G. D. Hamilton, H. Jackson, C. W. Lewis, H. Lewis, G. A. G. Macdonald, J. Macqueen, E. S. Mellor, J. J. Molyneux, W. H. Pallett, P. V. Ramanamurty, J. Ritchie, R. C. Rogers, G. M. Scott, C. G. Skinner, L. J. Spence, T. J. W. Sveinbjornsson, P. G. Tuohy, H. M. Vickers, E. L. White, E. W. Wilbourne, A. Wotherspoon.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary council was held on December 10th, 1914, when Sir W. Watson Cheyne, Bart., President, was in the chair.

Issue of Diplomas.

Diplomas of Fellowship were granted to the following nine candidates found qualified at the recent examination:

R. N. Geach, D. W. Hume, C. Noon, G. W. Beresford, J. H. Barclay, B. W. Howell, P. G. Doyne, R. M. de Mowbray, and D. Green.

Diplomas of Member were also conferred upon the following:

Mabel K. Bishopp, Hilda G. Johnson, J. H. Parry, and Mary Woods.

Diplomas of the Licence in Dental Surgery were granted to thirty-five candidates found qualified at the recent examinations.

Election of Examiners.

Mr. H. F. Waterhouse was re-elected a member of the Court of Examiners. Dr. C. M. Hinds Howell was elected an examiner in physiology for the second examination of the Conjoint Examining Board.

Annual Meeting of Fellows and Members.

The Council decided that as the matter referred in the resolution adopted at the recent annual meeting of Fellows and Members was very fully considered by the Council so recently as March last, it saw no advantage in reopening the discussion at the present time.

Hunterian Oration.

The Hunterian Oration will be delivered by the President, Sir William Watson Cheyne, on February 15th, 1915. No Hunterian dinner will be held.

War Relief.

A letter, dated November 21st, from the honorary secretaries of the Professional Classes War Relief Council, was read. It stated that the Council had been formed to deal with distress in the professional classes directly due to the war, and that it was decided at the last meeting of the Council to ask the College to nominate a representative to serve on the Council. The President was nominated.

Supply of "Subjects."

A letter was read, dated November 30th, from Professor F. G. Parsons, stating that at the annual general meeting of the licensed teachers of anatomy in London, held on November 26th, it was decided to ask the Council of the Royal College of Surgeons to help in taking further measures with a view to increasing the present supply of "subjects" for dissection, and to suggest a conference between representatives of the Council and the licensed teachers. A committee was appointed to confer with representatives of teachers.

General Medical Council.

A vote of thanks was given to Sir Henry Morris for his services as the representative of the College in the General Medical Council.

ROYAL COLLEGE OF PHYSICIANS IN IRELAND.

THE next triennial award of the Reuben Harvey Memorial Prize will be made on July 1st, 1915. Competitors, who must be either students in one of the Dublin schools of medicine recognized by the medical licensing bodies in Ireland, or graduates or licentiates of those bodies of not more than three years' standing at the time of the award, can choose any subject they please on animal physiology or pathology; but their work must represent original research, and be illustrated by drawings or preparations. The value of the prize is £25. Further particulars will be found in our advertisement columns.

The Services.

GENERAL HOSPITALS (T.F.).

IN reply to several correspondents who have made inquiries, we understand that the pay and allowances to which medical officers serving on the staffs of General Hospitals (T.F.) are entitled are as follows; the rates are daily:

	Pay.	Field Allowance.
Lieutenant-Colonel ...	£1 10 0	... 6s. 0d.
Major	1 3 6	... 4s. 6d.
Captain ...	0 15 6	... 3s. 6d.
Lieutenant ...	0 9 0	... 3s. 0d.

The Administrator is usually a lieutenant-colonel, and draws pay and allowance of that rank *plus* charge pay, for a hospital of over 200 beds, at the rate of 10s. a day. The Registrar is usually a major, and draws the pay and allowance of that rank.

With regard to the medical officers of local hospitals which have undertaken to receive wounded men, or are hospitals affiliated to a Territorial General Hospital, we have not been able to ascertain that any remuneration is paid by the War Office. If the officers of such hospitals were granted commissions, they would no doubt receive the pay of their rank, and any allowances to which they might be shown to be entitled.

Medico-Legal.

ASSUMPTION OF THE NAME OF A REGISTERED PRACTITIONER.

AT the Central Criminal Court, on December 9th, Harold Charles Edward Harrison pleaded guilty to forging death certificates and to committing perjury.

According to a report in the *Daily Telegraph* (December 10th), Mr. Bodkin, who prosecuted, said that the prisoner had pleaded guilty to forging certificates relating to the deaths of three persons. Fourteen such certificates had been produced in the course of the case. It appears that in 1900 the prisoner was summarily convicted of giving a false medical certificate and of using titles to which he was not entitled. In 1901 he was convicted of theft, in 1903 of bigamy, and in 1908 he was sentenced to five years' penal servitude for bigamy and assault. In January, 1914, he became assistant to Dr. Allen of Bethnal Green, having told him that he was Surgeon-Major Harrison engaged at the War Office in examining recruits. Dr. Allen took him on as assistant. In that capacity he attended patients, gave death certificates, and attended inquests, all under the name of Harold Charles Harrison, M.R.C.S., L.R.C.P.—there being a registered practitioner of that name at Lincoln. After he had been with Dr. Allen a few months the prisoner announced the death of General Sir John Richard Harrison, to whom he said he was heir, and he continued to act as assistant, having cards printed "Surgeon-Major Sir Harold Richard Harrison, D.S.O." In July, 1914, the suspicions of Sir Wilmot Herringham, who had been asked to consult with some one who said he was with Dr. Allen, were aroused. Inquiries subsequently made by the Medical Defence Union led to the present charge.

The prisoner, whose real name was stated to be John Cubbin, read a long statement in mitigation of sentence. He said he had studied medicine in Montreal and Vienna.

He was sentenced to three years' penal servitude.

Public Health AND POOR LAW MEDICAL SERVICES.

REFUSE TIPS.

THE standard textbooks on public health make very little reference to the length of time required to render refuse tips inert. If layers of soil are laid at frequent intervals over the refuse nitrification is hastened. The Public Health Acts Amendment Act, 1890 (an adoptive Act), Sec. 25, makes it unlawful to erect a new building on any ground which has been filled up with noxious matter until such time as the matter has become innocuous. "If a building site is artificially made care must be taken to see that the subsoil is free from organic pollution of any kind . . . . Where the subsoil has been excavated for sand or gravel, the place is used frequently as a tip for rubbish of all kinds until the level is raised to a sufficient height to allow of its being used for building purposes. Where 'made soils' of this nature are utilized as building sites, they should be asphalted or covered with a layer of concrete of other impermeable material at least 6 in. thick, and extending from one outside wall to the other" (Notter and Firth in *Theory and Practice of Hygiene*, third edition, p. 422). "Made soils—which result from the filling in with household refuse and other rubbish of low-lying sites or excavations made for the purpose of removing the virgin soil, etc.—should be avoided" (Parkes and Kenwood in *Hygiene and Public Health*, fourth edition, p. 264).

RESPONSIBILITIES OF OWNER AND OCCUPIER.

SANITARY.—Under Section 94 of the Public Health Act, 1875, which deals with the abatement of nuisances, a Local Authority is empowered to call upon the person by whose act, default or sufferance, a nuisance arises or continues, to abate such nuisance. It is often very difficult to decide as between owner and occupier which is to be called on to abate. Where an occupier under the terms of his lease has to carry out internal repairs and the owner external, it would appear equitable in the case mentioned for the occupier to take up the drain which runs under the kitchen floor, and for the owner to lay a new drain outside, properly trapped and ventilated. The occupier to clean out and fill in the disused water tank under the kitchen, and disconnect the overflow from the drain.

THE Lord Mayor of London, in presiding at the annual meeting of the Royal Surgical Aid Society on December 9th, stated that during the past year 42,575 appliances had been distributed, making a total since the foundation of the society of 856,696. In addition, artificial teeth had been supplied to a large number of recruits. A vote of thanks was accorded to Sir Frederick Treves, who had resigned the office of honorary consulting surgeon, which he had held for ten years. The sum of £348 was collected at the meeting.

Obituary.

JAMES EARL MORETON, F.R.C.S.

The death of Dr. Moreton removes a well-known personality from the neighbourhood of Chester. He was born at Minshull Vernon, Cheshire, in 1831, and educated at Dr. Brindley's, Tarvin, in the very house in which he died; at this school he was a somewhat successful rival of the Senior Wrangler of 1853. In the years 1848 and 1849 he was apprenticed to his uncle, Dr. Earl of Tarvin, Chester, who had qualified owing to the fact that he had been in practice before 1815. During his apprenticeship he had been chloroformed as an experiment, the drug having then just been introduced. In October, 1849, he entered St. Thomas's Hospital in the Boro', living in "the College" in Dean Street South. His studies were interrupted by an attack of typhoid fever and a threatening of phthisis. Sir Thomas Boor Crosby was a contemporary and lifelong friend. When in London he became intimately acquainted with Dr. Edw. Westall of Croydon, whose degree of M.D. was conferred on him by the then Archbishop of Canterbury, whose household he attended. Dr. Moreton obtained the diplomas of M.R.C.S. and L.S.A. in 1853, and that of F.R.C.S. in 1865. He was house-surgeon to St. Thomas's Hospital till he became house-surgeon to Chester Infirmary in 1854. In 1856 he was house-surgeon at Stafford Infirmary, and while there had as a pupil the late Mr. Reginald Harrison, F.R.C.S., whose father was Chaplain to the Infirmary. In 1857 Dr. Moreton joined his uncle, Dr. Earl, at Tarvin, and up to 1898 was in practice at that place. When he retired he went to live at Kelsall, but on the death of his wife a few years ago he returned to Tarvin.

He married in 1858 Janet Steel, by whom he had five children—four daughters (two of whom survive him) and one son, who joined him in practice in 1890. His chief recreations were hunting and reading. One of his friends, in a letter of condolence, says: "I don't think I ever knew a man who had a more charming personality or who was beloved by a wider circle of friends."

We regret to announce the death of Dr. Oscar Jennings, which took place suddenly at Ramsgate on November 23rd. He received his professional education at Guy's Hospital, and was admitted M.R.C.S. in 1873. He afterwards studied in Paris, where he graduated M.D. in 1878. For many years he practised in Paris, and won a considerable reputation by his writings on the mechanical treatment of diseases of the spinal cord, and particularly on the treatment of the morphine habit, on which he wrote several monographs. He was an enthusiastic believer in the virtues of cycle exercise, and, we believe, very successfully reduced his own weight by this means. He was the author of a French translation of Gowers's *Diseases of the Spinal Cord*. Dr. Jennings was a member of the Bibliographical Society, of the Société de l'Histoire de la Médecine and of the Société Médico-historique de Paris. He was for some time medical electrician at the Faculty Clinic, Asile St. Anne. Dr. Jennings was for many years the Paris correspondent of the *Lancet*. Of late years he had resided in London.

We regret to have to record the death of Dr. James Simpson, which took place at his residence, Mayola, Cullybackey, County Antrim, on November 27th. Dr. Simpson, who was a son of Mr. Thomas Simpson of Cullybackey, studied medicine at Queen's College, Belfast, and in 1881 graduated M.D. Queen's University, Ireland. He had a distinguished college career, and subsequently settled in Cullybackey, where he acquired an extensive practice and a high reputation as a physician. His personality and his professional knowledge gained him wide popularity and consideration. His genial disposition and thoughtfulness for others endeared him to all who knew him. A man of great strength of character and honesty of purpose, he gained the confidence of his patients, by whom he will ever be remembered. They found in him a personal friend. His health had been a good deal impaired during the last two years, and a fortnight before his death he had a paralytic seizure, from which he did not rally. By his death the community of Cullybackey have sustained a severe loss. He leaves a widow, an aged father, and a married sister to mourn their loss.

Deaths in the Profession Abroad. — Among the members of the medical profession in foreign countries who have recently died are Dr. John Lanson Adams, of New York, one of the most prominent specialists on diseases of the eye, ear, nose, and throat of the United States, aged 54; Dr. L. B. Bangs, professor of genito-urinary surgery at the Post-Graduate Medical School, and at Bellevue Hospital, New York, President of the American Association of Genito-urinary Surgeons in 1895, and editor of the *American Textbook of Genito-urinary Diseases*, aged 72; Dr. Washington Emil Fischel, of St. Louis, who took an important part in the fusion of the St. Louis and Missouri Medical Colleges as the medical department of Washington University, in which he was clinical professor till his death, aged 64; Dr. Theodore W. Fisher, sometime lecturer on mental diseases in the Harvard Medical School, aged 77; Dr. Morris Longstreth, for many years professor of pathology in Jefferson Medical College, New York, aged 68; and Dr. Opie, one of the founders of the College of Physicians and Surgeons of Baltimore, and its Dean from 1872 to 1905, aged 72.

Medical News.

The late Sir Henry Littlejohn, M.D., left personal estate valued at £26,624.

The ordinary annual general meeting of the London Cremation Company, Limited, will be held at 324, Regent Street, W., on Monday, December 21st, at 3 p.m.

At a meeting of the Council of the Lister Institute of Preventive Medicine on December 10th, Sir John Rose Bradford was re-elected a member of the governing body.

The library and offices of the Royal Society of Medicine will be closed for the Christmas holidays from Thursday, December 24th, to Monday, December 28th, both days inclusive.

Dr. C. S. Sherrington, F.R.S., Fullerian Professor of Physiology, will deliver a course of six lectures at the Royal Institution on muscle in the service of nerve, on Tuesdays at 3 p.m., beginning on January 19th.

We are asked to state that owing to the fact that Dr. A. S. Martin, Tuberculosis Officer for the County Borough of Sunderland, has received notice to join the R.A.M.C. at once, it is probable that an officer will be appointed for the time of the war to fill his place. Communications may be addressed to Dr. Henry Renney, M.O.H., Sunderland.

In a lecture on "Self-Expression through Language with Older Children," delivered by Miss Margaret Corner at a meeting of the Child Study Society held on December 3rd, she said that language possessed three elements—the objective, the subjective, and the social. The third element hardly entered into the language of children at all. The child was not incomplete man but a different entity, whose language, like his ideas and emotions, differed from that of the adult, although he was compelled to make use of the same words and expressions. As a general rule, young children could be made to chatter without a trace of self-consciousness on any subject, but an older child experienced difficulty in expressing herself subjectively, and disliked a transition from the objective to the subjective in conversation. In a class composed entirely of girls between the ages of 11 and 15, she had noticed that many of the children experienced acute discomfort when forced to consider and answer questions from the subjective point of view, although as the age advanced this characteristic gradually disappeared. This, in many cases, undoubtedly meant that the child was not only incapable of giving verbal expression to her feelings, but was actually unaware of their existence until they were forced upon her attention. Those engaged in the training of children should endeavour to teach them to know themselves, whilst inculcating at the same time the necessary lessons of discipline and self-control.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

LICE.

S. asks how fast lice reproduce themselves, and therefore how often blankets, etc., should be stoved.

*** The best answer that can at present be made to this question is contained in Dr. Shipley's article on lice published in the JOURNAL of September 19th, p. 498. Mr. Warburton summarizes the life-cycle of the insects, as indicated by his experiments, as follows:—Incubation period: Eight days to five weeks. From larva to imago: Eleven days. Non-functional mature condition: Four days. Adult life: Male, three weeks; female, four weeks. These figures are based upon laboratory experiments, and under normal conditions the rate may be accelerated. It is clear, however, that, as in the case of many other insects, temperature plays a large part in the rate of propagation. The development of the eggs may be suspended, though they are not killed, during cold weather; the larvae, which are very ravenous, appear to die in a day and a half unless they can obtain food.

DR. STUART OLIVER (Littleham, Bideford) writes: If the woollen singlet or other garment worn next to the skin be dipped, after washing and wringing, in a 5 per cent. solution of boric acid, again wrung out, and then dried, it will be found no longer to harbour the parasites for a considerable time, nor will the sweat become sour and offensive nearly so soon as it would otherwise. One ounce of the acid in solution should, if economically employed, suffice for a couple of garments, size and material, of course, affecting the amount required. If all socks were similarly treated after washing, I feel confident that the number of men off duty from foot troubles would be largely diminished.

ANSWERS.

"ABDOMINAL PAIN."

S. writes, in reply to "X. Y. Z.," who requested suggestions for an abdominal pain, that it may resemble that of the man who had "a migraine in his belly." If so, his remedy might be tried—namely, pot. brom., sod. salicyl. āā gr.xx, taken at the onset, and repeated if required.

MUSHROOMS AND URTICARIA.

C. E. L. writes: I was called to an old gentleman who was suffering from eczema of the legs, which were covered with a very irritable eruption; the next day it assumed much the appearance of measles, but there were no conjunctival symptoms. I found he had eaten some mushrooms two days previously. On the third day he complained of some sore throat; the fauces were oedematous, the uvula swollen, and the conjunctivae congested; there was a slight rise of temperature. All these symptoms abated on the fourth day, and as the eruption was fading distinct "fairy rings" showed, and were the last part of the eruption to disappear. The question of diagnosis was important, as there were children in the house; against measles were the age of the patient (79), the lateness of the conjunctival and faucial symptoms, and the "fairy rings."

LETTERS, NOTES, ETC.

DR. W. M. M. JACKSON (Las Palmas, Grand Canary) writes: As passenger traffic to the Continent may be interfered with this winter and many of the usual health resorts cut off, it may be of interest to your readers to learn that the route to this island is open and quite safe, and that everything here is as usual. There is plenty of accommodation for invalids both at sea level and higher—12 or 1,400 ft. The winter climate is cool, bracing, and moderately dry.

THE HAEMOSTATIC TONSIL GUILLOTINE.

DR. GRAHAM GRANT (London) writes: In your issue of December 12th, p. 1019, there is an interesting description of a double-bladed tonsil guillotine, which is designed for the purpose of checking haemorrhage. Now my tonsil guillotine has not been sharpened for years, and I do not intend to have it sharpened as long as it will do its work. The reason is not far to seek: we have had no cases of troublesome bleeding since it has been blunt.

A PLEA FOR SUPERSTITIONS.

DR. J. C. MCWALTER (Dublin) writes: We are all enchanted with Sir F. Treves's address on "Dogmatism in Medicine," but let us be a little merciful, for we also shall be judged by captious critics. Have we not seen, even in our own days, that when a man got a pain in the right side of his belly the surgeons insisted that the cure was to cut out a bit of the gut? And when a piece of gut was cut out of a great prince without fatality, have we not seen honour, title, and wealth poured on the gut-stitcher? Have we not been taught that it is possible to cure cancer of the breast by cutting it off, when we might as well try to cure a cold in the head by cutting off the nose, or erysipelas by cutting out the first purple patch? Our cure for small-pox is to infect every infant with an allied disease, and we boast of curing the plague by catching rat-fleas. We think that tuberculosis is caused by a microbe, and because a like microbe may be found in milk we hope to cure consumption by murdering cows.

THE DIAGNOSIS OF DEATH.

DR. JOHN J. HANLEY (Motherwell) writes: The importance of being able to diagnosticate death *quickly* must be of superlative importance on the battlefield, and indeed sometimes, though rarely, in civil practice. In the *Presse médicale*, Paris, September 16th, No. 67, pp. 621-624, M. d'Hallain states that the simplest and most practical test for continuing vitality is the instillation of ether into *one* eye. If there is life, the eye reddens. The body should be horizontal when applying this test, and only one eye treated; the other eye is for "control." He claims that the test has never failed him, but advises that it must not be relied on in case of negative findings. Some R.A.M.C. men might try this, and I suggest, in addition, a test on the conjunctiva with adrenalin chloride solution (1 in 5,000), which may prove even more reliable than the ether test, for in severe wounds and injuries of the head it would appear to be more applicable, for obvious reasons.

BENZOL IN BILHARZIA.

DR. WM. ROBERTSON (Durban) writes: I have recently had under treatment for five or six months a case of bilharzia which did not improve on various remedies, such as sulphur, urotropine, male fern, and methylene blue. After the administration of benzol, the ova began to appear black in colour and much shrunken. At times the slide was covered with these, and contained only one or two of normal appearance. Again, there would be some ova less black alongside of the dense black. After the administration of benzol for about fourteen days, all constitutional symptoms disappeared renal colic, pain in back, frequent urination, etc. The urine is now normal in colour, more so than he has seen it for seven years. It still throws down a sediment on boiling. There are no tube casts. The drug is comparatively innocuous. I gave it in doses of 5j every three hours on sugar. I can offer no explanation of the black colour of the ova unless it is to be attributed to the action of benzol. If ova are treated on a slide with benzol, a faint blackness, like that seen on some ova passed in urine, is soon produced. No intestinal symptoms have been complained of. I have examined faeces twice without finding ova, but this, of course, is not a sufficient test. Lately I have combined thymol with the benzol (thymol 2 grains, benzol ½ drachm) every four hours. The change in the symptoms under the drug has been so rapid and radical that I have ventured to record them thus early.

In a further note, Dr. Robertson, among other observations, remarks that he finds that the very heavy exudate seen on boiling the urine of a fresh case of bilharzia may become a mere haze after brief treatment by thymol and benzol; also that the cystic haemorrhage is unaccompanied by the formation of clots, the urine consequently passing freely. He mentions one case in which the patient, after passing more or less blood for years, passed none whatever for fourteen days when put on thymol-benzol. In another case the patient gained weight rapidly, and improved surprisingly in colour. Treatment by these drugs should be kept up for three or four weeks, and then be intermitted, urinary antiseptics being substituted for a time.

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COLOUR VISION AND TESTS FOR COLOUR BLINDNESS.

By C. DEVEREUX MARSHALL, F.R.C.S.,
SURGEON TO THE ROYAL LONDON OPHTHALMIC HOSPITAL.

THERE is scarcely any subject in the domain of medicine and surgery which has been more misrepresented than that of the facts of colour blindness, nor is there any in which such lack of discrimination has been shown with regard to the selection of appropriate tests for its detection.

Many of us know from experience how the methods advocated by Edridge-Green have won all along the line, and that those who have not been so blinded by prejudice as to refuse to examine the facts have been led by the overwhelming weight of evidence to admit that his theory explains the facts, and that his methods are efficient and reliable for the detection of errors of the colour sense. Lately, however, it has been freely stated that many, if not most, scientific men have failed to be convinced and have rejected his ideas as untenable. Such statements have been made without a shadow of proof that such is the case, and in order to show how far it is from the truth I wish to review briefly what some of the most eminent men have said regarding his work. I should like also to point out that what follows represents only a very small fraction of similar evidence, but I have made selections from the writings of those whose names are so well known in science that any statement they make cannot but carry weight, and must be respected by those who are in any way conversant with the position they occupy in the scientific world. It is also hoped that this may serve to stop the dissemination of reports which are so freely handed about and which are so foreign to the facts of the case.

Dr. E. H. Starling, F.R.S., Professor of Physiology in University College, London, writes in his *Principles of Human Physiology* (1912): "It is very difficult, however, to harmonize the facts of colour blindness with either this" (Helmholtz's) "or Hering's hypothesis. It is better to abandon hypotheses altogether and to adopt a purely empirical classification of colour vision as has been done by Edridge-Green. This observer points out truly," etc., and this is followed by a page and a half of the facts pointed out by Edridge-Green.

Dr. Halliburton, F.R.S., Professor of Physiology in King's College, in his *Handbook of Physiology* (1913), writes: "The Edridge-Green lantern is one of the best to employ; in it the intensity and colour of the light, and the order in which the colours are shown can be easily varied. If the colour-blind person is made to examine and report on the colours of a spectrum" (Edridge-Green's method) "or in portions of the spectrum exposed to view, the results obtained are more accurate, but this is not so simple as the lantern test."

Sir Edward Schäfer, F.R.S., Professor of Physiology, University of Edinburgh, in *Experimental Physiology* (1912), writes:

> Testing for colour vision. Edridge-Green's lamp and spectroscope. . . . The best practical method for testing colour vision is by the use of a lamp provided with glasses of different colour, the subject being expected to name the colour which is exhibited. A more accurate method of obtaining spectral colours for testing purposes is the employment of a spectroscope so arranged that only a definite part of the spectrum with a pure spectral colour is visible at one time.

(This is the method of using the Edridge-Green spectrometer.)

Professor Burch, F.R.S., in his *Physiological Optics* (1912), describes Edridge-Green's monochromatic colour patch method, and concludes thus: "The most powerful grating spectroscope may be used in the way described by Edridge-Green and the preceding statements verified." Edridge-Green's signal lantern is then described.

Professor Alcock and Dr. Ellison, in their *Experimental Physiology*, write: "Colour Blindness. Examine portions of the spectrum by the method of Edridge-Green." Details are given, and they add: "Examine Holmgren's set of coloured wools and let the student test his neighbour for colour blindness. This test succeeds best if both experimenter and subject are slightly thick-headed."

Professor D. J. Hamilton, F.R.S., of Aberdeen, wrote as follows in his *Textbook of Pathology*:

> Edridge-Green's Theory: All these theories, however, presuppose that the essential defect is in the retina. From what we now know of the visual centre in the brain, it seems quite as likely, if not more so, that the vice is located in the apperceptive centre—that, in fact, colour blindness is essentially a disease of interpretation, not one which is bound up with the mechanism placing the visual centre in communication with the periphery; that it is, in fact, simply a form, and probably a very pure one, of congenital psychical blindness. . . . Edridge-Green in his fascinating work on the subject of colour blindness has taken this view of the matter. His explanation of the colour sense is as follows.

(Then he gives nearly three pages of details).

Lord Rayleigh, in a letter to Dr. Edridge-Green, wrote as follows:

> I think you are entitled to claim credit for having advocated the "lantern" tests at a time when they did not seem necessary to others, and if you like you may quote me as saying so.

Sir William Ramsay, K.C.B., F.R.S., Professor of Chemistry in University College, London, has written to me as follows:

> Very many years ago I came in touch with Dr. Edridge-Green. I have certain peculiarities of vision which he classes as "three-colour." I was, and am, convinced that he is right. Since then I have followed his work more or less; my son and I were examined in Professor Starling's laboratory some years ago, and his tests confirmed our impressions as to our vision. I cannot say that I agree with all that he has published, because I have not followed it all minutely; but I am sure that he is correct in the broad lines on which he interprets colour vision, and that he has got very scant justice from others who have held the field with their preconceived notions: they have, in many cases, come round to his views, which they have adopted without acknowledgement.

Professor A. W. Porter, F.R.S., Assistant Professor of Physics in University College, London, in a letter to the *Lancet*, dated September 27th, 1912, wrote:

> I was present along with Professor Tronton at the test of the case made by Dr. F. W. Edridge-Green, which is described in the *Lancet* of June 22nd, 1912. The examinee passed successfully the official wool test of the Board of Trade, but failed completely when tested with Dr. Edridge-Green's lantern. There is no doubt whatever that the examinee was a very dangerous case, in spite of passing the wool test. This case alone would make it clear that a lantern test is a necessity. But there are lanterns and lanterns, and in my opinion it is exceedingly doubtful whether the new lantern suggested by the recent Departmental Committee has the requisites for effecting a correct discrimination between candidates. To mention one point only—it lacks any possibility of adjusting the luminosity so as to imitate the effects of atmospheric changes. This is the requisite which every lantern must have if it is to discriminate between the safe and the unsafe colour defectives. It is possible to imitate service conditions in this respect with Dr. Edridge-Green's lantern. A lantern which lacks this provision is as useless as the fine weather tests which were made in the open by the Departmental Committee.

At the International Medical Congress at Budapest in 1909 Dr. Edridge-Green read a paper on the theory of vision, by special request, in the two Sections of Ophthalmology and Physiology. Not one word of adverse criticism in either Section was made. (See the remarks in the *Lancet* for 1909, page 1005, and the BRITISH MEDICAL JOURNAL at the time.) The strongest approval of his ideas and methods was expressed. Professor Von Tschermak, Professor of Physiology in Vienna and one of the leading authorities in the world on vision, afterwards wrote to the *Lancet* and supported the theory, pointing out how Edridge-Green's work fitted in with that of other authorities on vision. This letter, which is too long to quote, was written on October 25th, 1909, and published directly afterwards.

Professor C. Timiriazeff of Moscow wrote in 1913 thus: "The chemical hypothesis concerning the functions of the visual purple seems to gain ground. Professor Edridge-Green has succeeded in removing the most formidable obstacle in its way."

It may be remembered that a resolution was passed in the Ophthalmic Section at the Annual Meeting of the British Medical Association held at Brighton last year, condemning the tests at present in use by the Board of Trade. This resolution was passed with one dissentient only, and that gentleman happened to be one of those who was a member of the Departmental Committee who recommended the tests at present in use. It may also be

pointed out that this vote was taken in the middle of the morning, and before an unusually full meeting which was about as representative as any special meeting could be.

Most people will remember the long articles and discussion published in the *Morning Post* early in the present year. A vast amount of evidence was put in supporting the claims made by Edridge-Green, and methods and tests still in use were very freely criticized. None of the facts were disproved, and in fact no one came forward to criticize what was written. Why do not the adherents of the other side appear, and show where the majority are wrong? The answer can be given by any one who will give it a moment's consideration. It is certainly a fact that one unbiassed opinion in favour of a statement is worth twenty of jealous rivals who refuse to give reasons.

Can any one who was present at the meeting of the International Medical Congress in London last year have any doubt as to the favourable reception which Dr. Edridge-Green's paper had? I wonder if any demonstrator at that large meeting got a more enthusiastic reception than did he when he showed some of the most convincing experiments that were ever demonstrated before a large and highly scientific assembly, in which it is perhaps no exaggeration to say that every civilized country in the world was represented.

Only a few months ago a letter was sent to the press, signed by thirty-one of the leading ophthalmic surgeons of the United Kingdom, in which they condemned the method at present in use at the Board of Trade for form vision; they stated that "The wool test for colour blindness is not an efficient test"; and also that "Any lantern used for testing colour blindness should have means for regulating the luminosity of the lights shown." The lantern used by the Board of Trade has no means of regulating the luminosity, simply a means for increasing or diminishing the size of the aperture.

The British Association met in 1912 in Dundee, and a committee was formed to inquire into the subject of colour vision and colour blindness. This committee consisted of the following gentlemen: Professor E. H. Starling (Chairman), Dr. Edridge-Green (Secretary), Professor Leonard Hill, Professor A. W. Porter, Dr. A. D. Waller, and Professor Gotch. The report they drew up stated:

> The inadequacy of the wool test even with additional colours as an efficient test for colour blindness is now established.

They then show from the published statements of the Board of Trade examinations the shocking results of the wool test thus: Out of "105 failures, 55 failed in both wool and lantern test, and 50 in the lantern only. None failed in the wool test only." In a daylight test "the bead test of Edridge-Green is preferable." "The chief difficulty from a practical point of view is the line at which rejection should take place, as there is every grade of transition between total colour blindness and the normal colour sense. If a large number of persons be examined with the Edridge-Green lantern, about 25 per cent. show defects of colour perception. In the majority of cases the defects are slight." Those who know anything about the subject will see how entirely this report backs up the ideas of Edridge-Green, and how thoroughly opposed it is to the theory of Helmholtz on which the wool test is based.

I have heard it stated in the usual loose manner taken by the opposition that Professor Gotch, who unfortunately can no longer be reckoned among the living, was opposed to the ideas of Dr. Edridge-Green. As a matter of fact, he was one of his strong supporters, and although he never published much, there is abundant evidence in existence in his private correspondence to prove this, but I hesitate to quote from this in the circumstances. Unfortunately for the world of science, he died before the report just quoted was brought out, but I have ample proof from some of his colleagues on the committee that had he lived he would have signed it with the others.

Professor von Kries was shown by Dr. Edridge-Green how readily certain colour-blind people were able to do matching tests. He subsequently wrote agreeing with Dr. Edridge-Green's view of this case.

At a meeting of the Paris Ophthalmological Society, held during the present year, Edridge-Green's tests were specially shown by Dr. Sulzer, when not a single adverse criticism was expressed.

Mr. W. M. Beaumont writes in the BRITISH MEDICAL JOURNAL of January 13th, 1912, page 69: "Modern methods of colour vision testing are due to the work of Edridge-Green, and the present-day use of his lantern increases *pari passu* with the disuse of Holmgren's wools."

I am entirely unacquainted with a single person who has been convinced of the truth of the Edridge-Green facts having subsequently changed his opinion and adopted an attitude hostile to his theory and his tests.

At one time it was impossible for him to get a hearing at any scientific meeting, because he brought forward ideas which were altogether hostile to those which were held. Since, however, he has obtained a hearing, the papers which he has communicated to the Royal Society, the Phy-iological Society, various English and foreign ophthalmological societies, the British Medical Association, the Society of Arts, and many others too numerous to mention, would take up several pages, if only to name their titles. To the mass of this evidence it is impossible to find a single criticism that will hold good. He has challenged the world over and over again to bring forward anything which will disprove his facts or theory, and the result has been that no one has had the power to do so. One has often heard people state that he is wrong. One naturally asks, "In what way?" The answer has never amounted to more than this, though perhaps not expressed in the identical words, "You are wrong because we say you are." "Look at my cases and let me show them to you," says Dr. Edridge-Green. They reply, "We will neither look at your facts nor allow you to show us your cases. You are wrong because we say you are." No better argument than this has ever been adduced against him, and to show that I am not exaggerating let me point out that this very action was taken by the Royal Society Committee and the Departmental Committee appointed by the Board of Trade to investigate the whole subject. On each occasion they refused to allow him to show them a single case or to demonstrate a fact before them. Could a more partial attitude be adopted?

It would not be so bad if the opposition would only act fairly towards him, but this they do not do. Take, for instance, the latest book by Sir William Abney on *Colour Vision* and compare it with his former writings. We find that whereas he was formerly an opponent of Edridge-Green's methods, and a strong supporter of the methods used by the Board of Trade, yet now he recommends almost everything that Edridge-Green has for many years been advocating, and yet never mentions his name from the beginning to the end of the work. Methods which he condemned with the greatest energy a few years ago are now given in such a way that it leaves the impression that he has always advocated them, if not that they were actually introduced by himself. Is this a way which recommends itself to fair dealing with an opponent? The fact of the matter is this: Every one who has looked into the subject has been convinced of the truth and practicability of the methods advocated by Dr. Edridge-Green; his methods have been advocated all over the world; no one has ever arisen who has been able to prove that any fact he has stated is wrong, though there still are those who do not hesitate to use methods to prejudice those unlearned in the matter which are grossly unfair. If they have any criticism to offer why do not they come out in the open and make it, and then give the other side the opportunity of answering? They have scores of times been accused of failing to do so because they know that they could not maintain their position, and this view must be still held until some one can come forward and disprove the facts that are so strongly held and so readily demonstrated to any one who will take the trouble to see such demonstrations. If they will not do this then judgement goes by default, and it must be because they have no answer to give better than they have so often used, namely, that your ideas are wrong because we say they are.

The Royal Society must be held entirely responsible for this state of affairs. It appointed a special committee to do the work which Edridge-Green had been asked to do by the Board of Trade, and after three years' deliberations it recommended the wool test, which even in its improved form allows 50 per cent. of dangerous cases to pass (vide above). The subject is undoubtedly difficult, but if Edridge-Green were able to find out facts which a committee containing such men as Lord Rayleigh, Lord

Kelvin, and Sir George Stokes failed to ascertain, or even recognize when they had been pointed out, the Royal Society should have made some acknowledgement of his work, especially as it utterly discredited him and ruined his career. As I have shown, many have heard of his discredit, but are unaware of the complete change of opinion. I have written this article to show these people exactly how matters stand.

COLECTOMY FOR INTESTINAL STASIS.

BY

A. WILLIAM SHEEN, M.S., F.R.C.S.,

SURGEON, KING EDWARD VII'S HOSPITAL, CARDIFF.

I HAVE done four cases of colectomy for intestinal stasis—one in a man and three in women. Three cases recovered and one died.

History, Symptoms, and Progress after Operation.

CASE I.—W. C., a mason, who had not worked for three months and had done only light and intermittent work for eight years, complained of abdominal pain one hour after meals. He was very constipated, had often gone a week without bowels acting, and was constantly taking castor oil or salts. He had had sickness after nearly every meal, but not lately; he sometimes made himself sick; he had vomited blood (a teacupful) on six or seven occasions. He suffered from distension, flatulence, had got thinner, and was very miserable, said life was not worth living, and felt inclined to finish himself off. He had taken much medicine, and was treated medically in hospital four years ago without relief. He was a thin man, with sallow complexion and dark rings round his eyes; the tongue was coated, the right kidney was movable. There was pain, tenderness, and gurgling over the caecum, tenderness beneath the upper part of the right rectus, and pain in the epigastrium. The urine contained creatin and creatinin in large quantities. A test meal gave total acidity 0.1606 per cent. *X*-ray photographs of bismuth meals showed great delay, and dropping of the transverse colon so that its centre reached the bottom of the pelvis. After operation, on November 6th, the parietal wound suppurated slightly. The patient got up on November 25th, and on December 11th, five weeks after operation, went home.

CASE II.—A. L., housewife, had been "ailing" many years; suffered from indigestion, and was very constipated. Eight years ago she was fitted with a supporting ring for "womb trouble." The symptoms had been worse for the last four months, and for three months she had passed blood frequently from the bowel, and had grown much thinner. She was a thin, anaemic woman, with lemon-yellow complexion, dark rings beneath the eyes, cold extremities, and a miserable appearance. The lower abdomen was distended, and there was much gurgling of gas; tenderness was most marked in the left iliac region, but was present also over the caecum and pylorus. *X*-ray photographs of bismuth meals showed, after half an hour, the stomach dropped, so that the greater curvature reached the pelvis, and, after twenty-four hours, large masses in the caecum, with distension of colon and sigmoid. Examination with the sigmoidoscope revealed nothing abnormal. After operation (January 22nd) she at first went on well, but later developed progressive asthenia and cardiac weakness without active symptoms; there was no parietal infection. She died on January 31st, nine days after operation. An examination *post mortem* through the operation wound only showed thin pus in the pelvis and lower abdomen; the bowel wounds were intact.

CASE III.—A. M. S., a married woman, complained that for four or five years she had had pain in the left side of the abdomen, particularly in the lower part. It was worse directly after food; she sometimes vomited, and was only able to take "baby's food." She was very constipated, and passed a quantity of whitish material and "strings" with the motions and at other times. She had had an enema once daily for two years. She was very thin, with a yellow-brown complexion and darkish red areas on the cheeks. There was much tenderness all over the course of the colon, and mucus and shreds in the motions. The sigmoidoscope showed the bowel to be very red. An *x*-ray photograph of a bismuth meal showed that the transverse colon reached to the pubes. Operation was postponed because after a preparatory enema the patient became dizzy, lost consciousness for two hours, and had great cardiac weakness. It was eventually performed on March 2nd. She did well; no parietal infection occurred, and she left the hospital one month after operation.

CASE IV.—C. A. had been operated on three years earlier for "ulcerated stomach," and had been better until five months ago, when vomiting and pain commenced after food. She had been very constipated for years, and had had three slight attacks of haematemesis. She was a thin woman with a coated tongue and earthy complexion. She vomited frequently after admission, sometimes a little blood. There was tenderness over the caecum and duodenum, a vertical median scar in the epigastrium, and slight oedema of legs. Test meal: Total acidity 0.1752 per cent.; urine, trace of creatin. Mobile right kidney. The case was transferred from a medical ward after prolonged treatment, including morphine frequently. After operation (April 30th) she did well except for slight parietal infection and obstinate cystitis. She left hospital seven weeks after operation.

Details of Operation.

The conditions found in the abdomen and the operative details were substantially the same in all four cases. The preparation, which commenced three days before operation, consisted of enemata, castor oil, clear soup, albumin water, tea, brandy. Case 3 had kerol gr. v thrice daily for a fortnight before operation. Anaesthesia was by scopomorphine and open ether. A continuous submammary saline injection was given throughout the operation. The patient was placed in a partial Trendelenburg position, with the legs over the end of the table. A long vertical incision was made through the inner part of the left rectus. In each case external adhesions were found between colon and parietes and kinking at hepatic and splenic flexures, particularly the hepatic, where the transverse and ascending colon were bound together, ileal kink, dilated duodenum, prolapsed stomach, and transverse colon. In Case 4 (previously operated on) the stomach was adherent to the anterior parietes and the duodenum was most markedly dilated. There were various omental, gall bladder, duodenal, and other adhesions and varying degrees of membrane overspreading the caecum and ascending colon. After separating external and other adhesions, so as to render the colon freely mobile and permit of its being lifted out of the abdomen, it was removed from 8 in. to 9 in. proximal to the ileo-caecal valve to the middle of the pelvic colon; the distal end of the colon was closed and the ileum joined to the colon by an end-to-side anastomosis, taking care that the ileum was not twisted. The hole in the mesentery was carefully closed and an oesophageal tube passed up the rectum and through and about a foot beyond the anastomosis, the operator manipulating the tube and an assistant pumping paraffin in to help its progress. This tube was tied to the anal margin. The parietal wound was closed in layers without drainage, except in Case 3, in which a tube was kept in the abdomen for forty-eight hours.

The dressing throughout was sterilized, frequently changed, hot boracic fomentations. The patient was placed in a marked Fowler's position. The rectal tube drained well in all cases, a few ounces of paraffin being pumped up it every twenty-four hours. It was taken out in seven or eight days. All cases showed some shock after the operation, but it was only marked in Case 2, where the pulse was very weak and rapid from the first.

End Results.

The three cases which recovered were all seen and examined by me on October 5th, 1914, when their condition was as follows:

CASE I (eleven months after operation).—Says he is much better than before the operation, that he can eat practically anything, and that he never vomits. He still feels a weakness in his abdomen and has loose motions, the bowels acting two or four times a day. He has tried two or three times to do his ordinary work, but cannot manage it. He has not got fatter or thinner. On examination he is pale, his eyes are clear, with no dark rings round them. He wears a belt; the recti are slightly separated. There is epigastric tenderness.

CASE III (eight and a half months after operation).—Says she is much better and much fatter; can eat anything now. All her people say how very different she looks. She sometimes has a pain in the back and in the lower abdomen when she walks, and she suffers from palpitation. She takes a tablespoonful of paraffin every morning, and this keeps the bowels regular. She is never sick. On examination she is a fat, healthy looking woman with a good complexion and clear, bright eyes. There is a sound abdominal scar; some tenderness over sigmoid region. She is emphatic in saying that she is better than she has been for many years.

CASE IV (five months after operation).—Much better. Put on a stone in weight after she went home. Her friends say she looks quite different. She is sick at her periods, which are profuse. She takes syrup of figs occasionally for the bowels. She is a healthy looking, well-nourished woman, with bright eyes and clear complexion. There is a strong abdominal scar, with no tenderness.

The operation is a serious one. It requires careful preparation of the patient and careful technique. It should be reserved for cases with marked signs and symptoms of stasis. It contrasts, in my experience, with many cases in which various lesser measures have brought about cure. In all these abdominal cases—which can be grouped under

no short title (unless "stasis" be used), but which present symptoms suggesting trouble now in one region, now in another—it should not be the practice to approach and expose simply the part where the trouble is thought most likely to be, but by a wide incision to investigate the whole of the abdominal contents and to recognize and, as far as possible, remedy the various abnormalities.

The end results, as far as can be judged from these few cases, show that, while great improvement may be expected, a perfect condition of health is not necessarily attained.

AN OPERATION FOR MOVABLE KIDNEY.

By G. S. THOMPSON, F.R.C.S.Eng.,
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In this operation the essential desiderata are (1) a guarantee against recurrence of the undue mobility, and (2) an assurance that the fixation shall be satisfactory, by restoring and maintaining the normal position of the organ.

None of the ordinary operations—extracapsular, capsular, suture- and tendon-fixation, etc.—can be said to fulfil these essentials. All the usual methods are faulty owing to their uncertainty, whilst their very number suggests that no one is adequate and sure, which is, indeed, true. Hence we may say that so far no good operation has been generally practised for nephroptosis.

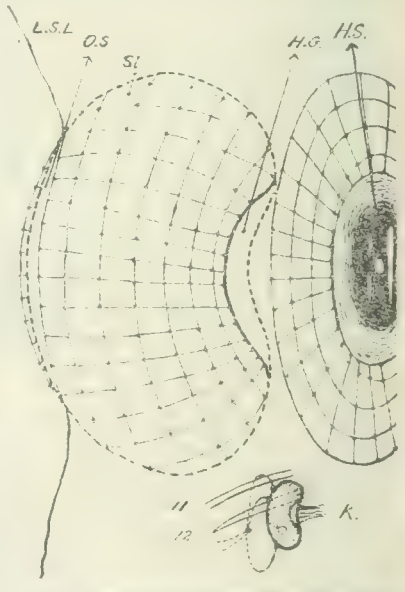
The procedure to be described gives a virtually normal fixation of the organ, and if properly carried out can be relied on almost certainly to ensure a satisfactory and permanent cure. By this method the kidney retains with certainty the position in which it is fixed, and it cannot become displaced again; and, owing to this very fact, care must be taken to see that the correct or proximate position is obtained before anchoring in place. Moreover, although the pathological mobility is corrected by this operation, the normal slight respiratory excursions of the organ are not hindered. One advantage more is that the patient can be got up very much earlier than in the ordinary way—in fact, soon after the wound is healed—namely, by the third week, in contrast with the inevitably prolonged, but not always successful, detention in bed with the other methods.

The principle of this operation is the insertion of the kidney into, and its suspension by, a sling, and the fixation of the latter to the posterior abdominal wall.

The sling consists of a net made from chromicized catgut, or preferably floss silk, the material at present varying according to the predilection of the surgeon, as time alone can show which is to be preferred. These slings are made in various sizes, so that there shall be no difficulty in adapting one to the requirements of the particular case. A gap is left at the hilum 2 in. long by 1 in. broad, so that the border of the net here falls well short of the vessels and duct, and thus no pressure can be exercised on these important structures. The convex border is left open to facilitate the insertion of the kidney into the sling, and at the ends of this opening two free ligatures are left open for the purpose of lacing up the gap, and then using to sling the net to the abdominal wall. The complete sling is thus reniform with a permanent gap at the hilum and a temporary slit along the outer border, the size of the mesh being about $\frac{1}{2}$ cm.

The kidney, having been exposed in the usual way, is inserted through the gap and by the help of the slit into the sling; it is then laced in, but loosely, and when this is completed the ligatures are knotted and thus fixed, the lower ligature ending above opposite the costal groove on the kidney. The lacing should not be tight so that the sling fits the kidney somewhat loosely, in order to allow of the expansion of the organ which is known to occur. It must not be loose enough, however, to permit the net to rotate and impinge by its free inner border on the structures of the hilum, thereby compressing them; and in order to obviate this it is as well to insert one or two fixation sutures so as to include the net and kidney and maintain the proper relative positions of both. The kidney having been invested, the next step is to fix it in position by the free ligatures along the outer border. One is passed external to the normal position of the kidney over the twelfth, or if necessary the eleventh rib, the other through the muscles near the lower end of the viscus, and the two ends tied loosely under the skin; loosely, again, in order that the kidney may be free to move with respiration and adapt itself spontaneously to the exact position, after the patient has been placed in bed with the foot blocked up, should such not have been quite correctly obtained at the time of operation—not always an easy matter to be certain of with the patient in the lateral position. The remaining steps of the operation are as usual.

The netting by its presence will provoke a cellulo-plastic exudation which will surround and infiltrate the meshwork, and in time form by organization a firm adventitious tissue capsule, in addition to the extraneous capsule already present. Probably the former would be sufficient to permanently fix the organ if a slowly absorbable material, as chromic catgut, be used. This seems very likely, but to obviate any possible doubt on this point perhaps it would be better, as suggested, to use floss silk. I say floss silk, and not the ordinary twisted surgical silk, as I think the former smooth material less liable to determine haematogenous bacterial deposit than the rough irritating surface of the latter. In both cases a fibrous tissue capsule will form; with catgut this alone will be permanent, but with silk both will remain. I do not think it likely that floss silk, by its permanent presence, would provoke an excessive formation of fibrous tissue, and thus produce an unyielding covering not altogether desirable in an expansile organ like the kidney; but this might occur with the roughened variety. The only disadvantage of silk in contrast to catgut is the slight tendency of the latter to become the seat of remote haematogenous infection, and give rise to abscess, assuming, of course, the wound heals, as it should, by primary union, and there is no immediate soiling from ungloved hand contamination, as is the rule when such occurs, and not through any imaginary difficulty in sterilizing silk. But the use of floss silk will also tend to obviate this contingency.



L.S.L., Lacing and suspending ligatures; *S.*, kidney sling containing kidney (dotted); *O.S.*, outer slit; *H.G.*, hilum gap; *H.S.*, structures of hilum—vessels and duct; *K.*, kidney fixed over twelfth or eleventh rib, triple anchorage by ligatures and pedicle.

When I first developed the above method, in 1909, I used for the posterior base of the sling a reniform plate of thin sheet celluloid, riddled with punch-holes, the remainder of the sling being as above and the netting attached to the border of the plate. When placed in the body this plate soon becomes fixed to the neighbouring parts by infiltration. But I think the elimination of the plate an improvement in technique, and have not mentioned it nor used it latterly.

The first patient operated on, in 1909, is still quite well and free from all her previous troublesome symptoms, whilst the organ still remains quite fixed. The wound healed by primary union, and the patient left the hospital at the end of three weeks.

I think it can be claimed that this operation is an advance on any other, and is sure, quick, rational, simple, as well as satisfactory from the patient's point of view. I consider its merits should cause it to supplant the other faulty and bad procedures which are in vogue at present. A good operation for nephroptosis has long been required, and in the belief that this one meets the case and fulfils all necessary requirements it is submitted with confidence.

COCKROACHES.

BY A. E. SHIPLEY, SC.D., F.R.S.,
MASTER OF CHRIST'S COLLEGE, CAMBRIDGE.

II.

"In Russia the small Asiatic cockroach has everywhere driven before it its greater congener" (*P. germanica*).
DARWIN (*Origin of Species*).

COCKROACHES do a very considerable amount of damage by consuming food supplies. But they do not stop at food supplies; woollen clothing, newspapers—not a great loss—blacking, ink, leather, and even emery paper, are all to their taste, and being of an economical frame of mind they devour their own cast skins and the dead bodies of their relatives. The late Professor Moseley recorded how on one occasion, when on the circumnavigating tour of H.M.S. *Challenger*, a number of cockroaches took up their abode in his cabin and devoured parts of his boots, "nibbling off all the margins of leather projecting beyond the seams on the upper leathers." He further records: "One huge winged cockroach baffled me in my attempts to get rid of him for a long time. I could not discover his retreat. At night he came out and rested on my book-shelf at the foot of my bed, swaying his antennae to and fro, and watching me closely. If I reached out my hand from bed to get a stick, or raised my book to throw it at him, he dropped at once on the deck, and was forthwith out of harm's way. He bothered me much, because, when my light was out, he had a familiar habit of coming to sip the moisture from my face and lips, which was decidedly unpleasant, and awoke me often from a doze. I believe it was with this object that he watched me before I went to sleep. I often had a shot at him with a book or other missile as he sat on the book-shelf, but he always dodged and escaped. His quickness and agility astonished me. At last I triumphed by adopting the advice of Captain Maclear and shooting him with a pellet of paper from my air-gun, a mode of attack for which he was evidently unprepared."

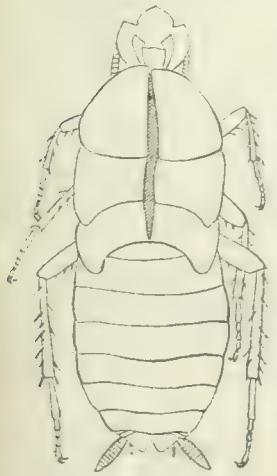


FIG. 1.—Cast skin of older nymph (pupa). × 2½.

It is on record that cargoes of cheeses have been destroyed by cockroaches on ships. Not only do they devour great quantities of each cheese, but these insects defile every one of them with a very tenacious fluid which has a most disgusting smell. This the cockroaches pour out from their stink-glands, making the cheeses of no commercial value.

When a cockroach casts its skin a median longitudinal slit appears on the back of the thorax, and through this slit the insect slowly emerges. With much labour and difficulty it squeezes its body through and pulls one limb after another from its old integument, until at last even the long whip-like antennae are completely withdrawn. Certain portions of its inner anatomy, such as the lining of parts of the breathing tubes, or tracheae, are also left behind. Should the discarded skin not be eaten by the emergent insect, it remains on the floor and might easily be mistaken for a sedentary cockroach but for the fact that live cockroaches never are sedentary.

The incomplete metamorphosis, the generalized character of the nervures of the hind wings, the complete separation of the three thoracic segments (or rather their want of fusion so conspicuous in the higher insects—the flies and the bees), and the undifferentiated condition of the mouth organs, all point to the insect being of a primitive type. But there is no doubt that, whether a primitive insect or not, the cockroach is a very successful one; it is *an arriviste*—as "our lively friend, the Gaul," to quote Mr. Micawber, would say—probably owing to its attaching itself in all cases, and with unvaried devotion, to the habitation of men. Not popular with humanity, it nevertheless ceaselessly extends its domain by slowly yet surely entering into new and hitherto unconquered human habitations. In spite of insect traps and vermin killers, it is extremely difficult to eradicate from a house when once it is well established. It has, in fact, gradually dislodged in most places in Great Britain and Ireland the old domestic

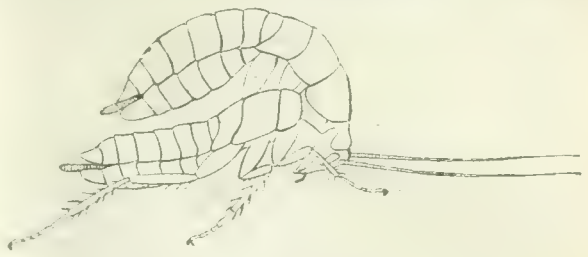


FIG. 2.—Nymph (in last larval stage) escaping from old skin. Magnified.

house-cricket. For in spite of its irritating, and to some people quite maddening, ticking, the "cricket-on-the-hearth" has somehow established itself as a household pet, and one that has won not only our respect but our affection. So curious is our psychology.

"The cockroach has many enemies, and the genus *Sphex* (or *Chlorion*) may be seen hunting about here and there, up and down the roadside and gardens, searching for its favourite prey. It spies out a cockroach, which appears to know intuitively that there is danger at hand, for it shows symptoms of great fright, and seems so confused that it cannot run away. The *Chlorion* pounces upon the insect, clasps it with its mandibles between the head and the corselet, and stabs it in the body with the sting. Then it flies off for a little distance, and awaits the effects of the poison thus introduced; and when the convulsions of the victim have ceased, the clever little insect seizes its stupefied prey, and drags the heavy burden with great efforts to its nest. Usually the opening of the cavity is so narrow that the cockroach cannot be got in, for its legs and wings stick out and prevent its introduction. But the *Chlorion* sets to work and cuts off the legs and the wings, and having thus lessened the difficulty, it strives hard to push the body into the hole, but as this plan usually fails, the hymenopteron enters first of all, seizes the cockroach with its mandibles, and drags it in with all its force. As the integuments of the *Blatta* are more or less soft and flexible, the great insect is at last forced into the gallery, where it never could have been expected to have entered. Such proceedings on the part of the *Chlorion* almost verge upon the domain of reason; and it is difficult to explain them by the notion of that very indefinite quality called instinct, for the manœuvres vary according to circumstances, and there appears to be an intelligent method of overcoming every difficulty."[1]

Apart from animals which eat it, there are a number of parasites which infest it, beginning with the parasitic beetle *Symbius blatterum*, whose wingless females attach themselves to the bodies of the cockroaches and feed upon their tissues. Then occasionally a round-worm, *Filaria rhytipleurites*, whose sexual stage is passed in the rat, is found in its larval stage in the fat bodies of the cockroach.

Two years ago Dr. C. Conyers Morrell undertook some investigations and observations as to what part, if any,

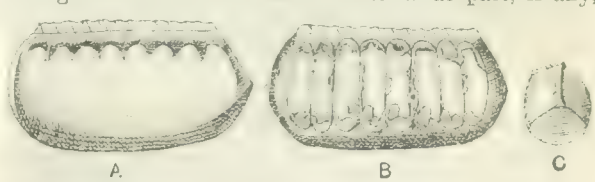


FIG. 3.—Egg capsule of *P. orientalis* (magnified). A, External view; B, opened; C, end view.

cockroaches played in the dissemination of pathogenic microbes, his object being, as he says, "first to ascertain what bacilli belonging to the colon group are likely to be conveyed to food and milk by this insect, and secondly to find whether known bacteria and moulds can be transmitted by the faeces." Dr. Conyers Morrell's experiments were conducted on one of the Union-Castle liners sailing to South Africa, and the insects which were investigated

were collected only from the larder or passages adjacent to the kitchens; in no case were they taken from lavatories or from state-rooms. The general condition of the ship, which was almost new, was one of exceptional cleanliness, and thus afforded good conditions for the experiments. Dr. Morrell was of opinion that there was little danger except by contamination from the faeces of the infected insect.

One of his first experiments was to prove that should cockroaches fall into the dough which was being baked for bread the heat of the baking entirely destroyed the bacilli that were in the alimentary canal of the insect. With regard to infection with the colon bacillus he kept an infected insect under the best antiseptic conditions he could compass until it had passed some undigested food. Of this undigested food an emulsion was prepared, and cultures were made from it on bile-salt medium and in litmus-milk. Afterwards special cultures were made in gelatine and peptone solutions. Incubation was conducted in all cases at 37° C., and cultures were made from seventeen specimens. Five of these produced colonies of bacilli on the bile-salt medium, with subculture results as follows: Four produced acidity and clotting of milk, acid and gas in glucose, lactose and saccharose, and production of indol. But the bacilli did not liquefy gelatine, and were Gram-negative. One specimen produced gas in glucose and lactose and liquefied gelatine and coagulated milk. The former in its reaction corresponded with the *Bacillus lactis aërogenes*, the latter with *Bacillus cloacae*. In five cases greenish moulds of the aspergillus variety were found after inoculating litmus-milk.

Cockroaches will devour human sputum with avidity, and are frequently to be found in spittoons (or, as the more delicately minded American calls them, "cuspidors"), and it is interesting to know that after feeding the insects on infected sputum from a tuberculous patient, the tubercle bacilli are found in the faeces within twenty-four hours; two specimens which had been fed on staphylococci showed these pathogenic organisms in their faeces and in the cultures on agar-agar, which were obtained from these dejecta.

I have quoted largely from this important paper, and now propose to quote a good deal more, and thus I append Dr. Conyers Morrell's conclusion of the important experiments he conducted on the Union-Castle liner.

"The foregoing experiments, though insufficient in number to afford a basis for working out percentage results, are, I think, of some value, in that they prove the following facts:

"The common cockroach is able by contamination with its faeces (1) to bring about the souring of milk, (2) to infect food and milk with intestinal bacilli, (3) to transmit the tubercle bacillus, (4) to disseminate pathogenic staphylococci, (5) to transmit from place to place destructive moulds.

"These facts, taken in conjunction with the life-habits of the insect, lead to the conclusion that the cockroach is able to and may possibly play a small part in the dissemination of tuberculosis, and in the transmission of pyogenic organisms; that the insect is in all probability an active agent in the souring of milk kept in kitchens and larders; and that it is undoubtedly a very important factor in the distribution of moulds to food and to numerous other articles, especially when they are kept in dark cupboards and cellars where cockroaches abound. The distribution and numbers of the cockroach are rapidly increasing, and unless preventive measures are adopted the insect is likely in the course of time to become a very troublesome and possibly a very dangerous domestic pest."[2]

REFERENCE.

[1] *The Transformation of Insects*, by P. M. Duncan. London: Cassell, Petter, Galpin and Co., 1882. [2] BRITISH MEDICAL JOURNAL, 1911, ii, p. 1531.

THE next Ophthalmological Congress will be held at Oxford on July 15th and 16th, when a discussion on industrial diseases and accidents will be opened by Dr. Frank Shufflebotham. The honorary secretary of the congress is Mr. Bernard Cridland, of Wolverhampton.

THE Georgia State Sanitarium at Milledgeville has been chosen by the United States Government as a station for experimental work on pellagra. The patients will be separated and kept under special treatment—carried out under the charge of two experts of the United States Public Health Service.

A CASE OF TETANUS TREATED BY INJECTIONS OF CARBOLIC ACID.

BY

PURVES STEWART, M.D., F.R.C.P.,

AND

J. T. C. LAING, M.B., C.M.,

THE following case of tetanus appears worthy of record, in view of the fact that the disease, in spite of treatment by antitetanic serum, was steadily advancing. In such cases it may be useful to remember that we have other methods of treatment at our disposal.

The patient, aged 27, was an officer who, on October 27th, sustained several shell wounds—one in the right groin, another in the right knee, a third, more severe, in the right hand. The wound of the hand became septic, and appears to have been the point of entrance of the tetanus infection. The patient came under the care of one of us on October 28th, in the Robert Lindsay hospital for officers.

On November 3rd—that is, seven days after the wounds—tetanic rigidity of the jaw muscles commenced. On the same evening he was given a subcutaneous injection of 1,500 units of antitetanic serum. The rigidity continued to spread, and extended to the abdominal and spinal muscles.

On November 4th 1,500 units of antitetanic serum were injected intrathecally by Mr. Tyrrell Gray. The foot of the bed was subsequently elevated for several hours, in order to assist diffusion upwards of the serum. On November 5th a third dose of 1,500 units was given subcutaneously. The patient was also given full doses of bromide and chloral.

Notwithstanding the foregoing measures his condition became steadily worse, and on November 6th the rigidity of the jaws was extremely marked. The teeth could not be separated more than a quarter of an inch. The facial muscles were rigid, with risus sardonicus. The sterno-mastoids were tonically contracted, also the spinal and abdominal muscles, and slight stimuli produced typical tetanic spasms. The patient perspired profusely; his temperature was normal.

At this stage it was decided to commence treatment by means of carbolic acid. Accordingly 2 c.cm. of a 5 per cent. solution were injected hypodermically into the abdominal wall every two hours. Improvement commenced on the same day. The spasms of the jaws, sterno-mastoids, and facial muscles steadily improved. The tetanic spasms diminished in frequency, and on November 7th he had only one spasm, as compared with twelve on November 5th. The carbolic injections on November 7th were reduced in frequency to four-hourly, but on November 8th, owing to a slight recurrence of tetanic spasms, the injections were again increased to two-hourly for a couple of days. The spasms promptly diminished. From November 9th onwards the patient's convalescence was uninterrupted. The thoracic and abdominal muscles were slower than the other muscles in losing their tonic spasm.

On November 12th a diffuse, red, punctate rash appeared in both flanks, apparently a carbolic rash. The temperature remained normal throughout. The urine, which was examined daily, never showed any pigmentation nor the slightest trace of albuminuria. From November 13th to November 18th the injections were reduced to four-hourly. They were then stopped. The patient was discharged on December 5th, completely cured.

This case exemplifies the efficiency of the carbolic acid treatment of tetanus, originally introduced by Baccelli some fifteen years ago. From a study of the statistics of published cases treated by antitetanic serum, the gross mortality varies from 78.9 per cent. in Permin's 199 cases to 61.8 per cent. in Iron's 225 cases. On the other hand, the statistics of the carbolic acid treatment, as recorded by Baccelli, give a gross mortality of 17.4 per cent. in 190 collected cases. These figures are suggestive, and we consider it of the highest importance that cases of tetanus which may occur amongst our wounded officers and men during the present war should be given the chance of this treatment, which in no way supersedes tetanus antitoxin as a preventive, but appears to have certain advantages as a remedial agent once the disease has actually developed. It appears to us that the value of antitetanic serum lies chiefly in its preventive action.

THE New York Rockefeller Institute for Medical Research will receive £40,000 under the will of Mr. Henry Rutherford, to be applied to the investigation of cancer.

A ROENTGEN RAY ASSOCIATION, intended "to improve the practice and study of roentgenology and to form a closer association among roentgenologists or *x*-ray experts," has recently been founded in New York. The founders are Drs. George S. Dixon, I. Seth Hirsch, Adoniram Judson Quimby, William A. La Field, and Archibald P. Evans.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PNEUMONIA FOLLOWING ANTITYPHOID INOCULATION.

IN Sir William Osler's address on "The War and Typhoid Fever," accounts are given of two cases in which lobar pneumonia occurred within twenty-four hours of antityphoid inoculation. In the following case the interval was greater.

Private P., aged 25, received the usual first dose at Codford on October 27th. He became feverish on the following day, and was admitted to the 2nd Southern General Hospital, Bristol, on October 30th under my care. He then had a temperature of 103°, a cardiac rate of 108, and a respiration rate of 26. Physical signs were negative. He remained in this condition until the evening of November 1st, when the respiration rate rose to 36, and on the following morning fine crepitations were heard at the base of the left lung. Consolidation was well marked on November 3rd, and the patient began to cough up rusty sputum, which was found by Captain Fortescue-Brickdale to contain pneumococci, streptococci, and Gram-negative rods. The temperature fell by crisis on November 8th after a severe illness.

Lobar pneumonia thus began on the fifth day after inoculation, and in the interval the patient was continuously feverish though without any abnormal symptoms or physical signs.

F. H. EDGEWORTH,
Captain R.A.M.C.(T.).

Bristol.

INJURY TO HEART WITHOUT FRACTURE OF RIB.

MR. C., whilst getting into his governess cart, struck his chest against the step iron, owing to the pony moving as he was getting in at the back. He complained of pain in the chest after the accident, and also mentioned it at a board meeting which he attended shortly afterwards; he seems to have forgotten all about it until three days later, when he had a fainting attack, and complained of a very acute pain over the region of the apex of the heart.

When I saw him, late at night, he was suffering intense pain over the apex of the heart; he was very collapsed, the pulse was very irregular and almost imperceptible. Early next morning he was still in great pain. There was a distinct but very localized rub at the apex, and the pain was almost entirely confined to this area; there was also very slight discoloration of the skin at this spot. In a day or two the rub ceased, due to slight effusion of fluid. He had several other severe fainting attacks, and later developed some hydrothorax. He died about two weeks after the accident.

Post-mortem Examination.

There was a fair amount of fluid in the pleural cavities The pericardium contained some blood-stained fluid. Situated at the apex of the heart was a ragged depression about the size of the tip of the finger; there was a good deal of lymph, especially near the bruised portion, and spreading up over the surface of the right ventricle; the wall of the heart at the bottom of the bruised indented portion was very thin. I examined carefully for any injury to the ribs, and there was no sign of any fracture or partial fracture.

Evidently at the same moment as the apex of the heart came against the inner chest wall the injury must have occurred, the ribs being rather more elastic than usual for a man over 50.

MAURICE C. BARBER, M.B., M.R.C.S.

Staple Hill.

ACCORDING to the *Cronica Medico-Quirurgica de la Habana* it is reported that the Mexican National School of Medicine has closed its doors.

THE American Medical Association will hold its next annual meeting at San Francisco in the second week of June, 1915.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

GLASGOW ROYAL INFIRMARY.

ACUTE INTESTINAL OBSTRUCTION DUE TO LARGE GALL STONE: REMOVAL OF STONE BY ENTEROTOMY: RECOVERY.

(By JOHN A. C. MACEWEN, M.B., C.M., B.Sc., F.R.F.P.S., Surgeon to the Elder Hospital; Assistant Surgeon, Glasgow Royal Infirmary; Senior Assistant, Regius Professor Surgery, Glasgow University.)

THE patient, a woman of 53, was admitted on August 26th in an almost collapsed condition, with symptoms of acute obstruction. Her condition was such that a history of previous illness was unobtainable, but her friends stated that she had been vomiting very frequently during the previous forty-eight hours, that there was paroxysmal abdominal pain, and that constipation had been absolute in spite of the administration of purgatives. The temperature was 101° F. and the pulse 120.

Vomiting continued, the matter being slightly faecal in character. As the abdominal wall was very fat and the abdomen distended and rigid, no definite information could be obtained by palpation.

In the absence of guiding symptoms an exploratory incision was made in the left iliac region, the presence of carcinoma of the colon in that region being considered probable. A large quantity of glairy fluid, resembling that sometimes found in ovarian cysts, poured out on the peritoneum being opened. As the large intestine was collapsed, the fingers were introduced, and in the region of the umbilicus a hard mass in the bowel was detected. The portion of the bowel was carefully brought down, and with a little difficulty, owing to its size, was brought out through the wound. It was now found that the bowel (ileum) was occupied by a mass about the size of a walnut, which distended the lumen, but was not impacted, it being quite easy to thread the mass from one portion to another. A small longitudinal incision was made, the mass slipped readily out, the bowel was rapidly stitched, the wound packed, and the patient returned to bed.

Notwithstanding the injection of saline solution, and other stimulation, the patient's condition remained critical for some days, but improvement ultimately set in. A noticeable feature was the amount of glairy discharge which came away from the wound, both at the time of operation and for about three weeks thereafter, when it gradually diminished and ultimately ceased.

The stone was of a dark brown colour, friable, laminated, weighed 258 grains, and measured 1½ in. in long diameter, 1¼ in. in short diameter, and 3½ in. in circumference.

The patient's history, obtained after recovery from the operation, was that for some months previous to admission she had vomited about half a pint of yellow bilious matter about once a month, the attacks being accompanied by abdominal pain which sometimes went in sharp spasms through to her back. Two days prior to admission she suffered from an attack of pain in the stomach after a light meal. She took an emetic and vomited, and continued to vomit up to the time of admission.

Remarks.

One would imagine in cases such as this that the passage of a large stone from the gall bladder to the intestine, which presumably occurs by a process of extensive ulceration both of the gall bladder and intestine, would be accompanied by a period of severe illness of considerable duration. Here, however, beyond occasional bilious attacks, the patient felt quite well until a couple of days prior to admission. The period of two days would appear to be too short to cover the process of ulceration of the walls and passage of the stone, and rather to coincide with the obstruction caused by the slow progress of the stone through the intestine.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

At a meeting on December 3rd, Mr. CLIFFORD WHITE showed: (1) An *Ovarian tumour which had been infected with tubercle;* (2) a case of *Interstitial tuberculous salpingitis*, in which tubercle bacilli were found in a small intramural abscess. Dr. MACNAUGHTON-JONES demonstrated a *Myomatous uterus containing large numbers of intramural and submucous growths.* The tumour, which weighed 1 lb. 1 oz., was removed from a patient aged 47. There were three larger intrauterine growths, two in the fundal cavity, and a cervical polypus. Altogether, in this comparatively small-sized tumour, there were from thirty to forty growths, subserous, in the cavity and in the wall. The uterine surface was studded over with them, and its wall was a mass of nuclei. It was noteworthy that the patient sought advice rather for other symptoms than pelvic ones. Only for the past year had she suffered from menorrhagia. Dr. TREVOR B. DAVIES recorded: (1) A case of *Sarcoma of the cervix uteri.* The patient, who was under the care of Dr. T. G. Stevens, was a single woman aged 29. There had been vaginal bleeding for three weeks. The menstrual periods were quite regular. Examination revealed a soft, smooth, rounded, bleeding tumour growing from the anterior lip of the cervix, and filling the upper part of the vagina. The uterine body was normal in size and position. A hysterectomy was performed, the vagina being divided well below the growth. Microscopically, the appearances were those of a spindle-celled sarcoma. (2) A case of *Sarcoma of the broad ligament.* The patient, who was under the care of Mr. Drew, was aged 51, married, and had two children. Menopause one and a half years ago. She complained of pain in the right side of the abdomen running through to the back. In March 1910, Mr. Drew removed an inflamed appendix vermiformis. The appendix-scar was tender, and the right kidney freely mobile. Examination per vaginam showed that to the right of the cervix lay a hard fixed mass the size of a large walnut, which bulged down into the vaginal roof. The uterus was normal in size and position and quite separate from the mass. At the operation a hard swelling the size of a duck's egg was found between the layers of the right broad ligament. It was shelled out with the finger and the broad ligament closed. In less than three weeks another fixed mass was felt in the same position. The tumour was about the size of a Tangerine orange, with a small mass the size of a large cherry projecting from its upper part. Microscopically, the growth was a typical spindle-celled sarcoma composed of large spindle cells arranged in bundles without any fibrous stroma, but with numerous thin-walled blood vessels. Dr. HUBERT ROBERTS showed a case of *Pyometra and cancer of the cervix.* The specimen was removed from a patient aged 62, who had had seven children and two abortions. Menopause seventeen years ago. History of severe haemorrhage three months before admission, and also gushes of putrid fluid accompanied by severe colicky pains. The cervix revealed no ulceration or new growth. The uterine body was enlarged, soft and mobile. During hysterectomy the vagina ruptured and foul material escaped into the pelvis. The lower part of the abdominal wound became infected, but the patient subsequently did well. The specimen showed a tubular solid growth of the whole of the cervix, which extended from the portio vaginalis to the os internum, and was densely hard. The cavity of the uterus was distended with purulent débris. The growth was a squamous-celled epithelioma. Dr. CUTHBERT LOCKYER showed a case of *Double ureter* which simulated a parovarian cyst of the right broad ligament. The specimen was obtained from a patient aged 63, in whom Dr. Routh had noticed an enlarged and tender right kidney for two years previously. Pyonephrosis had been suspected. There was *coli* bacilluria, for which many injections of autogenous vaccine had been given without improvement. A hard, tender, solid lump was felt in the left posterior quadrant of the pelvis. In March, 1914, the patient began to lose blood from the uterus. As the menopause occurred twenty years previously at the age of 43 years, this latter symptom raised the question of malignancy starting in the body of the uterus. At the operation two tumours were found (1) an isolated calcareous myoma adherent to the rectum and to the back of the broad ligament; and (2) above this, and separate from it, a solid tumour of the ovary, which proved to be malignant. The uterus, together with the tumours, were removed. The right broad ligament contained a cystic swelling of the size of an orange. This proved to be a dilated ureter twisted upon itself. In size it corresponded to a distended coil of small intestine. This hydro-ureter was removed; the corresponding kidney was left *in situ*. The contents of the ureter were found after operation to be two calculi (blocking the lower twisted portion) and foul stagnant urine. Six weeks later a perinephric abscess was opened, since when the kidney had given no trouble. The cause of the uterine haemorrhage was two myomatous polypi and endometrial hyperplasia. The uterus was not malignant. Dr. HERBERT SPENCER read a communication on a case of *Extensive cancer of the cervix with pyosalpinx, well seven years after Wertheim's hysterectomy.* The patient was aged 28. The cervix was occupied by a large ulcerated growth as big as a small apple, which distended the vagina. The uterus was fixed by thickening in the left broad ligament and the left sacro-uterine ligament; the thickening was not nodular. Operation was performed at University College Hospital on February 16th, 1907. The cervical growth was first curetted and cauterized, and several protruding masses were cut off with scissors. A solution of formalin (10 per cent.) was then applied. The operation was rendered difficult owing to the presence of bilateral pus tubes, which were adherent to the pelvis and rectum. The separation of the left ureter was also difficult. No glands were removed. A small abdominal drain was used. Urine escaped by the abdominal drainage tube for a few days, and afterwards by the vagina. The patient recovered and left for Canada, where a vesical fistula was found and closed by Dr. Marlow of Toronto. Dr. Spencer examined the patient every year for four years after operation and found no recurrence. In a letter from Canada, dated March 24th, 1914, the patient reported herself as in the best of health. Mr. THOMAS G. STEVENS read a communication on two cases of *Hysterectomy for ante-partum haemorrhage:* (1) Central placenta praevia in a patient, aged 37, twenty-eight weeks advanced in her twelfth pregnancy. She was admitted to Queen Charlotte's Hospital at 1 a.m., having had a severe blood loss the evening before. The os uteri was found to admit two fingers, and the whole lower uterine segment was covered by placenta as far as the finger could reach. A Champetier de Ribes's bag was introduced above the placenta, considerable haemorrhage occurring during the procedure. Subcutaneous saline and morphine, ¼ grain, were given owing to signs of collapse. Seven hours later the bag was expelled, the uterus was in a state of tonic contraction, and the cervix had closed up after allowing the bag to pass. No further haemorrhage occurred. At this point Mr. Stevens saw the patient, and came to the conclusion that hysterectomy without opening the uterus would be the best method of delivery. As the child was already dead, this operation was performed under morphine-atropine open ether anaesthesia, with infiltration of the abdominal wall by urea-quinine hydrochloride. Four pints of saline solution were infused under the breasts during the operation. The operation proved to be very easy, and was practically shockless. The patient made an uninterrupted recovery. (2) External and concealed accidental haemorrhage in a patient, aged 33; about thirty weeks advanced in her ninth pregnancy. She was admitted to Queen Charlotte's Hospital at 4 a.m. with the history of a big haemorrhage at 10 o'clock the previous night. There was no haemorrhage on admission; the pulse was 112 to 120; the patient looked very anaemic, and no placenta could be felt in the lower uterine segment. She was kept quiet in bed, and twelve hours after admission bleeding recommenced. An attempt to introduce a de Ribes's bag failed owing to the rigidly closed internal os. Pituitary extract, ½ c.cm., and a little later morphine, ¼ grain, and 4 pints of saline were given subcutaneously, after which the external bleeding ceased. The pulse, however, was 150, and examination of the uterus resulted in a provisional diagnosis of concealed haemorrhage. As the child was dead, the internal os uteri closed, and the patient in a very serious condition, Mr. Stevens decided to do hysterectomy without opening

the uterus. This was done under morphine-atropine open ether anaesthesia with novocain infiltration of the abdominal wall. The operation was very easy and shockless, the pulse falling from 150 to 134 at the end of the operation. The patient made a good recovery. The reason for the choice of hysterectomy rather than Caesarean section in these two desperate cases was the impossibility of any guarantee that the latter operation could be done without further considerable blood loss. When Mr. Stevens saw the patients there was no possibility of delivery *per vias naturales* without a considerable loss. The actual amount of blood lost during the operation in each case did not amount to 3 oz.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

AT a meeting on November 27th Dr. SOLOMONS showed a *Sarcoma of the uterus*, removed from a woman aged 47, who had been married sixteen years. She had had four children and one miscarriage, the last child eight years previously, the miscarriage six years previously. She complained for a year of difficulty in walking, with pain and tenderness in the lower abdomen. Menstruation had been irregular for the last six months. On bimanual examination the uterus was found to be enlarged by a tumour on the anterior wall. On opening the abdomen extravasated blood was seen, which exuded from the region of the right cornu. He considered that the case was one of sarcoma, and performed Wertheim's hysterectomy. The glands were not involved. The patient made a good recovery. The specimen was examined by Dr. WIGHAM, who reported that the sarcoma was of the large, mixed-celled variety, which had undergone almost complete necrosis with much haemorrhage into the necrotic tissue. Only in the outlying parts, where the tumour was infiltrating the muscle of the uterus, could its structure be made out. Referring to the fact that sarcoma of the uterus was said to be a disease of early life, Dr. SOLOMONS stated that he had now seen a fair number of cases, and all were about the time of the menopause. Remarks were made by Professor A. SMITH, Dr. GIBBON FITZGIBBON, Dr. ROWLETTE, and the President, Dr. M. J. GIBSON; and Dr. SOLOMONS, in reply, said that on the whole he considered the prognosis comparatively good. Sir WILLIAM SMYLY, in showing a specimen of *Tubal abortion*, said it was chiefly a blood clot, and a little fetus, about three-quarters of an inch long, was to be seen in the middle of it. The capsule of the tumour was formed by the extremity of the Fallopian tube and some blood. The patient came into the Adelaide Hospital on October 28th. She was aged 28, had been married three years, and had one child aged 2. She menstruated regularly up to June, missed that period and the two following ones. On August 10th red discharge set in, and after ten days she got pains in the back, and was supposed to have aborted about August 20th. From that time there was continuous red, bloody discharge from the vagina, and she was sent into hospital to be curetted. On examination, the tumour was found on the right side of the uterus, and attached to it by a pedicle. The peculiarity of the case was the small fetus, three-quarters of an inch long. Supposing the pregnancy to date from May, which would have been five months, that would have been a long time for such a small fetus to have remained preserved. The symptoms were those of ectopic pregnancy, but he considered it more likely that the supposed abortion was really an abortion, and that between that and October she conceived the ectopic pregnancy. The case was discussed by Professor A. SMITH, Dr. SOLOMONS, Dr. GIBBON FITZGIBBON, Dr. MADILL, and the PRESIDENT. Dr. E. H. TWEEDY read short notes on the etiology and treatment of *Toxaemic pregnancy*, based on a case of severe hyperemesis gravidarum. Recovery from a very severe and exhausting attack followed on abstinence from all food and the administration of rectal injections of warm alkaline solutions to the amount of 4 pints in twenty-four hours. The processes which normally took place between food particles and their antibodies were undoubtedly interfered with in pregnancy, and it was reasonable to conclude that this interference was connected with the foreign albumin derived from chorionic villi, which was known to circulate in the blood. He suggested that the efforts to neutralize this foreign albumin caused a diminution in the blood of normal food antibodies. Morning sickness was an effort to eliminate food which had failed to combine with its proper antibody. The extent of this failure was the measure of severity in toxaemia. Clinical evidence was convincing that food, even milk, could induce vomiting or convulsions. Injurious consequences of food were not due to (1) irritation or (2) fermentation, but to absorption following the earliest processes of digestion. Carbohydrates and proteins were equally injurious. When it was once admitted that food could to some extent increase the severity of toxaemia, it was not logical to limit the extent of its deleterious action. Dr. FITZGIBBON, Professor A. SMITH, Dr. SOLOMONS, Dr. MADILL, and the PRESIDENT took part in the discussion.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT a meeting held at Sheffield on November 20th Dr. HELLIER (Leeds) exhibited a specimen of *Cystic sarcoma of the uterus* removed from a multipara aged 46, who had noticed a steadily growing lump in her abdomen for fourteen months, until it reached the size of a four months pregnancy. The tumour was removed by supravaginal hysterectomy and was then found to be converted into a multilocular cyst filled with yellowish serous fluid. Dr. GEMMELL (Liverpool) exhibited a specimen of *Fibroids complicating pregnancy*, from a primipara aged 41. It was considered safer for the patient to have the pregnant uterus removed than to wait for Caesarean section. Dr. STOOKES (Liverpool) exhibited a specimen of *Fibroids complicating pregnancy*, from a primipara, aged 30, five months pregnant. The fibroid had undergone cystic degeneration. Mr. W. R. FAVELL (Sheffield) related (1) a case of *Labour obstructed by fibroid*. The patient, a 3-para aged 37, had been in labour for a week, during which time meconium was passed. (2) A case of *Chorion-epithelioma*. The patient was a woman, aged 23, whose only pregnancy ended in a two months abortion in September, 1913. The uterus was removed a year later with mass behind it with a history like ectopic gestation. Later a small bleeding growth in the vagina was removed. The patient was now gaining weight. Mr. MILES H. PHILLIPS (Sheffield) described a case of *Hydrometra* the size of a seven months pregnancy removed from a multipara aged 56, married thirty years. The uterus consisted of a thin-walled cyst lined with columnar cells. The cervix was blocked with fibrous tissue. Mr. W. W. KING (Sheffield) read notes (1) of a case of *Concealed accidental haemorrhage* with haematoma in the broad ligament treated by Caesarean hysterectomy; (2) of *Acute hydramnios* in a 9-para, aged 30, six months pregnant. The symptoms were rapid enlargement of the uterus with great tenderness and abdominal pain. Delivery was followed by severe *post-partum* haemorrhage.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

AT a meeting, on December 8th, Dr. MABEL PAINE read a paper on *Mucous colitis*, giving an account of the etiology, symptoms, prognosis, and treatment of the disease, and laying stress upon the unsatisfactory results obtained by most methods of treatment. Dr. LAURA VEALE described the Harrogate treatment of mucous colitis as carried out since 1905. In 1906, 4,864 patients had come for treatment, 11,706 in 1910, and nearly 20,000 in 1913. The disease was there looked upon as a secretion neurosis, and the points in the treatment were: (1) To obtain a daily evacuation of the bowels; (2) to remove infective material from the bowel by lavage; (3) to alleviate pain; (4) to improve the general health. Irrigation was carried out by means of a bland fluid, after the bowel had been partially evacuated by means of a blue pill at night, and hot, strong sulphur water taken before breakfast. Sulphur water gave rise to copious watery evacuation, caused no griping pain, and could be comfortably taken for weeks; it improved the appetite, stimulated gastric secretion, and acted as a diuretic. Lavage, using 10 to 40 oz. at a temperature of 96° to 102°, was carried out three times weekly for three to six weeks, and was followed by

a sulphur bath and a douche at 110°. The diet found most suitable in Harrogate was one giving rise to a small and non-irritating residuum; vegetable food was put through a sieve, recooked food was forbidden, fat was reduced to a minimum. Moderate exercise was allowed, and a maximum amount of sleep advised. Drugs were seldom used. Haemorrhoids, if present, often disappeared under the treatment, and no enema rash was ever observed. Patients were advised to repeat the course of treatment two to three times, and they could continue the lavage at home, using sulphur water, sulphaqua tablets, or normal saline solution. The condition commonly recurred in the late autumn and early spring, and often commenced with severe diarrhoea. A starch and opium enema should be given, followed by lavage with sulphur or saline. Thus a bad attack could often be warded off. Frequently pelvic disorders were found in connexion with the condition, and if these could be cured the mucous colitis often disappeared. Dr. BARRIE LAMBERT had found that patients complaining of most pain suffered least from toxaemia, and vice versa; the pain and characteristic sensations were quite genuine and not merely neurotic manifestations. The bowel became fixed in a state of spasm, but the abdomen was not generally tender. Discomfort on palpation was often due to displacement of gas and the sigmoid felt like a tight tube. Cure was rare and relapse usual. Abdominal massage was of great value and the patients usually bore deep massage well; the spasm could be felt to relax, especially after vibratory treatment. But although the patient's condition often improved greatly, the signs of the disease usually persisted. Mrs. FLEMMING, M.D., described cases under her care; one was seen four years ago who had passed blood and mucus for six months. On palpation a swelling resembling a tumour of the transverse colon was detected. Laparotomy was performed and the colon was found to be healthy. Gall stones were present and were dealt with. The patient passed no more blood or mucus at the time, but she quickly relapsed and had had frequent attacks ever since. Dr. JANE WALKER had seen several patients cured at Plombières and Harrogate. Good effects could be obtained by the administration of thyroid and from injections of ichthyol (1 drachm to two pints) into the bowel. Some patients could not stand treatment by irrigation. Dr. DOROTHY HARE had obtained one cure by treatment with antistreptococcic vaccine, the patient having remained well until now (nine months after treatment). One case was associated with threadworms and another with appendicitis, removal of the appendix relieving the condition. Dr. MARY SCHARLIEB said that in India mucous disease in children was common; it was tractable and curable. As in adults, it was accompanied by nervous manifestations, such as night terrors, etc. Dr. LOUISA ALDRICH BLAKE described a case of liver abscess recently under her care at the New Hospital for Women. A married woman, aged 34, complained of diarrhoea, which came on suddenly, and continued for a month. She appeared very ill, pale and thin, like a patient suffering from advanced tuberculous peritonitis or ulceration of the intestine. A ridge resembling rolled-up omentum could be felt; temperature was normal, pulse 128. There was resistance and pain over the right iliac region and through a small incision half a pint of clear fluid was evacuated; there was no evidence of tuberculous disease. Adhesions and the presence of the mass like rolled omentum suggested malignant disease. The following day she had an attack of heart failure, and some hours later vomited a small amount of dark blood. At night a second attack of heart failure caused death. *Post mortem* the large bowel was studded with numerous raised ulcers, typical of amoebic dysentery; the liver was enlarged and on section a single abscess was found containing one pint of pus. The small intestine was normal. The patient had never been abroad. Dr. LESBIA LEPPER showed specimens and slides of the case. The liver abscess was in a necrotic septic condition; cultures from the pus remained sterile. No amoebae were found.

DURING the fortnight ending December 17th, 15 cases of plague and 11 deaths from the disease were reported in Mauritius. Since the first notifications of plague in the island this autumn, 46 cases and 38 deaths have occurred.

Reviews.

A TEXTBOOK OF BACTERIOLOGY.

THE fifth edition of Professor HEWLETT'S *Manual of Bacteriology: Clinical and Applied*[1] is, like its predecessors, a mine of useful information. It must be remembered that the pathogenic varieties form but a small class among bacteria. None the less, our knowledge of the pathogenic bacteria, incomplete as it is, includes so vast a mass of information, and such a series of apparently unrelated and isolated observations, that the writer of a comparatively small textbook is faced with no easy task in the selection and arrangement of the more important facts. To this initial difficulty is added the recurrent necessity of revising what has been written in the light of new discoveries and of incorporating the best authenticated of an ever-increasing mass of new observations. These difficulties must be obvious to all who possess even a rudimentary knowledge of bacteriology. But from the point of view of the practitioner and of the student of medicine, bacteriology is an applied science, and it is from this point of view that the author treats his subject. It has been the author's obvious intention to collect from the vast mass of bacteriological literature those facts which it is important for the medical student to know, and in the arrangement of these facts to lay stress on those which have the most direct bearing on clinical medicine and surgery. In the execution of his scheme Professor Hewlett has undoubtedly succeeded.

The utility of the book is increased by the addition of chapters dealing with various subjects which seem to have come by general usage within the province of the bacteriologist. The sections dealing with the facts and theories commonly included under the term "immunity," and the summaries of recent additions to our knowledge of the more important protozoan and microzoan parasites, are admirably done. There is an excellent chapter on the bacteriological examination of water and milk, and there is a short account of the mode of action of the more important disinfectants. These sections greatly increase the value of the book to medical officers of health and to those preparing for examinations for a diploma in public health.

The author includes a description of practical methods and brief, but sufficient, as far as written instructions can be sufficient, directions on matters of bacteriological technique. The methods described are well selected, and are those which are in actual use at the present day. They do not include an account of methods and illustrations of apparatus which are no longer in common use. The older methods have, no doubt, an historical value, but their inclusion in textbooks of an elementary nature is undesirable from the practical point of view. In a work of this size it would be unreasonable to expect a complete bibliography, but the references given are singularly well chosen and will be found of great use by those who wish to extend their studies. The book is very readable, and the information is given in a very pleasant fashion. The author is to be congratulated on the skill with which he has accomplished a task of no little difficulty.

THERAPEUTICS OF THE CIRCULATION.

THE second edition of Sir LAUDER BRUNTON'S *Therapeutics of the Circulation*[2] differs in many points, both in form and substance, from the first. The matter has been largely rearranged, many new paragraphs added, and the division into chapters instead of lectures adopted, but the salient characteristics remain unaltered. The first six chapters deal with the physiology of the circulation; a couple of paragraphs have been introduced dealing with venous tracings, and short accounts are given of the string galvanometer and the normal electro-cardiogram, but there is no discussion of the results which these two methods of

[1] *A Manual of Bacteriology: Clinical and Applied.* By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H.Lond. Fifth edition. London: J. and A. Churchill. 1914. (Demy 8vo, pp 678; 25 plates, 66 figures. 10s. 6d. net.)

[2] *Therapeutics of the Circulation.* By Sir Lauder Brunton, Bt., M.D., D.Sc., LL.D.Edin., LL.D.Aberd., F.R.C.P., F.R.S. Second edition. London: J. Murray. 1914. (Fcap. 8vo, pp. 560; 111 figures. 5s. net.)

investigation have yielded in elucidating the mechanism of the various forms of cardiac irregularity. After three chapters on the pathology, symptoms, and diseases of the heart and circulation, the remaining ten are devoted to the treatment of cardiac and circulatory disorders, the mode of action and the various drugs and agents employed. The book is eminently readable and contains a large amount of information, many interesting historical references, and much shrewd advice on therapeutics. The author's own work and experience are brought prominently before the reader, who cannot but feel that the methods of treatment discussed are the outcome of long personal observation.

The medical press has from time to time during the last five or six years published several communications from Dr. ARTHUR GOULSTON on this subject, and he has at length embodied them in a book entitled *Cane Sugar and Heart Disease*.[3] He says that thirteen years ago his attention was directed to the failing hearts of old age, and he came to the undoubtedly correct conclusion that the state of the muscular wall of the heart was the main factor in producing the symptoms which were present. He knew that in the German army sugar was given to soldiers as an emergency ration to be used when considerable muscular exertion would be demanded of the men, and that Alpine climbers found sugar most sustaining. He tried it at first as a forlorn hope, selecting absolutely pure cane sugar for the purpose, and the treatment was so successful that he was induced to give it a continued trial in all cases in which he diagnosed or suspected the existence of myocardial weakness or degeneration. He gives as much as two, four, or six ounces of sugar daily; the whole daily dose is dissolved in hot but not boiling water, and taken at the patient's convenience during the day, or part may be taken in tea, coffee, cocoa, or milk, or with puddings, fruit, or spread upon bread and butter.

He recommends that the patient should begin with a smaller dose and gradually increase the quantity. He considers it essential that the sugar should be cane sugar, which according to Abderhalden is not attacked by the lactic acid ferment of the intestine. He has found very little trouble from gastro-intestinal irritation, but where the taste nauseates he suggests the addition of a little essence of ginger or powdered ginger. He has not found the cure of any use in true angina pectoris. He supports his thesis by relating the histories of twenty patients who have derived benefit from the treatment, a good many not having been under his care but have been communicated to him by other practitioners who have heard or read of the method and have given it a trial. The kinds of sugar which he recommends are "Glebe" granulated cane sugar, brown Barbados and East Indian sugar; he thinks it necessary to avoid beet sugar. As a rule he starts with 2 oz. daily for the first week, increasing the quantity to 3 oz. in the second week, and 4 oz. in the third week, the last dose being maintained unless some special feature in the case suggests an increase in the quantity. He refers to one instance in which 8 oz. were given with "a surprisingly successful result," but he admits that as a rule with these large quantities there is a danger of most distressing vomiting. He does not confine his treatment altogether to cane sugar, using digitalis and "diuretics" as well, but does not specify those he prefers. He condemns the use of alcohol as a beverage with the exception of "Plymouth gin," which may be given well diluted as a diuretic. While the treatment is being pursued it is not desirable to take sharp acids, such as vinegar or lemons or effervescing drinks. The author has not seen any bad effects in rheumatic or gouty subjects, and has never detected sugar in the urine. The number of cases given is small, and the facts are not so fully stated as to make the diagnosis always beyond question, but the result remains that in a number of persons who were suffering from symptoms indicative of heart failure from old age, over-strain, or chronic valvular disease, benefit was derived from the persistent use of sugar in these large quantities. We are sorry to see that the author should write of "Bailey's pill" as if he did not know that this pill is generally ascribed to the celebrated physician and pathologist, Dr. Matthew Baillie. In another place he speaks of Apostoli's treatment for fibroids as "Epistolary treatment," but this is possibly only a poor joke at the expense of the patient.

[3] *Cane Sugar and Heart Disease.* By Arthur Goulston, M.A., M.D.Cantab. London: Baillière, Tindall and Cox. 1914. (Demy 8vo, pp. 115. 5s. net.)

THE DECLINING BIRTH-RATE.

STUDENTS of the population problem will welcome Miss ETHEL ELDERTON'S important contribution to the literature of the subject.[4] Her work comprises a detailed study of the birth-rates from 1851 to 1906, in all English registration districts north of the Humber, diagrams and statistical constants show the actual changes, potential birth-rates are calculated for comparative purposes, and much information respecting housing and industrial conditions is provided. A special feature of the book, which must have involved an immense amount of labour, is the inclusion of reports received from local residents in several of the districts studied.

The general conclusions drawn from the results of a careful analysis of the data are not particularly novel, but this fact in no way diminishes the value of Miss Elderton's work. She finds that the decline of the birth-rate is far greater than could be accounted for by changes in the age distribution of married women, and that this must be largely attributed to the employment of means to prevent conception or destroy its fruits. Even apart from the direct evidence of local correspondents—which, however graphic, is beyond the reach of cross-examination and may be tinged by personal predilections—there are the highly significant facts that the decline has in most cases been greater in districts where the standard of life has been above the average, and that it is associated with diminishing opportunities for the employment of child labour and increasing discussion and dissemination of means to prevent or terminate pregnancy. A good deal of evidence is adduced to show how widespread is the demand for abortifacients or reputed abortifacients, and the following pungent observations of a working class woman in York are worth quoting:

> Six out of ten working women take something, if it is only paltry stuff . . . One tells another. There's no hawking here; it's all done in secrecy . . . Sometimes they can take a druggist's shop and it does no good . . . the child comes just the same; but it's puny, it's half-starved . . . I knew a child, nine months, only weighed about four pounds; they kept it alive the twelvemonth, then it died. The mother died too . . . She'd been taking all sorts, and she went into a rapid consumption . . . more than half the consumption in our class is due to that and nought else . . . You see its not like the rich folks that can support themselves with all kinds of luxuries and good food when they bring on these mishaps. And they can go to private homes and pay endless . . . Our folk go on taking what weakens them, and they can't make up for it like the rich. One woman said to me, "I'd rather swallow the druggist shop and the man in't than have another kid." She used to boil ten herbs together, I forget the names on 'em now, mixed up with gin and salts . . . and take a glassful every morning after breakfast. It ran her tenpence a pint . . . I mind saying to her: "Whatever is't a boiling?"—nauseous stuff it was. And she told me, and I said, "Thou wants a blooming job to sup that hot . . . If I supped it I should think I was ready for my box!"

Miss Elderton warmly supports the plea of Sir Thomas Oliver which was recently published in our columns (1913, i, p. 1199) for drastic reform and, whatever difference of opinion there may as to the general subject of restricting the size of families, no medical men will dissent from the view that the ease with which abortifacient drugs can be procured by the public is a national disgrace.

With regard to means of preventing conception, although Miss Elderton thinks that police action might be beneficial in the case of shops which also openly display purely pornographic literature—as notoriously happens in hundreds of instances—she is under no illusions as to the difficulty of checking a social habit regarded by many as both moral and desirable. Her remedy is to discover a real statesman who will devise means of rendering healthy children not burdens but welcome possibilities and who will enforce the view that such children are the foundation of national greatness and the price of empire.

In a work of this kind, which aims at a recital of facts

[4] *Report on the English Birth-rate. Part I. England North of the Humber.* By Ethel M Elderton. London, 1914, pp 246, with two diagrams and twenty plates. (Eugenics Laboratory Memoirs XIX and XX, published by Dulau and Co. Price 9s. net.)

and their analysis, the writer naturally does not provide a full discussion of the various means by which economic pressure upon large families might be relieved, but she deserves credit for her insistence upon the economic difficulties of the situation as it appears to parents or would-be parents. No wise man underrates the value of emotional stimuli, but he is a foolish one who overlooks the fact that much, perhaps most, of the present restriction is due neither to selfishness nor love of ease, but to the great and ever-increasing difficulty of providing children with an adequate start in life.

Miss Elderton naturally makes wide use of the statistical methods associated with the school to which she belongs; but a liberal supply of diagrams enables a reader unfamiliar with coefficients of regression to follow all her main arguments. The birth-rate is based upon the numbers of married women aged 15 to 55, and compared with potential rates determined by the method devised by Professor Tait and published in Dr. Matthews Duncan's classical work, *Fecundity, Fertility, and Sterility*. Since Newsholme and Stevenson's method of correcting birth-rates is now extensively employed, it would have rendered comparisons slightly more convenient had Miss Elderton also adopted it, but she no doubt had valid reasons for choosing the course actually followed. We unhesitatingly commend her work to the notice of our readers, and congratulate her upon its completion.

NOTES ON BOOKS.

AMONG the many minor discomforts endured by our troops at the front not the least are those arising from their inability to converse with the inhabitants of the countries in which they are fighting. To one entirely ignorant of the elements of French the *Soldiers' English and French Conversation Book*,[6] by Mr. WALTER M. GALLICHAN, should prove a valuable help in the linguistic difficulties which must inevitably occur between people unable to communicate with each other except by signs. The author, with great judgement, has not attempted to deal with grammatical rules, but has confined himself to lists of such words and phrases as are most likely to meet the requirements of a soldier on active service in a foreign country. These are arranged under such headings as "Billeting," "Transport," "Convoy," "Trenches," etc., and at the same time an attempt has been made to give a phonetic rendering of the correct pronunciation of each word. The contents of Mr. Gallichan's useful book should be easily mastered by any one anxious to obtain, within a short space of time, a working knowledge of simple conversational French, whilst the book itself is small and light enough to be carried without inconvenience in the pocket.

[6] *The Soldiers' English and French Conversation Book.* Containing hundreds of useful sentences and words; enabling the British soldier to converse with the French and Be gian allies, with the correct pronunciation of each word. Vocabulary of every-day words. Compiled by Walter M. Gallichan. (T. Werner Laurie, 8, Essex Street, London, W.C. 1914. Pp. 142. 7d. net.)

THE ORIGIN AND DEVELOPMENT OF THE RED CROSS.

(Concluded from p. 1067.)

ITALY.

IN 1864 Italy adopted the Geneva Convention. When the unification of the country was accomplished committees were formed in the principal cities, and they combined to form the Red Cross Association. This society was publicly recognized by law on March 30th, 1882.

The Italian Red Cross was the first, or one of the first, of the National Red Cross societies to become organized in close touch with the military authorities and under their inspection and control.[1]

It takes part in the sanitary service of the army by providing war hospitals organized on the same lines as the field hospitals of the army and by supplying hospital trains and railway station infirmaries. It collects and distributes gifts intended for the army. Moreover, it arranges for the supply of information to those who make inquiries as to the fate of soldiers at the front. The association can recruit its personnel only from those free from liability to military duty, or from the national militia. The President of the Central Committee is appointed by the King upon the recommendation of the Ministers of War and Marine. On mobilization this president is recognized as the sole representative of the association with these Ministers. The commissaries of the association delegated to armies are placed under the orders of the Army Intendant. Each of the twelve army corps districts has a district or regional Red Cross Committee, and each coastguard district has a special subcommittee. The presidents of the district committees are in close touch with the generals commanding the army corps, and under the district committees there are sections, local or communal societies, or committees, which are in touch with the generals commanding the military division. Altogether there are 222 such branches, with eighty-nine ladies' branches. They maintain dépôts in each of the military districts. Should the occasion arise, the association can place at the disposal of the Minister for War eight hospitals of 100 beds, forty-one hospitals of 50 beds, which in need could be raised to 100 beds each, fifty-four mountain ambulances, 244 railway station dispensaries, fifteen hospital trains, two river ambulance boats, two hospital ships, besides eight large dépôts of stores. The personnel are given as much practice as possible, and for this purpose takes part in the autumn army manœuvres. In 1900 it mobilized six war hospitals, one mountain ambulance, and sections of hospital trains (Sicily and Bari). In 1902 the Italian Red Cross Association had 25,000 members, and possessed funds and material to the value of £268,953.

In addition to its other work the Italian Red Cross conducts an organized campaign against malaria. Since 1899 eight of its ambulances have been employed in the most fever-stricken parts of the Campagna. It does similar work in Sicily and in Sardinia. The President of the Italian Red Cross is Count della Somaglia, and its Medical Inspector-General is Professor P. Postempski, of Rome.

The Association of the Italian Knights of the Order of Malta is an independent organization which exists for the same object as the Red Cross Society. It is governed by a committee, the president of which in war time becomes its commander, and represents it with the Minister of War. The commander, with the consent of the Minister, appoints a delegate, who accompanies the army in the field and places himself under the order of the Intendant-General. The personnel wear the Geneva and the Maltese crosses. The association has organized three hospital trains, each accommodating 280 wounded.

SPAIN.

Among the other influential persons whose sympathies with his philanthropic schemes Dunant sought to engage when he was in Berlin in 1863 was the Count de Ripalda, a Spanish senator, who promised to lay his views before the Queen of Spain. Soon afterwards Queen Isabella gave her patronage to the work, and charged the Count de Ripalda to form a permanent committee in Madrid. The Infante Don Sebastian, as Grand Prior of the Order of St. John of Jerusalem, was authorized to give his adhesion in his own name, and in the name of the hospitallers. Surgeon-Major Don Nicasio Landa y Alvarez de Carvalla represented Spain at the Conference of Geneva. By a decree dated July 6th, 1864, Her Catholic Majesty recognized the neutralization of the wounded and of those who worked in helping them.

The Spanish Red Cross Society, which is organized on very similar lines to that of Italy, was recognized in 1864 and in several subsequent official decrees as a civil society. Its relations with the army and navy are governed by the Royal Decree of 1902 and 1903. It has important ambulance groups arranged in brigades and divisions. The personnel are exercised at military and other manœuvres and do much good work in cases of public calamity. In 1898 an auxiliary corps of cyclists was organized by the society for the purpose of bringing aid to the sick and wounded and conveying them to ambulances.[2]

UNITED STATES.

It has already been stated that an independent organization for the aid of the wounded came into existence in America during the Civil War. An account of the work of the Sanitary Commission was given in the JOURNAL of October 10th, p. 633. In the report of a committee "on

[1] The "Rôle of the Red Cross Societies in Peace and in War," by Lieutenant-Colonel (now Surgeon-General) W. G. Macpherson. *Journal of the Royal United Service Institution*, November, 1907.

[2] Macpherson, *Journal of the Royal United Service Institution*, November, 1907.

the organization of the American Branch of the Red Cross Association and its status in connexion with the medical department of the National Guard and U.S. Army" published in the *Proceedings of the Fifth Annual Meeting of the Association of Military Surgeons of the United States held at Buffalo, N.Y., May 21st, 22nd, and 23rd, 1895 (Cincinnati, 1896)*, it is stated that the United States was slow to accept the articles of the Geneva Convention. The Civil War was then raging and the country had its attention fully occupied with its own affairs. Accordingly no delegates were sent to Switzerland. At the second International Convention held in Paris in 1868 the United States was represented by the Rev. Dr. Henry Bellows, Chief of the Sanitary Commission, but no official action was taken on his presentation of the articles to the State Department. In 1870, however, the American Colony in Paris decided to organize an American Red Cross Ambulance, and a Committee, of which Dr. Thomas W. Evans was chairman, was formed to carry the scheme into effect.

In response to a request the United States War Department promptly sent hospital tents to the Paris Committee, but outside of this Governmental contribution nothing was sent from the United States for the equipment of the ambulance. While it was in process of organization the German armies invested Paris, and the ambulance had to be converted into an establishment illustrative of the American field division hospitals as they existed during winter quarters in the army of the Potomac. Dr. Marion Sims was at first in charge, but during the active service of this American field hospital Dr. John Swinburne was its chief. As it was the only hospital under canvas in Paris during the siege it attracted considerable attention.

During the Franco-Prussian war Miss Clara Barton, an American lady who had given her life to labours in the cause of philanthropy, took an active part in the work of the relief associations in the field. Shortly before the outbreak she became acquainted with the history of the Convention of Geneva and the excellent results that had been accomplished under its terms in 1866. Thenceforth she devoted her energies to bring the United States into official brotherhood with the nations that had accepted the treaty, and on her return from Europe she made several efforts to have the articles of the Geneva Convention officially recognized by the United States Government. It was not till March, 1882, that she succeeded.

Up to 1905 the American Red Cross, however, existed as a private organization conducted by a few well meaning individuals. In that year it was reincorporated by Act of Congress.[3] By that Act the American Red Cross is designated as the organization which is authorized to act in matters of relief under the treaty of Geneva. Provision is made for a central committee, the governing body, which is empowered to organize State and territorial associations, which are the branch societies. The Act states that as soon as six branches have been formed the central committee shall consist of six persons appointed by the incorporators, six by the representatives of branch societies, and six by the President of the United States, one of whom shall be designated by him as Chairman, the others coming from the departments of State, War, Navy, Treasury, and Justice. The Act provides, further, that the funds of the association shall be audited by the War Department. Shortly after the Act was passed the Board of Incorporators held its first meeting, and elected as its President the Secretary of War. The Central Committee elected a distinguished and energetic executive committee. A beginning was soon made in organizing branch societies, the committee endeavouring in all cases to secure as organizers representative men and women of the various States and territories. A Board of Consultation composed of the surgeons-general of the army, the navy, and the marine hospital service, was created at the first annual meeting of the Red Cross. In 1907 the branch societies were over thirty in number instead of eighteen as at the first annual meeting, and they had all enlisted the aid of prominent persons in their own localities. At the first annual meeting it was reported that 3,337 members had joined. In December, 1906, these had increased to over 9,000, and there were 133 doctors and 121 nurses registered at the branch societies. An active propaganda is conducted by means of lectures and a quarterly bulletin.

The association has declared official a textbook on first aid, prepared by Major Charles Lynch, of the United States army. The relief columns consist of members of the Red Cross, organized in detachments (twenty-two officers and men), columns (four detachments), and legions (four columns). The entire force is designated a Grand Legion of the Red Cross. A detachment is commanded by an assistant director, a column by a director, and a legion by a director in chief. The two latter must be regularly qualified practitioners in their respective States. The women are organized as a nurse corps auxiliary.

The American Red Cross Association has done excellent work in the relief of sufferers from disasters in various parts of the country—in Michigan during the forest fires of 1881; in South Carolina after the earthquake of 1886 and the tidal wave of 1893; in Texas during the drought of 1886, after cyclones in Mississippi and Illinois, and during the floods of the great river valleys. It is rendering splendid service in the present war without regard to the nationality of belligerents.

Other Countries.

In Belgium, Holland, Switzerland, and, in fact, all the countries of Europe, official recognition and encouragement are given to Red Cross Societies, to induce them to become organized in time of peace on lines that will enable them to dovetail into the army medical organization in war, and thus relieve that service of a considerable amount of anxiety in its responsible function of providing for the care of the sick and wounded.

[3] The Enno Sando Prize Essay: What is the most effective Organization of the American National Red Cross for War, and what should be its Relations with the Medical Departments of the Army and Navy? By Major Charles Lynch, Medical Department and General Staff, United States Army. Published in the *Military Surgeon*, Journal of the Association of Military Surgeons of the United States. Vol. xxi. 1907, p. 397, et seq.

POISONING BY TETRACHLOR-ETHANE.

The results of important investigations by the Medical Department of the Home Office into the toxicity of the vapour of tetrachlor-ethane were given at an inquest held by Mr. C. Luxmoore Drew, Coroner for the Western District of London, in Marylebone, on December 19th. The inquiry had been adjourned owing to unusual circumstances attending the death of a french polisher, named Gilbert Moody, employed at an aeroplane factory at Hendon, Middlesex.

From the preliminary evidence given by fellow-employees it appeared that one of the duties of the deceased in the course of his employment at the Aircraft Company's Works, Hendon, was to help in applying to the parts of aeroplanes a varnish bearing the trade name of Emaillite. The deceased complained at times—as others did—that the smell of the material affected him. The witnesses agreed that the fumes left an unpleasant taste in the mouth, especially noticeable on waking in the morning. The deceased developed jaundice, and attributed it to the vapour from the varnish. He had begun to work at the factory in August, when pressure of work owing to the war caused a large increase in the output of the factory and in the staff. He left about the middle of October, when, according to the manager, he looked very ill. At about this time, also, other workmen developed jaundice. It was noticed by the smell that the vapour from the varnish hung about in invisible clouds, so that one would walk into a patch of it quite a long distance from the place where it was being applied; also that the smell was much less noticeable at higher levels. The building was a large one, without partitions, and the material was applied in one corner of the premises.

Henry Bailey, sales manager to the British Emaillite Company, 30, Regent Street, London, W., said the company had been manufacturing different grades of this material for the last two years. Similar solutions were used in the manufacture of cinematograph films. There had been one other complaint with regard to the material prior to those now made. In July, 1913, the company was told that the varnish affected the eyes of the workmen who applied it, and caused ulcers under the eyelids. Another ingredient was substituted for the one which was supposed produced the condition. This was the first time it had been suggested that the fumes caused jaundice.

Dr. F. W. Andrew, M.O.H. Hendon, said his attention had been drawn to the occurrence of 13 cases of jaundice amongst workers at the aircraft company's factory. Eleven of the men affected had nothing to do with the application of the varnish. In the adjoining parish, and at Finchley, there were cases of jaundice in the schools, and on inquiry he found that the local practitioners had treated 23 cases of jaundice in children. The two outbreaks appeared to be quite distinct.

Dr. W. H. Willcox, physician to St. Mary's Hospital and official analyst to the Home Office, said that on November 5th the deceased attended at his out-patient department for examination. The man was suffering from jaundice, and said he had had it for fourteen days; he had suffered from nausea and sickness in the mornings. His stools had been pale and the urine dark brown in colour. He said he had had no severe abdominal pain, but slight pain in the upper part of the abdomen. The temperature was 99.6° F., and the pulse 96. The liver was enlarged, but there was no sign of anaemia, nor of alcoholic excess, nor of gall bladder disease. Dr. Willcox said that he made a diagnosis of jaundice due to the action of some poison on the liver; he did not see the patient again. On December 4th he was called upon to analyse materials marked, "Dope from Aircraft Works, Hendon." He found it was a compound of cellulose in a mixture of methylated spirit, acetone, benzene and tetrachlor-ethane. He distilled the material, and found that the bulk of the liquid distilled over at between 63° and 80° C. It was volatile, and quickly evaporated, yielding a vapour 1.91 times heavier than air. On visiting the aircraft works he was much struck by the way in which the vapours hung about even at a distance of thirty yards from where the material was being used. This was explained by the fact that heavy vapours only mixed slowly with the air. He decided to make careful animal experiments to determine if any of the constituents of the material were likely to have harmful effects on the liver. White rats were placed on perforated platforms in glass vessels, each containing a different constituent of the material and one the material itself. The rats were kept there for eight hours a day for a week. After being kept in the vapour of the "dope" and of the tetrachlor-ethane the rats became drowsy and remained so after removal for some little time. After an hour or so they fed and became active, but did not gain in weight. In the acetone vapour the animal was drowsy but gained in weight as the week advanced, and became normal at once when removed from the vapour. The same phenomena occurred in regard to the benzene, but in the methylated spirit the animal was not affected. After seven days' treatment the animals were killed, and *post-mortem* examinations were made by Dr. Spilsbury and himself. The rat kept in the tetrachlor-ethane vapour showed marked changes in the liver, signs of fatty degeneration and bile staining. The rat kept in the material itself showed similar liver changes but less marked. In the other rats no changes were present to the naked eye. Dr. Spilsbury made microscopical specimens of the organs. In the rat exposed to tetrachlor-ethane very marked fatty degeneration and cloudy swelling was present in the liver and kidneys. In the rat exposed to the material there was marked degeneration and cloudy swelling exactly similar to the changes produced by the first but not quite so advanced. In the case of rats exposed to acetone, benzene, or methylated spirit no fatty degeneration or cloudy swelling were present; the liver and kidneys were normal. The experiment showed conclusively that tetrachlor-ethane was a powerful liver poison, and that the vapour from the material used at the Aircraft Company's Works was a liver poison because of the tetrachlor-ethane in it. Dr. Willcox recalled the instance in which fatal results followed the use of tetrachloride of carbon at Harrod's Stores in 1909.[1] The substance now under consideration was one of the same series of compounds. He came to the conclusion that the tetrachloride of ethane was a powerful poison, and the experiments on the rats fully confirmed that opinion.

The Coroner: Is the effect in any way influenced by the dosage?

Dr. Willcox: In 1909 I had animals in a known percentage of the vapour of tetrachlor-ethane, and the results showed that the poisonous effects were largely affected by dosage. Poisonous symptoms were caused by a relatively high percentage of vapour in the atmosphere, and the time during which the subject was submitted to the vapour was important. Air containing small traces of the vapour would not be harmful, but air containing appreciable quantities would be harmful, especially if breathed for a long period. Dr. Willcox added, in reply to further questions, that he could not say what percentage would be injurious or safe. If there was not sufficient for the smell to be noticeable the vapour would not be injurious, but he would not go so far as to say that because it could be smelt therefore it was injurious. In the subjects submitted to the vapour there was a remarkable destruction of liver tissue which might be a consequence of preceding fatty degeneration. The liver and gall bladder were reduced in size, and weighed 34½ oz.; there was a condition of subacute hepatitis. That was the condition also observed in the microscopical specimens. It was a result he would expect from exposure to the vapour for a considerable period, especially if the patient lived for several weeks after exposure. The changes took time, and it would be necessary for a patient to live some time after exposure for them to be manifested.

The Coroner: Would the effects of the vapour be lost after a time if a man were removed from its influence?

Dr. Willcox: Not necessarily. If exposed to a great extent the liver cells might be so changed that they died and fibrous tissue took their place. In this case the healthy liver tissue was replaced by fibrous tissue. If a man were exposed, so as to cause slight fatty degeneration and then removed, he would probably recover.

The Coroner: The effect of a long exposure would be a cirrhosis of the liver?—That would be the sequel.

Are you able to state the cause of death?—Yes. I have no doubt that the cause of death was heart failure, consequent on degeneration of the liver caused by tetrachlor-ethane present in the cellulose varnish, to the vapour of which the deceased was exposed during life.

In further evidence Dr. Willcox said he had investigated the other cases affected at the factory. Certain symptoms were common to all: drowsiness while at work, loss of appetite, nausea, vomiting, headache, a peculiar taste and irritation at the back of the throat, jaundice, with pale stools and high coloured urine, constipation generally, and no anaemia. In a few cases the patients became delirious and severely ill. In one case there was conjunctivitis. There was no ulceration underneath the eyelids. In several cases the symptoms disappeared when the patient was absent from work, but on resuming they returned speedily in an aggravated form. In one case, a very severe one—the patient was very ill at the present time—there was much dropsy of the abdomen (ascites), owing to the shrinkage of the liver. He found several of the workers in the factory suffering from unmistakable signs of the onset of the poisoning. They had loss of appetite, nausea, and a tendency to sleepiness. He had no doubt that the illness could be entirely avoided by proper arrangements at the factory; he did not think the deceased would have met his end in this way if he had not been engaged in this particular work. He could not say if age had any bearing on the incidence of the poisoning, but elderly people appeared to be more severely affected. He was sure this was not a contagious form of jaundice; it was not catarrhal jaundice in the ordinary sense; such a patient was only mildly ill. These patients were severely ill; some were delirious, one or two had a slight rise in temperature and a rapid pulse. The two classes of jaundice could be absolutely dissociated.

In reply to Mr. Osborn (who represented the British Emaillite Company), Dr. Willcox said that if proper precautions were taken to get rid of the vapour it would be quite safe to use the material. Now that the cause of the trouble, and the fact that the vapour was heavier than air, were known, he had no doubt that the matter could be dealt with so as to remove the danger completely. Not only the people who had been using the material had been taken ill but men in other parts of the factory also; these were mild cases.

Dr. T. M. Legge, Medical Inspector of Factories under the Home Office, said the premises at which the deceased worked were originally an omnibus dépôt. It was a large

[1] British Medical Journal, 1909, vol. ii, 243.

open shed without partitions, so that it was all open to the same atmosphere. Natural ventilation was arranged for by three lantern openings in the arches of the gables, and mechanical ventilation was installed on the Plenum system, a high-pressure fan driving into the factory air that had been warmed. The installation was well designed. At the time of his visit he understood that the system had broken down—not for the first time. This system of ventilation, though good in ordinary circumstances, was bad in the absence of localized ventilation by fans drawing the fumes away. There should be an exhaust system of ventilation by fans removing a volume of air near the ground level, behind the spot where the material was applied, and no one should be working in the intervening space. The portion of the building where the material was applied should be separated from the rest of the factory and be supplied with air inlets fixed opposite to the outlets to replace the air that the volume fans removed. These precautions would remove any danger from the fumes, but there might be a danger of a mixture of air and inflammable vapours, such as acetone, benzene, and methylated spirit gave off, forming an explosive compound which might be set alight if sparking were possible from the electric motor driving the fan. The motor would have to be explosion proof, or the connexions of the fan should be placed outside. The Factory Department of the Home Office had power to deal with these matters. He found the sanitary accommodation insufficient for the large influx of workmen since the war began. There were four w.c.'s for 400 men; when he went in the vestibule of the lavatory, quite ten men were waiting, and such interference with the bodily functions would naturally lead to gastric disturbance and predispose to the condition set up by the fumes. He understood that a number of the workers had been affected by gastric disturbance quite apart from jaundice, and a number had left without giving reasons because they found the work disagreed with them. If quick drying of the varnish was aimed at, a better system of ventilation would help that, but he thought one point was the maintenance of a temperature of about 65°, and this might account for a system of exhaust ventilation not having been put in.

The Coroner: Were the people in the factory in a healthy condition?

Dr. Legge: No. Questions addressed to the men and women—there were a few women employed in sewing strips of fabric—brought out evidence of recent gastric attacks, and some of the men looked decidedly run down.

Dr. Legge said he visited the premises of the company manufacturing the material; there was very little smell, and the air seemed fresh. A volume fan was placed in the wall. The men employed there seemed perfectly healthy, but all the mixing was done in closed drums, and the workers were not exposed to vapours except when transferring an ingredient into a revolving mixer. The conditions of manufacture were quite different from those obtaining during the use of the material. He had visited the manufacturers' factory two years previously, when the industry was a new one. He was then told that the substance was narcotic but not toxic, and he could find no evidence of injury among the workers at that time. Subsequently complaint was made of the effects where similar compounds were used and a colleague investigated cases of illness that occurred. He found that one man had been rendered unconscious and that the fumes appeared to produce gastric disturbance, but there was no jaundice. He visited other places where similar compounds were manufactured, but again found no evidence of illness amongst the persons mixing the ingredients. He then visited seven factories where aeroplanes were made. In one he found that a man had declared himself ill from jaundice; he was able to satisfy himself that the man was suffering in exactly the same way. At another factory the work was done largely by young women. He examined a number of them. One had been away this year for jaundice and congestion of the liver; others showed unmistakable evidence of the effects of the material. In some of the factories where women and girls were doing the work, though they had not suffered from jaundice (except in the cases mentioned), the vapour had given them a flushed and rosy appearance. This was cited by the management as evidence of their good health and he mentioned it to prevent misapprehension as to the meaning of the symptom. He had not found in any of the factories so widespread an outbreak of jaundice as had occurred in the one under consideration, but he found very pronounced effects from the material. In most of the other factories the material was of a somewhat different composition; but he believed tetrachlor-ethane must have been present in all. The other vapours would cause headache and some giddiness, but he would not have expected them to cause jaundice. In none of the other factories were the ventilating conditions the same as at the Aircraft Company's premises, where fumes were driven about the whole building; in the other factories the material was applied in a separate portion of the building. In the factory where he found least effect, more attention had been paid to natural ventilation than in any of the others, but not much of the material was used. One of the factories was made exceptionally lofty with the idea of allowing the fumes to escape, in ignorance of the fact that they were heavier than air. He attributed the fact that no cases of illness occurred before September at the Aircraft Company's works to the circumstance that before the war less of the material was used; the men did not get a sufficiently large dose. It had taken six weeks for the symptoms to develop from the period in August when the pressure of work was greatest. If the amount of work had continued normal the ill effects of the vapours might never have become sufficiently pronounced to have been brought to light. In addition to the precautions he had already mentioned as to ventilation and partitioning, Dr. Legge said the workmen should not be allowed to eat their meals in the room where the material was used; this precaution was taken in all the other seven factories he visited. He did not consider it practicable to provide the workers with helmets to which air would be supplied as they worked. If the precautions he had indicated were efficiently carried out, the danger would be removed. Naturally, if some other substance, without toxic effects, could be used in the manufacture of the material, so much the better. He agreed with Dr. Willcox as to the cause of death.

The Coroner: Do you consider this a very dangerous occupation?

Dr. Legge: Very dangerous as carried out in this case and in the others.

Dr. Bernard H. Spilsbury, Pathologist to St. Mary's Hospital, said that since the last sitting of the court he had examined the organs of the deceased and confirmed his previous opinion that the condition of the liver was one of subacute hepatitis. The other organs were generally healthy apart from secondary changes due to the toxic condition. He entirely agreed with the earlier evidence as to the cause of death.

The Coroner, in summing up the evidence, emphasized the importance of the inquiry, and expressed the thanks of the court to the witnesses who had given the benefit of their special knowledge, without which the inquiry could not have been conducted.

In returning a verdict in accordance with the medical testimony, the jury added a rider expressing thanks to Drs. Willcox, Spilsbury, and Legge for their valuable investigations.

ON December 15th the Paris Académie de Médecine held its annual public meeting. M. Magnan, Vice-President, was in the chair, in the room of Dr. C. Périer, the President, who died a day or two before. Among those present were: His Highness the Prince of Monaco; M. Emile Loubet, formerly President of the French Republic; M. and Madame Vallery-Radot, son-in-law and daughter of Pasteur; and MM. Roux and Metchnikoff, as representatives of the Pasteur Institute. After the distribution of the prizes for 1914, the perpetual secretary, Professor Debove, pronounced an *éloge* of Pasteur. By heredity and education, he said, Pasteur was a true patriot, and no one was more pained than he by the events of 1870. Having witnessed useless acts of cruelty committed by the German army, he threw up his doctorate of the University of Bonn. His was not, however, an exclusive patriotism; he used to say, "Science has no country, though men of science have." M. Debove concluded by reading a letter from M. Vallery-Radot offering to the Academy a bust of Pasteur from the chisel of the distinguished sculptor, Dubois.

THE DEPARTMENTAL COMMITTEE ON SICKNESS CLAIMS UNDER THE NATIONAL INSURANCE ACT.

(*Continued from p. 1066.*)

We may now pass to that part of the report of the Departmental Committee on Excessive Sickness Claims which deals with the influence of the action of the panel practitioners.

Certification.

The Committee thinks that some of the doctors, having had no previous experience of friendly society work, "do not correctly apprehend the nature of their task, the value to be placed on their certificates, the relation in which they should stand to the society, or their responsibility to the working of the whole machine," while others, who have acted in the past as friendly society doctors, no longer consider themselves bound to look after the interests of the societies. As the remuneration of a practitioner depends on the number of his panel patients, there is, we are told, "a widespread belief that the fear of offending patients is a motive which induces practitioners to grant certificates for trivial illnesses or continuing certificates after incapacity has in fact ceased," and the evidence of society officials is almost universal that on this account certificates are granted recklessly, and the societies' funds in this way depleted. The medical evidence on this point showed that the desire to be on friendly terms with patients is not necessarily based on pecuniary motives; to doubt the word of patients, and to act as a detective would soon destroy that confidence which is a necessary part of treatment. Nevertheless, several medical witnesses admitted that the fear of losing patients by refusing certificates, even when somewhat unreasonable demands were made, could not fail to influence at any rate some practitioners, as the reputation of being strict would rapidly damage any practitioner who had to compete with others who readily placed patients on the funds. On consideration of the whole evidence, the Committee thought that a large part of the leakage of the funds must be ascribed to this feeling among practitioners. The Committee also expressed the opinion that among a large section of the panel doctors there was an absence of a sense of responsibility to the insurance system. The statement that the doctor's duty is to his patients is regarded as in a sense a platitude, but it is claimed that "regard for the interest of the patient involves a duty to see that the undeserving do not receive benefit to the detriment of the deserving." The report says: "It is impossible to overlook the almost universally expressed opinion of society officials that the action of the doctors with regard to certification and the administration of the Act generally has been unsatisfactory"; but the Committee is still bound to add: "There has been very little evidence of definite acts of deliberate false certification by panel practitioners, and it is necessary to bear in mind that carelessness and indifference on the part even of a comparatively small section of doctors may react unfavourably on the reputation of the whole profession in any area."

A number of the medical witnesses urged that the term "debility" ought to be quite enough for a society with the doctor's certificate that the patient is incapable of work. The Committee points out that this attitude assumes that the doctor is the sole judge as to whether a person shall receive sickness benefit or not, whereas the approved society alone is the judge under the Act, and the medical certificate is only one of several other pieces of evidence. The society has, for example, to consider whether the case comes under the Workmen's Compensation Act or not, and whether the disease is due to personal misconduct. Moreover, the doctor's judgement may be misled by fraudulent patients where the symptoms are purely subjective, and the societies must be in a position to check the certificate partly by their knowledge of their members and partly by investigation through sick visitors, and such checks cannot be applied unless the certificates convey clear and precise information. It is also pointed out that "debility" is not a specific disease and not a diagnosis, but only a state arising out of or accompanying illness which has to be diagnosed, and one of the medical witnesses confessed that "'debility' is always a great refuge for malingering; it is feeble on the part of the doctor to use it." It is admitted that in the early stages of disease exact diagnosis may be impossible, but to continue to use the term "debility" for many weeks "must be attributed either to slackness, incompetence, or what can only be termed 'the perverseness of the practitioner.'" The only cases where the Committee can see some excuse for vague diagnoses being given are:

1. Those in which grave injury might be done by letting the patient know the exact nature of his disease, such as in cancer, some forms of heart disease, and incipient insanity.
2. In diseases peculiar to women where it would be revolting to the patient's feelings that an exact certificate should be handed about among society officials; and
3. In cases of venereal disease.

The last class admittedly presents great difficulties, whether the disease is due to misconduct or not; but it is held that the difficulty cannot be met by the use of synonyms or by euphemisms. If the doctor believes that the disease is due to personal misconduct, it is his duty to certify what he believes. In other cases it is recommended that the doctor should be at liberty to give the patient a vague certificate, but if he does so, he must inform the society that he has purposely given a vague certificate, and at the same time he must send precise information to the referee who, according to a later recommendation, is to be appointed by the Commissioners. The referee should then communicate to the society just such information as he thinks necessary, and the society should also undertake no investigation that would in any way rouse the patient's suspicions. It may here be noted that in the new system of medical certification for 1915 these suggestions of the Committee have been adopted almost in their entirety. With regard to vague certificates arising out of incompetence and slackness of the doctor, the Committee says "there can be little doubt that the slovenliness of mind which shrouds itself in vagueness will generally result in carelessness in other aspects of the practitioner's work."

Great importance is attached to the name of the disease being entered up on the certificate week by week. Many society officials do not like the doctor to alter the diagnosis first given, but the Committee points out that a correct diagnosis may not be possible at first, and it often shows greater care on the part of the doctor to alter his certificate as the true character of the disease shows itself, rather than continue in a mechanical way to initial a continuation sheet.

On a general survey of the facts referring to men's societies, the Committee concludes "that a large part of the excessive payments on account of claims for sickness benefit must be attributed to defects in the administration of the societies and to the carelessness and inaccuracies of the medical profession."

(*To be continued.*)

MOTOR NOTES FOR MEDICAL MEN.

By H. MASSAC BUIST.

Two Notable New Models.

Though there are to be no motor exhibitions in London or Scotland this year, nevertheless the British as well as the American motor industry is well forward with its plans for 1915 patterns of cars.

An American Car.

From America comes an entirely new Willys-Overland model of 15 to 20 h.p., sold complete with a London-built three-quarter coupé for doctor's use at £295, the finish being really excellent; or available as an ordinary five-seater touring car, excellently upholstered, finished in dark green with white lines, with an improved type of ventilating screen, rain-proof hood with side curtains, together with a cover for it, electrical engine starter, electric lighting, detachable rims including a spare, proportionately large-sized tyres, three-quarter elliptic back springs, and twelve months' guarantee, for £198; or as a two-seater with the same equipment for only

£190. The remarkable feature of this car is that it is a vehicle of middle size and power, constructed practically throughout on the latest European lines, including the under-slinging of the lower members of the three-quarter elliptic back springs. The lines are excellent, the slightly sloping bonnet and dash being employed, and there is here no freak designing, all the points having been long and well proved in practice. The substantial nature of the construction is out of the ordinary, as instance the strength of such details as the wings, on which a man can easily sit without injuring them. Little details of finish may be noted, such as the provision of a rail behind the front seats for carrying rugs when not in use, and a leather sheet behind the front seats to prevent the enamelling thereabouts being destroyed by the feet of those occupying the back seats.

It is essentially an owner-driver's car, too, in that it can be started in the coldest weather from the driver's seat without lifting the bonnet, because a special carburettor agitator is furnished in the form of a little knob conveniently situated on the dashboard, on which there are also various stops for controlling alike the engine starter and the different sets of lights. The engine, moreover, is well up to the car, a clever feature of the design of which is that the total weight, with all accessories, has been kept down to approximately a ton. The four cylinders of the motor are cast singly, and are offset in relation to the crankshaft, the bore measurement being 4 in. and the piston travel 4½ in., while the details of construction are particularly praiseworthy, as instance the five bearing crankshaft. The valves have adjustable tappets, while the Schebler adjustable carburettor is standardized. There is nothing about the car that looks cheap, and there is nothing unsubstantial in its design or production. I do not think America has ever sent to this country any cheap car representing such good value for money. This newer model comes with the better guarantee, in that it supplements the 20-25 h.p. Overland type which has been sold in considerable numbers during the last year, and has thoroughly justified itself in the hands of owners. This larger type was reproduced 45,000 times in the manufacturing year that closed this summer, and it is brought forward this year with still better finish and with a number of detail improvements. Therefore the Overland work is not unknown in this country. This year's manufacturing programme aims at the production of a total of no fewer than 75,000 cars between the two types.

A New Light Car.

In quite another direction of motor manufacturing there is a very interesting development in the Swift policy. This is one of the three Coventry firms which between them have made the most notable showing in light car competitions in Great Britain and Ireland during 1915. The other two types are the Singer and the Standard. Those are both four-cylinder machines, but hitherto the Swift has been available only as a two-cylinder type. There is now introduced for the 1915 season, however, a 10 h.p. four-cylinder Swift model with a bore measurement of 63 mm. and a piston travel of 90 mm., giving 1,172 c.cm. engine volume, the vehicle being sold complete with electric-lighting dynamo and accumulators, a fifth detachable wheel and tyre, screen, hood, and all necessary accessories, for an inclusive sum of £200. I had opportunities of studying three examples of this make in service in the Isle of Man in June, before it was possible to make mention of it in public, and it was quite amusing to observe the astonishment that its hill-climbing powers produced among all motorists who chanced to come upon it on the road. The one point for criticism in the two-cylinder Swifts that did so brilliantly in competitions this year was that they took their time about climbing the hills. Therefore those who witnessed the performances of these early examples of the four-cylinder type, which practically gave no outward indication of their being at all different from the two-cylinder variety, could scarcely credit their eyes when they saw them tackling the Manx hills.

The lines of the little car are thoroughly sound and smart, nor is there here anything of an experimental constructional nature; therefore there is every reason to be sure that, with the experience the firm has had in the production of its light car chassis, this new four-cylinder model will continue and even increase the success that has attended the two-cylinder variety. The four cylinders are cast all in one operation, the valves being set Indian file fashion on the one side, with stems and springs enclosed by a readily detachable aluminium cover. The valves are worked by enclosed silent chain drive from crankshaft to camshaft. The electric lighting dynamo is mounted on a table above the magneto, the legs of the table resting on the magneto platform. The dynamo is belt-driven from the front end of the crankshaft, which is fashioned of 3 per cent. nickel steel and carried on three bearings. The pistons are proportionately more than common long, and have each only one ring at the top and one at the bottom. The moving parts of the engine are oiled by force furnished by a geared pump driven from the near end of the camshaft. The natural circulation of the water is relied on for cooling purposes. The gear box furnishes three speeds forward, and the back axle is bevel driven. Altogether this is a most excellently workmanlike job.

A 1915 TYRE PROGRAMME.

The tyre firms are also producing new wares for the 1915 season. They are putting these on the market the earlier by reason of the fact that there are no motor shows to furnish occasion for holding them back any longer. In the case of the Dunlop Company—which pioneered the pneumatic tyre industry and whose wares have been gaining consistently in repute, a remark which can be applied to very few tyre concerns—its enterprise is this year supplemented by the introduction of something for which many users have been waiting from this quarter. This firm now supplies 815 by 120 mm. size tyres to fit 105 mm. rims; and 820 by 135 mm. sized tyres to fit 120 mm. rims; in other words, it is now marketing a series of what are ordinarily called over-size tyres, but which may be more accurately described as larger section tyres than those hitherto available for given sizes of rims. It should be understood, moreover, that these Dunlop over-size tyres are distinct from the company's interchangeable sizes, which continue to be available. As cars are made to require tyres of such extraordinary variety of sizes, it may be as well to illustrate what are the sizes of Dunlop tyres common to one and the same rim:

650 × 65 mm.	rim takes	650 × 65	and 700 × 80 tyres
700 × 65 mm.	,, ,,	700 × 65	,, 750 × 80 ,,
750 × 65 mm.	,, ,,	750 × 65	,, 800 × 80 ,,
710 × 90 mm.	,, ,,	700 × 85	,, 700 × 90 ,,
760 × 90 mm.	,, ,,	750 × 85	,, 760 × 90 ,,
			,, 760 × 100 ,,
810 × 90 mm.	,, ,,	800 × 85	,, 810 × 90 ,,
			,, 810 × 100 ,,
870 × 90 mm.	,, ,,	870 × 90	,, 870 × 100 ,,
910 × 90 mm.	,, ,,	910 × 90	,, 910 × 100 ,,

American Sizes.

32 × 3½ in.	rim takes	32 × 3½	and 33 × 4 tyres
36 × 4½ in.	,, ,,	35 × 4½	,, 37 × 5 ,,
36 × 5 in.	,, ,,	36 × 5	,, 37 × 5½ ,,

Another news item concerns the most popular form of motoring, in that Dunlop light cars, rubber-studded tyres have been introduced; they are made in the 700 × 80 and the 700 × 85 mm. sizes. The tread of this is of similar design to that of the patented rubber-studded motor-cycle tyre which has given such excellent results.

PROFESSOR WILHELM ERB, the distinguished neurologist of Heidelberg, recently celebrated the fiftieth anniversary of his doctorate.

DR. W. E. FORSYTHE reports in the *Journal of the American Medical Association* of November 28th on the health services at Princeton, Cornell, Yale, and Stanford Universities, the Massachusetts Institute of Technology, and at a number of the State universities. The staff usually consists of a university physician, health officer, or medical adviser, with assistants as required, and in most places convenient quarters are provided for examinations, and office treatment can be had. In a number provision is made for bed patients. The expense of the service is provided for, as a rule, by a general student fee. One of his chief conclusions is that a man interested in the subject should be at the head of the work to which he should preferably devote his whole time. He should be given large authority in carrying out the requirements of the service. Besides good office facilities, a laboratory is needed for efficient work.

British Medical Journal.

SATURDAY, DECEMBER 26TH, 1914.

THE RED CROSS.

In this issue a series of articles in which the history of the origin and development of the Red Cross movement is sketched in outline, is brought to a conclusion. By a curious irony of fate the jubilee of the Geneva Convention fell in August of the present year, shortly after the outbreak of the bloodiest war recorded in history. Henri Dunant, the founder of the Red Cross, had been appalled by the amount of human suffering which he witnessed after the battle of Solferino, and he forthwith entered on his philanthropic crusade with a consuming zeal which earned for him the name of the new Peter the Hermit.

Although ostensibly Dunant's purpose was to make war more humane, his deep desire was to make it impossible. He was one of the early advocates of arbitration as a means for the peaceful settlement of disputes between nations. At the meeting of the Social Science Congress held at Plymouth in 1872, he delivered an address on the subject, and a resolution was passed that there should be created in some city to be decided upon a diplomatic permanent committee on which each country should be represented officially. That committee might transform itself into a tribunal of arbitration at the request of countries between which *casus belli* might arise. This idea found material expression in the International Peace Conference held at The Hague in 1899, when sixteen countries signed a convention accepting the proposal of arbitration. To this peace movement the impulse was undoubtedly given by the Geneva Convention.

Although Dunant's attempt to abolish war has failed, his scheme to mitigate its horrors has in large measure been successful. In the light of what the world has witnessed during the past few months it is not a little remarkable that Prussia was one of the first countries in which Red Cross work was efficiently organized, whereas Great Britain did scarcely anything for years after signing the Convention, and the United States did even less. Yet it did not need the experiences of the present war to show that in both these countries the sentiment of humanity is far more advanced than in Germany, by whose armies "frightfulness" is deliberately practised as a system in warfare. With us and the Americans alike the apathy in regard to Red Cross work is an outcome of the feeling of comfortable security—one of the cankers of a long peace—that led us to look upon war as a thing so far outside the scheme of probable events that preparation for it was no part of the serious business of life. We have had a rude awakening from this dream, and already we have learnt to look on the world with unscaled eyes.

One of the lessons of the war is that the Red Cross, if it is to fulfil its mission, must be carefully organized and kept at the highest degree of efficiency in time of peace. It may be added that volunteer aid, if it is not to be a hindrance rather than a help, must be strictly subordinated to the military authorities. It is the nature of these, as of all official bodies, to be unsympathetic to irresponsible enthusiasm, and even sometimes to show a tendency towards irritating obstructiveness. But the first principle of organization is the "orrder, duty an' restraint, obedience, discipline," which McAndrew found in his engines. Without these, goodwill is ineffective, and even expert skill may be worse than useless.

SELECTION AND DISEASE.

In the course of his interesting and scholarly presidential address to the American Medical Association, Dr. Victor C. Vaughan devoted some attention to the riddle whether infectious diseases have benefited the race by the destruction of the unfit, and answered the question with an uncompromising No. This topic is, we suppose, one that mankind will continue to debate until the crack of doom, and disputants are likely to have cause to repeat sadly the lines of Omar Khayyam respecting the upshot of his attendance on the discourses of Doctor and Saint. In one sense the question is trivial and its answer obvious. Those who are "fittest" to survive are those who *do* survive, consequently the survivors of the Black Death were "fitter" than its victims. *Cur quis non prandeat hoc est?* But the real problem is not so trivial as this debating society method would make it.

Dr. Vaughan seems to hold that epidemic diseases are negatively selective, and quotes Boghurst's approval of Diemerbroech's saying that "Plague left the rotten bodies and took the sound." He also adduces certain United States army statistics to the effect that the attack-rate of typhoid was higher among soldiers with a previous good record of health than amongst those who had already figured on the sick list. But, as Dr. Vaughan goes on to point out, since a strong healthy man leading an active life is more likely to be exposed to infection than R. L. Stevenson's "eminent chemist who took his walks abroad in tin shoes and subsisted wholly upon tepid milk," the statistics hardly establish his proposition. It is generally recognized that the fatality of the common endemic-epidemic diseases, such as scarlet fever and diphtheria, diminishes with age down to a certain point. Thus, taking the London returns of deaths and notifications, 1901–10, it is found that the fatality of both scarlet fever and diphtheria diminishes appreciably from the age group 0–1 to the quinquennium 10–15, the values thereafter being irregular partly owing to the smallness of the numbers. It is possible, and has indeed been suggested, that were *any* child shielded from contagion until after the earliest years of life, his chance of passing successfully through an attack of measles, scarlet fever, or diphtheria would be increased. But it is also possible that the diminishing fatality-rate with age is a consequence of selection. It is difficult to believe that those cut off early are in truth the flower of the race, and no one doubts that in such diseases as pneumonia the healthy vigorous man has a better chance of life than the weakling or the drink-sodden.

Dr. Vaughan's contention is not, however, probably intended to be taken literally. He means rather, we should suppose, to protest against the idea that were, say, the zymotics abolished, the loss of their selective action would prejudice racial characters. Perhaps it might be objected that unless the contagium could be permanently excluded, its introduction at rare intervals would be attended by such mortality that, in the long run, little would be gained. In support

of such a contention the famous experience of Fiji with respect to measles might be quoted. But many who cite that case forget that Corney, to whom we owe the best description,[1] attributed much of the mortality not to the peculiar virulence of the disease, but to secondary complications associated with a neglect of sanitary measures impossible in a civilized community under normal circumstances. Indeed, the experience of the Confederate troops in 1866, of the National Army of Paraguay during the Brazilian war, and of the Parisian Garde Mobile during the siege testify to the enhanced mortality of measles associated with unfavourable hygienic conditions.[2]

We do not wish to assert that the dangers of introducing an epidemic disease amongst an "unselected" population are not real, but it may be that some of the dramatic instances do not afford such cogent evidence as has been thought. It has also been urged by selectionists that the most efficient way of safeguarding the public health is to encourage the reproduction of resistant strains—to attend to the soil rather than the seed. This is a suggestion in favour of which much can be said; whether much can be done is another matter. So far as epidemic diseases are concerned, it a little reminds us of the prescription for capturing lions—sift a desert, the sand will pass through and the lions will be retained.

In conclusion, it may perhaps be said that the common causes of disease and death, including the epidemic diseases, do not fall alike upon the weak and strong, that the proportion of weaklings is higher amongst those who perish than amongst those who survive; that there is no evidence to warrant us in concluding that epidemic diseases do, in fact, choose the healthy members of a community provided all composing it live under comparable conditions. But we may not less certainly conclude that any racial advantages so purchased are bought at an exorbitant price, and that to strive for the elimination of these selective agencies is one of the duties of a good citizen. The process of selection is after all not so simple a matter as some would have us believe. Were all the zymotics abolished, there would still be plenty of pitfalls to entangle the feet of the feeble, plenty of selective agencies to encourage the "fit." We do not think those who strive to reduce the prevalence of epidemic disease in our midst need seriously concern themselves with the possibility that they are opposing the principle of national selection of which they are themselves a product.

THE AMERICAN VOLUNTEER AMBULANCE CORPS.

In a "letter to the editor of an American journal" Mr. Henry James gives an interesting account of the work of the American Volunteer Ambulance Corps in France.[3] It was organized by Mr. Richard Norton and is now in active operation at the rear of a considerable part of the longest line of battle known to history. The idea was suggested to him when, early in the war, he saw at the American Hospital at Neuilly scores of cases of French and British wounded whose lives were lost or who would have incurred lifelong disability and suffering through long delay in their removal from the field of battle. In three weeks of his return to London with the object of carrying out the work, he was joined by a number of his countrymen and others possessing cars, who offered them as ambulances already fitted or easily convertible, and volunteered themselves to act as chauffeurs. Other cars were bought with funds rapidly received from friends in America, and a fleet of fifteen ambulances was soon in being. Its services were gladly accepted by the British Red Cross and the St. John Ambulance, and Colonel A. J. Barry co-operated with Mr. Norton in directing the beneficent activities of the corps. "Its function," says Mr. James, "is primarily that of gathering in the wounded and those disabled by illness (though the question is almost always of the former) from the *postes de secours* and the field hospitals, the various nearest points to the front, bestrewn with patient victims, to which a motor car can workably penetrate, and conveying them to the base hospitals, and when necessary the railway stations, from which they may be further directed upon places of care, centres of those possibilities of recovery which the splendid recent extension of surgical and medical science causes more and more to preponderate." Mr. James vividly contrasts the celerity and comfort of cars with the slow, often interrupted, progress of trains in the transport of the wounded. The number of men to be carried away, however, leads necessarily to overcrowding of the cars; this can be remedied only by the provision of more cars. Mr. James pays a warm tribute to the admirable spirit of devotion, "of really passionate work," which animates the members of the corps; and he finds "a positive added beauty in the fact that the unpaid chauffeur, the wise amateur driver and ready lifter, helper, healer, and as far as may be consoler, is apt to be a university man and acquainted with other pursuits." "One gets," he adds, "the sense that the labour, with its multiplied incidents and opportunities, is just unlimitedly inspiring to the keen spirit or the sympathetic soul, the recruit with energies and resources on hand that plead with him for the beauty of the vivid and palpable social result." Mr. James gives some striking examples of the work of the corps in bringing away wounded and in helping women and children to escape from places threatened by advancing Germans. The presence of doctors with the squad has been the means of saving very many lives; from this fact he draws the moral that the "very ideal for the general case is the not so quite inconceivable volunteer who should be an ardent and gallant and not otherwise too much preoccupied young doctor with the possession of a car and the ability to drive it, above all the ability to offer it, as his crowning attribute." What Mr. James has learnt of the work of the corps multiplies for the hopeful mind "the possibilities and felicities of equipped good will." The work is by no means free from danger, for, Mr. James says, "The Germans . . . are noted as taking the view that the insignia of the Red Cross, with the implication of the precarious freight it covers, are in all circumstances a good mark for their shots, a view characteristic of their belligerent system at large." This testimony from a neutral should be noted at a time when the German press, in what Mr. Winston Churchill has well called its "frenzy of hatred," is making the wildest charges against this country of "murdering" prisoners and similar fictions. The British army and nation owe a deep debt of gratitude to their American friends who are working with such practical sympathy for the relief of the sick and wounded. We hope that Mr. James's eloquent appeal for help in the form of cars, capable chauffeurs, or money, will meet with a generous response. Donations in this country will be received by Mr. George F. Read, Honorary Treasurer, care of Messrs. Brown, Shipley and Co., 123, Pall Mall, S.W.

LOUVAIN AND ITS LIBRARY.

PROBABLY no one of the many atrocities perpetrated by the Germans in this war has made such an impression on the minds of educated people throughout the world as the wanton destruction of Louvain. A short sketch of the history of the university is given by Dr. John G. Vance in

[1] Corney, *Trans. Epidem. Soc.* (N. S.), 1883, iii, 76.
[2] Hirsch, *Geog. and Hist. Pathology*, i. 167.
[3] Macmillan and Co., Ltd., London. 1914. Price 1d.

the *British Review* for November, while a longer account, with special reference to the medical faculty by Dr. John Bethune Stein, of New York, appears in the *Medical Record* of November 14th. The university was founded by Pope Martin V in a Bull dated December 9th, 1425, establishing all the usual faculties with the exception of theology. In view of the large part given to theology in the university when it was born anew in the nineteenth century, this exception is remarkable. The early history of the medical faculty is obscure, and the documents concerning it probably perished in the flames kindled by the torches of German *Kultur*. It is known, however, that the first professor of the medical faculty was Jean van den Eele, a graduate of Cologne, who was also the first rector of the university. He held that office in 1427, 1431, and 1437. Dr. Stein gives a list of forty-one members of the medical faculty, each of whom was rector of the university; it extends from 1427 to 1788. In the list appears the name of Jan Wesalia or Vesale, who taught medicine from 1429 till 1472, and was Rector in 1430, 1433, and 1438. He was an ancestor of the great reformer of anatomy, Andreas Vesalius. Less than twenty years after the foundation of the university Pope Eugenius IV, learning that the medical professors of Louvain were neglecting the sound doctrine of Hippocrates and Galen, and taking Avicenna and Rhazes as their masters, founded in 1443 two new chairs in the medical faculty to which priests were appointed. They were canons of St. Pierre, an ancient church destroyed by the Germans. St. Pierre was interesting to doctors on account of its connexion with the early history of medicine in Belgium. Among its treasures was a famous triptych, painted by Dierick Boudts in 1468; this represented the martyrdom of St. Erasmus, whose speciality as a patron was intestinal disease. It might, perhaps, have been described as an early example of abdominal surgery, for it showed the bishop with an incision in his abdomen, from which the intestines were being drawn out and wound upon a crank by two men. The first medical graduate was Jan Stockelpot, a priest who was a professor in the faculty of arts. The degree of doctor of medicine was conferred on him in 1433, and in 1445 he became a professor in ordinary. The university suffered severely during the forty-three years of war in Belgium in the sixteenth century, and in 1580 Pope Gregory XIII, hearing that there were no funds for the payment of the professors' salaries, sent a large sum to be divided among them. In the early part of the seventeenth century the degree of doctor of medicine had become so expensive a luxury that the students addressed a petition to the Archduke Albert and his consort Isabella asking for various reforms, and particularly to be relieved of the expenses entailed by the elaborate ceremonial and the banquets customary on the occasion. This led to an "act of investigation," the outcome of which was the establishment of four chairs in the medical faculty instead of two, the duties of each professor being clearly defined. By the treaty of Aix-la-Chapelle, October 18th, 1748, Belgium passed under the sway of the Empress Maria Theresa of Austria. She tried to raise the standard of medical education, but foreign rule did not prove favourable to this aim. Joseph II reformed the university in so drastic a fashion that in 1788 it virtually died under the operation. The medical department was reinstated in 1790, but the university was suppressed by the French Revolutionary Government in 1797. It was revived by the Belgian bishops as a Catholic university in 1834. In that year the number of students was 86; it grew steadily till within the last year it was 3,000. With regard to the library, which was said to have been burnt by the Germans, it has recently been stated by M. Henri Bergson, the distinguished philosopher, in a communication to the Académie des Sciences Morales et Politiques, that he has good reasons to believe that it was pillaged before the building was burnt. Since then the *Temps* has published a letter from M. Ossip Lourié, a well-known journalist and man of letters, in which he tells a story which seems to lend confirmation to M. Bergson's statement: "In the month of August, 1913," he writes, "I met among the mountains of Switzerland two Germans, one of them a professor of physiology, the other of linguistics. The latter constantly spoke to me of the new Royal Library of Berlin, which he said was 'capable of containing five million volumes.' On my remarking that it would take a long time to fill it, my interlocutor replied very seriously, 'That will be very easy after a war.'" The meaning of this utterance is now too clear. The Germans say they make war to spread their culture among those who live in darkness. It is remarkable that as a means to this end they should steal the books of the "uncultured."

FOOD AND COOKING.

THE National Food Reform Association has published a small book with the title *Facts for Patriots*, urging that it is above all necessary at the present time that the people should learn to apply those principles of nutrition which the association has been endeavouring, with perhaps some amount of exaggeration, to instil into the public mind. As is well known, the association, under the direction of Mr. Eustace Miles, urges the adoption of a lacto-vegetarian diet, on the ground not only of its high nutritive value but of its economy. As we have often pointed out, there is a popular objection to many articles of food merely because they are cheap. The inquiry undertaken not long ago into the use of oatmeal in a large number of households, showed that the percentage in which this valuable food was employed was in inverse proportion to the rental of the houses, and even in Edinburgh the labour members of the town council protested against the action of the Education Committee in providing porridge for the free breakfast given to the children attending elementary schools. We may share the regret of the association that such valuable foods as cheese and oatmeal are neglected to a large extent, but it will take much spade work to uproot the prejudice existing against them. The value of pulses and lentils is exaggerated; their relative difficulty of digestion and assimilation was proved by Professor McCay in his interesting investigations of the metabolism of Bengalese; he showed that no less than 25 per cent. of the total nitrogen of the food was contained in the faeces, and he attributed this to the use of dhal (pulse), which he holds responsible for most of the bowel complaints so prevalent amongst these people. Undoubtedly the Food Reform Association is right in complaining of the abuse of tea, for it is no exaggeration to say that tea is now drunk four or five times a day, or with every meal, by large numbers of the poorer classes, and it is abused also in our own houses by servants. Sir James Crichton-Browne, in a recently published interview, speaks of tea as "one of the saviours of mankind," for he believes its use has to a large extent superseded that of alcohol. There is a good deal of truth in this, but stewed tea is at the present time responsible for a large amount of indigestion, nervousness, sleeplessness, and other troubles. Not only is there in this country an enormous amount of ignorance of food values, but also great neglect of cookery and inability or unwillingness to provide appetizing dishes from food materials which are happily so abundant and so cheap. Instead of attempting to induce the people to eliminate animal food from their dietary, it would be more practical to teach them the proper use of the cheaper kinds of animal food and how to cook it so that with a considerable addition of all those articles which the Food Reform Association rightly advocates, dishes could be made which would possess the sapidity which meat undoubtedly confers. This quality is perhaps too highly appreciated, but it cannot be ignored. The Food Reform Association has done good work in demonstrating the value of vegetable

foods, but we have often heard complaints that the dishes sold at restaurants where its principles are carried out fail to please from the want of the sort of flavour that the popular palate seems to crave.

FAT-EMBOLISM.

IT has, of course, been common knowledge for fifty years that fat droplets may appear in the capillaries of the lung as a sequel to fracture or other injury of the bony skeleton. There is, however, a prevailing impression that the phenomenon is met with only in pathological conditions where the bone-marrow is obviously affected. In more than one textbook of forensic medicine, for example, statements may be found to the effect that its occurrence in the presence of fracture is conclusive evidence that the fracture took place during life. This does not appear to be strictly true. Nicolai[1] examined both lungs in 57 autopsies on cases in which there was no reason to suspect osteomyelitis, fracture, trauma, or other skeletal injury, and in as many as 8 he found quite considerable amounts of fat in the lung capillaries. He examined frozen sections, stained with Sudan III, one from each lung, and took as positive only those in which the fat occurred as elongated droplets or strings, like plugs, definitely within the vessel wall. His criterion was thus stricter than that adopted by others, such as Flournoy or Scriba, who have also stated that they found fat in the lungs in all sorts of diseases; he excluded cases in which the fat was seen only as small isolated droplets or globules. Nicolai further gives an account of a case of fat-embolism after fracture which presented most of the classical features originally described by von Recklinghausen. Death occurred on the third day after the injury, and the examination revealed remarkable quantities of fat in the capillaries and small vessels of the general circulation—namely, in the white matter of the brain, in the kidney, heart, subcutaneous tissues, and elsewhere. It has been asserted that these large quantities of fat outside the pulmonary circulation occur only in cases in which the foramen ovale is patent, but in this instance the foramen was closed, and the fat must have passed through the lungs with very little delay.

RADIUM IN THE TREATMENT OF CANCER.

THE Columbia University has recently issued the first annual report of the George Crocker Special Research Fund for the investigation of the nature and cure of cancer. It indicates the general lines on which research has been conducted under the director, Professor Francis C. Wood, since the laboratory was opened in December, 1913. The working staff consists of a director with five assistants. From a summary of the report published in the New York *Medical Record* of December 5th, we gather that a special study has been made of the action of radium and x rays on tumour and normal tissues growing in culture media. The results show such discrepancies that the director insists on the necessity of great caution in drawing any conclusions, and deprecates hasty generalizations as to the sensitiveness or lack of sensitiveness of tissues to the action of these agents. A large series of experiments has been made with the object of testing the action of radium on primary tumours in mice, which are said to correspond very closely with tumours in man. The results have not shown that radium has any great therapeutic effect on such growths. Radium has also been used on a considerable scale on patients in hospitals, and it is hoped in this way to collect data on which an accurate judgement as to its therapeutic value may be based. Investigations with certain colloidal silver preparations, highly vaunted in Germany as well as in the United States as of great value in the treatment of malignant disease, have shown, according to Professor Wood, that these substances have no effect on cancer either in man or in animals.

[1] *Nederland. Tijdschr. voor Geneeskunde*, No. 20, November 14th, 1914, p. 1605.

BATH.

ALTHOUGH British health resorts need not fear comparison with Continental spas in respect of the advantages and amenities they offer to invalids and other visitors, they have not hitherto shown as much enterprise as many German and Austrian, and some French and Italian health resorts in bringing their excellencies to the notice of the medical profession and of the public. The closure of so much of the Continent this autumn afforded an opportunity of which very little use seems to have been made. Apparently, however, the need for publicity is coming home to some British spas, and Bath has recently issued a well illustrated handbook in which the merits of Bath waters in gouty and rheumatic affections, in neuritis, in some skin diseases, and in certain disorders of the digestive system are mentioned. The recent analysis by Sir William Ramsay is given, and the results of his estimation of the amount of radium and radium emanation in the waters are shown. Bath possesses a very complete installation for giving baths in various forms, and for hydrotherapeutic treatment generally. Its sheltered situation renders it a very suitable place for residence in winter, and it is not a dear place to live in. The surrounding country is beautiful, and contains many interesting old towns and villages such as Bradford-on-Avon, Glastonbury, and Castle Combe. The hot springs are the property of the corporation, which has established a visitors' inquiry office, where full particulars may be obtained on personal application, or by letter addressed to Mr. John Hatton, director of the baths. The corporation has also recently issued a leaflet in French addressed to Belgian and French visitors.

WE regret to have to announce the death, on December 22nd, of Sir Robert M. Simon, who in May last resigned the position of physician to the General Hospital, Birmingham, after having served the hospital for thirty-five years.

OUR BELGIAN COLLEAGUES AT HOME AND ABROAD.

MEETING OF THE HAMPSTEAD DIVISION.

A MEETING of the medical profession in Hampstead, called by the local Division of the British Medical Association, was held in the hall of the Blind School, Swiss Cottage, on December 18th in furtherance of the objects of the fund for the relief of doctors and chemists in Belgium. The Chairman of the Division (Dr. COODE ADAMS) presided. Letters of apology for absence were received from Dr. S. Squire Sprigge, Professor Starling, and Dr. Ford Anderson.

Sir RICKMAN GODLEE explained that the objects of the fund were the assistance of doctors and chemists, either in Belgium or amongst the refugees in this country. In Belgium the doctors and chemists were in an extremely unfortunate position, because their premises contained material useful to the invaders and consequently were pillaged. It had not been thought desirable at present to send money into Belgium. The gifts of subscribers, therefore, would take the form at first of packages made up of articles which would help a small number of doctors and chemists to begin work again. Fifty boxes, each of the the value of £5, had been prepared, and if these reached those for whom they were intended further supplies would be sent. There were about 4,000 doctors in Belgium, and probably 2,000 would require assistance. It was not thought practicable to single out doctors and

chemists for special gifts of food; they must share in that respect with the general population. It was difficult to discover how many Belgian doctors were in this country, but probably there were not more than 200. A certain amount had been spent already in relieving their immediate necessities. As to raising funds for these purposes, the profession in Dublin took early action, and on December 15th had collected £680; Scotland had also taken action, and in England £1,888 had already been subscribed. Help was promised from America, and it was hoped to secure a share in an enormous contribution of £20,000,000 by Mr. Rockefeller towards the relief of distress in Belgium. An appeal had been issued for a supply of surgical instruments, which though not perhaps of the latest pattern, might be serviceable to their Belgian colleagues. He had spent an interesting time examining some of the instruments sent in response to this appeal. Some dated back to very hoary antiquity, but there were a large number of very useful knives and forceps, and midwifery forceps. When the Committee heard that the supplies of drugs had arrived safely it proposed to send out the instruments. To reinstate the doctors and chemists of Belgium was a large task which might take a considerable time to complete, and it was necessary to appeal most urgently to the medical profession and those whom its members could influence.

Dr. D. G. PIDCOCK moved, and Dr. G. E. SHUTTLEWORTH seconded, the following resolution:

> That a fund be established entitled "The Belgian Medical Relief Fund," and that the trustees be the Chairman and Vice-Chairman of the Hampstead Division of the British Medical Association.

This was carried, and the proceedings concluded.

THE BRUSSELS MEDICAL GRADUATES' ASSOCIATION.

Dr. MAJOR GREENWOOD, Treasurer, Brussels Medical Graduates' Association (243, Hackney Road, N.E.), writes: At a recent meeting of the Council of the Brussels Medical Graduates' Association it was resolved to send out a circular to all British practitioners with Belgian medical degrees, specially asking support for this fund.

It was hoped that they would be willing to assist the association in getting together a considerable sum that might be presented to the above mentioned fund in the name of Belgian medical graduates generally.

The appeal has been fairly successful, but the Council desires that at least a hundred guineas should be collected before the contributions are handed over, and this amount has not yet been quite gained. May I ask, through your columns, any Belgian medical graduate, whom our circular may not have reached, or who has not already subscribed to the fund, for a small subscription for the above purpose?

Dr. F. HOWARD HUMPHRIS, President, Brussels Medical Graduates' Association (8, West Chapel Street, Mayfair, W.), writes: An appeal in money is being made for those Belgian doctors who are refugees in this country, and this has met already with generous response.

There are many, however, who would doubtless prefer to find a home in the family of an English medical man where they could give such services as lie in their power. Up and down the country thousands of homes have already been given to destitute Belgians, and I feel that there must be many medical men in this country who would in this way like to repay something of the debt of gratitude which they owe to Belgium.

There are about 140 Belgian doctors at present in England, the majority of whom are in very straitened circumstances, and I feel that it only needs an appeal through your columns to the 30,000 British practitioners to call forth a ready response in the form of an offer such as I indicate.

I shall be pleased to deal with any correspondence relating to this matter and put any offers before the Committee of Belgian Medical Men in London, who are endeavouring to arrange some *modus vivendi* for their compatriots.

THE BRITISH COMMITTEE.

The British Committee has appointed a subcommittee to inquire into cases in this country in which immediate relief is sought, and if deemed necessary the regular action in this direction of the British Government will be supplemented. The Pharmaceutical Society of Great Britain has already been able to help Belgian pharmacists who are refugees, many of whom are in very distressing circumstances.

The first consignment of parcels of medical materials has been prepared by Messrs. Burroughs, Wellcome and Co., Ltd., for distribution through Mr. H. Hoover, 3, London Wall Buildings, E.C., chairman of the Commission for Relief in Belgium. So soon as the licence of the British Government to export is obtained the parcels will be sent, in accordance with the request of the Belgian Committee represented here by Professor Jacobs, to M. Delacre, a well-known pharmacist in Brussels, who has been requested to report the results of the distribution of the first consignment as soon as possible to the British Committee.

The following subscriptions to the Fund have been received by Dr. Des Voeux up to Tuesday morning, December 22nd, in addition to subscriptions amounting to £1,888 previously acknowledged:

Fifth List.

	£	s.	d.
Mr. E. Warters ...	2	2	0
Sir John W. Byers ...	2	2	0
Dr. Clifford Beale ...	5	5	0
Dr. T. W. McDowall	5	5	0
Mr. F. Manser ...	2	2	0
Mr. G. L. Latour ...	1	1	0
Dr. Justin McC. McCarthy ...	1	1	0
Dr. Henry Malet ...	2	2	0
Sir Edgecombe Venning	3	3	0
Mr. Ernest Osborne	1	1	0
Mr. Lionel Scargill...	1	1	0
Clinical Society of Manchester (per Dr. Price Williams, Hon. Treas.) ...	25	0	0
Dr. S. M. Salaman ...	1	0	0
Dr. Alfred C. Warren	1	1	0
Miss Helen Mac-Murchip	0	5	0
Dr. F. Charlesworth	2	2	0
Dr. Emma M. Johnstone	5	0	0
Sir Alfred Fripp ...	26	5	0
Dr. H. Johnstone Campbell ...	3	3	0
The Wood Green Ward of the North Middlesex Division of the British Medical Association (per Dr. M. Stewart Smith): Drs. Knapp, Staunton, Mellor, and Wood, £1 1s. each; Drs. Bremner, Curtis, Hasler, Mailer, Porter, Tomlinson, Waugh, Winston, Allan, Wiles, and Slater-Jones, 10s. 6d. each	9	19	6
Dr. Sidney Davies ...	2	2	0
Dr. G. H. West Jones	2	2	0
Dr. Leslie Thorne Thorne	1	1	0
Dr. Archibald Finlay	3	3	0
Dr. J. Blyth ...	0	10	0
Dr. Percy C. Bushnell	2	2	0
Dr. D. Macmillan ...	3	3	0
Sir StClair Thomson	2	2	0
Dr. Herbert Lucas ...	2	2	0
Dr. Thos. Redmayne	3	3	0
Dr. Constance Long.	5	0	0
Dr. F. W. Emery ...	5	0	0
Dr. Chas. W. Chapman	1	1	0
Mr. W. F. Brook ...	3	3	0
Mr. Clayton-Greene	10	10	0
Dr. J. Wiglesworth	1	1	0
Mr. F. W. Gamble...	2	2	0
Dr. Abraham Cohen	1	1	0
Dr. C. H. Joy ...	1	1	0
Dr. F. Broadbent ...	2	2	0
Dr. H. Witham ...	1	0	0
Dr. R. S. C. Edlestou	1	1	0
"Anon."	1	0	0
Dr. Charlies Frier ...	5	5	0
Dr. W. R. Reith ...	2	2	0
Sir Arthur Downes...	5	5	0
Mr. J. A. Symonds...	0	10	0
National Union of Women's Suffrage Societies, Port Talbot Branch (collected by Dr. Henrietta James)	4	3	6
Mr. E. G. Thorne ...	0	10	0
Dr. Hugh Playfair ...	3	3	0
Dr. W. B. Russell ...	1	1	0
Dr. G. Victor Miller	1	1	0
Dr. Arthur C. Black	3	3	0
Dr. W. Townsend Storrs	1	0	0
Mr. F. Ashley Rogers	2	2	0

Subscriptions should be sent to Dr. H. A. Des Voeux, 14, Buckingham Gate, London, S.W., and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, and crossed "Lloyd's Bank Limited."

INSTRUMENTS.

The Master of the Society of Apothecaries begs to acknowledge with thanks the receipt of surgical instruments, etc., kindly contributed by the following donors since the publication of the last list:

Lieut.-Col. C. J. McCartie, I.M.S., Kingston, co. Dublin.
Dr. Evers, Faversham.
Anonymous, Clifton Down.
Messrs. Maw, Son, and Sons, London.
Dr. Darley Wynne, Clonmel.
Dr. F. W. Monsell, Lydney.
Colonel Joubert de la Ferté, Weybridge.
Dr. J. Ross Steen, Ilford.
Dr. R. Murdoch Matheson, Edinburgh.
Dr. Aldersmith, Horsham.
Dr. E. A. Milner, Lancaster.

THE Royal Dental Hospital (Leicester Square) has received a donation of £1,000 from Mr. Somerset Beaumont.

THE WAR.

MEDICAL ARRANGEMENTS OF THE BRITISH EXPEDITIONARY FORCE.

[*From a Special Correspondent in Northern France.*]

RAIN IN THE TRENCHES.

SAVE for one fine day, rain—and often heavy rain—has for over a month only ceased to fall when its place has been taken by sleet or when a tornado of wind has swept it upwards from the earth. On days when these conditions have prevailed I have passed some hours within earshot of the firing line, picnicking, so to speak, in the open in a flattish country, whose rain-sodden fields are intersected by deep ditches and whose horizon is cut by sparse clumps of trees, small woods, and an occasional distant church spire or factory chimney. It was positive luxury to be able to escape direct impact of wind and rain by crouching at the bottom of a ditch, and a chunk of tinned beef and a slice of dry bread seemed a meal for Lucullus. I marvelled then that our men should be able to withstand these conditions day after day, maintaining meanwhile their fighting qualities, despite artillery and rifle fire and the sight of comrades killed and wounded. I marvel still to some extent, but I find that in my own case the absolute change from the protected existence of a city dweller to a semi-savage life has not been followed by ill effects. This, which is the general experience, suggests that possibly an individual's preoccupations and mental attitude towards his environment have more effect on his physical condition than one is at first disposed to admit, even in these days of psycho-therapy. This reflection, added to the knowledge that the great majority of our troops are men in the very prime of life, makes their general bearing, their vigour, good spirits, courage and endurance, and the comparative infrequency of medical disorders amongst them, seem the less remarkable. It is true that there are many cases of rheumatism. It would be strange indeed if this were not so.

At the best of times the life of the men at the front is not one of comfort; the existence of those who are for the time being in billets, that is to say, in any cottages or houses that may be available, is rough, and when their short turn of rest is over and they have moved into the trenches they are never really dry or warm or comfortable until the time for their next relief arrives. This may be in three days, a week, or a fortnight, the duration of a turn of trench duties varying with the activity of the operations and the number of troops that may be available at the moment. Once in the trenches a man's life is divided between hours on and off duty; commonly the rule is two hours "on" and four hours "off," but all depends on the number of men in charge of the particular trench and the activity of the enemy. Often the periods are one hour on and one hour off, and the "off" is liable to disappear altogether. A man on duty stands quite still at his assigned position, he rests his rifle on the deck—the level of the upper ground—and fires it as often as he thinks necessary. Sometimes only his head and shoulders are exposed, at others his whole body from the waist upwards. In either case he leans against a wet, muddy wall, and often stands in six or more inches of water. A man off duty, if the trenches are of recent construction, can merely huddle himself together and rest under protection of its sides, but if it is a completed trench he lives in a cave dug out of one of its sides and protected from the inrush of water by a wall of clay or mud. Sometimes he has a waterproof-sheet; the general atmosphere is muggy and damp, and he knows that any moment a "Jack Johnson" may strike the ground over his cave and bury him prematurely.

CLOTHING AND FOOD.

When vast numbers of men are living in such conditions it is not remarkable that there should be a good many cases of rheumatism, especially among the older individuals. Among counteracting forces are the facts that despite all difficulties the men are almost invariably supplied with a large amount of good food and that they are warmly clad. Each man wears a woollen jersey, a pair of woollen drawers, a flannel shirt, a cardigan jacket, a cloth tunic, and a thick cloth overcoat. Putties embrace his legs from the knee downwards, and under them are usually two pairs of long woollen socks, and on his feet a pair of very strong well-made boots. His regulation cap he commonly discards, for the time being at any rate, in favour of a knitted helmet or other light headgear. He often, and indeed usually, has also a pair of mittens, and men known as "Teddy Bears"—that is, men wearing short fur coats of goatskin—are rapidly ceasing to attract attention, owing to these coats being served out in increasing quantity. They are made with the hair on the outer side—a method which has led to some criticism. A coat with the hair turned inside would certainly be warmer, but one with the hair outside keeps a man drier. Possibly the authorities consider that since in Western Europe rain is quite as common a feature of the winter as dry cold, it is best to compromise between preservation of the body temperature and its protection from external damp. Neither can be obtained in the highest degree by one and the same garment. I also understand that at some billeting stations arrangements have been made for supplying the men with hot baths when they come out of the trenches, and I am informed that in some of the older trenches it has been found possible to introduce charcoal braziers. Each of these factors counts no doubt for something in keeping down the prevalence of rheumatism and other disorders commonly ascribed to cold and damp.

FROSTBITE.

The stream of cases of frostbite from the front has for the moment almost ceased, but the number of men incapacitated, temporarily or permanently, from this cause has been sufficiently large to be of some importance I should imagine from a military point of view. The temperature so far has never been really low; in fact, there has never been more than a few degrees of frost for a limited number of hours, mainly at night. In all probability the actual temperature of the air at any given moment is only one of several factors in the production of the condition to which the term "frostbite" has been applied, and I understand that all the cases hitherto noted have been limited to the feet. Apart from actual frost, the factors in question appear to be the soaking of the men's boots and socks either in freezing water or a mixture of mud and slushy snow, the absence of any local output of muscle heat owing to the fact that the men are standing still, and some tightness of their boots owing to the men putting on two or three pairs of socks which are thick even when dry, and thicker still when wet. With their legs thus chilled in advance and the whole local circulation already reduced to a very low ebb, it is comprehensible that here and there in superficial areas it should be arrested for a time altogether. The usual history of these cases is that a man who has just got into his dug-out after standing for an hour or more with his rifle on the deck, has seen his way to a good rest and consequently has taken off his boots. On doing this he has noticed nothing the matter with his feet, but subsequently has found that they have become so swollen that, apart from any question of pain, to get his boots on again is quite impossible. The cases as seen at the advanced base hospitals within twelve hours or so of their occurrence vary very considerably. Only a minor proportion resemble classical cases of frostbite; the larger number bear a greater resemblance to huge chilblains of sudden onset and so acute a character that they are already disposed to "break," as one used to say in one's school days. Many suggestions are being mooted for prevention of these cases of frostbite. I understand that the experts believe that the situation, military and medical, would best be met by providing the men with larger boots. There seems, however, to be some probability that a large number of "Arctic boots" will be served out. These, which are of American origin, have leather soles and thick felt uppers reaching to the knee, and they are of such size that they can be put on over any ordinary boots, yet do not prevent their wearer moving freely and rapidly. An offer of a very large number of these boots, I am told, has been made by a philanthropist, but I doubt if their use will become general

FRENCH EXPERIENCES.

Treatment of Wounds.

Dr. Chavasse, the Inspector-General of the French Medical Service, who was recently appointed the chief medical officer of the hospitals on the lines of communication, has issued a memorandum on the treatment of gunshot wounds. He advises that every wound and its surroundings should be painted once with 1 per cent. tincture of iodine, that antiseptic treatment, "including asepsis," should be systematically employed both in the first treatment of wounds and in operations, and that care should be taken to prevent the stock dressings being soiled by dust. Strict orders should be given that dressings should not be changed more often than is absolutely necessary, and that the tendency, specially among amateur nurses, to change them whenever they appear to be soiled by discharges, should be strongly repressed. Even though dressings appear to be soaked, yet if there be no evidence of excessive suppuration, if the wounded man be free from fever and pain, and if the dressings be not abundantly soiled with blood, which would indicate severe haemorrhage, Dr. Chavasse considers that it is sufficient as a general rule to moisten the surface of the dressing with a deodorant antiseptic, such as a weak solution of chlorinated soda, and, if necessary, to add another layer of cotton-wool. After indicating that conservative surgery should be practised as fully as possible, especially in the upper limb, Dr. Chavasse stated that the general indications for amputation during the first few days were disorganization of the limb and gangrene, since loss of substance of the soft parts, even though large, was often reparable. For cleansing large wounds in clearing hospitals within a few hours of the receipt of the wound, he advised the use of oxygenated water and hot sterile artificial serum. In the treatment of severe haemorrhage, where direct operation was impossible, he advised that an attempt should be made to arrest the haemorrhage by pads, and that in no case should a tight tourniquet or bandage be left on for more than one or two hours. He stated that in penetrating wounds of the abdomen the early employment of ice and opium had given results as good as, if not better than, suprapubic incision, although this operation might be necessary if definite peritonitis occurred. Suture of the intestine, even when done under the best conditions, had not given encouraging results. If the bladder or ureter were wounded cystostomy was indicated. For wounds of the kidney, if any operation were undertaken, it should not be more than incision and drainage.

M. Hartmann, in a communication to a recent meeting of the Académie de Médecine, stated that his experience led him to consider that tincture of iodine was useful only in the rare cases of non-infected bullet wounds. Nearly all wounds received were infected after an interval of twenty-four hours, and the object should be to ensure free openings and to irrigate with hydrogen peroxide or strong solution of carbolic acid. Afterwards, if the wound remained much infected, he used large local baths, or, where this was not possible, antiseptic sprays. He also recommended compresses soaked in solution of chlorinated soda as a simple and cheap dressing, which gave good results, especially in foul wounds with sanious discharge.

HOME HOSPITALS AND THE WAR.

1st Western General Hospital (T.F.).

The 1st Western General Territorial Hospital is established in the City of Liverpool Fazakerley Hospital, consisting of twelve blocks for wards, in addition to buildings set apart for administrative purposes. The hospital occupies an elevated and spacious site just outside the city boundary, and readily accessible by train and tram. Built for the treatment of infectious diseases by the Corporation of Liverpool, 160 beds were opened in 1901 for variola, and the remaining blocks, containing 350 beds, were completed in 1906 for other infectious fevers. At the beginning of the war the hospital passed under the control of the military authority, and the medical staff, consisting of four physicians, four surgeons, and specialists, was duly mobilized according to their military rank. Lieutenant-Colonel Burns Gemmel is the Commanding Officer. All the medical officers are well-known Liverpool medical men holding hospital appointments and engaged in practice in the city. Lieutenant Allen Naldrett, the Superintendent of the Royal Southern Hospital, is the Quartermaster. Many of the nursing sisters are drawn from the large Liverpool hospitals, and others have received their training in Liverpool. Thus harmony and efficiency were guaranteed at the very outset, and the hospital machinery is working thoroughly well and satisfactorily.

The wards are not only well lighted but bright and cheerful, and as the hospital was arranged for infectious diseases, isolation rooms and all the essentials for disinfection of clothing are provided.

The operating theatre is admirably equipped. The surgical instruments are a gift from Lieutenant-Colonel W. Alexander. The *x*-ray department is under the control of Captain Thurstan Holland, who recently related the results of his work at the Medical Institution before a large gathering of the members. There are also laboratories attached to the various blocks for pathological investigation. During the last three months some 3,000 soldiers drawn from the regiments serving in the Expeditionary Forces, some naval ratings, and about 60 Belgian soldiers have been patients. The almost universal impression produced by the soldiers in spite of their very real hardships—for many have been in the trenches in the vicinity of Ypres—is one of good, well-nourished bodies. Mentally, cheerfulness even among the seriously wounded, is a dominant characteristic. No animosity towards the enemy is shown in their accounts of their experiences. Naturally the surgical cases predominate, and some 450 beds are set apart for them; the remaining 150 are reserved for medical and special cases. The preponderance of shrapnel wounds over those caused by rifle bullets is striking. In more than one instance *x*-ray examination has revealed all over the body fragments of shell and shrapnel bullets. Generally speaking, if the foreign bodies cause no inconvenience, and the wounds are clean and healing, no attempt at removal has been made. Frequently the *x* rays have revealed a shrapnel bullet embedded in the head of a long bone which, owing to the wound having healed and to the absence of symptoms, would never otherwise have been suspected. The path of the missile and its final resting place in the body in relation to the point of entrance is in many cases bizarre. A bullet entered behind the centre of the clavicle, and became ensconced behind the carotid sheath on the same side. In another case a bullet was extracted from the acetabulum without damaging the femur, and in a third case a shrapnel bullet was discovered firmly embedded in the tissues between the spine and posterior superior spinous process of the ilium, some distance from the point of entry. In cases where *x* rays fail to reveal the cause of suppuration often enough a piece of clothing is found at the bottom of the wound. Conservative surgery is the keynote of treatment in a healed wound and no attempt is made to remove the foreign body when this gives rise to no symptom. Hydrogen peroxide and carbolic acid are among the antiseptics used in the treatment of suppurating tracts. In one case in which the right scapula was shattered by a shell fragment, tearing away the skin over the deltoid region and disorganizing the joint, leaving a large irregular wound, after removal of the bony fragments and excision of the head of the humerus, the wound soon assumed a healthy appearance and the surgeon has every hope of saving the limb.

During the past three weeks several cases of frostbite have been admitted. The toes are chiefly implicated, and probably in many cases the ungual phalanges will be lost. In one of the worst cases both feet are involved, and the line of demarcation is beginning to show itself at the ankle-joint. All the cases are of the black, dry type of gangrene, unaccompanied by pain of any severity.

There have been four cases of tetanus; two died and two recovered. Antitetanic serum and carbolic acid separately or conjointly have been the medicaments used.

The medical beds have been occupied chiefly by cases of rheumatism and nerve exhaustion. Exploding shells which have not caused wounds may have so shattered the nervous system as to render the man unfit for service; for the time being he is a physical wreck. Only one case of enteric fever has been admitted, and the patient belonged

to one of the Territorial units encamped in the vicinity of Liverpool. Over thirty cases of beri-beri were brought in a transport direct to Liverpool, and admitted to the hospital; all recovered. Of some eighteen cases of venereal disease one only was invalided from the Expeditionary Force. This is highly satisfactory.

The ambulance arrangements for the transit from the railway stations to the base hospital are admirable in every particular, and there is no delay in bringing the lying-down cases to the wards. The ambulance orderlies have proved themselves to be thoroughly efficient, and reflect credit on their instructors.

THE BRITISH RED CROSS SOCIETY.

Survey of the Work in France.

An interesting survey of British Red Cross work in the north of France is contained in a report by Sir Frederick Treves of his visit to the area, which was presented to the executive of the Society on December 23rd.

This report stated that the value and efficiency of British Red Cross work in France could be well gauged by a visit to the stores shed at Boulogne, by a study of the postings of the fleet of motor ambulances, and by the distribution of the surgeons, nurses, and orderlies in the employment of the Joint Committee.

The store at Boulogne contained the infinite variety of articles that come under the heading of Red Cross supplies, and the huge dépôt is described as a model of efficiency. The fleet of motor ambulances Sir Frederick considers to be the most valuable form of voluntary service ever rendered to the Army Medical Department. The ambulances are working everywhere, bringing down patients and returning with stores for the wounded. In the saving of life, the lessening of suffering, and in securing prompt surgical treatment of the wounded, the ambulances have done a work the value of which can hardly be exaggerated. Their efficiency in removing the wounded from the hospital trains to the wards or ships is a revelation to those who have only seen horse or hand carriage in operation.

The personnel of the Society is dispersed in many directions. Many surgeons are attached to the military and auxiliary hospitals, others are with motor convoys, or with trains or at rest stations. A few are with French troops.

Valuable work is done at Boulogne by a British Red Cross voluntary aid detachment located in seven railway wagons standing in a siding. There is a dispensing store, a surgery equipped with all necessaries for an emergency dressing station, and a kitchen from which at any hour of the day or night tea or cocoa and other refreshments are supplied to the wounded passing through. Three fully trained hospital nurses are included in the staff, and they render innumerable little services to the wounded. As many as 2,300 men have been fed in one day at this station.

The Voluntary Hospitals.

The report stated that there are seventeen hospitals in or about Boulogne, of which ten are military hospitals and seven voluntary hospitals under military control. The beds numbered thousands, but all have been needed, for between October 16th and December 11th the number of wounded arriving at Boulogne was very great. The Duchess of Westminster's hospital at Le Touquet occupies the Casino and contains 270 beds. The medical officer in charge is Major Gordon Watson, who gained experience in the South African war. An admirable *x*-ray room has been fashioned out of a garden storehouse while the dark room is a large bathing machine brought up from the beach. The operating theatre occupies the fencing saloon. The change from the ordinary life of the place which the war has brought about is illustrated by the presence in one of the wards of baccarat tables piled against the wall, and in the linen store of fantastic pictures of tango dancing. The dispensary is in the American bar. The hospital is well found and has gained a high reputation for good work.

The Allied Forces Hospital at the Hotel Christol, Boulogne, in charge of Major Ernest Miles, contains 189 beds, which have been largely occupied by wounded British officers. The hospital affords evidence of careful administration and is well equipped.

The Anglo-American Hospital at Wimereux occupies the Hotel des Bains. The medical officer in charge is Major Armstrong, I.M.S., and the London Hospital is well represented amongst the personnel. There is accommodation for 100 patients.

The British Hospital occupies the Hotel Belle Vue at Wimereux and has 102 beds. Here there have been difficulties owing to the fact that the building is not very well adapted for a hospital. The Australian Hospital, established at the Golf Hotel, is much exposed to gales from the sea, and some of the windows have actually been blown in. The chief surgeon is Colonel Eames, and the nine surgeons on the staff are all Australians. The Women's Hospital Corps Hospital is established in a large villa in Wimereux and is in the charge of Miss Garrett Anderson, M.D. It is worked entirely by women doctors and has 65 beds.

The Baltic Hospital, Calais, is situated in a large girls' school on the outskirts of the town, and is devoted solely to Belgian soldiers. It contains 105 beds, but there is an annexe for enteric cases containing 20 beds, of which 17 were occupied on the day of the visit. The hospital is rationed by the Belgian army. Major H. Stedman is the surgeon in charge. There have been troubles with the drains, but these and many other difficulties Major Stedman has surmounted. The hospital is a good one, doing splendid work. Enteric fever is apparently not increasing. It was reported that there were only 200 to 250 cases of typhoid among Belgian soldiers in the whole of Calais. New cases were coming in at the rate of about ten a day.

Dr. Hector Munro is doing work at Furnes, where he has the assistance of one other surgeon. The unit works with the Belgian troops, and its nine ambulances are provided by the British Red Cross Society. In times of pressure as many as 200 to 250 wounded men have been brought in during one day. The so-called Quaker Hospital near Ypres ministers to sick and wounded refugees from that town, and is frequently exposed to shell fire. The nursing is undertaken by refugee nuns from Ypres. But for the help of this advanced hospital, which is doing heroic work, the people from Ypres would be without medical and surgical aid.

The British hospital at Furnes deals solely with Belgian wounded; it occupies a Jesuit college, and has 80 beds. A light equipment is necessary, as Furnes is frequently shelled, and a rapid evacuation is always before the mind of the medical officer, Mr. Souttar of the London Hospital. Very valuable surgical work has been done at this hospital.

NOTES.

Care of Soldiers' Feet.

Major Henry Dutch (London, W.) informs us that the following leaflet has been adopted by many commanding officers of new battalions and given to each man on enlisting:

The Care of Soldiers' Feet.

To prevent sore feet the soldier should attend to the following points:

Boots should fit with comfort, neither causing pressure or being too loose, causing friction. The leather, if hard, can be softened with dubbin or oil. Nails or seams inside the boots must be removed, and the boots should be properly laced.

Socks should fit easily, not too large or too small. *Dirty socks, badly-darned socks, socks with holes* or *too thin* are a frequent cause of sore feet.

Feet.—The feet should be washed and thoroughly dried daily and dusted with boracic powder. It is a good plan to soak the feet in a bucket of cold water, to which may be added a little permanganate of potash, alum powder, salt, or saltpetre. When blisters occur the serum should be let out with a clean needle, sterilized by passing through the flame of a match, the superficial skin not being removed. If sores occur they are best treated by the application of boracic lint or powder, a small piece of lint being strapped over the sore and renewed daily.

Corns and hard skin can be easily relieved with the new miniature corn planes or by applying a few drops of salicylic-collodion for three nights, when the corns can be picked off after bathing the feet in hot water. Any soreness between the toes can be relieved by packing in a little cotton-wool.

Major Dutch suggests that recruits wearing spectacles should be recommended to provide themselves with two pairs with curl sides.

Medical Officers Wanted.

Hunts Cycling Reserve Battalion.

Captain C. B. Moss-Blundell, Sanitary Service, R.A.M.C.(T.), and County M.O.H. for Huntingdonshire (56, High Street, Huntingdon), writes that the Hunts Cyclists Reserve Battalion is without a medical officer. He states that the probabilities of the officer seeing active service are great, and that he will be pleased to give any likely applicant further information.

2nd (Reserve) Welsh Field Ambulance.

We are requested to state that there are some vacancies for medical commissions in the 2nd (Reserve) Welsh Field Ambulance. Applications should be addressed to Lieutenant-Colonel Owen L. Rhys, 32, North Parade, Aberystwith.

West Lancs Clearing Hospital (T.F.).

There are vacancies for five medical officers in the West Lancashire Clearing Hospital (T.F.), which is a unit for the Expeditionary Force. The head quarters of the unit and the present training station are at Kendal, Westmorland. Particulars may be obtained on application to the Officer Commanding, West Lancashire Clearing Hospital, Kendal.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

Medical Education of Women in London.

The buildings of the London School of Medicine for Women in Hunter Street, Brunswick Square—not far from the Royal Free Hospital, which is the clinical hospital of the school—were completed in 1900. They were well designed and thoroughly suitable for their purpose, but, owing to the increase in the number of students, they are now proving inadequate to the growing needs of the school; it is therefore proposed to make an important addition to the existing buildings on an adjoining site. The new buildings, which will occupy an area of 75 ft. by 62 ft., will be in the shape of an L, its base fronting on Wakefield Street. The architect, Mr. H. V. Ashley, is carrying out the design in consonance with the architectural features composed by the late Mr. John Brydon for the existing building.

The new building will consist of four stories. In the half-basement accommodation will be provided for a pathological research department and an extension of the physics department, containing a lecture theatre to seat sixty students, six small dark-rooms, and lecturer's, demonstrator's, and preparation rooms.

The ground floor consists of a colonnade connecting the present block of buildings in Hunter Street with the new block, an extension of the chemical department, including a laboratory for 24 advanced students, lecturer's and demonstrator's and preparation rooms, balance and store rooms, as well as a Students' Union room, and some extra cloak-room accommodation.

The first floor will be devoted to an extension of the department of physiology, and will contain a large laboratory for advanced students, a good research room, demonstrators', preparation and dark rooms, a demonstration theatre with space for 50 to 60 students, and research and private rooms for the head of the department.

The second floor will be devoted to the extension of the department of anatomy. An additional dissecting-room will be provided, 64 ft. by 28 ft., with mortuary, store-room and preparation rooms adjoining. There will also be a good demonstration theatre, to seat 40 to 50 students, and a demonstrators' room. An animal house will be arranged on the roof.

It is estimated that the increased accommodation will enable the school to provide for an entry of about 75 students per annum. At the present time 212 students are in attendance.

The council of the school makes an appeal for £25,000 to defray the cost of the new buildings. The school was founded forty years ago, and has done very admirable work not only directly for its own students, but indirectly by setting a high standard before women who desire to become medical practitioners. Its direct influence is wide, for it claims that of the thousand women now on the *Medical Register* six hundred were at one time its students.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Women and the Medical Profession.

It would seem as if there were already visible signs pointing to an influx of women students into the medical profession. The great increase in the size of the first year classes in the Edinburgh School of Medicine for Women, to which reference was made in these pages in June (see Journal for June 13th, p. 1324), has been fully maintained this winter. This influx, which had begun before the outbreak of war, will certainly not be checked by the military situation, which is already by its exigencies abroad making great demands upon the medical profession at home. It was probably, however, largely due to the new openings for women doctors which were made by the medical requirements of much of the new legislation regarding national insurance, certification and supervision of midwives, and school hygiene; in all these directions, as well as in those of general practice and asylum work, opportunities for women graduates have been multiplied of late years. Nor has the expansion reached a limit, for any new developments of the maternity and pregnancy benefit under the Insurance Act, or of antenatal clinics and baby consultations, will make still more marked the demand for women qualified to deal with these matters. At any rate, the facts that the first year classes in Edinburgh this winter number 34 or 35 students in place of the 12 or 15 of past sessions, mark a distinct advance in the popularity of medical practice as an opening for educated and aspiring women.

Correspondence.

THE NUMBER OF MEDICAL STUDENTS.

Sir,—The Registrars, Deans, and other officers of the Schools of Medicine, and of approved Scientific Institutions throughout the United Kingdom, have been good enough to furnish me with returns, showing the number of medical students in attendance this session, as compared with the number in attendance last year. As the statistics have an important bearing on many questions touching the future supply of qualified practitioners for the service of the country, I would ask you to publish the following figures.

Decrease in Enrolments October, 1914 [illegible] compared with preceding year.

First-year students	56 fewer.
Second-year students	237 ,,
Third-year students	237 ,,
Fourth-year students	211 ,,
Fifth (and higher) year students ...	300 ,,

The aggregate number of medical students now pursuing their curriculum with a view to qualification is thus about 1,000 smaller than in 1913.

Unless many senior students return to their studies within the next few months, the result will be that the number of young qualified practitioners added yearly to the ranks of the profession will during the next few years be from 200 to 300 less than before. This is equivalent to a diminution of about 25 per cent. of the average number annually added to the *Medical Register* on qualification. The number annually removed from the *Register* by death or otherwise has for some years past been about 800.

In view of the additional losses among senior practitioners due, directly or indirectly, to the war, the prospective diminution of our reserve supply calls for serious consideration.—I am, etc.,

Donald MacAlister,
President.

General Council of Medical Education and Registration of the United Kingdom, 299, Oxford Street, London, W., Dec. 19th.

ANTISEPTICS IN WAR.

Sir,—Mr. Cheatle, in his short note in your issue of December 12th, speaks with great confidence of the value of applying an antiseptic paste to wounds in war. He does not seem to have considered the particular conditions in the present theatre of operations, either in respect

of climate, soil, or type of injury. He also appears to ignore the frequency with which wounds are infected with anaërogenic gas-forming organisms.

I cannot believe that the application which he recommends would give satisfactory results in a type of wounds that are most frequently the seat of serious infection. Such wounds are those caused by shrapnel balls, shell fragments and spent bullets, more especially those where a bone has been splintered; they are relatively large and ragged, and if the missile does not lodge, the wound of exit is of the explosive type. Fragments of clothing are carried along the track, clothing which is almost inevitably soiled with earth containing virulent organisms, for the earth is derived from fields where intensive culture is the rule, or from the sites of closely populated areas where village sanitation is still primitive.

To remove the probability of infection from this kind of injury, nothing but the full opening up of the wound and the mechanical removal of infective débris will suffice. Merely to squeeze on and into the wound a paste would, in many cases, render matters worse by plugging up the only exit for discharge; this applies with particular force to those cases in which there is a moderate-sized wound of entry only.

If the discharge from the wound is limited in any way, an unnecessary loss of life or limb may well be involved, should, as is frequently the case, gas-forming organisms be present.

It is, I think, dangerously misleading to quote experience in South Africa in advocating methods for wound treatment in the present war. In South Africa the vast majority of wounds were caused by the old pattern Mauser rifle bullet; whereas, in the present campaign, a large proportion of the wounds till recently has been the result of artillery fire. Rifle bullet wounds in South Africa would probably have healed quite as well if they had been powdered with a little dust from the veldt. Certainly this type of wound, when occurring in sparsely inhabited and little cultivated country, heals with great readiness under the most adverse conditions. From my experience in the Balkan war, I can say that wounds due to rifle bullets, even when left undressed and untreated for many days, healed soundly under a natural scab, and this occurred in half-starved and mud-stained troops.

In conclusion, may I question the justice of Mr. Cheatle's application of the word "disgraceful" to the condition of wounds of men arriving at home hospitals? It seems to me an instance of an unfortunate tendency, which is apparent among some of our brethren at home, to cast aspersions on the surgical treatment of our soldiers in France. But I venture to submit that, in the absence of personal observation of the local conditions, judgement should be reserved till those, who are by implication attacked, return home and are able to stand on their defence.—I am, etc.,

C. MAX PAGE,
Boulogne, Dec. 16th. Captain R.A.M.C. (Special Reserve).

SIR,—In reading Mr. Lenthal Cheatle's article in the BRITISH MEDICAL JOURNAL of December 12th (p. 1006), it occurred to me that the author scarcely does justice to the conditions of the work out here (France).

Iodine treatment of wounds was successful in the Russo-Japanese war, and owing to a clean, frost-bound and virgin soil little sepsis was experienced. In this war iodine has in my experience failed, and in this I agree with Mr. Cheatle. Strong antiseptics are clearly indicated.

Consider for a moment a common shell wound of the thigh. The projectile strikes the ground and casts up a shower of earth and manure and in the midst of this a large jagged splinter of metal strikes the man and carries a portion of his mud-soaked trousers into his thigh; he falls down into the muddy water at the bottom of the trench. Pathologically anaërobic organisms are carried into the depths of his muscles and act on a man whose resistance from cold and weariness is slight, assisted by a careful closure of the entrance and exit wounds by dressings. Under such conditions they multiply rapidly and under suitable anaërobic conditions spread within a few hours up and down the intramuscular planes of his thigh. Of what avail is the superficial application of any lotion, paste or powder? But little.

Let Mr. Cheatle see and smell the wounds as they come from a field ambulance only a few hours after infliction, or examine them on the *Trains Sanitaires* still within sound of the guns, and he will realize they enter the large hospitals here in a condition of advanced sepsis and inoculated with organisms peculiarly difficult to touch with antiseptics. Yet the evacuation of the wounded in this war is both rapid and efficient. Nevertheless we are engaged during a great part of the time in an unedifying struggle against pus. Necessary operations have to be postponed *sine die* until wounds have become clean.

It is difficult to know how this sepsis can be prevented, but the conditions will be undoubtedly improved when the ground is frozen.

I submit that Mr. Cheatle's statement that "many wounds have arrived in this country in a *disgraceful* condition" bears a reflection on the surgical work of the R.A.M.C. abroad which is unjustified by facts.—I am, etc.,

Boulogne. E. MUSGRAVE WOODMAN, R.A.M.C.

We referred the above letters to Mr. Cheatle, who sends us the following reply:

SIR,—Allow me to thank you for showing me the above correspondence.

My position is this. I say a wound is in a disgraceful condition when it is stinking and suppurating. To take a case of my own as an example: forty-eight hours after removing a foul-smelling, suppurating, and perforated appendix, the wound was offensive and suppurating, but in addition a larger area was affected because the healthy tissues through which I had cut were then involved. That wound was in a disgraceful condition, as I should have agreed with anybody who so said. As a matter of fact, matters were successfully dealt with by the application of the cyanide paste to all the lining surface of the whole wound.

I hope, therefore, Captains Musgrave Woodman and Page will not now consider that the adoption of the word "disgraceful" implied an attack or a reflection upon any of my professional brethren. I would substitute any word they suggest provided it did not mean satisfaction with the state of affairs to which I applied my term. There are many kinds of wounds in war, but as my critics say, in this war a great proportion are large and deep, and caused by the missiles of artillery. There are two ways of dealing with these wounds: (1) To prevent infection; (2) to deal with infection when it is present.

1. Captains Woodman and Page are agreed that wounds inflicted in South Africa were not exposed to the severe forms of infection as those which are being inflicted in France at the present time. Everybody is convinced upon that point. I can also see that the number involved and difficulty in getting into immediate contact with them render it practically impossible to prevent infection except in rare cases. One of my points is that it would be wise to have preventive means accessible for dealing efficiently with even rare cases. The want is not met by merely putting on an antiseptic dressing. Very likely there may be better ways of dealing with them than by the intelligent use of the cyanide and carbolic paste or by means of the lotion I mentioned. I am glad that Captain Woodman is convinced that iodine has failed. All cases of shell wounds which I saw in South Africa were septic except a few to which the cyanide and carbolic paste had been applied in a thorough manner almost immediately after the injuries. Although the severity of infection to which they were exposed was not so great as that which threatens the wounds received in France, the result justifies the hope that when a well-equipped man happens to be on the spot at the right moment he may save limb and life itself even now in France.

2. In dealing with the large and deep wounds that are already infected and which may contain foreign bodies, no one could imagine that the superficial application of lotion, powder, or paste would purify the deep internal parts. But even in these cases I would apply, as soon as possible, an efficient antiseptic in order to prevent fresh infection, while waiting for the essential adequate surgical interference.

My other point is after adequate surgical interference these wounds are relieved of their spore-bearing anaërobic and gas-forming micro-organisms with great rapidity by the use of efficient antiseptic treatment.

I have made bacteriological and clinical experiments of my own, and experiments have been made for me by an independent bacteriologist. These experiments show that the cyanide and carbolic paste effectually deals with the spore-bearing anaërobic micro-organisms. I will publish these results later. I find that these particular spore-bearing and anaërobic micro-organisms are very much more easily eradicated than the streptococcic and staphylococcic with which they are commonly associated in the infective process. No doubt the explanation of this is that the anaërobic organisms grow much more easily in damaged and necrosed tissue than in the healthier parts, while they do not possess the greater power of invasion which belongs to the pyococci.

There is not the same object gained in applying antiseptics to a wound from which the anaërobes have been expelled and only pyococci remain, but they form a protection against further infection.

Finally, I feel sure that the iodine method is not safe enough to ensure freedom from infection in those cases of amputation which are performed above deep, large, and septic wounds. From my point of view the preliminary preparation in the fight against possible infection requires more skill than the amputation itself; it is not so dramatic, but a successful result, although confidently expected, is a great triumph.—I am, etc.,

Haslar Royal Naval Hospital, Dec. 20th. G. Lenthal Cheatle.

Sir,—In most of the methods suggested or adopted for disinfecting wounds on the field, the main drawback in my estimation lies in the cumbrous or complicated nature of the container used.

I beg to suggest that the solution used by Mr. G. Lenthal Cheatle as described by him in the British Medical Journal of December 12th, p. 1066, be placed in a small glass capsule, such as is used for holding amyl nitrite. This could be enclosed in a gauze bag, and covered with impervious paper, and packed within the "first field dressing," either the old pattern or the "asepto" being used. The gauze bag should be of several plies in thickness, resembling an ordinary surgical swab, and tied with thread. When required for use, all that would be necessary would be to tear open the paper cover, break the capsule, and so allow the gauze pad to become saturated with the antiseptic solution. The wound could be swabbed all over with this solution, and the remainder of the dressing applied in the manner directed.

It is scarcely likely that the capsule would be broken accidentally, but even if it should, the impervious paper would prevent the loss of the antiseptic solution. Moreover, the weight and bulk of the packet would be very slightly increased, and any objection on this score would be practically negligible.

I intend having some of these capsules made up for general and V.A.D. use.—I am, etc.,

Campbell Highet, M.B., C.M.,
Medical Officer Voluntary Aid Detachment,
Worcester, Dec. 13th. Worcester 5.

ALCOHOL AND THE WAR.

Sir,—You were good enough to publish in your issue of November 21st an account of the Conference which took place on November 12th, under the presidency of His Grace the Archbishop of Canterbury, to consider the subject of alcohol and the war.

Since then I have been appointed Honorary Secretary of the Central Emergency Committee, which was formed by the Conference in order to secure the carrying out of the resolutions which were passed by that influential gathering.

It should be remembered that the Conference was called together in order to support Lord Kitchener's appeal to the nation, issued through the Press Bureau, asking that the public should "help the soldiers" in this matter, and especially in urging that steps should be taken to educate public opinion. It is clear that Lord Kitchener had in his mind something beyond the ordinary risks which are associated with alcoholism, and when we refer to his message to the troops at the outset of the war, we find that he warned them against the temptations connected with "wine and women," and said "you must entirely resist both."

Major Darwin, as an old soldier, and as one who has interested himself in the many difficult problems which bear upon the health and well-being of the nation, referred in his speech at the Conference to the appalling connexion between alcohol and venereal disease and the special conditions which had been created by the war, including the crowding together of large masses of men in centres unaccustomed to receive them.

This is but one aspect of a great question, but I mention it because I consider that a grave responsibility rests upon the medical profession in this matter. That the profession is rising and will rise to the occasion I do not doubt for a moment, and the speeches of Sir Thomas Barlow and Sir T. Clifford Allbutt at the Conference, as already reported by you, were of the greatest value. I venture, however, to appeal earnestly to medical men and medical women throughout our land to join in giving that support to Lord Kitchener's appeal which is needed at this moment. Every Lord Mayor and Mayor, and Chairman of District Councils has received an appeal from the Central Emergency Committee to take part in this movement, in the hope that Local Emergency Committees will be formed in each locality to ensure that the nation may respond to the call which comes to them to assist in promoting the utmost efficiency of all classes at this critical time.—I am, etc.,

Charles F. Harford,
Honorary Secretary, Central Emergency Committee.
55, Paternoster House, London, E.C., Dec. 21st.

THE CAUSE OF HERNIA IN INFANTS.

Sir,—I agree of course fully with Dr. Cameron as to the collateral conditions which lead to the production of hernia, and, as I stated in the Banks Lecture, in most cases the hernial condition disappears. As regards the proportion which recur later, I stated there were no clinical statistics on the subject. Naturally, therefore, I "did not furnish any."

I think Dr. Cameron will agree that such recurrence is the chief cause of the national disabilities due to hernia if he reconsiders the development of my argument in the lecture, particularly (*a*) the topographical incidence of hernia in the adult, and (*b*) the position so clearly defined by Dr. Hamilton Russell.

Reflection on these unanswered facts will, I believe, convince Dr. Cameron that though by removal of dyspepsia, malnutrition, and bronchitis, the infantile hernia undoubtedly disappears, such treatment does not obliterate the sac or infundibulum, and that though "a firm muscular wall may develop," the appearance of a painless hernia in later years finds its simplest explanation in recurrence.—I am, etc.,

London, W., Dec. 21st. Victor Horsley.

YELLOW FEVER.

Sir,—As the writer of the note on Macfie and Johnston's paper, published in the British Medical Journal, July 18th, 1914, p. 106, to which Dr. Johnston replies in your issue for December 19th, p. 1089, may I draw the attention of people interested in the matter to a paper by Dr. Wenyon and myself which appeared in the *Journal of Tropical Medicine and Hygiene* of December 15th, 1914, on this subject? As this paper is illustrated with a coloured plate comparisons of the so-called yellow fever parasite with the identical bodies found in the blood of normal guinea-pigs in England can easily be made. Again, as the points against this supposititious parasite are carefully gone into there it is not necessary for me to recapitulate them now.

Perhaps I might inform Dr. Johnston here, however, that I carefully read his paper and bestowed much attention upon it. This may relieve his mind as to my familiarity with its text. If Drs. Macfie and Johnston had looked at normal guinea-pigs' blood with sufficient care before doing their experimental inoculations they would not have fallen into the error they have made.—I am, etc.,

London, W., Dec. 18th. George C. Low, M.D.

THE "MEDICAL DIRECTORY."

Sir,—In reference to your remarks about the omission of the Abroad Section of the *Medical Directory*, we desire to point out that the compilation of this list is one which

has presented numerous problems to those who have had to undertake it. It has always contained only a selection of names, and it is not easy to know where to draw the line. We think the list has only been useful to a small proportion of the users of the Directory, but they are worthy of consideration, and the whole matter has again our serious attention.—We are, etc.,

London, W., Dec. 19th. J. AND A. CHURCHILL.

Obituary.

ALBERT VAN GEHUCHTEN.

ALBERT VAN GEHUCHTEN, Professor of the Anatomy, Pathology, and Treatment of Diseases of the Nervous System in the University of Louvain, died in Cambridge on December 9th.

The arrival of Professor van Gehuchten, of Louvain, in Cambridge was cordially welcomed. Both on personal and scientific grounds it was felt to be not only a great privilege to receive him but also a rich promise of help and inspiration for our schools. On the painful events which led to his visit I will say nothing except this, that both his town and country houses were burned, and with them manuscripts containing records of the last ten years of his work. With a courage worthy of his great nation he restrained his grief, and in a buoyant and hopeful spirit began work anew. Yet we saw only too well how bitter were the moments when at times his grief could not be restrained.



ALBERT VAN GEHUCHTEN.

The studentship maintained by the generosity of Dr. R. C. Brown, of Preston, at our Research Hospital happened to fall vacant, and by the assistance of Sir William Osler a like stipend was provided from the Rockefeller Fund; and, although the wards of the Research Hospital were occupied by wounded officers, the laboratory—an independent building—was placed at Professor van Gehuchten's service. In a few days it was manifest to Mr. Strangeways, and others of our circle, what a brilliant colleague we had secured. His methods were remarkably skilful and accurate, and with these opportunities his spirit and energy were renewed, and his bodily health seemed restored. One evening he complained of pain in the left iliac region, and twenty-four hours later we made a diagnosis of volvulus. Dr. Cairns, of Huddersfield, who was in surgical charge of the hospital, decided that operation was urgent, but, under all the circumstances, desired further assistance. Most kindly Mr. Waring came down at our request, a laparotomy was performed, the volvulus was released, and all went well. In a few days convalescence seemed established, the patient felt confident of recovery, was attending to his correspondence and receiving a few friends, when suddenly he complained of a terrible oppression in the region of the heart, and in a few minutes he passed away from a world of sorrow.

At his funeral the Roman Catholic Church was filled by a large congregation of university and townspeople, and of his professional and other colleagues and compatriots now in Cambridge, the Vice-Chancellor being one of the pall-bearers. It was universally felt that in van Gehuchten biological science had lost one of its most skilful investigators and most brilliant exponents. But of these accomplishments I am less competent to speak. Dr. F. E. Batten has very kindly written for me the following appreciation:

C. A.

On the occasion of the celebration of Professor van Gehuchten's jubilee of twenty-five years' teaching at the University of Louvain on December 1st, 1912, M. le Docteur Meens, in his presidential address, said: "The work of M. le Professeur van Gehuchten is so stupendous that when I was asked to preside on the occasion of his jubilee I was afraid that I should not in any sense be able to do justice to it."

From the time of his passing his second examination in Natural Science, van Gehuchten had attracted the attention of the late Professor Jean Baptiste Carnoy, who invited him to work in his laboratory, which formed at that time the rendezvous of the most brilliant students in science and medicine. Here van Gehuchten worked indefatigably, laying the foundations of a knowledge characterized by accurate observation and an instinctive rejection of all mere hypothesis and speculation which could not be controlled by observation and experience. Whilst still working in Carnoy's laboratory van Gehuchten passed his examination of D.Sc. with great distinction, after which he pursued his studies in Berlin and Frankfort. In 1887, at the age of 26, he returned definitely to Louvain, where he had been appointed by the University to fill the position of instructor in anatomy.

His first publication was in 1886, on the structure of muscle cells—a work in which the influence of Carnoy's opinions on the protoplasm formation and unity of cell structure is clearly shown. The work was followed by many others of a biological nature.

In 1890 Professor van Gehuchten published a study on the olfactory mucosa of mammals—a work which formed his first researches in the domain of neurology. That the study of the central nervous system involved in the preparation of this work made a profound impression on him is proved by the fact that from henceforward he applied all his energies to this particular branch of medicine, and so became one of the greatest masters in the science of neurology; for twenty-four years he has given us in rapid succession an uninterrupted series of researches and publications each challenging the other in interest and importance.

These publications may roughly be classified into four systematic groups.

The first, appearing between 1890 and 1896, embraces a series of important publications bearing for the most part on the structure of nerve centres—the olfactory bulb, the structure of the optic lobes, the nerve cells of the sympathetic nervous system, cerebro-spinal ganglia, etc. In this group our present-day conception of the neuron was placed on an unassailable foundation—namely, that the neuron comprises a cellular body, protoplasmic prolongations for cellulipetal transmission, and an axis cylinder prolongation for cellulifugal transmission, both kinds of prolongation having a free termination, the nerve conduction from one neuron to the other being affected by the contiguity of the end ramifications of the axis cylinder of one neuron to the protoplasmic prolongations of the neighbouring neuron. The conception that the neuron appeared as an independent and fundamental unit was the solid basis upon which van Gehuchten built all his later researches on the true origin of nerves, and on the course of fibre bundles in the cerebro-spinal axis. In 1897 began van Gehuchten's long and fruitful series of study on methylene-blue staining methods, a report on which he presented to the International Congress of Medicine at Moscow in that year. He found that this method was of greater value in the examination of the more intimate nerve structures and their modifications than that of Golgi, hitherto used, which had the disadvantage of being too coarse. Further research in this direction led to investigations on the phenomenon of chromatolysis, and all these investigations are important as forming the basis on which rested his study of the true origin of motor nerves. They gave rise to a number of works on nervous pathology, and were even applied to the complex study of organic lesions in mental affections, especially in dementia præcox, and led to van Gehuchten's interesting discoveries on the pathological anatomy of dementia. He proved that the pathological process of rabies had a special predilection for the sympathetic spinal and cerebral ganglia, producing in the nerve cells of these ganglia primary modifications

of a chromatolytic nature as well as secondary modifications due to the active proliferation of the endothelial capsule of the nerve cell, which leads to its destruction, and the formation of characteristic rabid nodules.

The second group of publications, commencing in 1898, deal with the origin or termination of the peripheral nerves and the tract of certain bundles of neurons in the cerebro-spinal axis, and, in these days of confused literature on the subject, form classic models by their compass, clearness and precision, as well as by the value and novelty of their conclusions. All these experimental researches, carried out by section, rupture, or more frequently by the extirpation of the nerve in rabbits, were corroborated by the study of comparative anatomy and embryology of the nervous system and by *post-mortem* investigations. Finally, by the discovery of a new method based upon the phenomenon of direct Wallerian degeneration, van Gehuchten gave an exactitude to the results of his studies of the intracerebral or medullary course of the motor nerves and certain central nerve tracts never hitherto attained. This indirect Wallerian degeneration was described by van Gehuchten in an exhaustive report presented to the International Congress of Medicine at Madrid in 1903. He showed that if, instead of dissecting a nerve it was torn out, degeneration followed not only of the peripheral but of the central portion of the nerve, such central degeneration being not retrogressive but descending, like that of the peripheral portion, this being due not to the direct separation of the nerve itself, but to the atrophy of the cells from which it originated and fatally injured by this violent traumatism. Having identified by his new method each one of the peripheral nerves, Professor van Gehuchten extended his ingenious researches into the complex field of the acoustic and olfactory nerve tracts, the central connexions of Deiter's nucleus, the superior cerebellar peduncle, the cerebro-bulbar fasciculus, etc., with most brilliant results. We would especially mention in this connexion his study on the inhibitive fibres of the heart, a problem which has puzzled many celebrated physicians, but resolved by van Gehuchten, who directly traced the connexion of these fibres to the pneumogastric nerve itself, and not to the spinal nerve.

The third group of publications, which deals with problems of nervous pathology, include studies on the central motor neuron or the pyramidal tract, acute anterior poliomyelitis in the adult, the pathogenesis of decubitus, Babinski's phenomenon, syringomyelia, aphasia, etc. Of his work bearing on the pyramidal tract the most important branch is that concerning the mechanism and seat of reflex movements, in which he showed that tendon reflex was independent of muscular tonicity, that section or compression of the human medulla is accompanied not by increase of all reflex movements, but by disappearance of both tendon and cutaneous reflexes.

Into the fourth group of publications may be relegated those works now sufficiently well known which were the outcome of his teaching at the university. Among them is an excellent anatomy of the nervous system, appearing first in 1895, and now in its fourth edition, which formed his principal work. There followed a whole library of handbooks for students bearing testimony to van Gehuchten's untiring zeal and anxiety to elucidate the mysteries of a science the intimate details of which he knew so well. In 1908 appeared an abridged edition of the *Anatomie* under the title *Les centres nerveux cérébro-spinaux*, specially prepared for the student of nervous pathology. From 1906-09 he published his *Cours d'anatomie humaine systématique*, with blank pages intercalated in the text on which the student might copy demonstrations made by the professor during his lecture—an excellent mnemotechnical exercise. Lastly may be mentioned his *Manuel de pathologie nerveuse*. All these works were published for the most part in various special journals—*Le Journal de Neurologie*, *La Cellule*, etc., and in 1900 van Gehuchten brought out *Le Névraxe*, a journal dealing with normal and pathological anatomy, of great value in the scientific world.

Professor van Gehuchten was a teacher of great capacity, esteemed by his students as much for the high conception he had of his professorial duties as for the pains he took to communicate his instruction in an interesting and sympathetic manner, illustrating his points step by step by drawings on the blackboard, demonstrations on the human body, and even by cinematograph films. In his work van Gehuchten was not only a clinician of great eminence, determining with mathematical exactitude the seat of lesions of the central nervous system, but a bold innovator in the domain of the therapeutics and especially the surgery of the nervous system. He obtained unlooked-for results in the surgical treatment of cerebral and medullary tumours; in obstinate neuralgia of the trigeminal nerve he proposed excision of the nerve branches to bring about atrophy of the cells from which they orignate, and hence destruction of the nerve itself and elimination of all pain; he modified Foerster's operation, and successfully proposed the less complicated method of resection of the post-radical filaments instead of the posterior roots.

These clinical and therapeutic triumphs proved to those who were still in doubt that absolutely pure and disinterested scientific research must finally lead to the elucidation of the most obscure pathological problems, and thus form the indispensable foundation of medical science.

F. E. B.

BERNARD PITTS, M.C., F.R.C.S.,

CONSULTING SURGEON TO ST. THOMAS'S HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

THE death of Bernard Pitts will be felt by a large circle of friends and colleagues, amongst whom he was held in high repute as a sagacious, bold, and skilful surgeon. He was one of those all too rare men who hate anything in the way of pretence or sharp practice, and did not hesitate to speak his mind freely and without fear when occasion seemed to demand plain speaking. He was not, possibly, so well known to the general public as his position in his profession seemed to warrant, but he disliked show and was content to do his work unostentatiously, without any effort to secure the rewards which publicity so often brings. He would not compromise, and, as he was ready to face difficult questions squarely and without fear, he may have got more of a reputation as a fighter than he really deserved. If he fought at all, he always fought for the right. He played the game, and he played it straight. At the time of his death Mr. Pitts was consulting surgeon to St. Thomas's Hospital and to the Hospital for Sick Children, Great Ormond Street. In 1876 he acted as surgeon during the Turko-Servian war, and two years later was appointed resident assistant surgeon at St. Thomas's. From this time onward until 1908, when failing health compelled him to resign, he worked continuously at St. Thomas's and at the Children's Hospital, teaching, lecturing, and doing his hospital work, in which he was indefatigable. He took a keen interest in the well-being of nurses after they had completed hospital training, and almost from the commencement was an active member of the council of the Nurses' Co-operation, which now numbers more than 500 members.

Mr. Pitts's life was devoted to his work, and he was ready at all times freely to place his skill at the service of those who were in need of his help.

Some few may remember Mr. Pitts's early work at St. Thomas's Hospital and his success as a pioneer in abdominal surgery. He was one of the first to use a median incision in cases of acute intestinal obstruction when the site of obstruction was unknown, instead of doing what was then the common practice—the operation of left lumbar colotomy. He was also one of the first to perform suprapubic cystotomy for the treatment of villous growth in the bladder, and he was a successful pioneer in the immediate treatment of intussusception by operation. Mr. Pitts lectured at the Royal College of Surgeons of England on the "Surgical affections of the air passages in childhood," a subject in which he had a large experience at the hospital in Great Ormond Street.

In his early professional life all open-air games and exercises had a great attraction for him, and though almost totally incapacitated during the last few years through illness and suffering, no word of complaint ever passed his lips. Those who knew him will retain an affectionate remembrance of his strong character and his unselfish devotion to the interests of others. In health and in sickness he was always the same. Religion was to him a reality, and he died in the faith of the Church

undaunted and undismayed by the sad fortune of his later years. By his death many will feel that they have lost a true friend.

DR. CLINTON WAGNER, of New York, one of the pioneers of laryngology in the United States, died in Switzerland on November 25th. He was born at Baltimore in 1837, and graduated in medicine at the university of that city in 1858. He entered the medical service of the army and served through the civil war with much distinction. Afterwards he visited Paris, London, Berlin, and Vienna, and on his return to America founded the Metropolitan Throat Hospital and Dispensary of New York, which soon became a centre for doctors wishing to study the speciality. Dr. Wagner was the first professor of laryngology in the New York Post-Graduate Medical School and Hospital. In 1873 he founded the New York Laryngological Society, now the Section of Laryngology of the New York Academy of Medicine. Dr. Wagner contributed largely to the literature of his special department of practice, and was a very inventive and enterprising surgeon. After a successful career he retired from practice several years ago, and thenceforward passed his life mostly abroad.

LIEUTENANT-COLONEL EDWARD LEWIS MAUNSELL, R.A.M.C. (retired), died at Southsea on December 7th. He was born on December 3rd, 1853, the youngest son of the late Major Francis Maunsell of the 4th King's Own and 54th Regiments. After taking the diplomas of L.R.C.S. and L.R.C.P. at Edinburgh in 1878, he entered the army as surgeon on July 31st, 1880, becoming surgeon-major on July 31st, 1882, and lieutenant-colonel on July 31st, 1900, and retired on November 3rd, 1906. For some years he held the post of Health Officer of Gibraltar.

DR. LEON LEREBOULLET, President of the French Medical Association, died recently at the age of 71. He was born at Strassburg where his father was incumbent of the Chair of Zoology and Comparative Anatomy in the Faculty of Science. Leon Lereboullet was appointed professeur agrégé at the army medical school of Val-de-Grâce in 1872. In 1877 he became professor of clinical medicine at Lille, and in 1890 he was elected a member of the Academy of Medicine. He collaborated with Dechambre on the *Gazette Hebdomadaire de Chirurgie* and was editor of the *Dictionnaire Encyclopédique des Sciences Médicales*. He was also the author of several works on medicine, and of a series of articles on the health service which produced a considerable sensation and attracted the attention of Jules Ferry and other leading statesmen. His son Pierre is professeur agrégé and physician to the Paris hospitals.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates have been approved at the undermentioned examinations:

FIRST B.M., B.CH. (*Organic Chemistry*).—E. A. Crook, W. Gover, R. B. Hervey-Wyatt, C. F. Krige, R. T. F. D. Roberts. (*Human Anatomy and Human Physiology*).—J. H. Beattie, E. ff. Creed, R. B. Hervey-Wyatt, G. H. Rossdale, J. J. Savage, N. F. Smith, S. C. Varley, J. P. S. Walker.

SECOND B.M., B.CH. (*Materia Medica and Pharmacology*).—E. W. Bowell, W. H. Butcher, G. I. Evans, G. T. Gimlette, J. M. Guilfoyle, G. A. Maling, A. L. Watts. (*Pathology*).—E. W. Bowell, W. Brown, J. B. Cavenagh, R. W. J. A. Cushing, A. G. East, V. T. Ellwood, L. Gameson, F. C. Gladstone, J. M. Guilfoyle, B. E. Wall. (*Forensic Medicine and Public Health*).—E. W. Bowell, L. R. Broster, W. Brown, R. W. J. A. Cushing, R. C. Fairbairn, B. E. Wall, H. A. B. Whitelocke. (*Medicine, Surgery, and Midwifery*).—L. R. Broster, W. Brown, F. W. Browne, C. H. Carleton, V. T. Ellwood, F. C. Gladstone, C. H. J. Harper, G. A. Maling, H. G. Morris, G. S. Robinson, B. E. Wall.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.B.—Hamilton Hartridge, C. R. A. Thacker.

The following candidates have been approved:

THIRD M.B. (*Part I, Surgery and Midwifery*).—W. K. Bigger, P. R. Boswell, T. J. H. Hoskin, L. M. Ingle, J. H. Jordan, G. O. Maw, H. G. Oliver, D. V. Pickering, R. T. Raine, W. H. C. Romanis, C. M. Ryley, G. D. Sherwood.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

FINAL (M.B., CH.B.).—W. S. Booth, †Clara A. Locmas, J. G. McKinlay, K. Maximus, †H. A. Sandiford, H. Wilson, S. A. Winstanley, H. A. Sandiford.

* Awarded first-class honours and distinctions in obstetrics, surgery, and medicine.

† Awarded distinction in surgery.

Medicine only.—S. G. J. Dowling. *Forensic Medicine and Toxicology*.—R. Chevasout, J. S. Chorlton, S. G. J. Dowling, J. Fielding, G. B. Horrocks, †J. D. Kenyon, H. H. Stones.

‡ Passed with distinction.

THIRD M.B. CH. (*General Pathology and Morbid Anatomy*).—J. H. Albinson, H. Chadwick, W. Christopher, R. Colley, E. W. Fish, Eva L. Glasier, Alice M. A. Holt, R. L. Newell, F. C. Ormerod, Nesta H. Perry, Dorothy Potts, C. R. Sandiford, W. Stansfield, G. B. Wild. (*Pharmacology and Therapeutics*).—J. D. Byrd, E. W. Fish, E. R. Gilmore, J. B. Leigh, B. L. Lloyd, B. Walley, G. B. Wild. (*Hygiene*).—J. H. Albinson, E. W. Fish, E. R. Gilmore, J. B. Leigh, B. L. Lloyd, B. Walley, G. B. Wild.

SECOND M.B. AND CH.B.—§F. H. Anderson, G. E. Archer, Mercy D. Barber, W. T. G. Boul, Hilda K. Brade, C. F. J. Carruthers, Kathleen L. Cass, Ruth E. Conway, J. C. T. Fiddes, J. Holker, N. Kletz, E. N. P. Martland, A. B. Platt, Elizabeth C. Powell, J. Shlosberg, D. M. Sutherland, H. Taylor, H. Tomlinson. (*Physiology*).—A. M. Cotes, R. S. Paterson.

§ Awarded distinction in anatomy.

UNIVERSITY OF DURHAM.

THE following degrees have been conferred:

M.B.—A. C. Freeth, Grace W. Pailthorpe, E. C. G. Parker, H. Playfair-Robertson, Sarah L. Rook.

B.S.—J. B. Alderson, Grace W. Pailthorpe, Sarah L. Rook.

UNIVERSITY OF EDINBURGH.

GRADUATION CEREMONY.

DEGREES were conferred by Sir William Turner, Vice-Chancellor of the University, in the M'Ewan Hall, on December 18th. All the degrees with four exceptions were in the Medical Faculty. The following is a list of those on whom degrees and other awards were conferred:

M.D.—†R. M. Allan, *J. R. Boyd, †G. R. Bruce, *W. M. Cairns, N. L. Lochrane, W. S. Malcolm, A. M. Masters, G. Pollock, †T. C. Ritchie, †G. H. Skinner, J. S. du Toit, R. W. L. Wallace, †G. Williams.

M.B., M.S.—G. D. Hamilton.

M.B., CH.B.—J. H. Baird, B. Barseghian, E. G. von B. Bergh, D. G. Boddie, W. K. Chalmers, U. J. Cherry, W. A. Coats, R. P. Cormack, Georgina E. Davidson, A. M. Duarte, A. J. Ferguson, Agnes R. H. Greig, H. Jackson, C. W. Lewis, H. S. Lewis, G. A. G. Macdonald, J. Macqueen, E. S. Mellor, J. J. Molyneaux, A. C. Murray, W. H. Pallett, P. V. Ramanamurty, ‡J. Ritchie, R. C. Rogers, ‡G. M. Scott, †C. G. Skinner, L. J. Spence, T. J. W. Sveinbjörnsson, P. G. Tuohy, H. M. Vickers, E. Wardman-Wilbourne, E. L. White, A. Wotherspoon.

D.T.M. AND HY.—Chik Hing Wan.

Highly commended for thesis. † Commended for thesis.
‡ Second-class honours.

Sir William Turner, in addressing the graduates, said that the relation of the medical profession to the nation was different from what it was when he took his degree. Then the profession looked for its work and its rewards to private practice; now there was a highly organized public health service which was of the utmost value to the nation. The observation of so many uniforms in the audience, he continued, showed that a stage had been reached in which military life required a large number of medical practitioners. There was especial need that young graduates who had not yet settled upon any definite practice should consider how far they could meet the requirements of the nation in this respect. It was obvious that such a combination of things as now prevailed in the universities and in the schools of medicine all over the country should be properly acknowledged, and accordingly the University of Edinburgh was now preparing and about to issue a roll of those members of the university who had already joined the forces. He was happy to say that their roll now contained 1,500 names, including members of the staff, members of the teaching staff, graduates, and students, and embracing men in all the faculties. The graduates and students belonging to the Faculty of Medicine numbered 660. But the profession of medicine had also an important civilian side, because the civilian side of the nation was far larger than the combatant. The need of a proper provision of medical men in the army and navy had to some extent affected, or was likely to affect, the wants of the civilian population, more especially when the new armies went into the active line. In the towns there were doctors willing to take up the practice of a fellow practitioner who joined the services; but in some country districts—and this, he believed, applied more particularly to Scotland, where they had wide stretches of land, with relatively few people living on the land—the risk was run of there being no proper medical advice for the people living in those localities. This was an aspect that the young men of the profession should keep in mind. They had all the activity and enthusiasm of youth, and naturally wanted to put themselves in line with the other active members of the community and join the forces. But there were others again who might feel that their mission in life was rather that they should take a part in the civilian work in the profession, and he ventured to say that they were equally doing their duty although they did not go to the front.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Fellowship.

The following gentlemen have been admitted Fellows: G. J. Adams, H. G. Barrie, F. J. Browne, H. E. Clutterback, P. Das, J. Flynn, A. J. Friedlander, H. E. Griffiths, J. Kirk, L. H. McBride, P. P. J. Stewart, W. G. Thompson, T. J. Williams.

Sir John Struthers Lectureship.

Dr. Johnson Symington, Professor of Anatomy in the Queen's University, Belfast, delivered the second of the Struthers Lectures in the Hall of the College on December 16th, the subject being observations on the relations of the inner surface of the cranial wall to the outer surface of the brain. The lecture was illustrated by specimens, casts, and photographs.

The Services.

ROYAL NAVAL DIVISION.

A memorial from the Lords Commissioners of the Admiralty fixing the rates of pay and allowances for officers and men of the Royal Naval Division has been approved by the King. It states *inter alia* that in the medical branch army officers are to receive army rates of pay. All officers, including army officers, are subject to a deduction of 2s. a day in pay when messed at the public expense. Field allowances of army officers are to be governed by army regulations, but the minimum rate is to be 5s. a day subject to the understanding that they do not draw any messing allowance under paragraph 535 of the Army Allowance Regulations.

Medical News.

We have received from the General Medical Council a list of corrigenda for the new *British Pharmacopoeia*. These are chiefly numerical, the strength of alcohol used in making one or two tinctures being altered, and one or two errors in decimal points being put right. Three corrections affect the notes which we have published. Liquorice root is now required to yield a certain minimum of extract, which, as we noted, was about 10 per cent. according to the original text, but is now altered to about 20 per cent. We mentioned the increase in alcoholic strength of orange wine to 15 to 17 per cent., but this is now altered to 12 to 14 per cent. We pointed out that there was no note in the text on the alteration in strength of hypodermic injection of cocaine, and this omission is now rectified.

In a paper read recently before the Royal Meteorological Society by Mr. W. F. Stacey, of University College, Reading, the following conclusions were drawn from the study of mean monthly and annual maps of relative humidity based on the 9 a.m. observations made at over ninety stations during the ten years 1901 to 1910: In winter the air over the interior of the country is more moist than that over the coastal regions; the minimum relative humidity occurs earlier in the year in the western parts of the country than in the eastern; in summer the air over the interior of the country is drier than that over the coastal regions; and the smallest range of humidity is found in the west and the greatest in the interior towards the east. The distribution of temperature appeared to be the chief determining factor in the distribution of relative humidity; sea influence, the direction and character of prevailing winds, and the configuration of the country had important effects on temperature, and therefore on relative humidity.

According to the *Bulletin administratif du ministère de l'instruction publique*, the total number of students in the medical faculties of France on January 15th, 1914, was 8,533, of whom 7,664 were men and 869 women. Of the men, 899, and of the women 469, were foreigners. The number shows a slight increase as compared with the figures for 1913. The students were distributed among the several universities as follows: Paris 4,397, Lyons 1,181, Bordeaux 887, Montpellier 702, Toulouse 462, Nancy 325, Lille 377, Algiers 202. Among the medical schools Marseilles headed the list with 320 students, Nantes coming second with 305, and Rennes third with 151. In the other schools the numbers varied from 106 at Rouen to 30 at Poitiers. Of the foreign students, the large majority were Russians; there were 575 in Paris, and 136 at Montpellier. Next came the Ottomans, of whom there were 67 in Paris and 15 at Montpellier. Other nationalities represented were Bulgaria, Roumania, Serbia, Greece, and the South American republics. There were 12 British students in Paris.

Letters, Notes, and Answers.

Telegraphic Address.—The telegraphic address of the EDITOR of the British Medical Journal is *Aitiology, Westrand, London*. The telegraphic address of the British Medical Journal is *Articulate, Westrand, London*.

Telephone (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

"Remember the Doctor."

A medical correspondent sends us the following extract from the *Financial News* of December 18th: "In paying Christmas accounts this year the public should avoid its habit of leaving the doctor's bill till last. The doctor needs his money as much as anybody else, and, inasmuch as doctors as a class are doing duty of untold value to the nation at the present time, they deserve the extra consideration of their patients. It is too often assumed that because the doctor keeps his motor car he can afford to wait indefinitely for his money. That is not a fact. The doctor should be among the first to get his cheque."

Splint for Compound Fracture of the Lower Extremities.

Dr. Martin J. Chevers (Withington, Manchester) writes: In the British Medical Journal of November 21st, p. 892, the report of the discussion on "Surgical experiences of the present war" states that Sir Frederic Eve said "he strongly recommended the use of Hodgen's splint in gunshot fractures of the femur, as it permitted dressing of the wounds without disturbance of the limb." I would like to draw your readers' notice to the cradle splint which I got Messrs. James Woolley, Sons, and Co., of Manchester, to make for me, and which I have had in constant use for many years, and which, in my humble opinion, fulfils to as great an extent and with many more advantages and greater stability Sir Frederic Eve's claims for Hodgen's splint. Full particulars, with sketch of the splint, can be seen in the British Medical Journal, September 29th, 1906, p. 779.

The Value of the Occiput in Ascertaining the Presentation.

Dr. J. Phillips (St. Clears, South Wales) writes: I wish to call attention to a matter of some diagnostic importance to accoucheurs, namely, the value of the occiput in making out the position of the head in vertex presentations. In Galabin's textbook on midwifery no special mention of this point is made, and I have also reason to believe that it is not particularly taught in some at least of the London hospitals. After many years in practice I have failed to discover any other portion of the undelivered fetal head which offers so sure and comparatively easy a way of locating the head position. The features to be sought for are: (1) The smooth triangular plate of the occiput lying between its superior curved lines and its superior curved borders; (2) this is depressed below the parietal bones in the process of moulding which takes place in parturition; (3) to follow the lambdoid sutures to the post fontanelle, with its three radiating lines. In lingering cases in primiparae, for instance, one of the commonest difficulties in the way of applying forceps is uncertainty as to the position of the occiput and the possibility of converting what is a first or second position into a third or fourth. It seems to me that in the great majority of cases, at any rate, it is only just these difficult attempts to deliver an occiput posterior that can evoke the suggestion (I have recently read it) of making it a routine practice to introduce *ante-partum* perineal sutures in anticipation of damage to the perineum. With the head below the brim the above signs are so distinctive that I consider it unjustifiable to deliver the head with forceps until the position is definitely ascertained.

Erratum.

In the Journal for December 19th, p. 1072, col. 2, line 22 from foot, for "inoculated troops" read "uninoculated troops."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Note.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EPITOME

OF

Current Medical Literature.

JULY TO DECEMBER, 1914.

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AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

1. Fungous Affections of the Hands and Feet.

IN a paper read at the last meeting of the British Medical Association in Australia two Sydney physicians emphasized the great importance of examining every case to which the diagnosis of dyshidrosis or cheiropompholyx seemed applicable, for the fungus of tinea albuginea, which they had succeeded in demonstrating in 80 per cent. of the cases submitted to them. Frau Dr. MARIE KAUFFMANN-WOLF now comes forward (*Dermat. Zeitschr.*, May, 1914) with the statement, founded on her experiences in Berlin, Paris, and Vienna, that about one-third of the intractable vesicular eczemas labelled cheiropompholyx are really hyphogenic in origin, and therefore not really difficult to cure, when once their true nature is recognized. The time is not far distant when every practitioner with a microscope will avail himself of the very simple technique, namely, saturation of scales and vesicle roofs in potash, and examination under a one-sixth objective, which is generally in use in the dermatological clinic, though even here it is occasionally neglected. After a short survey of the historical side of her subject—in which the names of Tilbury Fox and Whitfield in our country, and Sabouraud in France, are worthy of remembrance—the authoress describes the commonest sites of the infection and mentions three types of lesions which in her experience are the most common. These comprise a vesicular, a squamous, and an infected or pustular type. The vesicular type is most commonly met with in the interdigital clefts where the diagnosis from a true uncomplicated dyshidrosis can only be made with the aid of a microscope. A further preference is shown for the plantar aspect of the foot, especially at its junction with the internal border, a point well brought out in photographs 1 and 3 of the illustrations. The clinical appearances vary, of course, with the anatomical characteristics of the site infected, and a lesion on the back of the hand is usually of the circinate and conglomerate variety typical in the minds of most dermatologists of a deep trichophyton infection. The squamous type often suggests the exfoliating period of a dyshidrosis, but not infrequently there is a serpiginous advancing edge and a clearing centre which ought at least to arouse the suspicions of the examiner. It is invariably secondary to the vesicular variety, and tiny vesicles can always be demonstrated if carefully looked for, the contents of which, it can easily be realized, if absorbed, will lead to dryness and cracking of the distended walls and the appearance of a squamous variety. This has not infrequently to be diagnosed from psoriasis and tertiary syphilis of the palms and soles. Dr. Marie Kauffmann-Wolf's histological study of the actual skin levels affected explains very simply the varying occurrence of a delicate scaly margin, or a thick infiltrated edge, according to the depth of the original vesicles. It is hardly necessary to enlarge on the varying clinical pictures that the onset of a secondary infection with the staphylococcus may bring about. The name "pyodermia" must suffice in this connexion, and will, together with the other types above described, open up a new field of scientific clinical investigation that cannot but redound to the credit of the physician and the relief of the usually chronically affected patient.

2. The Oculo-Cardiac Reflex

LOEPER AND MOUGEOT (*Progrès médical*, January 31st, 1914), in discussing some cases of bradycardia in a communication to the Société de Biologie, contended that that symptom was due either to a heightened toxicity of the pneumogastric nerve or to an organic lesion of the conducting muscular *faisceaux*. Compression of the globes of the eyes only increases the bradycardia when this is of nervous origin. Bradycardia of nervous origin could be detected in three ways: (1) By the atropine test of Dehio, (2) by the amyl nitrite test of Josué and Godlewski, and (3) by the oculo-cardiac reflex. The centripetal path of this reflex is the trigeminal nerve; the centrifugal path is through the pneumogastric nerve, and the reflex centre seems to be where the vagus, in its intrabulbar passage, crosses the nucleus of the fifth nerve. The authors have noted this action of the vagus in at least three gastric cases, the oculo-cardiac reflex being first increased, and afterwards diminished or even abolished for a moment under the influence of as little as $\frac{1}{2}$ mg. of atropine. In investigating the oculo-cardiac reflex it is important to remember that the slowing of the pulse caused by pressure on the eyes does not constitute the whole reflex. The diminution of the amplitude of the beats and a fall of blood pressure also occur. In certain cases (two pulse tracings shown) the two latter phenomena may occur without the first. The authors regard the triad of symptoms which constitute the oculo-cardiac reflex—slowing of the pulse, weakening of the pulse, and a fall of blood pressure—corresponding to three parallel phenomena of vagal origin, as representing respectively a negative chronotropic action, a negative inotropic action, and an excitation of the depressor nerve.

3. Unusual Type of Acid Intoxication in Infants.

ABT (*Amer. Journ. of Med. Sciences*, January, 1914) calls attention to a series of cases of a severe type of acid intoxication, usually fatal, and occurring mostly in previously healthy infants at about the weaning period. They differ from cases of cyclic vomiting in that the vomiting is not so persistent and sometimes scarcely occurs, and instead of presenting the persistent and uncontrollable emesis characterizing cyclic vomiting, the main features consist in rapid, superficial breathing, enlargement of the liver, low temperature, and rapid pulse, with the occurrence of tympany, obstinate constipation, and little or no vomiting towards the end. In most instances the parents are healthy, and in one family two children had died from the affection, and the third, though similarly attacked, recovered after a severe illness, while an instance is recorded of five children in the same family dying from the disorder, thus pointing to a familial type. Usually occurring in large, robust, previously healthy children, there may have been a stationary weight curve for several weeks prior to onset, and, if breast-fed, the infants show signs of hunger and dissatisfaction with the food because the milk is scanty or poor. The disease commences with diarrhoea, usually vomiting, and a moderate febrile reaction which tends to become lower later, and on the second or third day there is some abdominal distension, dyspnoea with rapid laboured respiration, and increased pulse-rate. The liver becomes markedly enlarged, and the urine contains albumin, hyaline and granular casts, acetone and diacetic acid, but no sugar. About the third day stupor, gradually deepening to coma, supervenes, death taking place in four or five days. At autopsy the predominating feature is fatty degeneration of the liver and other organs. In the case which recovered (two others having previously died) the baby was weaned and given rectal injections of 8 per cent. glucose in normal salt solution, 2 per cent. levulose and large doses of sodium bicarbonate by the mouth, half a drachm of whisky or sour wine every two hours, half-drachm doses of casein in oatmeal gruel every two hours, soy-bean soup three times a day, and subcutaneous infusion of sodium bicarbonate. It was assumed that there was an intolerance for fat, and consequently carbohydrates in the form of cooked starch and levulose were given in abundance. Clinically, experimentally, and therapeutically, the disease appears to depend upon some derangement of metabolism resulting in the production of toxic products from misdirected chemical processes.

SURGERY.

4. Acute Post-operative Dilatation of the Stomach.

S. E. WICHMANN (*Finska Läkaresällskapets Handlingar*, January, 1914) records the case of a farmer, aged 24, who suddenly developed appendicitis after having been quite well. Two days later laparotomy was performed under general anaesthesia with chloroform, which was administered for about forty-five minutes. The small intestine was extraordinarily empty, although no aperient had been given by the mouth. The appendix was perforated and was in the left side of the pelvis, where it was the centre of a circumscribed purulent peritonitis. The caecum lay behind the small intestine and was suspended by an abnormally long and movable mesocaecum. Four days after the operation, when every sign of

peritonitis had disappeared and the temperature and pulse were again almost normal, symptoms of acute dilatation of the stomach suddenly developed. The upper portion of the abdomen was much distended and pressure evoked nausea, but no pain. The lower abdomen was painless and flaccid. The percussion note over the stomach was tympanitic, but no splash could be elicited. In the course of about five hours one and a half litres of brownish-yellow fluid was vomited in small quantities at a time by the patient, who became pale and collapsed. Acute dilatation of the stomach was diagnosed, and another litre and a half of fluid was withdrawn by a stomach tube. The patient was turned over on to his right side with the pelvis raised. About seven hours later another litre of fluid was withdrawn from the stomach, after which the symptoms disappeared. During this attack the temperature rose to 39° C. and the pulse to 93. During and a few hours before this attack there was retention of flatus and faeces. After the patient had lain on his side for twenty-four hours he again lay on his back. In this position he felt perfectly well for about thirty-six hours, at the end of which another attack, more severe than the former, occurred. The pulse rose to 120 and the temperature to 38.5° C. The symptoms, treatment, and course of this attack were the same as before. The patient was kept on his right side for about five days, the amount of nourishment given by the mouth being cautiously increased. The temperature fell to normal in two days, but the pulse remained rapid for a week. Three weeks after the operation faulty closure of the laparotomy wound necessitated a second operation under general anaesthesia with ether. Six days after this operation, which lasted fifteen minutes, a third attack of acute dilatation of the stomach occurred during the night, the pulse rising to 100 and the temperature to 37.1° C. Postural treatment was at once resorted to, and in a few hours the attack had passed off. The patient was discharged four days later, and he suffered from no further gastric disturbances. Discussing this case, the author points out that the extreme emptiness and collapse of the small intestine observed in his case have frequently been noted in other cases, and he inclines to the view that this condition may favour prolapse of the intestine into the pelvis. This prolapse may excite gastric secretion and atony of the stomach. A long mesentery may favour this prolapse, while general anaesthesia may weaken the muscles of the stomach and thus pave the way to its dilatation. Postural treatment invariably affords relief, whereas in severe cases washing out the stomach is never sufficient alone to effect a cure.

5. Experimental Cholelithiasis.

It has now been frequently proved that the occurrence of gall stones may be provoked experimentally by simultaneously preventing the flow of bile and injuring the biliary mucous membrane. Gall stones have also often been observed to be more or less intimately adherent to the wall of the gall bladder. Laméris (*Zentralbl. f. Chir.*, February 24th, 1914) has published the results of a research which he undertook in order to discover whether gall stones may arise actually within the gall-bladder wall. A study of the human gall bladder affected with cholelithiasis lends support to the view that this may occur. It has been shown that "Luschka's crypts" are present in large numbers in cases of chronic cholecystitis associated with gall stones, whereas it is still doubtful whether they are present at all in the normal gall bladder. Laméris experimented with a view to discovering whether similar appearances are to be noted in animals. Rabbits were employed for the investigation. The cystic duct was constricted, and the wall of the gall bladder injured by compression; in a few subjects a fine silk suture was drawn through the wall. A few days later 1 c.cm. of a twenty-four-hour old culture of *B. typhosus* was injected into the heart. Five of the animals died of the operation; 19 were killed at intervals of one to thirteen weeks afterwards. In 9 cases stones were found in the gall bladder; in 6 of the cases in which stones were absent it was found that too tight a ligature had been placed round the cystic duct, so that the gall bladder had been completely shut off. A single stone was found in one of the two animals which had not been given an injection of bacilli. In one subject, killed fifty-four days after operation, a large number of small gall stones were found intimately adherent to the wall of the gall bladder. Luschka's crypts were found in various stages of development on microscopic examination; none were found in thirteen normal rabbits. These crypts contained epithelial débris and bile pigment; the epithelial masses presented here and there a concentric arrangement, and may confidently be asserted to represent the first stage in the development of gall stones. It may therefore be affirmed that Luschka's crypts appear under the combined influence of biliary stagnation and an inflammatory condition of the mucous membrane of the gall bladder, and that gall stones tend to form especially in these crypts, and are afterwards extruded into the cavity of the gall bladder. It is not contended that the presence of these crypts is essential for the formation of gall stones, but only that under certain conditions the mucous membrane of the gall bladder has a great influence on the formation of stones. Again, it is hardly likely that these crypts, once formed, will disappear. As a corollary, therefore, cholecystectomy should be preferred to cholecystostomy for the treatment of gall stones associated with cholecystitis.

6. The Use of Fat in Surgery.

Binnie (*Surgery, Gynaecology, and Obstetrics*, March, 1914) discusses the uses to which fat may be put in surgery. He observes that in spite of its reputation as a tissue of poor resisting power, fat is well suited for transplantation. Haemostasis is frequently difficult to attain in wounds of vascular organs, such as the liver. Such wounds may be successfully treated by the use of omental grafts. The fragment of omentum must be large enough to fill completely the wound in the organ. The omental plug becomes adherent to the raw surface, prevents haemorrhage, and ultimately is converted into fibrous tissue. Omental grafts are also useful in preventing oozing of blood from a uterine incision after myomectomy, and also in preventing leakage of intestinal contents from intestinal wounds. For the latter purpose, however, omentum containing only a small proportion of fat should be employed, since the value of the graft depends entirely upon the fibrous tissue present. Another use to which fat may be put is to prevent fibrous tissue changes in the pia and adhesions between the meninges and skull in cases of traumatic epilepsy. The author also suggests that where a cavity is left in the brain, after removal of a tumour, a plug of fat may be useful in forming a suitable tampon. For aesthetic purposes fat may be employed to fill up the depressed areas under scars adherent to underlying bone, particularly on the face. For such purposes the tissue for transplantation should be obtained from the patient himself since heteroplasty commonly fails. Fat may also be employed to replace a breast removed for non-malignant disease. In one case quoted by Czerny, where it was necessary to remove one breast and a lipoma from the back of the same patient, an excellent cosmetic result was obtained by grafting the lipoma into the bed left by the mammectomy. Chaput and Makas have independently published methods by which bone cavities may be obliterated by the implantation of masses of fat. This method has been employed with success in cases of chronic osteomyelitis and easily accessible tuberculous foci. Another very important use to which fat may be put is to prevent union after the division of a bony ankylosis. Reunion is prevented by this means and a new joint may be obtained. Binnie also refers to the employment of fat in preventing the line of union from becoming adherent to neighbouring structures after the operations of tenorrhaphy or neurorrhaphy. To wrap a free or pedunculated flap of adipose tissue around the part is an excellent prophylactic measure in these cases. Finally, Tuffier has successfully grafted large masses of fat between the parietal pleura and ribs in bronchiectasis. Binnie suggests that the same method may be used to close suppurating and tuberculous pulmonary cavities.

7. Disinfection of the Hands.

Sorel (*Journ. des praticiens*, November 8th, 1913) points out that no procedure can render the hands sterile for long. When tincture of iodine is used he recommends that there should be no preliminary washing. Iodine appears to act rather as a varnish to the skin than as an antiseptic. The author remarks that bacteriologists know that a layer of fat limits microbial invasion and that the fat secreted by the sebaceous glands of the skin is an excellent barrier in their way. To obtain the best results the hands must be preserved in their normal physiological state, that is with regard to the integrity of the skin and the fat normally secreted by the skin; to do this it is best to avoid the use of hot soap and water and friction with a hard brush, and further to avoid dissolving the natural fat of the skin by immersion in benzine, ether, or any such fat solvents. It is also suggested that before operation the hands should be smeared over with vaseline, the excess being wiped off with a sterile compress. The hands of the surgeon ought not to be exposed to cuts or bruises. The author advocates also the use of rubber

gloves in certain cases. There is no means of disinfecting the hands absolutely, but the foregoing suggestions are worthy of notice.

OBSTETRICS.

8. Eclampsia: Twin Labour with Entangled Funis.

DIETRICH (*Zentralbl. f. Gynäk.*, April 18th, 1914) attended a primipara, aged 23, who had just passed through two fits during labour. He at once gave an anaesthetic, which set up a third convulsion. The head had entered the pelvis, and the forceps was at once applied. Extraction proved unexpectedly difficult, though the child was very small, weighing but 5½ lb. and measuring a little over 16 in. Just as it was delivered the cord, which seemed unaccountably short, had to be tied while the child's abdomen lay close against the vulva. Then it was discovered that a second child lay in the uterus. The presentation being transverse, it was turned and extracted. The second child was as small and as light as the first, and both were females; the first lived, the heart of the second pulsated when it was born but soon ceased. The mother did well and had no more convulsions. The placenta of these undersized twins was very big, and there was only one amnion, common to both. The cords were not actually knotted at any point, but being quite distinct from their origin on the placenta and very long, they had become entangled in a most intricate manner and appeared to be very short. Each was caught in a loop of the other cord two or three inches above its insertion into the fetal umbilicus.

9. The Urine in Pregnancy.

THE following are the conclusions of an article giving the results of an experimental research as to the appearance of non-colloidal ninhydrin-reacting substances in the urine under normal and pathological conditions and during pregnancy, by F. H. FALLS and WILLIAM H. WELKER, Chicago (*Journ. Amer. Med. Assoc.*, June 6th, 1914): (1) The presence of non-colloidal ninhydrin-reacting substances in urine is of no value as a means of diagnosing pregnancy. (2) The reaction may be absent or inhibited in the urine of pregnant women, as well as in normal and pathological urine. (3) In the various urines treated the only difference in the ninhydrin reaction between the diffusates through parchment and the filtrates from the aluminium treatment were those of intensity of colours, the aluminium filtrates showing a less intense colour with ninhydrin. (4) In the urines reacting positively with ninhydrin the removal of colloidal substances favours the production of the blue colour given by this reagent with amino-acids. Such urines before diffusion or treatment with aluminium hydroxide give a colour which is not so strong and has more of a reddish cast. This is not the result of the dilution alone. (5) The occurrence of either albumin or indican appears to have no influence on the ninhydrin reaction applied to the colloidal-free urine.

GYNAECOLOGY.

10. Plastic Treatment for Complete Section of Ureter.

SEJOURNET (*Revue de gynéc. et de chir. abdom.*, March, 1914) writes on ureterorrhaphy for complete section or division of the ureter, and gives illustrations of all methods from that of Schopf in 1886 to the arterial suture type now shown, in Sejournet's opinion, to be the best. Complete section of the ureter is nearly always caused by surgical wounds inflicted during gynaecological operations. In a limited number of cases the upper end of the cut ureter can be sutured into an incision made through all the coats of the bladder. End to end, non-perforating interrupted suture of the divided ends of the wounded ureter, and entero-lateral anastomosis have proved unsatisfactory. Suture over an absorbable conductor is difficult; suture by invagination of the upper into the lower end of the ureter has been practised, with several modifications. Pozzi turns the free edge of the lower end down into its canal, and then invaginates the upper end and sutures it to the lower end thickened by the inversion of its edge. This method can be done quickly, and allows of the apposition of homologous tissues, instead of fibrous tissue to mucosa. Pauchet and Delbet claim the superiority of end-to-end suture, but performed after the method now practised for suture of arteries. Perfect coaptation of the divided edges, by a whip stitch suture of the finest linen or silk applied by very fine needles, is thus ensured.

11. Corpus Luteum Extract.

DANNREUTHER'S assertion that only corpora lutea vera contain the substances that are efficacious in gynaecological conditions led C. P. MCCORD (*Journ. Amer. Med. Assoc.*, April 18th, 1914) to undertake an investigation of the frequency of pregnancy in the slaughterhouse animals from which the corpus luteum extract used in organo-therapy is obtained. There is no anatomical difference between the corpus luteum of pregnancy and that of non-pregnant animals; whatever differences exist probably involve the chemical constituents rather than the anatomical structure. He found that the greater number of cows slaughtered in the packing houses from which the corpus luteum supply is obtained were mostly range cattle where the females and males run together. The greater number are at some stage of pregnancy. In forty cows examined, thirty-five yielded ovaries containing corpora lutea of such size as permitted dissecting out. Of these thirty-five, twenty-nine, or 83 per cent., were pregnant. Allowing this to be the usual figure, on account of the larger yield of corpus luteum from a pound unit of ovaries from pregnant animals, the proportion by weight may run much higher, even to 90 or 95 per cent. of corpus luteum verum. The figures may vary with an examination of a larger number of cattle, and, furthermore, a seasonal variation may alter the percentage of pregnancies; but if the above data at all approximate the general conditions, all corpus luteum preparations are derived in a large percentage from pregnant cattle.

THERAPEUTICS.

12. Intratracheo-Bronchial Injections in Asthma.

HENRI BOURGEOIS records his experience of this mode of treatment of asthma (*Bull. de l'Acad. de Méd.*, April 21st, 1914), and points out that Ephraim's method of intrabronchial pulverization of a solution of novocain-adrenalin, which gave remarkable results, has been but little used by others, probably owing to its complicated technique. Yet certain other authors have published records of benefit from either injections or intratracheo-bronchial pulverization. Bourgeois has used for his intratracheal injections a 5 c.cm. syringe and a long cannula, which is passed down the trachea to the bronchial bifurcation: the larynx is first thoroughly anaesthetized, and although anaesthesia of the tracheal mucous membrane is not indispensable, it is advantageous and is easily obtained by a spray of 10 drops of a 1 in 20 cocaine solution. Clinical experiments were tried with various medicaments: sometimes gomenolized oil was used (gomenol is a syrup used in pertussis, and is said to be prepared from the leaves of *Melaleuca leucadendron*), sometimes an aqueous solution of cocaine-adrenalin and novocain-adrenalin, sometimes an oily solution of adrenalin and novocain. The quantity of fluid injected was 5 c.cm. for adults and 2 c.cm. for children. The young asthmatics were thus treated both during the attacks and in the intervals between paroxysms; the adults were chronic asthmatics. The best results were obtained in cases of essential asthma treated during the attacks rather than in chronic or tuberculous cases. Bourgeois gives in illustration the case of a young woman, free from pulmonary lesions, who was in a state of asphyxia; fifteen minutes after an injection improvement followed. Another patient was utterly exhausted by his attacks; he fell asleep half an hour after injection, and slept on for fifteen hours. A tuberculous woman, who had been suffocated for fifteen days without a minute's sleep, began to breathe better fifteen minutes after injection. But these good results were less constantly seen when patients suffering from either essential or symptomatic asthma were injected during the interparoxysmal periods. All the fluids just mentioned were successful in certain cases, but the oily injections, whether of gomenol or novocain and adrenalin, were not always well borne; thus, two patients had after such injections an attack of dyspnoea severer than any of their asthmatic attacks. Bourgeois find, however, that aqueous novocain solution is at all times absolutely harmless, and is efficacious in incredibly small doses; latterly he has used injections of a 1 in 100 solution of novocain with 25 drops of 1 in 5,000 adrenalin solution. When these injections are given during the interparoxysmal period no

appreciable secondary phenomena are seen; when given at the moment of an attack there is seen at the end of ten minutes a subjective diminution of dyspnoea, then gradually the breathing becomes more frequent and easier, so that the patient can quit the sitting posture, lie down, and even fall asleep. An important consecutive phenomenon is an extremely abundant expectoration which favours bronchial permeability. Bourgeois holds that the good effect of these injections is probably due to the anaesthetic and vaso-constrictive action of the solutions. Although it is true, as Ephraim stated, that the injected fluid penetrates the lower lobe of the lung to only a feeble extent, yet Bourgeois reminds us of the extremely rapid absorption of an aqueous adrenalin solution, and its great diffusibility, and it is to this fact that it owes its efficacy. He says that the only contraindication is advanced age of the patient or arterial hypertension. He concludes that intra-bronchial injection of novocain-adrenalin is very successful in asthmatic attacks, and may be tried in the interparoxysmal period, although it is less constantly useful at such times.

13. The By-effects of Salvarsan.

M. V. Zeissl (*Berl. klin. Woch.*, March 9th, 1914) reviews the history of the treatment of syphilis by mercury—a treatment almost contemporaneous with the epidemic appearance of the disease in Europe in the fifteenth century—and refers to very numerous authorities to show that all the evil effects and accidents recently attributed to salvarsan have from time to time been attributed to mercury. Some of these, both as regards salvarsan and mercury, he admits may be really the effect of the drug acting under exceptional circumstances or in patients with some idiosyncrasy. The great majority of them, however, he holds to be merely manifestations of syphilis which have appeared not because of, but in spite of, the administration of the particular remedy. There seems to be hardly a single symptom of syphilis, except, perhaps, the initial chancre, which has not, at one time or another, by one author or another, been regarded as an effect of the mercurial preparations employed in treatment. Perhaps this idea reached the summit of absurdity in the thesis of Dr. Josef Herman in the sixtieth year of the last century, in which he proclaimed constitutional syphilis in general as really mercurial poisoning. The author takes an optimistic view of salvarsan and its future. Since July, 1910, he and his assistant, Bindermann, have treated over 1,000 cases of syphilis by salvarsan injected intramuscularly, and during the last year by neo-salvarsan injected intravenously. In not a single instance did any serious ill effect to the patient result; on the contrary, the effects were uniformly good. In no case was blindness, deafness, or paralysis observed to result from the injections; while some cases of insanity and five cases of partial deafness, due to syphilis, were cured. These exclusively good results were attained by minute attention to asepsis and the careful exclusion from the treatment of all persons who, owing to cardiac or other conditions, were unfavourable subjects. Undesirable results of a minor order, or, in exceptional cases, necrosis or injury to some particular nerve, may be caused by salvarsan, as these and other accidents, have long been known occasionally to result from the use or misuse of mercury. That the optic nerve in particular may suffer harm has quite recently been shown afresh by Frahauf in a communication to the Dermatological Society describing cases of amaurosis following the injection of insoluble salicylates of mercury. Yet no one has ever proposed to exclude such preparations of mercury from the armamentarium of the syphilologist. V. Zeissl concludes that Ehrlich's preparation is the most efficacious agent so far discovered for the treatment of syphilis, and that Ehrlich has by his discovery conferred a priceless boon on patients and physicians alike.

14. Organotherapy in Pulmonary Tuberculosis.

Zisoni (*Bollet. della Soc. Med.-Chir. di Modena*, January, 1914) gives brief details of five cases of phthisis (tubercle bacilli present in all) treated with calf's liver. Since the human liver is seldom attacked by tubercle and takes a considerable part in resisting tuberculous infection, the author thought it worth while to try it in the treatment of phthisis. The daily dose was from 150 to 250 grams (=5 to 8 oz.), given raw by the mouth. Taking the weight as a rough test of improvement, other things being equal, all the patients put on weight. As this is only a preliminary communication, further details are promised in a future paper. But the line of treatment is somewhat new, and may perhaps prove useful.

PATHOLOGY.

15. Double Monsters.

Baudouin (*Sem. méd.*, No. 47, 1913) describes a new pair of craniopagous twins which was recently on public exhibition. The monstrosity is named Emi-Lisa Stoll, and the two subjects are, as always, of the same sex, in this case feminine. The union is very marked, and comprises at least the two parietal bones in their entirety, but the faces of the two infants are not in the same antero-posterior plane, the two planes forming an angle of 90 degrees—that is to say, that when one infant is looking north the other is looking nearly east. In August, 1913, the children were 20 months old. They are very healthy, and at birth one measured 48 cm., the other 47 cm. Their bodies present no anomalies, except that the lower extremities are a little atrophied owing to the fact that it is impossible for the children to walk. The mother is strong and healthy, and has had three normal children (boys). The father is of middle height, though rather thick-set; there are several dwarfs in his family, and he has a sister whose face and body are covered with lanugo. The pregnancy was normal. The little girls are much alike; the hair is of the same colour and character, and the physical characteristics are similar in other respects. The capital point is the angle of the two heads. There may have been a kind of torsion of one body on the other before the osseous transformation of the parietals; but the author thinks it probable that in reality there was no such torsion, but rather a direct welding, even from the beginning of the development of the two beings. Most of the cephalopages are feminine, especially those which have lived, and the living ones have generally been born of multiparous mothers. It seems certain that in this case there are separate brains. Virtually the children act independently; one sleeps, while the other wakes, one laughs while the other cries. When awake they play together by throwing toys at one another over their heads. In character they are alike. They have lived longer than any other recorded case. No attempt at operation has yet been made in these cases, but the author thinks that in the present state of cranial surgery an operation might be successful, provided it were performed between the first and second year. Le Filliatse (ibid., No. 2, 1914) showed a pair of xiphopagous twins at the Academy of Medicine. This is the first living xiphopage born in France for 500 years. The mother is nine years older than the father; her other children, both by this and her former husband, are normal. At the confinement the one child presented by the vertex, the other was transverse; by version of the latter the two were delivered simultaneously, one by the head, the other by the feet. There was one large placenta and one cord for the two infants. The two little girls (Madeleine-Suzanne) are joined by a bridge uniting them at the lower part of the thorax and the upper part of the abdomen. On the median and inferior aspect of this bridge is the umbilical cicatrix. The bridge is 5 cm. long and 14 cm. in circumference; it is covered with skin and presents a hard portion of cartilaginous consistence, below which are two cords the size of goose quills stretching from one child to the other and not adherent to the umbilicus; between these parts is easily compressible tissue, in which intestinal movements can be felt whenever the children cry. The type is thus the same as the Siamese twins. Though their abdominal cavities communicate, the children have each an individual and complete organism. The measurements of the height, thorax, cranium and extremities are different, Suzanne being in all respects the larger. Madeleine's heart beat is 120, Suzanne's 130. The temperature of the two is hardly ever the same. The cry is different, and the nurse can tell which is weeping without seeing them. Madeleine's face is round, Suzanne's oval, but the colour of the eyes is the same. The blood count differs, Madeleine showing a notable increase of small mononuclear lymphocytes, so that there is evidently only a small exchange of blood at the point of union. Radioscopy shows that the hearts are independent and of normal aspect; the movements of the diaphragms are not synchronous. There are two stomachs, normally placed, the air space in each being large. The two small intestines are independent. In the upper part of the bridge of junction is a strongly cartilaginous band joining the two xiphoids; below this is small intestine. During deep inspiration and straining loops of the small intestine of Madeleine enter the abdominal cavity of Suzanne, returning to their proper place during expiration. No large intestine enters the bridge. The livers are independent and of normal aspect.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

16. Arterial Hypertension and Cholesterinaemia.

C. CANTIERI (*Riv. crit. di Clin. Med.*, Florence, 1913, xiv, 657) expounds the theory advanced by Lemoine and others of the French school of medicine, according to which atheroma and arterio-sclerosis are the result of hypercholesterinaemia, or the presence of an excess of cholesterin in the blood. The cholesterin is an antitoxin that serves to neutralize a number of toxic substances in the blood. If present in excess, it cannot remain in solution, and so is precipitated in the arterial walls; in addition, it is held that cholesterin and its lipoid compounds all give rise to arterial hypertension by causing contraction of the involuntary muscle in the arterial walls. Lemoine and others have found an excess of cholesterin in the circulating blood of arterio-sclerotic patients; and they also find an excess of cholesterin in the walls of atheromatous arteries. Others have observed that alimentation with food containing an excess of cholesterin induces a process like arterio-sclerosis in rabbits, and leads to accumulations of cholesterin and other lipoids in various tissues; the experiment is less successful with dogs, as if there were a difference here between herbivores and carnivores. Cantieri quotes a number of the figures found for the percentage of cholesterin in normal blood; different authors give different figures, largely in accordance with the methods of extraction and measurement employed, but from 0.14 to 0.18 per cent. seems to be the average. He himself used Grigaut's method of estimating the cholesterin, and found values between 0.14 to 0.20 in six normal persons, averaging 0.175 per cent. In a series of nineteen arterio-sclerotic patients with or without high blood pressure, he found percentages of cholesterin varying between 0.10 and 0.205, averaging 0.15. No connexion could be observed between the height of the blood pressure and the quantity of cholesterin present; a patient with a blood pressure of 215 mm. Hg had 0.12 per cent. of cholesterin; another with a blood pressure of 150 had 0.20 per cent. of cholesterin in his blood. In addition Cantieri examined four patients with acute or chronic nephritis; the percentage of cholesterin varied from 0.19 to 0.24, the blood-pressure from 120 to 220 mm. Hg, again without there being any connexion between the two sets of figures. It is, indeed, generally agreed that hypercholesterinaemia and nephritis go hand in hand; Cantieri supports the various authors who have argued that there is no connexion between the high blood pressure these patients often show and the excess of cholesterin that is habitually present in their blood. He also failed to raise the arterial blood pressure by administering cholesterin as a drug. Many references to the literature of the subject are given.

17. Aerophagy and its Consequences.

CADE (*Prov. méd.*, April 25th, 1914) dwells on the importance of the part played by aërophagy in the pathology of digestion. The condition has come to embrace many of the forms of what has hitherto been known as flatulent dyspepsia. It may be voluntary and conscious, or involuntary, and it is with the latter class of case that the author deals. Air enters the digestive tube normally with the food taken—this is physiological, but becomes pathological when an excessive degree of salivation is provoked. Sialophagy, as shown by Hayem, plays an important part in the production of aërophagy. In certain cases, however, what may be called "dry" aërophagy occurs as the result of an effort of inspiration in which the glottis remains closed, the air meantime finding its way into the œsophagus. There are various types of the condition: (*a*) Pharyngo-œsophageal, (*b*) œsophageal, (*c*) gastric aërophagy. As a rule the air passes rapidly down the œsophagus, but when it does not do so, causes irritation and hypersecretion of mucus. When it reaches the stomach it is expelled by eructation. If it remains for any length of time it may cause spasm of the cardiac orifice. It may also pass into the intestine, and in that case is expelled per rectum. When in the intestine, the air, as a rule, is particularly localized at the splenic flexure, which is the highest point of the intestinal arc. According to the author, it is impossible to draw a hard-and-fast line between dyspeptic aërophagy and that dependent on neuropathic conditions. The gastric form of the condition is frequently accompanied by painful crises, and this is more especially the case when gastric ulcer is also present, there being also the further danger of rupture of the organ. The vomiting that occurs in aërophagy of this type has no preliminary nausea, and the frequent repetition of the attack may result in marked enfeeblement and emaciation. The gastric form of aërophagy, further, may provoke symptoms suggestive of angina; at other times of acute pulmonary oedema; and, again, of a systole and uraemia. The author remarks that recently Tissier and others have attributed post-operative acute dilatation of the stomach to an aërogastric crisis. Gaseous distension of the bowel, whether accompanied by aëropathy or not, is a common accompaniment of hysteria. The air accumulates at certain points in the intestine, and, according to their position, simulates in symptomatology a number of other conditions. In these circumstances radioscopy has rendered great service in determining the diagnosis. In the aërophagy of neuropathic origin, rest and sedatives, such as bromide and valerian, are indicated, and, if necessary, isolation and psycho-therapy. In that form of the trouble associated with dyspepsia these lines should also be followed, with, in addition, gastric sedatives, such as belladonna or bismuth, in large doses. In the case of acute gastric dilatation, the ventral decubitus will assist the exit of the air, and, if necessary, Faucher's tube may be used.

18. Renal Diabetes.

S. STROUSE AND A. H. BEIFELD (*Journ. Amer. Med. Assoc.*, April 25th, 1914) discuss the so-called renal diabetes, possibly traumatic in origin. The general conception that the kidney is practically passive in diabetes has been disputed, and they notice the various statements of authors in regard to this matter. Richter, von Noorden, and Weiland have pointed out that the development of albuminuria may be accompanied with decreased excretion of sugar, and, they say, it must be assumed that a relation may exist between glycosuria and the kidney, independent of the true metabolic disturbance. The term "renal diabetes" seems to be employed for a condition of glycosuria which has been associated with kidney disease and clinically differentiated from true diabetes by its independence of carbohydrate intake and its clinical course. In studying the recorded cases, one is struck by the many temporary derangements included under this head, and many of the cases cannot be taken as showing the existence of a separate disease. It has been shown, nevertheless, by Salomon that there exists a group of glycosurias even in youth that do not progress to diabetes mellitus. Lépine and Garrod have proposed that the term "renal diabetes" be dropped and the phrase of "glycosuria without hyperglycaemia" adopted in its stead. Many temporary derangements are classed as renal diabetes at present, and unless we restrict them to the condition defined in Lépine's and Garrod's definition we are not justified in recognizing a separate disease. Strouse and Beifeld go over the records of the more thoroughly reported cases, and give a full report of one of their own. The patient was a healthy young man in whose urine glucose was accidentally discovered during a life-insurance examination. About a year before he had had an injury to his head, but the connexion of this with the condition is not clear. There were no symptoms of diabetes mellitus. The blood-sugar was normal and the excretion of dextrose was practically independent of the carbohydrate intake. Under conditions that would intensify the symptoms of true diabetes in a person of his age (23), he continues in perfect health. The clinical course has not been at all like that of diabetes mellitus, but fully satisfies the diagnosis of renal diabetes or glycosuria without hyperglycaemia.

19. Enteralgic Attacks in Exophthalmic Goitre.

G. DESBOUIS reports a case of exophthalmic goitre in which attacks of abdominal pain were a prominent feature (*Bull. et mém. Soc. Méd. des Hôp. de Paris*, May 7th, 1914). Attacks of gastric pain are known to occur sometimes in this disease as well as bulimia; and recently Wolpe has studied the disturbances of gastric secretion which are seen occasionally. The danger of attacks of diarrhœa in the disease is well

known, and they have been known to simulate even tuberculosis or cancer of the intestine. Diarrhoea has also been provoked experimentally by the use of thyroid extracts. Kolb is quoted as having seen in one of his patients the disappearance of obstinate diarrhoea and the classic signs of exophthalmic goitre after partial resection of the thyroid body. The patient of Desbouis was a woman of 56, who, at the onset of the menopause, suffered from abdominal pains, which became more and more violent; they were sometimes worst in the evenings, sometimes when in bed. These pains were accompanied by suffocating sensations, with a sense of throat constriction, flushes of heat, and tremors; her friends found her very difficult to live with on account of her extreme irritability. The pains were not definitely localizable, but they were colicky, and pressure showed tenderness over the ascending and transverse colon; there was anorexia and constipation. The pains were not aggravated by meals, but she avoided eating as far as possible, as it provoked dyspnoea. She recalled the fact that when she was 12 years old she had similar attacks, together with a small goitre which lasted for four or five years. At the age of about 18 she had acute rheumatism, which did not affect her heart or her thyroid body. At 55 her menses left her for three months, and at the missed periods she had similar attacks to those of her girlhood, lasting for eight to ten days. During the last six months her goitre has increased in size markedly, and she now presents the typical picture of an exophthalmic goitre. Desbouis concludes that his case seems to show that, just as we may have attacks of gastric pain in exophthalmic goitre, so also we may have similar enteralgic attacks, which may be unaccompanied by any disturbance of intestinal secretion in the shape of diarrhoea.

SURGERY.

20. Results of the Operative Treatment of Empyema.

Hirano (*Deut. Zeitsch. für Chir.*, Band cxxiv) gives the statistics relating to 118 cases of empyema treated in the Hazu Hospital at Ise, 1900–1911. The total includes 93 children, from infancy to 15 years of age. The results in adults were bad, the mortality-rate being 50 per cent., and the duration of treatment at least six months. In 4 of the 8 cured cases, repeated operations for the resection of ribs were performed. Of the children 72 per cent. recovered, and of these one-quarter recovered within three weeks; the death-rate was 14 per cent. Operation in the first instance consisted of simple resection of a rib. Drainage was effected by rubber tubing; packing the wound proved unsatisfactory. Bier's suction apparatus was frequently employed when healing was long delayed. Werner (ibid.) presents a similar list of the 178 cases of empyema received in the Armits. Kinderhospital at Riga from 1900 to 1910. The highest mortality occurred in those cases with a mixed infection of staphylococci and streptococci. The prognosis of the older children is much more favourable than in the case of infants. Five children whose parents refused operation died; three children died on the operating table from heart failure. The death-rate for all cases was 21.9 per cent.; the average length of time under treatment fifty-seven days. Resection of a rib was the operation of election. Drainage was effected by means of a long tube connected with a vessel of water, so as to produce a siphon action. In the later years of the period in some cases two ribs were resected and the wound packed; the death-rate in these cases and the average length of treatment both tell in favour of the less severe operation. In 10 cases in which a single rib had been resected a chronic sinus persisted, necessitating further operation. Seven long-standing and neglected cases had to be treated by the resection of several ribs.

21. Resection of Cardiac End of Oesophagus.

From the clinic of Professor Witzel at Düsseldorf Schwers (*Zentralbl. für Chir.*, May 9th, 1914) writes of an improved technique devised by Witzel for the radical treatment of carcinoma of the lower end of the oesophagus. The great difficulty of suturing the stomach to the oesophagus after cardiac resection has demonstrated the impracticability of the abdominal route, as tried up to the present time, and no good results have hitherto followed the intrathoracic operation. Witzel's technique has been worked out on the dead body: the first stage consists in freeing the oesophagus through a thoracic incision; next the abdomen is opened, the oesophagus drawn down, and the diaphragm partially freed and pushed up; the diaphragm is stitched to the oesophagus as high as possible and the thorax closed. Resection may then be completed as an intra-abdominal operation. A somewhat extensive rib resection is necessary in the first stage. In fuller detail a curved incision is made, convex below, commencing at the left border of the sternum, at the junction of its middle and lower thirds, and running over the costal margin to about the mid-axillary line. Ribs 5 to 9 inclusive are resected extrapleurally, from the anterior axillary line behind and including the greater part of the costal cartilages in front. The pleura is incised by curved incision at the level of the fifth rib. The lung is drawn upwards and backwards; a longitudinal incision is made through the mediastinal pleura over the oesophagus, which is freed by blunt dissection, avoiding the vagi. The abdomen is next opened and the diaphragm incised at its opening in front. An incision is also made in the diaphragm for 2 in. in a forward direction from the oesophageal opening. The diaphragm is then pushed up as high as possible, and the gullet slowly but steadily drawn down. The enlarged oesophageal opening in the diaphragm is closed by suture from behind forwards, the oesophagus being stitched in. The pleura is then closed. The lower fourth of the gullet (from 4 in. to 5 in. on the dead body) is now an intra-abdominal organ, and resection of its lower end and of the adjoining portion of the stomach can be easily performed; the subsequent suturing of the oesophageal stump to the stomach also presents no special difficulties. An important point is that tension on the suture line is avoided; the oesophagus does not pull away from the stomach, but tends to be drawn down, owing to its attachment to the diaphragm. The details of the oesophageal suture are not entered into, but any method of course requires as adjuvant a temporary gastrostomy.

22. Cancer of Splenic Flexure.

P. E. Truesdale reports (*Journ. Amer. Med. Assoc.*, April 25th, 1914) two cases of cancer of the splenic flexure of the large intestine. He remarks on the rarity of cancer in this location, its slow development and late metastases. The lymphatic glands of the region are so related that the conditions for the spread of carcinoma are not favourable, and the statistics of Madeling and Mayo would indicate that the results of operation are rather more favourable than in cases of cancer in other localities. In each of Truesdale's two cases a resection of the splenic flexure was made and in both cases relief was obtained, though in one case there is evidence of recurrence of cancer in the cervix uteri a year later. Other similar cases are mentioned, and he concludes that the cure of cancer in this region of the bowel by excision can be reasonably assured. Nevertheless the outcome mainly depends, as in the other cases of cancer, on an early diagnosis. The article is illustrated.

23. The Prostatic Incident in Diabetes.

Stern (*Archives of Diagnosis*, January, 1914) calls attention to the frequent association of the prostatic and diabetic states, an association generally overlooked, such prostatic symptoms as difficulty in starting micturition, frequent nocturnal desire, etc., being attributed to the diabetic syndrome. Although the prostatic state consequent upon the hypertrophy of the gland does not usually manifest itself in otherwise normal individuals before the sixtieth year, in diabetics it may ensue from ten to thirty years earlier. While such early prostatism in the diabetic may be the result of a gonorrhoeal prostatitis in which the sugar-laden urine helped to perpetuate the inflammatory and hypertrophic processes, many diabetics with chronic prostatitis and hypertrophy give no history of a gonorrhoeal invasion, and consequently in such instances there must be either another infection underlying the inflammatory process, or the pathologic changes must have been directly evoked by the glucose, or by nutritive or secretory disturbances in the gland. Although the great majority of prostatic cases are of microbic origin, a certain proportion may be the result of systemic influences, as in the early prostatitis of diabetics. Prostatic disease of infectious origin and senile hypertrophic changes in the gland may antedate the diabetic state, and in this association there is no relationship between them as far as the origin of one from the other, or their production by a common factor, is concerned. Prostatic disease may, however, be the result of the diabetic urine, and represents more than a mere accidental occurrence, the frequent occurrence of cystitis in the diabetic being probably due to an enlarged gland originating the bladder complication. The prostatic state may also arise on a purely systemic basis, being the consequence of the same changes which give occasion to the

diabetic deterioration, or its direct result. It does not materially differ from the true status prostaticus of the aged, the main differences being that when it occurs on the foundation of a constitutional disease or anomaly it may develop at a comparatively early age, and be associated with hypertrophic changes involving the greater part of the gland. This constitutional prostatism is primarily an affection of inadequate or perverted blood supply, due either to a local or general angiosclerosis or to toxic elements in the blood, the changes in the prostate being a connective tissue or epithelial hyperplasia with atrophic changes as the condition becomes advanced. In a case recorded treatment directed towards the amelioration of the diabetes also relieved the subjective prostatic phenomenon.

OBSTETRICS.

24. Treatment of Suspended Animation in the Newborn.

C. SAKAKI (*Deut. med. Woch.*, April 2nd, 1914) criticizes the present methods of artificial respiration for asphyxia neonatorum. Were the respiratory tracts unobstructed, the dilatory methods advocated by Schultze and others, with pauses of three to four seconds after the completion of each phase, would be suitable enough. But slow movements which may sufficiently aërate the lungs in the absence of obstruction, are insufficient when the trachea and bronchi are choked with mucus. This prevents the active transmission of gases through the respiratory system, except at the height of the inspiratory and expiratory phases, when the differences of pressure within and without the chest are greatest. In the intervals between these phases, these differences of pressure are not great enough to allow an appreciable passage of gases on account of the obstructing mucus. This must, therefore, be removed, and the only way to do this satisfactorily is to shake the child rapidly up and down. The author bases this procedure on the familiar observation that when a considerable quantity of water is introduced into a system of capillary tubes, bubbles are formed which obstruct the passage of air. These are most easily got rid of by shaking the tubes up and down. The newborn child suffering from suspended animation is treated in the following matter: All foreign matter is thoroughly wiped out of the mouth and throat. The operator inserts the index fingers behind the shoulder into the axilla on both sides. His thumbs meet in front of the neck, and thus, by supporting the chin, prevent excessive flexion of the head. The remaining three fingers of each hand are spread obliquely over the back of the chest. Thus held, the child is shaken up and down by movements at the wrist, at the rate of 120 to 150 in the minute. They are, in fact, made as rapidly as possible, but not too vigorously. When they have lasted a couple of seconds or so, air may easily be heard passing through the bronchi. The child is now suspended upside down, and is lightly shaken up and down. This enables the mucus to stream from the mouth and nose, and the child breathes naturally. If, however, this does not happen, the manœuvre is repeated again and again till the child breathes naturally. This method usually takes a few minutes before the child is revived. The author admits that it may possibly give rise to an aspiration pneumonia; but this is a hypothetical evil of little importance compared with the danger of immediate death from asphyxia. The method is simple and, when necessary, can be practised before the cord is divided.

GYNAECOLOGY.

25. The Urinary System and Diseases of the Female Pelvic Organs.

J. G. CLARK AND F. E. KEENE (*Surg., Gynaec., and Obstet.*, January, 1914) discuss the relationship between the urinary system and diseases of the female pelvic organs. They observe that symptoms referable to impaired bladder function play an important part in the clinical history of many pathological conditions in the female. It is essential to recognize that in all cases the bladder is not the only portion of the urinary tract to be affected, but that in a small number of patients the lesion is more extensive, involving the ureter and kidney. It is therefore a matter of considerable importance for the surgeon not to limit his horizon to investigations of the pelvic organs only, whenever symptoms are combined with those referable to the urinary tract. Ureteral lesions fall into two broad groups—namely, those of mechanical origin, shown by dilatation of the canal and renal pelvis, and those due to infection. Ureteral compression by neoplasms—particularly cervical carcinoma and intraligamentary or impacted myomata—is commonly recognized, but that such an occurrence may occur with other still more frequent lesions is, in the authors' opinion, not sufficiently appreciated. Under quite normal conditions, the trigone often presents an entirely different appearance during the menstrual and intermenstrual periods. This is the result of the pelvic engorgement occurring immediately before and during the catamenia. The mucosa at such times is acutely congested, swollen, and oedematous. Clinically, this is often shown by the frequency of minor vesical symptoms or the exacerbation of cystitis during the menstrual flow. If the ureteral orifice is abnormally small, this periodic congestion is sufficient to produce urinary stasis and dilatation of the ureter and renal pelvis. Proof of this possibility is seen in cases of intermittent hydronephrosis, in which the symptoms are often associated with menstruation. Clark and Keene suggest that this same factor may explain the frequency of right-sided pyelitis by being superimposed upon a lax ureter, the result of nephroptosis. It is generally agreed that in women a freely movable right kidney is a frequent occurrence. Ureteral dilatation, therefore, according to the authors' theory, is purely of mechanical origin and may be secondarily exaggerated by inflammatory changes in the walls of the ureter which weaken its resistance to the internal pressure. The same remarks apply to the renal pelvis.

THERAPEUTICS.

26. The Treatment of Sciatica.

F. X. DERCUM (*Therapeutic Gazette*, April, 1914) lays stress on the importance of a correct diagnosis of any case of supposed "sciatica." True peripheral sciatica—whether it be merely neuralgic or neuritic—is usually unilateral. Diabetic sciatica is usually bilateral. We have to exclude the sciaticas due to compression by intrapelvic tumours or other lesions of the sacral plexus or cauda equina; and it is well to remember that sometimes what appear to be merely local sciatic pains are really of tabetic nature. Therefore a complete neurological examination together with a recto-vaginal examination and examination of the urine ought to be made in all cases of "sciatica." In the common local form there is usually tenderness over the sciatic notch or behind the head of the fibula or in the middle of the posterior aspect of the thigh. But it does sometimes happen that tenderness on pressure is present in cases that autopsy shows are due to intrapelvic tumour. The pain of sciatica is also increased by motion or by a constrained position of the limb or by passive extension. The cases of non-symptomatic sciatica occur in two distinct groups: (1) The slighter, in which the ankle-jerk on the affected side is either normal or only very slightly diminished, and (2) the severer, in which it is lost early; these latter cases are true neuritic cases and are slower in yielding to treatment than cases of the former neuralgic group. Dercum points out that the aim of treatment is (1) to relieve pain, and (2) to bring about a cure. The first is promoted by rest in bed; the limb must be put into the most comfortable position; if the case be a severe one, a long external splint extending from axilla to below heel or an anterior splint may be applied, the thigh and leg being very slightly flexed, or sandbags may be used instead of splints. In most cases, however, Dercum finds that rest in bed without splinting is all that is needed. He strongly praises full doses of salicylates with bromide, for example, 10 to 20 grains of the former with 20 to 30 of the latter, every four hours well diluted. It is essential "to make a massive impression within the first twenty-four or forty-eight hours with the salicylate." In average cases the pain markedly lessens, and even disappears promptly under these circumstances. Very soon we may diminish the dose of each drug by half, and rapidly discontinue them. Very severe pain at the onset may be treated by morphine gr. $\frac{1}{4}$ with scopolamine gr. $\frac{1}{100}$ hypodermically at bedtime, but this is seldom needed. Dercum warns against too prolonged rest or fixation of the limb in one position for too long a time, as contracture may thus result. He advises a routine practice of slight passive movement of the limb at hip and ankle, and as soon as practicable gentle massage and electrical treatment. Formerly he used remedies such as turpentine, arsenic, quinine, iodides,

antipyrin, and phenacetin, but with scant success. Various local measures are praised by writers, namely, injections or infiltrations of the region round the nerve with salt solution, perosmic acid, carbolic acid, antipyrin, and methylene blue. Lange injects from 70 to 80 c.cm. of 1 per cent. eucaine solution in an 8 per cent. solution of sodium chloride. Tropacocaine may also be used. Others have used stovaine 0.1 to 0.2 per cent., 10 to 20 drops of adrenalin hydrochloride solution 1 in 1.000, together with aq. destillat. to make 100 c.cm. Injections of the Schleich solution are said by Falten to give durable results. Intraspinal injections and epidural injections of Schleich solution or of sodium chloride, have done good; also alcohol perineural injections and intraneural ones of β-eucaine, and freezing of the tissues over the nerve by methyl chloride. Dercum ends his paper with a list of the many conditions which can give rise to a symptomatic "sciatica"—namely, lesions of the sacral plexus or of the cauda equina roots, lesions of the bones or other structures related with plexus or cauda roots, intrapelvic tumours, and diseases of pelvic viscera. In plexus affections the sciatic is only one of several nerves involved, so that we may here have pain in the small sciatic distribution as well, gluteal region, perineum, upper and inner aspect of thigh, etc. Bone diseases usually give very severe pain in the sciatic and other areas; skiagraphy is here of value in diagnosis. Pelvic visceral disease, such as carcinoma recti, is usually easy of detection. Less common causes of sciatic pain are displaced fibroid uterus, or large faecal accumulations, or gonorrhoeal infection of the vesiculae seminales, or trauma of the sacral plexus in instrumental delivery, or even prolonged pressure of the fetal head. Finally, Dercum warns us not to forget hysteria, for cases of hysterical "sciatica" have even been operated upon. Curiously he makes no mention of local hot air or hot applications of various sorts to the painful limb.

27. Intramuscular Injections of Arseno-benzol followed by Death.

Balzer and Baudouin (*Bull. de la Soc. Franç. de Derm. et Syph.*, No. 9, December, 1913) report the case of a young male patient, aged 18, who had recently been under treatment at a London Hospital, where, so he stated, four intravenous injections of neo-salvarsan had been administered without effect, either good or bad, for his offensive rhinorrhoea had persisted, and the typically gummatous lesion on his penis had not been influenced. The injections in London had been given in June and July, and the patient had no idea of the dosage on each occasion. On admission at the Bayin clinic in Paris a course of benzoate of mercury injections was given during August, and, these proving fruitless, Gibert's iodo-mercurial syrup was tried without any marked effect in September. It was not till October that neo-salvarsan 0.3 gram was four times (October 25th, November 1st, November 8th, and November 15th) intramuscularly injected. The ichorous nasal discharge continued, but the gumma of the penis began to cicatrize. On November 22nd 0.3 gram of ludyl—a salvarsan preparation which is supposed to have a more vigorous effect than neo-salvarsan—was given intramuscularly in oily suspension, and on November 26th the patient, after preliminary restlessness, vomiting, and delirium, became comatose, and died shortly after a temporary return of consciousness in deep coma on the following day. The autopsy revealed some congestion of the cortex of the brain without haemorrhage or meningitis. A chemical examination of the liver for arsenic resulted in a very high percentage being found there. The organ weighed 1.140 grams, and it was computed that it contained 2.622 cg.

28. Keratin in Cirrhosis of the Liver.

Zypkin (*Berl. klin. Woch.*, February 23rd, 1914) has tried keratin with what he regards as undoubted good results in the treatment of cirrhosis of the liver. The treatment is based primarily on the results of laboratory investigations by Professor A. J. Danilewsky, which indicated the ability of keratin to fix and render the glutin of the body, which is an essential element in the connective tissue, the overgrowth of which characterizes the disease. A further encouragement was derived from the good results reported in the treatment by keratin of certain diseases of the central nervous system, in which overgrowth and subsequent contraction of interstitial connective tissue formed a part. In this latter instance, it is true, there is an alternative explanation of the action of the drug possible. Keratin is almost identical in chemical composition with neurokeratin, an essential element of nerve cells and fibres, and it may be supposed that its beneficial influence in interstitial diseases of the nervous centres may be due to some direct action on the nerve cells and fibres, whereby their trophic condition was benefited. The cases treated by Zypkin were those in which there was marked obstruction to the portal circulation, resulting in ascites, oedema of the legs, and other usual consequences. Caffein or diuretin and other drugs had previously been tried without avail, and repeated paracentesis within short periods had been necessary. In the four cases detailed the exhibition of keratin was followed by a progressive improvement in the patients' condition. Eventually both ascites and oedema completely vanished, paracentesis was not again required, and the general condition of the patient was so much improved that they were able to resume work. The author concludes that keratin is a remedy of the utmost importance in the treatment of liver cirrhosis, the more so as there is no other drug from which we can hope for any good result in this disease. Its favourable action is confirmatory of the antisclerotic rôle which has been assigned to it. It possesses the further advantage of being without danger and unaccompanied by any serious undesirable by-effects.

PATHOLOGY.

29. The Myotonic Reaction.

The term "myotonic reaction" describes a peculiar response of the muscles to electrical stimulation. The muscles are thrown into prolonged tetanic contraction by interrupted and continuous currents, and the state of contraction persists for a short time after the cessation of the stimulus, the muscle fibres afterwards slowly relaxing. This excitability of the muscles contrasts with that of the nerve trunk, which remains practically unmodified. The electrical syndrome of myotonic contraction has been the subject of an exhaustive study by Babonneix (*Arch. d'électr. méd.*, February 10th and 25th and March 10th, 1914), who states that the myotonic muscle responds to a faradic current by a slow contraction, followed by an equally slow relaxation (farado-tonic contraction). The contraction obtained by the direct application of the galvanic current is toxic, and continues for a certain time after the opening of the current (continuing galvano-tonic contraction). The graphic tracing obtained for this contraction shows it to be analysable into two contractions—the first rapid, and the second slow. The first is said to correspond to the excitation of the myofibrils, and the second to that of the sarcoplasm. The continuing galvano-tonic contraction (total myotonic reaction) is observed more particularly in two affections: (*a*) Thomsen's disease, in which the contraction is early, generalized, and constant; (*b*) various myopathies, in which it is early but not permanent, localized always to a small number of muscles, and sometimes replaced by a non-continuing galvano-tonic contraction. This latter contraction (the partial myotonic reaction of some authors) is seen in right deviation, and at the beginning of certain myopathies. The author proposes the following formula for the galvano-tonic contraction: (*a*) Thomsen's disease, continuing galvano-tonic contraction; (*b*) myopathies, galvano-tonic contraction, continuing or otherwise, according to the case; (*c*) right deviation, non-continuing galvano-tonic contraction. Most frequently the reaction is caused by a functional excitation of the sarcoplasm, or interfibrillar material of muscle tissue. In Thomsen's disease the myotonic reaction may certainly be attributed to the preponderance of this non-differentiated element of the muscle fibre. The preponderance appears to be due to a defect of development, the sarcoplasm retaining indefinitely its embryonic character and failing to be transformed into myofibrils. In myopathies the circumstances which bring about the development of the myotonic reaction are more mysterious. It may be that the muscular lesions result, either in annihilating the properties of the myofibrils, or exalting those of the sarcoplasm. The close relations which unite the myotonic reaction with right deviation are capable of an analogous interpretation. When a motor nerve is injured, and the periphery undergoes Wallerian degeneration, the corresponding muscles become the site of a transformation suggesting the atrophy of the differentiated muscle element (myofibrils), and the hypertrophy of the non-differentiated element (sarcoplasm). It is to these modifications, according to some authors, that right deviation is to be attributed, and although this ingenious hypothesis has been controverted, the author regards it as worthy of note that the myotonic reaction and right deviation are produced in analogous conditions, and that very frequently they appear to have a common origin.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

30. The Moriz Weisz Reaction.

WEISZ found in 1910 that the addition of three drops of 1 in 1,000 potassium permanganate solution to fresh human urine diluted with two volumes of water produced a yellow coloration if the patient was phthisical. This reaction depends upon the oxidation of urochromogen into urochrome, according to Weisz. In 1911 he stated that if it were positive the patient's chance of recovery was small. He connected this new reaction with the well-known diazo-reaction of Ehrlich; he assumed that there were two forms of urochromogen (*a* and *b*), and that, while both gave the Weisz reaction with permanganate, only the *b* form, more highly oxidized than the urochromogen (*a*), gave a positive diazo-reaction. Mladenoff in 1912 investigated the Weisz reaction in eighty tuberculous patients; as regards cases of pulmonary tuberculosis, he obtained a positive result in 25 per cent. of those in the first stage of the disease, 65 per cent. in the second stage, and 84 per cent. in the third. Pierret and Leroy (1913) found the Weisz reaction always negative in health and in the first stage of phthisis, positive in 10 per cent. of patients in the second stage, and in 28 per cent. of those in the third stage; it was negative, too, in most cases of surgical tuberculosis, enteric fever, rheumatic fever, erysipelas, cancer, and severe diabetes. N. MARTELLI and D. PIZZETTI (*Il Policlinico*, Rome, 1914, sez. med., xxi, 182) have further investigated the Weisz reaction. They dilute the urine with 3 volumes (not 2) of tap-water; to one-third of a test-tubeful of diluted urine they add 5 (not 3) drops of fresh 1 in 1,000 solution of potassium permanganate dissolved in distilled water. If the reaction is negative, they repeat the test using the urine less diluted, until finally equal parts of urine and tap-water are employed. Drugs such as quinine, iodides, mercury, guaiacol, tannin, benzonaphthol, do not interfere with the reaction; nor do albuminuria or glycosuria. In each case control tubes of the diluted urine are employed as standards of colour. If the reaction is positive, a yellow colour lasting some twenty-four hours is produced. The authors argue that a positive result is not due to the presence of allantoin in the urine, as Pierret and Bardou state, and that it is never obtained with the urine of normal persons. They found a strong positive result constantly in the third stage of phthisis, a reaction of moderate intensity in one third of patients in the second stage, and no reaction at all in those in the first stage. In acute miliary tuberculosis the urine gave a very strongly positive Weisz reaction. A positive reaction was obtained in the acute stages of malaria, enteric fever, measles, and scarlatina; in some cases of simple febrile enteritis, and in grave cases of septic infection whether local or generalized. A positive result was obtained in two out of eight cases of severe nephritis, and occasionally in acute pneumonia and in pleurisy; it was always negative in acute or chronic articular rheumatism. The authors conclude that a positive Weisz reaction indicates that an abnormal catabolism of the proteins of the body is in progress. The disappearance of the reaction is a good sign in diseases such as phthisis, measles, scarlet or enteric fever, and septic conditions generally.

31. Acute Polymyositis.

J. SCHMAUTZER (*Med. Klin.*, February 15th, 1914) points out that acute polymyositis was not recognized as such till 1887, between which date and 1912 40 cases have been published. He records the case of an innkeeper, aged 46, who had suffered from articular rheumatism five years earlier. In June, 1912, he developed dysphagia. The Roentgen rays showed spastic contraction of the oesophagus 22 cm. from the front teeth. It was at first thought this might be an early sign of cancer. After three months' treatment with bougies the patient was much better, but in the end of November he became sleepless, lost his appetite, felt very tired, and suffered from pain in the shoulders, arms, and loins. The temperature was 100.4°, and the pulse 96. The right brachial plexus was tender and the movements of the right arm were limited by pain; otherwise there were no motor or sensory disturbances. The cardiac dullness was normal, but there was a soft systolic murmur over the apex of the heart. Bronchitis was present, and the urine contained albumin but no sugar. A few days later both pectoral muscles became painful and the patient sweated profusely. On December 10th a large swelling appeared on the extensor aspect of the right arm. The overlying skin was unaffected, and the swelling, which was painful and of a hard, doughy consistency, was situated in the muscle. A few days later the neck became swollen and painful, and yet a few days later a swelling appeared in the left arm similar to that in the neck and right arm. As the swellings in the neck and right arm disappeared others appeared in the forearms and on the backs of the hands, and the supraspinatus and infraspinatus muscles became painful. Later, both lower eyelids became much swollen, and both the temporal and masseteric muscles became swollen and painful. As the swellings passed off the bronchitis diminished, and this was, therefore, probably due to involvement of the bronchial muscles. The appearance of each new swelling was accompanied by fever, which was sometimes as high as 102.2°. The temperature was also somewhat raised in the intervals between the appearance of new swellings. Towards the end of January, 1913, when the lower eyelids were normal, the upper eyelids and the lips became swollen. A few days later the dysphagia reappeared and the patient could not swallow food, which regurgitated through the nose. The movements of the tongue were limited and speech became nasal. Later painful swellings appeared in the right thumb and in the adductors of both thighs. Towards the end of March the temperature rose over 102.2° and the pulse to 130. Death occurred early in April, 1913. The necropsy showed no tumour to account for the dysphagia. The microscopic examination of the left heart and of the tibialis anticus muscle showed myositis, and in the former numerous Gram-positive bacilli, resembling the Welch-Fraenkel bacilli, were found.

32. A Skin Reaction indicative of Immunity against Typhoid Fever.

GAY AND FORCE (*Archives of Internal Med.*, March 15th, 1914), realizing that, although there is convincing proof of the protection conferred by vaccination against typhoid, there is but little evidence as to the actual duration and security of such immunization, have devised a method of indicating by a skin test whether actual protection still exists. While the agglutination reaction is of recognized value in diagnosis, it is no measure of the grade, or even of the existence, of protection from typhoid infection. The method consists in producing an abrasion of uniform size and depth just through the epidermis of the arm without drawing blood by means of a complete twist of a straight-edged chisel tempered to resist sterilization by burning alcohol, the skin having been cleansed with 95 per cent. alcohol. The most efficient typhoid bacillus preparation ("typhoidin") was found to be obtained by inoculating with *B. typhosus* 250 c.cm. of 5 per cent. glycerine bouillon, which, after incubating for five days, was reduced by evaporation to one-tenth its original volume, a control solution of sterile 5 per cent. glycerine bouillon being evaporated at the same time to equivalent volume. Two uniform abrasions are produced on the arm and the control solution gently rubbed into the inner spot with a sterile toothpick, the "typhoidin" solution being similarly applied to the outer spot. The reactions are observed six and twenty-four hours later, and more rarely at subsequent periods. In a very few instances the six-hour period shows in positive cases an accelerated reaction, which diminishes or disappears within twenty-four hours, though frequently a positive test persists for a week. In the majority of cases the control shows a heated abrasion not surrounded by an areola, though in the minority a slight zone of traumatic redness may occur, but on these latter, when there is a positive reaction in the "typhoidin" spot, it is easy to measure the differences between its areola and the control redness. A difference of 2.5 mm. between the two areolas has been chosen as indicating a positive reaction, the positive spot measuring from 4 to 12 mm. in diameter and being usually somewhat indurated and clearly demarcated. In negative cases there is the same reaction, or absence of reaction, on both the control and the "typhoidin" spots. Of 21 cases with a definite history of typhoid ranging from forty-one years to four and a half months previously, only one was negative (95 per cent.). The reaction was negative in 85 per cent. of

individuals without history of typhoid, the 9 per cent. of these giving a positive reaction probably having had a mild undiagnosed attack at some previous time. Of 15 individuals vaccinated by the army method from four and three-quarter years to eight months previously, 9 gave a positive skin reaction, and 25, vaccinated by the Gay-Claypole sensitized vaccine for from one to eight months previously, all gave a positive reaction. The test may be regarded as of value in indicating protection against typhoid whether acquired by recovery from the disease or by artificial immunization, and may eventually be used as an indication for revaccination.

SURGERY.

33. Surgical Treatment of Pulmonary Tuberculosis.

Lapeyre (*Arch. gén. de Chir.*, April 25th, 1914) opportunely reviews the surgical procedures which have been used for the treatment of phthisis. The operations fall into two classes. Those of the first class aim at producing collapse of the lung. The simplest operation of this type consists in the production of an artificial pneumothorax; proposed by Forlanini in 1882, and first performed in 1892, the method has now been extensively employed and reported upon. It is indicated in unilateral cases without extensive pleural adhesions; since the collapse of one lung throws increased work upon the other one, the operation is definitely contraindicated when there are obvious lesions upon both sides. With these restrictions, the method is applicable to 3 per cent. of cases of pulmonary tuberculosis. An analysis of the results shows that few of the cases are cured, though the majority are temporarily benefited. For cases with extensive pleural adhesions thoracoplasty has been advocated. Friedrich has elaborated the technique, which in his hands consists in resection of the ribs on one side from the second to the tenth, from their posterior angles to the costal cartilages. He confines the operation to cases of chronic phthisis, predominantly unilateral, and progressing in spite of medical treatment; in persons aged 15 to 40, and not markedly enfeebled; and where there are wide pleural adhesions. Cases of acute phthisis and those with visceral tuberculosis must be excluded. The operation is therefore of restricted applicability; it is severe and mutilating, and the after-history of 31 cases indicates that though palliative it does not cure. Wilms's modification consists of anterior and posterior section of the ribs, without removal. It is less dangerous to life and appears to be as efficacious as Friedrich's procedure, but there is no reason to suppose it will produce better results. A third operation, pneumolysis, aims at freeing the affected apex of the lung from the parietal pleura by digital separation, and filling the space with indifferent tissues, paraffin, etc., so as to compress the lung. The cases treated by this method are too few to afford sufficient data for criticism. Operations of the second class are those which do not attempt to produce lung collapse; they may be divided into pulmonary and extra-pulmonary operations. Of pulmonary operations, direct intrapulmonary injections and pneumotomy (opening and drainage of cavities) have both been abandoned after trial. Pneumectomy consists in excision of the diseased tissue, and but few cases have been treated in this way. It is perhaps worthy of more extended trial than it has so far received. Extra-pulmonary operations include ligature of the pulmonary arteries and veins, and section of the dorsal sympathetic roots; each method has been tried in one or two cases only. Freund's operation, called chondrotomy, consists in producing a pseudarthrosis in the first costal cartilage. The *rationale* is based upon *post-mortem* observations, which, according to Freund, show that apical phthisis is usually correlated with contraction of the first costal arch; this statement has, however, been controverted by Morriston Davies. The operation has been done in nine cases, all too recent to be of value for estimating its efficacy. Collapsotherapy, then, at present holds the field; but its limitations are strict, and the results not too good. Pneumectomy, perhaps, might be employed with present improved methods of diagnosis and technique. Though the surgical treatment of phthisis is still unsatisfactory, there is reason to hope that it will undergo further evolution. In any case it is necessary that the physician and the surgeon should unite their efforts if any advance is to be made in this discretion.

34. Local Anaesthesia.

J. J. King (*Journ. Amer. Med. Assoc.*, May 30th, 1914) describes a method of local anaesthesia which he has found most satisfactory for resection of the nasal septum. Half an hour before he begins, the patient takes by the mouth $\frac{1}{150}$ grain of scopolamine hydrobromide to allay nervousness and as the therapeutic antagonist to cocaine. Then with a cotton-wool applicator a 20 per cent. solution of cocaine hydrochloride is applied over every part of the mucous membrane of the septum, and this is immediately repeated. After the second cocaine application, King makes a similar one of a 1 in 1,000 epinephrin solution and following this an injection under the septum perichondrium and periosteum on each side of from 8 to 10 c.cm. of a sterile salt solution to which 5 minims of a 1 in 1,000 epinephrin solution has been added immediately before the injection. This completes the anaesthesia and infiltrates every portion of the septum membrane, blocks off the nerves, prevents shock, and renders the operation practically bloodless. It also aids in elevating the perichondrium from the cartilage and makes the dissection easy. He uses only 5 minims of epinephrin solution because this does not exceed the physiological dose of the hypodermic injection and he has found it sufficient to render the field bloodless without producing toxic symptoms.

35. Erroneous Interpretations of the Wassermann Reaction.

Ravaut (*Ann. de derm. et syph.*, vol. v, No. 5, May, 1914) says: (1) That in an avowed syphilitic the positive Wassermann reaction is a certain additional symptom of the disease, but on the other hand, a patient with obvious cutaneous or visceral luetic manifestations may exhibit a negative serum reaction; a negative reaction does not exclude syphilis. The practitioner should not allow the Wassermann reaction to play too large a part in the therapeutic plan of campaign. He ought, of course, to aim at obtaining and retaining a negative Wassermann reaction, but in old syphilitics this is particularly difficult and sometimes impossible. A negative reaction by itself is not a guarantee of cure or an indication for the suspension of treatment. (2) That in a case of suspected syphilis the reaction should be considered as an additional symptom, which in conjunction with others constitutes an important aid to establishing the diagnosis. (3) That in a patient whose Wassermann reaction is consistently positive, but who presents no antecedent history or sign of the disease, a thorough investigation is urgently indicated. It has been often established that a positive reaction may exist apart from the presence of the infection. Its value is, therefore, not an absolute one, and by itself is not sufficient evidence of the disease.

36. Splenectomy in Pernicious Anaemia.

R. Dahl (*Svenska Läkaresällskapets Forhandlingar*, vol. ii, 1914) records the case of a man, aged 50, who first developed pernicious anaemia in the summer of 1911. Arsenic proved effective when given during four exacerbations, but it had no influence on the fifth exacerbation. As these were growing in frequency, splenectomy was performed on December 20th, 1913, when the haemoglobin was 40 per cent., the red cells numbered 1,300,000, and the leucocytes 2,000. Of these, 40 per cent. were lymphocytes. The operation was followed by the appearance of normoblasts and Jolly's bodies. There was also marked leucocytosis. These features gradually diminished, the patient meanwhile improving steadily. A month after the operation the haemoglobin was 65 per cent., the red cells numbered 2,600,000, and the leucocytes 5,000. Of these, 20 per cent. were lymphocytes. During this month the patient had, however, been given arsenic. Discussing the value of splenectomy in pernicious anaemia, the author points out that 13 cases, in which this operation was performed, were published in German papers during 1913. One patient died of bronchopneumonia three days after the operation. All the other patients survived the operation, and derived more or less benefit from it. As, however, the operation was performed only a few months before publication—the first patient being operated on in March, 1913—permanent results cannot yet be claimed. Bruhn-Fahreaus (ibid.) records the case of a woman aged 39, who, eighteen months earlier, had developed gastric symptoms, including abdominal pain independent of food, vomiting, and irregular action of the bowels. Pernicious anaemia and gastric achylia were diagnosed, and arsenic was prescribed with considerable success for a time. The gastric symptoms soon returned, attacks of diarrhoea alternating with constipation, and the abdominal pain being accompanied by anorexia, nausea, and vomiting. The latter ultimately prevented the absorption of the arsenic, the influence of which had begun to wane. Splenectomy was performed on January 3rd, 1914. This was followed by immediate improvement, the gastric symptoms disappearing altogether. The blood now

contained many nucleated red cells and other red cells containing basophile granules, or Jolly's bodies. The haemoglobin showed a slight rise from 43 to 46 per cent. The author suggests that though splenectomy probably does not remove the primary cause of pernicious anaemia, it yet eliminates an important factor in this disease.

37. Inflammation of the Gall Bladder.

THE importance and time of surgery in inflammation of the gall bladder is emphasized by J. TYSON (*Journ. Amer. Med. Assoc.*, April 25th, 1914), who reports three cases of cancer following this condition. The fulminating form often terminates in abscess, and if unrecognized may terminate in perforation. Next to the typhoid bacillus the colon bacillus is a frequent cause. A result appreciated only recently is adhesions, now recognized as frequent cause of pain in the right upper abdominal quadrant, formerly unrecognized. Other predisposing causes are sedentary habits, lack of exercise, tight lacing, child-bearing and abdominal tumours, which contribute to explain the fact that the condition is four times more frequent in women. The most important consequence on account of its frequency, is gall stones, and the relation of these to cancer is recognized; hence the necessity of prompt operation. Other results of neglected cholelithiasis hardly less serious are abscess of liver and biliary fistulas into various organs, including the veins, the intestine, the stomach, the bronchi, and the external integument. Atrophy of the gall bladder is not uncommon. Tyson believes that in doubtful cases exploratory operation is sometimes justified, the more so since other conditions may be discovered which would also require operative relief. He does not deny that cancer may precede gall bladder inflammation, but there is as much reason to believe that they were consequences in the case reported.

OBSTETRICS.

38. Exophthalmic Goitre and Pregnancy.

GELLHORN (*Trans. Amer. Gyn. Soc.*, vol. xxxviii, 1914) relates in full three cases in his experience, and concludes, after the consideration of the opinions of others, that the complication of pregnancy and exophthalmic goitre, while comparatively slight in some cases, may constitute a grave danger to the life of the mother. If the manifestations of Graves's disease are aggravated, notwithstanding medicinal and other conservative treatment, immediate interruption of pregnancy is indicated, and vaginal Caesarean section is the quickest, and therefore the best, method of interruption. Since it reduces the dangers from any operation on patients with exophthalmic goitre, spinal anaesthesia is preferable to any other form of anaesthesia. Gellhorn insists that girls with well-developed hyperthyroidism should be advised against marrying, and if Graves's disease has appeared after marriage, conception should be prevented. If vaginal Caesarean section be performed, tubal sterilization should be added.

GYNAECOLOGY.

39. Bilateral Tubal Carcinoma.

HÖRRMANN (*Monatsschr. f. Geb. u. Gyn.*, April, 1914) operated on a sterile married woman aged 42, a multipara. She had been growing very weak for several months, yet there were no pelvic pains, no evidence of intestinal disease and no irregularity of the catamenia. The patient was extremely emaciated, the uterine body could not be be clearly defined, being surrounded on all sides by firm tumour masses. On the right side resistance could be felt above the pelvic brim; abdominal section was performed. A retort-shaped mass, filled with papillomatous masses of adeno-carcinoma sprang from the left cornu of the uterus. On the right cornu, in place of the appendages was a little red mass no bigger than a cherry-stone. Further on the right, and totally disconnected from the uterus, the right tube was discovered. It had become adherent to a coil of small intestine and its cancerous contents had burst into the bowel, which the operator resected. There were infected glands in the mesentery. The uterus, which bore a small myoma, was extirpated, but the patient died on the fifth day. Wiener, in discussing the case at a Munich society meeting, observed how extremely malignant primary cancer of the tube was now known to be. The growth advanced before the symptoms attracted much attention and there appeared to be no authentic instance of permanent cure after operation.

40. Gangrene of the Cervix.

HERGOTT (*Ann. de gynèc. et d'obstét.*, January, 1914) records a case of gangrene of the cervix caused by three injections of a concentrated solution of corrosive sublimate in an attempt to produce abortion at the seventh week of pregnancy. Following each injection the patient noted a blood-stained serous discharge. Two hours after the third attempt severe uterine contractions commenced, associated with profuse haemorrhage. The latter was controlled by douching with warm water. When admitted to hospital, Hergott noted that the cervix was in a sloughing condition. The vaginal fornices were also intensely swollen and commencing to slough, an extremely fetid discharge being present. In the course of a few days the cervical tissues disintegrated completely, and the whole, together with the adjacent portions of the vaginal mucosa, was detached. The cervix showed some cicatrization, and the patient appeared to be progressing satisfactorily when pulmonary embolism occurred, followed by general pyaemic infection and a fatal termination. At autopsy the cervix was found to have completely disappeared and the base of the broad ligament was the seat of a large abscess cavity. In the walls of the latter large thrombosed veins containing pus were present.

THERAPEUTICS.

41. Intraneural Injections of Alcohol in Neuralgia.

AFTER reviewing at some length the development of this treatment, J. FLESCH (*Wien. med. Woch.*, February 21st and 28th, 1914) gives an account of his own experiences since 1908. Of his patients 52 were women and 34 men. The nerves involved were the first division of the trigeminal in 6 cases, the second division in 20, the third division in 30, and two or more divisions in 15 cases. Other nerves involved were the auriculo-temporalis, zygomatico-facialis, alveolares superiores, occipitalis major, lingualis, intercostalis, naso-ethmoidalis—altogether 15 cases. In 10 cases only one injection was given. In 25 cases two injections, in 24 cases three injections, in 20 cases four injections, in 5 cases six injections, and in 2 cases ten injections were given to each patient. Of the injections 136 were peripheral, 58 were intermediary, 86 were deep, and 2 were made into the ganglion. Schlösser's method was adopted in 36 cases, Levy-Baudouin's in 62 cases, Braun's in 20 cases, and Ostwald's, Härtel's, or the author's method in 8 cases. The subsequent fate of the patients was followed in 62 cases. Of the 8 who showed no relapse 6 had been given peripheral injections and 2 had been given intermediary injections for isolated neuralgia of the lingual nerve. The author expresses surprise at this result of the peripheral injections. Three patients showed relapse after 23 to 26 months, 16 patients after 16 to 18 months, 18 patients after 8 to 12 months, 10 patients after 6 to 8 months, 4 patients after 2 to 4 months, and 2 patients after 4 to 6 weeks. Serious complications occurred twice. One patient had previously been operated on for inflammation of the jaw. Four grams of a 90 per cent. solution of alcohol were injected according to Braun's method into the foramen alveolare from the mouth. The operation was unusually painful, presumably on account of the previous inflammation. Next day the neck and retromandilbular region were oedematous and the patient was febrile. Tracheotomy became necessary, and much gangrenous tissue was evacuated through a retromandibular incision. The wound healed in a few weeks, and the neuralgia did not recur. Another patient was a woman, aged 60, who received an injection of 2 grams of a 90 per cent. solution of alcohol injected into the foramen ovale through the incisura coronoidea. The injection was immediately followed by much giddiness, horizontal nystagmus to the left, and a tendency to fall over to the right. The pulse became rapid, and there was transitory amaurosis. All these symptoms passed off in ten minutes, and were probably due to irritation of the dura by the alcohol. Other accidents, including violent headache, oedema, effusion of blood, and facial paresis following peripheral injections into the second and third divisions of the trigeminal, were transitory only. In the one case in which alcohol was injected into the Gasserian ganglion according to Härtel's method, the result was bad. All sensation over the whole of the right side of the face was lost for several weeks, the patient could eat and speak only with difficulty, and the risk of ulceration of the cornea necessitated the constant use of bandages over the eye. Before injections of alcohol are given in any case, the teeth and nasal cavities

should be systematically examined, laxatives should be tried, then a course of aconite in gradually increasing doses, combined with hot air-baths, Roentgen, or radium treatment. Only when these conservative methods have failed and the neuralgia has been exactly located should alcohol be injected. When peripheral injections have failed, intermediary injections should be given. When these also have failed after a full week's trial, deep injections may be given after exact measurements of the skull have been taken in each case. When these injections also have failed after several weeks' observation, alcohol should be injected into the Gasserian ganglion according to Härtel's method. Resection of the ganglion should be resorted to only after all other measures have failed.

42. Treatment of General Paralysis.

H. Damaye (*Prog. méd.*, June 6th, 1914) insists on the fact that in the treatment of general paralysis and other syphilitic psychoses the use of antisyphilitic remedies is not everything, and that they should not be prescribed straight away unless the general bodily nutrition be good. Not only have many clinicians found that such remedies either fail to do good or do positive harm in general paralysis, but alienists know only too well how often tuberculous lesions are found on necropsies of general paralytics. Damaye's plan in all these cases of syphilitic psychoses and general paralysis is to attend first of all to the patient's general health. He prescribes raw meat, raw eggs; remedies which stimulate leucocytosis, such as collargol and iodine, and trophic substances, such as cacodylates; these remedies often do great good in these cerebral conditions. In addition he gives cod-liver oil or guaiacolized cod-liver oil, and sometimes "iodized antiscorbutic syrup." He finds that this supporting treatment greatly improves both the mental and the physical state. In the next stage of the treatment, which is begun as soon as the physical condition is satisfactory, the raw meat, raw eggs, and super-alimentation is continued, with the addition of antisyphilitic remedies—namely, at first injections of hectine or atoxyl, and then mercurials. The patient, thanks to his previous over-alimentation, now bears mercurials well. Periods of arsenical and mercurial treatment can be alternated, and some iodide of potassium is given as well. Damaye gives details of three cases of general paralysis thus treated with good results. He claims that in this disease, as in other syphilitic psychoses, this preliminary treatment by over-alimentation and tonics does control the meningo-encephalitic lesions as far as they are controllable by any means whatsoever. (One or two minor points in this abstract are taken from Damaye's previous article on the treatment of syphilitic psychoses in *Archives internat. de neurol.*, March, 1914.)

43. Salvarsan Copper.

Ehrlich and Karrer have succeeding in combining salvarsan with various metals, and, on the principle of applying as many poisons for infecting parasites as possible, suggest that such a combination might be of service in therapeutic endeavours. Among these combinations is one in which salvarsan is attached to copper. This is, for the time being, known as K_3. It is a yellowish-red, finely granular powder, forming a clear solution of a dark olive greenish-brown colour in twice normal sodium hydrate solution, or in 1 per cent. cane sugar solution. The dose suggested by Ehrlich was 0.1 gram of the powder. G. Baermann (*Muench. med. Woch.*, January 6th, 1914) has experimented with this substance in a series of tropical infections in Sumatra, and records the results obtained. He gave the dose three times, with a two days' interval between the doses. He regards 0.15 gram as the maximum dose, 0.2 having been followed by high fever, with marked vasomotor and nervous disturbances. It produces both local and general manifestations in framboesia (yaws), and on the whole acts more energetically than simple salvarsan. The spirochaetes disappeared from smear preparations almost completely within twenty-four hours and quite completely within forty-eight hours. Excised portions of the affected tissues showed advanced curative processes in from four to fourteen days. No parasites could be found in them. Even the most severe cases heal in a surprisingly short space of time. In 9 out of 13 cases a single injection of 0.1 gram of K_3 converted a positive Wassermann into a negative one, but in 3 of these cases the reaction became positive at a later date. In one case of quartan malaria with schizontes and free gametes the effect of the injection was the disappearance of the parasites from the blood. They had not reappeared up to the time of reporting. Four cases of tertian malaria yielded in the same manner to the treatment, the parasites disappearing from the blood. In one case in which an unusually large number of parasites were present in the blood, a very few schizontes appeared in the blood after an interval of one and a half months, but the author is doubtful whether this was not a case of reinfection. As a rule, the number of quartan and tertian parasites were found to be increased during the first two hours after the injections, but they disappeared within the following twenty-four hours. The temperature sank within a short time of the injection and remained normal. A similar turning out of the parasites was observed in 2 cases of pernicious malaria, in which, however, only small rings and no gametes were seen. In 5 cases in which young gametes and crescents were present, as well as schizontes, only the latter were affected. The preparation proved itself quite inactive in amoeboid dysentery. In leprosy (mixed form) it exerted a distinct action on the nodules, ulceration, and general health.

44. Artificial Pneumothorax in Pulmonary Tuberculosis.

William C. Voorsanger (*Journ. Amer. Med. Assoc.*, May 9th, 1914) reviews literature on the subject of artificial pneumothorax, and reports three cases of his own, all different in type, progressive, advanced, and hopeless, which were selected for lung compression, to relieve the cough and expectoration, and not with a hope of arresting it. In the former sense, he thinks, the procedure must be looked on as successful. He therefore adds to the indications which were given for lung compression the following: Hopelessly advanced cases in which, after careful examination, it is ascertained that cough and expectoration is being produced from a large cavity in one lung, even though the other is badly infiltrated. His cases number 14, and have been selected from those which, after a fair test, did not respond to other well-tried methods of treatment. All of his cases were, whenever possible, controlled by roentgenograms before operation. All compressions were made by the Forlanini method with 0.5 per cent. novocain anaesthesia. He believes that artificial pneumothorax can be successfully employed outside of the hospital or sanatorium if the technique employed is perfect.

PATHOLOGY.

45. Bactericidal Action of Bile.

R. Toida (*Zentralbl. f. Chir.*, May 2nd, 1914) obtained bile from thirty-five living men and eight live dogs by puncture of the gall bladder. He found that bile from healthy subjects was always sterile. Various pathogenic bacteria react differently when provided with bile as a culture medium. *B. coli communis* and *B. typhosus* flourish when placed in bile; it is a somewhat less favourable medium for the growth of *B. paratyphosus* B, the Shiga-Kruse dysentery bacillus, and the bacillus of Asiatic cholera. Bile is definitely inferior to broth as a medium for *Staphylococcus pyogenes aureus*, though growth occurs. *Streptococcus pyogenes* and the pneumococcus grow either very feebly or not at all. Dog's bile was generally found to be a worse medium than human bile. The morphology and staining reactions of the bacteria investigated were not affected by growth in the fluid. The virulence of *B. coli communis* is enhanced by culture in bile. Other workers (Neufeld, Hirokawa) have observed decomposition of sodium taurocholate by bacterial action; this is not confirmed by the author's observations. Toida's work was done in Japan, where the biliary secretion possibly differs slightly from that of the average European; he finds that his results, however, are in general agreement with those of other workers.

46. The Effect of Tobacco Smoke.

Carginale (*Rif. Med.*, May 30th, 1914) has subjected rabbits to prolonged exposure to tobacco smoke, using the ordinary Tuscan cigar and one denicotinized. The animals were fumigated for two hours at a time at intervals of six hours. Another group were subjected to rapid and repeated inhalations. The experiments were continued for three or four months and showed that long and repeated inhalations caused a moderate degree of anaemia of an orthoplastic type, which disappeared in a few days after inhalation was discontinued. Probably the anaemia was more due to the changes set up in the respiration, from diminished oxygenation rather than to any direct toxic action from tobacco. No vascular changes (inflammatory or degenerative) were observed. No difference was noticed in effects produced, whether ordinary or denicotinized cigars were used.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

47. Acute Pneumonia during the First Days of Life.

TH. E. HESS THAYSEN (*Jahrb. f. Kinderheilk.*, Berlin, 1914, 3 F., xxix, 140) points out the ease with which the erroneous diagnosis of atelectasis of the lungs may be made in infants up to 3 days old dying with acute pneumonia of the catarrhal variety. Three main forms of pneumonia in such infants are recognized: First, specific pneumonia, including the syphilitic and the very rare tuberculous varieties and other forms of placental origin; secondly, septic pneumonia caused by the aspiration of septic material into the lungs during birth, particularly amniotic fluid, and possibly also due in some cases to the inspiration of air loaded with septic bacteria; and, thirdly, catarrhal pneumonia, hitherto ill defined and ill characterized. Hess Thaysen points out that the macroscopic diagnosis of catarrhal pneumonia is quite impossible in a child dying fifteen hours after birth, and may be impossible in children that have lived twenty-four hours. It could be made with fair certainty in four out of six infants living twenty-four to forty-eight hours; the pneumonic lung tissue was dark red in colour, firm and brittle in consistency, and thus distinguishable from the atelectatic portions. The macroscopic diagnosis was easily made in two cases of children dying on the third day. In none of these instances was the purulent bronchitis diagnosable by the naked eye, though found in every instance microscopically; it becomes macroscopically visible only on the fourth or fifth day. Evidence of pleurisy in catarrhal pneumonia is seen only in infants surviving six or seven days, and but rarely even then. Coming next to the microscopical description of the so-called catarrhal pneumonia, Hess Thaysen remarks that in the earliest cases small areas of infiltration may be found in all the lobes of the lungs; as time passes the inflammation becomes much more marked in the lower lobes, and may disappear from the upper. A difficulty in diagnosis is introduced by the fact that the exudation into the alveoli is serous in these infants, and not fibrinous; it may easily be confused with the amniotic fluid aspirated into the lungs, which is clear and contains fatty or myelinoid droplets. The presence of foreign bodies in the lungs of these infants is constant; they consist of squamous, horny epithelium derived from the infant's mouth or the mother's vagina, particles of meconium, and fatty droplets derived from the degenerated epithelial cells that have been aspirated; in addition, fatty or myelinoid droplets derived from desquamated and degenerated alveolar epithelial cells are commonly found, especially if the examination is made many hours after death. It is curious to see how little these foreign bodies may irritate or affect the lungs in which they lie; they may be found in infants 10 days old, without having given rise to any inflammatory reaction or emigration of leucocytes. Unless infected with pathogenic bacteria, therefore, amniotic fluid aspirated in moderate quantity into the lungs may be apparently harmless. In the earliest cases of catarrhal pneumonia the inflamed alveoli show a serous exudation, a scanty leucocytic infiltration, a few red cells that may often have been aspirated into the lungs, some desquamation and fatty degeneration of the alveolar epithelium, and some oedema of the inflamed alveoli. Later on the alveolar and bronchial inflammation becomes more suppurative in character. In 5 cases Hess Thaysen made bacterial cultures from the lungs and other tissues; in all of them *B. coli* was grown, and Gram-positive streptococci were recovered from the lungs in each instance. Discussing the etiology of this catarrhal pneumonia, he argues that a placental intrauterine infection could not have taken place in any of his 14 infants aged 3 days or less; he also dismisses the probability (though not the possibility) that they were infected by breathing infected air. He concludes that the streptococci causing the pneumonia were aspirated with amniotic fluid into the lungs during or immediately after birth, the mothers and their vaginal secretions being in no way abnormal. In 5 out of the 14 infants artificial respiration by Schulze's method had been found necessary immediately after birth. He decides that the so-called catarrhal pneumonia of these very young infants is misnamed; it lacks all catarrhal characters under the microscope, and is in reality a mild septic or inhalation pneumonia, suppurative and not catarrhal. The so-called septic pneumonias of infants are caused by the aspiration into the lungs of pus or definitely septic secretions derived from the mother; in these infants pleurisy is the rule as well as pneumonia, and the infection is no doubt severe. He concludes by dividing the pneumonias of the earliest days of life into four classes according to their etiology, as follows: (1) Placental infections, as in syphilis, tuberculosis, pneumococcal pneumonia, a few cases of streptococcal or staphylococcal pneumonia; (2) aspiration pneumonias, due to the aspiration of either the septic or the normal contents of the maternal passages; (3) aërogenic pneumonias, probably rare; (4) metastatic pneumonias, secondary to a primary infection of the intestine, navel, etc., no doubt extremely rare.

48. Acute Spasm of the Oesophagus.

GUISEZ (*Journ. des praticiens*, March 4th, 1914) points out that the rather prevalent idea that spasm of the oesophagus is essentially a transitory affection, occurring generally in a neurotic patient, is an erroneous one. The course of a case of a moderate grade of severity is as follows: The patient may have slight, vague, and fleeting sensations of oesophageal contraction, and suddenly, when eating, finds it impossible to swallow a bolus of what may be insufficiently masticated food. He may try to drink, but the fluid is immediately rejected, frequently through the nose. At the same time he complains of a sensation of choking and swelling in the throat; his facies is distressed and his eyes become injected. This may last for some minutes, or even for some hours, and then, either spontaneously or under the influence of belladonna or morphine, matters return to normal. The tendency is for these crises to recur at variable intervals but with increasing frequency, until a sort of permanent spasmodic contracture of the oesophagus results. The passage of an oesophageal catheter is easy in these cases. This is the most usual type of oesophageal spasm to be met with. But apart from these cases, which are only serious in respect of the tendency to permanent contraction of the oesophagus, the author has noted graver cases in which complete closure of the tube had resulted with no definite intermission. The patient is unable to swallow anything, even saliva. Oesophagoscopy, which has been of much value in this condition, shows the existence of violent contraction of the upper end of the oesophagus, and to a lesser degree of the cardiac end. No other lesions have, as a rule, been found to be present to account for this. The treatment consists of progressive forcible dilatation with olivary bougies and lavage by means of the oesophageal sound. As the condition occurs generally in neuropathic subjects, paralysis of the muscles of the pharynx suggests itself as a possible explanation, as has also labio-glosso-pharyngeal paralysis. Careful local examination of each case, however, has always negatived these suggestions. Some weeks may elapse before the condition has quite passed off, and it only does so as the result of repeated dilatations by means of graduated bougies. Unless dealt with in this way, the life of the patient may be seriously menaced. It has sometimes happened that food becomes arrested in the intrathoracic portion of the oesophagus, remaining in a sort of closed cavity between the contracted upper and lower sphincters of the oesophagus. The etiology of many of these cases is obscure, but the diagnosis is easily made by means of oesophagoscopy, and the treatment is as has been already mentioned.

49. Idiosyncrasy to a Diet of Kidneys.

G. BUSCHAN (*Med. Klin.*, January 4th, 1914) describes his personal experiences of idiosyncrasy to kidneys. In the autumn of 1911 he ate steamed kidneys and rice at the mid-day meal. In the afternoon of the same day he was seized with violent itching, followed by urticaria of the whole body, colic, and profuse diarrhoea. An hour later, while he was drinking coffee, he suddenly felt faint, and both arms began to twitch. A little later he was again fully conscious, and though feeling very exhausted, he experienced no paralyses or disturbances of speech. A colleague could find no enlargement of the heart, the action of which was feeble. There were no adventitious cardiac sounds, and the pulse was not accelerated. The

cause of this attack was obscure. Other persons who had partaken of the same meal were not upset by it. Syphilis and alcoholism could be excluded, and there was no sign of arterio-sclerosis or disease of the heart. The author had been experimenting on himself for some time with thyroid tablets, and had raised the dosage to ten tablets (0.1 gram) in the day. It was not clear whether the tablets, the mid-day meal, or the hot weather combined with a strenuous life should be credited with the attack. On two earlier occasions the author had developed urticaria, colic, and diarrhoea after eating soup made from crabs. But he had also often eaten kidneys with impunity. That these were, however, the cause of the attack in 1911, became evident when, in September, 1913, a meal of stewed kidneys, this time without rice, provoked a similar attack. This was more severe, consciousness being lost repeatedly, and the action of the bowels being involuntary. The urticaria and the other symptoms passed off rapidly, leaving the patient much exhausted. That this attack was due to idiosyncrasy to kidneys, and not to decomposition of the kidneys or ptomaine poisoning, is proved by the other members of the author's family partaking liberally of the same food without ill effects. The author, who traces the clonic contractions of the first attack to oedema of the brain, can find no record of a similar case.

SURGERY.

50. The Treatment of Fractures.

In view of the fact that several fatalities have been reported by experienced surgeons following the open method of treatment of fractures, and from observation of a large number of cases, MACGRUDER (*Amer. Journ. of Surg.*, January, 1914) is of opinion that closed fractures, when treated as such, always unite more quickly than when treated by the open method. He considers that operation is only indicated when wide displacement of the fragments is present, and when correct apposition is impossible. The method should only be adopted when hospital facilities are obtainable. The type of case which essentially calls for operative interference is an articular fracture, when ankylosis is probable. Here the best results are obtained after exact coaptation and suturing of the fragments. To obtain favourable results from the open method, operation should be early, and massage, followed by early passive motion gradually made active, should form an essential part of the treatment. Macgruder observes that in the case of open fractures, the operative treatment to be adopted is that which most nearly reduces them to the type of the closed fracture, apart from the question of drainage. He considers that gunshot fractures should be treated like fractures of the open type contaminated by street dust, and in addition to the usual treatment, anti-tetanic serum should be administered. The aim in all open operations must be to secure exact coaptation and reduction of the fragments. In the author's opinion, this is most readily secured with the aid of wiring, the most trustworthy metal suture being the tinned-steeled-annealed wire. For the soft tissues, 60-day chromicized catgut is advocated. Owing to the dangers of osteomyelitis, the medullary canal should, if possible, be avoided. The author observes that the use of plates and clamps is growing less and less every year. The weights of the smallest Lane plate and that of the smallest wire necessary to hold the same fragments in correct apposition are 34½ grains as compared with 1⅛ grains. Delayed or non-union appears to be a frequent complication in fractures of the femur, humerus, and tibia, especially in patients subjected to the open method of treatment. This occurs even more often when foreign bodies like steel plates have been employed, in spite of the fact that blood clot and tissue fragments have been removed. Delayed union following operation is more common in fractures of the femur than in those of the tibia, owing to the greater trauma necessary in the former. The author's experience, therefore, does not coincide with that of Lane as to the value of the steel plate in hastening consolidation, although in some cases excellent fixation is obtained; in others it appears actually to retard consolidation even when the soft structures heal by first intention and there is not the slightest evidence of infection. Bony union of the femur occurring ten weeks after steel plating would, in Macgruder's opinion, probably be as far advanced in six or seven weeks in the absence of any foreign body. The ideal treatment of fractures, therefore, is that which effects by the closed method, and without recurrence of displacement, anatomical reduction. The second best procedure is that of the open method by which reduction is secured and maintained without the use of any foreign body. Operation only has a legitimate field when coaptation cannot be secured and maintained without it.

51. Prostatectomy under Local Anaesthesia.

LEGUEU (*Bull. et mém. de la Soc. de Chirurgie*, May 19th, 1914) has performed prostatectomy sixteen times under local anaesthesia. He points out that in prostatectomy operations local anaesthesia has been extensively employed for the suprapubic area, but it has always been found necessary to administer a general anaesthetic for the actual enucleation of the prostate. This combination of local and general anaesthetics has the disadvantages of both methods without always furnishing the corresponding advantages. After several experiments he has evolved a technique in which he states that he has now complete confidence and facility. The method used is infiltration by a 0.5 solution of novocain, to which adrenalin is added in the usual way; 10 to 20 c.cm. of this solution is run into the bladder with the fluid used for distending the viscus. The abdominal wall at the site of incision is infiltrated with the solution, plane by plane, according to established principles, and an incision made down to the bladder. Experience has shown that the presence of novocain in the distending fluid is insufficient to anaesthetize the bladder wall; the latter is therefore injected along the site of incision with about 10 c.cm. of the solution, which is run right and left into the thickness of the bladder wall. The bladder having been opened, two fingers of the left hand are gently passed down to the prostate, which at this stage is still sensible. The prostate is anaesthetized by injecting fluid round it, into what will be the plane of cleavage; seven or eight points are chosen, arranged roughly in circular fashion on the base of the bladder, and into each of these 5 to 10 c.cm. of the solution are run through a syringe. Legueu employs specially made long, strong needles, having a variety of curves at their ends. For surrounding a large projecting middle lobe a needle with a wide curve is required; for the sides and anterior angles a needle bent at right angles is most suitable. The needle is guided by the operator's right hand, aided by the two fingers of the left hand in the bladder; these two fingers remain in the bladder throughout this stage of the anaesthetization. The piston of the syringe is pushed by an assistant, who experiences a sense of resistance should the point of the needle penetrate the adenoma; but when the needle is properly placed the solution runs easily. When the whole periphery of the prostate has been infiltrated, two injections are made into the prostatic urethra in order to anaesthetize the mucous membrane where it will be torn across. Shortly after the injections have been made the enucleation may be proceeded with without the patient experiencing any sensation. Legueu uses in all about 120 c.cm. of the solution, half of which quantity is devoted to the prostate. As a matter of fact, the infiltration of the abdominal wall in his clinic is now effected by an assistant in the anteroom; and the "second stage" of the operation takes a quarter of an hour, about twelve minutes of which is occupied in infiltrating the surroundings of the prostate. Among the earlier cases some pain was experienced during the enucleation, especially if the latter was at all difficult; but experience in the technique has overcome the initial uncertainty, and the operation is now quite painless.

52. The Wassermann Reaction.

CAPTAIN C. F. CRAIG, Medical Corps, U.S.A. (*Journ. Amer. Med. Assoc.*, April 18th, 1914), reports on the variations of the Wassermann reaction in untreated syphilitic cases. While an extensive experience has convinced him of the great value of the reaction as a test for syphilis, he finds that there are many phenomena connected with it as yet unexplained. With one of these he deals in his paper. The technique of the test is the same as that employed by him during the past four years in his routine work, being a modification of the original Wassermann and Noguchi technique. A human haemolytic system was employed instead of the sheep system of Wassermann and an alcoholic syphilitic antigen was used and the serums always inactivated before being tested. Each patient's blood was titrated every day for one week, the quantities of serum employed being 0.02 c.cm., 0.04 c.cm., 0.06 c.cm., 0.08 c.cm., and 0.1 c.cm. The quantity of blood serum used in his routine Wassermann tests is 0.08 c.cm., so that this quantity may be taken as the diagnostic amount given in the tables. A control of 0.1 c.cm. of the serum titrated was always employed. Tables are given of the results in the primary, secondary, and latent stages of syphilis. The two cases of primary untreated syphilis showed such variations of the Wassermann reaction as would have rendered the

diagnosis doubtful had the spirochaetes not been demonstrated in the lesions. In four secondary cases, likewise untreated, the study made it evident that the strength of the Wassermann test may vary from a double-plus or positive reaction to a negative one in the same patient within a few days and with the presence of marked symptoms of syphilis. Four latent cases which had shown no symptoms for a year previous, though they gave a double-plus reaction before the titrations were commenced, showed like variations. The daily titration of untreated syphilitics thus revealed great variations and show that a negative or doubtful reaction is of no value for a negative diagnosis. As regards the cause of these variations, Craig is inclined to the view that the complement-fixation reaction is often of a dual nature, there being a specific reaction between the substances extracted from the spirochaetes and antibodies in the syphilitic serum and a non-specific reaction between lipoids present in the extract and lipotropic substances in the serum. The fact must be recognized that in untreated cases of syphilis such variations may occur and that a single negative reaction is absolutely worthless in diagnosis. The patient should be subjected to repeated examinations when a negative reaction is obtained before being considered free from infection.

OBSTETRICS.

53. Quadruplets.

P. HOLST (*Tidsskrift for den Norske Lacgeforening*, April 1st, 1914) was summoned to a 4-para, aged 38, whose previous confinements had apparently been normal. He found a small live female infant, which the midwife said had been born before her arrival after a breech presentation. For several hours after this birth there had been no labour pains, and the patient felt relatively well. On examination a head presentation was discovered, a fetal murmur was audible over the umbilicus, and so many large and small prominences could be felt through the abdominal wall that triplets were diagnosed. Glanduitrin was injected, but it only induced cramp-like pain, which lasted half an hour and did not advance labour. Forceps were therefore applied, and a dead female infant was delivered. There were still no labour pains. A hand was therefore introduced, a leg seized, version performed, and a living male infant delivered, with arms above the head. As no pains had occurred half an hour after this birth an attempt was made to express the placenta. The first result of this was the presentation of a tense bag of membranes which protruded far beyond the external genitals. It was ruptured, and immediately afterwards, while pressure was maintained over the fundus, a dead male infant was shot on to the floor like a ball from a cannon. It was accompanied by some liquor and quickly followed by a placenta with a double amnion and the two male infants' funiculi, the insertion of which was marginal. Directly afterwards the second placenta with one amnion and two centrally inserted funiculi, belonging to the female infants, was expelled. There was no excessive haemorrhage, and the puerperium was normal. The four infants were of the same size; the two dead infants each weighed 1.5 kilos and measured 38 cm. in length. No. 1 died 10 days old; No. 3, though not showing much vitality at first, was still alive at the age of 6 months, and has an excellent chance of survival. Both parents were pure-bred Lapps.

GYNAECOLOGY.

54. Vaginal Drainage.

P. B. BLAND (*Journ. Amer. Med. Assoc.*, June 27th, 1914) thinks that there is a tendency at the present time to neglect drainage. As regards female pelvic operations, he believes that, while more surgeons than ever use the vaginal route, there are still some who do not adequately recognize its advantages. Abdominal drainage has many objectionable features in these cases. No one can claim it as a safer method, and it necessitates for the patient a prolonged convalescence and hospital treatment. This is of serious economic importance to many patients. It is attended with greater discomfort and danger of infection, and if this is escaped, the angle through which drainage has been placed and removed heals by second intention and predisposes to rupture. The dangers incurred in removing an abdominal drain, from the possible breaking up of adhesions carrying bowel or omentum or of pulling them into the incision are also mentioned by the author. In a recent discussion of the subject, it was stated as a disadvantage of vaginal drainage that it could not remain as long on account of its becoming offensive. This is an error, because the foulness of a drain does not depend on the length of time it is allowed to remain nor does it of itself cause harm. It is a sign that offensive material is being carried away that would otherwise remain and do mischief. It is his practice not to remove or allow a vaginal drain to be removed under six days, and he frequently allows it to remain eight or ten days without harm. It should not be removed too early, before the walling-off process by adhesions has formed, and if it is allowed to remain for some days repacking and redraining is avoided. In cases of extensive pyosalpingitis and pelvic peritonitis with dense adhesions and infection limited to below the sacral promontory, Bland believes that drainage should be instituted by the vaginal route, though he admits that in a few cases both routes should be used. He says: "In conditions such as mentioned above it has been my custom to begin the operation with a premeditative view of establishing drainage by making a preliminary free posterior vaginal incision. This procedure has the additional advantage of frequently allowing the escape of unsuspected free exudate, and thus, to a certain degree at least, safeguarding the patient from dissemination. After the posterior vaginal wall is freely incised and accumulated material allowed to escape, the cavity of Douglas is cleansed by gentle dry sponging, after which a tampon of plain gauze is placed in the pelvic cavity. This is allowed to remain until after the abdominal incision is made when it will prove in a measure a guide to the operator and in many cases point out to him the lines of cleavage in separating existing adhesions." Bland prefers iodoform gauze for a drain because it acts also as a compress. After removing the diseased organs, he thoroughly cleanses the cavity and introduces the tampon of iodoform gauze in a quantity sufficient to fill the pelvis and thoroughly cover raw stumps and surfaces, and leaves it in for from six to eight days, removing it under a short chloroform anaesthesia. No repacking should be done and no douches given for several days.

THERAPEUTICS.

55. Friedmann's Tuberculosis Vaccine.

WINDRATH (*Med. Klin.*, May 31st, 1914) has treated 23 cases of pulmonary tuberculosis with Friedmann's vaccine, and strictly in accordance with his directions. Frequent microscopic examinations were made of the preparation, the methods of staining employed being the Ziehl-Neelsen and the Gram-Much. On two occasions the vaccine was found to be contaminated with staphylococci. Patients were treated in every stage of the disease, and in every case tubercle bacilli were demonstrable in the sputum. The dose of every intragluteal injection was 0.3 gram of No. 1 solution. In 3 cases this dose was repeated in the same manner after an interval of eight weeks. No intravenous injection was given. The patients were examined again eight days after an injection, and the condition of the lungs before and after treatment was invariably controlled by Roentgen ray examinations. The sputum was also repeatedly examined, and the patients' subjective status was noted. The results were very discouraging. No change in shadows thrown on the screen could be detected, and areas of lung which previously showed imperfect expansion continued to do so after the treatment. In 7 cases the injections were followed by marked progress of the disease, and in 8 cases by slight progress. Only in 8 cases was improvement observed, and this was slight. The cough and expectoration increased in 13 cases, and decreased in 9; in 1 they remained as before. In 2 cases the temperature rose over 39°, in 6 cases over 38°, in 8 cases over 37.5°. In 7 cases the injections provoked no appreciable rise of temperature. In 1 case an abscess formed at the site of the second injection, and in 3 cases painful infiltrations were observed. In 1 case in the second stage of the disease there had been no fever till an injection was given. The temperature now rose to 39.5°, and the patient felt very ill. After eleven days, during which the fever continued unabated, a severe haemoptysis occurred, and the temperature rose to 40°. The patient died fifteen days after the injection. A necropsy was not made, but as the case closely resembles one recorded by Vulpius as a sequel to an injection of Friedmann's vaccine subsequently proved to have been contaminated with highly virulent organisms, it is possible that in the author's case also death was due to septicaemia.

Even in the 8 cases in which improvement followed the injections, the author points out that this may have been due simply to institutional treatment, which commonly effects equally good results. The author concludes that the vaccine is not only useless, but very dangerous.

56. Radium Treatment of Cancer of the Prostate.

Radium has a real action on cancer of the prostate, according to Pasteau and Degrais (*Arch. Roentgen Ray*, No. 165, 1914). The radium tube may be introduced surgically through the perineum or through the bladder. In the former case the prostate is opened up and a radium tube placed in the interior of each lobe, the tubes being left in position for any length of time required, and withdrawn by a thread to which they are attached. In the case of insertion through the bladder, on a suprapubic puncture an intravesicular radium application may be made after any cystostomy for retention, infection or haemorrhage. The radium tube, again, may be introduced through the rectum, where the whole of the posterior surface of the prostatic lobes is within reach. In this case surface applicators under the varnish will be used. The prostate itself may also easily be reached by the urethra, into the prostatic region of which a radium tube can be introduced; the radium will then be in the best possible position for attacking the neoplasm. Even better results may often be obtained by the simultaneous introduction of a radium tube into the urethra and a radium application into the rectum. In this manner all the advantages of the cross-fire method are obtained without surgical intervention. The best results are forthcoming when the part is irradiated every three, four, or six days, for from two to four hours each day with 20 to 50 mg. of radium enclosed in a silver tube 0.3 to 0.5 mm. in thickness, the treatment being suspended for three weeks or more after five or six sittings. It is claimed that radium treatment brings about such a reduction of an inoperable tumour that a prostatectomy can be undertaken without danger. It will suppress haematuria, and in certain cases may lead to a complete disappearance of the tumour and of the enlarged glands.

57. Appendicular Organotherapy.

E. Savini (*Compt. rend. Soc. de Biol.*, January 30th, 1914) refers to the current teaching that the vermiform appendix is a rudimentary, useless, and dangerous organ which ought to be removed in every case of laparotomy. Against such a view it always seemed strange that an atrophying or disappearing organ should present such a well-marked anatomical structure and so varied and abundant a pathology, points which do not occur in truly rudimentary organs. Reference is made further to the researches of R. Robinson (1907 and 1913) on the mechanism of the closure of the appendix, and its physiology; Robinson showed experimentally that the appendix is an independent and useful organ, endowed with some digestive power on albuminoids, and to a less extent on carbohydrates, but especially remarkable in that it secretes an acid liquid which plays the part of a hormone that stimulates the caecum and provokes contractions of its muscle. The appendix, then, has a quite definite and useful function. Savini has experimented on a large number of normal individuals in order to study the effect of this organotherapy of the appendix, taken by the mouth. His results are as follows: A small dose of the dry powder of the appendix (about one-quarter of a gram) gives rise, after an interval of from fifteen to thirty minutes, to abdominal gurglings which may continue for about thirty minutes; about an hour later a rather abundant stool, of average consistency, is expelled; Savini has never seen any colic or diarrhoea produced by this treatment; a repetition of the same dose at intervals gives the same effect each time. The minimum active dose is one of about 10 centigrams; but sometimes one must give a larger dose than the average one of a quarter of a gram. Savini has for some time tried this therapy in cases of chronic constipation, with or without caecal stasis, in muco-membranous colitis, chronic appendicitis, and after appendicectomy. But, although his results have been favourable, he reserves his full conclusions for a future paper, as he has not yet made a large enough number of clinical observations on the subject. But he says that his experiences agree with those of Robinson, and enable us to conclude that appendicular organotherapy has a remarkable excito-motor effect on the large intestine. It has, in short, the same kind of effect on that segment of the intestine as the duodenal secretion exerts on the pancreas, liver, and glands of the intestine. Further study of the physiology of the vermiform appendix is needed. As the pathogeny of constipation is manifold, one may, says Savini, entertain the possibility of the existence of a chronic constipation due to appendicular insufficiency.

58. Concentrated Salvarsan Injections.

Habermann (*Dermat. Zeitschr.*, April, 1914, vol. xxi, No. 4), in a carefully considered description of the results of 175 concentrated salvarsan injections in 84 patients, emphasizes and warns against the following series of symptoms of intolerance: (1) Erythema of the head and face, feeling of heat and dyspnoea—fourteen times in 14 patients; (2) three times in 3 patients these symptoms progressed to collapse, and loss of consciousness with a small—almost insensible—pulse, cyanosis, and inactive pupils; (3) marked oedema of the face on six occasions in 5 patients; (4) nausea and vomiting after thirty-eight injections in 27 patients; (5) abdominal and dorsal pain five times in 4 patients; (6) diarrhoea, the same; (7) thirty-two injections in 26 patients were followed by headache; and (8) thirteen times in 11 patients there followed temperatures of over 100.5° F. It is noteworthy that all these reactive phenomena were of an exceedingly fleeting duration, and in the most pronounced case lasted only one day. They have sufficed, however, to induce the writer to return to the old diluted infusion method of injection, during the administration of which they did not occur in so high a percentage of cases. It would appear that with neo-salvarsan the disadvantages of concentrated injections are not conspicuous, but on a basis of 40 cases the author does not at present consider himself entitled to pronounce an opinion.

PATHOLOGY.

59. Variability of Dysentery Bacilli.

Barber, in a paper on the variability of certain strains of dysentery bacilli as studied by the single-cell method (*Philippine Journal of Science*, Section B, Tropical Medicine, vol. viii, Sec. B, No. 6, December, 1913), reaches the following conclusions: (1) From a culture of *Bacillus dysenteriae*, Flexner type, derived from a single cell, three series of single-cell isolations were made at intervals of about five months; the first series gave 5 maltose-fermenting variants out of 21 isolations, the second 5 out of 60, the third 1 out of 123. The other single-cell cultures, as well as the parent culture, render maltose alkaline. (2) The non-fermenting type produces secondary colonies consisting of normal and involution cells, either of which may develop acid or alkaline producing cultures. An ordinary transfer from a secondary colony, including many cells of both sorts, gives an acid-forming culture. (3) Selection from the acid-producing type failed to produce any but similar types, and selection from the alkaline-producing type gave only alkaline, provided secondary colonies were not chosen. (4) Mixed cultures, consisting of an equal number of cells of each type, showed that the two types may exist side by side through from 10 to 15 daily transfers, but with a tendency for the acid to outstrip the alkaline. (5) Transfer in maltose broth gave no increase in the acid-producing power, except in old cultures. (6) Growth in various substances other than maltose failed to alter materially the characteristics of the two types. (7) In a specific serum the two types showed approximately the same agglutination. (8) A permanent new race, characterized by morphological peculiarities, was obtained by the selection of an aberrant cell from a culture of dysentery of the Shiga-Kruse type.

60. Effect of Section of Intercostal Nerves on Uterine Contractions.

In the course of some experiments to determine the influence of paramedian laparotomy upon the production of peritoneal adhesions, E. P. Quain (*Amer. Journ. of Surg.*, April, 1914) observed an interesting effect upon a female rabbit. An aseptic incision was made through the linea alba in the epigastrium and the anterior parietal peritoneum on each side of the incision moderately bruised; the wound was then closed, and the last three intercostal nerves on the left side were excised through an incision across the ribs behind the costal margin. Twelve days after the operation the animal was found dead; it had been pregnant, and had miscarried. The right uterus was found empty; the left uterus contained unexpelled rabbits and placentae, but the placentae were detached. Evidently the uterus on the side of intercostal nerve extirpation had been unable to empty itself, but the author is not prepared to say whether this was merely a coincidence or whether the nerve destruction on that side had any influence on the uterine contractions.

AN EPITOME OF CURRENT MEDICAL LITERATURE

MEDICINE.

61. Prognostic Significance of a Blood Count in Phthisis.

M. WEISS (*Wien. med. Woch.*, January 24th, 1914) finds lymphocytes vary in number in phthisis, a high lymphocyte count indicating a good prognosis, and a low count indicating the reverse. This leucocyte has been shown by Bergel to produce a fat-splitting ferment which dissolves the capsule of the tubercle bacillus. In an early stage of infection, when the patient's reaction is satisfactory, the number of the lymphocytes is increased by 25 to 40 per cent. In many cases of tuberculosis of several years' standing, the patient's resistance to infection has become raised, and the lymphocyte count is high. In other cases, of recent infection and poor resisting powers, this count is low. One patient, whose pulmonary tuberculosis had lasted a year and who was not invalided thereby, showed a violent von Pirquet reaction and a lymphocyte count of 36 per cent. Another patient with "closed" tuberculosis and slight fever, showed a lymphocyte count of only 8 per cent. The disease ran a rapid and fatal course. Frequent examinations of the blood of one patient may show a lymphocyte count falling as the disease progresses. The lymphocyte count may become low before a diazo or urochromogen reaction appears in the urine; and as these reactions are unreliable guides to prognosis, the lymphocyte count is a valuable supplement in this connexion. A lymphocyte count is also a valuable guide to the action of drugs, and in three cases treated with compounds of iodine, the count rose from 16 to 26 in one, from 17 to 23 in another, and from 17 to 19 in the third case. The prognosis in all three cases was at first bad, and von Pirquet's reaction was negative, but after treatment with iodine the reaction became positive, and a year and a half later all the patients were doing well. The neutrophile leucocytes are of less importance in prognosis; when tuberculosis is advanced, many mononuclear neutrophile leucocytes appear. The eosinophile leucocytes usually disappear in advanced forms of tuberculosis, but their presence has no prognostic significance. The condition of the red cells is also no guide to prognosis, for though they fail both in quantity and quality in the advanced stages of tuberculosis, many other factors may be responsible. Besides, by the time the red cells have deteriorated, other conditions pointing to a bad prognosis are numerous and obvious. By quantitative analysis of the daily excretion of urobilin in cases of advanced phthisis, the author concludes that the deficiency of red cells is due, not to haemolysis, but to faulty production of red cells in the bone marrow.

62. The Wolff-Junghans's Test in Gastric Cancer.

SMITHIES (*Amer. Journ. of Med. Sci.*, May, 1914) studied the value of the quantitative estimation of dissolved albumin in gastric extracts (Wolff-Junghans's test) in the diagnosis of gastric cancer. Of 3,950 patients presenting themselves for test-meal examination in the Mayo clinic 747 were instances where gastric extracts showed achylia, or association with conditions likely to be confused with malignancy, and these were all tested for soluble albumin by the Wolff-Junghans's method. In 78.4 per cent. a check upon the diagnosis was afforded by operation. At 4 p.m. the day before the examination of the gastric extract 1 oz. of castor oil was administered, to be followed at 6 p.m. by a motor test meal of mixed food, and at 7 p.m. twenty raw, seedless raisins. At 7 a.m. the next morning a secretory test meal of 6 grams of second-day bread and 200 c.cm. of water were given, and removed an hour later, the specimen being thoroughly mixed, filtered through double hydrochloric-acid-washed papers, and tested for dissolved albumin within an hour of removal from the stomach. Six test tubes of about 20 c.cm. capacity are required for each test, being numbered serially from 1 to 6, and receiving respectively 1 c.cm., 0.5 c.cm., 0.25 c.cm., 0.1 c.cm., 0.05 c.cm., and 0.025 c.cm. of the filtered gastric extract, these amounts being readily measured with a 1 c.cm. pipette graduated in 1 to $\frac{1}{100}$ c.cm. By means of a 10 c.cm. pipette, graduated in 1 to $\frac{1}{10}$ c.cm. the volume in each test tube is next consecutively brought up to 10 c.cm. volume with distilled water, thus giving from the tubes 1 to 6 dilutions of gastric juice, varying respectively from 1 to 10 to 1 to 400—namely, 1 to 10, 1 to 20, 1 to 40, 1 to 100, 1 to 200, 1 to 400—these figures being termed "units" of precipitable albumin. After inversion of the tubes several times to insure complete mixture, 1 c.cm. of the reagent is carefully layered upon the contents in each tube in order to precipitate the albumin in solution. The reagent used contained phosphotungstic acid 3 c.cm., hydrochloric acid 10 c.cm., 96 per cent. alcohol 200 c.cm., distilled water to 2,000 c.cm. If there has been dissolved albumin in any of the tubes a pearly white ring of precipitated albumin appears at once at the junction of the reagent with the diluted gastric contents, and if this occurs in the tubes 1 to 3 (that is, units of albumin from 10 to 50), but is not present in the remaining tubes, the test is regarded as negative. If tubes 1, 2, 3, and 4 exhibit rings (units from 10 to 100), the test is considered doubtful, only the presence of rings in tubes 1, 2, 3, 4, 5, and above (units from 10 to 200 or 400) constituting a positive test. Of the 747 gastric extracts, 42.6 per cent. were positive, 15.7 per cent. doubtful, and 42.4 per cent. negative. The test was positive or suspicious in 80 per cent. of the cases of gastric cancer, being a more constant finding than the absence of free hydrochloric acid, the presence of lactic acid, the glycyltryptophan test, tests for occult blood, and the demonstration of gastric motor inefficiency, but it was not so consistent in its manifestation as the demonstration of organisms of the Boas-Oppler group, or the increase in the formol index. The test was inconstant in extragastric malignancy, gastric syphilis, and nephritis. In the diagnosis of malignant and non-malignant achylias the test is of considerable value when interpreted in connexion with other clinical and laboratory data, positive reactions being rarely obtained in the achylias of primary anaemia, simple achylia gastrica, and simple achlorhydrias unassociated with motor inefficiency. Simple gastric and duodenal ulcers, especially when accompanied by pyloric stenosis and gastric atony, may give confusing results, and the presence of blood in gastric extracts may produce atypical positive tests.

63. Non-parasitic Chyluria.

COURTY (*Prov. méd.*, May 16th, 1914), dealing with this condition, points out that the characteristics of a true chyluria are that the urine contains all the elements of the chyle, including fats and fibrinogen. In these circumstances the urine is white in colour, varying in intensity. Chyluria must not be confused with phosphaturia, pyuria, or lipuria. Speaking generally, chyluria is one of the manifestations of filariasis, but more recent observations seem to prove the existence of a chyluria not so caused. It is admitted that the filaria of Bancroft produces chyluria by mechanical obstruction of the lymphatic circulation. Equally obstruction may be caused by a calcified gland or by cancer of the pylorus and should result in chyluria, but this is clinically difficult of proof as cases of chyluria are rare. At the same time in patients who have never been out of Europe, and whose blood contains no suggestion of filaria, chyluria has nevertheless occurred. This non-parasitic form of chyluria may occur at any age, and has been observed as early as 15 years and as late as 67. Very often in those cases there are signs of old tuberculosis. The onset as a rule is insidious, but sometimes the patient is seized with violent pains in the renal region; in other cases a sudden attack of retention of urine is the first indication, following some difficulty of micturition. This retention is not prolonged, and the patient passes a milky urine containing filiform whitish clots. In this case the fibrinogen of the chyle has been transformed into fibrin in the interior of the urinary passage, and the clots so formed obstruct the urethral orifice. In one case referred to by the author the patient suffered from chills, pains in the back, increased pulse-rate and mental depression. An important difference between the commencement of chyluria due to filariasis and non-parasitic chyluria is that in the former there is generally a haemato-chyluria, while in the latter the urine is absolutely milky. The initial pains and retention may occur again and again in the course of the disease, and, as in the parasitic form of this disease, the condition is often intermittent over a considerable period. The horizontal position generally aggravates it, and then on waking in the morning it is most marked. The author quotes the conclusions of Hertz as showing that diet has very little effect upon the

condition, but that exercise increases it. The opacity of the chylous urine does not always clear up by ether. It always contains leucocytes, a variable quantity of albumin, and sometimes sugar. According to most observers the functions of the kidneys are very little affected. Cystoscopic examination has shown, according to some authorities, that the chylous urine comes from the right ureter. So far as the pathogeny of the condition goes, it has to be noted that chyluria is only a symptom in itself and signifies the existence of a lympho-urinary fistula the result of lymphatic hypertension from pressure or otherwise. The prognosis of a case of non-parasitic chyluria depends essentially upon the original cause of the condition and any treatment possible is bound up with this also.

SURGERY.

64. The Pleura in Artificial Pneumothorax.

RÉNON (*Journ. des praticiens*, April 25th, 1914) points out how necessary it is to ascertain the state of the pleura before, during, and after the production of artificial pneumothorax. If the patient has had massive pleurisy and effusion the chances are that adhesions of a more or less formidable character exist and that the introduction of air is impossible. One of the indications of this state of affairs is retraction of the intercostal spaces and absence or marked diminution of vocal resonance. A radioscopic examination is also of assistance in the diagnosis. If the adhesions are scattered and feeble, so far as a radioscopic examination can show, there is every justification in attempting the production of artificial pneumothorax. During the operation the state of the pleura also is important, and it must be accurately ascertained that the pleural sac has been entered. This can be done with the assistance of Küss's apparatus. If the needle has penetrated the pleural cavity the manometer will indicate a negative pleural pressure with oscillations from 10 to 15 cm. in amplitude. If, on the other hand, the needle has penetrated a cavity of limited dimensions owing to adhesions, the oscillations of the manometer will be only of feeble amplitude. If the instrument has penetrated the lung the oscillations will be very small and equal above and below the zero of the manometer. After the operation pleural effusions are not infrequent. They are of three different varieties: (*a*) Septic effusions; these are not as a rule so much due to an infection of the pleural cavity in the course of operation from without as to the escape of infected air from the lung owing to the rupture of a cavity if the insufflation has been made under too great pressure. The patient is suddenly seized with a violent pain in the side, the temperature rises rapidly, and from the point of puncture a purulent fluid can be seen exuding. The danger in these cases is considerable, and evacuation of the pus with free drainage is essential. (*b*) Purulent tuberculous effusion, practically in the form of a cold abscess. (*c*) Serous effusion; this is unfortunately a fairly common occurrence after artificial pneumothorax. It is tuberculous in character, as inoculation of guinea-pigs has shown. The progress of these cases varies, but is generally hopeful. The author's experience of artificial pneumothorax, in spite of such accidents, confirms his opinion of its real value. At the least the procedure gains time and retards the progress of the malady. The immediate results are often excellent, but rarely last for long, and cases of cure are very exceptional. In his opinion it is one of the least harmful methods of treatment, but is destined to disappear when the therapeutics of tuberculosis have made serious progress in other directions.

65. Treatment of Secondary Haemorrhage following Nephrotomy.

F. VOELCKER (*Zentralbl. f. Chir.*, June 13th, 1914) has found that dangerous bleeding is more likely to occur some days after nephrotomy than directly after the operation. A careful haemostasis of the kidney at the time of operation goes far to prevent the occurrence of bleeding later. The most important vessels are the large arteries lying deep in the kidney near the pelvis. Any spurting point should have an individual catgut ligature so far as practicable; if the wound is filled with blood and an accurate view cannot be obtained, a haemostatic forceps should be applied temporarily to the bleeding area, and the region surrounded by a haemostatic suture. Capillary haemorrhage is controlled by closure of the kidney and suture of the capsule. If in spite of these precautions serious haemorrhage occurs during the after-treatment of a nephrotomy case, the situation brooks no delay. The amount of blood which has already been lost via the ureter is often more considerable than one suspects, and no time should be spent in carrying out general measures such as injections of gelatine or hypertonic saline; treatment should be local, and the best is to retrieve the kidney and ligature the bleeding point. It is frequently impossible to find the bleeding point in an exsanguinated patient; and sometimes the haemorrhage is a general capillary oozing. In such cases secondary nephrectomy is often the only means of saving the patient's life. In one such case the author dwelt with the situation successfully by bringing the kidney out of the wound and leaving it there for some time with a compressing bandage round it. Nephrolithotomy of the right kidney was performed on a patient who eight years previously had had a stone removed from his left kidney. A week after operation there was severe bleeding from the wound in the loin and also into the bladder. Plugging the wound had no effect. Nephrectomy was considered out of the question, as both kidneys were infected. The kidney was freed and brought to the surface. In order to prevent haemorrhage into the bladder, a loose ligature was placed round the ureter, the kidney was bound up in a narrow sterile bandage, and haemorrhage ceased. Two days later the ligature was removed from the ureter. The kidney was unbound on the next day, and replaced with some difficulty a day later, after lying for four days outside the wound. No further bleeding occurred, and the patient did well.

66. Ankylosed Jaw.

J. B. MURRAY (*Journ. Amer. Med. Assoc.*, June 6th, 1914) discusses the subject of arthroplasty for intra-articular bony and fibrous ankylosis of the temporo-mandibular articulation, and reports nine cases. The most common type of ankylosis is the bony, which may be due to extensive suppuration of the middle ear, a local osteitis, metastasis from local infection elsewhere in the body, or it may be a part of a general metastatic arthritis or the result of a transmitted trauma from the chin. All parts of the jaw may be affected singly or together, and the anterior root of the zygoma is often involved. The middle-ear disease is the most common cause. The abscess may burrow forward into the joint or it may involve the subzygomatic temple zone and produce myositis with cicatricial contraction. The diagnosis as to the side involved is often very difficult. When the ankylosis is bony, there is complete fixation; but when the ankylosis is fibrous, there is some motion in the jaw, and in the para-articular ankyloses there is always some motion. In the intra-articular ankyloses there is sometimes a little lateral motion on the unaffected side, a minute fraction of an inch on forced effort at opening the mouth, a point which is worth remembering. By clinical observation and experience, Murphy has learnt that an accurate diagnosis of the side involved in unilateral cases occurring early in life can be made by noting the deviation and contrast formation of the two sides of the face. It seems full and round on the ankylosed side, but on the opposite one it is flattened and deformed. The chin is always retracted and turned to the ankylosed side. If ankylosis occurs late in life this is not so prominent, and if the case is recent there is not much deformity. In only one case of the nine reported did Murphy fail to diagnose the side affected, and in this he was misled by the history. He performs a typical and uniform arthroplasty, using the pedicled flap, consisting of fat and the aponeurosis of the temporal muscle as the interposing material. The technique is not difficult, but must be exact in its details in order to obtain good results. The steps are: (1) The L-shaped incision coming down perpendicularly to the upper border of the zygoma and extending forward on its upper margin ¾ inch; (2) division of the ankylosis and removal of the segment of the mandibular neck; (3) raising the flap of temporal fascia and fat; (4) interposing and fixing the flap in place; and (5) closure of the wound. The results obtained are gratifying. In only one case did Murphy fail to have good results. The cases are reported. There is some danger of injuring the facial nerve in operating otherwise than with the L-shaped incision. There is also another danger. One cannot divide the ankylosis in the line of the original articulation for fear of penetrating the base of the skull. Murphy, therefore, always removes the condyle of the inferior maxilla and does not clean out the glenoid fossa to make an opening. The internal maxillary artery must be borne in mind in removing bone, as it hugs the inner side of the neck very closely. If injured, it should be ligated at the bifurcation of the external carotid. After-treatment is very important. Mastication should be started at the end of two weeks.

OBSTETRICS.

67. Severe Intraperitoneal Haemorrhage from a Corpus Luteum.

At a discussion in the obstetrical, gynaecological section of the Swedish Medical Society on the subject of intraperitoneal haemorrhage from the ovaries, E. Bovin (*Hygiea*, vol. 76, No. 7, 1914) pointed out that, when the haemorrhage has been severe, the presence of extrauterine pregnancy has never been convincingly disproved. Slight haemorrhages, on the other hand, do occur about the uterine appendages in connexion with ovulation or menstruation. When laparotomies have been performed immediately before or during menstruation he has frequently found small quantities of dark liquid blood in the pouch of Douglas. In one case he had operated for appendicitis on a girl, aged 19, at a time when menstruation was just due. He found a newly ruptured follicle, distended with blood, in one ovary; and there were about two dessertspoonfuls of liquid blood in the pouch of Douglas. Next day normal menstruation set in and lasted four days. A. Troell (ibid.) recorded the following case: An unmarried woman, aged 24, had suffered off and on for the past year from abdominal pain, practically limited to the epigastrium. She had previously been quite well, and menstruation had been normal. Her last menstruation, early in October, was also normal, but on the 22nd of the same month she suddenly developed rigors and great pain and tenderness in the right lower abdomen. She felt exceedingly unwell, but did not vomit. On admission to hospital next day she was much collapsed, the pulse was 80, and the temperature was 37.7° C., but there was no marked anaemia. The area of maximum tenderness and resistance was just below McBurney's point. No vaginal examination was made. Appendicitis was diagnosed, and the abdomen was opened by McBurney's incision. When the peritoneum was opened a little fluid blood escaped. A ruptured tubal pregnancy was suspected, but, as the perfectly healthy appendix was easily found, it was removed. An examination of the uterine appendages made through the incision, which had been enlarged downwards and to the middle line, revealed a round, soft, elastic tumour, of the size of an orange, attached to the uterine appendages on the right side. It consisted, not of a pregnant tube, but of the right ovary, which was partially converted into a bag of blood. Liquid blood flowed from an opening, no larger than a goose's quill, in the wall of this tumour, which was removed. The uterus, the right tube, and the left uterine appendages were normal. The microscopic examination of the right ovary showed the blood-filled cavity to consist of a corpus luteum. No evidence of a fertilized ovum was found. As, however, a complete set of serial sections was not examined, the absence of an ovarian pregnancy is not proven.

GYNAECOLOGY.

68. Spontaneous Amputation of the Uterus.

L. Ruppert (*Wien. klin. Woch.*, March 12th, 1914) records a case of a widow, aged 72, whose uterus was invaded by a large, non-pedunculated myoma which caused the uterus to rotate on its long axis till its body was united to the cervix only by a few shreds of serosa. The patient had previously been well, she had aborted once, but had never given birth to a mature infant. During the past year she had been subject to brief attacks of cramp-like abdominal pain. The dimensions of the abdomen had slowly increased during nine months, and the patient had detected a hard swelling in the abdomen. After the abdominal pain had grown more severe and continuous for a week, during which the patient had frequently fainted, she was admitted to hospital with the diagnosis of intestinal obstruction. She had not passed faeces or flatus for three days, but there were no disorders of micturition and the temperature was normal. The pulse was rapid, the face drawn, the tongue dry, and the mucous membranes were pale. The whole of the distended abdomen was tender, and between the symphysis and a point a handbreadth below the umbilicus, a hard, movable, round swelling could be felt. This was evidently connected with a hard, round swelling to be felt by vaginal examination in the pouch of Douglas. The position of the cervix seemed normal. The lateral aspects of the abdomen were dull on percussion. As the pulse was rapid and collapsing, and the patient's condition did not warrant an immediate operation, stimulants were given and the operation was deferred till the next day, when she had partially revived. A laparotomy performed in the middle line below the umbilicus revealed a large quantity of dark fluid blood in the peritoneal cavity and a cyanosed tumour attached to the posterior wall of the uterus. About a litre of fluid and clotted blood was removed, and the uterus was now seen to be attached to its cervix merely by a few strands of serosa, which gave way as soon as the uterus was pulled on. The uterus was restored to its normal position by rotating it three times 180 degrees. Its ligaments were clamped and divided, and the tumour, which was larger than an infant's head, was removed, together with the uterus and its appendages. The stump of the cervix was covered with peritoneum and the abdomen closed. The wound healed by first intention and a rapid recovery was effected. Discussing the mechanism of this amputation the author suggests that the round ligaments cut into the uterus as it rotated and thus facilitated its division at the junction of the body with the cervix. The process was evidently acute, and the movements of rotation were unchecked by any adhesions.

69. The Heart and Uterine Fibroids.

McGlinn (*Trans. Amer. Gynec. Soc.*, vol. xxxviii, 1913) publishes tables based on the records of 5,700 autopsies. In 244 subjects fibroid tumours of the uterus were discovered. McGlinn analyses this series, and concludes that a definite entity of a "fibroid heart" cannot be admitted. If the fibro-myomatous new growth were the cause of all the cardiac lesions in the series, then every tumour, regardless of its size and situation, should be extirpated—a contention that the most radical surgeon would hardly admit. Uterine myomas occurring in middle and advanced life are practically always associated with sclerotic heart lesions, part of a general process bearing no relation to the fibroid. Large tumours, by increasing the work of the heart and fibroids, causing pressure on the pelvic circulation, may produce hypertrophy and secondary dilatation of the heart. Anaemia from haemorrhages, infections, and certain degenerations of the tumour may affect the heart secondarily, causing changes, such as fatty degeneration, brown atrophy, and cloudy swelling, but these changes in the majority of instances are caused by conditions entirely foreign to the tumour.

THERAPEUTICS.

70. Stability of Synthetic Suprarenal Preparations.

The stability of suprarenal extract was frequently called in question, and the same doubts have been expressed regarding the synthetically prepared suprarenal compounds. During the last few years Schlesinger (*Zent. f. Chir.*, March 21st, 1914) has observed the effects of injection of suprarenal products. The observations were made in the course of clinical practice. In his earlier observations he often found that on opening a bottle the contents had a rosy-brown colour. At that time rubber stoppers were used for the bottles; since the almost universal use of glass stoppers for the phials of synthetic extract, the contents are almost always colourless when the bottle is first opened. In these observations only freshly-opened bottles were used, and if the contents were not clear and colourless they were rejected. The dilutions for injection were made up immediately before use. The same technique was employed in all cases. In a certain number of instances no effect on the vasomotor mechanism was produced by injection. The cases in which no physiological effect occurred fall into two classes. Thus occasionally, while performing a number of similar operations, using the same technique and the same solution, in one case vaso-constriction would be much less pronounced than in the others. The author is compelled to the conclusion that an individual idiosyncrasy is the explanation of such an occurrence; for some reason the vasomotor mechanism in some individuals reacts less evidently to suprarenal preparations than in the majority of people. Secondly, out of a large number of ampoules employed, about 1 in 30 was found to be deficient physiologically. The ampoule was not condemned until it was found to be useless after trying it on at least three or four subjects, using all the above precautions. At first the observer thought that the particular phial might have deteriorated through age. He therefore obtained a number of bottles which had been made up for periods varying from six months to five years. They were all found to be clear and colourless when opened, and to produce completely satisfactory vaso-constriction. A number of the solutions which had been found to be inactive were sent back to the makers, who reported that they appeared to be chemically unchanged; and when tested in the Pharmacological

Institute at Freiburg they were found to be physiologically active for animals. It may be deduced that some samples of synthetic suprarenal preparations undergo some change, which cannot be detected by our present chemical methods, by which they become inactive for the human subject while remaining active for some animals. The author is not prepared to explain this occurrence in the present state of our knowledge of the subject. That some samples undergo changes while still within the sealed phial is shown by the fact that if several bottles are opened at the same time and kept under precisely similar conditions, the contents of some will become tinted in a few hours, while that of others will remain clear for eight days or more. These observations were all made with suprarenin solutions already made up by the manufacturers; the author has little experience of preparations put up in tablet form.

71. A Simple Hot-air Cautery.

FONIBELLE AND AMAT, two practitioners whose work lies mainly among the natives of Southern Algeria, where venereal sores have to be treated in large numbers and in most unfavourable circumstances, have devised a simple and highly effective hot-air cautery, with which they claim very considerable success in the cure of soft chancres (*Bull. de la Soc. Franç de Derm. et Syph.*, February, 1914, No. 2). A spirit lamp and an old Paquelin cautery, of which only the hollow handle and four or five inches of metal continuation designed for attachment to the rubber tube and air-pump remained, was the sole material available. The handle of the spirit lamp, of soft iron, was bent upwards, bayonet fashion, and the upper extremity pierced to admit the metal continuation of the cautery handle at such a height (2 cm.) that the latter would lie in the hottest part of the spirit flame when lighted. The metal continuation was shaped with pliers to as fine a point as possible, and projected, when complete, some two or three inches distally to the spirit flame. The advantage of this instrument lay in the fact that the right hand when grasping the cautery handle controlled it completely, and could guide it unassisted with lamp alight and heating the metal continuation to any part of the patient's body, while the left hand manipulated the rubber ball and produced an equable air current. The latter was found experimentally to have a temperature of about 150° C. at 0.5 cm. from the orifice, 100° C. at 1 cm., and somewhere between 70° and 80° C., and the optimum temperature for this sort of work, at 1.5 cm. For the average soft sore three applications—one every third day—were found sufficient, and marked improvement was generally noted a very short interval after the first. A mild iodoform paste sufficed for all purposes between the sittings.

72. Electrical Treatment in Gout.

NUYTTEN (*Arch. d'électr. méd.*, April 25th, 1914), reporting on the electrical treatment of gout, states that so far as general treatment is concerned, the electro-therapeutic modalities are limited practically to two—namely, the currents of high frequency, and generalized electrical gymnastics, given according to Bergonié's method. Many experimenters have found that high-frequency currents in their general application have a manifestly accelerating action on the azotic metabolism. Little is known of the mechanism of the currents' action; the most likely hypothesis is that the effects are to be attributed to a direct trophic influence on the cell. The condenser couch appears to give better results than the cage of autoconduction. As to the generalized electrical gymnastics or passive ergotherapy of Bergonié, the author regards this method as marking an important progress in the therapeutics of diseases of nutrition. His own experience has proved that a rapid amelioration of the general state is obtainable, the insomnia disappearing, and pain being lessened. Of other general methods, the static bath may render service when there is neurasthenia or insomnia; and in the chronically constipated, abdominal galvanization may be useful as a means of bringing about the disappearance of one of the causes of the autointoxication. For local treatment, galvanization at a high intensity is the principal electrical method available. In acute crises the galvanic current has a remarkable action, so that often an impending attack is staved off after the first or second sitting; but even when the trouble is permanent, the cartilages being befouled with uratic deposits, and when there is articular stiffness, galvanization still remains the treatment of choice. The analgesic action of the continuous current is felt if the applications are sufficiently long and intense (20 to 50 milliampères for from twenty to forty minutes, according to the surface of the electrodes and the sensibility of the patient). Lithium ionization as an adjunct to the simple application of the galvanic current offers certain advantages and no inconveniences, and other ions have been used with success. The currents of high frequency have been employed for local treatment in two principal forms; the effluve, and the diathermy. The former appears to have a vasomotor and particularly an analgesic action. In the case of diathermy the action seems to be doubtful, at least two observers noting an increase of pain, and, apparently, the results are mediocre.

73. Adrenalin Chloride in Exophthalmic Goitre.

I. L. VAN ZANDT records a case of exophthalmic goitre which he treated by adrenalin chloride solution (*Amer. Med.*, April, 1914). Bearing in mind the alleged antagonism between the thyroid and the adrenals, he thought that the excessive action of the thyroid in the disease might be controlled and possibly cured by adrenalin. The patient, a woman of about 30, had one child aged 10. There was no history of miscarriages. She had generally good health until four and a half years ago, when she developed exophthalmic goitre. She has had but little treatment, and has steadily refused surgical measures. The author was summoned hastily to see her, and found her almost dead from "heart failure"; her pulse was very feeble and intermittent—60 to the minute. After strychnine hypodermically, followed by strychnine and a preparation of *Cactus grandiflora*, she rallied by the next day; the depression seems to have followed a severe attack of vomiting. At this time she had extreme exophthalmos, tachycardia, and a large goitre visibly pulsating, extreme nervousness, and a sense of something terrible impending; she had a constant headache with occasional very severe paroxysms. About eight days later six drops of adrenalin chloride solution was given four times a day; this was dropped into a spoon and a few drops of water added, but not enough to cause swallowing, and this was kept in the mouth to be absorbed therefrom. The author says this method is next to a hypodermic injection in rapidity and certainty of action. Within half an hour the visible pulsation had ceased and the flushing of the face was lessened. A month later all her signs and symptoms had greatly diminished, her nervousness was all gone, and she said she had never felt better. Her continuous headache had left her after the first dose, and had not returned. Van Zandt admits that she is not yet cured, but he claims that if this action of adrenalin is at all uniform in exophthalmic goitre it will furnish an excellent preparatory treatment for surgical intervention.

PATHOLOGY.

74. Paralysis Agitans and Parathyroid Glands.

GREENWALD (*Amer. Journ. of Med. Sci.*, February, 1914), following up the suggested relationship between parathyroid insufficiency and paralysis agitans, which is founded upon the symptoms noted after the removal of the parathyroids in lower animals, attacked the subject from another direction, previous experiments upon dogs having shown a marked diminution in the excretion of phosphorus after parathyroidectomy. This diminution persists until tetany appears, and analyses of the blood and serum of parathyroidectomized dogs show a distinct increase in the phosphorus content, due to an increase in those phosphorus compounds which are insoluble in acetone, alcohol, or ether, but which are soluble in a mixture of dilute hydrochloric or acetic acid and picric acid. On the assumption that parathyroid insufficiency is a factor in the etiology of paralysis agitans, a similar increase in acid-soluble phosphorus would probably be found in the blood serum of patients suffering from the disease, and this point was investigated, as also in normal individuals for comparison. On the morning the blood was taken no food was given, in order to avoid any variations due to its character and stage of absorption, and sixteen hours after the last meal blood was drawn from one of the veins of the forearm into sterile test tubes and allowed to clot. The serum, after being freed from cells and haemoglobin, was treated with acetone in order to precipitate all the protein and inorganic phosphate, only the lipoid phosphorus remaining in solution. After filtration and extraction the acetone was distilled off and the phosphorus determined by Bang's modification of the Neumann method. As a result of these investigations it was found that the amount of acid-soluble phosphorus in the blood serum of patients suffering from paralysis agitans was not greater than that of other individuals, so that they do not support the view that parathyroid insufficiency plays a part in the etiology of the disease.

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SUPPLEMENT

CONTAINING

PROCEEDINGS OF COUNCIL

REPORTS OF STANDING COMMITTEES

MEETINGS OF BRANCHES AND DIVISIONS

PROGRAMME OF ANNUAL MEETING

MEDICAL BILLS IN PARLIAMENT

PROCEEDINGS OF THE GENERAL MEDICAL COUNCIL

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EIGHTY-SECOND ANNUAL MEETING
of the
British Medical Association,
ABERDEEN, JULY, 1914.

PROGRAMME OF BUSINESS.

President: WILLIAM AINSLIE HOLLIS, M.A., M.D., F.R.C.P., Consulting Physician, Sussex County Hospital, Brighton.

President-elect: Sir ALEXANDER OGSTON, K.C.V.O., M.D., LL.D., Consulting Surgeon, Aberdeen Royal Infirmary; Surgeon in Ordinary to H.M. the King in Scotland.

Chairman of Representative Meetings: THOMAS JENNER VERRALL, M.R.C.S., L.R.C.P., Consulting Surgeon, Sussex County Hospital, Brighton.

Chairman of Council: JAMES ALEXANDER MACDONALD, M.D., M.Ch.R.U.I., LL.D., Honorary Physician, Taunton and Somerset Hospital, Taunton.

Treasurer: EDWIN RAYNER, B.A., M.D.Lond., F.R.C.S. Eng., Consulting Surgeon, Stockport Infirmary, Stockport.

The Eighty-second Annual Meeting of the British Medical Association will be held in Aberdeen in July, 1914. The President's Address will be delivered on Tuesday, July 28th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 24th, at 10 a.m.

The Address in Medicine will be delivered by ARCHIBALD EDWARD GARROD, M.D., F.R.C.P., F.R.S., Physician, St. Bartholomew's Hospital, London.

The Address in Surgery will be delivered by Sir JOHN BLAND-SUTTON, Surgeon to the Middlesex Hospital, London, W.

The Popular Lecture will be delivered by Professor J. ARTHUR THOMSON, M.A., LL.D., Natural History Department, Marischal College, Aberdeen.

THE SECTIONS.

The scientific business of the meeting will be conducted in sixteen Sections, which will meet on Wednesday, July 29th, Thursday, July 30th, and Friday, July 31st.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

The following sixteen Sections have been authorized by the Council:

ANATOMY AND PHYSIOLOGY.

President: Professor ROBERT W. REID, M.D., F.R.C.S., Aberdeen. *Vice-Presidents:* DENIS P. FITZGERALD, M.B., B.Ch., Cork; J. STRICKLAND GOODALL, M.B., F.R.C.S., London, S.E.; Professor J. KAY JAMIESON, M.B., C.M., Leeds; Professor J. A. MACWILLIAM, M.D., C.M., Aberdeen. *Honorary Secretaries:* NORMAN J. CALDER, M.B., Ch.B., Anatomy Department, Marischal College, Aberdeen; EDWARD PROVAN CATHCART, M.D., D.Sc., Department of Physiology, University of Glasgow; R. J. GLADSTONE, M.D., F.R.C.S., University of London, King's College, Strand, W.C.; HUGH MACLEAN, M.D., Chemical Pathology Department, St. Thomas's Hospital, London, S.E.

The following papers have been accepted:

BOYD, Sidney. A Note on a Congenital Anomaly of the Duodenum Encountered during Operation.
CALDER, Norman J. Rare Anatomical Anomalies.
CATHCART, E. Provan. The Influence of Carbohydrate on Metabolism.
CULLIS, Winifred. The Distribution of Nerves in the Heart.
EDIE, E. S. Some Experimental Work on the Action of Enzymes.
GARDNER, A. D. The Sugar of Blood and Urine.
GLADSTONE, R. J. Description of some Australian and Tasmanian Skulls.
GOODALL, J. Strickland, and RICHARDS, Hedley N. D. Some Instrumental Variations in the Human Electro-Cardiogram.
LEVY, A. Goodman. Ventricular Fibrillation, the Cause of Death under Chloroform.
MCKENDRICK, Emeritus Professor J. G., F.R.S. Theories of Hearing with Analogies from the Gramaphone, with a Demonstration of Improvements on the Gramaphone and the Obliteration of Noise.
MCKENZIE, Ivy. The Reptilian Heart and its Significance in the Interpretation of the Co-ordinating Muscular Systems in the Mammalian.
MCKENZIE, Ivy, and ROBERTSON, Jane I. Some Further Researches on the Anatomy of the Bird's Heart.
MACLEOD, Professor J. J. R. (Cleveland, U.S.A.). Some Recent Researches on Sugar Metabolism.
MACWILLIAM, Professor J. A. (1) The Regulation of the Heart Beat. (2) Some Points in the Action of Chloroform.
MELVIN, G. S., and MURRAY, J. R. Some Observations on Blood Pressure.
ORR, J. B. A Contribution to the Metabolism of Creatine and Creatinine.
REID, Professor R. W., and TOCHER, J. F. Anthropometric Characteristics of Students of Medicine in the University of Aberdeen.
RIDDOCH, G. The Sympathetic System of a Full-time Fetus.
ROBERTSON, Jane I. (1) The Phylogenetic Development of the Bulbar and Ventricular Septa of the Heart. (2) Cardiac Malformations in which the Great Efferent Vessels arise from the Right Ventricle.
TRIBE, Mrs. The Existence of Vasomotor Nerves in the Lungs.

DERMATOLOGY AND SYPHILOLOGY.

President: ALFRED EDDOWES, M.D., M.R.C.P., London. *Vice-Presidents:* R. CRANSTON LOW, M.B., F.R.C.P.E., Edinburgh; J. M. HENDRIE MACLEOD, M.D., M.R.C.P., London, W.; J. A. NIXON, M.B., F.R.C.P., Clifton, Bristol; J. C. OGILVIE WILL, M.D., C.M., Aberdeen. *Honorary Secretaries:* J. FARQUHAR CHRISTIE, M.B., C.M., 7, Alford Place, Aberdeen; J. D. PRYDE MCLATCHIE, M.B., C.M., 34, Welbeck Street, London, W.

The following programme has been arranged:

July 29th.—Discussion on the Need for more Method in the Conflict with Lupus and Ringworm. To be opened by Dr. NORMAN WALKER.

July 30th.—Discussion on the Modern Treatment of Syphilis. To be opened by Mr. J. E. R. MCDONAGH.

July 31st.—Independent papers.

DAVIS, Haldin. Infantile Eczema.
MCDONAGH, J. E. R. The Rationale of the Wassermann Reaction.
TOMKINSON, J. Goodwin. Three Cases of Lahore Sore.
WALTER, J. C. M. On the Use of Antimony in Syphilis.
WILLIAMS, A. Winkelried. Keratodermia Blenorrhagica.

The following syllabus of his opening paper has been supplied by Dr. NORMAN WALKER:

Lupus: Statistics of cases attending the Royal Infirmary during the past twenty-two and a half years. Particulars of their attendances. Discussion of the various methods of treatment employed. Outcome. The difficulties of treatment. Lupus carcinoma. Suggestions. *Ringworm and Favus:* Statistics of cases; evidence of epidemics; effect of school inspection; opening of special schools and of more organized treatment.

The following is an abstract of Mr. J. E. R. MCDONAGH's opening paper:

The chancre should be excised when possible; failing that, it should be cauterized; and, failing cauterization, mercurial ointment should be rubbed in until every trace of the induration has vanished. In the primary stage, roughly, five intravenous injections of neo-salvarsan should be given, allowing about four or five days to intervene between each injection. Mercurial treatment should be continued for one year in the form of intramuscular injections given in three courses of eight weekly injections and allowing two months to intervene between each course; for the first three weeks of each iodides should be given internally. In the eruptive stage, roughly, seven injections of neo-salvarsan should be given, and mercurial treatment for two years. In the recurrent stage the patient should be treated as if in the eruptive stage, but a cure is far less likely to result. In the gummatous stage two injections of salvarsan should be given and one or two courses of intramuscular injections of mercury and iodides, since no more can be expected than to cure the symptoms. In the latent stage, provided the patient is perfectly healthy and nothing abnormal can be found upon thorough examination, in spite of the Wassermann reaction being positive, no treatment is indicated, because a positive Wassermann reaction is by no means necessarily indicative of active syphilis; it is often rather a measure of the host's protective capacity against the organism. Pure meningeal and pure arterial lesions of the central nervous system can be markedly benefited by intravenous injections of neo-salvarsan and mercury. Some cases of tabes are slightly improved, some are made worse or unaltered; most cases of general paralysis of the insane are made worse or unaltered. Intrathecal injections of salvarsanized serum exert a beneficial and rapid action upon pure meningeal lesions. They may improve cases of tabes or leave them unaltered. They may slightly improve cases of general paralysis of the insane, but on the whole they tend to make such cases worse. Every woman who has once given birth to a syphilitic child should be treated throughout the whole of each succeeding pregnancy, first with five intravenous injections of neo-salvarsan at weekly intervals, and for the rest of the nine months with mercury. Congenital syphilis is best treated with mercury. Every case of syphilis should be treated individually, as no two are alike. The treatment should be guided by clinical observations, and little or no reliance should be placed upon any existing bacteriological or serological test. A spontaneous cure in most stages is possible, and all that treatment does is to stimulate the factors which are responsible, therefore no treatment will kill directly all the phases of the *Leucocytozoon syphilidis.*

Contributions of drawings, photographs, microscope and other specimens relating to dermatology and syphilis are invited for the Pathological Museum, and should be sent as early as possible to Aberdeen.

DISEASES OF CHILDREN, INCLUDING ORTHOPAEDICS.

President: JOHN THOMSON, M.D., F.R.C.P.E., Edinburgh. *Vice-Presidents:* ANDREW FULLERTON, M.Ch., F.R.C.S.I., Belfast; H. M. W. GRAY, M.B., F.R.C.S.E., Aberdeen; E. MUIRHEAD LITTLE, F.R.C.S., London; J. HUGH THURSFIELD, M.D., F.R.C.P., London. *Honorary Secretaries:* A. S. BLUNDELL BANKART, M.C., F.R.C.S., 14, Harley Street, London, W.; D. WATSON GEDDIE, M.B., C.M., 13, Golden Square, Aberdeen; H. TYRRELL GRAY, M.C., F.R.C.S., 60, Harley Street, London, W.

The following programme has been arranged:

July 29th—(1) Discussion on Congenital Dislocation of the Hip. To be opened by Mr. T. H. OPENSHAW.

July 30th.—(2) Discussion on the Thymus Gland in its Clinical Aspects. To be opened by Dr. ARCHIBALD E. GARROD.

July 31st.—(3) Joint discussion on the Diagnosis of Chronic Pulmonary Tuberculosis in Infancy and Childhood (See Section of Medicine).

The following papers have been accepted:

FINDLAY, Leonard, and ROBERTSON, Madge (Glasgow). The Treatment of Congenital Syphilis.
FRASER, William (Edinburgh). The Influence of the Thymus and Certain other Ductless Glands on the Epiphyses.
MACLENNAN, Alexander (Glasgow). The Technique of Thymectomy.
MCNEIL, Charles (Edinburgh). The Association of Abnormal Types of Pneumonia and of Tuberculosis in Children with Thymo-lymphatic Hyperplasia.
MCWALTER, J. C. (Dublin). Lime Salts in Children's Diseases.
ROTH, Paul B. (1) The Treatment of Torticollis; and (2) The Practical Treatment of Lateral Curvature of the Spine.
WILKIE, D. P. D. (Edinburgh). Appendicitis and the Status Lymphaticus.

ELECTRO-THERAPEUTICS AND RADIOLOGY.

President: SAMUEL SLOAN, M.D., F.R.F.P.S., Glasgow. *Vice-Presidents:* W. J. S. BLYTHELL, M.D., Kersal, Manchester; DAVID LAWSON, M.D., Nordrach-on-Dee.

N.B.; J. R. LEVACK, M.B., C.M., Aberdeen. *Honorary Secretaries:* M. R. J. HAYES, F.R.C.S.I., 35, Upper Fitzwilliam Street, Dublin; W. L. LOCKE, M.B., Ch.B., 31, Queen Anne Street, London, W.; F. PHILIP, M.B., 183, Great Western Road, Aberdeen.

The following programme has been arranged:

July 29th.—(1) An Introductory Address by Professor LEDUC on Cerebral Galvanization. (2) Discussion on the Therapeutic Value of High-Frequency Currents; to be opened by the PRESIDENT.

July 30th.—Discussion on (1) The Comparative Value of X Rays and Radium in the Treatment of Malignant Growths; to be opened by Dr. HERNAMAN-JOHNSON and Dr. JOHN MACINTYRE. (2) Electro-Therapy in Neurasthenia; to be opened by Dr. AGNES SAVILL, followed by Dr. W. F. Somerville. (3) Demonstration by Dr. C. F. BAILEY on Testing and Treating Muscles by the Condenser Method.

July 31st.—(1) Joint discussion on the Diagnosis of Chronic Pulmonary Tuberculosis (see Section of Medicine). (2) Discussion on X-Ray Diagnosis in Gastro-intestinal Conditions, with Special Reference to Appendicitis; to be opened by Dr. HERTZ.

GYNAECOLOGY AND OBSTETRICS.

President: F. W. NICOL HAULTAIN, M.D., F.R.C.P.E., Edinburgh. *Vice-Presidents:* Professor J. ALEXANDER KYNOCH, F.R.C.P., F.R.C.S., Dundee; Professor R. G. MCKERRON, M.D., C.M., Aberdeen; T. G. STEVENS, M.D., F.R.C.S., London; W. C. SWAYNE, M.D., Clifton, Bristol. *Honorary Secretaries:* H. S. DAVIDSON, M.B., F.R.C.S., 6, Atholl Place, Edinburgh; S. G. LUKER, M.D., F.R.C.S., 1, Harley Street, London, W.; ALEXANDER MITCHELL, M.B., 2A, Albyn Place, Aberdeen.

The following programme has been arranged:

July 29th.—Discussion on the Treatment of Fibromyomata. To be opened by Dr. ARCHIBALD DONALD (Manchester), followed by Professor Gauss (Freiberg).

July 30th.—Discussion on the Management of Pregnancy and Labour in Contracted Pelves. To be opened by Dr. HENRY JELLETT, followed by Professor Frank (Cologne).

Pathological Demonstrations and independent papers.

The following papers have been accepted:

MCWALTER, J. C. Drug Treatment of Dysmenorrhoea.
MURRAY, H. Leith. Acidosis and the Nitrogen Particles in Pregnancy.
SHANNON, David. The cases of Contracted Pelvis admitted to Professor Kerr's Clinic in the Glasgow Maternity Hospital between the years 1909 and 1913.

The following is a synopsis of Dr. JELLETT'S paper:

From a clinical standpoint contracted pelvis may be divided into two main classes—symmetrical contractions and asymmetrical contractions. The paper deals with the former contractions alone. They may be divided into four degrees, based on what experience shows is the necessary treatment of each. In the first degree one may assume that the child will be delivered spontaneously if of normal size. In the second degree it may be assumed that delivery of a living child per vaginam is only possible if the size of the child is diminished or the size of the pelvis increased. In the third degree spontaneous delivery through the pelvis of a viable child is impossible. In the fourth degree delivery through the pelvis is impossible, even if the child be reduced by a destructive operation to the maximum extent, and so Caesarean section is the only treatment, whether the child is alive or dead. The author confines his remarks to the treatment of the second degree, and contrasts in connexion with it delivery through the pelvis—the induction of premature labour or pubiotomy or symphysiotomy—and Caesarean section. The objections to induction are the risk of septic infection during the operation, its general uncertainty, and the fact that a small child, naturally delicate, results. There are, on the other hand, very few arguments in favour of it, except that for the general practitioner it is simpler to perform than either of the other operations, and that it does not necessitate a "cutting" operation. Caesarean section has in its favour simplicity, certainty, absence of all laceration of the genital tract, easy labour, quick recovery, and an improved fetal prognosis. On the other hand, once a Caesarean section is done, it will probably always have to be done in subsequent labours, because to get best results it must be done at the beginning of labour, and so no time can be given in which to see if the patient can deliver herself. Pubiotomy, on the other hand, is a smaller operation in a favourable case; in an unfavourable case it is a bigger operation. It tends to cause, and practically always does cause, a permanent enlargement in the pelvis, and this allows the patient in most cases to deliver herself spontaneously in subsequent pregnancies. On the other hand, it is prone to cause laceration and injury to the surrounding parts, labour is prolonged and painful, and the fetal prognosis is worse unless the condition of the fetus is carefully watched. The great advantage of pubiotomy is its effect on future pregnancies. In 19 cases operated on in the Rotunda Hospital by Dr. Tweedy or the author all the patients recovered, and in all the child was born alive. These 19 patients had had 29 labours prior to the performance of pubiotomy, 7 of the children being born alive and 22 dead. Subsequent to pubiotomy they had 15 labours, in which 12 children were born alive and 3 children were born dead, and 2 of these deaths were due to complications in no way associated with pelvic contraction. The author's general conclusion is that pubiotomy is preferable to Caesarean section in the second degree of contracted pelvis, unless there are special circumstances or complications present, and that perforation is only permissible when the child is dead.

LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

President: H. LAMBERT LACK, M.D., F.R.C.S., London. *Vice-Presidents:* J. M. BOOTH, M.D., C.M., Aberdeen; J. S. FRASER, M.B., F.R.C.S.E., Edinburgh; A. A. GRAY, M.D., F.F.P.S., Glasgow; T. H. LIVINGSTONE, M.D., F.R.C.S.E., Newcastle-on-Tyne. *Honorary Secretaries:* O. ST. J. GOGARTY, M.D., 15, Ely Place, Dublin; J. F. O'MALLEY, F.R.C.S., 16, Weymouth Street, London, W., H. PETERKIN, M.B., 17, Bon Accord Crescent, Aberdeen.

The following programme has been arranged provisionally:

July 29th.—Discussion on the Treatment of Inoperable Growths of the Nose and Throat. To be opened by Mr. W. D. HARMER (Diathermy), followed by Dr. WILLIAM HILL (Radium) and Dr. JOHN MACINTYRE (X Rays).

July 30th.—Discussion on Oto-sclerosis. To be opened by Dr. A. A. GRAY (Etiology and Pathology), followed by Mr. J. S. FRASER (Clinical Aspects), Mr. G. J. JENKINS (Various Methods of Treatment), and Mr. F. F. MUECKE (Auditory Re-education).

July 31st.—Mr. J. S. FRASER (Edinburgh): Demonstration—The Pathology of Labyrinthitis. Mr. WATSON-WILLIAMS (Bristol): Demonstration—Intranasal Operations for Frontal Sinus Disease. Dr. BROWN KELLY (Glasgow): Paper—The Difficulties and Dangers of Exploratory Puncture of the Antrum of Highmore.

The following is an abstract of Dr. GRAY'S opening paper on Oto-sclerosis:

Etiology: There are many contributory factors, but individual predisposition appears to be the most important factor. How this predisposition comes into existence is one of the chief problems of the future in the case of oto-sclerosis. *Pathological Anatomy:* The most obvious change is absorption of the dense bony tissue of the capsule of the labyrinth, associated as a rule with simultaneous deposition of new-formed porous bone. The diseased area is most commonly found immediately in front of the oval window. The sharp demarcation of the affected portion is one of the most characteristic features of the disease. In many cases the stapedio-vestibular synostosis is obliterated and the stapes becomes fixed to the walls of the oval window by bony union. In the early stages of the disease changes are not demonstrable in the sound-perceiving structures. In the later stages of the disease changes are usually found in the nerve structures.

Contributions for the division of the Museum set apart for preparations, specimens, drawings, and instruments relating to the work of the Section should be sent to Dr. Henry Peterkin, 17, Bon Accord Crescent, Aberdeen.

MEDICAL SOCIOLOGY.

President: JOHN GORDON, M.D., Aberdeen. *Vice-Presidents:* J. MUNRO MOIR, M.D., Inverness; DAVID NICOLSON, C.B., M.D., Camberley, Surrey; GEORGE WILLIAMSON, M.B., Aberdeen. *Honorary Secretaries:* DAVID RORIE,

M.D., 1, St. Devenick Terrace, Cults, Aberdeen; Dr. ANNE WATSON, 22, Waverley Place, Aberdeen.

The following programme has been arranged:

July 29th.—Discussion on the Responsibility of the State as regards Venereal Disease. To be opened by Dr. GEORGE ROBERTSON (Edinburgh), followed by Professor E. Pontoppidan (Copenhagen), and Drs. A. K. Chalmers, Louise McIlroy, and Lachlan Grant.

July 30th.—Discussion on (1) a State Medical Service *versus* a Panel System; to be opened by Sir JOHN COLLIE, followed by Drs. H. H. Miles, R. C. Buist, Lauriston Shaw, and Milson Rhodes. (2) Medical Certification (otherwise than in regard to Insanity); to be opened by C. SANDEMAN, Esq., K.C., followed by Drs. A. C. Farquharson and J. C. McVail.

July 31st.—Discussion on the Duty of the State towards the Early Environment of the Child. To be opened by Dr. LESLIE MACKENZIE (Edinburgh), followed by Drs. John Carswell and Thomas Dewar.

The following is a syllabus of Sir JOHN COLLIE'S opening paper:

The National Insurance Act is a form of State medical service. The principles of the construction of the Act. Quotation from the speech of the Chancellor of the Exchequer to the first meeting of the Advisory Committee. The scheme of medical benefit. The panel system chosen by the British Medical Association. Free choice of doctor: its obviously necessary limitations. Payment by attendance or by the capitation system. Own arrangements and contracting out. Advantages of panel or medical list system; limitation of State control to the minimum; preserving the best of the individualistic idea; preserving a healthy amount of competition. The curse of "institutionalism." Our national characteristics are against any mathematical "brigading" for any purpose. Irregular practice certain to follow any whole-time salaried system.

The following is a syllabus of Dr. MACKENZIE'S paper:

(1) *Ante-natal Care:* Enforcement of pre- and post-confinement rest periods. Relation of inefficient infancy to daily work of expectant mother. (2) *Birth:* Registration and training of midwives. Notification and registration of births and "dead" births. Refer to Dr. J. W. Ballantyne's paper on stillbirths. General enforcement of Notification of Births Act. Infant mortality in relation to defective environment of child or mother. (3) *Health Visiting:* Natural sequence of notification of births. Illustrations from Edinburgh system. Need for administrative nucleus of statutory health authority with organization of voluntary assistance. (4) *Infant Clinics and Milk Dépôts:* Reference to Dr. McLeary's book. French system of consultation centres and milk clinics. Restaurants for mothers; Coullet system. German organization. Crèches. (5) *Pre-School Age Clinics:* Duty of health authority. Danger of environmental influences in years between 1 and 5. Infectious and their sequelae. Tuberculosis. Open-air homes. This brings infant forward to school age. (6) *General Measures:* Municipal pure milk supply. Housing; clearance of town and country slums; uncrowding of houses; improvement schemes; town planning. The statutory powers available for these objects.

MEDICINE.

President: F. J. SMITH, M.D., F.R.C.P., London. *Vice-Presidents:* J. R. CHARLES, M.D., F.R.C.P., Clifton, Bristol; G. MAITLAND EDMOND, M.D., C.M., Aberdeen; HERBERT FRENCH, M.D., F.R.C.P., London; Professor A. W. MACKINTOSH, M.D., Aberdeen; Professor T. K. MONRO, M.D., F.F.P.S., Glasgow; Professor A. M. STALKER, M.D., C.M., Dundee. *Honorary Secretaries:* D. BARTY KING, M.D., M.R.C.P., 6, Devonshire Street, Portland Place, London, W.; W. RATTRAY PIRIE, M.B., C.M., 20, Bon Accord Square, Aberdeen.

The following programme has been arranged:

July 29th.—Discussion on Headache: Its Causes and Treatment. To be opened by Dr. HARRY CAMPBELL.

July 30th.—Discussion on Artificial Pneumothorax in Pulmonary Tuberculosis. To be opened by Dr. RIST (Physician to the Laënnec Hospital, Paris).

July 31st.—Conjoint discussion on the Diagnosis of Chronic Pulmonary Tuberculosis in Infancy and Childhood. To be opened by Dr. D. B. LEES, Dr. CLIVE RIVIERE (Section of Diseases of Children), and Dr. IRONSIDE BRUCE (Section of Radiology).

Paper:

MCKENDRICK, J. S. (Glasgow). Splenectomy in relation to the Treatment of Anaemia.

Headache.—In opening the first discussion Dr. HARRY CAMPBELL will deal with the subject on the following lines: By headache is usually meant pain felt anywhere above the base of the skull. It is a symptom of many different morbid conditions acting singly or in combination, and the only classification of which headaches admit is one based upon causation. The various causes of headache may be grouped under three main heads: (1) Organic disease of the parts actually involved in the ache, such as meningitis and tumour; (2) irritation in other areas, as from eye-strain, diseases of the nasal passages, and accessory sinuses; (3) morbid states of the blood, as manifested by "plethora," anaemia, high blood pressure, abnormal urine, etc. These constitute much the most important causes of headache, and it is in the detection and removal of them that the skill of the physician is most severely put to the test.

Artificial Pneumothorax.—Dr. RIST, in opening the second discussion, will bring forward the following points: (1) *How should we select suitable cases for pneumothorax treatment?* And are such cases often met with? One-sided phthisis of an upper lobe, with cavity, which offers the best chances of success to the pneumothorax therapy, is a very common form of tuberculosis of the lung. It occurs seldom only to the physician who does not submit all his patients to an *x*-ray examination. But the pleuroscope discovers more cavities than the stethoscope. (2) *Is it advisable to attempt pneumothorax treatment in acute or sub-acute cases of caseous pneumonia?* In the author's opinion, although the chances of complete recovery are small, one very often succeeds in improving such cases in a remarkable way. (3) No doubt *pleural effusions* are the most important and the commonest complication of artificial pneumothorax. As a rule, they are of tuberculous nature. Some are very small, and can only be detected with the help of the pleuroscope. If they do not disappear rapidly, their volume generally increases, and they may be of very long duration. Although they are by no means an obstacle to the continuation of the treatment, they must be considered, in the author's opinion, as a rather unwelcome occurrence. The thickening and hardening of the visceral pleura, which is the unavoidable consequence of a long-lasting effusion, means the complete and permanent loss of the respiratory function for the compressed lung, which will never be able to expand again after the cure is completed. If such a lung was very extensively diseased when the treatment began, the function would have been lost anyhow. But if the greater part of the lung was in a sound condition, its permanent exclusion is a serious matter. This consideration weighs heavily against the pneumothorax treatment of so-called incipient cases. (4) Apart from its efficacy as a cure, artificial pneumothorax has put before us quite a number of highly interesting scientific problems, and at the same time provided us with the means of investigating some of them. The study of a series of cases of artificial pneumothorax with the pleuroscope throws unsuspected light on several physio-pathological problems; it has enabled us to discover many curious phenomena, such as Kienboeck's paradoxical movement of the diaphragm or the inspiratory displacement of the mediastinum or the increased amplitude of heart beats, which are of great physiological or physio-pathological importance.

Tuberculosis in Infancy and Childhood.—Dr. D. B. LEES has supplied the following abstracts of the remarks to be made by him in opening the third discussion: The susceptibity of young children to the infection of tuberculosis has long been known to the workers in children's hospitals. Of late the use of tuberculin as a test has given prominence to this subject, and *x*-ray examinations have contributed to our acquaintance with it. The object of this opening paper is to attempt to show that the diagnosis of chronic pulmonary tuberculosis in infants and young children can be effected by the ordinary methods of physical examination of the chest. Careful percussion of a patient in the proper position easily detects in cases of pulmonary tuberculosis a series of small dull areas at the apices and elsewhere, which recur regularly in case after case of this infection, and with a localization

which is limited to this disease. Over these areas there is usually a marked defect of air entry, but there may be no morbid sound heard on auscultation even when the dull areas are of large size. Six of these areas—two in the upper part of each upper lobe and one in the upper part of each lower lobe—correspond to the sites indicated by pathological observation (Fowler) as the earliest foci of pulmonary tuberculosis. In addition to these dull pulmonary areas a special area at the root of the lung (chiefly on the right side), due to enlarged bronchial glands, can sometimes be detected in tuberculous adults, especially in those who suffer from "asthma." X-ray examination confirms the existence of these dull pulmonary and glandular areas. They are important for prognosis as well as for diagnosis, and the six typical areas at the four apices ought to be carefully measured and their size recorded at regular intervals by a simple form of diagram. In children the clinical picture of chronic pulmonary tuberculosis is different from that in the adult, owing to the greater freedom of the lymphatic circulation in the young child and the consequent tendency of the tuberculous infection to spread along the peribronchial lymphatics to the bronchial glands at the root of the lung. In virulent infections or in cases with feeble resistance disastrous results may follow from pressure on the vagus or on the root of the lung, and the lung itself may be secondarily affected. The thickened bronchial tubes and swollen glands are easily seen by *x*-ray examination, but in order to avoid false inferences we must remember (1) that no sound conclusions can be based on a screen examination without a photograph; (2) that for a satisfactory photograph the apparatus must be of the very best and the exposure very short; (3) that even a first-rate photograph requires the utmost caution in its interpretation. A second cause of distortion of the clinical picture of chronic pulmonary tuberculosis in young children is their great liability to infection by many different microbes, each of which may produce bronchopneumonia and therefore dull areas in the lungs. Yet it is probable that the presence of the six dull apical areas characteristic of pulmonary tuberculosis is sufficient evidence either of a mixed infection or of the previous existence of tuberculosis in the child attacked.

Dr. CLIVE RIVIERE has supplied the following summary of his paper:

Chronic pulmonary tuberculosis only a curiosity in infancy. In childhood tuberculosis of thoracic glands nearly always clinically the first stage of disease, generally some secondary involvement of lung tissue; hence the name Hilus Tuberculosis. This adeno-pulmonary disease runs a different course to phthisis, with which it is apt to be confused; it requires a different prognosis, different treatment, and hence separate consideration under the head of diagnosis. Apical phthisis far less common in childhood. *Tuberculosis of Thoracic Glands: Hilus Tuberculosis:* Numerous special signs nearly all unreliable. Two signs of real value: one a characteristic physical sign over the lung, never accurately described in the past, and hence practically new; the other of necessity modern—examination with *x* rays. Differential diagnosis from phthisis. *Apical Phthisis in Children:* Diagnosis no more difficult than in adults save for the uncertainty of obtaining sputum. The most reliable physical signs obtained by gentle percussion, but the diagnosis dependent on a careful weighing of evidence derived from many signs and symptoms, none of which are alone pathognomonic.

NAVAL AND MILITARY MEDICINE AND SURGERY.

President: Surgeon-General WM. MAXWELL CRAIG, M.B.Ed., C.B., R.N., Haslar. *Vice-Presidents:* Surgeon-General P. H. BENSON, I.M.S., Upper Walmer; Brigade-Surgeon-Lieutenant-Colonel R. GRAY, I.M.S., Aberdeen; Major G. R. LIVINGSTON, M.D., R.A.M.C.(T.F.); Lieutenant-Colonel GEORGE SCOTT, R.A.M.C. (ret.), Aberdeen. *Honorary Secretaries:* Captain CECIL JOHNSON, R.A.M.C. (T.F.), Cricklewood, East Sheen, London, S.W; Lieutenant-Colonel FRANCIS KELLY, M.D., R.A.M.C.(T.F.), West Craibstone Street, Aberdeen.

The following programme has been arranged:

July 29th.—Discussion on (1) the Treatment of Wounded in Naval Warfare; to be opened by Fleet Surgeon D. WALKER HEWITT, R.N. (2) Gangrene in War; to be opened by Captain C. MAX PAGE, R.A.M.C.(S.R.).

July 30th.—Discussion on (1) the Treatment of Syphilis; to be opened by Lieutenant-Colonel T. W. GIBBARD, R.A.M.C., and Major L. W. HARRISON, R.A.M.C. (2) On Common Ailments in Camp: their Prevention and Treatment; to be opened by Captain C. JOHNSON, M.B., R.A.M.C.(T.F.).

July 31st.—A lecture, with limelight illustrations, on Experiences of the Northern Party of Captain Scott's Expedition, by Staff Surgeon G. MURRAY LEVICK, R.N.

The following synopses of the papers introductory of discussions in this Section have been supplied by their authors:

Fleet Surgeon WALKER HEWITT:

Treatment of Wounded in Naval Warfare.—Difficulties we have to contend with on board ship in our treatment of the wounded; comparison between ourselves in this respect and the Royal Army Medical Corps. Our medical arrangements and fighting efficiency. The first aid party and its duties; necessity for thorough training in carrying the wounded. First aid by the surgeons in the dressing stations *versus* treatment on the spot where the wounded fall by first aid party. The nature of the wounds and the question of haemorrhage and sepsis. Methods of conveying the wounded to the dressing stations illustrated. Preliminaries before going into action. The selection of the dressing stations in various classes of ships. The necessity for a specially trained first aid party on ships not carrying a medical officer. The question of a pure air supply to our dressing stations during action; suggestions as to the best means of averting the dangers of suffocating fumes to our wounded down below. The actual surgical treatment of the wounded on board the fighting ships and the question of "shock"; our duty to the minor as well as the serious cases. The question of speedy removal of the wounded after action and the necessity for the hospital ship.

Captain C. MAX PAGE:

Gangrene in War.—Consideration of types of gangrene which may be met with in war. General outline of treatment. Any distinction in type from the gangrene met with in average civil practice due to the youth and vigour of the subjects. In the Balkan war an apparently idiopathic symmetrical gangrene was frequently observed of a nature which had not been previously described. An account of the clinical phenomena of this condition as observed by the author and as reported by others. Its etiology probably similar to that of frostbite. Alternative suggestions. Treatment as practised and observed. Prophylactic considerations.

Lieutenant-Colonel T. W. GIBBARD:

Treatment of Syphilis: (1) Review of more important work relating to the treatment of syphilis during the year. (2) Comparison of results obtained at the Military Hospital, Rochester Row, with different methods of administering salvarsan. (3) Comparison of results obtained at Rochester Row with the best results obtained on the Continent. (4) Salvarsan-natorium.

Captain CECIL JOHNSON:

Common Ailments in Camp.—This paper is intended to open a discussion on the best means of preventing minor ailments in camp and at the same time to show how these ailments affect the members of the Territorial Force by causing the loss of one or more days' training. The remarks will be treated under two headings; (1) Modes of prevention before camp, (2) modes of prevention during camp. A plea will be put forward for a stricter medical examination of recruits and also that all recruits should be examined before camp by a regimental medical officer, and only in very special circumstances by a general practitioner not holding a commission in the R.A.M.C. It will be suggested that outside of the ordinary medical examination recruits should be refused on account of bad teeth and also on general and moral grounds. During camp the subject of clothes will be treated (especially socks and boots), food and drink, cleanliness of person and tents, removal of tents at least every seven days, means for drying clothes, etc. A "foot" inspection will be advocated and also an inquiry into the state of bowels on the second day with subsequent treatment, and the friendly co-operation of other officers shall be asked for in all the duties undertaken by the regimental medical officer.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: F. W. Mott, M.D., F.R.C.P., F.R.S., London. *Vice-Presidents:* Donald J. Armour, F.R.C.S., London; James Neil, M.D., Oxford; William Reid, M.D., Aberdeen; H. Campbell Thomson, M.D., F.R.C.P., London. *Honorary Secretaries:* H. de Maine Alexander, M.D., Aberdeen District Asylum, Kingseat, Newmachar; M. D. Eder, M.R.C.S., L.R.C.P., 7, Welbeck Street, London, W.; A. W. Falconer, M.D., M.R.C.P., 18, Bon Accord Square, Aberdeen.

The following programme has been arranged:

July 29th.—Discussion on the Diagnosis and Treatment of Parenchymatous Syphilis. To be opened by Dr. F. W. Mott, followed by Dr. Plaut (Munich) and others.

July 30th.—Discussion on the Significance of the Unconscious in Psycho-pathology. To be opened by Dr. C. G. Jung (Zurich).

July 31st.—Independent papers:

Bruce, L. Campbell. Demonstration—The Pathology of Disseminated Sclerosis.
Hyslop, J. B. Anger in its Medico-Psychological Aspects.
Mackenzie, Dr. (Inverness). Some Considerations regarding Insanity in the Highlands.
Miller, Crichton. The Psychic Factor in Insomnia.
Turner, W. Aldren. Epilepsy and Brain Tumours.
Wilson, A. S. Kinnier. The Temporo-Sphenoidal Form of Epilepsy.

Dr. Mott's opening paper on the Diagnosis and Treatment of Parenchymatous Syphilis will be accompanied by a lantern demonstration and cover the following ground:

(1) The importance of the study of the pathology of general paralysis and tabes (in the light of recent researches) in respect to their diagnosis and treatment. (2) Syphilis a disease of the lymphatic system. The lymphatic systems of the brain and spinal cord in relation to the mode of entry of the spirochaetes or their toxins into the central nervous system. The cerebro-spinal fluid, a secretion of the choroid plexus, in relation to the pathology of parenchymatous syphilis. The importance of the condition of the fluid in relation to diagnosis and treatment. (3) The existence of spirochaetes in the central nervous system in relation to the pathology of parenchymatous syphilis. The infection of the central nervous system, the evidence of its occurrence, the time of its occurrence, latency. Personal observations on a series of 100 cases of general paralysis, in which spirochaetes were found in the brains in 65 per cent. (4) The correlation of cortical spirochaetosis with the morbid histological changes and phenomena of neuronic irritation and destruction, with their attendant clinical signs and symptoms. (5) Experiments on animals in relation to the therapeutic action of mercury and arsenobenzol compounds. (6) Theories regarding the causation of parenchymatous syphilis: (*a*) Modification of the spirochaete and evidence thereof; (*b*) the hypersensibility of the neurones; (*c*) a lowered resistance of the neurones. (7) Neurorecidive, or Herxheimer's reaction in relation to treatment by salvarsan. (8) Recent developments in the treatment of parenchymatous syphilis by intrathecal injection of salvarsanized serum and of hypertonic solution of neo-salvarsan. The results in general paralysis.

OPHTHALMOLOGY.

President: C. H. Usher, M.B., F.R.C.S.Edin., Aberdeen. *Vice-Presidents:* A. R. Galloway, M.B., C.M., Aberdeen; Karl A. Grossmann, M.D., F.R.C.S., Liverpool; N. Bishop Harman, M.B., F.R.C.S., London; A. H. H. Sinclair, M.D., F.R.C.S.Edin., Edinburgh. *Honorary Secretaries:* F. R. Hill, M.B., C.M., 62, Warwick Road, Carlisle; Miss Euphan M. Maxwell, M.B., 19, Lower Baggot Street, Dublin; W. Clark Souter, M.D., 2, Bon Accord Square, Aberdeen.

The following programme has been arranged:

1. Discussion on the Choice of a Cataract Operation. To be opened by Mr. E. E. Maddox.

2. Discussion on the Hygiene of Reading and Near Vision. To be opened by Mr. J. Herbert Parsons.

3. Discussion on the Teaching of Ophthalmology to Medical Students. To be opened by Dr. Maitland Ramsay.

In his opening paper Mr. Maddox will submit two questions for debate: (1) Is it better for each surgeon to keep to one mode of operating so as to acquire the greatest facility in its performance, or is it better to vary the character of operations to suit the needs of individual patients? (2) In the latter case, what are the indications which should guide us in selecting the appropriate operation for each patient? The chief desiderata in the selection of a cataract operation are (1) safety, (2) visual result, (3) beauty of eye, (4) brevity of procedure, (5) fewness of operative interferences. (1) *Safety* holds the premier place. The bearing upon it of a conjunctival flap, of a Desmarre's bridge (1851), and of suturing after simple extraction will be considered, also the dangers of lavage apparatus. A simple device will be shown. The habit of doing a preliminary iridectomy whenever simple extraction is not contemplated makes for safety. A mode of doing it with the minimum of traumatism will be advocated, and a keratome for the purpose shown. (2) *Visual result* comprises (*a*) vision with test types under optical correction, (*b*) vision without correction (*c*) post-operative astigmatism. Each of these factors deserves attention. (3) It is important to preserve *beauty of the eye* in certain cases by securing a circular pupil, especially if the iris be light-coloured and well exposed in a comparatively youthful patient. In later life the drooping of the lid renders this consideration unnecessary. (4) *Brevity of procedure;* the self-control of some patients is extremely short. For these a limbal incision after a preliminary iridectomy may be best, being the briefest, especially if the capsule be opened by the knife during the incision, or else Horner Smith's procedure be done. (5) *Fewness of operative interferences;* here intracapsular operations lead the way, since they entirely obviate the necessity of needling for after-cataract. Failing an intracapsular extraction, "simple" or "combined extraction" may be chosen, with or without simultaneous or early division of the posterior capsule. Four conclusions: (1) A simple extraction, subconjunctivally performed, with a small mobile pupil and the capsule split opposite thereto, exhibits the greatest boon surgery can confer upon an eye. In addition to its beauty it enables the patient to walk in the street without spectacles, if need be. Its consideration should not be omitted when a quiet amenable patient, not too old, presents a mature, uncomplicated cataract. Prolapse of the iris can be guarded against by suturing the flap or by a Desmarre's bridge. (2) Failing simple extraction, a preliminary iridectomy should be done whenever practicable. (3) Failing both (1) and (2), combined extraction should next be considered, with either a limbal incision or a conjunctival flap. (4) Lastly, intracapsular operations should only be done under the best conditions of assistantship and (if among the white races) in a certain class of patients only. These operations present advantages and disadvantages.

PATHOLOGY AND BACTERIOLOGY.

President: W. S. Lazarus-Barlow, M.D., F.R.C.P., London. *Vice-Presidents:* C. H. Benham, M.D., M.R.C.P., Hove; Charles Bolton, M.D., F.R.C.P., London; J. C. G. Ledingham, M.B., Ch.B., London; J. H. Teacher, M.B., F.F.P.S., Glasgow. *Honorary Secretaries:* G. Mellis Duncan, M.B., C.M., 12, Bayview Road, Aberdeen; J. F. Gaskell, M.D., M.R.C.P., 23, Ladbroke Grove, London, W.; J. W. Trevan, M.D., B.S., St. Bartholomew's Hospital, London, E.C.

The following programme has been arranged:

July 29th.—Discussions on (1) the Action of Radiations on Cells and Fluids; to be opened by the President. (2) The Biochemistry of Immunity Reactions; to be opened by Dr. Carl Browning, followed by Drs. J. H. Thiele, J. Cruickshank, and Mr. Mackenzie Wallis.

July 30th.—Joint discussion on the Pathology of Heart Function (see Section of Pharmacology).

July 31st.—Discussion on the Importance of Variability among Bacteria and its Bearings on Diagnosis. To be opened by Dr. W. J. Penfold.

Papers:

Hort, E. C. Recognition of Haemic Infections of the Urine and its Diagnostic Value.
Morgan, J. M., and Teacher, J. H. Aneurysm of the Aorta due to Bacterial Infection.

In his opening paper Dr. Lazarus-Barlow deals with his subject on the following lines:

The great potency of radium and its widespread distribution suggest that the beneficial results in medicine

which have been ascribed to its action in minute quantities may be real. Nevertheless, definite scientific grounds for such a view are almost completely wanting, and the object of the discussion is, on the one hand, to formulate some idea of the facts in our possession; but even more, on the other hand, to indicate the wide field for fruitful research that is unexplored. It is known that with relatively large doses of (radium) radiations the nucleus is the part of the cell in which the most obvious modifications are seen; that paraplastic cell substances (Altmann's granules) may be modified by exposure to alpha radiation; and that starch may be converted into dextrin by x radiation. These facts indicate that cell metabolism may be profoundly altered by radiations, but the limits of such alteration are unknown. At first it was assumed upon physical grounds that alpha, beta, and gamma radiations would act similarly upon cells if due account were taken of their different contents of energy and range; but there is some evidence that this is not the case, specific types of rays being associated with special types of pathological change. From the more definitely remedial side there is a small amount of evidence that radium radiations can act beneficially on cell life, and a greater reason for believing that certain quantities can stimulate cell multiplication. But whether under the conditions all the activities of the cell are improved so that an intrinsically better type of cell results, or whether one function of the cell is exalted at the expense of others, is unknown. Hence there is room for a very large amount of work upon the effect of radiations in all branches of biological science, and particularly in vegetable and animal physiology and physiological chemistry.

Dr. W. J. PENFOLD will show that from recent studies it emerges that not only fermentation power but also all culture and serum reactions are subject to variation. This variation and selection have been shown to occur within the body in the course of infection, while in the laboratory the precise factors in the environment effecting the selection have been individually examined. It will be shown that the facts so far established on the subject affect: (*a*) bacterial classification; (*b*) the recognition of bacteria, the standards adopted by the hygienist, epidemiologist, and the clinical bacteriologist; (*c*) the vaccinist, whether he be engaged in immunizing patients or in producing serums for passive immunization.

PHARMACOLOGY, THERAPEUTICS, AND DIETETICS.

President: Professor J. THEODORE CASH, M.D., LL.D., F.R.S., Aberdeen. *Vice-Presidents:* F. J. CHARTERIS, M.D., Glasgow; O. F. F. GRÜNBAUM, M.D., F.R.C.P., London; J. C. MCWALTER, M.D., Dublin. *Honorary Secretaries:* W. J. DILLING, M.B., Ch.B., Materia Medica Department, Marischal College, Aberdeen; J. M. FORTESCUE-BRICKDALE, M.D., 52, Pembroke Road, Clifton; J. DAVENPORT WINDLE, M.D., Cippenham Lodge, Southall.

The following programme has been arranged:

July 29th.—Discussion on Recent Advances in the Relationship between Chemical Constitution and Pharmacological Activity. To be opened by Dr. FORTESCUE-BRICKDALE.

July 30th.—Joint discussion on the Pathology of Heart Function, including the Experimental Pharmacology and Therapeutics of Pathological Conditions of the Heart. To be opened by Dr. THOMAS LEWIS, followed by Sir James Barr and Dr. J. Mackenzie.

July 31st.—Discussion on the Pharmacology and Therapeutics of the Animal Extracts, exclusive of Thyroid Extract. To be opened by Professor NOEL PATON (Physiology) and Dr. O. F. F. GRÜNBAUM (Therapeutics).

Papers:

GUNN, J. A. The Pharmacology of the Isolated Human Uterus and Fallopian Tubes.
MCWALTER, J. C. Notes on Cerii Oxalas.
MUTHU, J. Chowry. Clinical Observations on Diet in the Treatment of Pulmonary Tuberculosis.

The following is an abstract of Dr. FORTESCUE-BRICKDALE'S opening paper:

Although the pharmacological action of any substance introduced into the body must ultimately depend upon its chemical structure, and all implied in that term, yet at present it is only with regard to the simplest chemical bodies that any deductions as to pharmaco-dynamical properties can be made from a consideration of their structural formulae alone. The action of complex substances—for example, the alkaloids—can only be determined experimentally in each case, though a new body having close structural analogy to one of known action would probably act in a similar manner. The difficulties in correlating structure and action are great, and arise mainly from the biological side. We are ignorant of the way in which molecules as a whole act on protoplasm, and have little knowledge of the underlying causes of selective action. As an introduction to this discussion we may summarize our knowledge of the way in which chemical structure directly or indirectly influences pharmacological action in the following way. It must be understood that changes in structure considered in this way only include such alterations as lead to new bodies chemically comparable with the first. Alterations in chemical structure may affect the pharmacological action of a substance, (*a*) by altering its behaviour before absorption, that is, in the alimentary canal; (*b*) by altering its general or special reactivity as regards body cells and fluids after absorption. These two headings may be subdivided as follows: (*a*) The behaviour of a body in the alimentary canal may be changed by alterations (i) in its physical properties, for example, solubility, (ii) in its chemical properties, for example, its reaction to acids and alkalis; (*b*) after absorption or after intravenous or hypodermic injection the physiological action of a substance may be altered (i) by alterations involving changes in its physical properties, such as its solubility in body fluids or its degree of dissociation in solution, (ii) by changes in structure leading to more or less easy synthesis, reduction, or oxidation, (iii) by changes in the outlying parts of the molecule which affect its special reactivity with certain cells in the body—that is, by changes (*a*) in the composition, (*β*) in the position of the side chains or reactive atomic groups, (iv) by profound changes in its essential molecular arrangement which may affect its special or general reactions with cells or organs. Such changes fall into two groups, both relating to the special relations of the atoms, namely (*a*) changes in valency, (*β*) stereo-isomeric changes.

STATE MEDICINE AND MEDICAL JURISPRUDENCE.

President: Professor MATTHEW HAY, M.D., LL.D., F.R.C.P.I., Aberdeen. *Vice-Presidents:* E. LEE COLLIS, M.B., B.Ch., London; Professor F. W. EURICH, M.D., Bradford; W. HABGOOD, M.D., Sutton; W. LESLIE MACKENZIE, M.D., F.R.C.P., LL.D., Edinburgh. *Honorary Secretaries:* R. BALFOUR GRAHAM, F.R.C.S.E., Leven, Fife; W. ALEXANDER MACNAUGHTON, M.D., County Buildings, Stonehaven, Kincardineshire; FRANK E. ROCK, M.D., Town Hall, Edmonton, N.

The following discussions have been arranged:

1. On Death Certification. To be opened by Sir VICTOR HORSLEY.

2. On Malingering. To be opened by Sir JOHN COLLIE.

3. On the Period and Duration of Infectious Disease. To be opened by Dr. J. H. BUCHAN.

4. On the Administrative Treatment of Tuberculosis. To be opened by Dr. J. T. WILSON (the county standpoint) and Dr. A. S. M. MACGREGOR (the city standpoint).

The following papers have been accepted:

BUSHNELL, F. G. The Administrative Control of Tuberculosis and the Public Health Minister, Department, and Service.
CHALMERS, A. K. Certification of Births and Deaths.
CHILDE, C. P. The Advisability of suitable Steps being adopted by the State and by Municipal Authorities to secure the Earlier Treatment of Persons suffering from Cancer.
COLLIE, Sir John. Thirty-one Thousand Consecutive Medical Examinations conducted chiefly for the Public Service.
CROFTON, W. M. Preventive Inoculation of Tuberculosis, and the Possibility of this on a Large Scale.
ESSLEMONT, J. E. Garden Cities for Consumptives.
GUY, J. The Causes of the Fall in the Tuberculosis Death-rate.
JESSELL, G. The Organization and Management of a Tuberculosis Dispensary.
LEDINGHAM, J. O. G. The Experimental Aspect of the Carrier Problem, with special reference to Typhoid Fever.
MACRAE, Farquhar. Anaphylaxis in the Antitoxin Treatment of Diphtheria.
MCWALTER, J. W. The Necessity of Reforming the Coroner's Inquest.
MILNE, R. The Prevention of Infectious Disease.
MUTHU, Chowry D. J. Tuberculosis in India.
PREST, E. E. Sanatorium Benefit and the Position of Sanatoriums in their Relation to the Treatment of Chronic Cases of Pulmonary Tuberculosis.

Ross, E. H. Intracellular Parasites in Acute Measles and Scarlet Fever.
Thomson, H. H. The Care and Control of the Tuberculosis Patient as an Individual.
Wynne, F. E. Death Certification, with some Criticisms on the International List of Causes of Death.

SURGERY.

President: J. Scott Riddell, M.V.O., M.B., C.M., Aberdeen. *Vice-Presidents:* J. Grant Andrew, C.M., F.R.F.P.S., Glasgow; Arthur Connell, F.R.C.S.E., Sheffield; W. McAdam Eccles, M.S., F.R.C.S., London; T. Eagleson Gordon, F.R.C.S.I., Dublin; Professor John Marnoch, M.B., C.M., Aberdeen; Alexander Miles, F.R.C.S., Edinburgh. *Honorary Secretaries:* G. H. Colt, F.R.C.S., 12, Bon Accord Square, Aberdeen; Rupert Farrant, F.R.C.S., 59, Queen Anne Street, London, W.; J. M. Graham, F.R.C.S.E., 5, Castle Terrace, Edinburgh; S. Thompson Irwin, M.Ch., F.R.C.S.Edin. 29, University Square, Belfast.

The following programme has been arranged:

Wednesday, July 29th.—Discussion on the Etiology and Treatment of Carcinoma of the Tongue. To be opened by Mr. W. G. Spencer, followed by Professor H. Morestin of Paris, and a demonstration by Professor J. K. Jamieson and Mr. J. F. Dobson (see below).

Thursday, July 30th.—Discussion on the Surgical Treatment of Arthritic Deformities. To be opened by Mr. Robert Jones.

Friday, July 31st.—Discussion on Anoci-association, or the Evolution of the Shockless Operation. To be opened by Mr. H. M. W. Gray.

Papers.—The following papers have been accepted:

Boyd, Sidney A. The Newer Indications for Removal of the Spleen.
Don, A. Pott's Disease in Cervical Region, with Methods of Bony Splinting.
Edington, G. H. A Method of Opening the Abdomen for Appendicectomy.
Gordon, T. E. Duodenal Haemorrhage.
Gunn, J. A. The Action of Certain Drugs on the Isolated Human Vermiform Appendix (with a demonstration).
Hey Groves, E. W. A Simple Form of Bed-rest for Maintaining the Fowler Position (with a demonstration).
Jamieson, Professor J. K., and Dobson, J. F. The Lymphatics of the Tongue (with a demonstration of specimens prepared by Gerota's method).
Milligan, William. Some Practical Considerations in the Diagnosis and Treatment of Abscess of the Cerebellum, with a record of cases subjected to operation.
Page, C. Max. The Treatment of certain cases of Appendix Abscess.
Rowell, H. S. Mechanical Considerations of the Human Foot, with special reference to Flat-foot.
Russell, R. Hamilton. The Treatment of Urethral Structure by Excision.
Wheeler, W. I. de C. A further report on Three Cases of Abdominal Aneurysm treated by Operation.
Wilkie, D. P. D. Acute Appendicitis and Acute Appendicular Obstruction.

TROPICAL MEDICINE.

President: Professor W. J. R. Simpson, C.M.G., M.D., London. *Vice-Presidents:* Daniel E. Anderson, M.D. Lond. and Paris, B.Sc., F.R.S.E., London, W.; J. Mitford Atkinson, M.B., London; Henry Fraser, M.D., Kuala Lumpur, Federated Malay States. *Honorary Secretary:* G. A. Williamson, M.D., 15, Forest Road, Aberdeen.

The following programme has been arranged:

Wednesday, July 29th.—Discussion on Kala-azar and Allied Conditions. To be opened by Fleet Surgeon P. W. Bassett-Smith.

Thursday, July 30th.—Discussion on the Education and Position of the Sanitarian in the Tropics. To be opened by Colonel King, I.M.S., C.I.E.

Friday, July 31st.—Discussion on the Surgical Treatment of Colitis and Post-Dysenteric Conditions. To be opened by Mr. James Cantlie.

Papers:

Bahr, P. H. Recent Researches in Sprue.
Birt, Colonel C., A.M.S. Sand-Fly Fever.
Fraser, H., and Stanton, A. T. The Rice Theory and Recent Conclusions.
MacCallan, A. F. The Ankylostomiasis Campaign in Egypt.
Marett, Captain P. J., R.A.M.C. The Bionomics of Maltese Phlebotomi.

A Special Subsection of the Museum is being reserved for exhibits in Tropical Medicine, and the Pathological Museum Committee, Marischal College, will be glad to hear as soon as possible from intending exhibitors, and will later forward information as to packing, insurance of exhibits, etc., the expense of which will be borne by the Association.

Honorary Local Treasurer—
George Williamson, M.B.,
256, Union Street, Aberdeen.
Honorary Local Secretaries—
Thomas Fraser, M.B.,
16, Albyn Place, Aberdeen.
Fred. K. Smith, M.B.,
7, East Craibstone Street, Aberdeen.

PROVISIONAL PROGRAMME.

The following is the provisional time-table for the Aberdeen Meeting:

Friday, July 24th.

10 A.M.—Annual Representative Meeting.

Saturday, July 25th.

9.30 A.M.—Representative Meeting.

Monday, July 27th.

9.30 A.M.—Council Meeting.
10 A.M.—Representative Meeting.

Tuesday, July 28th.

9 A.M.—Exhibition of Surgical Instruments, Drugs, etc. The Exhibition will remain open until 6 p.m. on this and the three following days.
9.30 A.M.—Representative Meeting.
2 P.M.—Annual General Meeting.
*8.30 P.M.—Adjourned General Meeting, President's Address.

Wednesday, July 29th.

9 A.M.—Religious Services.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Medicine.
2.30 P.M.—Secretaries' Conference, followed by Dinner.
3.30 P.M.—Garden Party by Town Council in Duthie Park.
*8.30 P.M.—Reception by University in Marischal College.

Thursday, July 30th.

9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Surgery.
* 7.30 P.M.—Annual Dinner.

Friday, July 31st.

9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Graduation Ceremony in Marischal College.
6 P.M.—Annual Exhibition closes.
8 P.M.—Popular Lecture, Marischal College.
*8.30 P.M.—Reception by Branch (Music Hall).

Saturday, August 1st.

Excursions.

* Academic dress or uniform should be worn on these occasions. Members desiring to have robes provided for them at Aberdeen should communicate with Messrs. Ede, Son and Ravenscroft, 93 and 94, Chancery Lane, London, W.C.; Mr. William Northam, 9, Henrietta Street, Strand, London, W.C.; or Messrs. L. Y. and J. Nathan, 4, Hardman Street, Liverpool.

PATHOLOGICAL MUSEUM.

The Committee of the Pathological Museum, organized in connexion with the Annual Meeting, proposes to arrange the material under the following heads:

1. Exhibits bearing on discussions and papers in the various sections.

2. Specimens and illustrations relating to any recent research work.

3. Instruments relating to clinical diagnosis and pathological investigation.

4. Individual specimens of special interest or a series illustrating some special subject.

It is also proposed to make an effort to gather together series of exhibits relating to the pathology of the circulatory

system and the ductless glands; the effect of radium on malignant growths; pyelo-radiography and *x*-ray photographs of brain, skull, and gall stones, and of ancient and historical surgical instruments.

While making these suggestions the Committee, of which Dr. G. M. Duncan is chairman, will welcome specimens illustrating other subjects. The Museum will occupy a central position in the same building as that in which the sectional work is to be carried on.

Communications may be addressed to the honorary secretaries, Dr. A. W. Falconer and Mr. William Anderson, F.R.C.S., Pathological Department, Marischal College, Aberdeen.

RECEPTION ROOM.

THE reception room will be open during the annual meeting in the Advocates' Hall, Broad Street, Aberdeen, and members are advised to call there as soon as possible after their arrival in Aberdeen. They will there find full information at their disposal and will be able to obtain a copy of the daily journal.

ACCOMMODATION IN ABERDEEN.

A LIST of hotels and lodgings available in Aberdeen during the Annual Meeting is published in the advertisement pages (10 and 11) of this issue. Members desiring further information on this subject are asked to communicate with Dr. F. Philip, Honorary Secretary of the Hotels and Lodgings Committee, 29, King Street, Aberdeen.

At a recent meeting of the General Committee, consisting of influential citizens, the intention to give a hearty welcome to members of the Association was made evident, and a very large amount of private hospitality is likely to be offered. The Local Executive Committee hopes that members will not be led by the answers they may get from some of the hotels to suppose that the accommodation available in Aberdeen is filled up; any member who has difficulty in finding accommodation should not hesitate to communicate either with Dr. F. Philip, as above, or with Dr. Thomas Fraser, one of the honorary local secretaries, at the same address.

RELIGIOUS SERVICES.

THE annual service for the Association will be held in the West Parish Church of St. Nicholas (Church of Scotland) at 9 a.m. on Wednesday, July 29th. At the same hour a Roman Catholic service will be held in St. Mary's Cathedral, and a service of the Episcopal Church in Scotland in the Cathedral Church of St. Andrew's.

ANNUAL EXHIBITION.

THE annual exhibition of surgical instruments, drugs, foods, etc., held during the annual meetings of the British Medical Association, will be arranged this year in the Marischal College, where also the Sections will meet, where the General and Representative Meetings of the Association will take place, and where the Addresses in Medicine and Surgery will be delivered. The exhibition on this occasion will, therefore, occupy a central and convenient position, and members will have an excellent opportunity of inspecting the exhibits.

THE JOURNEY TO ABERDEEN.

Special Vouchers.—Railway facilities similar to those offered in previous years will be available this year—that is to say, return tickets, valid from July 22nd to August 3rd, will be issued at a single fare and a third on the presentation of a voucher, which will be supplied, to members who intend to go to Aberdeen, by the Financial Secretary and Business Manager, British Medical Association, 429, Strand, London, W.C., on receipt of the notification form. A separate voucher is required for each passenger.

Tourist Tickets.—The attention of those who intend to travel to Inverness or other places north of Aberdeen is drawn to the tourist ticket arrangements. The advantage of a tourist ticket is that it is available for six months, and the holder has the privilege of breaking the journey at many places *en route*. The tourist ticket from London to Inverness costs £3 3s., third class. In many instances a member travelling from England may find it more advantageous to take a tourist ticket than to make use of the special voucher.

London to Aberdeen by Sea.—Members travelling from the south may like to be reminded that they can make the journey from London by sea. The boats of the Aberdeen Steam Navigation Company, which are lighted by electricity and in every way well appointed, sail from Aberdeen Wharf, Limehouse, E., every Wednesday and Saturday (see advertisement, page 14). The return fares, available for six months, are—first cabin 45s., second cabin 25s.; private cabins can be obtained for an extra fee. A boat will leave on Wednesday, July 22nd, at 11 a.m., and on Saturday, July 25th, at 1 p.m. Further particulars will be published or can be obtained on application to the company at Aberdeen Wharf, Limehouse, or the City Passenger Agency, 25, Cannon Street, E.C.

RAILWAY FACILITIES FOR MEMBERS STAYING IN THE NEIGHBOURHOOD OF ABERDEEN.

DURING the meeting reduced fares, with a minimum of 1s., will be granted to places within a radius of fifty miles from Aberdeen. Members who propose travelling to and from Aberdeen daily should use the first half of the ticket on the first journey and the return half on the last journey; the reduced fares for the intermediate journeys will be granted on production, at the time of booking, of the card of membership.

Weekly Season Tickets.

Members staying at Banchory or Cruden Bay can obtain season tickets enabling them to travel to and from Aberdeen daily during the week of the annual meeting at the following rates: Cruden Bay, 10s.; Banchory, 8s. 8d. The season tickets will be issued from intermediate stations at proportional rates.

On the Caledonian Railway to Stonehaven and intermediate stations, during the meeting, return tickets will be issued at Aberdeen to places where members wish to reside. These tickets will be available for the day of issue or following day, or from Saturday to Monday, at a single fare and a third for the double journey, minimum 1s. Season tickets are also available for more than one journey, at a charge of not less than the accumulated fares per day as above, the minimum being 1s. a day.

GOLF COURSES AT ABERDEEN AND IN ITS VICINITY.

Balgownie.—The course of the Royal Aberdeen Golf Club. A seaside links course of over 6,000 yards in length, and well known as one of "The Best Courses." The Ulster Cup competition will be played on these links. Water is laid on to the putting greens. There is a large and commodious club-house. The course is of the out-and-home variety, and "bogey" varies from 78 on a calm day to a more difficult 80 with a stiff north-easter. The amateur record is 76, the professional 73. Golfing members of the British Medical Association have been made honorary members of the club from July 24th to 31st.

The course can be reached by tramway car to the Bridge of Don or by taxi. There is also an adjacent relief course of nine holes, which is the course of the Aberdeen Ladies' Golf Club.

Murcar.—This course is on the same stretch of coast as Balgownie, which it adjoins. It can be reached by the club motor bus running on rails from the brickworks close to the entrance road leading to Balgownie. Car to Bridge of Don as before. The course is of good quality, but shorter than Balgownie. Sunday golf without caddies. (Visitors 1s. 6d. a day; 2s. 6d. on Saturdays and Sundays.)

Bieldside.—The inland course of the Deeside Golf Club can be reached by train to Bieldside station, which it immediately adjoins, by tramway car or motor. This is a very good inland course of eighteen holes; the lies through the green are excellent, and the putting greens in good condition. The club-house adjoins the first tee. (Visitors 1s. 6d. per day, 5s. a week.)

Balnagask.—This course is on the sea coast immediately south of Aberdeen harbour, and is easily reached by the Torry tramway or by motor. The soil and turf is not of the regular seaside type, being more of the inland variety. There are eighteen holes of no great length; a club-house adjoins the links. (Visitors 1s. a round, 1s. 6d. per day, 5s. per week.)

Public Links.—These can be reached by car, and are nearest to the town. There are eighteen holes, but the course is on the short side, and suffers from overcrowding.

Aboyne.—This inland 18-hole course is 32 miles from Aberdeen. It is reached by train to Aboyne or by motor. The turf is splendid and the surrounding scenery delightful. A club-house is attached. The council of the Aboyne Golf Club has agreed to offer honorary membership to members attending the annual meeting on production of their membership card.

Cruden Bay.—One of "The Best Courses." Thirty miles from Aberdeen by train or road. A delightful course, with fine sea views. There are many good sporting holes, and the putting greens are always in good condition. A first-class hotel, under the management of the railway company, immediately adjoins the links, and the Kilmarnock Arms Hotel in the village can be highly recommended. Sunday golf without caddies. The links belong to the railway company, and the charge is 1s. 6d. a day (2s. on Sunday), 1s. a day to visitors staying at the railway company's hotel.

Banchory.—Inland course, sixteen miles from Aberdeen, rail or motor. Free to members of the Association on production of membership card.

ARRANGEMENTS FOR LADIES.

A COMMITTEE of ladies has been formed to look after the comfort and interests of ladies accompanying members to Aberdeen. The Aberdeen Medico-Chirurgical Society has granted the use of its rooms at 29, King Street, as reception rooms for ladies from July 24th to 31st. There will be provided a rest-room, a writing-room, a tea room, and a dressing room. There will also be an office in the building where information regarding ladies' entertainments and motor drives will be given and tickets supplied. A member of the Ladies' Committee has given the use of her flat at 245, Union Street, where ladies living out of the town may dress for the evening entertainments. It is hoped that a corps of lady guides will be available for the assistance of visitors.

Provisional Programme of Entertainments for Ladies.

Games.—Several tennis clubs have given the use of their courts. All ladies who are members of recognized golf clubs will be made honorary members of the Aberdeen Ladies' Golf Club (Balgownie). A golf match will be arranged for Thursday afternoon, July 30th, between lady visitors and the Aberdeen Ladies' Golf Club, also a putting and approaching competition on Friday, July 31st, at Balgownie at 10 a.m. Those who wish to enter for these competitions are requested to send their names and handicaps (L.G.U. if possible) as soon as possible to Miss Westland, 22, Albyn Place.

Entertainments.—Tuesday morning, July 28th: A visit to the Art Gallery—limited to 35. Wednesday morning, July 29th: Concert, including bagpipe playing and Highland dancing, etc., in the Music Hall Buildings. Thursday morning, July 30th: A descriptive tour through Old Aberdeen, with visits to St. Machar's Cathedral and King's College—limited to 35.

Visits to Institutions.—Conducted parties can visit the following educational, charitable, and philanthropic institutions: The Day Nursery, the Church of Scotland Home for Working Boys, the Home for Working Girls, the Maternity Hospital, the Morningfield Hospital for Incurable Diseases, the Oakbank Industrial School for Boys, and the Home for Widowers' Children.

Short Motor Drives for Ladies.—On the mornings of Wednesday, Thursday, and Friday (July 29th, 30th, and 31st) private motor cars have been offered to take a party of ladies to the following places: Wednesday, Drum Castle; Thursday, Crathes Castle; Friday, Muchalls Castle. Permission has kindly been granted to visit these places of historical interest. Ladies desirous of availing themselves of these drives are requested to inform Miss Grainger Stewart, Glendee Cottage, West Cults, Aberdeenshire, before July 24th if possible.

EXCURSIONS.

IT is the hospitable custom of members residing in or near the town in which the annual meeting of the British Medical Association is held to arrange that opportunities should be afforded to visiting members to see the town and its immediate neighbourhood, and also to plan excursions to more distant places within easy reach.

Aberdeen and the North of Scotland will not be backward in following this example, and those who are making such arrangements have, indeed, probably suffered from an embarrassment of choice, inasmuch as within reach of Aberdeen there is much beautiful river, mountain, and loch scenery. We give below some particulars of the provisional arrangements so far made, but this information must be prefaced by the general observation that the meeting falls at a season when the beauty spots of Northern Scotland are beginning to be crowded, and that it is therefore essential that members should as far as possible make up their minds early in regard to the excursion or excursions they wish to take, and notify their intention to the Secretary, Mr. G. H. Colt, F.R.C.S., 12, Bon Accord Square, Aberdeen, at once.

The Committee will have to make arrangements for travelling facilities, catering, etc., with the railway companies and hotels, and all these arrangements must be made in advance. In the case of certain excursions the number must be limited and places will be assigned in order of application. A special office will be open in the reception rooms in Aberdeen and will be provided with time-tables, programmes, and guide-books, containing full information as to the many places of interest which may be visited from Aberdeen. The railway companies will make special concessions, but members of the Association should note that they must produce their tickets of membership when booking in Aberdeen for any excursion.

The following arrangements have been made:

FOR REPRESENTATIVES.

The Annual Representative Meeting begins on Friday, July 24th, and will no doubt be continued on Saturday, July 25th. Arrangements have been made by members in Aberdeen for running a special train to Cruden Bay on Sunday, July 26th, leaving Aberdeen in the morning and returning the same evening. Slain's Castle, Bullers o' Buchan, and Whinnifold, the scene of Bram Stoker's *Mystery of the Sea*, and a fine golf links are all within walking distance. Luncheon can be taken at the hotel at Cruden Bay, and Representatives who wish to make this excursion are particularly requested to send their names to Mr. Colt as early as possible.

SHORT EXCURSIONS FROM ABERDEEN.

Deeside and Donside may both be seen on any one day by a circular tour through Alford to Strathdon and Ballater, and so back to Aberdeen. The excursion will occupy the whole day, starting at 8.5 or 9.30 a.m., and arriving back in Aberdeen at or about 7 p.m. The journey from Alford to Ballater will be made by motor car, and it is therefore essential that adequate notice should be given. The fares for the round are: First class, 12s.; third class, 9s.

The following half-day excursions may be taken on either Wednesday, July 29th, or Saturday, August 1st:

To Speyside, returning from Garten.—The train will leave at 1 p.m., and luncheon will be served on it for a limited number. The party will reach Aberdeen on the return journey at 10.32 p.m. Fare 2s. 6d.

To Ballater at 1.15 p.m., including coach drive to Balmoral. Aberdeen will be reached at 10 p.m. Fare 2s. 6d. Coach drive 2s. 6d. extra.

To Aboyne, to visit Fungle, Aboyne Castle, and Glentanar. The party will leave at 1.15 p.m. and reach Aberdeen again at 10 p.m. Fare 2s. There will be opportunity for golf on these two excursions.

To Elgin, where the cathedral can be visited. The train leaves Aberdeen at 12.30 p.m., and the party will arrive there on the return journey at 9.35 p.m. Fare 3s.

To Banff, Cullen, and Buckie, leaving at 12.30 p.m., and reaching Aberdeen again at 9.35 p.m. Fare 2s. 6d.

To Alford and Oyne, to visit the prehistoric fort on Nether Tap of Bennachie and Maiden Stone. The train leaves Aberdeen at 1.37 p.m., and reaches it again at 8.52 p.m. Fare 1s. 6d.

Cruden Bay.—The train leaves Aberdeen at 1.30 p.m., and the return train is due at 8.38 p.m. Fare 2s. 6d., including use of golf course.

Stonehaven and Muchalls.—Visits may also be made on Wednesday or Saturday to Stonehaven to see Dunottar

Castle, Raedykes Camp, the Ogham Stone, the Druidical Circles, old Fetteresso Church, Cowie Churchyard, and to Muchalls for the coast scenery and rocks. Both at Stonehaven and Muchalls golf may be played, and at Stonehaven tennis and golf also.

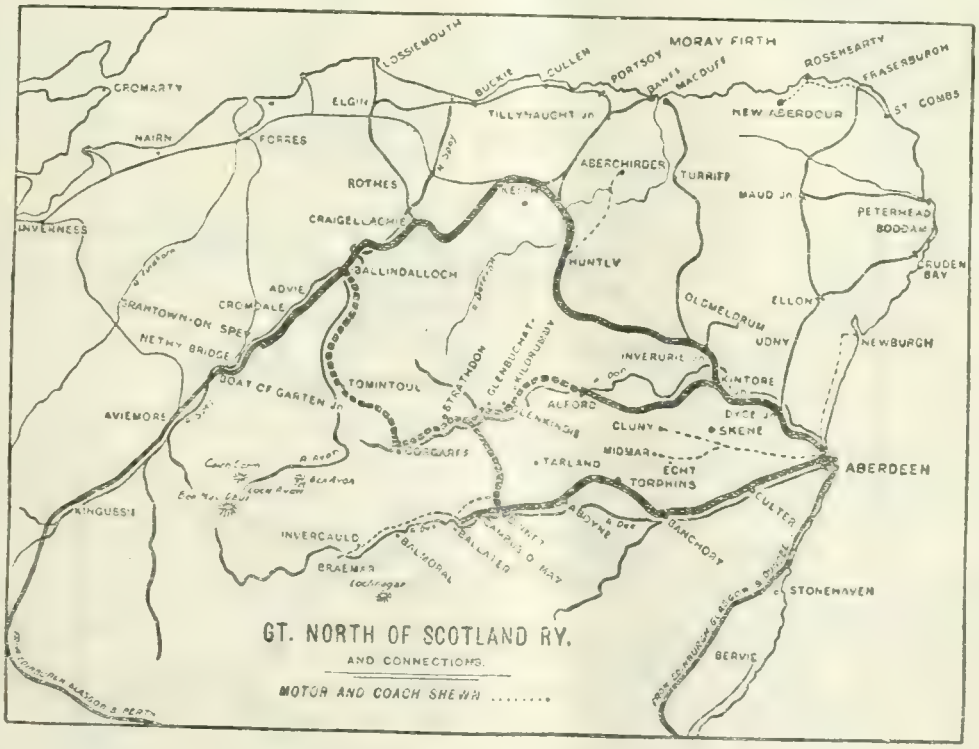
Glen of Drumtochty.—A party of 200 will be able to make an excursion to the Glen of Drumtochty on July 29th, and a similar party will be arranged on August 1st. This is a most charming round trip, passing many places of historical and archaeological interest, among them being Edzell, with its golf course and castle. Auchinblae, Drumtochty, Clatterin Brigs, and Fettercairn. This is a half-day excursion, leaving shortly after 1 p.m. and getting back to Aberdeen on Wednesday a little before 9 p.m. and on Saturday soon after 7 p.m. If desired it could be arranged for a half of each party to coach from Fordoun and the other half from Edzell. The fare for the round is from 5s. to 6s.

LONGER EXCURSIONS.

[*For these excursions names must be sent in early in order that suitable arrangements may be made.*]

Three Rivers Tour.

On Saturday, August 1st, a tour will be made by a party not exceeding forty to the valleys of the Dee, Spey, and Don. The same tour can also be taken on Wednesday, July 29th. The party will go from Aberdeen by train as far as Dinnet, and will motor to Strathdon, where luncheon will be taken. It will then go by coach from Cockbridge to Tomintoul, the highest village in Scotland, where tea will be taken. The return will be by Ballindalloch, Speyside, and Donside, to Aberdeen. The fare for the round will be—first class, 20s.; third class, 15s. This tour will occupy the whole day, from 8 a.m. to 10.30 p.m.



Grantown and Speyside.

This trip has also been arranged for a party of 200 on Wednesday, July 29th, and Saturday, August 1st. At Grantown, which is one of the chief health resorts of Strathspey, the valley of the Spey opens out into a large wide plain—the Cairngorm mountains to the left and the Monadh Liath range to the right. The party will start on each day at 2 p.m., and reach Aberdeen on the return journey at 11.15 p.m. Cold luncheon can be arranged on the train for a limited number. The fare will be 2s. 6d., third class.

Ballater, Balmoral, and Braemar.

Arrangements have been made for a party of 500 to visit Royal Deeside on Saturday, August 1st. The party will travel to Ballater by a train leaving Aberdeen at 8.45 a.m., and by coach from Ballater to Balmoral. Lunch will be taken in a marquee in Balmoral grounds. From Balmoral after luncheon the party will proceed by coach to Ballater, and return to Aberdeen by a train arriving there at 6.15. Members wishing to travel to Edinburgh, Glasgow, etc., from Aberdeen by the trains at 5.30 and 5.35 p.m. can return from Balmoral by the railway company's motor via Crathie to Ballater, and proceed thence by the train due to arrive in Aberdeen at 5.15. It will be possible for a few members to obtain private motors at Ballater by previous arrangement, and to drive to Braemar and Linn of Dee, lunching at Braemar and joining the party at Ballater on the return journey. The return fare to Ballater is 2s. 6d., and from Ballater to Balmoral 2s. 6d., luncheon and tea extra.

Aviemore (Further Speyside).

This is an alternative to the last excursion, and will afford to those who may have been unable to avail themselves of the Three Rivers tour an opportunity of seeing the lovely country of Further Speyside. The party will leave Aberdeen on Saturday morning, August 1st, and will reach Aberdeen in the evening. Members who may wish to return south via Perth on Saturday evening should make their own arrangements with the stationmaster at Aviemore, where luncheon will be taken. The return fares are: First class, 20s. 8d.; third, 11s. 1d.

ARCHAEOLOGY.

It is proposed to arrange excursions for members specially interested in Scottish history, archaeology, geology, and mountain and marine scenery. Among the places to be visited will be druidical circles on Kingcausie and at Aquhorties, the prehistoric fort on the Mither Tap of Bennachie, and the Maiden Way at its foot, the underground houses at Kildrummy, the vitrified forts at Tap of Noth and at Finavon, near Forfar, the sculptured stones at Aberlemno, and many other places of particular interest to archaeologists.

STRATHPEFFER SPA.

The medical men of Strathpeffer Spa and Dingwall, along with the hotel proprietors, have arranged to invite forty members of the Association who may be interested in health resorts and spas, for two days, from Saturday, August 1st, to Monday, August 3rd. As the accommodation in the hotels at this time of year is taxed to the utmost, it is absolutely necessary that those intending to take advantage of this hospitable invitation should send in their names at once to Dr. Duncan, Strathpeffer Spa. Although the number of invited guests is limited to forty, those who may be in the neighbourhood of Inverness or Strathpeffer will be entertained to luncheon on either of the days mentioned. The baths will be open for the use of the guests, and the courtesy of the golf course will also be extended to them.

Special fares will be granted by both the Great North of Scotland and Highland Railway Companies, but the better plan would be for those travelling from England to take tourist tickets direct to Strathpeffer via Aberdeen (third class return fare 67s. 3d.). These tickets can be made

available to return via Dunkeld and Perth, but it is essential that passengers should ask for tickets so routed at the time of booking.

Inverness, Elgin, Nairn, and the Highlands.

The members of the Northern Counties of Scotland Branch of the Association have organized a series of excursions for those members who propose to visit Inverness and neighbourhood. It is anticipated that many who attend the annual meeting will complete their holiday by visiting the North of Scotland. In order to facilitate arrangements, the medical men in Inverness, Elgin, Nairn, and Strathpeffer Spa are anxious to get the names of those members who propose visiting these places as soon as possible so as to have some indication as to probable numbers. The tourist season is very heavy during July and August, and as hotel accommodation is somewhat limited, private hospitality will be extended to a certain number.

Members travelling from England who take a return ticket to Aberdeen at the specially reduced rate (fare and a third), and afterwards decide to remain in Scotland beyond the period for which such ticket would be valid can do so upon payment of the difference between the special reduced fare and the ordinary tourist fare. Those who can with confidence make their arrangements in advance may find it advantageous to take tourist tickets to Inverness (first class, £7 6s. 11d.; third class, £3 3s., from London by rail throughout). These tickets, which are available for six months, permit a break of journey northward at Aberdeen, and are available to return via the Highland Railway by Inverness, Aviemore, and Dunkeld, going on to Edinburgh or Glasgow. The journey may be broken at any of these places on the way south. Tourist tickets may also be obtained from any of the larger towns in England and Wales. Full particulars can be gathered from the *Guide to the Highlands*, which may be obtained from the Traffic Manager of the Highland Railway Co., Inverness.

It will be found that the tours can be extended in various ways, and can be made to include a return by the West of Scotland. We are indebted to Messrs. Stockwell and Co., Passenger Ticket Agents, 8, Beak Street, Regent Street, S.W., for the following sample tours from London:

[The following tourist tickets are available for six months, but the steamer portion of the tour must in all cases be completed on or before September 30th.]

By London and North-Western Railway.

Fort William and Inverness Circular Tour No. 2.—Fares: First class, 170s. 8d.; third class, 78s. 9d. Out from Euston Station, via Carlisle, Carstairs, and Aberdeen to Inverness by rail, returning from Inverness by McBrayne's steamers through the Caledonian and Crinan Canals to Oban, thence by rail direct to London.

Fort William and Inverness Circular Tour No. 4.—Fares: First class, 160s. 2d.; third class, 81s. Out from Euston Station, via Carlisle, Carstairs, and Aberdeen to Inverness by rail, returning from Inverness by McBrayne's steamers through the Caledonian and Crinan Canals to Glasgow, thence by rail to London.

By Great Northern Railway.

Inverness Circular Tour No. 1.—Fares: First class, 160s. 2d.; third class, 81s. Outward journey, from King's Cross Station, via Edinburgh, Forth and Tay Bridges, and Aberdeen, to Inverness by rail, returning by the McBrayne's steamers through the Caledonian and Crinan Canals to Oban, thence by rail, via Edinburgh, to London.

Inverness Circular Tour No. 2.—Fares: First class, 176s. 8d.; third class, 78s. 9d. Outward journey, from King's Cross Station, via Edinburgh, Forth and Tay Bridges, and Aberdeen, to Inverness, returning from Inverness by McBrayne's steamers to Glasgow, thence by rail, via Edinburgh, to London.



Railway map; the system of the Highland Railway is shown by the darker line.

The excursions in Inverness district include a trip up the Caledonian Canal, motor runs to Culloden Moor, Cawdor Castle, Speyside, and to Glenurquhart, Strathglass, Loch Maree, Loch Duich. All these are delightful excursions typical of Highland scenery. Nairn, with its fine golf course will be an attraction to many, while Elgin, with Lossiemouth as a golfing centre, will charm others. To men who are not golfers drives to Grantown on Spey and Craigellachie have been arranged.

The names of intending visitors should be sent in to one of the undermentioned not later than July 10th: Dr. J. Munro Moir (Inverness), Dr. Stephen (Elgin), Dr. E. Wilson (Nairn), who will be pleased to give any information as to hotel accommodation, private hospitality, etc.

In order that the arrangements should run smoothly it is absolutely necessary that those in charge of them should know how many members are likely to take advantage of the special excursions planned, and it is suggested that although July 10th is stated to be the last day for giving in names, members should, as soon as their arrangements for holidays are complete, notify one or other of the gentlemen whose names are given above.

Nairn.

The arrangements for those visiting Nairn are as follows: The party will arrive during the forenoon of

Saturday, August 1st; there will be a reception by the Provost, followed by luncheon. In the afternoon there will be a motor run by Culloden Moor, visiting the battlefield, and on the homeward run Kilravock and Cawdor Castles. On Sunday there will be a motor run to the upper reaches of the Findhorn (Glenferness and Dulsie). On Monday the baths and the golf course will be open to the visitors.

The medical men of Nairn are prepared to offer private hospitality over the week-end to twenty members. Members intending to make this excursion are requested to communicate at once, and in any case not later than July 10th, with Dr. Eric Wilson, Wyvis View, Nairn.

Elgin, Lossiemouth, and Grantown.

The arrangements for those visiting Elgin and Lossiemouth are as follows: The party will arrive during the forenoon of Saturday, August 1st. After luncheon (probably at Elgin) golfers will proceed to Lossiemouth, where there is a fine course; for others motor drives will be arranged to Gordon Castle, Fochabers, or the Roman Well, Burghead; the town of Elgin, with its cathedral, museum, and hospital, may also be visited.

On Sunday afternoon a motor drive for the whole party will be arranged to Grantown, proceeding there by the Speyside route and returning by way of the banks of the Findhorn and Forres. By this route some very picturesque Highland scenery will be traversed. On Monday the Lossiemouth Golf Course will be open to visitors.

It is particularly requested that the names of those who wish to visit Elgin and Lossiemouth be received by Dr. J. Stephen, Murrayfield, Elgin, by July 18th at latest, or as much earlier as possible.

Inverness.

Several excursions have been arranged for those members who go on to Inverness from Aberdeen:

1. *Kyle of Lochalsh and Loch Duich.*—This is a very fine bit of scenery, the railway journey from Inverness along the Beauly Firth, thence from Dingwall past Garve and Achnasheen, passing Loch Carron, along the shore of which the railway winds until within a mile or so of Kyle of Lochalsh. A trip will be made on one of MacBrayne's steamers up Loch Duich amidst beautiful Highland scenery.

2. *Loch Maree* will be visited by another party. Passengers will leave the train at Achnasheen and join a motor car which goes by Loch Rosque, and after a drive of about six miles reaches the beautiful Loch Maree. No pen can describe the beauties of this part of Ross-shire, with the towering Ben Slioch and Ben Eay on either side. These are whole-day excursions.

For those who do not care for a long journey, motor runs will be arranged:

3. *Glen Urquhart.*—By Loch Ness side to Drumnadrochit, up Glen Urquhart, crossing the hill to Cannich, returning to Inverness by Strathglass and Beauly, a beautiful run through very fine mountain scenery.

4. *Stratherrick and Strathnairn.*—Another party will go up to Loch Ness on the opposite side from No. 1 party to the Pass of Inverfarigaig, up Stratherrick crossing to Strathnairn.

5. To *Culloden Moor* and Cawdor Castle.

6. To *Fort Augustus* by the Caledonian Canal by MacBrayne's steamers—possibly calling at the Falls of Foyers on the way.

On the return of 4, 5, and 6 parties, the Provost and Magistrates of Inverness will publicly receive the members of the Association, and entertain them to luncheon. The afternoon will be given up to garden parties, etc.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are printed in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Association Intelligence.

PROCEEDINGS OF COUNCIL.

A MEETING of the Council was held at 429, Strand, London, W.C., on Wednesday, June 24th. The proceedings lasted from 10 o'clock in the morning until 7.30 in the evening.

Present:

Dr. J. A. MACDONALD, Chairman of Council, in the chair.
Mr. T. JENNER VERRALL, Bath, Chairman of Representative Meetings.

Dr. JOHN ADAMS, Glasgow
Dr. J. MITFORD ATKINSON, London (Hong Kong and China, etc., Branches)
Dr. R. M. BEATON, London
Dr. M. G. BIGGS, London
Dr. CHARLES BUTTAR, London
Dr. H. J. CAMPBELL, Bradford
Mr. W. F. CHOLMELEY, Wolverhampton
Dr. J. SINGLETON DARLING, Lurgan
Dr. E. J. DOMVILLE, Chelwood
Dr. DAVID EWART, Chichester (New Zealand Branch)
Dr. FRANK FOWLER, Bournemouth
Dr. ADAM FULTON, Basford, Nottingham
Mr. T. W. H. GARSTANG, Altrincham
Surgeon-General J. P. GREANY, I.M.S., Ealing (Indian Medical Service)
Dr. T. D. GREENLEES, Weymouth (South African Branches)
Dr. MAJOR GREENWOOD, London
Dr. J. R. HAMILTON, Hawick, N.B.
Dr. G. E. HASLIP, London
Mr. W. T. HAYWARD, Oxford (Victorian, South and West Australian Branches)
Mr. P. NAPIER JONES, Crowthorne
Mr. F. CHARLES LARKIN, Liverpool
Mr. ALBERT LUCAS, Birmingham
Dr. C. H. MILBURN, Hull
Mr. E. C. MONTGOMERY-SMITH, London
Dr. GEORGE PARKER, Bristol
Sir JAMES PORTER, K.C.B., LL.D., London (Royal Navy Medical Service)
Dr. F. J. Smith, London
Mr. D. F. TODD, Sunderland
Mr. E. B. TURNER, London
Mr. DENIS WALSHE, Graigue
Mr. E. H. WILLOCK, Croydon
Dr. O. R. M. WOOD, Woolpit

RETURN OF THE CHAIRMAN.

The Chairman was warmly congratulated on his safe return from his Australasian tour.

APOLOGIES.

The President, the Treasurer, Sir James Barr, Mr. W. F. Brook, Dr. John Gordon, Dr. Livingstone Loudon, Dr. J. Munro Moir, Dr. J. E. Moorhouse, and Professor A. H. White sent letters of apology for non-attendance.

DEATHS.

The CHAIRMAN reported the deaths of Dr. B. H. Mumby of Portsmouth, a member of the Council, and Dr. J. H. Keay of Lewisham, a former member of the Council, and was requested to convey to the respective families votes of condolence on their bereavement.

THE TREASURER.

The Council expressed its sincere sympathy with the Treasurer in his illness and an earnest hope for his speedy recovery.

RESIGNATIONS.

The CHAIRMAN reported the resignations of Colonel H. J. Waller Barrow, the Representative of the Army Medical Service on account of ill health, and Mr. C. Courtenay Lord.

VOTE OF THANKS TO DEPUTY CHAIRMAN OF COUNCIL.

The Council placed on record its appreciation of the able way Sir James Barr acted as deputy during the absence of the Chairman in Australasia.

REPRESENTATIVE FROM AUSTRALIAN BRANCHES.

Mr. W. T. Hayward, of Adelaide, was welcomed upon his attending the Council for the first time as the representative of the South Australian Branch.

DR. J. A. MACDONALD'S VISIT TO AUSTRALASIA.

Communications were read from the New Zealand Branch, New South Wales Branch, and the Federal Committee of the Association in Australia expressing satisfaction at Dr. Macdonald's recent visit to Australasia.

Dr. Macdonald gave an account of his tour, similar to but somewhat briefer than that contained in his address to the West Somerset Branch, published in this week's Journal (page 1).

Dr. Greenlees, Chairman of the Dominions Committee, moved a vote of thanks to Dr. Macdonald for his address. He felt confident that the visit had done good, and only regretted that Dr. Macdonald had not been able to visit South Africa also; he assured him of a hearty welcome if and when he found it possible to do so.

Dr. Hayward, in supporting, said that Dr. Macdonald had given a racy account of his journey to Australia, for the accuracy of which he could vouch. The visit had done a great deal to make stronger the bonds between the Australian Branches of the Association and the mother society. Personally he was indebted to Dr. Macdonald, because, when he might have been enjoying himself, he chose to sit at the meeting of the Federal Committee, with the temperature at about 100°, for two whole days, giving advice with delicacy and tact on all matters which came within his purview. Dr. Macdonald had made himself a prime favourite by his tact, his bonhomie, his energy and sound common sense. He made all the medical men with whom he came in contact in Australasia feel that they were a part of a great profession.

The motion was unanimously adopted.

The Council ordered that a vote of thanks be sent to the Presidents and Secretaries of the various Branches and Divisions visited by Dr. Macdonald, to the Federal Committee of Australia, to the Chief Medical Officer of the Government of New Zealand, to Dr. Billinghurst and Professor Macfarlane of Hong Kong for the courtesy and hospitality extended to the Chairman of Council.

Sir Thomas Roddick.

It was decided to forward the congratulations of the Council to Sir Thomas Roddick, of Montreal, President of the Association in 1897, upon the honour of knighthood recently conferred upon him by His Majesty the King.

University of Wales.

Dr. E. J. Maclean was nominated a Representative of the Association upon the Medical Board of the University of Wales for a further term.

Postal Vote.

The Chairman of Council read a letter from the Sheffield Division concerning the question of a postal vote on the matter of the proposed Special Fund, when it was decided to inform the Sheffield Division that the Council is of opinion that each Division should conduct the postal vote as a Divisional matter in the way it thinks best.

Annual Meeting at Newcastle, 1917.

The Chairman reported receipt of a letter from the Honorary Secretary of the North of England Branch inviting the Council of the Association to hold the Annual Meeting in 1917 in Newcastle-on-Tyne. The Council decided to thank the North of England Branch, and to file the invitation for consideration in due course.

FINANCE COMMITTEE.

In the absence of the Treasurer, the Chairman of Council presented the report of the Finance Committee.

Accounts.

The accounts for the quarter ending June 6th, 1914, amounting to £10,934 0s. 2d., were received and approved, and the Acting Treasurer was empowered to pay those unpaid.

Appointment of Assistant Medical Secretary.

Mr. C. Courtenay Lord, Gillingham, was appointed Assistant Medical Secretary as from October 1st, 1914.

Appointment of Solicitor to the Association.

Mr. W. E. Hempson was reappointed Solicitor to the Association.

Heard *v.* Pickthorne.

A sum of £10 was voted to Mr. P. C. Raiment, Honorary Secretary to the National Medical Guild, as compensation for the loss he sustained in giving financial assistance to the plaintiff in the case of Heard *v.* Pickthorne.

Candidates for Election to the Association.

The candidates whose names appeared on the notice convening the meeting were elected members of the British Medical Association.

Election of Vice-Presidents.

It was decided to recommend to the Representative Body that Dr. W. Ainslie Hollis, President of the Association for 1913–14, be elected a Vice-President of the Association. Also that Mr. W. T. Hayward, Chairman of the Australian Federal Committee, be elected a Vice-President.

SCOTTISH COMMITTEE.

As from January 1st, 1915, there will be established a Scottish Office with a whole-time Scottish Medical Secretary in addition to the present Clerk. The Scottish Medical Secretary will be appointed by the Council on the recommendation of the Scottish Committee, and the salary will be £600 per annum.

House of Lords Midwives (Scotland) Bill (No. 81).

The Council approved in the present instance of the Scottish Committee being named in the House of Lords Midwives (Scotland) Bill (No. 181) as the body to appoint medical representatives on the proposed Central Midwives Board for Scotland.

ORGANIZATION COMMITTEE.

Students' Union.

The Council decided to report to the Representative Body that in its opinion the formation of a Students' Union on the lines suggested in Minute 197 of the Annual Representative Meeting, 1909, is, for the present at least, impracticable.

Grants to Branches for 1914.

It was decided that grants for 1914 be made to the following Branches: Aberdeen, Gloucestershire, Oxford and Reading, Shropshire and Mid-Wales, Surrey, and Ulster.

Election of Members of Council, 1914–15, and 1915–16 by Grouped Representatives under By-Law 43 (C).

(*a*) 1914–15.

Pursuant to the authority conferred on the Council by Minute 260 of the Annual Representative Meeting, 1913, the Council decided to group the United Kingdom constituencies for election of twelve members of Council for 1914–15 in the same manner as for 1913–14, the constituencies of the new Kent, Surrey, and Sussex Branches taking the place of those of the late South-Eastern Branch.

(*b*) 1915–16.

It was resolved to recommend to the Representative Body that the grouping of constituencies for election of twelve members of Council, 1915–16, be similar to that for 1914–15, discretion being, however, left to the Council to make any modifications in the grouping rendered necessary or desirable owing to numerical changes or formation of new Divisions or constituencies or modification of those bodies as at present existing.

Grouping of Branches not in United Kingdom for 1915–16.

The Council will recommend to the Representative Body that the grouping of the Branches outside the United Kingdom for the election of seven members of Council for 1915–16 be the same as for 1913–14—that is, that the Ceylon Branch be grouped with the Indian Branches, and that the Hong Kong and China, and Malaya Branches together form a constituency for the election of one member of Council.

Grouping of Divisions for Representation in Representative Body, 1914–15.

In view of the fact the Rochdale Division, which had temporarily dropped to below the necessary 50 members to entitle it to separate representation, would, before the Representative Meeting at Aberdeen, be above 50 members, it was accorded separate representation in the 1914–15 Representative Body.

SCIENCE COMMITTEE.

MIDDLEMORE PRIZE.

In view of the adjudicators' report on the essays submitted it was decided that the Middlemore Prize be not awarded for the current year, and that the prize be open for competition in 1915.

CENTRAL ETHICAL COMMITTEE.

REGULATIONS RELATIVE TO THE INSERTION IN THE "BRITISH MEDICAL JOURNAL" OF NOTICES REGARDING APPOINTMENTS.

The Representative Body will be recommended to rescind all its previous decisions relating to the Warning Notice, and to empower the Council to approve Regulations, which in the opinion of the Council are appropriate, relative to the insertion in the BRITISH MEDICAL JOURNAL of notices regarding appointments, and that the control of these notices be in future left entirely in the hands of the Council.

POSITION OF MEDICAL PRACTITIONERS IN CONNEXION WITH PUBLICATIONS TO THE PUBLIC ON MEDICAL SUBJECTS.

The Representative Body will be recommended to adopt the principle that every medical practitioner who contributes to or in any way assists in the preparation of any publication on medical subjects intended for the use of the public must hold himself responsible for any undue or improper advertising that may take place in connexion with such publication, and also for the scope and distribution of the work.

CASE UNDER ARTICLES 10 AND 11.

Having received a special report from the Central Ethical Committee with regard to representations of a Division with reference to a member of the Association, the Council resolved that the member in question should be expelled from membership of the Association.

MEDICO-POLITICAL COMMITTEE.

FEES FOR MEDICAL EXAMINATIONS FOR LIFE INSURANCE.

The Representative Body will be invited to decide the question of principle as to (*a*) whether fees for life insurance examinations should be based on the amount of evidence required in confirmation of the examiner's professional opinion of the life, or (*b*) whether there should be a fixed minimum fee for that opinion irrespective of the number of questions to be answered.

PAYMENT OF SHIP SURGEONS FOR ATTENDANCE UPON FIRST AND SECOND CLASS PASSENGERS.

The Representative Body is recommended to adopt the following principles:

1. That fees for medical and surgical attendance should be payable by first and second class passengers in all cases of illness and injury except those due to the natural conditions of the voyage.
2. That in those cases where the ship surgeon is at liberty to charge a fee the minimum fee shall be 5s. and 2s. 6d. per attendance in the case of first and second class passengers respectively.
3. That accounts for any such fees should not be subject to any preliminary scrutiny by the commander, but it is clearly understood that any passenger questioning the legitimacy of any charge may make representations accordingly to the commander.

FEES FOR MEDICAL CERTIFICATES UNDER THE MENTAL DEFICIENCY ACTS.

The Representative Body will be advised to approve that the fee for medical certificates under the Mental Deficiency Acts signed by the "usual medical attendant" should not be less than £1 1s.

TELEPHONE SERVICE RATES.

A reply of the Postmaster-General as to the telephone service rates will be reported to the Representative Body for its information.

PUBLIC HEALTH COMMITTEE.

ADVERTISEMENTS FOR TUBERCULOSIS OFFICERS.

It is recommended to the Representative Body that the Model Scheme for the Treatment of Tuberculosis, when adopted by the Representative Body, be circulated to Municipal Councils, Insurance Committees, and other bodies which it may concern with a view to obtaining their co-operation.

DEPUTATION TO MEMBERS OF THE GOVERNMENT ON SECURITY OF TENURE AND SUPERANNUATION FOR MEDICAL OFFICERS OF HEALTH.

The best thanks of the Council were given to Sir Philip Magnus, M.P., and Dr. Addison, M.P., for their services in securing the reception of the recent deputation on the security of tenure of medical officers of health by the Chancellor of the Exchequer, the President of the Local Government Board, and the President of the Board of Education, and also to those members of Parliament who showed their sympathy by attending.

HOSPITALS COMMITTEE.

WORKMEN'S MEDICAL AID ASSOCIATIONS AND MEMBERS OF STAFFS OF VOLUNTARY HOSPITALS.

It was decided that the support of the Association be given to any action tending to prevent the spread of medical aid institutes which may be taken by any Branch or Division with the consent of the Council of the Association.

NAVAL AND MILITARY COMMITTEE.

RESIGNATION OF A MEMBER FROM THE COMMITTEE.

Owing to illness Colonel H. J. Waller Barrow has had to resign his seat on the Committee. In his stead it is recommended that Colonel R. I. D. Hackett, A.M.S. (ret.), be appointed.

THE SHORTAGE OF MEDICAL OFFICERS IN THE ROYAL NAVY.

A report on the shortage of medical officers in the Royal Navy was approved, and a copy ordered to be forwarded to the Admiralty with an intimation that it was proposed to publish the report in the BRITISH MEDICAL JOURNAL. The report has also been printed in pamphlet form for circulation to the deans of medical schools for distribution (i) to intending candidates for entry into the Royal Navy Medical Service and (ii) in the libraries and reading-rooms of the various medical schools.

INSURANCE ACT COMMITTEE.

RETURNED MEDICAL CARDS.

The Representative Body is recommended: (i) That it is no part of the duty of a panel practitioner to correct and keep up to date the list of addresses of insured persons.

(ii) That a medical practitioner should be entitled to charge private fees to those insured persons demanding treatment of him but who fail to produce their medical cards, in view of the instruction of the various Insurance Commissioners to Insurance Committees than when the medical card system is in full operation a practitioner would be entitled, on giving treatment, to require insured persons on his list to present their medical cards, should such a course appear necessary.

RELATION OF BRITISH MEDICAL ASSOCIATION TO PROPOSED FEDERATION OF LOCAL MEDICAL AND PANEL COMMITTEES.

It is recommended to the Representative Body that in the event of the proposed Federation of Local Medical and Panel Committees being formed, it be granted adequate representation on the Insurance Act Committee of the British Medical Association, and that the decision as to the exact amount of such representation be deferred until the policy of the Federation has been confirmed by the Local Medical and Panel Committees concerned. Further, that the necessary amendments be made in the Regulations of the Association to allow of two direct representatives being nominated by the proposed Federation of Local Medical and Panel Committees for election by the Representative Body on the Council of the British Medical Association, such representatives to be members of the Association.

Provided that other arrangements for co-operation are satisfactory, the work of the proposed Federation and Association will be carried out by the same staff on the premises of the Association; and that, subject to payment by the Federation on an agreed tariff, the Association will

place the following facilities at the disposal of the proposed Federation :

(i.) Office accommodation.
(ii.) Clerical assistance.
(iii.) Printing, etc.
(iv.) Space in the Supplement to British Medical Journal for reporting the proceedings of the Federation and its Branches.

Co-operation will be encouraged between the Scottish, Irish, and Welsh Executive Committees of the proposed Federation and any separate Committees set up by the Association in those countries.

If the above proposals are accepted by both the Association and the proposed Federation, the Federation shall not take action independent of the Association in any negotiations with lay bodies.

The whole of the foregoing decisions are provisional only, dependent upon whether the Representative Body is satisfied with the constitution, powers, objects, etc., of the proposed Federation.

Appointment of and Reference to Insurance Act Committee.

It was decided that the Representative Body be recommended to appoint an Insurance Act Committee for the forthcoming session, 1914–15, and that the present Committee be empowered to report direct to the Representative Body as to the constitution and reference of the Insurance Act Committee for 1914–15, after consideration of the constitution, powers, objects, etc., of the proposed Federation of Local Medical and Panel Committees, and having regard to any proposed co-operation between the Association and the Federation.

NON-PANEL COMMITTEE.

Consultants Employed for Purposes of Insurance Acts.

The Representative Body is recommended to define that the policy of the Association should be opposed (with some possible special exceptions) to whole-time consultative appointments in connexion with the Insurance Acts, and that it should be in support of the performance of such duties being open, under conditions of free choice and adequate remuneration, to all registered medical practitioners qualified to perform them.

SUPPLEMENTARY REPORT OF COUNCIL.

The Supplementary Report of the Council was approved, and was published in the Supplement of June 27th, p. 474.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

BIRMINGHAM BRANCH.

The annual meeting of the Birmingham Branch was held at the Medical Institute on June 18th, when Mr. Haslam (the retiring Chairman), Dr. Purslow (the Chairman-elect), and twenty-two other members were present.

Election of Officers.—The following officers were duly elected :

President-elect : Dr. J. Orton (Coventry).
Honorary Treasurer : Mr. J. Furneaux Jordan.
Honorary Secretaries : Dr. Smallwood Savage and Mr. Seymour Barling.

Annual Reports.—The following reports were approved: Report of the Council, with the balance sheet; report of the representative (Mr. A. Lucas) on the Central Council; report of the Ethical Committee; and report of the Pathological and Clinical Section.

Presidential Address.—Dr. Purslow (President) delivered his inaugural address on "The Diagnosis and Treatment of Miscarriage."

GLASGOW AND WEST OF SCOTLAND BRANCH:

Glasgow North-Western Division.

Annual Meeting.—Presentation to Dr. Caskie.

The annual meeting was held on June 25th, when Dr. A. T. Campbell presided, and eleven other members were present.

Midwives Bill.—In accordance with the suggestions of the Scottish Committee of the Association, it was agreed to support the Midwives Bill introduced into the House of Lords by Lord Balfour of Burleigh, and that the members of Parliament representing the area of the Division should be informed of this decision and asked to give it their active support in Parliament.

Election of Officers.—The following office-bearers were elected for the ensuing year :

Chairman : Dr. John Lindsay.
Vice-Chairman : Dr. James Todd.
Honorary Secretary and Treasurer : Dr. Edward J. Primrose.
Representative to Representative Meetings : Dr. A. T. Campbell.
Representatives to Branch Council : Drs. Morton, Primrose, and Inglis.
Executive Committee : Drs. Baird, Snodgrass, Graham, A. G. Hay, D. J. Mackintosh, M.V.O., Caskie, J. G. Gray, and W. A. Stuart.

Induction of Chairman.—The Chairman then introduced his successor, Dr. Lindsay, and mutual expressions of appreciation and thanks were made and received.

Annual Report of Central Council.—The annual report of the Council was then discussed. In regard to the question of a special fund, the recommendations A, B, C, D, and E (p. 320 of the Supplement of May 2nd, 1914) were, after discussion, adopted, on the motion of Dr. Caskie, with the proviso that the liability of the guarantors to the Defence Fund ceased. It was also agreed that the Fund should be in the form of a trust, and, as moved by Mr. Whitehouse, that the whole matter should be subject to the suggestions in Sub-appendix III of Appendix X, and referred back to the Divisions for thorough discussion by the profession.

Insurance Acts.—Answers to the questions in the schedule of the Future Developments of the Insurance Acts Committee were filled in. The Representative to the Representative Meeting was instructed according to these findings, and was directed in voting upon other matters to use his own discretion.

Presentation to Dr. Caskie.—A very interesting ceremony took place before the official business part of the meeting. Dr. John Lindsay, speaking on behalf of the profession, referred to the work Dr. Caskie had done as Honorary Secretary to the Division for the past four years, especially during the time when the Insurance Act was under discussion in Parliament. Dr. Caskie had ungrudgingly accepted the extra burden, and had performed his task well and faithfully. The profession was under a deep sense of its indebtedness to him, and he called upon the Chairman to make the presentation which marked the recognition of this. Dr. Campbell read the illuminated address inscribed on vellum, and presented it with a cheque to Dr. Caskie, who, in a few chosen words, thanked the subscribers for their kindness and appreciation of his services.

LANCASHIRE AND CHESHIRE BRANCH:

Burnley Division.

The annual meeting of the Division was held in the Bull Hotel on June 26th, when Dr. Scott was in the chair.

Election of Officers.—The following officers were elected for the ensuing year :

Chairman : Dr. A. E. Bird.
Vice-Chairman : Dr. T. M. Scott.
Honorary Secretary and Treasurer : Dr. W. J. Purves.
Representative for Representative Meetings : Dr. H. J. Robinson (re-elected).
Representative on Branch Council : Dr. Jas. M. Ferguson (re-elected).
Executive Committee : Drs. Chas. A. Anderson, S. T. Biggs, A. Callam, F. E. Crossley, W. Crabtree (Nelson), T. G. Crump, J. Gardner, A. C. Glashan, J. J. Harty (Colne), A. Heys, H. Holden, J. Hoyle, J. A. Mackenzie, F. W. Marsden, G. S. Pullen, R. C. Rodgers.

Annual Report of Division.—The report of the committee was adopted. It stated that there was a slight drop in the membership—from between 100 and 90 to between 80 and 90. This was to be expected after the passing of the Insurance Act. There had been five meetings of the Division, with good average attendances, 17 committee meetings, with excellent attendances (average about 14), as well as several subcommittee meetings and deputations. Several Association matters had been dealt with, and much discussion took place with regard to such matters as raising the subscription to the Association to £2 2s. per annum, and the raising of a fund for the development

of the organization and protection of the medical profession. Much work had also been done regarding the Insurance Act, over-certification, etc. The dispute with the Poor Law Guardians has occasioned a great amount of work. The Division was still trying to bring about a settlement with the guardians; several letters had been sent to them and to the Local Government Board, and the committee had held three deputations with the guardians, two under the chairmanship of the Local Government Board inspector. The guardians made offers to each of the nine Poor Law medical officers, but the latter most loyally replied that the matter rested with the Division of the British Medical Association, and each instructed the committee to refuse the offer for them. This was splendid loyalty to the Division and to themselves, and would go a long way towards obtaining a satisfactory settlement, and, as last year, the committee trust and rely on the written pledge of the members of the profession to uphold the late district medical officers and public vaccinators, and support them and the profession as a whole against under-payment and sweating of their services.

Votes of Thanks.—Hearty votes of thanks were accorded to the committee, to Dr. Scott for his able and untiring work as president; to the Representatives, Drs. Robinson and Ferguson, for their valuable and able work; and to Dr. Bird, late honorary secretary and treasurer, for his efficient work rendered to the Division.

LEINSTER BRANCH:

EAST LEINSTER DIVISION.

THE annual general meeting of the East Leinster Division was held in the Royal College of Physicians, Dublin, on June 23rd.

Election of Officers.—The following were appointed officers for the ensuing year:

Chairman: Dr. R. L. Heard.
Vice-Chairman: Dr. W. F. Law.
Honorary Secretary and Treasurer: Dr. Peacocke (Blackrock).
Representative: Colonel Johnston.
Deputy Representative: Dr. Peacocke.
Representatives on Branch Council: Drs. Dampier-Bennett, Good, Johnston, Law, and Peacocke.
Executive Committee: The officers and Drs. Dampier-Bennett, Dawson, Furlong, Good, Hatch, Groves, Lynn, Usher, and Professor White (*ex officio*).

METROPOLITAN COUNTIES BRANCH:

EAST HERTFORDSHIRE DIVISION.

THE annual meeting of the East Hertfordshire Division was held at the North Herts and South Beds Hospital, Hitchin, on June 18th. Dr. J. H. GILBERTSON was in the chair, and eleven members were present.

Election of Officers.—The following officers were elected:

Chairman: Dr. Clark (Cheshunt).
Vice-Chairman: Dr. Sturge (Hoddesdon).
Secretary and Treasurer: Dr. Ledward (Letchworth).
Assistant Secretary: Dr. de Vine (Stevenage).
Representative on Branch Council: Dr. Charles (Hitchin).
Executive Committee: Drs. Addison, Boyd, Brittain, Dockray, Fell, Wells, and Windsor.
Representative for Representative Meeting: Dr. J. H. Gilbertson (Hitchin).
Deputy Representative: Dr. H. D. Ledward (Letchworth).

Honorary Secretary's Annual Report.—The report of the Division for the year 1913–1914 stated that the membership now stood at 52, a decrease of 7 during the year. Five meetings had been held during the year, at two of which scientific papers were read, the average attendance being fifteen. The financial statement showed a balance in hand of £4 17s. 1d. On the motion of Dr. BOYD, seconded by Dr. BINNING, the report was adopted.

Insurance Acts: Reports from Future Developments Committee.—The report in reference to future development of Insurance Acts was considered and answers given to most of the questions asked. One or two questions were left unanswered owing to time not being available for adequate discussion.

Medical Representative on Insurance Committee.—It was resolved to nominate Dr. A. J. Boyd as the Representative of the East Hertfordshire area on the County Insurance Committee, and to discourage any other nomination.

Vote of Thanks.—The meeting terminated with a very hearty vote of thanks to the retiring chairman, Dr. J. H. Gilbertson, proposed by Dr. MACFADYEN and seconded by Dr. WELLS.

Garden Party.—Members of the Division and ladies were afterwards entertained by Dr. and Mrs. Gilbertson.

GREENWICH AND DEPTFORD DIVISION.

THE annual general meeting of this Division was held on June 24th.

The late Dr. Keay.—The Chairman, Dr. R. D. MUIR, before entering on the business of the meeting, proposed a vote of sympathy with Mrs. Keay, on the recent death of Dr. J. H. Keay, and suggested that an expression of the appreciation of the Division of the self-sacrificing labours of Dr. Keay on behalf of the profession should be entered on the minutes. Dr. R. CORFE seconded the motion, which was carried unanimously.

Annual Representative Meeting.—The Rev. Dr. S. D. Bhabha was elected Representative for the Representative Meeting, and was instructed to vote against the motions of the Plymouth, Altrincham, and St. Pancras and Islington Divisions (as regards National Insurance Act), and in favour of the motion of the St. Pancras and Islington Division as regards treatment of tuberculosis.

ST. PANCRAS AND ISLINGTON DIVISION.

A MEETING of the St. Pancras and Islington Division was held in the Midland Grand Hotel, King's Cross, on June 19th.

Annual Report of Division.—The Honorary Secretary and Treasurer, Dr. J. WILSON, presented the annual report drawing special attention to the large number of resignations of membership during the past year, the number now being 152 as compared with 210 at the end of December, 1913.

Election of Officers.—The following officers were elected for the ensuing year:

Chairman: Dr. A. R. Roche.
Honorary Secretary and Treasurer: Dr. Norman Glaister.
Representatives to Branch Council: Dr. A. Alexander and Dr. O. A. Wickham.
Executive Committee: Drs. A. Brown, Crabb, Glinn, Goodchild, Maughan, Rattray, S. Rowntree, Turner, Wilson, Wylie.

Representation on Islington School Treatment Centre.—The meeting considered the question of procedure of election of Managing Committee for Islington School Treatment Centre, and on the motion of the Chairman (Dr. RATTRAY), seconded by Dr. J. WILSON, it was resolved *nemine contradicente*:

> That the five local practitioners who constitute the committee shall be elected by the members of the profession residing and practising in the borough of Islington, London County Council electoral area, by nominating and voting at a meeting called for the purpose, and that the said committee shall elect its own chairman, honorary secretary, and honorary treasurer.

Insurance Act.—With reference to schedule of questions *re* future developments of the Insurance Acts (SUPPLEMENT of June 13th, p. 436) it was unanimously agreed that the time before the meeting was too short to adequately consider a series of questions of such complexity and scope.

Vote of Thanks.—A vote of thanks to the retiring Chairman, Dr. Rattray, and the Honorary Secretary and Treasurer, Dr. J. Wilson, was proposed by Dr. GLAISTER and seconded by Dr. BEATON. Both Dr. BEATON and Dr. RATTRAY made very kindly reference to the work which had been undertaken and carried out by the Honorary Secretary, Dr. Wilson, during his and their term of office, at a time when the secretarial work of the Division was of the most arduous and onerous nature. Dr. RATTRAY in his reply thanked the Division, and the Executive Committee in particular, for their kindness, sympathy, and support during his term of office. The Honorary Secretary and Treasurer, Dr. WILSON, having made a suitable reply, the business of the meeting was brought to a close.

SOUTH-WEST ESSEX DIVISION.

A MEETING of the South-West Essex Division was held on June 25th in the Wesleyan Schoolroom, Leyton, when Dr. POTTINGER ELDRED presided.

Insurance Act.—The schedule of questions on future developments of Insurance Acts were considered, and the following were the decisions reached:

1. Provision of Institutional Treatment.—(*a*) No. (*b*) Yes, in favour of Government supplying fund. (*c*) No. (*d*) Yes.
2. Excessive Claims for Sickness.—(*a*) Yes. (*b*) There are other causes, chief of which is easy access to doctor without paying a special fee. (*c*) Yes. (*d*) No check possible.
3. Proposed New Services.—(*a*) Yes, most decidedly. (*b*) Division would like a new authority created. (2) Details as to Services.—(*a*) Division makes no fresh suggestions. (*b*) Yes, certainly.

Nursing.—(*a*) Yes. (*b*) Yes.

Referee-Consultants.—The Division agrees with the suggestions.

Treatment Centres.—The Division agreed with suggestions.

One member suggested that at hospitals formed by the Government arrangements should be made for the treatment of middle-class patients at a small fee for attendance and operations. It was, however, thought that, although the middle classes are always neglected, still no Government would consent to anything which recognized a difference between classes, and therefore, after some discussion, the matter was dropped.

MIDLAND BRANCH:
Holland Division.

A meeting of the Holland Division was held at the White Hart Hotel, Boston, on June 26th, when Dr. Pilcher presided, and six other members were present.

Joint Meeting of Divisions.—On the motion of Dr. Mason, seconded by Dr. Rendall, it was resolved that the joint meeting of the Holland and Kesteven Divisions for the purpose of instructing the Representative be held at the Carre Arms Hotel, Sleaford, on July 19th.

Insurance Act.—The memorandum regarding future developments of the Insurance Acts was considered and the questions appended thereto answered.

Financial Statement.—The financial statement showed a balance in hand of about £8.

MUNSTER BRANCH.

The annual general meeting of the Munster Branch was held on June 20th, when Dr. W. Donovan (Queenstown) was in the chair. Reports were read regarding developments in the medical service of the Insurance Acts and on the distribution of funds of Divisions and Branches. A list of constituencies for election of Representative Body was considered.

Election of Officers.—The following were elected;

President: Dr. M'Call (Crosshaven).
Vice-President: Dr. W. Donovan (Queenstown).
Retiring President: Dr. J. Reid (Bandon).
Member of Central Council: Professor H. Corby.
Representative to Representative Meeting: Dr. McFettridge.
Representative to Irish Committee: Dr. J. Giusani.
Branch Council: Drs. H. R. Townsend, Lucy Smith, O. McCarthy, P. T. O'Sullivan, D. J. O'Connor, E. Murphy, J. T. O'Connor, C. Yelverton Pearson, W. Ashley Cummins, A. S. Nance (Bantry), R. Foott (Monkstown), J. Devane (Limerick).
Honorary Secretary: Dr. Philip G. Lee (10, St. Patrick's Hill, Cork).
Ethical Committee of the Branch: Dr. W. Donovan, Dr. D. J. O'Connor, Dr. Philip G. Lee.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.

The annual meeting of the Branch was held at Lancaster on June 24th. Dr. Barling succeeded Dr. Daniel as president.

Election of Officers.—The officers of the Branch for the year are:

President: Dr. A. S. Barling.
President-elect: Dr. G. A. Johnston.
Vice-President: Dr. G. Parsons.
Treasurer: Dr. W. D. Barrow.
Secretary: Dr. J. Livingston.

The members present were entertained at tea by the President.

OXFORD AND READING BRANCH:
Reading Division.

The annual meeting of the Reading Division was held in the Royal Berkshire Hospital on June 25th, when Dr. Abram was in the chair, and nineteen other members were present.

Election of Officers.—The following officers were elected for the ensuing year:

Chairman: Dr. Napier Jones.
Vice-Chairman: Dr. Guilding.
Representative: Dr. Holden.
Deputy Representative: Dr. Napier Jones.
Executive Committee: Two new town members of the Executive Committee—Drs. Abram and Clowes—were then elected in place of Drs. Guilding and Holden. The remaining town and county members of the Executive Committee were re-elected *en bloc*.
Ethical Committee: The Executive Committee.
Honorary Secretary: Dr. Lambert (re-elected).

Vote of Thanks to Dr. Napier Jones.—The meeting had previously accepted the resignation of Dr. Napier Jones from the office of Representative with great regret, and on the motion of Dr. Abram, seconded by Dr. Bokenham, a hearty vote of thanks was accorded to him. Dr. Abram pointed out that he had been an ideal Representative, hard working and outspoken, and that many of the recent resolutions passed at the Representative Meetings had originated in his brain. He had, in fact, overworked himself on behalf of the Division. Dr. Napier Jones acknowledged the vote of thanks, referring to the genuine pleasure which he had derived from the Representative Meetings and from the knowledge that he had been so well supported by the Division. The Division had always sent him to the meetings with clear mandates, with which he found himself in entire sympathy. In seconding the election of Dr. Holden as Representative, he pointed out that the Division would be electing a member whose ability and presence would entitle his opinions to respect and consideration. The profession was passing through a critical time, and the Division needed an able Representative. The election of Dr. Holden would supply the need.

Future Developments of the Insurance Acts.—The meeting then discussed the questions sent out by the British Medical Association with a view to enabling the Future Developments of the Insurance Acts Committee to lay before the Representative Meeting a report on the views of the members of the Association, as to the lines on which future changes in organization of medical service under the Insurance Act should proceed. Answers to the questions were agreed to. During the discussion, the following suggestions and opinions were expressed:

Hospital Accommodation.—Dr. Bokenham felt that the accommodation for in-patients at the Royal Berkshire Hospital was very inadequate for the population in the area of the Division. Dr. Abram suggested that the lack of accommodation affected surgical rather than medical cases. Dr. Susmann endorsed Dr. Bokenham's view. He found that surgical cases were sometimes kept waiting weeks for admission, and that owing to the pressure on beds certain surgical cases were discharged at too early a date after operation.

Loans from the Government to Hospitals for Building.—Dr. Abram pointed out the danger of increased control over hospitals by the Government which such loans would involve. Dr. Hope thought the question was one to be settled not by the Divisions but by the Government and hospital authorities. Dr. Roalfe-Cox suggested that the proposal referred not solely to existing hospitals, but to the building of new cottage and other hospitals.

Dr. Rowland proposed and Dr. Hope seconded:

> That the reply to this question shall be to the effect that the matter is one for the Government and boards of management of hospitals to settle.

This motion was withdrawn in favour of the following, proposed by Dr. Napier Jones and seconded by Dr. Coleman:

> That the matter needs most careful consideration before any change in existing arrangements is made.

This resolution was passed, after an amendment that the reply be simply "Yes" had been put to the vote and lost.

Payment of Honorary Medical Staffs of Hospitals for Treating Insured Persons.—Opinions on this question were divided. After some discussion it was, on the motion of Dr. NAPIER JONES, seconded by Dr. HOLDEN, resolved:

That the reply to the question be in the affirmative.

The addition of the words "but that no payment be made to members of honorary medical staffs" was not sanctioned by the meeting. The addition was proposed by Dr. ABRAM and seconded by Dr. LAMBERT, their suggestion being that any moneys received for treatment of insured persons should be taken by the hospitals.

Causes of Excessive Sickness and Medical Benefit Claims by Insured Persons.—Several members spoke on this question. Some thought that a good deal of illness had been untreated before the Insurance Act came into operation, notably cases of anaemia in factory girls. Others thought that the appointment of referees would considerably reduce the number of claims. One member pointed out that the fact that no sick benefit was granted during the first three days induced insured persons to remain on the funds for at least ten days. Another member stated that certain people were over-insured, paying to clubs as well as to the State, and that they found it advantageous to be ill.

Frequency with which Insured Persons consult Doctors.—The general opinion of the meeting seemed to be that doctors were not consulted unnecessarily; that no check should be suggested to consultations with doctors; that it was the best policy to encourage insured persons to seek advice early. Replies were returned in accordance with these views.

Provision of a Nursing Service.—It was decided that the provision of a nursing service was desirable, but that the State registration of nurses was most important.

Clinical Laboratories.—Dr. ABRAM thought that clinical laboratories should be connected with hospitals, when well equipped pathological departments were available in the hospitals of any area. Dr. DONALDSON expressed the opinion that, even in the vicinity of universities, hospitals should undertake the clinical work. In this way university professors would be allowed time for research work. Moreover, hospital pathologists had to depend for their incomes not only on the salary received from the hospital, but also on fees received for pathological work in private practice.

Appointment of Referees and Consultants.—Dr. SUSMANN believed that there was a distinct need for referees and consultants, but that in certain districts they should not be whole-time officers, the amount of work being insufficient. Other members held the view that whole-time officers were more likely to form unbiassed opinions than part-time officers. Dr. DICKSON (Hungerford) regretted that the Division had passed the resolution fixing a guinea as the minimum fee for a referee's opinion on an insured person. Before that decision he and his colleague at Hungerford had examined cases for one another at a fee of 5s. when the approved societies asked for a second opinion. The approved societies declined to pay the guinea fee, and no consultations now occurred.

Offer of an Approved Society to appoint a Referee.—Dr. THOMPSON (Newbury) reported that the Domestic Servants' Association had offered to appoint him their referee, fixing the fee for each examination at 10s. 6d. He had declined the offer, and the approved society in question had then written pointing out that the fee fixed by the British Medical Association was 10s. 6d., and asking him to read the letter at a meeting of the Reading Division. The letter stated that other approved societies had found medical men willing to act as referees for a fee of 10s. 6d. Dr. NAPIER JONES drew attention to two facts:—(1) That the British Medical Association fixed the *minimum* fee at 10s. 6d., and Divisions were entitled to agree upon a higher fee. (2) That the appointment of referees by approved societies at a fee of 10s. 6d., mentioned in the letter, had not been made by the British Medical Association.

Votes of Thanks to retiring Chairman.—In proposing a vote of thanks to Dr. Abram for his services as Chairman of the Division during the past year, Dr. SUSMANN referred to the valuable work he had done and to the judgement and discretion which he had shown in fulfilling his duties. The motion having been seconded by Dr. NAPIER JONES, was passed unanimously. Speaking in acknowledgement, Dr. ABRAM expressed the pleasure which he had always derived from working with his medical colleagues for their common welfare.

Minor Operations at the Hospital.—Dr. BOKENHAM said that a considerable number of minor operations, such as circumcision and removal of adenoids, were performed at the Royal Berkshire Hospital by the resident medical officers. These operations could be performed by general practitioners in the patients' homes, and in many cases the patients were well able to afford to pay a small fee for them. In other cases the parish authorities would be willing to pay the parish medical officer's fees for the operations.

SOUTH-WESTERN BRANCH.

THE seventy-fifth annual meeting of the South-Western Branch was held on June 23rd at the Royal Hotel, Plymouth. The retiring President, Mr. G. YOUNG EALES (Torquay), took the chair at the opening of the meeting, when there were forty other members present.

Annual Report.—The annual report showed that the membership on April 30th was 479, as compared with 504 in the previous year. This was considered satisfactory in view of the great increase in membership during the Insurance Act campaign and the recent increase in subscription to two guineas. The report enumerated the matters which had chiefly occupied the attention of the Branch during the year. With regard to the relation of Divisions and Branches to Local Medical Committees, it was pointed out that this question had been complicated by the formation of Panel Committees. The enlargement of the powers of Branch Councils—a subject dealt with in the annual report of the Central Council, the recommendations of which would come before the Annual Representative Meeting—was also dealt with. On the question of midwifery fees, it was stated that this matter had now become of comparatively small importance, since the amendment of the Insurance Act placed the midwifery benefit at the disposal of the parturient woman, and this had considerably reduced the difficulty of providing for the remuneration of medical men when called in. The question of the necessity of arranging terms for the future treatment of uninsured persons upon the expiration of contracts had also received attention. It was stated that the Branch Council had determined that it was advisable to bring about an amalgamation of Divisions for special purposes corresponding to the area of the administrative county of Devon. The matter would come before the Annual Representative Meeting at Aberdeen, and probably it would be found best to establish joint committees rather than to seek amalgamation. The appointment of Dr. Frank Roper as Assistant Branch Secretary had greatly helped the secretarial work of the Branch. The financial statement for the year showed a balance in hand of £16 12s. 8d.

Election of Officers.—The report was adopted on the motion of the PRESIDENT, seconded by Dr. NOY SCOTT. The next annual meeting of the Branch will be held at Exeter and Mr. John M. Ackland was appointed President-elect. The Honorary Secretary (Dr. Russell Coombe) and the Assistant Honorary Secretary (Dr. Roper) were re-elected.

Induction of President.—Mr. EALES then gave way to Mr. Woollcombe, the President-elect, remarking that Mr. Woollcombe was known as one of the leading surgeons of the South-West, and one eminently fitted to conduct the meeting of the Branch.

Vote of Thanks.—Mr. ACKLAND proposed a vote of thanks to the retiring President, and that Mr. Eales's name be added to the list of Vice-Presidents. Mr. EALES, in reply, said he had been keenly interested in the affairs of the Branch all his professional life. He had held the office of Secretary five years, and had been their representative on the Central Council of the Association. He had had a quiet year of office as President, and he believed Mr. Woollcombe would have a quiet year, but he anticipated that after the next twelve months their trouble with the Government would begin again.

Early Recognition of Cancer.—The President, Mr. W. L. WOOLLCOMBE, then delivered an address on the responsibility of the medical profession to the municipal authorities, and through them to the public in regard to the earlier recognition of the more common forms of cancer. All

medical men did what they could by advice to individual patients, but that was too often the shutting the door after the horse had been stolen. What was wanted was organized, combined, and sustained effort. Every medical man had found himself many times face to face with the tragic and humiliating experience of being consulted by a patient for what was thought to be a trifling complaint, only to find a condition of helpless malignancy. Why was it that a disease which above all others was so marked that it was almost impossible to mistake the significance of its early manifestations in most of its common forms, should yet be the very one to which the public paid no attention? There were two reasons. First, it was a widespread and firmly-held popular dictum that cancer was incurable; secondly, the picture which the average person formed of a cancer case was that of a wretched, emaciated, cachectic creature, racked with pains, and probably suffering from an offensive discharge; consequently no significance was attached to any symptoms short of these. Medicine had for years been in possession of positive knowledge that cancer was local in origin. For an appreciable time it was amenable to cure by removal, if it occurred in a position where removal could be carried out with sufficient freedom, and in the great majority of cases it did occur in such situations. Statistics showed that in women 80 per cent. of all cancers occurred in the breast and organs of generation. In men a similar percentage occurred in the lips, tongue and alimentary tract, and, with a comparatively unimportant exception, these were all within reach of free removal, though not all so easy of early recognition. All were agreed that for early cases there was nothing at present to take the place of thorough removal by the knife. In setting about the task of painting a new picture of the early and curable cancer case, the medical profession must at first confine itself to certain common types which had well-marked symptoms and work out a series of dogmatic, clearly-defined axioms, easy to understand, and free from uncertainty. For instance, any lump, however small, occurring in the breast of a woman over 40 was serious, and should be shown to a doctor at once. It was more than likely cancer; any uterine bleeding after the menopause demanded instant skilled advice. It almost always meant cancer. Any pimple or sore on the lip or tongue of a man over 40 was probably cancer, but curable if shown at once, and rectal bleeding in a patient over 40, even if quite slight, was serious, and should be reported to a doctor. These examples could be multiplied with ease. In the endeavour to put the public in possession of the knowledge it itself possessed, the medical profession must work through the municipal councils, whose health committees had the power to initiate the necessary measures. All teaching on the subject must be simple, dogmatic, and concise. A start had been made in a few places. At Portsmouth Mr. Childe had been very active in preaching these doctrines, with distinctly noticeable effect, but the only national effort so far was that of the Central Midwives Board, which had issued a leaflet to all midwives concerning uterine cancer. Members of the medical profession should get some members of the Municipal Council to introduce the subject, and have it referred to a committee, with instructions to report, perhaps, with the help of the Division of the British Medical Association. Other measures suggested were: (1) The calling of meetings to which district nurses, midwives, district visitors, and other ladies interested in charitable work and visiting among the poor—perhaps even the clergy themselves—should be invited. (2) The publication in the press, at intervals, say, of a month, of a notice emphasizing a few simple and definite points to assist people in the early recognition of cancer. (3) The provision of facilities for the examination of suspected material from cancer cases amongst the poor. (4) The bringing of pressure to bear on the Local Government Board to make cancer a notifiable disease. This would probably do some good, but the scheme would work quite well without it. After the thanks of the meeting had been conveyed to the President, he proposed the following resolution, which was seconded by Mr. Russell Coombe, and carried unanimously:

> That this meeting of the South-Western Branch of the British Medical Association wishes earnestly to call the attention of public health authorities to the high death-rate from cancer, and to the appalling state of ignorance that exists in the minds of the public with regard to its early symptoms; and to urge them, as guardians of the public health, to instruct their health committees to consider and report what steps should be taken to remedy this state of things; also to offer the services of the council of the South-Western Branch of the British Medical Association in drawing up a report should such services be required.

Medical Benevolent Association.—Before the commencement of the meeting, the Honorary Secretary called attention to the Devon and Exeter Medical Benevolent Association, and urged all medical men practising in Devonshire to join it. The association had £3,000 invested, and a subscription list of £80 a year. It had money for the purpose, but was unable to do anything for medical men or their widows unless they were members.

Excursion.—In the afternoon excursions were made to Bantham, where the company were entertained by Dr. Fox; to the Batten golf links, and to Devonport Dockyard.

Presentation to Dr. Donbavand.—After the annual dinner in the evening the members gathered in the Palm Court of the Royal Hotel, where the President made a presentation on their behalf to Dr. Edgar J. Donbavand in recognition of his work as honorary secretary of the Branch. The presentation took the form of a piece of plate, a cheque, and a roll of the subscribers, numbering more than ninety. Mr. R. Jacques paid eloquent tribute to the services of Dr. Donbavand, which had been particularly arduous and valuable during the last two or three years. Dr. Donbavand returned thanks.

STAFFORDSHIRE BRANCH:

Mid-Staffordshire Division.

The twelfth annual general meeting of the Mid-Staffordshire Division was held on June 23rd at the Trent Valley Hotel, Lichfield. The chairman, Dr. F. M. Rowland, and eighteen other members were present.

Election of Officers.—The following officers were elected for the ensuing year:

Chairman: Dr. F. M. Rowland.
Vice-Chairman: Dr. A. E. Hodder.
Honorary Secretary: Dr. T. D. Stuart Shaw.
Executive Committee: Drs. Rowland, Hodder, Lowe, Stack, G. Reid, Clendinnen, C. J. Armson, J. N. Cookson, Dixon, Freer, Gettings, and Stuart Shaw.
Representative at Annual Representative Meeting: Dr. W. M. Clendinnen.
Representatives on Branch Council: Drs. W. G. Lowe, G. Reid, and Stack.

Special Fund.—Matters referred to Divisions were considered at length. With regard to the question of the Special Fund a postal vote had been taken, but the result was so indecisive that the Representative was instructed to use his own discretion as to voting, the Division, however, expressing the definite opinion that a trade union would be preferable to a trust, but only in the event of the Special Fund being supported by a large majority of the profession.

Supersession.—Dr. Rowland then proposed, and it was unanimously resolved, that the following become a rule of the Division:

> That in the opinion of this Division it is always desirable that a doctor before accepting a patient during an illness should satisfy himself that the superseded practitioner has been notified.

WEST SOMERSET BRANCH.

The seventy-second annual meeting of the West Somerset Branch was held at Bridgwater on June 26th. In the unavoidable absence of Mr. Penrose Williams, the chair was taken by Dr. Balfour Stewart, Past-President, and twenty-two other members were present.

Annual Report.—The annual report and balance sheet for 1913 were adopted.

Election of Officers.—The following officers were elected:

President-elect: Dr. A. E. Joscelyne (Taunton).
To Fill the Vacancies on the Council: Drs. Alcock and Murphy.
Honorary Secretary and Treasurer: Mr. Chas. Farrant (re-elected).
Ethical Committee of the Branch: The Council of the Branch.

Vote of Thanks.—A hearty vote of thanks was accorded to Mr. Farrant for the energetic way in which he had carried out the duties of Honorary Secretary and Treasurer to the Branch during the past year.

Future Developments of the Insurance Acts.—The question as to the future developments of the Insurance Acts was referred to the Council to answer.

Dr. W. C. G. COLLINS (Cannington), the new President, then took the chair.

Address by Dr. J. A. Macdonald.—Dr. J. A. MACDONALD then delivered the address which is published in this issue of the JOURNAL (p. 1). Dr. Macdonald was heartily thanked at the conclusion of his address.

Luncheon.—An adjournment was made for luncheon, at which twenty-two sat down.

Visit to Cannington.—After luncheon Dr. Collins invited the members to Cannington, where a very enjoyable afternoon was spent. Some played tennis, and others watched a boxing and gymnastic display by the boys of the Cannington Industrial School. It was late before the party broke up, everybody feeling that it had been a very successful meeting.

YORKSHIRE BRANCH:

BARNSLEY DIVISION.

A MEETING of the Barnsley Division was held on June 27th.

Vote of Condolence.—The Honorary Secretary was requested to write to Mrs. Thompson, the widow of Dr. Andrew Thompson of Dodsworth, expressing the sympathy of the Division with her in her sad bereavement.

Election of Officers.—The following officers were elected:

Chairman: Dr. Castle.
Vice-Chairman: Dr. Townsley.
Honorary Secretary: Dr. H. F. Horne.
Representative: Dr. Castle.
Representatives on Branch Council: Drs. Burman and F. J. Sadler.
Executive Committee: Drs. Goodman, Wallis, White, Allott, Harvey, and Johnson.

Future Developments of the Insurance Acts.—The memorandum received from the Medical Secretary, Form D31 A, was carefully considered and answered.

HUDDERSFIELD DIVISION.

THE annual meeting of the Huddersfield Division was held at the Huddersfield Royal Infirmary on June 19th.

Annual Report of Division.—The annual report stated that three meetings had been held during the year, with an average attendance of 11, and that the membership was now 51, a decrease of 10, due to 8 resignations and 2 deaths.

Election of Officers.—The following officers were elected for 1914–15:

Chairman: Dr. G. W. Crosland.
Vice-Chairmen: Dr. J. Irving, Dr. Braithwaite.
Honorary Secretary and Treasurer: Dr. A. L. McCully.
Representative for Representative Meetings: Dr. D. L. Cairns.
Representative on Branch Council: Dr. D. Wilson, jun.
Executive Committee: Dr. Ian Campbell, Dr. W. H. Smailes, Dr. Draper, Dr. Latimer Walker, Dr. F. Knaggs, Dr. P. Rattray, Dr. R. H. Rigby, Dr. Edward Walker, Dr. William Bell, Dr. H. Tansley.

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

THE annual meeting of this Division was held at the Clayton Hospital, Wakefield, on June 24th, when the chair was occupied by Dr. HILLMAN, and nine other members were present.

Election of Officers.—The following officers were elected:

Chairman: Dr. G. B. Hillman (Castleford).
Vice-Chairman: Dr. E. W. Selby (Doncaster).
Honorary Secretary: Dr. W. Eardley (Goole).
Representative to Representative Meetings: Dr. Hillman.
Deputy Representative: Dr. Eardley.
Treasurer: Dr. W. Steven.
Representative to Branch Council: Dr. Steven.
Executive Committee: The above officers, and the following: Drs. J. J. W. Campbell (Castlerod), W. F. Chrispin (Castleford), J. H. Battersby (Doncaster), A. Thomson (Wakefield), R. May (Wakefield), L. A. Johnson (Normanton), H. Scholefield (Normanton), J. Orford (Pontefract), E. B. Osmond (Pontefract), W. Stanger (Wakefield).

Annual Representative Meeting.—The annual report of the Central Council having been considered, it was agreed to instruct the Representative to vote in favour of the establishment of the proposed Special Fund and its protection by means of a trade union.

Eye Specialists.—The HONORARY SECRETARY reported that a meeting of the Executive Committee of the Division had been held on February 26th to consider further the question of an advertisement of the West Riding County Council, which had been refused insertion in the BRITISH MEDICAL JOURNAL. Dr. STEVEN reported that at the Branch meeting at Sheffield on March 18th it was resolved:

> That in the opinion of this meeting £350, as offered by the Education Committee of the West Riding County Council, for a whole-time eye specialist is totally inadequate to secure the services of an experienced surgeon, and that the lowest fee offered should be £500.

Model Organization Rules.—It was decided to consider the model organization rules at a meeting of the Executive Committee, and then put the question of their adoption on the agenda for next meeting of the Division.

Finance.—The Treasurer, Dr. STEVEN, reported that there was a balance at the bank of £22 10s. 6d. (exclusive of interest for the past year) on account of the fund for payment of the Representatives at the Representative Meetings. Upon the proposal of Dr. STANGER, seconded by Dr. JOHNSON, the Treasurer was authorized to pay the Representatives who attended the Representative Meetings in July and December, 1913, at the rate of £1 1s. a day.

Future Developments of Insurance Acts.—Circulars D 31 and D 31 A regarding future developments of the Insurance Acts was referred to the Executive Committee for consideration, with a view to answers being returned to the questions contained therein.

Association Notices.

Special Representative Meeting, Aberdeen.

ON the requisition of the Council, notice is hereby given under Article 31 and By-laws 36 and 73, that a Special Representative Meeting of the Association will be held on Monday, July 27th, 1914, at 12 noon, at the Marischal College, Aberdeen, for the purpose of considering the following Report and Recommendation of Council (paragraphs 211 and 212 of Supplementary Report of Council, 1913–14), and, if considered advisable, amending By-law 67 accordingly:

SCOTTISH COMMITTEE.

211. The work of the Scottish Committee is growing, and it is found increasingly difficult for the Chairman to be able to attend all the Committee meetings in Scotland and Council and Committees in London as well. The Committee consequently desires to be able to elect a Deputy Chairman as well as Chairman. By-law 67 provides that each Standing Committee shall appoint from its own number a member of Council as Chairman, in order that the Council may be able to keep in touch with each Committee. The Scottish Committee wishes to be an exception to this By-law and to be able to have a Chairman not necessarily a member of Council, but that effective co-ordination shall be maintained by insisting that one of its three officers—Chairman, Deputy Chairman, or Honorary Secretary—shall be on the Council. As the Scottish members desire the change as early as possible, the Council has arranged that a special session of the Representative Body shall be held at Aberdeen on Monday, July 27th, 1914, at 12 noon, for the purpose (only one month's notice of such an alteration of By-laws being required in the case of a Special Representative Meeting).

212. The Council recommends:

> RECOMMENDATION GG.—That the Special Representative Meeting, Aberdeen, amend existing By-law 67 of the Association, which reads as follows:
>
> 67. Each Standing Committee shall appoint from its own number a Member of Council as Chairman,
>
> to read as follows:
>
> 67. Each Standing Committee except the Scottish Committee shall appoint from its own number a Member of Council as Chairman. The Scottish Committee shall appoint from its own number a Deputy Chairman, as well as a Chairman, and either the Chairman or the Deputy Chairman or the Honorary Secretary of that Committee shall be appointed from amongst members of Council.

T. JENNER VERRALL,
Chairman of Representative Meetings.

June 24th, 1914.

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for Candidates for election of Members of Council by grouped Representatives for the year 1914–15 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting on Friday, July 24th, 1914. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

Separate forms have been prepared: (I) For Nomination by a Division (through its Representative), and (II) for Nomination by a Representative of a Constituency included in the Group, and those applying are requested to state for which purpose the form is desired.

The voting papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a Constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,
ALFRED COX,
Medical Secretary.

June 24th, 1914.

CHANGE OF BOUNDARIES.

LEIGH AND WIGAN DIVISIONS.

THE following change has been made in accordance with the Articles and By-laws of the Association, and takes effect as from the date of publication of this notice:

That the urban district of Golborne be transferred from the area of the Wigan to that of the Leigh Division.

Representation in Representative Body.—Unaffected.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—Drs. L. E. Price and D. Davidson, Honorary Secretaries, give notice that a constituency meeting of the Nuneaton and Tamworth and Coventry Divisions will be held at the Coventry Hospital on Friday, July 17th, at 4.15 p.m., to instruct the Representative.

DORSET AND WEST HANTS BRANCH.—Dr. Frank Fowler, Honorary Secretary (29, Poole Road, Bournemouth), gives notice that the summer meeting of the Dorset and West Hants Branch will be held at the Town Hall, Bridport, on Wednesday, July 8th, at 3.30 p.m. Mr. C. Edwards, Vice-President, will read a paper, "Dr. Roberts, a Bridport Worthy." Dr. H. C. Manning will open a discussion on "The Theory and Practice of Tuberculin Treatment." The Bridport practitioners very kindly invite members to luncheon at the Greyhound Hotel (1.30 to 2.30), and Mr. and Mrs. Edwards, Granville House, have kindly offered to give tea. By kind permission of the Mayor, the Municipal Archives will be on view at the Town Hall from 2.30 to 3.30. The West Dorset Golf Club kindly offer members the free use of the club at West Bay. Plans of the proposed new Bridport Hospital will be on view.

EAST YORK AND NORTH LINCOLN BRANCH.—Dr. H. L. Evans, Honorary Secretary, gives notice that the annual meeting of this Branch will be held in Hull on Friday, July 10th. Accounts, election of officers, etc.

LANCASHIRE AND CHESHIRE BRANCH: ST. HELENS DIVISION.—Dr. F. J. Knowles, Honorary Secretary (Victoria Square, St. Helens), gives notice that the annual meeting of this Division will take place at St. Helens on Wednesday, July 8th. Business: (*a*) Election of officers. (*b*) Financial. (*c*) To consider matters contained in the SUPPLEMENT of June 13th. (*d*) General.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that a special general meeting of the Division will be held in Balfour Hall, Kingsland Road, on Tuesday, July 7th, at 9.30 p.m., to consider the adoption of the model rules of organization for the Division.—Following the special meeting an ordinary general meeting will be held for the usual business, and especially to consider the Supplementary Agenda for the Representative Meeting (SUPPLEMENT, June 27th).

NORTH WALES BRANCH.—Dr. H. Jones Roberts, Honorary Secretary (Llywenarth, Penygroes, S.O.), gives notice that the annual meeting of the Branch will be held on Tuesday, July 14th, at Benllech, Red Wharf Bay, Anglesey.

SOUTHERN BRANCH.—Dr. James Green, Honorary Secretary (Brandon House, Mile End, Landport, Portsmouth), gives notice that the forty-first annual meeting of the Southern Branch will be held at the South-Western Hotel, Southampton, on Thursday, July 9th, at 1 o'clock. Agenda: Correspondence. Election of officers for 1914–15 (scrutineers' report). Annual Report of Council. Balance sheet. Council's recommendation *re* travelling expenses of secretaries of Divisions. Adoption of new rules of organization. Alterations of rules of golf competition. General business. At the conclusion of the business the President for the coming year (Mr. G. H. Cowen) will take the chair and deliver an address. Mr. Cowen invites the members to luncheon at the hotel, at 1.45, and to afternoon tea, to which ladies are invited, at 4 o'clock. The golf competition will be played off at the Stoneham Golf Club directly after luncheon. Excursions will also be arranged. Members intending to accept the President's hospitality will oblige by sending word to that effect to Dr. W. A. Simpson, 3, Waterloo Road, Southampton, as early as possible, but not later than July 6th.

SHIP SURGEONS SUBCOMMITTEE.

THE following practitioners have consented to act as "Correspondents" of the Ship Surgeons Subcommittee, and are prepared to discuss with any ship surgeon in their area any matter of interest either to that surgeon or to ship surgeons in general, and to forward representations to the Subcommittee in regard to any question in connexion with which central action seems desirable:

Correspondent.	*Port.*
Dr. J. Godding, 56, Leadenhall Street, London, E.C.	London.
Dr. A. G. Hinks, 40, St. Vincent Row, Southend-on Sea	London.
Dr. H. T. Bates, Church Road, Wavertree, Liverpool	Liverpool.
Dr. C. Carlyle, 13, Menlove Avenue, Mossley Hill, Liverpool	Liverpool.
Dr. C. J. Cooke, 1, Sussex Terrace, Plymouth	Plymouth.
Dr. J. C. H. Beaumont, Chinsura, Khartoum Hill Road, Southampton	Southampton.
Dr. O. V. Currie, Union Castle Buildings, 58, Adderley Street, Capetown	Capetown.

Ship surgeons visiting these ports and desiring to discuss matters of interest to the service are invited to place themselves in communication with the correspondent for the port.

The Medical Secretary, 429, Strand, London, W.C., will be glad to hear from practitioners in passenger ports not mentioned above who are willing to act as correspondents to the Subcommittee.

Ship surgeons are also asked to forward for the guidance of the Subcommittee, either to one of the above correspondents or to the Medical Secretary, British Medical Association, 429, Strand, London, W.C., their views upon the following questions:

(1) Whether ship surgeons should receive full sea pay while in port *plus* a subsistence allowance at the same rate granted to the chief officer, with a possible liability to have to report every day at the office of the company, or whether they would prefer to receive full sea pay only in port without such liability; subsistence pay, however, to be paid upon those days in port when any duty connected with the ship is performed.

(2) Their views generally on the question of annual leave being granted with full pay to permanent ship surgeons.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

BOOKS NEEDED TO COMPLETE SERIES.

THE Librarian will be glad to receive any of the following volumes, which are needed to complete series in the Library:

American Association of Genito-Urinary Surgeons. Transactions. 1906.
American Climatological Transactions. Vols. 1, 4 5, 6.
American Dermatological Association Transactions. Vols. 5, 7, 8, 11, and 29.
American Journal of the Medical Sciences. New series, vols. 4, 5, 1842–3; vols. 14, 15, 1847–8; vols. 18–30, 1850; vol. 33, 1857; vol. 46, 1864–5; vol. 59; or any parts of these vols.
South African Medical Journal. February and April, 1895. Titles, Vols. 3 and 4.
United States Department of Agriculture, Bureau of Animal Industry. Reports 1–7, 10–14.
United States Hygienic Laboratory Bulletins. Nos. 3, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 24, 29, 43.
Virchow's Archiv. Vols. 1–150.
Watt. Bibliographia Britannica, 4 vols., 1824.
Yearbook of Pharmacy, 1912.

LOCAL MEDICAL AND PANEL COMMITTEES.

EDINBURGH.

PANEL COMMITTEE.

A MEETING of the Burgh of Edinburgh Panel Committee was held on June 24th. Dr. DEWAR occupied the chair, and thirteen members were present.

Budget Proposals.—The Committee had under consideration the Budget proposals so far as they affect the national insurance scheme. After discussion of the general question, Dr. ORR moved, and Dr. MORRISON MCINTOSH seconded, the following motion, which was agreed to unanimously:

> To ask the Commissioners in how far the proposals under the Budget are designed to affect non-insured as well as insured persons.

Discussion then took place as to whether the administration of the new scheme should be placed in the hands of the local authority, the Local Insurance Committee, or an entirely new committee. On the motion of Dr. MARTIN, seconded by Dr. ROBERTSON, it was unanimously resolved:

> That in the opinion of the Panel Committee, it is inadvisable that the administration of the New Developments in Medical Treatment, outlined in this year's Budget proposals in connexion with the Insurance Act, be wholly in the hands of the Local Insurance Committee or Local Authority.

On the question of the administration being placed in the hands of a new committee, Dr. MORRISON MCINTOSH moved, and Dr. ORR seconded, the following motion, which was carried unanimously:

> That a Joint Committee, composed of representatives elected by the following bodies, should be instituted: (*a*) The Insurance Commissioners; (*b*) the Insurance Committee; (*c*) the County or Borough Council; (*d*) the Local Hospitals (Board of Management and Medical Staff); (*e*) the Local Medical or Panel Committee); (*f*) the University and Colleges (where practicable); (*g*) Local Public Nursing Association.

Circular to Practitioners.—The following circular, dealing with certification and excessive drugging, was passed by the Committee for distribution to practitioners on the Edinburgh panel:

CERTIFICATION.

It is within the knowledge of the Panel Committee that some doctors are still lax in their method of dealing with sick benefit certificates. This is probably due to an insufficient knowledge as to the procedure. For the information and guidance of insurance practitioners it may be well to make some definite statements as to the granting of these certificates.

I.—There must be no ante-dating or post-dating.

Ante-dating refers to the initial or declaring-on certificate.

Post-dating refers to the final or declaring-off certificate.

The Initial Certificate.—Dr. A. sees Mr. X. on January 10th. He must fill up and sign the certificate with the date January 10th, and not January 7th, 8th, or 9th. The essential point is that each certificate must be dated for the day on which the patient is seen, as it is a document stating an actual fact, and must be a true statement of what has taken place for the guidance of societies.

If, as it occasionally happens, a patient is confined to bed for two or three days, and is under the belief that he will be better after a little rest and simple home treatment, and therefore does not care to trouble the doctor, the latter may on his first visit when sent for, while granting the initial certificate with the date on which the patient is seen, add the words or such like "that from the signs and symptoms shown, and from the statement made by the patient that he has been confined to bed for two or three days, he believes the statement to be true." This procedure does not entail a hardship upon a well-meaning patient, and leaves it open to the society to pay or not, as it thinks fit. At all events, it removes the stigma of a possible complaint being made against the doctor for acting harshly, it does not penalise an honest and careful insured person, and does not unduly cast a burden on the society's funds, as the patient is legally entitled to have these first days counted as waiting days in the case of a first illness.

The Medical Service Subcommittee has recommended that the doctor should, if the patient is suffering from an ailment which would incapacitate him or her from working even for a few days, or which might develop into a more serious condition, give Form Med. 34 on his first visit. In this connexion it is to be remembered that the initial certificate does not carry with it any obligation on the part of the society to pay sick benefit, but is only an indication that the insured person is suffering from an ailment which may in due course entitle him or her to sick benefit.

Sick benefit is only paid on the production of the second or continuation certificate at the end of a week or thereby according to the rules of the society.

Post-dating.—In granting the final or declaring-off certificate, the doctor cannot be allowed to sign and date this certificate until or after the day when the patient's incapacity for work has ceased.

II.—The greatest care must be taken in signing the second or continuation certificates. These have to be signed at certain intervals, and before signing these certificates the doctor must satisfy himself by a personal examination that the patient continues to be unfit for work. These certificates must not be granted on any consideration to messengers, without the patient having been seen by the doctor.

When in doubt as to fitness or unfitness to work, it would be well for the doctor to seek the opinion of a colleague in justice to himself and the society. Medical referees will shortly be appointed, when it will be open to every insurance practitioner to avail himself of their services in these doubtful cases.

III.—Finally, if any practitioner after investigation by the Medical Service Subcommittee is found to be persistently granting continuation certificates when not actually required, a recommendation may be made by the Insurance Committee to the Commissioners requiring them to exercise their powers under Regulation 45, 12, and Regulations Part VI:

> Where the Insurance Committee are of opinion that the continuance on the panel of a practitioner will be prejudicial to the efficiency of the service of insured persons, they may make representation to that effect to the Commissioners.

EXCESSIVE DRUGGING.

It is well known to the Committee that some practitioners are still in the habit of prescribing excessive quantities of drugs, expensive drugs, when their exact equivalents might be used, and are being used by many practitioners in private practice, and articles which are being used for their food value and not exactly for their medicinal value. This matter was pointed out to practitioners in a former circular, but in order to bring it home a few cases may be cited.

1. One panel doctor ordered five phylacogen tubes within a fortnight at a cost of £3, four india-rubber bandages at 2s. 6d. each for one one patient at one time, and in the previous month seven of these bandages for three patients.

2. One panel doctor gave five prescription orders, the five bottles as prescribed containing more than two quarts of pure alcohol. The cost of these five forms was respectively 34s. 6d., 17s. 4d., 15s. 9d., 14s. 3d., 14s. 3d., a total of £4 16s.

3. Orders for seventeen tubes of phylacogen were found in one chemist's parcel prescribed by one doctor. Cost £10. Phylacogens are now disallowed.

4. One patient received within three weeks, twelve flannel bandages 15s., and ointment 11s.

5. One chemist, by orders from one doctor, supplied to eighty patients 76 lb. of cod-liver oil emulsion, and 74 lb. of malt and cod-liver oil emulsion to forty patients in one month.

It may also be pointed out that during the year 1913 the average price per prescription form rose from 8¾d. in January to 11¾d. in December, and this year the average cost still remains as high as in December. The cost per head for 1913 was 1s. 2d., as compared with 8d. and 9d. in many areas in Scotland, and the Commissioners, after investigation, have found that the insured persons in the 8d. and 9d. areas receive just as good treatment as those in this area. One district in this area is as high as 2s. 2d. per head. These facts clearly show that at present there is excessive prescribing as to quantities or expensive drugs.

The Committee would earnestly appeal to practitioners to be extremely careful in their prescribing. Otherwise the penalty of surcharging or deducting from practitioner's remuneration the cost when it is proved to be excessive and unnecessary will be put in force by the Insurance Committee.

JOHN CRAIG,
June 24th, 1914. Honorary Secretary.

The Treasurer, Dr. MORRISON MCINTOSH, reported, in response to the voluntary call, that out of 94 panel practitioners, 75 had, up to date, paid £1 1s. each, while 6 had refused to subscribe anything, and one or two had resigned from the panel. With these exceptions, he stated that he expected to be able to collect most of the balance still outstanding. On the motion of the CHAIRMAN, a hearty vote of thanks was accorded to Dr. Morrison McIntosh for the very successful way in which he had carried out the collection of the levy.

On the motion of Dr. CRAIG, the Treasurer was empowered to pay to the chairman his out-of-pocket expenses, incurred in connexion with his visit to London in March last in connexion with the Conference of Local Medical and Panel Committees.

PERTHSHIRE.

A MEETING of the Local Medical and Panel Committees of Perth and Perthshire was held at Perth on June 26th, when Dr. STIRLING was in the chair and nine other members were present.

Report of Subcommittee.

Over-prescribing by Panel Practitioners.—Dr. TROTTER stated that he had been in communication with the Pharmaceutical Committee and the doctors concerned. It was proposed in the meantime not to surcharge for over-prescribing, as this had probably occurred through inadvertence on the part of doctors, but that doctors and chemists should all be circularized by the Insurance Committees, warning them on the subject. This circular was submitted for approval.

Over-charges in Chemists' Accounts.—Dr. HUME stated that a large number of accounts had been gone over, and it was found that mixtures formed a very small proportion of the prescribing, so that the charges for water only amounted to a very small total, in comparison with the large sums received by chemists for dispensing ready-made pills and other preparations which were specially favoured by certain doctors in preference to combinations of *British Pharmacopoeia* drugs. A number of expensive prescriptions were read to the meeting.

On the motion of Dr. TROTTER, seconded by Dr. HAIG, the report was adopted, and Dr. Trotter was authorized to write to the Clerk of the Insurance Committee that steps

were being taken to remedy over-prescribing, but that in the meantime no surcharging of doctors would take place.

Budget Proposals.

The meeting considered at length the various Budget proposals with regard to certain important extensions of medical service under the Insurance Acts. It was decided by a majority that grants for clinical purposes and nursing should be administered by Insurance Committees, with an adequate representation from hospital managers and staffs, instead of by public health authorities.

LIVERPOOL.

Local Medical Committee.

The forty-first meeting of the Committee was held at the Medical Institution on June 19th, when the chair was taken by Mr. Larkin, and ten other members were present.

Representatives on Insurance Committee.—In view of the forthcoming election by the medical profession of Liverpool of two representatives on the Liverpool Insurance Committee, the meeting unanimously supported the nominations of Mr. F. Charles Larkin and Dr. W. B. Bennett.

Meeting of the Profession.—It was decided that a meeting of the Liverpool medical profession should be held at the Medical Institution on Tuesday, June 30th, at 3.30 p.m., to consider the following agenda:

1. Report of proceedings of the Local Medical Committee since the last general meeting.
2. Financial statement by the Treasurer.
3. Scheme for the constitution of future Local Medical Committees.
4. Question as to how the Committee is to be financed in future.

Panel Committee.

Meetings of the Liverpool Panel Committee were held at the Medical Institution on June 2nd and June 19th, when the chair was taken by Mr. F. C. Larkin.

Meeting of Panel Practitioners.—The Secretary read a report of the special meeting held under the chairmanship of Mr. Larkin on May 21st, to which all the Liverpool panel practitioners had been invited to confer with the Panel Committee; the proceedings of the Panel Committee were reported to the meeting, and a motion by Dr. Shaw, seconded by Dr. Moyles, that the fund to cover the expenses of the Panel Committee should be raised compulsorily under the provisions of the National Insurance Act, 1913, was carried by a large majority, after an amendment suggesting a voluntary fund had been defeated by 25 votes to 15. It had further been resolved that a Local Panel Association should be formed, and at the meeting of the Panel Committee on June 2nd, it was decided to appoint a Subcommittee to draw up a scheme.

Expenses of Committee.—It was resolved to request the Liverpool Insurance Committee to allot a sum sufficient for the administrative expenses of the Panel Committee; a subcommittee appointed to consider the matter estimated the annual expenditure of the Committee at £130.

Model Schemes.—A letter was read from the Insurance Commissioners with reference to proposed modifications of certain of the clauses and rules of Model Schemes A and B, which were considered by the Committee to be decided improvements.

Treasurer.—Dr. S. H. Shaw was appointed treasurer of the Committee.

Distribution of Panel Funds.—The Committee approved the proposals of the Special Subcommittee contained in a communication from the administrative officer with regard to the method of distribution of the balance of the available panel funds.

WARWICKSHIRE.

Panel Committee.

A meeting of the Panel Committee for Warwickshire was held on June 23rd at Leamington, when Dr. J. Orton (Coventry) presided, and twelve other members were present.

Medical Referees.—The Secretary reported that he had had correspondence with a doctor with regard to referee work, and that the doctor had agreed to send a printed notice to those doctors whose patients he was requested by a society to visit.

Election of Committee.—The Secretary reported that he had received a letter from the Commissioners assenting to the scheme drawn up by the Committee for the election of the new Panel Committee, and thanking the Committee for its expedition in completing the scheme; also announcing that Mr. Whitehead, Clerk to the Insurance Committee, had agreed to act as returning officer without fee for his personal services.

Expenses of Committee.—The Finance Committee submitted its report, and, on the motion of the Chairman, seconded by Dr. C. K. Lunn, it was resolved:

That the Secretary be paid £37 for his out-of-pocket expenses and services during the period January, 1913, to March, 1914.

Payment of Members.—A discussion took place on the question of payment to members of the Committee. On the motion of Dr. A. Joseph, seconded by Dr. C. K. Lunn, in was agreed that members attending meetings of the Panel and Insurance Committees should be paid 5s. for every meeting they attended, the motion to be retrospective from the formation of the Panel Committee.

Honorarium to Secretary.—On the motion of Dr. Powell, seconded by the Chairman, it was agreed that the Secretary should be paid an honorarium of £50 a year from the formation of the Panel Committee.

Reports of Medical Service Subcommittee.—The Secretary reported the receipt of a letter from the British Medical Association on the necessity of treating the names of doctors mentioned in cases dealt with by Medical Service Subcommittees as strictly confidential. The Committee agreed with the suggestion.

Representatives on Insurance Committee.—The Committee nominated Drs. Latimer, Greene (Stratford-on-Avon), and Relton (Rugby), on behalf of the panel doctors of the area, to represent them on the Insurance Committee.

Certificates.—The Secretary reported the results of the conference held in London by the Commissioners on June 16th, at which the Chairman and Secretary attended, with regard to the proposed alterations in dealing with certificates of inability to work.

WEST RIDING OF YORKSHIRE.

Local Medical and Panel Committees.

Meetings of the Local Medical and Panel Committees were held at Wakefield on April 24th, May 22nd, and June 12th.

New Member.—Dr. H. Steinbach (Knaresborough) attended as representative for Harrogate and Ripon, vice Dr. Pringle, resigned.

Publication of Lists of Panel Doctors.—It was decided to call the attention of the Commissioners to the fact that, in spite of their recommendation to replace the name of "doctor" by a number or cypher, the Insurance Committee had issued to its members a list of the doctors and the number of each one's patients.

Disputed Removals.—This matter was referred back to the Subcommittee, with instructions to interview the clerk, and, if necessary, request an interview with the Medical Benefit Subcommittee, and thus endeavour to get some sort of working arrangement.

Model Schemes for Election of Panel Committee.—A report from the Subcommittee having been considered, it was decided to inform the Commissioners that it was proposed to adopt with certain modifications Model Scheme B, which provided for election by meetings of panel practitioners summoned for the purpose by a returning officer, but objected to the unnecessary expense of a returning officer. The Commissioners in reply had suggested that on the ground of expense the number of constituencies should be reduced to six, in place of the present thirty-six. In this way it would be necessary to hold only six meetings. They had further stated that the expense of the election would form part of the administrative expenses of the Committee, and refused the request of the Committee to extend the term of office from one to three years. It was resolved:

That the Secretary be instructed to write again to the Commissioners pointing out that six meetings for election of representatives are insufficient to meet the needs of the vast area of the West Riding, and that the electors would not be able to turn up in sufficient numbers to make the election representative.

The Secretary was directed at the same time to press again for permission to carry out the election on the previous lines, the election of the present Committee having proved simple, inexpensive, and satisfactory to all concerned.

Range of Medical Services.—A letter having been read from the Clerk of the Insurance Committee regarding a panel doctor's request for payment for circumcision, it was agreed that the operation came within the ordinary routine of general practice, and therefore was not outside the scope of medical benefit under the Act. It was also decided that attendance on an insured person for gangrene during the month following her confinement was part of the attendance on the confinement.

Co-ordination of Local Medical and Panel Committees.—It was resolved to subscribe £25 to the proposed organization to co-ordinate the work of Local Medical and Panel Committees, and to safeguard and promote the interests of those represented by them. A letter from the Leicester Local Medical and Panel Committe urging that the new organization should be registered as a trade union was ordered to lie on the table.

Excessive Ordering of Drugs.—A letter with regard to excessive ordering of drugs was approved for circulation to doctors on the panel.

Model Scheme for Election of Local Medical Committee.—In view of the general desire throughout the area that the personnel of Local Medical and Panel Committees should be the same, it was decided to adopt Model Scheme A, which provides that the Local Medical Committee shall consist of the members for the time being of the Panel Committee for the area.

Medical Referees.—The following resolution was adopted:

> That the Secretary be instructed to circularize the practitioners of the West Riding area that the temporary scheme of medical referees, which was adopted by the Local Medical Committee in September, 1913, will remain in force till a system of Government referees is carried out, and that each practitioner is requested to observe the said scheme loyally in the future as in the past.

Financial Statement.—The financial statement, which was approved, showed a balance in hand of £6 2s. 11d.

CROYDON.

PANEL COMMITTEE.

THE following were duly elected on June 25th to serve on the Panel Committee: Drs. E. M. Cowell, T. A. Dukes, G. G. Genge, F. Nicholls, G. Wale, P. Harris, J. H. Thomson, J. L. Menzies, F. Murphy, A. P. Allan, F. Beard, S. H. C. Air, S. S. Simmons, F. D. Atkins, A. Rose, J. C. S. Peatson, H. L. Sells, C. G. C. Scudamore, E. H. Willock.

The above members of the Panel Committee, together with the following ten medical men, who were duly elected on June 25th last to serve on the Local Medical Committee, constitute that Committee: Drs. C. Wray, J. S. Richards, E. L. Adams, J. Wayte, R. C. Brown, G. Lewin, J. Davidson, C. O. Fowler, R. L. Pinkerton, P. W. James.

The Committees take office after July 15th next.

NEWPORT (MON.).

PANEL COMMITTEE.

IN accordance with the scheme circulated by the Welsh Insurance Commissioners, a new Panel Committee (of eighteen) was elected on June 26th. The following practitioners were returned as duly elected after a ballot:

W. J. Greer, F.R.C.S. (Chairman)	J. Lloyd Davies, M.R.C.S.
S. Hamilton, M.D. (Honorary Secretary)	C. B. Gratte, M.R.C.S.
E. Rhys Harries, M.D.	J. Hurley, L.R.C.S.
V. Crinks, M.R.C.S.	J. Lane, M.B.
W. Basset, M.R.C.S.	W. M. James, M.R.C.S.
J. Buckner, L.R.C.S.	J. McGinn, F.R.C.S.I.
T. G. Lewis, M.B.	O. Morgan, L.R.C.S.
J. Cook, M.R.C.S.	Rees Morgan, L.R.C.S.
	J. F. Neville, L.R.C.S.
	C. S. Vines, M.R.C.S.

DENBIGHSHIRE.

PANEL AND PHARMACEUTICAL COMMITTEES.

A JOINT meeting of the Panel and Pharmaceutical Committees was held at the Queen's Head Hotel, Chester, on June 22nd. Dr. E. Moss was unanimously elected to the chair.

Excessive Prescribing.—On opening the discussion on excessive prescribing, it was stated that the Panel Committee had come to the decision to write to each practitioner on the panel asking him to make every effort, consistent with the adequate treatment of the patient, to keep the average price per prescription as low as possible. Mr. ADAMSON, speaking for the Pharmaceutical Committee, stated that in asking for that joint meeting, the object had been, not to prevent the medical men from prescribing good medicine, but to come to some mutual arrangement whereby the cost of medicine for insured patients might be reduced. Dr. ROWLAND said that the question of excessive prescribing had two aspects—namely, the quantities of the drugs ordered and the number of prescriptions written, both of which had their influence on the drug fund. It was resolved:

> That a suggestion should be made to the practitioners in the county that they should, as a general rule, prescribe 8-oz. mixtures with ½-oz. doses.

Repeat Prescriptions.—Dr. ROWLAND said that it was quite usual for a patient to require the same medicine continuously for some weeks, and it simplified matters greatly for the doctor if he was allowed to order "repeats." He quite recognized the difficulty in tracing the prescriptions, but he felt it was a matter for the individual chemist to deal with. The CHAIRMAN observed that the Commissioners had definitely refused to sanction repeat prescriptions. Speaking for the Pharmaceutical Committee, Mr. L. B. ROWLAND said that he felt it would be unwise for chemists to adopt a rigid attitude in this matter, and Mr. T. J. ROBERTS that, in their circular letter, the Commissioners stated that they regarded "repeats" as a matter for working arrangement between practitioners and chemists. Mr. E. D. JONES, Clerk to the Insurance Committee, said it must insist upon having copies of the original prescription made on forms ordering "repeats." On the motion of Mr. L. B. ROWLAND, seconded by Dr. MORRIS-JONES, it was resolved:

> That "repeat" prescriptions may be written, subject to the following conditions:
> (*a*) That no other item be prescribed on a form ordering any "repeat."
> (*b*) That the date of the original prescription be given on the form.
> (*c*) No repeat to be ordered when the original prescription was ordered more than twenty-one days previously.
> (*d*) That the practitioner shall supply a copy if requested by the chemist.

Emergency Dispensing.—Dr. ROWLAND said that in his view, since dispensing had been taken out of the hands of doctors for those insured persons who lived within a mile of a chemist's shop, it was the duty of the chemist to dispense for these patients at all times. There was some discussion, in the course of which Dr. MORRIS-JONES said that in Colwyn Bay if a prescription was marked "urgent" there was no difficulty in getting it dispensed. The following motion, proposed by Dr. MEDWYN HUGHES, and seconded by Dr. J. D. LLOYD, was carried:

> That this joint meeting of Panel and Pharmaceutical Committees recommends the Insurance Committee to allow extra dispensing fees for prescriptions dispensed by chemists outside their ordinary hours of business; such prescriptions to be marked "urgent."

Marking Prescriptions.—Dr. ROWLAND reported that practitioners had received a circular letter as to marking prescriptions for the appropriate funds, but there was some difficulty as to the correct fund for certain drugs for tuberculosis patients. Dr. MIDDLETON held that drugs for the treatment of concomitant diseases in tuberculous patients should be marked "ordinary," and charged accordingly. Dr. LLEWELYN WILLIAMS (Medical Officer to the Welsh Commission) held that all drugs prescribed for these patients should be marked "Sanatorium," and charged to the Memorial Fund. On the motion of Dr. Moss (Chairman), seconded by Dr. MORRIS-JONES, it was resolved:

> That in future prescription forms be marked "Panel," "Sanatorium," "Temporary Resident," and that this be a recommendation to the Insurance Committee.

Mr. E. D. JONES said that it would be a convenience to the Insurance Committee if temporary residents' prescriptions were marked with the area from which the patient came.

Stock Mixtures and Proprietary Preparations.—It was proposed and seconded:

That no stock mixtures should be prescribed except from the tariff and the B.P.C., unless the practitioner had private formulae, for which he might arrange with the local chemists.

Whereupon the following amendment was proposed:

That stock mixtures may be prescribed, but that no particular wholesaler's name may be written on the form.

There was considerable discussion, during which Mr. L. B. Rowland remarked that many concentrated mixtures were practically infringements of the Food and Drugs Acts in that certain preparations nominally contained in them could not conform to the *British Pharmacopoeia* standards. It was referred to a subcommittee to consider the questions of stock mixtures and the tariff, and to report, as early as possible, to a joint meeting of Panel and Pharmaceutical Committees. The following gentlemen were appointed to serve on the subcommittee:—Panel Committee: Dr. Moss (Wrexham), Dr. J. D. Lloyd (Chirk), Dr. David Lloyd (Denbigh). Pharmaceutical Committee: Mr. J. W. Adamson (Colwyn Bay), Mr. L. B. Rowland (Wrexham), Mr. T. J. Roberts (Ruthin), and Mr. E. D. Jones, Clerk to the Insurance Committee.

GLAMORGAN.

Panel Committee.

A meeting of the County of Glamorgan Panel Committee was held in Cardiff on June 22nd. Dr. W. E. Thomas was in the chair, and twelve other members were present.

Medical Referees.—A discussion took place on the subject of medical referees and the minimum fee of 10s. 6d., and a resolution was passed directing the Secretary to send a synopsis of important matters to every panel practitioner.

Travelling Expenses.—A letter was read from the Insurance Commissioners stating that the travelling expenses of members attending meetings of the Panel Committee could not be met out of any sums paid to that Committee under the provisions of Section 33 (2) of the National Insurance Act.

Election of Returning Officer.—The election of the new Panel Committee to hold office after July 15th was considered, and Dr. J. Shaw Lyttle was appointed the returning officer.

INSURANCE COMMITTEES.

LONDON.

A meeting of the London Insurance Committee was held on June 25th.

Distribution of the Unallotted Funds.

As briefly noted in the last issue (Supplement, p. 495), the Committee gave further consideration to the question of the distribution of the unallotted funds. The Medical Benefit Subcommittee advised the Committee either to proceed at once to distribution, or to express the opinion that the Commissioners should distribute.

Mr. F. Coysh, Chairman of the General Purposes Subcommittee, moved that the Committee adopt the first alternative. He said the payment to the doctors was based on a system of credits, and the Committee could have varied the basis of credits if it had passed a resolution to that effect during the medical year. As it had not, it followed that it admitted the basis of the doctors' acceptances as that on which payments were to be made for services rendered.

Mr. Kingsley Wood moved the following amendment:

That having regard to the decision of the Committee, "that it is undesirable that any medical man on the London panel should undertake to treat a larger number of insured persons than 2,000," the Committee is not prepared to distribute the surplus moneys in the panel fund on a *pro rata* basis unless or until a legal decision has been obtained or a further parliamentary authority has been given.

He did not accept the explanation given as to why the Committee was debarred from preparing a scheme for distribution; he did not believe any regulation under the Act was dependent upon considerations of time. No one could say that the system of distribution provided under Article 40 (3) was just. He had received many letters from doctors with small lists, who pointed out that they had taken on panel work chiefly on the assumption and on specific promises that their lists would be augmented from those who had not chosen a doctor. The resolution would treat those doctors very badly, and by putting money in the pockets of those with large lists, would encourage a bad medical service.

Mr. O. E. Warburg seconded the amendment.

Dr. B. A. Richmond said that as long ago as October 13th, 1913, a report was submitted to the General Purposes Subcommittee which set out the exact position which would arise. That report was not dealt with because the Committee was waiting for a legal opinion. The amendment would not solve the pressing problem now before the Committee of getting more doctors in industrial areas; it would penalize those who had devoted their lives to work in those areas. It was assumed that the doctor with a big list was necessarily doing bad work and was an inefficient member of the service, but it was remarkable that many more complaints in proportion came before the Committee in respect of doctors with small lists.

Mr. R. J. Mills, an approved society representative, urged that the agreements with the doctors only provided for a payment per head on acceptances, and made no promise of a bonus. He and other members had a mandate from their organizations not to agree to a method of distributing the money which they did not regard as right or advisable.

Dr. H. H. Mills said that the covering letter issued with the agreement promised that doctors on the panel would be paid in respect of all insured persons. If an agreement as to distribution had been made before the end of the medical year it would have been accepted by everybody, and medical practitioners regretted that an agreement was not reached.

Dr. Lauriston Shaw remarked that it was agreed that the doctors on the panel collectively were entitled to the money; they had a right to expect reasonable expedition. Any reasonable method of distribution would probably be accepted by the doctors.

Mr. P. Rockliff stated that the Commissioners had approved in some areas, since the end of the 1913 medical year, alternative methods of distribution.

On being put to the meeting the amendment was carried by 27 votes to 25, and then adopted as a substantive resolution.

Legal Rights of Panel Practitioners.

The Medical Benefit Subcommittee reported that in the case of a practitioner who became an inmate of an asylum, the insured persons on his list were notified that he had ceased to practise in the area and were provided with forms for the selection of other practitioners. The practitioner, after his discharge, served a writ on the Committee claiming £94 for professional services between January 14th and March 31st. The Committee's solicitors advised that, inasmuch as treatment had been provided by a locumtenent during the doctor's absence, the Committee should settle the claim by consent. The practitioner had accepted £90 and £5 costs in full settlement of his claim.

In regard to the action brought by Dr. Salter for the restoration of his name to the medical list (British Medical Journal, June 27th, p. 1437), a question was asked as to why the Committee had never been asked to confirm the action of the Subcommittee in removing the name, and a full report was promised for a subsequent meeting.

Complaints against Practitioners.

The Committee endorsed the action of the Medical Service Subcommittee in a number of cases of complaints against practitioners.

In six cases, in which the circumstances do not call for special mention, the Subcommittee found that complaints of neglect were unsubstantiated.

An approved society made a complaint as to certification in a case in which an insured person continued to work while drawing sickness benefit, and was sentenced to imprisonment therefor. The Subcommittee, on the evidence, upheld the doctor's certificate as bona fide; the man had just been operated upon for an abscess, he had bronchitis, a troublesome cough, cardiac irregularity, and was emaciated, but, unknown to the doctor, he went to work. A case in which failure to provide treatment was due to a doubt whether a person was on a doctor's list, the corrected list not having been received from the Insurance Committee, was adjudged to be met by the payment by the doctor of 2s. 6d. expended in obtaining treatment

elsewhere. An approved society complained that a practitioner had suppressed information because in giving a certificate of incapacity for varicose veins and rheumatism he did not also state that the patient was pregnant. The Subcommittee found that the certificate was a proper one, as it stated the actual cause of incapacity.

A complaint of failure to attend was found to be substantiated, and the Subcommittee stated that about 4,000 persons were divided between the practitioner and a partner. The Subcommittee had come to the conclusion that the practitioner was unable to give adequate treatment to all the insured persons for whom he was responsible, and had decided to remove from his list without further inquiry the name of any insured person who made application. A second complaint was made against the practitioner that he sent a prescription on receipt of a verbal message given to his secretary and without seeing the patient. The Subcommittee thought the doctor's methods of conducting his practice were not satisfactory. It was understood that he had only recently obtained his qualifications and joined the panel. He was cautioned that an improvement in his methods must be shown.

It was alleged that a practitioner declined to provide treatment because the request to visit had not been received before 10 a.m., and that he made callous remarks on the matter. Another practitioner diagnosed the case as serious, and had the patient's relatives sent for from the country. Before the Subcommittee the practitioner admitted that he lost his temper, and said that he would have provided treatment if it had been a private case. The Subcommittee found that the practitioner refused to provide treatment, although he was actually in the house, and had been informed that the patient was seriously ill. It had concluded that the doctor did not properly appreciate his responsibilities towards insured persons. This practitioner had previously been censured. The Subcommittee had therefore decided to make representations to the Insurance Commissioners with a view to the removal of the practitioner's name from the panel.

MANCHESTER.

Sanatorium Accommodation.

AT a meeting of the Manchester Insurance Committee on June 23rd attention was drawn to statements as to the sanatorium accommodation which had been the subject of a question in the House of Commons, and seemed to reflect on the Manchester Insurance Committee. The Chairman said he thought there had been some confusion in the press between the Manchester Committee and other Committees, and it ought to be made clear that the statement did not refer to Manchester. Councillor Jackson, the chairman of the Sanatorium Benefit Subcommittee, said he took it that the statements did not refer to treatment, but only to accommodation; though Manchester was not directly referred to, it was somewhat short of hospital accommodation for advanced cases of tuberculosis, and up to the present had been able to deal properly only with the early cases. According to the recommendations of the Departmental Committee on Tuberculosis, Manchester ought to have about 300 beds, but as a matter of fact it had something like 330—namely, 150 at Baguley, 62 at Delamere, 50 at Abergele, and 70 at Clayton, while they had also about 20 cases in the Manchester Infirmary. The accommodation at Baguley was being increased, and when completed he thought the pressure might be met, though he still had some doubts.

It appears that the statement referred to really referred to the Salford Insurance Committee; it was to the effect that of 88 people who applied for sanatorium benefit, it could be given to three only. The fact is that on May 13th the Salford Sanatorium Benefit Subcommittee considered 88 cases. Of these, 42 were old cases, all recommended for a further period of treatment, ten of them in residential institutions; and all have received the treatment recommended except one, who went to Australia, and another who on examination at the dispensary was found not to be suffering from tuberculosis. Of the new applications, 45 were recommended for sanatorium benefit, and all have received it, eight being in residential institutions. It is unfortunate that the Drinkwater Park Hospital of the Salford Corporation, where many of the patients receive sanatorium treatment, still retains its old name of "hospital," as it is now in every sense of the word a sanatorium for early cases of tuberculosis.

SALFORD.

Alleged Over-prescribing.

AT the monthly meeting of the Salford Insurance Committee on June 25th the Clerk read a letter from the Commissioners with reference to the request of the Committee that the Commissioners should hold an inquiry in Salford as to the alleged over-prescribing. The Committee had not felt competent to decide between the report of the Pharmaceutical Committee, which named sixteen of the panel practitioners as having exceeded the average in the amount of their prescriptions per insured person treated in the last year, and the report of the Panel Committee, which recommended that none of these practitioners should be surcharged for over-prescribing. The Commissioners replied that they had no power to hold an inquiry, but would be prepared to arrange a conference at their offices if the Committee so desired, where representatives of the Committee, the doctors, and the chemists might discuss the points at issue.

Several members of the Committee thought there was some danger under the present system of going to the opposite extreme—that is, of under-prescribing—as each doctor was individually responsible for the cost of his own prescriptions. In that case the insured persons would suffer, and the medical members of the Committee were asked to state their opinion as to whether the 2s. available for drugs and appliances was adequate.

Dr. BRADLEY said the amount required in such places as Salford must be larger than in rural or seaside places. The reason for the big bill in Salford was not the cost of the individual prescriptions, which was only about 7d. on the average, but that so many insured people required treatment. In April there were over 17,000 sick people out of an insured population of 85,000. His own private view was that the 2s. was not sufficient in Salford.

Dr. TAYLOR said he did not think it was possible to say whether 2s. was sufficient or not. The cost for last year was 2s. 7¾d. per insured person, and if all the doctors who were alleged to have over-prescribed were cut out, the 2s. was even then not sufficient for the remainder; it would have needed about 2s. 2d. to pay the chemists in full. But the first year was exceptional in many ways, and should not be taken as a criterion. Looking at the first five months of the present year, since the system came into operation by which the doctors were credited with the whole 9s. but debited each with the cost of his own prescriptions, it seemed that the 2s. was more than sufficient, and there was undoubtedly some danger of under-prescribing. Thus he did not think the Committee was in a position at present to make any representations to the Commissioners with regard to the 2s. being too small an amount.

After further discussion, the feeling was expressed that, after all, the dispute between the Panel and Pharmaceutical Committees might be referred back to them to see if they could not arrive at some understanding or compromise which could be accepted by the Insurance Committee, and this was accordingly resolved.

EDINBURGH.

Allocation of Funds.

AT a meeting of insurance service practitioners on the Edinburgh panel, held on June 4th, when Dr. DEWAR was in the chair and thirty-seven practitioners were present, it was unanimously agreed, after full discussion of the method of distribution of the balance remaining in the panel fund, that the money should be divided equally among the practitioners on the Edinburgh panel.

At a meeting of the Insurance Committee for the burgh of Edinburgh, held on June 25th, a report was submitted by the Medical Benefit Subcommittee to the Insurance Committee recommending the Committee to adhere to its former proposal that the funds available should be divided on the basis of the scheme approved for a personal allocation, and that the sum so paid should be accepted in full settlement and final discharge of all claims against the Insurance Committee for the year ended January 11th, 1914.

Dr. BOWIE said that while there was some justification for the proposal that the medical men who had the smallest panel should get most of the unallocated persons, but the proposal of the Subcommittee was quite different. Under it a doctor who had six insured persons on his list would receive the sum of £24, whereas those who had 1,500 to 2,000 on their lists would get £12 each, which was ridiculous.

Mr. EUNSON contended that the money should be equally divided as desired by the doctors, who were the only parties interested.

Eventually the Committee's recommendation was rejected by 22 votes to 15, and the motion for equal distribution was adopted by 25 to 7.

INSURANCE NOTES.

Elections.

Insurance Committees.

The Insurance Commissioners have issued regulations providing that the members of Insurance Committees who come into office on July 15th, 1914, shall hold office until July 15th, 1917.

Panel Committees.

Under the regulations issued by the Joint Committee of Insurance Commissioners for the election of Panel Committees it was provided in Part II, 5 (2) that the Commissioners should appoint a returning officer, and that the election, whether contested or not, should be carried out by this officer. It appears that the Commissioners while retaining the right to appoint the returning officer proposed that his expenses should be defrayed by the Panel Committee. Strong objection has been taken to this proposal; it was felt that the Commissioners if they desired to appoint an outside official to do any work in connexion with the Panel Committee, should bear the expense. The Commissioners, we understand, have seen the justice of this contention, and have in certain districts arranged that the clerk to the Insurance Committee shall act as returning officer without expense to the Panel Committee.

The Manchester Warehousemen and Clerks' Association.

The difficulty of the directors of the Manchester Warehousemen and Clerks' Association in dealing with the medical benefit of its members who are doubly insured for medical treatment, that is, in the National Insurance and in the association, has not yet been solved. The scheme of the directors was rejected by a meeting of the members, and at an unofficial meeting of members held last week a committee was appointed to bring pressure to bear on the directors. Several suggestions were made, but eventually the following resolution was passed:

> That the directors approach the doctors and ascertain at what price they will attend our voluntary members per head per annum, or as an alternative per visit at home or surgery. Until the above figures are available, voluntary members desiring medical attention to pay 6d. per month in addition to the present contributions, and doctors' bills to be met by the 2s. 6d. per visit at home or surgery.

This resolution is to be brought before the directors with the request that they will meet the committee at an early date to consider the whole matter. When the Insurance Act came into operation all the medical officers of the association, who numbered something like a hundred, resigned their positions, and it now remains with the profession to decide what attitude it will take in case the directors approach the doctors in the way suggested.

A Brighton Drug Stores and the Chemists' List.

An Inquiry Committee under Part VII of the Medical Benefit Regulations, 1912, sat at the offices of the Commissioners, Buckingham Gate, on July 1st, to hear representations by the Brighton Insurance Committee that the restoration to the list of chemists of the firm of Sharp's Drug Stores, Limited, trading at 49, Edward Street, Brighton, would be prejudicial to the efficiency of the medical service. During 1913 the name of the firm was erased from the register of pharmacists because the Registrar of the Pharmaceutical Society was satisfied that dispensing had ceased to be done by a registered pharmacist or under his direct supervision. The Insurance Committee alleged admissions by the managing director of the company that prescriptions were dispensed by a man who kept a tobacconist's shop some distance away and came to the drug stores in the evenings, and that on occasion they were dispensed by an unqualified person acting on telephoned instructions by the tobacconist-ex-druggist. Recently the firm regained admission to the register of pharmacists—having again appointed a superintending qualified dispenser—and it applied for restoration to the insurance list of chemists. The Insurance Committee asked the Commissioners to say, having regard to the incidents above outlined, that the firm was not a suitable one for inclusion in the list. The decision of the Commissioners will be announced later.

"Rep. Mist."

We have received from a pharmacist in London a memorandum in which he makes the following objections to the use of "Rep. mist.":

It seems that the medical profession as a whole do not appreciate the very real objection which pharmacists have to "repeat mixtures."

The pharmacist receiving "rep. mist." has first to ascertain that he holds the original prescription or his own copy thereof. It has not infrequently happened that a second prescription has gone elsewhere, and the "rep. mist." has apparently referred to a mixture the patient has been taking for some time, therefore the doctor's intention is frustrated by no fault of the pharmacist. Very few medical men write either initials or addresses; we have heard of a case where three "Mrs. Browns" got each other's medicine, they being patients of the same doctor who wrote "rep. mist." for them all.

The time of the pharmacist is taken up by searching for originals among prescriptions which are not those of only one doctor but many, and he has further to make the necessary copies for the Insurance Committee, a work for which he receives no remuneration, and which he was given to understand was to be done by the doctor.

The point that "rep. mist." gives rise to conscious and unconscious recommendation of a particular pharmacist might also be made, and that to take advantage of the fact that his refusal to dispense them leads to personal loss is, to say the least, ungenerous.

From the point of view of the patient, the objection, over and above that which is both his and the pharmacist's, is the hindrance to changing from one dispenser to another (the "free choice" promised by the Act), the probable running backward and forward for copies or further particulars of the prescriptions, and the very real danger of obtaining the medicine belonging to someone of the same name, or of getting a prescription dispensed that has been superseded by one of more recent date.

INSURANCE ACT IN PARLIAMENT.

Committee on Excessive Sickness.

Mr. Charles Bathurst asked when the Departmental Committee upon excessive sickness, in connection with the National Insurance Act, ceased taking evidence; how many meetings it had since held, and when its report was likely to be issued.—In reply, Mr. W. Benn said that the Committee had finished taking evidence and hoped to report at an early date.

Transfers.

Mr. W. Benn has informed Mr. Worthington Evans that each case of disputed transfer is decided after consideration of the statements of the society and the insured person.

Medical Benefit.

Outstanding Payments.

Mr. Stewart asked whether the Insurance Committee for Cheshire had paid all the balances due to the panel doctors for the year ending January 15th, 1914; and, if not, what was the amount of outstanding payments due and when they would be liquidated.—Mr. Wedgwood Benn said that the settlement of accounts for the 1913 medical year had been delayed in the case of the area referred to, pending consideration by the doctors concerned of certain outstanding questions as to the method of distribution to be adopted.

Sanatorium Benefit.

Mr. Hamilton asked a question with reference to statements made at a recent meeting of the South Manchester guardians that there was no provision at the Withington Hospital for dealing effectively with the 112 men and 41 women suffering from consumption, and to a lady guardian's further statement at the same meeting that, as a member of a Local Insurance Committee, she was aware that 88 people applied for sanatorium treatment and that it could only be given to 3; and inquired what provision has been made in this district to supply sanatorium treatment.—The Parliamentary Secretary to the Local Government Board said that the Manchester Corporation had provided 323 sanatorium and hospital beds for the treatment of consumption on March 31st, 1914, and was proceeding rapidly with the provision of further beds. Special inquiry would be made into the matter.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty: Fleet Surgeon ROBERT L. DICKINSON, to the *Temeraire*, July 14th. Fleet Surgeon WALTER H. S. SEQUEIRA, to the *Tyne*, July 14th. Fleet Surgeon FREDERICK FEDART, M.B., to the *Impregnable*, vice Shand, July 1st. Fleet Surgeon JOHN H. STENHOUSE, M.B., to the *Hibernia*, July 1st. Fleet Surgeon JAMES MOWAT, M.B., has been placed on the retired list at his own request, April 1st. Staff Surgeon EDWARD B. KENNY, M.B. (retired), has been reinstated on active list. Staff Surgeon REGINALD ST. G. S. BOND, M.B., F.R.C.S., to the *Commonwealth*, on recommissioning, June 25rd. Staff Surgeon JAMES A. THOMPSON, M.B., to the *Glory*, temporary, undated. Staff Surgeon RICHARD S. OSBORNE, to the *St. George*, vice Mowat, June 20th. Staff Surgeon LLEWELLYN LINDOP, to the *Birmingham*, vice Osborne, June 20th. Staff Surgeon EDWARD B. KENNY, to the *Pembroke*, additional, for disposal, July 7th. Surgeon HENRY E. Y. WHITE, M.B., to the *Commonwealth*, on recommissioning, June 23rd. Surgeon JOHN C. F. D. VAUGHAN has been promoted to the rank of Staff Surgeon, with seniority of May 19th.

ROYAL NAVAL VOLUNTEER RESERVE.

HENRY C. W. NUTTALL appointed Surgeon, and to be attached to the Mersey Division, June 6th.

ARMY MEDICAL SERVICE.

SURGEON-GENERAL WILLIAM BABTIE, V.C., C.B., C.M.G., M.B., is appointed an Honorary Surgeon to the King, vice Surgeon-General Sir W. L. Gubbins, K.C.B., M.V.O., M.B., June 1st.

Colonel T. P. WOODWARD, from half-pay, late R.A.M.C., has been appointed Deputy Director of Medical Services, Aldershot.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel F. W. C. JONES has been ordered to Tidworth to succeed Colonel T. J. O'Donnell, D.S.O.

Major S. H. FAIRRIE has been noted for service in India with the Southern Army.

Major J. C. B. STATHAM has left the London District for duty at Sierra Leone.

Captain R. F. O'T. DICKINSON has been posted to Dublin District for duty.

Captain ALBERT E. F. HASTINGS is removed from the service, May 1st.

Lieutenant N. BEDDINGFIELD has been noted for service in the Mediterranean Command.

Lieutenant F. C. COWTAN has been noted for a tour of service, Northern Army, India.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT HENRY H. MULHOLLAND is confirmed in his rank.

Lieutenant JOHN MCG. SCOTT, M.B., resigns his commission, June 1st.

Lieutenant THOMAS WARRINGTON is confirmed in his rank.

Cadet DOUGLAS H. MURRAY, from the St. Andrew's University Contingent, Officers' Training Corps, to be Lieutenant on probation, May 25th.

Cadet FRANCIS R. H. MOLLAN, from the Royal College of Surgeons in Ireland Contingent, Officers' Training Corps, to be Lieutenant on probation, May 20th.

Cadet WILLIAM B. JEPSON, from the London University Contingent, Officers' Training Corps, has been appointed a Lieutenant on probation, May 16th.

IDRIS D. EVANS, late Cadet-Quartermaster, Durham University Contingent, Officers' Training Corps, has been appointed a Lieutenant, May 21st.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL V. G. DRAKE-BROCKMAN is granted privilege leave for two months and fifteen days combined with furlough for five months and nine days, with effect from May 1st.

Major J. R. J. TYRRELL is posted as Agency Surgeon, Bundelkhand, with effect from May 1st.

Captain C. I. BRIERLY is posted as Civil Surgeon, Peshawar, with effect from May 1st.

Surgeon-General A. M. CROFTS, C.I.E., K.H.S., is permitted to retire from the service, with effect from May 25th.

Lieutenant-Colonel H. E. DRAKE-BROCKMAN, I.M.S., has been granted six months' combined leave, with effect from April 18th.

The services of Captain R. G. G. CROLY, I.M.S., have been placed at the disposal of the Madras Government for civil employment.

Captain A. H. NAPIER, I.M.S., has been appointed to the Bacteriological Department and posted to the Central Research Institute, Kasauli.

Colonel A. O. EVANS, Inspector-General of Civil Hospitals, Burma, is granted with effect from May 25th, 1914, combined leave for eight months—namely, privilege leave from May 25th, 1914, to August 24th, 1914, and leave on private affairs from August 25th, 1914, to January 24th, 1915.

Lieutenant-Colonel G. J. H. BELL, M.B., Inspector-General of Prisons, Burma, is appointed to officiate as Inspector-General of Civil Hospitals, Burma, during the absence on leave of Colonel A. O. Evans, or until further orders.

A good service pension of £100 per annum has been conferred on the Honourable Surgeon-General R. W. S. LYONS, M.D.

INDIAN SUBORDINATE MEDICAL DEPARTMENT.

Senior Assistant Surgeon with the honorary rank of Lieutenant to be Senior Assistant Surgeon with the honorary rank of Captain: LEWIS M. CABRAL, January 1st.

To be Senior Assistant Surgeons with the honorary rank of Lieutenant: First Class Assistant Surgeons HERBERT W. V. COX, HERBERT JAMES GALLOWAY, WILLIAM C. M. CHARTERS, GEORGE C. F. HOLMES, CHRISTOPHER C. A. WALE.

The King has approved of the retirement of Senior Assistant Surgeons and Honorary Captains DANIEL R. DAVIES (December 29th, 1913), CHARLES N. GREGG (December 31st, 1913), WILLIAM FORRESTER (March 3rd, 1914).

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Second East Anglian Field Ambulance.—ERNEST B. HINDE, M.B., F.R.C.S.Edin., to be Lieutenant, April 20th.

Third Highland Field Ambulance.—Lieutenant WILLIAM L. ROBERTSON, M.B., F.R.C.S.Edin., to be Captain, April 19th.

Third South Midland Field Ambulance.—Captain CYRIL C. LAVINGTON resigns his commission, June 17th.

First Wessex Field Ambulance.—Lieutenant LANGFORD G. DAVIES, M.B., resigns his commission, June 17th.

Second East Lancashire Field Ambulance.—CLEMENT A. WEBSTER to be Lieutenant, May 16th.

Third West Lancashire Field Ambulance.—ROBERT D. B. FREW, M.D., to be Lieutenant, May 14th.

First London (City of London) General Hospital.—Major Sir ANTHONY A. BOWLBY, C.M.G., F.R.C.S., and Major Sir W. P. HERRINGHAM, M.D., have been appointed Lieutenant-Colonels, June 20th.

For Attachment to Units other than Medical Units.—BASIL HUGHES, M.B., F.R.C.S., to be Lieutenant, March 1st. HUGH H. ROBINSON to be Lieutenant, April 25th.

Attached to Units other than Medical Units.—Captain ALLAN F. RUTHERFORD, M.B., to be Major, February 1st. ARCHIBALD C. HADDOW, M.B., to be Lieutenant, May 15th.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

COLONEL WILLIAM COATES, C.B., resigns his commission, and is granted permission to retain his rank, and to wear the prescribed uniform, June 15th.

Lieutenant-Colonel CHARLES G. GRANT, from the list of officers attached to units other than medical units, to be Lieutenant-Colonel, May 22nd.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN ninety-seven of the largest English towns 9,168 births and 4,497 deaths were registered during the week ended Saturday, June 20th. The annual rate of mortality in these towns, which had been 13.3, 13.2, and 13.5 per 1,000 in the three preceding weeks, fell to 12.9 per 1,000 in the week under notice. In London the death-rate did not exceed 12.2, against 11.8, 12.7, and 12.8 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 2.2 in Ealing, 4.6 in Northampton, 4.9 in Acton, 6.6 in Edmonton and in Eastbourne, 7.2 in Gloucester, and 7.4 in Ilford to 18.5 in Wolverhampton, 18.9 in Liverpool, 19.1 in Bradford, 20.1 in Blackpool, 20.3 in Barnsley, and 21.5 in South Shields. Measles caused a death-rate of 1.3 in Manchester, 1.4 in Smethwick, 1.6 in St. Helens and in Sheffield, 1.8 in Darlington, and 2.1 in Bootle and in Warrington; and whooping-cough of 1.0 in Oldham, 1.4 in Plymouth, in Cardiff and in Warrington, and 3.3 in South Shields. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 29, or 0.6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest: of this number 6 were recorded in Liverpool, 3 in Birmingham, 3 in Gateshead, and 2 each in Portsmouth, Cambridge, Sheffield, and Sunderland. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,910, 2,970, and 2,993 at the end of the three preceding weeks, had further risen to 3,038 on Saturday, June 20th; 405 new cases were admitted during the week, against 377, 339, and 391 in the three preceding weeks.

In ninety-seven of the largest English towns 9,192 births and 4,193 deaths were registered during the week ended Saturday, June 27th. The annual rate of mortality in these towns, which had been 13.2, 13.5, and 12.9 per 1,000 in the three preceding weeks, fell to 12.1 per 1,000 in the week under notice. In London the death-rate was also equal to 12.1, against 12.7, 12.8, and 12.2 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 4.9 in Swindon, 5.5 in Bournemouth, 5.6 in Southend-on-Sea, and 6.1 in Hastings to 17.3 in Liverpool and in Middlesbrough, 18.3 in Oldham, 18.4 in Smethwick, 19.8 in Wakefield, and 21.1 in Stockton-on-Tees. Measles caused a death-rate of 2.0 in Smethwick, 2.1 in Warrington, 2.5 in York, and 2.8 in Oldham; and whooping-cough of 2.1 in Warrington, and 2.4 in Barrow-in-Furness. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 29, or 0.7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 6 were recorded in Liverpool, 4 in Stockton-on-Tees, 4 in Birmingham, and 3 in St. Helens. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,970, 2,993, and 3,038 in the three preceding weeks, further rose to 3,088 on Saturday, June 27th; 440 new cases were admitted during the week, against 359, 391, and 405 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN the sixteen largest Scottish towns 1,276 births and 641 deaths were registered during the week ended Saturday, June 20th. The annual rate of mortality in these towns, which had been 15.6, 16.0, and 14.4 per 1,000 in the three preceding weeks, rose to 14.6 in the week under notice, and was 1.7 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 8.8 in Kilmarnock, 10.1 in Motherwell, and 10.5 in Clydebank to 18.3 in Leith, 18.7 in Greenock, and 18.9 in Hamilton. The mortality from the principal infective diseases averaged 1.5 per 1,000, and was highest in Clydebank and Hamilton. The 306 deaths from all causes in Glasgow included 16 from whooping-cough, 9 from infantile diarrhœa, 8 from measles, 3 from scarlet fever, and 1 from diphtheria. Three deaths from measles were recorded in Dundee, 3 in Hamilton, and 2 in Clydebank; from diphtheria, 2 deaths in Aberdeen and 2 in Motherwell; from whooping-cough, 2 deaths in Greenock; and from diarrhœa and enteritis, 4 deaths in Dundee, 2 in Aberdeen, and 2 in Hamilton.

In the sixteen largest Scottish towns 1,301 births and 605 deaths were registered during the week ended Saturday, June 27th. The annual rate of mortality in these towns, which had been 15.0, 14.4,

and 14.6 per 1,000 in the three preceding weeks, fell to 13.8 in the week under notice, and was 1.7 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 10.5 in Clydebank, 11.0 in Falkirk, and 11.3 in Motherwell to 18.0 in Aberdeen, 19.0 in Kirkcaldy, and 23.0 in Perth. The mortality from the principal infective diseases averaged 1.2 per 1,000, and was highest in Leith and Aberdeen. The 265 deaths from all causes in Glasgow included 15 from whooping-cough, 5 from measles, 3 from scarlet fever, 3 from diphtheria, 2 from enteric fever, and 2 from infantile diarrhoeal diseases. Four deaths from diarrhoeal diseases were registered in Aberdeen and 2 in Leith, and 3 deaths from diphtheria in Aberdeen.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, June 20th, 641 births and 410 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 636 births and 413 deaths in the preceding period. These deaths represent a mortality of 17.7 per 1,000 of the aggregate population in the districts in question, as against 17.9 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.8 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 27.7 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.6 (as against an average of 19.5 for the previous four weeks), in Dublin city 18.1 (as against 20.5), in Belfast 17.1 (as against 16.4), in Cork 19.0 (as against 18.4), in Londonderry 11.4 (as against 10.8), in Limerick 23.0 (as against 20.3), and in Waterford 30.4 (as against 19.9). The zymotic death-rate was 2.2, as against 1.8 in the previous week.

During the week ending Saturday, June 27th, 665 births and 364 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 641 births and 410 deaths in the preceding period. These deaths represent a mortality of 15.7 per 1,000 of the aggregate population in the districts in question, as against 17.7 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.6 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 28.8 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 15.5 (as against an average of 17.9 for the previous four weeks), in Dublin city 17.6 (as against 19.5), in Belfast 17.5 (as against 17.0), in Cork 12.9 (as against 17.0), in Londonderry 10.1 (as against 11.4), in Limerick 12.2 (as against 18.9), and in Waterford 13.3 (as against 19.0). The zymotic death-rate was 1.6, as against 2.2 in the previous week.

Hospitals and Asylums.

ROYAL EDINBURGH ASYLUM, MORNINGSIDE.

The Work of a Century.

Rather over one hundred years ago the then managers of this asylum presented to the general meeting of contributors the first annual report for the year 1813. Although the asylum was incorporated by Royal Warrant in 1807, it was not till June 19th, 1813, that the first patient was admitted. During that year 6 patients in all were admitted, 1 was discharged as recovered, 1 removed by her relatives, and 4 remained in the asylum at the end of the year. Since its opening 21,942 patients have been under treatment in this institution, and, as the managers well say in their report, it is impossible to overestimate the debt of gratitude which the community owes to the benevolent persons who conceived the idea of the asylum and who undertook the tedious and trying work of raising the funds necessary to give effect to their views.

The proposal for the establishment of the asylum was originally made by the President of the Royal College of Physicians of Edinburgh, and its object was to provide for the care of insane persons who were still in a recoverable state by members of the Royal Colleges of Physicians or Surgeons. The Lord Provost of the City and others holding high official positions agreed to form themselves into a body of trustees to carry the scheme into operation.

The institution was thus launched under the most favourable auspices, both medical and lay, but even the most sanguine of its originators could hardly have foreseen the immense amount of beneficent work to be accomplished and the world-wide influence to be wielded by this great institution under the direction of successive distinguished physician-superintendents.

Report for 1912.

Turning to the statistics for the year 1912, the Physician-Superintendent, Dr. G. M. Robertson, shows that on January 1st, 1912, there were 753 patients on the general register, and on the last day of the year 784. The total cases under treatment during the year numbered 975, and the average number daily resident was 756. During the year 222 were admitted, of whom 186 were first and 36 not-first admissions. In 72 the attacks were first attacks within three, and in 37 more within twelve, months of admission; in 36 not-first attacks within twelve months; in 66 the attacks, whether first attacks or not, were of more than twelve months' duration, and 11 were congenital cases.

The total admissions were classified according to the forms of mental disorder into: Simple mania, 23; delusional mania, 6; simple melancholia, 30; delusional melancholia, 24; and agitated melancholia, 3; delirious insanity (including in this acute delirium, subacute delirious insanity, and mild confusional states), 39; systematized delusional insanity, 16; dementia præcox, 14; general paralysis, 24; dementia, 35; congenital defect, 5; moral insanity, 6; and morphinomania, 1.

As to probable causation, alcohol was assigned in 28, syphilis in 27, and other toxins in 8 more; epilepsy, gross brain disease, and apoplexy, etc., in 12; other bodily disorders in 8; child-bearing in 5; physical exhaustion in 18; critical periods in 50; bodily trauma in 1, and mental stress in 23. Hereditary influences were ascertained in 68, and congenital defect existed in 6, whilst no cause could be assigned in 98. Previous attacks had occurred in 64. The proportion of cases of alcoholic insanity (11.2 per cent.) was less than usual.

Syphilis.

Dr. Robertson gives particular attention in his report to general paralysis. Of the 24 general paralytics admitted only 1 was a woman. As there were 107 male admissions, 21.5 per cent., or over 1 in 5, suffered from this disease. The average admission-rate of general paralytics at this institution has been over 19.5 per cent. Such statistics, Dr. Robertson says, reveal a state of affairs urgently calling for public attention. "Large numbers of soldiers," he says, "used in the past to fall victims to it, but medical treatment in the army has become so thorough and scientific that, after twelve or fifteen years, this profession will probably cease to supply its proportion of cases. Can something of the same kind not be done for men in the civil population? They would no doubt require to be educated to a sense of their dangers, and the value of early treatment, by short addresses or printed warnings in their workshops. The insurance or some other public authority would require to make provision for treatment, which would not be difficult or expensive owing to the short time now required, and the medical profession should be given the power of exercising more pressure than at present for insisting upon treatment till a cure be obtained. If these measures were successful, in fifteen years not only general paralysis, but a host of serious maladies, would decrease enormously in number. The one policy of merely ignoring the existence of these ills is now inexcusable and something must be done."

Recoveries and Deaths.

During the year 58 were discharged as recovered, giving a recovery-rate on the admissions of 35.0 per cent.; also 50 as relieved and 21 as not improved. During the year 62 died, giving a death-rate on the average number resident of 7.4 per cent.

The deaths were due in 26 to diseases of the nervous system, including 16 from general paralysis; in 10 to diseases of the respiratory system, including in this 6 from pulmonary phthisis; in 14 to diseases of the heart and blood vessels, but excluding 5 from cerebral haemorrhage entered among the deaths for nervous diseases; 2 from kidney disease, and 10 from general diseases, including 8 from senile decay.

The low death-rate from consumption (under 10 per cent.), and the fact that 3 of the cases suffered on admission from the disease of which they died, show a satisfactory state of affairs as regards this disease.

Research and Post-Graduate Teaching.

It need hardly be said that the best traditions of this asylum as a centre of scientific research and teaching are fully maintained under Dr. Robertson's direction, but it should be mentioned that since the University of Edinburgh created its Diploma in Psychiatry, a post-graduate clinical lecture has been delivered weekly of a higher and more technical nature than the ordinary classes for students. The lectures are attended by the full staff of the asylum, to the benefit, Dr. Robertson says, of teachers and taught alike.

GENERAL HOSPITAL, BIRMINGHAM.

The number of patients treated in 1913 was 64,815, and of these 5,908 were in-patients and 58,815 out-patients. There has been a great pressure on the beds, as there has been a list of from 180 to 200 cases awaiting admission during the greater part of the year. Many cases that needed treatment have been in consequence sent away, while at the same time there has been overcrowding in some of the wards. A ward which has been kept up to the present for emergencies was opened; but this addition of ten beds only gave very slight relief. A large number of insured patients have been treated in the hospital, but the Insurance Commissioners have made no arrangement for the treatment of these patients when seriously ill, and the hospital has only received £13 7s. 11d. from approved societies, and no single subscription from the Insurance Committees. The ordinary income was £31,990 and the total income from all sources £38,360, while the ordinary expenditure was £29,319, and the total expenditure £30,482. A number of important improvements in the building have been approved, and will add considerably to the efficiency of the work of the hospital, and also to the comfort of the resident, nursing, and domestic staffs. The most important of these alterations consists in a considerable enlargement of the pathological department, which will enable more clinical investigation work to be undertaken, and obviate the delay and inconvenience existing under the present conditions. The personnel of the massage department has been increased, and, in view of the necessity of this form of treatment, a large addition to the accommodation of this department is proposed. The work of the *x*-ray department has increased greatly, and a movable *x*-ray apparatus has been purchased to enable patients to be radiographed without removal from the wards. Some additions are also contemplated to the operating theatres. It has been resolved to place in the hospital a tablet in memory of the late Mr. John Roderick. Mr. Albert Toft has been entrusted with this work.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

ABERGAVENNY: MONMOUTHSHIRE ASYLUM.—Locumtenent Assistant Medical Officer (male). Terms, £6 6s. per week.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Male House-Surgeon. Salary, £150 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House-Surgeon (male). Salary, £120 per annum.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

BIRMINGHAM: CITY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer. Salary, £240 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—(1) House-Physician; (2) Two House-Surgeons. Salary at the rate of £50 per annum.

BOARD OF CONTROL (MENTAL DEFICIENCY ACT).—Medical Superintendent of a State Institution for Defectives to be opened near Liverpool. Salary, £800 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—House-Surgeon (male). Salary at the rate of £75 per annum.

BOLTON INFIRMARY AND DISPENSARY.—Third House-Surgeon. Salary, £110 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRENTFORD UNION.—Second Assistant Medical Superintendent of the Infirmary, etc. Salary, £175 per annum, rising to £200.

BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House-Surgeon. Salary, £100 per annum.

BRISTOL ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.

BRITISH MEDICAL ASSOCIATION.—Scottish Medical Secretary. Salary, £600 per annum.

BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

CAMBERWELL TUBERCULOSIS DISPENSARY, Brunswick Square, S.E.—Assistant Medical Officer. Salary, £250 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—Two House-Surgeons. Salary, £60 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Surgeon.

CHELSEA PARISH INFIRMARY.—Second Assistant Medical Officer. Salary, £140 per annum.

CHEPSTOW UNION.—Medical Officer for the Tintern District. Salary, £40 per annum.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

COLONIAL OFFICE.—Two Assistant Medical Officers for Ankylostomiasis Campaign in Trinidad and Grenada. Salary, £400 per annum without quarters or £350 with free quarters.

DEVON EDUCATION COMMITTEE, Exeter.—Assistant School Medical Officer and Oculist. Salary, £300 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

DURHAM COUNTY HOSPITAL.—House-Surgeon. Salary, £150 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell.—(1) House-Physician: (2) Medical Officer to Casualty Department (males). Salary at the rate of £75 and £100 per annum respectively.

ESSEX EDUCATION COMMITTEE.—Medical Inspector. Salary, £300 per annum, rising to £400.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House-Surgeon. Salary at the rate of £75 per annum.

GLOUCESTERSHIRE EDUCATION COMMITTEE.—School Medical Inspector. Salary, £250 per annum, rising to £300.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HERTFORD COUNTY HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—(1) Assistant Physician. (2) Assistant Resident Medical Officer; salary, £100 per annum. (3) House-Physician; honorarium, 30 guineas for six months.

HOVE: LADY CHICHESTER HOSPITAL.—Resident Medical Woman. Honorarium, £30.

HULL: ROYAL INFIRMARY.—(1) Honorary Assistant Ophthalmic Surgeon; (2) Casualty House-Surgeon; (3) Assistant House-Surgeon. Salary for (2) and (3) £80 and £100 per annum respectively.

INVERNESS DISTRICT ASYLUM.—Assistant Medical Officer. Salary, £200 per annum.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £250 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

KING EDWARD VII SANATORIUM, Midhurst.—Second Assistant Medical Officer. Salary, £150 per annum, rising to £200.

KING'S LYNN: WEST NORFOLK AND KING'S LYNN HOSPITAL.—House-Surgeon. Salary, £150 per annum.

LAMBETH PARISH INFIRMARY.—Fourth and Sixth Assistant Medical Officers. Salary for former, £160 per annum, rising to £200; and for latter, £150 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £130 per annum.

LEEDS TUBERCULOSIS ASSOCIATION.—Resident Medical Officer for the Sanatorium at Gateforth. Salary, £100 per annum.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer. Salary, £150 per annum.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—Research Assistant in the Runcorn Research Laboratory. Salary, £150 per annum.

LIVERPOOL STANLEY HOSPITAL.—(1) Two House-Physicians. (2) House-Surgeon. Salary, £75 per annum each.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MILDMAY MISSION HOSPITAL, Bethnal Green, E.—Two Resident Medical Officers. Salary, £83 per annum.

NORTHAMPTON GENERAL HOSPITAL.—Two House-Surgeons. Salary, £120 per annum each.

NOTTINGHAM EDUCATION COMMITTEE.—School Dentist. Salary, £250 per annum, rising to £300.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary at the rate of £100 per annum.

OGMORE AND GARW URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £325 per annum, rising to £400.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Male Assistant Resident Medical Officer. Salary at the rate of £100 per annum and £10 honorarium on completion of six months.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £90 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Surgeon. Salary at the rate of £90 per annum, rising to £110 on appointment to senior post.

PRESTON: COUNTY ASYLUM, Whittingham.—(1) Junior Assistant Medical Officer; (2) Assistant Medical Officer to act also as Pathologist. Salary, £250 per annum, rising to £300.

PRESTON COUNTY BOROUGH.—School Medical Officer. Salary, £350 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—(1) Junior House-Physician; (2) Junior House-Surgeon. Salary, £75 per annum each.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary, £80 per annum.

RETFORD: STATE CRIMINAL LUNATIC ASYLUM.—(1) Assistant Medical Officer (male); salary, £225, increasing to £350. (2) Locumtenent (male); salary, £5 5s. per week.

ROCHDALE INFIRMARY AND DISPENSARY.—Senior and Junior House-Surgeons (males). Salary, £120 and £110 per annum respectively.

ROTHERHAM HOSPITAL.—Senior and Junior House-Surgeons. Salary, £200 and £100 per annum respectively.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Assistant Anaesthetist. Salary, £75 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—(1) Surgeon to Out-patients; (2) Junior Resident Medical Officer; salary at the rate of £50 per annum.

SALFORD FEVER HOSPITAL.—Junior Resident Medical Officer at Ladywell Sanatorium. Salary, £150 per annum.

SALFORD ROYAL HOSPITAL.—(1) House Surgeon; (2) Junior House-Surgeon; (3) Casualty House-Surgeon. Salary at the rate of £100 per annum each.

SALISBURY GENERAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

SALOP INFIRMARY.—House-Physician. Salary at the rate of £110 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Resident House-Surgeon. Salary, £80 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House-Surgeon. Salary, £100 per andum.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHREWSBURY: COUNTY ASYLUM.—Second Assistant Medical Officer (male). Salary, £230 per annum, rising to £250.

SOMERSET COUNTY COUNCIL.—Assistant Tuberculosis Officer. Salary, £300 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

SURREY COUNTY COUNCIL.—Assistant Medical Officer of Health. Salary, £400 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—Two House-Surgeons. Salary, £125 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

UNIVERSITY COLLEGE, Gower Street, W.C.—Lecturer and Demonstrator in Anatomy. Salary, £350 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Junior Surgical Registrar. Salary, £80 to £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—(1) House-Physician; (2) House-Surgeon. Honorarium, £40 for six months each.

WALSALL AND DISTRICT HOSPITAL.—Assistant House-Surgeon. Salary, £110 per annum.

WARWICKSHIRE AND COVENTRY JOINT COMMITTEE FOR TUBERCULOSIS.—Tuberculosis Officer. Salary, £500 per annum.

WEST AFRICAN MEDICAL STAFF.—Appointments to the Service. Salary, £400 per annum, rising to £500, and thence to £600, with prospect of promotion to higher posts.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—(1) Junior House-Physician. (2) Junior House-Surgeon. Salary at the rate of £75 per annum.

WEST HARTLEPOOL: CAMERON HOSPITAL.—House-Surgeon. Salary, £150 per annum.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £120 per annum.

WESTMINSTER UNION INFIRMARY.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

WILLESDEN URBAN DISTRICT COUNCIL.—(1) Assistant Medical Officer of Health and Assistant School Medical Officer; salary, £300 per annum. (2) Consulting Ophthalmic Surgeon; payment, £1 1s. per hour.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Salary, £120 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Harris (Inverness), Southwell (Nottingham).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

BARNES, Stanley, M.D., F.R.C.P., Honorary Physician to the Birmingham General Hospital, vice Sir Robert M. Simon, M.D., resigned.

CALMAN, Mrs. Alice J., M.B., Ch.B., Junior Assistant in the Ophthalmic Department of the New Hospital for Women, Euston Road.

CAMERON, J. T., M.B., Assistant Medical Officer of the Leicester Union Infirmary.

COMYN, Harold F., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.Lond., Medical Registrar to the Royal Hospital for Diseases of the Chest, City Road, E.C.

DOOLEY, G. G., L.R.C.P. and S.Irel., District Medical Officer of the Howden Union.

HENDRY, J. A., M.B., Ch.B.Aberd., District Medical Officer of the Bakewell Union.

HERLEY, Randal, L.R.C.P. and S.Edin., L.F.P.S.Glasg., Ophthalmic Surgeon to the Dewsbury and District Infirmary.

HOLMES, Gordon M., M.D.Dubl., F.R.C.P., Physician to the Royal London Ophthalmic Hospital, Moorfields.

JONES, Howard, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Honorary Anaesthetist to St. Mark's Hospital for Diseases of the Rectum.

LUKE, G. F., L.R.C.P. and S.Edin., L.F.P.S.Glasg., Medical Officer of the Tempo Dispensary District of the Enniskillen Union, vice Dr. Hackett, resigned.

MACKAY, C. G., M.B., Ch.B.Glasg., District Medical Officer of the Newport (Mon.) Union.

MONOD, Gustave, M.D.Paris, M.R.C.P.Lond., Physician to the Vichy Thermal Hospital.

MORTON, Hugh, M.D., Ch.B.Glasg., Professor of Physiology, Anderson College of Medicine, Glasgow.

MYERS, Bernard, M.D.Edin., M.R.C.P.Lond., Out-patient Physician to the Royal Waterloo Hospital for Children and Women, London, S.E.

OLIVER, M. W. B., M.B.Camb., F.R.C.S.Eng., Assistant Surgeon to the Central London Ophthalmic Hospital.

PEEK, J. Harold, M.D., Ch.B.Edin., D.P.H.Cantab., Assistant County Medical Officer of Health for Flintshire.

RANSFORD, W. R., L.D.S.Eng., Dental Surgeon to the Civil General Hospital, Rangoon.

RENNY, Eustace G., M.R.C.S.Eng., L.R.C.P.Lond., Honorary Assistant Surgeon and Anaesthetist to the Essex County Hospital, Colchester.

RICHMOND, Arthur, M.B., Ch.B., Tuberculosis Officer for Berkshire, vice Dr. Norris, resigned.

RICHMOND, D. Stevenson, M.B., B.S.Glasg., Medical Officer of Health to Cwmamman Urban District Council, and also as Medical Officer to Post Office, Garnant and Glanamman.

ROBERTS, C. Rupert, M.D., F.R.C.S., F.R.C.P., Examiner in Midwifery and Diseases of Women to the Conjoint Board, London.

SKERRETT, Frank B., M.B., B.Sc.Lond. and Vict., D.P.H., M.R.C.S., Assistant Medical Officer of Health and Chief Assistant School Medical Officer for the County Borough of West Ham.

STEADMAN, F. St.J. S., M.R.C.S., L.R.C.P., L.D.S., D.P.H., Assistant Dental Surgeon to the Royal Dental Hospital.

STEVENS, T. G., M.D., F.R.C.S., Obstetric Surgeon to St. Mary's Hospital, Paddington, W., vice Dr. William J. Gow, F.R.C.P., resigned.

WYCHE, E. M., L.R.C.P., M.R.C.S., D.P.H.Lond., Senior Medical Inspector to the Nottingham Education Committee.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5*s., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

GREATOREX.—On the 21st June, at Manor Drive, Halifax, the wife of R. W. Greatorex, M.B., of a son.

RIGGALL.—On June 26th, at the Queen Alexandra Sanatorium, Davos Platz, Switzerland, the wife of Surgeon R. M. Riggall, R.N., a son.

MARRIAGE.

ODGERS—HIGGINS.—On Tuesday, June 30th, at All Saints, Ennismore Gardens, by the Rev. W. E. Addis, M.A., Norman Blake Odgers, M.Ch., F.R.C.S., third son of the Rev. Dr. Odgers, of Oxford, to Mabel, youngest daughter of G. Randell Higgins, The Croft, Burcote-on-Thames, Oxon.

DEATHS.

MUGLISTON.—On the 24th June, Dr. H. Boyes Mugliston, elder son of G. T. W. Mugliston, M.D., at his residence, "Coo-ee," Brent Knoll, Somerset.

MUGLISTON.—On the 30th inst., G. T. W. Mugliston, M.D., at his residence, "Birsay," Hatch End, Pinner, aged 89 years.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.

DUBLIN: ROTUNDA HOSPITAL.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.

LONDON HOSPITAL MEDICAL COLLEGE, Turner Street, E.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich, S.E.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock.

MANCHESTER HOSPITALS: Post-Graduate Clinics.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, Chenies Street, London, W.C.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, London, W.C.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	JULY.
7 Tues.	City Division, Balfour Hall, Kingsland Road, 9.30 p.m.
8 Wed.	Dorset and West Hants Branch, Bridport, 3.30 p.m.; Luncheon, 1.30 to 2.30 p.m.
	St. Helens Division, Annual Meeting, St. Helens.
	London: Insurance Act Committee.
9 Thur.	Southern Branch, Annual Meeting, Southampton, 1 p.m.; Luncheon, 1.45 p.m.
10 Fri.	London: Therapeutic Subcommittee, 2.30 p.m.
	London: Medico-Political, Medical Inspection and Treatment of School Children Sub-Committee, 7 p.m.
	East York and North Lincoln Branch, Annual Meeting, Hull.
11 Sat.	London: Science Committee, 10.30 a.m.

Date.	Meetings to be Held.
	JULY (*continued*).
14 Tues.	London: Standing Ethical Subcommittee, 2.30 p.m.
	London: Metropolitan Counties Branch Council, 4 p.m.
	North Wales Branch, Annual Meeting, Red Wharf Bay, Anglesey.
17 Fri.	Coventry Division, Coventry Hospital, 4.15 p.m.

ANNUAL MEETING, ABERDEEN, 1914.

Annual Representative Meeting, Friday, July 24th, and following days.
Special Representative Meeting, July 27th.
Presidential Address, Tuesday, July 28th.
Sections—July 29th, July 30th, and July 31st.
Annual Exhibition, July 28th–31st.
Excursions, August 1st.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 11TH, 1914.

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British Medical Association.

MEDICAL DEPARTMENT, R.N.

REPORT ON THE SHORTAGE OF MEDICAL OFFICERS IN THE ROYAL NAVY.

THE following report has been approved by the Council of the British Medical Association and forwarded to the Admiralty.

Following the leading article in the issue of the BRITISH MEDICAL JOURNAL of February 28th, 1914, on the present Shortage of Officers in the Naval Medical Service, the Medical Secretary has received many letters which are illuminating as to causes, and temperate in form. They nearly all endorse, and none of them traverse the statements contained in the above-mentioned article of 28th February (Appendix i.), which should now be taken together with the present remarks and suggestions based upon the correspondence referred to.

The Memorandum on pages 974 and 975 of the BRITISH MEDICAL JOURNAL of 2nd May last (Appendix ii.) also fairly condenses the statements made in several letters.

The correspondence has revealed unsatisfactory conditions of service. Men of about 26 years' of age—the average age of entry of Medical Officers—are not readily attracted to the Naval Life of to-day which for the most part consists of a monotonous existence round outlandish parts of Home Coasts. The former pleasant alternations of Home and Foreign Stations with ever varying social and sporting facilities have gone for the vast majority. Most men over 35 are married, and theirs is a hard struggle living in a mess afloat and maintaining homes on shore, which they rarely see—a position which has become acutely accentuated by the increased cost of living as well as by irksome regulations afloat.

Disabilities of the Naval Medical Service as compared with the Army Medical Service.

In mid-Victorian times the comparative hardships of the Sea Service were recognised by the Authorities, and partially compensated for by higher rates of pay for Naval compared with Army Medical Officers. This position is now reversed. The disabilities of the Naval Medical Service have been multiplied and increased, and its old attractions have practically disappeared, while the Army Medical Service has advanced, and rightly too, in every direction professionally and materially. Most important of all, perhaps, its Officers have been given complete control of their own affairs, and mutual respect has grown up between them and the other branches of the Army. To-day the R.A.M.C. is maintained without difficulty up to strength by a plentiful supply of the best class of candidates, there being at each half-yearly Entrance Examination 3 or 4 competitors for every vacancy. On the other hand, the Navy is about 70 Officers short of its small establishment of ten years' ago, although since then the Fleet has increased, it is believed, to the extent of upwards of 21,000, and the growing process continues. The exact numbers are not known, but it is obvious that at least from 80 to 100 ships must, at the present minute, be short of complement of Medical Officers—a situation which would swiftly be in ghastly evidence if war broke out. The Reserves of Medical Officers are also understood to be of the most meagre description. Although in the correspondence received the present First Lord is, rightly or wrongly, credited repeatedly with being Gallio-like in his attitude towards the Medical Service of the Navy, we do not believe that he can view a serious situation of this kind with satisfaction.

Relative Strength of Medical Officers in Army and Navy.

The following figures for 1914-15, which are approximate, are very instructive:—

		Present Total Personnel.	Present Establishment of Medical Officers.
Army		240,400	982
Navy:			
(a) The Fleet	147,900		
(b) Dockyards and Civil Employees	56,600	204,500	525

It follows from the above that the complaints received as to overwork in Shore Medical Establishments, and the lack of leave and study leave for all, must be well-founded. Further, the relative number of medical officers to total strength of Force should be considerably higher in the Navy than in the Army, because they cannot possibly be evenly distributed in the Navy—many medical officers having to be isolated in small ships with complements of 100 and 150 men—and hence the officers available for general work are much reduced.

To equalise as far as possible the Naval with the Military Medical Service, and to secure what the Navy has every right to claim, namely, a fair share of highly qualified candidates for entry, the following have been generally stated to be among the most urgent needs, and the remedies suggested :—

Improved Remuneration.

1. At least equal pay, retired pay and emoluments for the Director-General, Surgeons-General and Deputy Surgeons-General, and for the three lower ranks of the Service, increase of pay to the extent of at least 3s. per day to each officer. The last increase in 1910 only added about £8 per annum per officer to the three junior ranks, and, taken together with the non-publication of the report of the Durnford Committee, this was regarded as merely specious juggling with figures and did no good.

Increased Opportunities for Professional Study.

2. Post-graduate courses every six years up to the rank of Deputy Surgeon-General. Hospital courses of six months duration for officers selected to qualify in special subjects.

Specialists.

3. Creation of a comparatively fair number of appointments for specialists, carrying extra pay, in such subjects as Operative Surgery, Electro-therapeutics, Bacteriology, Venereal Disease, Anaesthetics, Ophthalmology, Throat, Nose and Ear Diseases, Physical Training, State Medicine, additional Professorships at the R.N. Medical School, Greenwich, at present glaringly under-staffed, etc., etc.

The number of R.A.M.C. officers employed as specialists is 174, and each receives 2s. 6d. a day extra pay as such. Only in a very few instances are these officers exempted from general duty, their specialist work being additional. Besides these, there are at present 31 R.A.M.C. officers seconded for special service elsewhere, such as the Egyptian Army, Sudan Civil Service, and under the Colonial Office. Any such outside Government appointments for Naval medical officers are so few and far between as to be negligible, and as for appointments which might be classed as "Specialist" in the Naval Medical Service, there are not a dozen all told. It is now a matter of common knowledge what a great and far-reaching economy these and other wise arrangements have proved to be to the army. In the words of Lord Haldane: "They have repaid the outlay over and over again."

Half Pay.

4. Medical officers should be placed on half pay only at their own request, or on account of misconduct. Officers in the three junior ranks should, on returning from sea, or when waiting for appointment, automatically become attached temporarily to the Medical School at Greenwich, or to one or other of the three great home hospitals for duty and instruction. Aimlessly idling away time, rusting on half pay, is bad for the individual and eventually worse for the Service.

Fixed Head-Quarters.

5. Known in the Navy as "Port of Division." If the medical officers, especially those who are married, were allowed, as far as practicable, to select and be attached to a port in the same way as the seamen, it would go some way towards lessening the present frequency of uncertain and expensive movements of homes.

Suggested Roster.

6. Roster established to which all Officers should have access, and see how they stand for Home and Foreign, Sea and Shore Service. It has been represented that this should be rigidly adhered to, but there may be difficulties in the way of working it rigidly and automatically. Appointments vary widely in their requirements, and also Officers in their qualifications for them; *e.g.*, obviously the operating Staff of a great Hospital could not be detailed in accordance with the mechanical requirements of a roster.

The short notice of change of appointment usually given by the Admiralty is much complained of, as sudden transfers seriously disturb private and domestic arrangements, and not infrequently lead to much expense.

Graduated Charge Pay.

7. Charge Pay at 3s. 6d. per day at present allowed to sea-going ships having complements of over 650 should be extended on a graduated scale commencing say at 1s. 6d. per day for small ships, 2s. 6d. per day for intermediate-sized ships till the present 3s. 6d. scale, which should remain, is reached.

Leave.

8. The R.A.M.C. is allowed 61 days a year at home and abroad. When out of England this leave may be accumulated for 2 or, on certain stations, 3 years. The establishment being up to full strength, this leave is invariably obtainable.

In the Naval Service 42 days' leave a year is allowed at Home, but abroad only 14 days a year is allowed to accumulate, and now, owing to Shortage of Medical Officers, even these small allowances are not always obtainable. It is stated that Medical Officers going on short leave have sometimes even to find a substitute for their duty—a system which ought not to exist.

Higher Appointments, Promotion, and Relative Rank.

9. In the Army Medical Service there are Full Pay Appointments for 12 Surgeons-General and 32 Colonels. They are promoted by selection from an established List of 130 Lieutenant-Colonels. In the Naval Service there are Full Pay Appointments for 3 Surgeons-General and 8 Deputy Surgeons-General. They are promoted by selection from a Fleet Surgeons' List already numbering between 150 and 200 Officers and still increasing. It is thus obvious that the chances of promotion to the higher medical ranks of the Naval are very small indeed when compared with the Military Service. If the Naval Service establishments were increased to 10 *Full Pay* appointments of Surgeons-General and 20 Deputy Surgeons-General, and Half Pay appointments in these ranks swept away, the two Services would then be approximately on a level in these respects for the present *authorised* numbers of Medical Officers as established for the Navy of 1904. If the Admiralty were so disposed, it would have no difficulty whatever in finding suitable employment for all these Officers. It has already in recent years accomplished this very freely in the case of Flag Officers, and also, moderately, for Engineer Officers. The higher ranks of the latter were raised in a short space of time from 12 to 30.

For an establishment of 10 Surgeons-General and 20 Deputy Surgeons-General there ought to be an established List with assigned appointments for about 80 Fleet-Surgeons if calculated on the same ratio as the R.A.M.C. Lieut.-Colonels. Promotion to Fleet Surgeon is practically by seniority and hence has resulted in a great excess of numbers. There are numerous complaints of the length of time, at present about 12 years, men have to serve in this rank. A few years ago this system prevailed and the same difficulties arose in the R.A.M.C. with an unwieldy and unnecessarily large list of Lieut.-Colonels. This was got over by reducing the establishment of these Officers to 130 with a like number of appointments suitable to their rank. Henceforth promotion was by selection into vacancies as they occurred. Majors passed over were allowed to serve on in their rank till qualified for retirement as per scale. A similar adjustment could be carried out in the Navy by the creation of a higher list of Fleet Surgeons, the Officers on the Junior List passed over being permitted to complete 20 or at most 24 years' service and obtain the present scales of retirement granted at those periods.

Fleet Surgeons should not be regarded as interchangeable with Juniors and liable to be detailed by Executive Officers for Junior Duties.

Relative Rank.

10. The appointment of Director-General should *ipso facto* carry equal relative rank with the Director-General A.M.S.—the present strangely complicated Regulations governing it being cancelled. Also the Director-General on taking over and on giving up his appointment as such should, in the same manner as the Military Medical Director-General, be accorded the honour of being received by the Sovereign, *i.e.*, in this respect be placed on all fours with Flag Officers in important command, Naval Attaches, &c. In this way the dignity and importance of high office is emphasised and made manifest to the Services. Complaint is made that the advance in relative rank of the Naval Medical Officer lags years behind that of other Branches, and that Fleet Surgeons who rank with Commanders, *i.e.*, with, *but after*, Lieut.-Colonels remain junior to all Lieut.-Colonels R.A.M.C., with whom they ought to be on the same level. Medical Officers are now, as stated above, on an average about 26 years of age on entry. If they were given the rank of Staff Surgeon at 6 years, and that of Fleet Surgeon at 12 years, they would still be considerably older than Executive Officers, of similar standing, and about the same age as Engineer and Accountant Officers. To place the proposed grade of Senior Fleet Surgeons on all fours with Lieutenant-Colonels R.A.M.C. they should rank *with* Lieutenant-Colonels, *i.e.*, *with* Captains R.N. under 3 years' seniority. The arrangements outlined would abolish the very real and universal grievance of Fleet Surgeons of 50 years of age and upwards having to live in the uncongenial surround-

ings of a Ward Room, obnoxious alike to the individual and detrimental in many ways to the Service generally. An arrangement on these lines would sweep away much discontent, and efficiency would gain without any unnecessary disturbance of the Naval Service generally.

Withdrawal on Gratuity.

11. In case of failing for a second time to pass the qualifying examination for promotion to the rank of Staff Surgeon, Surgeons are required to withdraw after 8 years on a reduced gratuity. It is considered that withdrawal with reduced gratuity should take place immediately after the second failure. It is objectionable for a declared failure to have to serve on for a year or two afterwards, and under circumstances when the services rendered are likely to be more or less inefficient and perfunctory.

Pensions.

12. A. *Widow's Pensions* are said to be on a lower scale in the Naval than in the Military Service—this means that the provident Naval Medical Officer must expend more money in life assurance than his military *confrère*.

B. *Good Service Pensions.*—The Medical compares badly with other branches of the Naval Service in this respect. For Surgeons-General there are 3 pensions of £100 a year each. For Executive Officers there are 10 of £300 a year each awarded to Flag Officers, and 12 of £150 a year each to Captains. Engineer Officers receive 2 of £200 a year each and 2 of £150 a year each; Officers of Royal Marines, 6 of £200 a year each; Colonels and Lt.-Colonels, 2 of £150 a year each. It follows from this that Medical Services are presumably regarded as of smaller value than those of the other classes of Officers named.

Executive Interference in Medical Affairs.

13. This is a delicate matter, but it is necessary that it should be as clearly realised by intending medical Candidates as it is by Officers in the Service. From the time the Medical Officers of the Army were given complete command over the personnel and all affairs of their Department, that Service has rapidly advanced until it has reached the remarkable efficiency of to-day. This autonomy is the most precious possession of the A.M.S., and forms the greatest outstanding difference between it and the Naval Medical Service. So long as this difference continues it is bound to profoundly influence many of the best class of young medical men imbued with a healthy ambition and proper self-respect, when making choice of a career between the Naval and Military Services. In the Navy afloat much of the medical administration is carried out by the Executive, with or without reference to the Medical Officer—for example, such medical arrangements in a squadron as detail of Medical Officers for Survey Boards, Medical Guard, etc., etc. Some Commanding Officers regard the placing of a man on the Sick List, or sending him to Hospital, or bringing him forward for invaliding, as resting with them, the Medical Officers merely recommending. All official letters are by Admiralty Order written by the Captain *over his signature*—consequently he is the official mouthpiece on, for example, general matters of Hygiene, and may or may not consult the Medical Officer exactly as he thinks fit. By comparatively recent orders the old and well understood term of Commanding Officer has been extended from the Captain to include the 2nd in Command and also the Officer of the Watch. This gives the power, on occasion, to very Junior Executive Officers, who may if so disposed, subject Medical Officers who may be old enough to be their fathers to petty annoyances "just to show their authority." From these because they are within the law there can be no appeal.

Courts-Martial.

14. It is felt that when Officers or other Members of the personnel of the Medical Branch are on trial, or when medical affairs are involved, one or more Medical Officers should be Members of the Court, *i.e.*, the Naval Medical Service should be represented on these Courts in the same way as the Army Medical Service now is on Military Courts-Martial.

Boats.

15. In many ships boats are treated as if they were the personal property of the 2nd in Command. He generally assigns one to his own personal use, and it is often difficult for a Medical Officer to get a boat at all, at other than routine hours, except as a personal favour on the part of the Executive Officer.

Cabins.

16. This is an old grievance. A Medical Officer may have to occupy a smaller cabin after 20 years and at the end of his service afloat than when he first joined. The system of labelling cabins has been mostly a failure or worse, as far as Medical Officers are concerned, and yet the remedy appears to be simple. When a ship is about to be built, cabins according complement should be arranged for, those for Commanders to and Officers of the same relative rank being of the size now generally arranged for Commanders only. This done all cabins should be numbered and selected by those concerned strictly in order of seniority.

Mess President.

17. No matter what his age and standing may be a Departmental Officer can never preside on an official occasion if an Executive Officer is present. This is at bottom merely a question of social precedence, and may seem a small matter, yet the fact remains that it can be, and sometimes is, made tiresome and unnecessarily irritating by a bumptious young Executive Officer to older Officers, medical and others.

Many petty annoyances and personal grievances mentioned in the correspondence have not been dealt with. This memorandum will it is hoped indicate the chief reasons why at present the Medical Service of the Navy is not popular in the Medical Schools of this country, and why it is that appeals on its behalf by the Medical Director-General or any one else are not likely to meet with much response. The Board of Admiralty as a whole is doubtless honestly anxious to re-establish an efficient Medical Service, and it will succeed in doing so when it applies the proper remedies to the present unhappy state of affairs.

[Two articles published in the BRITISH MEDICAL JOURNAL are given in appendices to the report. The first article was that published in the JOURNAL of February 28th, 1914, page 497, on "The Increased Shortage of Medical Officers for the Navy." The second was the memorandum published in the JOURNAL of May 2nd, 1914, page 974, entitled "The Medical Service, R.N.—Remedies for Existing Defects."]

British Medical Association.

EIGHTY-SECOND ANNUAL MEETING, ABERDEEN, JULY, 1914.

THE Eighty-second Annual Meeting of the British Medical Association will be held in Aberdeen in July, 1914. The President's Address will be delivered on Tuesday, July 28th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 24th, at 10 a.m.

Honorary Local Treasurer—
GEORGE WILLIAMSON, M.B.,
256, Union Street, Aberdeen.

Honorary Local Secretaries—
THOMAS FRASER, M.B.,
16, Albyn Place, Aberdeen.
FRED. K. SMITH, M.B.,
7, East Craibstone Street, Aberdeen.

THE SECTIONS.

The scientific business of the meeting will be conducted in sixteen Sections, which will meet on Wednesday, July 29th, Thursday, July 30th, and Friday, July 31st.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

PROVISIONAL PROGRAMME.

The following is the provisional time-table for the Aberdeen Meeting:

FRIDAY, JULY 24TH.

10 A.M.—Annual Representative Meeting.

SATURDAY, JULY 25TH.

9.30 A.M.—Representative Meeting.

MONDAY, JULY 27TH.

9.30 A.M.—Council Meeting.
10 A.M.—Representative Meeting.

TUESDAY, JULY 28TH.

9 A.M.—Exhibition of Surgical Instruments, Drugs, etc. The Exhibition will remain open until 6 p.m. on this and the three following days.
9.30 A.M.—Representative Meeting.
2 P.M.—Annual General Meeting.
*8.30 P.M.—Adjourned General Meeting, President's Address.

WEDNESDAY, JULY 29TH.

9 A.M.—Religious Services.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Medicine.
2.30 P.M.—Secretaries' Conference, followed by Dinner.
3.30 P.M.—Garden Party by Town Council in Duthie Park.
*8.30 P.M.—Reception by University in Marischal College.

THURSDAY, JULY 30TH.

8 A.M.—National Temperance League Breakfast.
9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Surgery.
1.15 P.M.—Irish Medical Schools' and Graduates' Association, Luncheon.
7.30 P.M.—Annual Dinner.

FRIDAY, JULY 31ST.

9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
*12.30 P.M.—Graduation Ceremony in Marischal College.
6 P.M.—Annual Exhibition closes.
8 P.M.—Popular Lecture, Marischal College.
*8.30 P.M.—Reception by Branch (Music Hall).

SATURDAY, AUGUST 1ST.

Excursions.

* Academic dress or uniform should be worn on these occasions. Members desiring to have robes provided for them at Aberdeen should communicate with Messrs. Ede, Son and Ravenscroft, 93 and 94, Chancery Lane, London, W.C.; Mr. William Northam, 9, Henrietta Street, Strand, London, W.C.; or Messrs. L. Y. and J. Nathan, 4, Hardman Street, Liverpool.

SECTION OF MEDICAL SOCIOLOGY.

State Medical Service versus Panel System.

(A CORRECTION.)

IN the particulars with regard to this Section, published in the SUPPLEMENT of July 4th, page 4, there was an unfortunate blunder, which we regret to learn has caused Sir John Collie some inconvenience. A syllabus was there published, which it was stated was an outline of Sir John Collie's opening paper. As a matter of fact, this syllabus should have been attributed to Dr. Mills, who is to follow Sir John Collie. The syllabus of Sir JOHN COLLIE'S paper is as follows:

"A State Medical Service does not mean the nationalization of medicine. Effect of the inclusion in the National Health Act of the uninsured persons in the industrial community. The value of the co-ordination of preventive and clinical medicine. The effect of a State Medical Service on general medical practice; its advantages and disadvantages. Free choice of doctor."

SECTION OF SURGERY.

The following are abstracts of the papers initiatory of discussions in this Section:

Carcinoma of the Tongue.

Mr. W. G. SPENCER: After describing a subepithelial small round-cell infiltration to be found in the neighbourhood of lesions that are or are about to become cancerous, the author will state that cancer of the tongue is practically always preceded by a recognizable lesion which endures generally longer than three months before it becomes cancerous. After dealing with the treatment of these he will describe the operative indications that may be afforded by histological examination of the tissues in the neighbourhood of a chronic lesion. In any case which is deemed inoperable he will suggest that the continuous use of non-irritating antiseptics to disinfect the ulcerated surfaces, and the relief of pain by drugs, continue to be the only measures advisable. Alternative measures which have been tried of late years either fail to relieve, or do so by producing a surface disinfection which is better effected by antiseptics.

In the course of the demonstration which is to follow this paper Professor KAY JAMIESON and Mr. J. F. DOBSON, after dealing with the anatomy of the cervical lymphatic glands, will show that for the removal of glands no operation except Crile's block dissection is adequate, and will demonstrate when bilateral and unilateral gland operations can be practised. They will also show the method of invasion of glands, and that it is not necessary or practicable to remove the large lymphatic trunks. Then after considering the bearing on the subject of Lenthal Cheatle's work, they will show that though in some early cases an intrabuccal operation may suffice if care be taken to cut the tongue off close to the hyoid bone, the only satisfactory treatment in advanced cases is free extra-buccal excision of the tongue combined with Crile's block dissection. Finally they will deal with the considerations which should influence the question of dividing the whole procedure into one or more stages.

Surgical Treatment of Arthritic Deformities.

Mr. ROBERT JONES, after dealing with the etiological and pathological classification of arthritis, will show that every case of arthritis is a potential but preventable deformity. He will then deal with the treatment of "sound" and "unsound" ankylosis respectively, and in speaking of osseous ankylosis will show that osteotomies are especially applicable to the femur. He will encourage osteoplastic operations on the spine for adults, and in speaking of arthroplasty will show that the choice of a flap is of less importance than good technique, and a sense of proportion. In regard to results, stability will be shown to be more important than mere movement, and in cases of tuberculosis preference over this operation will be given to procedures below the joint, such as the author's pseudo-arthrosis of the hip. It will be shown that operation is justifiable in severe osteo-arthritis of the hip-joint, and that the removal of excrescences and arthrodesis, and the author's pseudo-arthrosis for the later stages, may be performed. These procedures are designed for the relief of friction which is the cause of the pain.

Anoci-association.

Mr. H. M. W. GRAY: The subject is dealt with from a purely practical standpoint. No theories as to conditions of nervous system, circulation, blood, etc., are touched upon. The measures which may be taken in order to prevent shock are fully discussed; those which may be used to combat shock already present are very shortly referred to. His own practice, carried out in a class of work which represents the practice of the average surgeon throughout the kingdom, described. The treatment of the patient before, during, and after operation, discussed, especially matters concerning the mental attitude of the patient, the administration of narcotics and general anaesthetics, the technique necessary during operations, and finally the best method of using local anaesthetics. Certain considerations with regard to procuring surgical cleanliness, diet, etc., are not dealt with. A special method of using ether and local anaesthesia, described especially with reference to the performance of abdominal operations. The author's endeavour will be to indicate procedures that will prevent shock and yet are applicable by surgeons handicapped by want of plentiful funds and assistance.

SECTIONS OF PHARMACOLOGY, THERAPEUTICS, AND DIETETICS, AND PATHOLOGY AND BACTERIOLOGY.

The undernoted propositions will be put forward by Dr. THOMAS LEWIS in opening the discussion which is to be held by this Section in conjunction with the Section of Pathology and Bacteriology. Its subject is the pathology of heart function, including the experimental pharmacology and therapeutics of pathological conditions of the heart.

(1) That there is no direct knowledge of disordered "rhythmicity" or disordered "conductivity," etc., in the human heart, using these terms in their special senses:

and that Wenckebach's classification of irregularities, based as it is upon Engelmann's hypothesis, rests upon an insufficiently secure foundation. (2) That auriculo-ventricular heart-block is conditioned by interference, be it through direct nervous or chemical channels, with the auriculo-ventricular conducting system, and especially with the auriculo-ventricular node and bundle. (3) That premature contractions, paroxysmal tachycardia, auricular flutter, and fibrillation have the same essential pathology, whose simplest expression is the premature contraction. (4) That certain of the preparatory processes which precede the normal contraction on the one hand, and the extra-systolic contraction on the other, are essentially different. (5) That it has not been shown that abnormal nerve impulses playing upon a normal heart may be responsible for extrasystolic contractions; but that it has been shown that nervous impulses playing upon a supersensitive or irritable organ may provoke these contractions.

SECTION OF ELECTRO-THERAPEUTICS AND RADIOLOGY.

The following additional papers have been accepted:

BAILEY, C. F. (1) Electro-therapy in Neurasthenia. (2) Testing and Treating Muscles by the Condenser Method.

CUMBERBATCH, E. P. Diathermy for the Destruction of New Growth.

LILIENFELD, Dr. Some New Apparatus.

NUTTALL, H. High-frequency Currents in Insomnia.

ORAM, W. C. Some Remarks on Gall Stones.

SLOAN, S. The Possibility of Detecting any Change taking place—Chemical, Physical, or Biological—in the Mid-Polar Region of a Continuous Galvanic Current.

The demonstration mentioned in our last issue as to be given on July 30th by Dr. C. F. Bailey will be given by Dr. E. P. Cumberbatch.

High-frequency Currents.

The following is a syllabus of the paper with which the President, Dr. SAMUEL SLOAN, will introduce the discussion on this subject:

The improper use of high-frequency currents and consequent reaction of feeling in respect of them. The importance of a knowledge of general medicine as well as of electro-physics by those engaged in testing the value of the treatment. The study of the physiological effects in disease in man of more importance than that of the physiological effects in animals in health. Results of the author's investigations in this field. Are the good effects mainly psychic or mainly physical, or are they due to the accompanying treatment? Importance of eliminating these doubts by employing these currents at first only in cases which no other treatment has benefited and without any change in habits or environment or diet. Selection of suitable cases and modes of administration.

SECTION OF TROPICAL MEDICINE.

The following are synopses of the papers initiative of the discussions in this Section:

Kala-azar.

Fleet Surgeon P. W. BASSETT-SMITH: An historical review, more particularly of recent research, relating to the etiology of kala-azar, showing the wide distribution of the Leishmania parasite. Division of the infections into two main groups: (1) General, and (2) local. A short description of the morphological and cultural characters of the parasites and the pathological changes produced by them. A short summary of the etiological facts known as affecting the Indian and Mediterranean forms of kala-azar and the relationship of the clinical types found in the different geographical areas, showing their probable identity with some details of an interesting case under the author's charge of an adult infected at Malta. The variations in the local form of the disease known as Oriental sore, with particular reference to the tropical American type.

The Sanitarian in the Tropics.

Colonel W. G. KING, I.M.S., C.I.E.: In Great Britain it is possible for the sanitarian readily to obtain opinions by specialists in any of the subjects with which he has to deal. He may also send materials to laboratories with which he is not personally connected, or, at a few hours' notice, he may get a specialist on any subject to accompany him to the field. Sanitary works that he advises are rarely of urgency, and there are available plenty of specialists or contractors for estimating and for execution of such works, whether they be major, minor, or petty. In the tropics, however, except in a few large municipal towns, such conditions cannot be expected. Consequently, as the brain capacity of a human being is limited and the money and time expended in education for a specific calling should be in proportion to what is actually requisite, instead of securing the sanitarian for the tropics by the roundabout process of teaching him medicine fully, his five-year course of education should be so arranged that subjects connected with cure of disease should be largely repressed, in favour of theoretical and practical special training in the sciences that directly concern him. His official position should be such as to give him the right, untrammelled by fear of loss of office or hope of favour, to place his advice directly at the disposal of the ultimate sanctioning authority of finance; and Tropical Public Health Services should be organized on such lines as to make this possible.

Surgical Treatment of Colitis.

Mr. JAMES CANTLIE: The sigmoid flexure—anatomy and functions as an organ—a colo-sigmoid and a sigmo-rectal pylorus. Intussusception to a slight extent of sigmoid flexure into rectum the normal condition; increase of intussusception in diseased state; condition in acute and chronic dysentery, in post-dysenteric states, and other lesions; meaning of "tenesmus" and explanation of the condition. The value of the sigmoidoscope, introduction of instrument, appearance of bowel when inspected, seat of lesion the lower two inches of sigmoid flexure in chronic cases; ulcers, scars, granulations, and congestion; mucous colitis, so-called; comparison of chronic urethral discharge and rectal discharge. Treatment: Diet of but slight importance; unless pathogenic amoebae present, drugs of but little use. Treatment of ulcers by pure carbolic acid; sea-water as enemata; passage of sigmoidoscope by mechanical effects curative; recurrences due either to mechanical obstruction or to germ infection. Surgical treatment: Opening sigmoid, washing out the colon by way of appendix; removal of diseased area; removal of colon; tendency to malignancy.

RECEPTION ROOM.

THE reception room will be open during the Annual Meeting in the Advocates' Hall, Broad Street, Aberdeen, and members are advised to call there as soon as possible after their arrival in Aberdeen. They will there find full information at their disposal and will be able to obtain a copy of the *Daily Journal*.

ACCOMMODATION IN ABERDEEN.

A LIST of hotels and lodgings available in Aberdeen during the Annual Meeting is published in the advertisement pages (6 and 7) of this issue. Members desiring further information on this subject are asked to communicate with Dr. F. Philip, Honorary Secretary of the Hotels and Lodgings Committee, 29, King Street, Aberdeen.

At a recent meeting of the General Committee, consisting of influential citizens, the intention to give a hearty welcome to members of the Association was made evident, and a very large amount of private hospitality is likely to be offered. The Local Executive Committee hopes that members will not be led by the answers they may get from some of the hotels to suppose that the accommodation available in Aberdeen is filled up; any member who has difficulty in finding accommodation should not hesitate to communicate either with Dr. F. Philip, as above, or with Dr. Thomas Fraser, one of the honorary local secretaries, at the same address.

ARRANGEMENTS FOR LADIES.

A COMMITTEE of ladies has been formed to look after the comfort and interests of ladies accompanying members to Aberdeen. The Aberdeen Medico-Chirurgical Society has granted the use of its rooms at 29, King Street, as reception rooms for ladies from July 24th to 31st. There will be provided a rest-room, a writing-room, a tea-room, and a dressing-room. There will also be an office in the building where information regarding ladies' entertainments and motor drives will be given and tickets supplied. A member of the Ladies' Committee has given the use of her flat at 245, Union Street, where ladies living out of the town may dress for the evening entertainments. It is hoped that a corps of lady guides will be available for the assistance of visitors. For further particulars see SUPPLEMENT, July 4th, p. 11.

THE JOURNEY TO ABERDEEN.

Special Vouchers.—Railway facilities similar to those offered in previous years will be available this year—that is to say, return tickets, valid from July 22nd to August 3rd, will be issued at a single fare and a third on the presentation of a voucher, which will be supplied, to members who intend to go to Aberdeen, by the Financial Secretary and Business Manager, British Medical Association, 429, Strand, London, W.C., on receipt of the notification form. A separate voucher is required for each passenger.

Tourist Tickets.—The attention of those who intend to travel to Inverness or other places north of Aberdeen is drawn to the tourist ticket arrangements. The advantage of a tourist ticket is that it is available for six months, and the holder has the privilege of breaking the journey at many places *en route*. The tourist ticket from London to Inverness costs £3 3s., third class. In many instances a member travelling from England may find it more advantageous to take a tourist ticket than to make use of the special voucher.

London to Aberdeen by Sea.—Members travelling from the south may like to be reminded that they can make the journey from London by sea. The boats of the Aberdeen Steam Navigation Company, which are lighted by electricity and in every way well appointed, sail from Aberdeen Wharf, Limehouse, E., every Wednesday and Saturday (see advertisement, page 4). The return fares, available for six months, are—first cabin 45s., second cabin 25s.; private cabins can be obtained for an extra fee. A boat will leave on Wednesday, July 22nd, at 11 a.m., and on Saturday, July 25th, at 1 p.m. Further particulars can be obtained on application to the company at Aberdeen Wharf, Limehouse, or the City Passenger Agency, 25, Cannon Street, E.C.

RAILWAY FACILITIES FOR MEMBERS STAYING IN THE NEIGHBOURHOOD OF ABERDEEN.

During the meeting reduced fares, with a minimum of 1s., will be granted to places within a radius of fifty miles from Aberdeen. Members who propose travelling to and from Aberdeen daily should use the first half of the ticket on the first journey and the return half on the last journey; the reduced fares for the intermediate journeys will be granted on production, at the time of booking, of the card of membership.

Weekly Season Tickets.

Members staying at Banchory or Cruden Bay can obtain season tickets enabling them to travel to and from Aberdeen daily during the week of the Annual Meeting at the following rates: Cruden Bay, 10s.; Banchory, 8s. 8d. The season tickets will be issued from intermediate stations at proportional rates.

On the Caledonian Railway to Stonehaven and intermediate stations, during the meeting, return tickets will be issued at Aberdeen to places where members wish to reside. These tickets will be available for the day of issue or following day, or from Saturday to Monday, at a single fare and a third for the double journey, minimum 1s. Season tickets are also available for more than one journey, at a charge of not less than the accumulated fares per day as above, the minimum being 1s. a day.

ANNUAL EXHIBITION.

The annual exhibition of surgical instruments, drugs, foods, etc., held during the annual meetings of the British Medical Association, will be arranged this year in the Marischal College, where also the Sections will meet, where the General and Representative Meetings of the Association will take place, and where the Addresses in Medicine and Surgery will be delivered. The exhibition on this occasion will, therefore, occupy a central and convenient position, and members will have an excellent opportunity of inspecting the exhibits.

GARDEN PARTIES.

In addition to the garden party to be given by the Provost and Town Council of Aberdeen in Duthie Park on the afternoon of Wednesday, July 29th, garden parties will be given at the Deeside Hydropathic, which has a nine-hole approaching and putting course, and tennis, croquet and bowls; at Inchmarlo House, on the north bank of the Dee about two miles beyond Banchory, which has first-class provision for tennis; at Parkhill House on the Don, surrounded by fine woods and within easy reach of three small lochs; at Banchory House, on a beautiful sweep of the river Dee about a mile beyond the historic bridge of Dee; and at Nordrach-on-Dee, which has extensive and beautiful grounds.

GOLFING ARRANGEMENTS.

Aberdeen and its immediate neighbourhood is rich in golf courses. Particulars with regard to them were published in the Supplement last week, page 9; they include Balgownie, Murcar, Bieldside, Balnagask, Aboyne, Cruden Bay, Banchory, and the public links at Aberdeen.

The Ulster Cup.

The competition for this cup will take place on the Balgownie Links on Thursday, July 30th. The Ulster Cup was presented by the Ulster Branch at the Annual Meeting of the British Medical Association at Belfast, in 1909. It is played for under the following conditions laid down by the Ulster Branch: "Bogey play under handicap, not exceeding 18; cup to become the property of the member of the Association winning it twice in succession, or three times in all; one round of 18 holes to be played on one day at the Annual Meeting with no previous play." The cup is a copy of the famous Ardagh Cup now in the National Museum in Dublin; its history is known from the eleventh century. The competition for the cup has always been good, and the winners have been as follows:

1909	... ...	Dr. Shackleton (Holywood).
1910	... ...	Dr. G. E. Haslip (London).
1911	... ...	Dr. McCardie (Birmingham).
1912	... ...	Mr. Albert Lucas (Birmingham).
1913	... ...	Dr. H. L. Hatch (Pinner).

Intending competitors should send their names and addresses, along with their club handicap, to Dr. Alexander, Kingseat Mental Hospital, New Machar, Secretary of the Golf Subcommittee.

EXCURSIONS.

Arrangements are being made to afford to members attending the Annual Meeting opportunities of visiting many places of beauty and interest in the north-east of Scotland and the Highlands. Particulars were published in the Supplement to the Journal of last week. It is desirable that members should make up their minds as to the excursion or excursions they wish to take as early as possible, and that they should communicate their preference to Mr. G. H. Colt, F.R.C.S., 12, Bon Accord Square, Aberdeen.

Members of the Representative Body should note that arrangements have been made by members in Aberdeen for a special train to Cruden Bay on Sunday, July 26th, leaving Aberdeen in the morning and returning the same evening. Representatives who wish to take part in this excursion should send their names to Mr. Colt at once if they have not already done so.

As was noted last week, it will be possible during the meeting to make afternoon excursions to many places of interest within easy reach of Aberdeen, and longer tours have been arranged for Saturday, including one to Inverness, Elgin, Nairn, and the Highlands. There will also be some tours of intermediate length on Wednesday, starting early in the afternoon and returning to Aberdeen in the evening. For further particulars and maps see Supplement, July 4th, pp. 10, 11, 12 and 13.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A list of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BIRMINGHAM BRANCH:

CENTRAL DIVISION.

THE annual meeting of the Central Division was held at the Medical Institute, Birmingham, on July 1st, when the Chairman of the Division, Dr. PURSLOW, presided, and about thirty-six members were present.

Election of Officers.—The following officers were elected:

Chairman: Dr. Lilley.
Vice-Chairman: Dr. Lydall.
Honorary Secretary: Mr. Percival Mills.
Representatives on the Branch Council: Dr. Dain, Dr. W. R. Jordan, Mr. B. J. Ward, Dr. Trumper, Dr. Lydall, and Dr. Thomas Wilson.
Executive Committee: Dr. Purslow, Dr. Wilkes, Dr. Burges, Dr. J. J. Bekenn, Dr. Boeddicker, Dr. Pooler, and Dr. Henton White.

Annual Report of Division.—The annual report of the Executive Committee was received and adopted.

Vote of Thanks.—Votes of thanks were passed to the retiring officers, and the meeting expressed especially the thanks of the Division for the services of Dr. Hadley, one of the retiring secretaries, whose untiring energy had been of inestimable value during a trying period in the history of the Association.

Annual Representative Meeting.—The meeting then instructed the Divisional Representatives on the matters referred to Divisions, and empowered the Executive Committee to deal with any motions of which notice might be received subsequently.

BORDER COUNTIES BRANCH.

THE forty-seventh annual meeting of the Border Counties Branch was held at the County Hotel, Carlisle, on July 3rd, when Dr. EASTERBROOK occupied the chair.

Annual Report.—The report of the Branch Council and financial statement were submitted and approved.

Election of Officers.—The following office-bearers for the ensuing year were elected:

President: Dr. Fisher (Whitehaven).
President-elect: Dr. Livingston (Dumfries).
Past President: Dr. Easterbrook (Dumfries).
Secretary and Treasurer: Mr. Norman Maclaren (23, Portland Square, Carlisle).
Additional Secretary, with seat on the Scottish Committees: Dr. Livingston (Dumfries).
Branch Council: Representatives from Cumberland Division (Drs. Fisher, Edington, and Hill); Representatives from Dumfries and Galloway Division (Drs. Huskie, Maxwell Ross, and Scott); Members elected by Branch (Drs. Barnes, Crerar (Maryport), Muriel, Irving, Bell, and Gilroy); *Ex officio* members: Secretary of Cumberland Division (Dr. Anderson, Garlands, Carlisle) and Secretary of Dumfries and Galloway Division (Dr. Robson).
Representative on Central Council: Dr. Livingstone Loudon (Hamilton).

Model Rules.—The revised rules, which had been circulated to all members of the Branch, were adopted.

Presidential Address.—Dr. EASTERBROOK then introduced the new President, Dr. FISHER, who delivered an address on National Health Insurance. On the proposal of Dr. EASTERBROOK, seconded by Dr. HILL, a most cordial vote of thanks was given to the President for his address.

CAMBRIDGE AND HUNTINGDON BRANCH.

THE seventieth annual general meeting was held at St. Ives, Hunts, on July 2nd.

Election of Officers.—At the business meeting the following officers were elected:

President: Dr. Grove.
Vice-Presidents: Dr. Newton, Dr. Meacock.
Representative: Dr. Young.
Honorary Secretary and Treasurer: Dr. Haynes.
Members of Branch Council: Drs. Deighton, Garrood, Gunson, Roderick, Stevenson, Waters, and Wright.

Luncheon.—Dr. and Mrs. Grove entertained the members and their wives to luncheon in the Corn Exchange, the company including the Mayor of St. Ives, Sir George Askwith.

Presidential Address.—The PRESIDENT afterwards gave an address on infant feeding.

EAST ANGLIAN BRANCH:

WEST SUFFOLK DIVISION.

A MEETING of the West Suffolk Division was held at the Angel Hotel, Bury St. Edmunds, on June 30th, when Dr. CAIE was in the chair, and eight other members were present.

Representation on Representative Body.—On the motion of Dr. BARWELL, seconded by Dr. HINNELL, the Secretary was instructed to write to the Medical Secretary, Dr. Cox, as follows:

> The Division wishes to be represented and would point out that small Divisions are small mainly because their members are widely scattered, and if they have no independent representation they have no representation at all. In the opinion of the Division it is important that such areas should be represented because the conditions of practice in them is very different to those in more densely populated areas.

Fees for Clubs.—After consideration of the replies to the circular, the recommendation of the Executive Committee was carried, with an amendment proposed by Dr. WOOD, seconded by Dr. BARWELL, making it read as follows:

> The Division recommends the rates and rules of the Suffolk County Medical Club as the basis for private club work, these having been officially approved by the British Medical Association, and asks all medical men practising in West Suffolk to transfer their private clubs to the Suffolk County Medical Club.

On the motion of Dr. BARWELL, seconded by Dr. G. C. GRAY, it was carried *nemine contradicente*:

> That the fee for uninsured club members should not be less than 8s. 6d. per annum.

The Secretary was instructed to issue a circular embodying the two preceding resolutions to every practitioner in the area.

Annual Report of Council.

The annual report of the Council was considered. With regard to the Special Fund, the Representative was instructed to vote in favour of recommendations of Central Council A, B, C, D, E, but to vote against the proposal that the administration of such a fund should be placed in the hands of a trade union (BRITISH MEDICAL JOURNAL SUPPLEMENT, May 9th, p. 339, paragraphs 77 and 83). With regard to amendments *re* Special Fund (SUPPLEMENT, June 27th, p. 487), the Representative was instructed as follows: To oppose paragraphs 47, 48, 49; to support paragraphs 50, 51, and 52.

On the question of school clinics, the Representative was instructed to support any resolution embodying the principles outlined in paragraph 5 of the Memorandum, p. 281, BRITISH MEDICAL JOURNAL SUPPLEMENT, May 2nd. It was further agreed that if the Representative Body passed resolutions in conformity with these principles, a subcommittee of three members should consider the matter as it affects the area of the Division, and that Dr. Bygott, the county school medical officer, should be invited to be present. Drs. Batt, Hinnell, and Wood were elected to serve on the subcommittee, which was requested to report to the next meeting of the Division.

The SECRETARY then gave a summary of the remaining important recommendations of Council, namely, as to (1) referendum, (2) Council to act on delegation, (3) reduced subscription to newly registered members, (4) notice of Special Representative Meeting, (5) State registration of nurses, (6) payment for assistance to midwives, (7) certificates under Insurance Act, (8) tuberculosis scheme. The Representative was instructed to vote in favour of all these, except that in regard to the State registration of nurses.

With regard to the Supplementary Report of Council, the Secretary was instructed to vote in favour of all the Council's recommendations, and in the case of life insurance examinations to support the principle of a fixed minimum fee.

Regarding the Notices of Motion for the Annual Representative Meeting (BRITISH MEDICAL JOURNAL SUPPLEMENT, June 27th, p. 484) the Representative was instructed to support amendments 1 and 2, but to oppose rider 4. The

Representative was instructed to support the rider requesting the Council to obtain further evidence on the matter of the State registration of nurses, and also to support the rider "That the Central Defence Fund be now closed."

The Division approved of the action of the Executive Committee in replying to questions from the Special Committee as to the future development of the Insurance Act.

EDINBURGH BRANCH.

The annual meeting of the Edinburgh Branch was held in the hall of the Royal College of Surgeons on June 26th, when Mr. Cathcart, President, was in the chair.

Election of Officers.—The office-bearers for the year 1914–15 were elected as follows:

President: Dr. John Playfair.
President-elect: Professor F. M. Caird.
Vice-Presidents: Dr. Carlyle Johnstone and Dr. James Ritchie.
Honorary Treasurer: Dr. James Ritchie.
Honorary Secretaries: Dr. John Stevens and Dr. John Eason.

The election of Dr. J. R. Hamilton as member of Council for the Edinburgh and Fife Branches for 1914–15 was intimated.

The Representatives to the Annual Representative Meeting, so far as elected, and the Representatives of the Division to the Branch Council, were also intimated.

Vote of Thanks.—A vote of thanks was passed to the retiring President, Mr. Cathcart, and after Mr. Cathcart replied Dr. Carlyle Johnstone occupied the chair.

Annual Report and Financial Statement.—The Treasurer submitted his annual report, and Dr. Stevens submitted the report of the Branch Council for the year, which were approved.

Scottish Committee.—Dr. J. R. Hamilton reported on the work of the Scottish Committee, especially referring to the subject of contract practice and the action taken in support of Lord Balfour's Midwives Bill. He reported that the Central Council had decided to appoint a whole-time Scottish Medical Secretary, whose office would be located in Edinburgh. The election would be made on the recommendation from the Scottish Committee. Dr. Stevens explained the proposed modification in the constitution of the Scottish Committee.

Queen Mary Nursing Home.—Dr. W. R. Martin was elected to the vacancy on the board of management of the Queen Mary Nursing Home.

Local Guarantee Fund.—It was intimated that an application had been received for a contribution from the Local Guarantee Fund, and the Branch Council had granted it. Dr. James Ritchie reported on the response which had been made to the levy. Two-thirds of the levy had now been returned to those guarantors who had responded. It was decided that the Guarantee Fund should now be abrogated.

Revision of Rules.—The Branch Council was instructed to revise the rules of the Edinburgh Branch and report to a future meeting. The following new rule was unanimously approved of:

That one Honorary Secretary of each Division be *ex officio* a member of the Branch Council.

Votes of Thanks.—Votes of thanks were accorded to Dr. Carlyle Johnstone (Vice-President), Dr. James Ritchie (Honorary Treasurer), and to Dr. J. R. Hamilton, for his work on the Council of the Association and the Scottish Committee.

South-Eastern Counties Division.

The annual meeting of the South-Eastern Counties Division of the Edinburgh Branch was held at Newtown St. Boswells on June 29th, when Dr. Blair, Chairman, presided, and eight other members were present.

Index and Suspense Slips.—There was some discussion on the subject of remuneration of practitioners under the Insurance Act, but, on the Secretary pointing out that further inquiry was in process of being made, discussion was postponed until definite information were available.

Election of Officers.—The following officers were elected:

Chairman: Dr. P. C. McRobert (Runic Cross, Innerleithen), on the termination of Dr. Blair's term of office.
Vice-Chairman: Dr. J. Young (Earlston).
Representative on Branch Council: Dr. J. Carlyle Johnstone.
Representative to Representative Meetings: Dr. William Blair.
Deputy Representative to Representative Meetings: Dr. T. Luke.
Executive Committee: Dr. A. J. Campbell, Dr. N. P. Fairfax, Dr. A. Rolger, Dr. J. J. McMillan, Dr. B. Henderson, Dr. G. Gunn Bannerman.
Honorary Secretary and Treasurer: Dr. M. J. Oliver.

Vote of Thanks.—On the motion of Dr. Oliver, a vote of thanks was accorded Dr. Blair for his able services in the chair during the past year. Dr. Blair expressed his thanks.

Report of Council.—Dr. J. R. Hamilton expressed his opposition to the formation of a trade union within the profession, and, with regard to the establishment of an Organizing Medical Secretary with an office in Scotland, said that he considered the office should be located in Edinburgh, as the metropolis of the country. Dr. Blair asked Dr. Hamilton whether the Council had any particular views as to contract practice amongst uninsured persons. Dr. Hamilton replied that it had been found that there were only about 2,000 practitioners entirely without contract practice. The meeting considered the Report of Council as published in the Journal, together with the memorandum on the subject of future developments of the Insurance Acts. The meeting considered the various questions raised, and instructed the Secretary as to the replies to be made. On the motion of Dr. J. Carlyle Johnstone, it was agreed that the office of the Organizing Medical Secretary to be appointed shortly should be in Edinburgh.

Annual Report of Executive Committee.—The Secretary submitted the report of the Executive Committee for the past year. It showed that the number of members in the Division was fifty-eight, two members having resigned during the year. Four meetings of the Division had been held, the subjects of debate having been entirely medico-political in character. The Executive Committee had not been convened on any occasion, as it had been possible to deal with all matters of urgency at meetings of the Division.

Communications.—The Secretary read a letter from the Medical Secretary of the Association, dated June 20th, referring to the views of the Insurance Acts Committee on various matters relating to the work of Local Medical Committees, and particularly to the disclosure of the names of practitioners against whom complaints had been made, which had been the subject of investigation by Medical Service Subcommittees.

GLOUCESTERSHIRE BRANCH.

Special Meeting.

A special general meeting of the Oxfordshire Branch was held at the hospital, Stroud, on May 7th, when the President was in the chair and twenty-nine members were present.

Surgical Treatment of Diagnosis.—Mr. James Sherren, F.R.C.S., of the London Hospital, gave an address on the diagnosis and surgical treatment of indigestion. A discussion followed, in which the President, Mr. Coode, Dr. Collins, Dr. Mitchell, Mr. Holmes, and Dr. Hebblethwaite took part.

Vote of Thanks.—On the motion of Mr. Howell, seconded by Mr. Braine-Hartnell, a vote of thanks was accorded to Mr. Sherren.

Annual Meeting.

The annual meeting of the Branch was held at the Royal Infirmary, Gloucester, on May 21st, when the President was in the chair, and forty members were present.

Election of Officers.—The result of the elections for 1914–15 was as follows:

President: Dr. J. F. Johns (Cheltenham).
Council: Drs. E. Dykes Bower, C. Braine-Hartnell, E. C. Carter, J. R. Collins, A. B. Davies, E. A. Dent, J. Goss, W. W. Grosvenor, J. Howell, J. S. Mellish, G. A. Peake, N. H. Pike. *Ex officio*, Dr. D. Knight.
Scrutineers: Drs. Wayland Ancrum and T. S. Ellis.
Auditors: Drs. E. A. Dent and G. A. Peake.
Ethical Committee: Drs. T. S. Ellis, D. H. Fowler, J. S. Mellish, H. E. Waddy, and J. G. Soutar.
Secretary: Dr. D. E. Finlay.

Annual Report of the Division.—The annual report was taken as read and passed. It showed a decrease of 10 in membership. There had been thirteen Branch meetings during the year, at eight of which scientific or clinical matters had been discussed, while at five medico-political, ethical, or kindred matters were debated. The average

attendance at the scientific meetings had been twenty-four. Six Council meetings had been held, with an average attendance of eight. The financial statement showed a small balance in hand.

Annual Representative Meeting.—The business for the Annual Representative Meeting was postponed for a special meeting.

Decompression of the Brain.—An address was given by Mr. BATHE RAWLING, F.R.C.S. (St. Bartholomew's Hospital), on decompression of the brain in relation to injury and disease, illustrated by lantern slides. Mr. J. E. H. ROBERTS, F.R.C.S. (St. Bartholomew's Hospital), read a short paper on some experimental work.

Votes of Thanks.—On the motion of Mr. CUTHBERT, seconded by Dr. PRUEN, votes of thanks were accorded to Mr. Bathe Rawling and Mr. J. E. H. Roberts.

Dinner.—Forty-one sat down to dinner at the Bell Hotel after the meeting.

KENT BRANCH:

BROMLEY DIVISION.

THE annual meeting of the Bromley Division was held at the Bell Hotel, Bromley, on July 3rd.

Election of Officers.—The following officers were elected for 1914–15:

Chairman: Dr. W. F. Umney (Sydenham).
Vice-Chairman: Dr. T. W. Bailey (Orpington).
Honorary Secretaries: Dr. Tennyson Smith and Dr. Chisholm Will.
Treasurer: Dr. Tennyson Smith.
Representative to Representative Meetings: Dr. Tennyson Smith.
Deputy Representative: Dr. G. R. Stillwell.
Representative on Branch Council: Dr. C. E. M. Lewis.
Executive and Ethical Committee: Drs. Michael and Pringle (Penge), Hawke and Stillwell (Beckenham), Codd, Lewis, and Yolland (Bromley), Douse (Bromley Rural), T. D. Miller (Sidcup).

Organization Rules.—The Organization Rules were considered in detail, and adopted as the rules of the Division.

Annual Representative Meeting.—The annual report of the Council having been considered, it was resolved to instruct the Representative to support the formation of a Special Fund, and to vote for the amendment by Brighton in favour of a trust. In the event of this amendment being defeated, and in order to obtain the necessary majority for the proper establishment of the Special Fund, the Representative was instructed to support the report of the Council. It was unanimously resolved that if any trade union were formed, such union must be under the supervision of the Association, and that the procedure should not be by incorporation with any existing trade union.

Representative's Expenses.—It was unanimously resolved that a levy be made on the members of the Division to meet the Representative's expenses at the forthcoming Annual Representative Meeting.

Votes of Thanks.—Votes of thanks were accorded to Dr. Yolland (Bromley) for his services as Chairman of the Division during 1913–14, and to Dr. Umney for presiding at the meeting.

LANCASHIRE AND CHESHIRE BRANCH.

THE annual meeting of the Lancashire and Cheshire Branch took place at Knutsford on June 17th, when there was a fairly good attendance of members. The usual routine business was transacted.

Election of Officers.—The following officers were elected for 1914–15:

President: Dr. T. W. H. Garstang (Altrincham).
Vice-Presidents: Dr. Robert Harris (Southport), Dr. F. P. Bassett (St. Helens).
Secretary: Mr. F. Charles Larkin, F.R.C.S. (Liverpool).

Luncheon.—At noon the members partook of luncheon provided by the members of the Mid-Cheshire Division.

Induction of President.—At the conclusion of a meeting of the Branch Council the annual meeting commenced, when Dr. R. C. Brown of Preston surrendered his office of President, which he has thrice filled with great success, to Dr. GARSTANG, who read his presidential address, entitled "Personal reminiscences of the Association." The address was much appreciated, and will, it is hoped, be published separately.

Clinical Papers.—Dr. A. ADAMS gave a demonstration of the artificial pneumothorax, and Mr. JOHN MORLEY read a paper on conditions simulating chronic appendicitis. These papers will be reported in a subsequent issue. Dr. CRAVEN MOORE gave a short address on uraemia, especially in relation to the symptom of haemorrhage.

Excursions.—The afternoon after 3 o'clock was spent in several delightful excursions arranged by the local committee. A very pleasant afternoon was spent by those who inspected the antiquities of Knutsford, under the expert guidance of the Rev. G. A. Payne, the author of *Mrs. Gaskell and Knutsford.* A visit was paid to the picturesque Unitarian Chapel, built in the troublous times of 1689 in as retiring a situation as possible and still unspoilt by restoration. It contains a good deal of roughly hewn oak, and an outside staircase leads to the gallery. Here in its early days Matthew Henry preached. In the little graveyard are the tombs of Mrs. Gaskell and her friends the Misses Holland. The latter are supposed to be the originals of "Miss Jenkyns" and "Miss Matty" in *Cranford.* In the Free Library some interesting first editions of Mrs. Gaskell's books were inspected, and a quaint old portrait of a medical member of the Holland family. After viewing some of the old timber houses in the narrow streets of Knutsford, and a memorial tower to Mrs. Gaskell of an uncertain style of architecture, the enclosed open space known as the Heath was reached. From this spot can be seen the house of her aunt, in which Mrs. Gaskell spent her youth. Not far away is a red-brick gabled structure in which lived Edward Higgins, the hero of the "Squire's Tale," who, while living in Knutsford as a highly respected country gentleman, was also highwayman and murderer. Forty of the members motored to Northwich, where, through the kindness of Mr. Geo. Malcolm (managing director) they descended the old rock-salt mine. They went down the shafts (336 ft.) in buckets into the salt seam 90 ft. thick and walked a full mile through the workings and saw the salt being blasted. Some members visited the beautiful gardens of Arley Hall and Tatton, while others were the guests of Dr. Macdougal and the Committee of the Saddlebridge Epileptic Colony, while still others accepted the invitation of Dr. Fennell, the captain of the Knutsford Golf Club, and played the ancient and royal game.

Annual Dinner.—The annual dinner was, for the convenience of members, held in Manchester at the Queen's Hotel, and a delightful evening was spent under Dr. Garstang's chairmanship.

Annual Report of Branch Council.—The report stated that the membership of the Branch was now 1,871. During the year 32 members had joined, but over 200 had resigned; the report stated that it was anticipated that after the rush to join the Association during the insurance campaign was over a good many would resign. The increase in the subscription no doubt had also had some effect, but attention was drawn to the fact that the subscription only amounted to the sum of 1½d. a day, whereas it was known that the working man would often contribute as much as 10 per cent. of his wages to his union. Two intermediate scientific and clinical meetings had been held, one in Liverpool and one in Manchester. The Branch Council had met four times, with an average attendance of twenty-four, and numerous committee meetings had been held. The Divisions reported 139 meetings in 1913 as against 231 in the previous year; the Council expressed the hope that this did not indicate that the Local Medical and Panel Committees were absorbing the interest of the profession to the detriment of the Division meetings. Though the local affairs of these committees were important enough in their way, they should not be allowed to take such a position in the minds of members as to shut out greater and vital matters. If this were to come about the profession would be most effectively split into a number of small bodies without power for united action, since the British Medical Association alone offered an organization capable of helping the profession in its difficulties.

BOLTON DIVISION.

THE twelfth annual meeting of the Bolton Division was held at the Infirmary on June 23rd, when Sir THOMAS FLITCROFT was in the chair, and fourteen members were present.

The Annual Report.—The annual report and balance sheet for the last year were adopted.

Election of Officers.—The following officers were elected:

President: Sir Thomas Flitcroft.
Vice-President: Dr. Mothersole.
Representative on Branch Council: Thomas O'Neill.
Honorary Secretary and Treasurer: Thomas O'Neill.
Executive Committee: Drs. C. Macfie, Laslett, J. M. Thornley, Rolland, Dowling, Kilpatrick.
Auditors: Drs. T. Boulton and D. Gray.

Annual Representative Meeting.—The annual report of the Central Council having been considered, it was agreed that the Representative should use his own discretion in voting at the Representative Meeting. Special consideration was given to the terms of the Minute 68 of the Special Representative Meeting, December, 1913, which alluded to the half-guinea fee to be paid to local medical referees for the examination of insured persons. This recommendation had been adopted at a meeting of the Division held in November last. On the motion of Dr. Mallett, Dr. Thornley seconding, the meeting agreed that the terms of the Minute 68 be adhered to.

Future Developments of the Insurance Acts.—The report on this subject was considered and the schedule of questions answered.

Rochdale Division.

A meeting of the Rochdale Division was held in the Wellington Hotel, Rochdale, on July 2nd, when Dr. Geddes, the Vice-Chairman, was in the chair and ten members were present.

Annual Representative Meeting.—Dr. Walker, the Representative, went over the financial statement of the Association contained in the Supplement of May 2nd. The recommendations of the Council in its annual report and supplementary report were then considered, and the Representative was instructed on certain matters, and others were left to his discretion.

Administration of Medical Benefit.—It was resolved:

> That this meeting is of opinion that the administration of medical benefits under the Insurance Acts should be undertaken by the medical profession.

METROPOLITAN COUNTIES BRANCH.

The sixty-second annual meeting of the Branch was held on June 26th at the offices of the Association, 429, Strand; Dr. R. Langdon-Down, President, was in the chair, and about forty members were present.

Election of Officers.—The following is a list of the officers elected for the year 1914–15:

President: Dr. F. J. Smith.
President-elect: Dr. Major Greenwood.
Past-President: Dr. R. Langdon-Down.
Vice-Presidents: Dr. Theodore Dyke Acland, Dr. John Arthur Percival Barnes, Dr. Evan Jones, Dr. Percy Rose.
Honorary Treasurer: Mr. Atwood Thorne.
Honorary Secretaries: Dr. Reginald E. Crosse, Mr. N. Bishop Harman, F.R.C.S.
Representatives on the Central Council: Drs. H. B. Brackenbury, Charles Buttar, James Galloway, and F. J. Smith.

Annual Reports.—The annual report of Council for the year 1913–14 and the balance sheet for the year 1913 were considered. Arising out of the second paragraph of the report concerning the election of a Local Medical Committee for London, the Chairman said that the Committee had now received the recognition of the Insurance Commissioners. The report was thereupon adopted. The annual report of the representatives on the Council was submitted, and in accordance with the rules of the Branch received.

Induction of President.—Dr. Langdon-Down, in introducing his successor, Dr. F. J. Smith, took the opportunity of tendering his very sincere thanks for the generous help and support he had received during his office. The Council, which had been most industrious and attentive, had been very fortunate in having as chairmen of its active committees men who threw their heart and business-like aptitude into the work of the Branch. It was a matter of congratulation that throughout the year the services of the Ethical Committee had not been required. Last but not least he tendered his thanks to Mr. Bishop Harman, the Secretary of the Branch. His work had been a little more onerous on account of the illness of his colleague Dr. Crosse. Dr. Langdon-Down said that he looked back on his term of office with pleasure; his regret in relinquishing the chair was tempered by the knowledge that his successor, Dr. F. J. Smith, was a strenuous leader in medical politics, and that in the early days of his (Dr. Langdon-Down's) membership of the Council Dr. Smith was a very hard working honorary secretary of the Branch. Dr. Smith, as they all knew, was a member of the staff of the London Hospital, of which school he had himself the good fortune to be a student. He would like to add a curious coincidence; at the present moment both the President himself, the incoming President, and the President-elect all hailed from the London Hospital. In the name of the Branch he invited Dr. Smith to take up the duties of his honourable position as President of the Metropolitan Counties Branch, which he now relinquished. Dr. Smith, having briefly returned thanks, read the address, which is published at page 63 of this issue of the Journal. On the motion of Dr. John Clarke, seconded by Dr. Crichton, a vote of thanks was accorded to the president for his address.

Vote of Thanks to Retiring President.—On the motion of Mr. E. B. Turner, seconded by Dr. Major Greenwood, a cordial vote of thanks was accorded to Dr. Langdon-Down for his services in the chair during the past year, and duly acknowledged by him.

Finchley and Hendon Division.

A meeting of the Finchley and Hendon Division was held on June 26th.

Election of Officers.—The following were appointed office-bearers:

Chairman: Dr. T. W. Hicks.
Vice-Chairman: Dr. F. W. Andrew.
Honorary Secretary: Dr. William Stanley Rooke.
Assistant Honorary Secretary: Mr. E. B. Jones, F.R.C.S.
Representative for Representative Meeting: Dr. A. G. Duncan.
Representatives on Branch Council: Drs. William Stanley Rooke and T. W. Hicks.
Executive Committee: Drs. R. W. Baron, J. B. Baker, A. J. Beadel, E. B. Jones, W. R. Orr, Miss Helen N. Payne, C. F. Winkfield.

OXFORD AND READING BRANCH:

Oxford Division.

The annual meeting of the Oxford Division was held at the Randolph Hotel, Oxford, on June 26th, when about twenty members were present. The annual report stated that during the year three meetings had been held, with an average attendance of forty to fifty. Since January, 1914, there had been eighteen resignations. The balance sheet was read and accepted.

The late Dr. Neil.—The Honorary Secretary was requested to write to Mrs. Neil, widow of Dr. Neil, Superintendent of Warneford Asylum, expressing the sympathy of the Division with her in her sad bereavement.

Election of Officers.—The following officers were elected for the ensuing year:

Chairman: Dr. Good.
Chairman-elect: Dr. Boissier.
Vice-Chairmen: Dr. O'Kelly and Sir William Osler.
Honorary Secretary and Treasurer: Dr. Gillett.
Divisional Representative: Dr. Yelf.
Executive Committee: The above officers and the following: Drs. Duigan, Hitchings, Penrose, Long, R. H. Sankey, Summerhayes.

Physical Basis of Insanity.—A very interesting paper was read by the Chairman, Dr. Good, on the physical basis of insanity, in which he pointed out that while heredity might be a predisposing cause there was generally some physical cause also operating.

Medical Referees.—On the motion of Dr. Duigan, seconded by Dr. Higgs, it was resolved *nemine contradicente*:

> That a minimum fee of one guinea for referee work be binding on medical men in the city and county. A notice of this to be sent to all members and non-members in the city and county.

Panel and Medical Committee.—The following nominations were made for co-option on the Panel Committee: Dr. Collier, Mr. Whitelocke, Dr. Duigan, Mr. Drew, Dr. Gillett.

Tea.—After the meeting Dr. and Mrs. Good entertained several members and their wives to tea at Littlemore, where they also had a very interesting time in being shown over the asylum.

SOUTH MIDLAND BRANCH:

BEDFORD DIVISION.

THE annual meeting of the Division was held on June 23rd at the residence of Dr. F. S. LLOYD (Luton), the retiring Chairman, who kindly invited the members to luncheon.

Election of Officers.—The following officers were elected:

Chairman: Dr. Kilham Roberts.
Vice-Chairman: Dr. Harvey Goldsmith.
Secretary and Treasurer: Dr. Birks.
Representative at Representative Meetings: Dr. J. W. Bone.
Representatives on Branch Council: Drs. Dixon, Rose, H. M. McC. Coombs, and *ex officio* members.
Executive Committee: Drs. L. G. Nash, J. M. O'Meara, W. A. Sharpin, Dixon, and Archibald, and *ex officio* members.

Annual Report of Division.—The SECRETARY presented the annual report for the year ending December 31st, 1913.

Pyuria.—Mr. FRANK S. KIDD, F.R.C.S., read a very interesting paper entitled "The diagnosis of a case of pyuria."

Annual Representative Meeting.—The meeting considered the report of Council, and gave instructions to the Representative with regard to it and as to the questions raised by the Future Developments Committee. (SUPPLEMENT, June 13th, p. 433.)

Special Fund.—The Secretary was instructed to take a postal vote of all practitioners resident in the area of the Division with regard to the proposed Special Fund.

NORTHAMPTONSHIRE DIVISION.

THE annual meeting of the Northamptonshire Division was held in the Board Room of the Northampton General Hospital, on July 2nd, when Dr. COOKE was in the chair, and eight other members were present.

Annual Report of Division.—The SECRETARY submitted the annual report, which showed that the membership of the Division on December 31st, 1912, was 120, and on December 31st, 1913, 126. No grants were received from head quarters, but there was still a balance in hand of £4 18s. 2d. There had been four Divisional meetings during the year, which were all concerned in carrying on the routine work of the Association.

Election of Officers.—The following officers were elected:

Chairman: Dr. W. H. Bull.
Vice-Chairman: Mr. N. B. Odgers.
Honorary Secretary and Treasurer: Dr. Hichens.
Representative for Representative Meetings: Dr. L. W. Dryland.
Deputy Representative: Dr. J. P. Roughton.
Representatives on Branch Council: Drs. Arthur, Greenfield, and Robson.
Executive Committee: Drs. Cropley, Linnell, Tolputt, Relton, and C. Powell.
Representatives on South Northants Nursing Association: Drs. Darley and Hope.

Expenses of Representative.—On the motion of Dr. BAXTER, seconded by Dr. LINNELL, it was agreed that the Representative of the Division should be paid a guinea a day for expenses when at the Annual and Special Representative Meetings, if the money could be legally granted.

County Nursing Committee.—A discussion took place on the proposed County Nursing Committee, and it was decided to state that the Association wished to be officially represented on the County Nursing Committee, and that the model nursing rules should be adopted.

Annual Representative Meeting.—The agenda for the Annual Representative Meeting were generally discussed, and the matters concerned were left to the discretion of the Representative.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

NORTH GLAMORGAN AND BRECKNOCK DIVISION.

THE annual meeting of the North Glamorgan and Brecknock Division was held at Pontypridd on June 18th.

Election of Officers.—The following officers and committees were elected:

Chairman: Dr. H. Davies-Jones.
Vice-Chairman: Dr. J. Morgan Rees.
Secretaries: Drs. C. J. Weichert and Dr. A. T. Jones.
Representative at Representative Meeting: Dr. W. E. Thomas.
Deputy Representative: Dr. D. N. Morgan.
Representatives on Branch Council: Drs. H. Davies-Jones, B. M. Lewis, C. Biddle, D. N. Morgan, J. Morgan Rees.
Executive and Ethical Committee: The members were re-elected.

SOUTH-WESTERN BRANCH:

EXETER DIVISION.

A MEETING of the Exeter Division was held at the Royal Devon and Exeter Hospital on July 3rd, when Mr. A. C. ROPER was in the chair, and ten members were present.

A reply was read from the Medical Secretary to the following questions:

(1) Further instructions with regard to the Treatment of Tuberculous Persons not Insured under the National Insurance Act.—Members were referred to the Model Scheme, Appendix VII, in the SUPPLEMENT, May 2nd, 1914, pars. 10 and 17. This scheme received very careful consideration at the hands of a thoroughly representative subcommittee, and they came to the conclusion that the scale of minimum fees laid down would cover both insured and uninsured, and provision is therefore made for mileage. (2) The policy of the Association as regards the question of the salary, superannuation, and security of tenure of Whole-time Assistant School Medical Officers.—Members were referred to Appendix V, par. 6, of the Public Health Section of the Annual Report of Council, page 289 in the SUPPLEMENT, May 2nd, 1914.

Annual Representative Meeting.—The annual report of Council (SUPPLEMENT, May 2nd, 1914) was considered and instructions given to the Representative.

Appendix V. The meeting took exception to pars. 17 and 18, because they considered them impracticable. The idea of local clinics or treatment centres was generally approved of by the meeting; but, until these were formed, it was not understood how the staffs of hospitals could forego the usual treatment.

The meeting considered that par. 5 (p. 281) of the memorandum on treatment at voluntary hospitals of school children found defective on medical inspection should be strongly pressed.

The meeting considered it very desirable that every effort should be made to prevent medical certificates given in bona fide being used as a weapon of offence against medical men. Strong disapproval was expressed of medical aid institutions, or anything which would promote them.

It was decided to support any means of preventing insured persons making their own arrangements with unqualified persons.

The meeting considered that the question of the attendance, on the receipt of a relieving officer's order, of a Poor Law medical officer upon persons in charge of police was a matter of great importance and should be strongly supported.

The questions sent by the Medical Secretary on the instruction of the Future Developments of Insurance Acts Committee (SUPPLEMENT, June 13th, 1914) were answered.

Special Fund.—It was decided to take a postal vote on the proposed "Special Fund" (pars. 156–7, SUPPLEMENT, May 2nd, 1914).

WEST CORNWALL DIVISION.

THE annual meeting of the Division was held at the Royal Cornwall Infirmary, Truro, on June 30th:

The following officers were elected for the ensuing year:

Chairman: Dr. A. Shaw (St. Austell).
Vice-Chairman: Dr. C. Branwell (Penzance).
Honorary Secretary and Treasurer: Dr. L. L. Phillips (Redruth).
Representative on Representative Body: Dr. M. Taylor (Helston).
Deputy Representative: Dr. F. Chown (Hayle).
Representatives on the Branch Council: The Chairman, the Vice-Chairman, the Honorary Secretary, and Dr. Chown.
Executive and Ethical Committee: Drs. M. Taylor (Helston), A. Permewan (Redruth), A. Shaw (St. Austell), L. Phillips (Redruth), A. Goldie (Par), R. Nesbitt (St. Just), W. Wilson (Penzance), F. Chown (Hayle), F. Hichens (Redruth), H. Sutton (Truro), W. Whitworth (St. Agnes), H. Sharp (Truro), J. Haughton (Falmouth), W. Gilchrist (St. Austell).

Budget Proposals.—The questions on the 1914–15 Budget proposals with regard to future developments of Insurance Acts were fully discussed and answered.

Medical Referees.—A report was submitted on the result of the appeal not to accept less than 10s. 6d., etc., for acting as referee under the Insurance Act. The SECRETARY reported that over 100 notices had been sent out, and 81 replies had been received. One replied in the negative because he thought the fee should be 21s.; one replied in the negative because he was a whole time medical officer of health; four replied deliberately in the negative; one replied in the affirmative, but has since written to withdraw his reply because he finds other men accepting less. The failure of those who had not replied, and the action of those who had deliberately replied in the negative, were

the subject of criticisms. Eventually the matter was referred to the next meeting to consider what steps should be taken.

School Medical Officers.—A letter was read from the Secretary of the School Medical Service Group of the Society of Medical Officers of Health, and the Representative was instructed to support their resolution at the Representative Meeting.

Annual Representative Meeting.—The agenda for the Representative Meeting was considered and the Representative instructed thereon. The Division was specially in favour of supporting the riders by Plymouth and Altrincham *re* the formation of a special fund and the National Medical Guild, and the following resolutions were carried unanimously:

That this meeting of the West Cornwall Division strongly supports the rider of the Altrincham Division and instructs its Representative to vote in favour of this rider.

That the following be added to the agenda of the Representative Meeting: That it be an instruction to the Council that they take the necessary steps to effect such alterations in the by-laws of the Association as will secure that members of the National Medical Guild be admitted to membership of the British Medical Association at an annual subscription of one guinea.

SURREY BRANCH:

Kingston Division.

A meeting of the Kingston Division was held at Surbiton Cottage Hospital on June 30th, when Dr. A. E. Evans was in the chair, and eleven others were present.

Insurance Acts.—The schedule of questions (Supplement, June 13th, p. 436) were discussed and the decisions recorded were unanimous.

I.—Provisions for Institutional Treatment.—(*a*) No. But at present London makes up our deficiencies. (*b*) No. (*c*) No. (*d*) Yes.

II.—Excessive Claims for Sickness Benefit.—(*a*) Yes. No excessive increase noted in this area. (*b*) The present system does tend to encourage patients to consult doctor unnecessarily. No check should be put on the patient's right but he should be encouraged to consult the doctor early.

III.—Proposed New Services. (1) Control.—(*a*) Yes. (*b*) The Division agrees with the proposal to set up new joint committee as in paragraph (18). (*c*) Not at present. (2) Laboratories. (*a*) Not at present. (*b*) Yes.

Nursing—(*a*) No. (*b*) In area of this Division nursing appears satisfactorily carried on by charitable agencies. Opinion of meeting is that this should continue.

Referee Consultants.—Yes.

Treatment Centres.—The Division does not approve of the establishment of treatment centres.

YORKSHIRE BRANCH:

Halifax Division.

The annual meeting of the Halifax Division was held at the Mikado Café on June 30th, when Dr. Drury was in the chair, and twenty-four other members were present.

Annual Report of Division.—The annual report and balance sheet of the Division for the year 1913 was read, and, on the motion of Dr. Priestley Leech, seconded by Dr. Marshall, was adopted.

Election of Officers.—The following were elected officers of the Division for next year:

Chairman: Dr. P. V. Fry.
Vice-Chairman: Dr. E. W. S. Hughes.
Representative for Representative Meeting: Dr. A. Drury.
Representatives on Branch Council: Dr. Priestley Leech.
Honorary Secretary: Dr. W. B. Wishart.
Executive Committee: Drs. T. W. Arnison, J. F. Hodgson, G. G. Lawson, J. Marshall, Armitage Morton, J. Sproull, Gardner Oakley, Branson.

Organization.—Dr. Fry then took the chair, and after returning thanks for the honour conferred on him, urged in a brief speech the importance of organization. Dr. Drury, the retiring Chairman, then addressed the meeting on the urgent necessity for organization and unity in the profession. He pointed out that the existing organization—the British Medical Association—had done immense work for the profession, the benefits and advantages of which were available for all. The recent struggle had not resulted in such total failure as some still appeared to think. The victory on adequate remuneration, free choice of doctor, and freedom from friendly society control had been won by the unceasing efforts of the Association. It was only by means of organization and unity that the profession could resist the attempts being made, or likely to be made, to deprive medical men of the advantages gained in the long and fierce struggle. Dr. Drury urged men who were members to stick to the Association. He appealed to those who had recently left the Association (not many locally) to come back, and to those who had never joined he made an impressive appeal to become members. Many of the attacks made upon the Council were, he said, altogether unwarranted, and were made in ignorance of the functions of the Council. The policy of the Association was dictated peripherally and not centrally. This meant that each member had a voice and a vote in controlling the policy. For this reason men should make themselves familiar with all matters brought up for discussion and decision, and should attend the Division meetings, where their views would receive consideration. It too frequently happened that men neglected this and reserved their criticisms until after matters had been decided. Attempts to split the Association should be resolutely resisted. No organization could better serve the needs of the profession. Associations formed for special purposes might exist side by side. Those already existing found the British Medical Association with its wide sphere and influence essential for pressing forward their work. After all the greatest danger to the profession arose not from without so much as from dissensions and lack of unity within. At the recent conference with the Insurance Commissioners it had been pointed out that the profession had deliberately chosen the "panel" system, and that it was "up against" the profession to justify that choice by making the panel system as efficient and successful as possible. There was the possibility of a whole-time State Medical Service if the panel system did not prove satisfactory, but he did not think it was likely to be instituted under any other circumstances. An interesting discussion followed, and a number of questions were asked. Dr. Leech urged members to stick to the panel system and the Association, as he believed they would be much worse off under a whole-time State Medical Service. Votes of thanks were passed to Dr. Drury for his address and for the able way in which he had occupied the chair during the past year.

Unqualified Dentists.—A member asked if a medical man might give anaesthetics for a qualified dentist, the latter being present at the operation, but the actual extraction being done by an unqualified assistant. After some discussion the Secretary was instructed to place the matter before the Ethical Committee.

Association Notices.

Special Representative Meeting, Aberdeen.

On the requisition of the Council, notice is hereby given under Article 31 and By-laws 36 and 73, that a Special Representative Meeting of the Association will be held on Monday, July 27th, 1914, at 12 noon, at the Marischal College, Aberdeen, for the purpose of considering the following Report and Recommendation of Council (paragraphs 211 and 212 of Supplementary Report of Council, 1913–14), and, if considered advisable, amending By-law 67 accordingly:

Scottish Committee.

211. The work of the Scottish Committee is growing, and it is found increasingly difficult for the Chairman to be able to attend all the Committee meetings in Scotland and Council and Committees in London as well. The Committee consequently desires to be able to elect a Deputy Chairman as well as Chairman. By-law 67 provides that each Standing Committee shall appoint from its own number a member of Council as Chairman, in order that the Council may be able to keep in touch with each Committee. The Scottish Committee wishes to be an exception to this By-law and to be able to have a Chairman not necessarily a member of Council, but that effective co-ordination shall be maintained by insisting that one of its three officers—Chairman, Deputy Chairman, or Honorary Secretary—shall be on the Council. As the Scottish members desire the change as early as possible, the Council has arranged that a special session of the Representative Body shall be held at Aberdeen on Monday, July 27th, 1914, at 12 noon, for the purpose (only one month's notice of such an alteration of By-laws being required in the case of a Special Representative Meeting).

212. The Council recommends:

RECOMMENDATION GG. — That the Special Representative Meeting, Aberdeen, amend existing By-law 67 of the Association, which reads as follows:

67. Each Standing Committee shall appoint from its own number a Member of Council as Chairman,

to read as follows:

67. Each Standing Committee except the Scottish Committee shall appoint from its own number a Member of Council as Chairman. The Scottish Committee shall appoint from its own number a Deputy Chairman, as well as a Chairman, and either the Chairman or the Deputy Chairman or the Honorary Secretary of that Committee shall be appointed from amongst members of Council.

T. JENNER VERRALL,
Chairman of Representative Meetings.

June 24th, 1914.

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for Candidates for election of Members of Council by grouped Representatives for the year 1914–15 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting on Friday, July 24th, 1914. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

Separate forms have been prepared: (I) For Nomination by a Division (through its Representative), and (II) for Nomination by a Representative of a Constituency included in the Group, and those applying are requested to state for which purpose the form is desired.

The voting papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a Constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,
ALFRED COX,
Medical Secretary.

June 24th, 1914.

CHANGES OF BOUNDARIES.

NORTHANTS AND WARWICK AND LEAMINGTON DIVISIONS. THE following change has been made in accordance with the Articles and By-laws of the Association, and takes effect as from the date of publication of this notice:

That Rugby and district be transferred from the area of the Northants Division of the South Midland Branch to that of the Warwick and Leamington Division of the Birmingham Branch, the areas of these Divisions and Branches being modified accordingly.

Representation in Representative Body.—Unaffected.

SUGGESTED CHANGES OF BOUNDARIES.

PROPOSAL FOR REORGANIZATION OF AREA OF NORTH OF ENGLAND BRANCH.

Notice is hereby given under Article 13 and By-law 73 to all concerned of a proposal made by the North of England Branch Council that for the existing scheme of Divisions of that Branch there be substituted Divisions as follows:

(1) *In Northumberland.*

1. *North Northumberland:*—Berwick-upon-Tweed M.B., Berwick-upon-Tweed R.D., Norham and Islandshires R.D., Glendale R.D., Belford R.D., Rothbury U. and R.D.s, Alnwick U. and R.D.s, Amble U.D., Morpeth M.B., Morpeth R.D., Ashington U.D., Bedlingtonshire U.D., Newbiggin-by-the-Sea U.D.

2. *Hexham:*—Bellingham R.D., Haltwhistle R.D., Hexham U. and R.D.s.

3. *East Northumberland:*—Castle Ward R.D., Newburn U.D., Gosforth U.D., Blyth U.D., Tynemouth R.D., Cramlington U.D., Weetslade U.D., Seghill U.D., Earsdon U.D., Whitley and Monkseaton U.D., Wallsend M.B., Willington Quay U.D.

4. *Newcastle-upon-Tyne:* — Newcastle-upon-Tyne C.B.

5. *Tynemouth:*—Tynemouth C.B.

(2) *In Durham.*

6. *South Tyne:*—Gateshead C.B., Felling U.D., Hebburn U.D., Jarrow C.B., South Shields C.B., South Shields R.D. (except Harton and Whitburn C.P.'s).

7. *North Durham:*—Ryton U.D., Blaydon U.D., Whickham U.D., Tanfield U.D., Annfield Plain U.D., Stanley U.D., Crag Head C.P. and Greencroft in Lanchester R.D., Chester-le-Street U.D., Chester-le-Street R.D. (except Usworth, Washington, Plawsworth, and Witton Gilbert C.P.s).

8. *Sunderland:*—Harton and Whitburn C.P.s in South Shields R.D., Sunderland C.B., Sunderland R.D., Usworth and Washington C.P.s in Chester-le-Street R.D., Houghton-le-Spring R. and U.D.s, Hetton U.D., Easington R.D. and Seaham Harbour.

9. *Mid Durham:*—Benfieldside U.D., Consett U.D., Leadgate U.D., Lanchester R.D. (except Crag Head C.P. and Greencroft), Plawsworth and Witton Gilbert C.P.s in Chester-le-Street R.D., Durham M.B., Durham R.D., Tow Law U.D., Crook U.D., Brandon and Byshottles U.D., Willington U.D., Spennymoor U.D., Bishop Auckland U.D., Shildon and East Thickley U.D., Auckland R.D., Sedgefield R.D.

10. *Stockton:*—Hartlepool R.D., West Hartlepool C.B., Hartlepool M.B., Stockton M.B., Stockton R.D.

11. *Darlington:*—Weardale R.D. and Stanhope U.D., Barnard Castle U. and R.D.s, Darlington M.B., Darlington R.D.

(3) *In the Yorkshire Portion of the Branch.*

12. *Cleveland:*—To consist of the existing Cleveland Division, with in addition the Yorkshire portion of the existing Darlington Division.

Written notice of the above proposal has been given to the Divisions concerned, and the matter will be determined in due course by or on behalf of the Council of the Association. Any member affected by the proposed change and objecting thereto is requested to notify the fact, with his or her reason therefor, to the Medical Secretary, 429, Strand, London, W.C., by August 11th.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—Drs. L. E. Price and D. Davidson, Honorary Secretaries, give notice that a constituency meeting of the Nuneaton and Tamworth and Coventry Divisions will be held at the Coventry Hospital on Friday, July 17th, at 4.15 p.m., to instruct the Representative.

MIDLAND BRANCH: HOLLAND DIVISION.—Dr. R. Tuxford, Honorary Secretary, 12, Wide Bargate, Boston, gives notice that a meeting of the Holland and Kesteven Divisions will be held at the "Carre Arms" Hotel, Sleaford, on Sunday, July 19th, at 3 p.m. Business: To instruct the joint Representative to annual meeting.

NORTH WALES BRANCH.—Dr. H. Jones Roberts, Honorary Secretary (Llywenarth, Penygroes, S.O.), gives notice that the sixty-fifth annual meeting of the Branch will be held at the Glanrafon Hotel, Benllech, Anglesey, on Tuesday, July 14th, at 2.45 p.m. Luncheon at 2 p.m. Tickets, 3s. Agenda: To introduce the President-elect. To receive the report of the Branch Council. To elect President for 1915–16. To elect Honorary Secretary. To report election of members on the Branch Council. To elect a Representative on the Welsh Committee. To select places for the meetings in 1915. To present a motor car to Dr. Emyr Owen Price, in recognition of his services to the Branch and profession in North Wales. Subsequently the President will deliver his address, and the following papers will be read: Dr. A. Norman Leeming: Some Fractures treated by Lane's Plates and Screws, with Photographs before and after. Dr. H. Drinkwater: The Longevity of Eminent Medical Men. Dr. J. Murray Bligh: Infant Feeding. Dr. John Elliott: (*a*) Specimens from a Case of Lymphatic Leukaemia; (*b*) Case of Chronic Pneumonia treated with Pneumococcus Vaccine. Benllech is the terminus of Holland Arms—Red Wharf Bay and Benllech Railway, and is about fifteen minutes' walk from the Glanrafon Hotel. Lord Boston having kindly permitted the members attending the meeting to view the Roman remains at Llugwy, all who wish to avail themselves of the opportunity will please notify Dr. J. R. Prytherch, Llangefni, before Monday, July 13th. Conveyances will leave Benllech at 4.30 p.m.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.—Dr. D. R. Price, Honorary Secretary, Ammanford, Carmarthen, gives notice that the annual meeting of the Division will be held at the Ivy Bush Hotel, Carmarthen, on Tuesday, July 14th, at 3 p.m.

MEMBERS ELECTED TO THE BRITISH MEDICAL ASSOCIATION

(January 9th, 1914, to June 26th, 1914).

BY THE COUNCIL.

Beaman, Winifrid Kelsey, Captain R.A.M.C., M.R.C.S., L.R.C.P.Lond.
Burnett, Maurice, Lieut. R.A.M.C., M.R.C.S., L.R.C.P.Lond.
Calvert, Edward, Lieut. I.M.S., B.A., M.B.
Gibson, Arthur William, Major R.A.M.C., L.R.C.P. and S.Edin.
Heffernan, Francis Joseph Christopher, Major R.A.M.C., F.R.C.S.I.
Hughes, Algernon Fitz-Roy, M.B., B.Ch.Edin., Soufriere, St. Lucia, B.W. Indies
Nolan, Robert Howard, M.B., Ch.B.Edin., Northern Section, Surrey Camp, Eastern Railway, Kaduna, Northern Nigeria
Reboul, Adrien Ernest Emile, M.D., L.R.C.P. and S.Edin., Villa des Bluets, Chatêl-Guyon-les-Bains, Puy de Dôme, France.
Ritchie, Michael Balfour Hutchinson, Capt. R.A.M.C., M.B., B.Ch.Univ. Aberd.
Walsh, Patrick Joseph, Lieutenant I.M.S., M.B., B.Ch., B.A.O., R.U.I.
Williamson, Maurice Joseph, Capt. R.A.M.C., M.B., Ch.B.Aber.

BY BRANCH COUNCILS.

Aberdeen Branch.

Cran, James, M.B., University Club, Union Terrace, Aberdeen

Assam Branch.

Berryman, R. C. P., Esq., Lahoal P.O., Assam
Boyd, William, M.B., Clevedon T.E., Kulaura P.O., A. B. Railway, South Sylhet
Cameron, A. D., Esq., North Lakhimpur, Assam
Grant, Willoughby G., Esq., Margherita P.O., Upper Assam
Joly, Jolloncrieff, M.B., Dhordaam, Para Hanjan P.O., Upper Assam
Woods, W. Medlicott, Esq., Sonari, Sibsagar, Assam

Bath and Bristol Branch.

Forster, C. M., Esq., Hawkesbury, Upton
Gordon, R. G., M.D., 6, Queen Square, Bath
Harris, Andrew, Esq., West Lodge, Frome
Kelly, J. B., Esq., Sandringham House, Weston-super-Mare
Reynolds, W. A., M.B., 14, Chertsey Road, Redland, Bristol

Birmingham Branch.

Milner, A. E., Major R.A.M.C., Recruiting Offices, James Watt Street, Birmingham
Torrance, Wm. T., Esq., City Hospital, Erdington

Bombay Branch.

Bana, F. D., M.B., Grant Medical College, Byculla, Bombay
Darwalla, J. D., Esq., Bulsar
D'Monte, Mrs. Cecilia, L.M. and S., Cama Hospital, Bombay
de Souza, G. J., Esq., Middle Colaba, Bombay
Hutchison, H. S., M.B., Capt. I.M.S., Malabar Hill, Bombay
Laud, K. S., Esq., 18, Kandewadi, Girgaum, Bombay
Liston, W. Glen, C.I.E., M.D., Major I.M.S., Bombay Bacteriological Laboratory, Parel
Mahomedi, S. S., Esq., op. Goagate Station, Baroda
Rankine, Sarah A. J., M.B., St. Margaret's Hospital, Poona City
Wadia Jehangier, R., Esq., Medical College Quarters, Byculla, Bombay

Border Branch, South Africa.

Heinrichs, Dr., East London
Imrie, A. Macdonald, Esq., Queenstown
Smith, R. Rutherford, Esq., Stutterheim

British Guiana Branch.

Fiddian, G. V., Esq., Public Hospital, Georgetown
Pereira, M. G., Esq., 35, Main St., Georgetown
Wills, F. T., M.B., Public Leper Asylum, Mahaica, Demerara

Cambridge and Huntingdon Branch.

Edwards, K. C., Esq., Sawston

Cape of Good Hope (Western Province) Branch.

Cohen, Benjamin, M.B., 6, Church Street, Capetown
Drew, Desmond, M.B., City Mansions, Hope Street, Capetown

Ceylon Branch.

Alles, E. C., Esq., Victoria Memorial Eye Hospital, Colombo
Carolis, M. D., Esq., Civil Hospital, Kandy
Chelappa, A., Esq., Mantota, Mannar
Chinniah, S. K., Esq., Watawala
Christoffelsz, Miss Rachel R., L.M.S., Summer Place, Borella, Colombo
Corea, J. A. E., Esq., Chilaw
Gunasakera, Frank, Esq., Austerlitz, Temple Road, Colombo
Jayanayake, C. S. P., Esq., General Hospital, Colombo
Kuriyan, A. T., Esq., Kalpitiya
Ludovici, Henry, Esq., Dimbula, Kotagala
McGahey, Kennedy, Esq., Galle Face Hotel, Colombo
Outschoorn, D. D. S., Esq., Deltota
Perera, A. R., Esq., Badulla
Ramasamy, T., M.B., Medagama via Luangala
Schokman, H. E., Esq., Nuwera Eliya
Somasundram, M., Esq., Beruwala
Spaar, E. C., Esq., Bacteriological Institute, Colombo
Wickramasinghe, Sextus F., Esq., Kurunegala

Dundee Branch.

Dickson, R. Cecil, M.B., 29, Strathmartine Road, Dundee
Lennox, David, M.D., 162, Nethergate, Dundee
Proctor, Ruth, M.B., Royal Infirmary, Dundee

East Africa and Uganda Branch.

Copland, Andrew, M.B., Zanzibar
Hailstone, J. E., Esq., c.o. P.M.O., Entebbe
Keane, G. J., M.D., Capt. R.A.M.C., Kampa'a
Marshall, C. H., Esq., c.o. P.M.O., Entebbe
Neilson, H. R., M.B., Mbarara, Nkole, Western Province, Uganda
Owen, A. H., Esq., Kampala
Reford, J. Hope, M.D., Horina, Uganda
Russell, Edmund N., M.B., Mombasa
Webb, W. Leslie, Esq., Mulago, Uganda

East Anglian Branch.

Maxted, George, M.D., Norwich
Morgan, B. Branford, M.D., 38, St. Giles's Street, Norwich
Rose, E. F., Esq., Attleborough
Young, H. T. Penn, M.B., Wymondham

East York and North Lincoln Branch.

Lemerle, H. E. A., M.B., 12, Chapman Street, Hull

Edinburgh Branch.

Haddon, D. A. R., M.B., Colislinn, Hawick
Monro, D. C., M.B., Blackie House, University Hall, Edinburgh
Rutherford, Andrew, M.B., 74, Blackford Avenue, Edinburgh
Scott, Alexander, M.B., The Firs, Broxbourne
Silvester, Charles E., M.B., Denholm, Roxburghshire
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NATIONAL INSURANCE ACT.

The Second Annual Report of the Commissioners.

The second annual report[1] on the administration of National Insurance relates to the year ending June 30th, 1914. A volume of nearly 600 pages, its space is occupied by five separate reports—by the four National Commissions and the Joint Commission—a short introductory chapter, and some eighty appendices. There is no index, but as in the preceding volume, reference to any particular point is facilitated by the provision of an excellent table of contents. The report is for the most part merely a historical record of what each Commission has done during the twelve months to which the volume relates, and these actions, so far as they have been of specific medical interest, have been noted in our columns as they occurred.

Nevertheless it contains scattered passages not of this order. In the general introductory chapter, for instance, stress is laid on the fact that the most interesting part of the Commissioners' work up to the present has been the bringing of the resources arising under the scheme of National Insurance into co-operation and co-ordination with previously existing organizations dealing with the immense variety of questions and problems with which the National Insurance is concerned. Almost every type of social question is involved, directly or indirectly, in the administration, but those with which it is most closely connected are the public health and economic conditions. There is also a statement to the effect that the working of medical benefit has revealed the great loss which the country has suffered in the past through inability of large sections of the community to obtain adequate treatment. There has existed no organization for the mass of illnesses which require to be treated in the patient's home, and the institution of the panel service, apart from providing home treatment when suitable for practically the whole of the working population, seems to have laid "a foundation on which extended provision can suitably be based."

The experience gained under the Act is thought to confirm the theory that the provision of curative facilities is of little avail unless accompanied by financial provision to relieve the economic conditions of distress which otherwise would arise owing to the absence of the head of the family from work. Substantially, it has been proved that any attempt to divorce the two factors creates a vicious circle. Furthermore the Act, by providing free treatment and weekly cash payments during sickness, has, it is suggested, brought medical men into areas whose inhabitants were previously not in a position to seek medical advice, and has thus created a new demand for doctoring. It is also held to be clear that before the introduction of the Act expectant mothers worked up to the last possible moment in order to have money in hand to meet the expense of a confinement. In view of their receipt of maternity benefit and also of their being able, when working women, to receive ordinary sickness benefit if ill, expectant mothers are now in a position to seek and also to obey medical advice during pregnancy.

Elsewhere, in a discussion on the excessive claims made by women, it is suggested that part of the excess is due to the effects of pregnancy, and it is indicated that there will have to be some revision of the finance of the Act in respect of women; probably the contributions made by women are insufficient and there will have to be some alteration of the statutory apportionment of these contributions between the societies and the sinking fund. An equalization fund is also mentioned to which Parliament may be asked to contribute, to meet the needs of societies among whose members sickness is liable to be especially heavy; those composed, for instance, mainly of chemical workers. Another passage the tone of which, if nothing else, seems to justify its quotation in full is the following:

> As regards the certifying doctors on whom in great measure the societies are bound to rely, it is impossible to doubt that there has been, in many quarters, too little recognition of the high degree of confidence which Parliament reposed in the medical profession when it decided to withdraw the administration of medical benefit from the approved societies and thereby largely to place in the hands of the profession the well-being of the societies, whose expenditure on sickness benefit is no less dependent on sound certification than on efficient administrative supervision. There is no doubt that great improvement in certification is both necessary and practicable.

This passage occurs in a chapter signed by the chief actuary of the Joint Commission. He does not seem fully to appreciate the reasons which led Parliament to remove the administration of medical benefit from the friendly societies, and is no more entitled to say whether improved certification is practicable than would an average medical man be justified in laying down the law as to the applicability of the differential calculus to national insurance statistics. *Ne sutor ultra crepidam.*

Also worth quoting, but for different reasons, are eighteen paragraphs which appear in the report of the English Commissioners, under the title of "Medical Benefit—General Review." They are as follows:

> Medical Benefit.—General Review.
>
> 455. Many of the difficulties which beset the administration of medical benefit arise directly out of those features of freedom and elasticity which are most characteristic of the system established by the Legislature, and which constitute its peculiar value as reflecting, as regards the insured population on the one hand, the bent of the national temperament, and as regards the medical profession on the other (in accordance with their express desire), the conditions of private practice. In essentials, therefore, the present medical benefit scheme may be described as the embodiment in an administrative system of a nexus of private and voluntary relations between individuals; and the special problems presented are fundamentally concerned with the reconciliation of those apparently diverse propositions. The provision for many millions of insured persons, wherever they happen to be in Great Britain, of medical treatment by means of access to, and free selection from the ranks of a service in which all qualified medical practitioners and pharmacists are free to be enrolled requires a machine not only far-reaching and comprehensive, but elastic and adaptable, not only complex, by reason of the many intricate personal relations involved, but also swift in action and responsive to the sudden emergencies of disease.
>
> 456. From this point of view an examination of the system resolves itself into two parts, the one concerned with its effect upon the insured population, the other with its consequences as regards the medical profession and the service afforded by them.
>
> 457. As regards the insured population, a necessary consequence of the embodiment of these relations into a system is the establishment of a procedure. The requisite procedure must be adaptable to, and keep touch with, the multiplicity of conditions throughout which the insured person's access to benefit is to be preserved; it must necessarily be of the simplest; and it must, moreover, be operated, not by any external sanctions, but by the minimum degree of action by the insured person himself in his own immediate self-interest. These canons have been carefully observed, and so far as possible secured, in the actual construction of the administrative machinery; but the problem which necessarily arises with any system, however simple, is not only to convey to the insured population a sufficient knowledge of the steps necessary to be taken by them and of the facilities and advantages offered, but also to induce them to take those steps and to choose a doctor forthwith without waiting until they are ill. Difficulties naturally result, therefore, from ignorance of the nature of the provision afforded, and from ignorance and inertia with regard to the steps necessary to access.
>
> 458. These difficulties can doubtless be completely removed as, with increasing experience, the insured population becomes more completely educated as to the nature and details of the system. It was not to be expected that over ten million persons could in the course of a few months become conversant with even the outlines of the scheme, or that it would be possible to put them, individually, in possession of effective knowledge as to the appropriate steps to be taken in all circumstances. Nevertheless, so far as information is available, the progress which has been made is very striking. At the end of 1915, the first year of medical benefit, the number of insured persons returned as having chosen, and been placed on the lists of, panel doctors alone in England represented 96 per cent. of the total insured population (excluding that of Manchester and Salford, where this criterion does not apply). In all probability these lists contain some duplication in respect of insured persons who have, upon removal, chosen a doctor in the new area without being immediately removed from the list of the doctor in the area they have

[1] Report for 1913–14 on the Administration of National Health Insurance. London: His Majesty's Stationery Office. (Cd. 7496.) Price 2s. 5d.

left. On the other hand, the figures do not include the insured persons who have selected an approved institution or been allowed to make their own arrangements; and it may be taken that the figure of 96 per cent. substantially represents the fraction of the insured population who have taken steps to secure the advantages of the benefit. Again, in London, where the administration has been attended by exceptional difficulties, and a less successful result might have therefore been expected, the figure returned on the above basis, in respect of panel doctors' lists only, amounts to over 90 per cent. of the insured population.

459. It is not, therefore, the case that, as has been stated, any large proportion of the insured population is without access to benefit on the ground of objections to the nature of the service offered or owing to any inadequacy or failure of the administrative machinery. These statements are, it is believed, based upon the fact that the registers of most committees include a substantial number of insured persons who have not chosen a doctor in the area. But experience has shown that this section of the register includes the bulk of the inflation referred to above in paragraph 448; and the fallacy of the assumptions based upon these data is proved by the result of an investigation recently conducted in a district of the metropolitan area with the object of inducing insured persons in their own interests to exercise their right of selection.

460. This investigation, which dealt with about two thousand cases from the section of the register above referred to, taken at random and without any selection, disclosed the circumstances shown in the following table:

Sample Examination of Cases of Insured Persons shown on Register as NOT *having Chosen a Doctor.*

Grounds for Apparent Inaction.	Percentage.
1. Already on doctor's list, but not returned as such owing to misapprehension or clerical error	31.2
2. Removed—	
(*a*) From the area	4.6
(*b*) From the United Kingdom	1.4
(*c*) Leaving no trace	27.6
3. Neglect	19.6
4. Ignorance of procedure	4.3
5. Ceased to be insurable	3.6
6. Dead	0.5
7. Joined army or navy	0.5
8. Preferred private doctor	3.8
9. Have paid privately for treatment	0.6
10. Miscellaneous grounds (for example, contemplate leaving United Kingdom, insurability in doubt, etc.)	2.3
	100

461. Thus the great majority, amounting to nearly 70 per cent. of the insured persons concerned, proved either to have removed from the area (being in all probability on the list of a doctor in another area), to have left the country, or otherwise ceased to be entitled to the benefit, or to be already on the list of a doctor in the area though not returned as such owing to some misapprehension or clerical error. Ignorance of procedure was responsible for the failure to choose a doctor in 4 per cent. only of the cases, while sheer neglect accounted for nearly 20 per cent.

462. Of the persons in Class 8 who stated that they had preferred a private doctor, some stated that they were giving up a private doctor and intended to choose a panel doctor. Some were accustomed to obtain treatment through an unrecognized medical club or institute, or possessed opportunities of obtaining treatment gratis, while of the others it may be inferred that they include some persons who, if and when they have occasion to require a doctor, may, notwithstanding, have recourse to the panel. Similarly the persons in Class 9 who had paid privately for treatment probably include some persons who had so paid in ignorance of their rights, and who will in future avail themselves of them. But even without the discount which must obviously be made from both classes on these considerations, the percentage of persons who, on account of ignorance, preference, or prejudice, deliberately refuse to avail themselves of their medical benefit is negligible, inasmuch as, without any allowances, and assuming the average found in the cases dealt with to be maintained in the rest of the persons represented by the section of the register referred to, the two classes in question only account for 0.27 per cent. and 1.7 per cent. respectively of the insured population of the area.

463. So far, therefore, as the insured population is concerned, there appears to be no reason for dissatisfaction with the present position or the progress which has already been made as regards the working of the system. Knowledge is rapidly spreading; and the introduction of the medical card system should, it is believed, effect a great advance by providing insured persons with an almost universally available means of access in nearly all circumstances which are likely to arise.

464. Turning now to the aspect of the system as it concerns the medical profession and the medical service, it is, similarly, in connexion with those features which preserve the conditions of private practice that difficulties have been encountered and are liable to arise. All qualified practitioners are entitled to be enrolled in the service, and insured persons are entitled to a free choice from among the practitioners so enrolled. As in ordinary course of private practice, the principles of open competition are mainly relied upon to secure for the competent man as large and remunerative a practice as he can successfully undertake, and to preclude his acquisition of a larger number of patients than he can properly attend. The principles of economic supply and demand are in the main relied upon to recruit the ranks of the service in any particular district or area (although it is, of course, the first duty of the Insurance Committee to secure a panel which is amply adequate for the service of the area), and to secure a local distribution of the available practitioners which will enable their services to be utilized with the least amount of waste and overlapping. Further, the relations between doctor and patient are still to a considerable degree the private relations of private practice, and remain so unless and until either party invokes the authority administering the benefit to do justice in the matter of a complaint or dispute.

465. Dealing first with the last mentioned point, there appears to be little doubt that the personal relations between panel practitioners and their panel patients are, generally speaking, entirely satisfactory. Complaints are comparatively rare in most districts; while reports from all parts bear witness to an increasing spirit of mutual understanding. As regards the standard and quality of the treatment given, this naturally varies, as it must inevitably do under a system which, reproducing the free elements of private practice, admits all qualified practitioners without selection. But, at the lowest estimate of the position, an enormous number of men and women are now receiving treatment for their ailments who previously were accustomed to go without; while, on the other hand, insured persons have been enjoying, at the hands of the more conscientious and competent doctors, a service of the standard of that accorded to remunerative patients of the well-to-do classes. Signs are not wanting, moreover, that definite tendencies are in operation, originating with the medical profession themselves and fostered by the responsible authorities, to raise the standard of the whole of the industrial practice of the country and to enhance the value of the insurance service.

466. As regards the nature and quality of the supply of medicines and appliances under the present system, there have been no grounds for dissatisfaction. Questions have been raised in a very few isolated instances as to the quality of the drugs furnished; but no cases have been reported which, upon investigation, have justified any allegations that the drugs supplied in connexion with the insurance service were of an inferior standard.

467. In the matter of certification, however, where under the present system the nexus of relations reaches its highest degree of complication as between doctor, patient, Insurance Committee, and approved society, it cannot be said that at present equally satisfactory results have been attained. In this province the medical benefit system replaced, not the conditions of private practice, but the pre-existing relations of contract practice between the club or lodge and their medical officer. These relations involved a close touch between the society and the doctor acting as custodian of the society's funds; and as the circumstances attending the early stages of medical benefit were such as to impair in some respects the nature of the understanding between societies and the medical profession, their mutual confidence has had to be restored. Administrative action is, however, being taken to overcome the difficulties which have arisen. Moreover, the spirit of co-operation, as already stated, is growing; and already, in some areas, the medical profession and the approved societies have of their own motion established a rapprochement with the happiest practical results.

468. The number of doctors on the panels in England (excluding duplicates within each area, but including doctors on more than one panel) amounts to over 16,000, while over 10,000 shops are available for the supply of medicines or appliances, or both, to insured persons. The

number of doctors has steadily increased, as will be seen from the following comparative figures:

Strength of panels on	January 15th, 1913	...	13,996
,, ,,	April 14th, 1913	...	15,659
,, ,,	October 13th, 1913	...	15,870
,, ,,	May 31st, 1914	...	16,059

The total increase in strength since the commencement of medical benefit is thus over 2,000.

469. As regards the sufficiency of the number of panel doctors available for the country as a whole, there can be no possible doubt. On the figures given above, and after an allowance is made for the elimination of duplicates, the average number of insured persons per panel doctor is only about 760, a number for which responsibility can, except under abnormal conditions, be accepted by a single doctor with the greatest ease. In proceeding to consider the actual distribution of insured persons among doctors, it must be remembered that this is likely to be governed by two factors, namely, the relative extent of the personal powers and opportunities of doctors of acquiring a practice, and their local distribution and relative availability.

470. As regards the first consideration, it is natural to expect that the forces of competition would result in the existence of lists above and below the average in size; and properly so, since it is right that competence and thoroughness in attendance should be recognized and rewarded by a large practice and corresponding remuneration. The early circumstances of medical benefit were, however, such as to disturb for the time being the operation of the competitive forces. In some districts doctors delayed coming on the panel at the outset, with the result that many selections were made before the panels were complete, and no opportunity subsequently arose for a change of doctor until the end of the year. Nevertheless, the actual position as it existed prior to the first opportunity for change was far from unsatisfactory. Taking the figures of 100 Insurance Committees of a representative character, it appeared that at the end of 1913 over 50 per cent. of the panel practitioners had 500 or less insured persons on their lists, 70 per cent. had 750 or less, 80 per cent. had 1,000 or less, 90 per cent. had 1,500 or less, while over 96 per cent. had no more than 2,000. While the number of insured persons for whom a panel practitioner can properly accept responsibility will, of course, vary with his personal competence and the extent of his private practice, lists of the size above mentioned could not, save in exceptional circumstances, be deemed excessive; and as regards the isolated instances in which doctors' lists greatly exceed these figures, it is generally the case that the practice is shared with a partner or assistant. There are doubtless cases, however, in which a redistribution of panel patients could be effected with advantage to the patients themselves and the standard of the service afforded. Reforms in this respect are taking place, and will continue to do so, as the insured population become aware, and avail themselves, of their opportunities of changing their doctors; and the whole question is attracting the careful attention of Insurance Committees and the medical profession locally.

471. In general it may be said that the commencement of medical benefit found a local distribution of practitioners reasonably adequate to the local distribution of the population and to the varying incidence of sickness. This was, of course, due to the fact that the principles of supply and demand had under the previous conditions of private practice resulted in a local distribution most suitable on economic grounds. In some districts, however, particularly in London, notwithstanding the existence of much sickness and disease, the poverty of the population offered no inducements to doctors to practise; and one of the first results of the commencement of medical benefit was to indicate those districts in which the paucity of resident practitioners proved only too clearly the grave conditions which had previously existed and the timeliness and value of the advantages which the medical benefit provisions of the Insurance Act afforded. It was surmised that the new economic position would attract practitioners to such districts; and this expectation, though it is as yet early to expect any complete adjustment, has not been falsified. In one of the London boroughs in which these serious conditions previously existed four new practitioners have started in panel practice, in another borough eight, and in another nine new practitioners have started in panel practice, while in a district comprising several small boroughs, where a marked shortage previously existed, at least five new practitioners have joined the panel, the total amounting to a net addition of twenty-six to the ranks to the medical profession in these districts in London alone.

472. A general review of medical benefit would not be complete without a reference to the manner in which Insurance Committees have discharged their functions. The constitution of Insurance Committees, containing, as they do, a majority of insured persons' representatives whose interests, as individuals, are identical with those of the insured population, and who, on behalf of their constituent approved societies, have the strongest motives for encouraging the suppression of sickness and disease, has fully justified the objects with which it was devised. Further, the presence on these Committees of representatives of doctors, chemists, nurses, and midwives has rendered them peculiarly suitable for undertaking the task of administration with expert knowledge and with full acquaintance and sympathy with local conditions, while the Council representation has enabled the Committee to profit by the experience of persons versed in public life, and has afforded a most valuable link between the Committee and the local authority. Insurance Committees have successfully discharged many onerous duties of administration and negotiation, and their enthusiasm and interest in the problems with which they have to deal is uncommon in the history of similar local bodies. In particular, it is worthy of record that although the provisions of Section 63 of the 1911 Act regarding excessive sickness are as yet not wholly available, at least one instance has come to notice in which, through the activity of the Insurance Committee and the general operation of the Insurance Act, attention has been drawn to the existence of grave insanitary conditions, and steps taken to put the public health law into operation.

Appendices.

The eighty-one appendices cover over a hundred pages, and chiefly consist of tables. From one of them it would appear that there are in Scotland 1,499,135 insured persons of all classes, and that in charge of them there are 1,790 doctors, of whom 571 are on two panels, and 20 on as many as four. We are unable to find precisely corresponding figures in regard to other countries. There is also a table entitled "Case Value Results," which is of some interest, as it is assumed to afford some indication of the varying degrees of sickness incidence as between area and area. The case value is obtained by dividing the panel fund of the Insurance Committee of the area by the number of cases treated by the doctors within it; the number 100 is taken as the average, and the extremes are 183.35 (Cambridgeshire) and 73.01 (in the county borough of Bristol). Another appendix which is of interest as throwing a sidelight on the working of the Act is a list of the various official documents issued in connexion with it. Apart from circulars to approved societies they number over 200.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

Panel Committee.

Centres for the Co-operation of Practitioners.

Discussion was continued, at a meeting of the London Panel Committee on July 7th, on the statement in the Budget that grants would be provided for certain public health and insurance purposes, including the establishment of centres for the co-operation of practitioners on the panel. The Panel Service Subcommittee invited the Committee to express opinions contained in resolutions published in the Supplement, June 13th, p. 448.

Dr. J. A. Butler criticized the proposals on the ground that they would be the forerunners of a State medical service and would be unjust to doctors who had provided adequate waiting room and surgery accommodation. Neither did he think centres would be as convenient as surgeries to the patients.

Dr. T. F. Keenan considered that the general practitioner in many districts was badly served by the hospitals; the large hospitals should be converted into smaller local establishments, which could be distributed throughout London.

Other speakers doubted if the time was ripe to consider such far-reaching changes in methods of medical practice.

Dr. A. Welply reminded the meeting that centres of co-operation actually formed part of the Budget, and it was necessary that panel practitioners should influence the Government in the details of its proposals.

Dr. LAURISTON E. SHAW remarked that the Cabinet would be deciding almost immediately how the money would be spent, and if panel practitioners did not make a suggestion it would be left to those who were so fond of a State medical service to impress their views on the Government. He thought the resolutions propounded the best way of dealing with the question. The other suggestion was that the great hospitals should be given money to start outpost hospitals to which they would send clinical practitioners from whom panel practitioners would be able to get a second opinion. Panel practitioners would be very unwise if they allowed the holders of that view to get the first shot. Differences in the size of practitioners' lists and variations in local conditions should not be allowed to create disagreements which might prevent the money coming to panel practitioners as a whole.

Dr. G. B. BATTEN proposed, and Dr. R. J. FARMAN seconded, an amendment which would have had the effect of omitting all details, and would only express the Committee's approval of the principle of centres of co-operation.

Dr. J. J. ATTERIDGE thought the meeting must go into details. He feared that if the centres were restricted to industrial patients it might lead to the State sending salaried doctors to see industrial patients at centres instead of leaving the work to the panel practitioners.

After further discussion it was agreed that it might be unwise to include a chemist in the staff of the centres, and the clause to this effect was struck out, as was the clause limiting the centres to industrial patients. With these variations the resolutions were adopted as follows:

(i) That the proposed centres for the co-operation of practitioners on the panel should be established and should be sufficiently numerous.
(ii) That a centre should provide consulting-rooms for a number of practitioners and accommodation for a trained nurse, an *x*-ray operator, and a clerk.
(iii) That arrangements should be made for the occasional attendance of consultants.
(iv) That the centres should be under the joint control of the Insurance and Panel Committees.

Distribution of the Unallotted Funds.—The Committee passed resolutions describing the last reason given by the London Insurance Committee for not distributing the unallotted funds among practitioners on the panel as a frivolous one and appointing a deputation to interview the Insurance Commissioners and approach the Government on the question.

Proprietary Drugs and Preparations.—The Committee had before it instances of alleged excessive prescribing, and for the guidance of the Drugs and Appliances Subcommittee (which checks prescriptions) passed resolutions that proprietary medicines and secret remedies held out to the public for self-treatment, preparations in the nature of wholly-manufactured foods, and branded preparations where the formula was fully known, should not be prescribed at the cost of the drug fund.

BUCKINGHAMSHIRE.

A MEETING of the Bucks Local Medical and Panel Committee was held at the Royal Bucks Hospital on June 30th, when Dr. BAKER was in the chair, and ten other members were present.

Refractions.—The request that in cases when the panel doctor tested refraction cases he should previously inform the patient that there would be an extra fee, was ordered to be mentioned in a memorandum to practitioners.

Certificates.—The Committee considered a complaint by the agent of a society against a practitioner, alleging that he gave a certificate without seeing the patient, and that he had neglected the patient. The doctor attended, and stated that he was under the impression the patient would come to see him, and no request had been made to him for a visit; that he was in weekly communication with the mother, and she never asked him to visit, although he had told her to let him know if the patient was worse, and that it was for the convenience of the patient that he had signed the certificate. He, however, expressed his regret that he had done so, and said it would not occur again. The matter then closed.

Chemists' Subcommittee.—The report of the Chemists' Subcommittee was received. The resolution passed on February 27th last was rescinded, and a resolution adopted to the effect that the Panel Committee agreed to the chemists receiving £35 for their expenses out of the medical benefit fund.

New Member.—At a meeting at Slough to elect a member in the place of Dr. Charsley there was a very poor attendance, but Dr. Fraser consented to act.

Expenses of Committee.—It was resolved that a levy of ¼d. per person on the list be made for the next quarter.

Honorarium to Honorary Secretary.—It was resolved that an honorarium of fifty guineas be presented to the Secretary out of the funds of the Committee.

Payments to Panel Practitioners.—A letter was read from the Secretary of the Insurance Committee, enclosing one from the Commissioners, stating that only 90 per cent. was to be paid on account in future instead of 95 per cent. It was resolved:

That this Committee agrees to only 90 per cent. being paid, but they do so under protest, as they consider that a deduction of 5 per cent. will be ample in this county.

Memorandum to Practitioners.—The Secretary was instructed to issue a memorandum, after approval by the Chairman, to all on the panel, giving instructions in several matters that had come before them.

GLOUCESTERSHIRE.

PANEL COMMITTEE.

A MEETING of the County Panel Committee was held at the Royal Infirmary, Gloucester, on June 19th, when Dr. CAMPBELL was in the chair, and fourteen others were present.

Solvency of Insurance Committee.—A letter was read from the Commissioners, dated June 3rd, in answer to Dr. Campbell's letter as to the solvency of Gloucestershire Insurance Committee.

Allocation of Insured Persons.—The meeting agreed to certain modifications in arrangements for the allocation of unassigned persons as accepted by the Chairman. On the motion of Dr. BELL, seconded by Dr. COX, it was resolved:

That unless the money owing to the doctors was paid within one month the arrangements for allocation of unassigned persons be withdrawn.

Secretarial Duties.—Dr. CAMPBELL communicated new points regarding the Secretary's duties to the Panel Committee and the collection of the voluntary fund.

Medical Certification.—Dr. CAMPBELL gave an account of the meeting in London on June 16th, between the Commissioners and Chairmen and Secretaries of Panel Committees *re* Medical Certification for Sickness Benefit.

Prescribing for Tuberculous Patients.—The attention of the Committee was drawn to the prescribing of doctors on wrong forms for tuberculosis patients. It was suggested that a copy of the letter supplied by the Insurance Committee should be sent to all panel doctors.

Agreement for 1915.—On the motion of Dr. PERROTT, seconded by Dr. BELL, it was resolved:

That the agreement for 1915 should be issued at least three months before the end of the year, for comment.

INSURANCE NOTES.

LONDON INSURANCE COMMITTEE.

THE London County Council is entitled to appoint 19 out of the 80 members of the London Insurance Committee, and 3 of its nominees must be medical practitioners. The Council has selected the following as its medical representatives for the year 1914–15: Sir John Collie, M.D., Sir Shirley Murphy, and Dr. R. M. Beaton.

FEES TO MEDICAL REFEREES.

The question of the fee to be paid to a medical referee called in to give an opinion in the case of any insured person continues to give rise to difficulties in various areas, and it is a matter for great regret that a uniform fee has not been established throughout the country. The Special Representative Meeting in December last was of opinion that the fee should not be less than 10s. 6d., but for various reasons in certain areas smaller fees, of 7s. 6d. or even 5s., have been accepted. It seems, however, clear that where such fees are accepted the practitioners in the area should only accept these lower fees when acting as referees in the area in which they have been recognized; should practitioners in such area

be called on to report on a case in some adjoining area they should take care to conform to the practice in the other area; should they fail to do so by accepting a lower fee they are not only acting in opposition to the interests of their neighbours but, in fact, contrary to the wishes of the profession in that area.

Protest Meeting of London Panel Practitioners.

A meeting convened by a number of London panel practitioners was held at the Caxton Hall, London, on July 2nd, to protest against the action of the London Insurance Committee in respect of the distribution of the funds accumulated in respect of insured persons who have not chosen a doctor. Dr. W. Coode Adams presided. No invitation to attend the meeting was received by the British Medical Journal, but we are informed that about 500 practitioners were present. According to a report published in the *Morning Post*, this meeting was held in connexion with a Panel Practitioners' Political Union recently formed in London.

The Chairman read a letter from Dr. C. Addison, M.P., containing the following observations:

I do not wonder at the panel men's protest at the action of the London Insurance Committee. They are thoroughly justified in doing so. I think it would be wise that you should be received not only by the Chancellor of the Exchequer, but by Mr. Masterman as well.

The Chairman expressed the apprehension that the question of the distribution of the unallotted funds would give rise to difficulties every year unless it was taken out of the hands of the Insurance Committee—a body which acted from mixed motives—and put under the control of the Government or the Commissioners.

Dr. J. A. Angus described the matter of the unallotted funds as a disgraceful chapter in the early history of Insurance Act administration in London. He urged practitioners to use their influence at the next London County Council election against those members of the Insurance Committee who were also members of the County Council, and who had been parties to the disgraceful treatment of panel practitioners.

Dr. H. J. Cardale remarked that although the Commissioners admitted the doctors' claims they were making very little effort to see that the money was paid. The Government should be approached, because panel practitioners made their first bargain with the Government, and could prefer their demands, not as a favour, but as a right.

Dr. B. A. Richmond declared that the unallotted money could only be the property of the doctors in the insurance service.

Dr. Lauriston E. Shaw urged that the action taken should be unanimous. Panel practitioners should beware of strife between doctors with large and small lists in the distribution of the money.

The meeting passed, with one dissentient, a resolution expressing the opinion that the action of the London Insurance Committee was a direct violation of all the pledges given by the Government, the Commissioners and the Insurance Committee; and that such conduct had discredited all these bodies. The meeting called upon the Government to redeem immediately its pledges, and demanded that the Chancellor of the Exchequer should receive a deputation.

The following deputation was appointed: Drs. W. Coode Adams, J. A. Angus, H. J. Cardale, R. J. Farman, B. A. Richmond and A. Welply.

We have received the following letter with reference to this meeting:

Sir,—If the Botha-like way in which the Caxton Hall meeting of last week was conducted is a sample of the methods of the new organization which promoted it, it augurs ill for its future. For a chairman not named in the notices calling the meeting, and not elected by it, to announce that he is not going to allow amendments to the resolution he and his friends have drafted is as alien to the true spirit of trade unionism, which was invoked, as anything one can imagine.

That my amendment, previously communicated to him, which embodied everything of moment in the resolution, but suggested arbitration as the most practical solution of the difficulties of money allocation, was, after a show of fair play, despotically ruled "out of order," was the plainest proof that the men who are contending for a *pro rata* distribution have no confidence in the justice of their own claims.

Far the greater number of the men on the London panel are men with small lists. Why they should allow themselves to be led blindfold by the big-list men, who, while pretending to speak for the whole body, openly announce their intention, if they can procure such a division of the "surplus," of pocketing the greater part of it themselves, passes my comprehension! Such a division means actual ruin to many a small-list man. Dr. Angus was allowed to speak in favour of a *pro rata* division, I was instantly forbidden even to allude to its unfairness! So "Fair play and no favour" is not to be the motto of the new organization.

We small-list men have our contract rights if we will but be wise enough to stick to them. For 1913 the right of proceeding against the London Insurance Committee for breach of contract expires on the 11th inst. by the provisions of the Public Authorities Protection Act of 1893. I have, therefore, after patiently waiting to the last moment for the London Insurance Committee to do justice, commenced legal proceedings, which I shall certainly not drop unless some proposal as equitable as the one my amendment suggested is accepted by the Government and carried into speedy execution.

The Commissioners, it appears, are now stultifying their own consents to other schemes by laying it down, on "legal advice," that nothing but a *pro rata* distribution is allowable under the regulations. The proposition that one clause in a set of regulations can be intended, and made, to govern a state of things wholly created by the violation of previous clauses of the same regulations is the "tallest" substitute for a legal argument that I have yet met with. Besides this, the subsections relied on refer to a doctor's "list," which has, to comply with the regulations, to be made after assignment and to include assigned persons. No legal doctor's "list" therefore exists in London, which again prevents the application of these clauses to the existing facts. If any attempt is made to apply these clauses to the distribution of the surplus, it can be easily stopped by an appeal to the courts for an injunction, which I should at once make. Nothing but fresh legislation, or submitting the whole question to arbitration, can solve the problem.—I am, etc.,

H. Bazett.

11, St. Mary's Terrace, Paddington Green, W., July 6th.

ENFIELD.

Meeting of Practitioners.

A meeting of the medical practitioners in the Enfield district was held on July 6th, under the chairmanship of Dr. Howard Distin.

Great indignation was expressed at the state of chaos evidently existing in the department of the Middlesex Insurance Committee dealing with the card registers. The following resolutions were passed unanimously and ordered to be sent to the Insurance Commissioners:

(*a*) That this meeting of medical practitioners on the Enfield panel protests against the unnecessarily elaborate scheme of election to the Panel Committee, and especially against the expense placed upon the funds of the Panel Committee caused by holding these elections annually.

(*b*) This meeting further records its opinion that the action of the Commissioners in practically ignoring all representations made to them by the Panel Committee, and even joint representations from the County Insurance Committee and the Panel Committee, is calculated to deter practitioners from serving on these Committees and wasting their time on futile deliberations.

IRELAND.

The Annual Report of the Commissioners.

The official report on the second year's working of the Insurance Act, issued last week, though it passes briefly and lightly over the certification muddle in Ireland, yet, when carefully examined, is found to contain some very disquieting news. The number of societies actually wound up in Ireland is only five, but that this number is not considerably greater is due to the rigid application of the rule, "solvency first and benefits afterwards." It is held to be indisputable that a large number of the other Irish societies only keep out of bankruptcy by not paying benefits that they ought to pay. The report states that the majority of county councils and county borough councils in Ireland have in preparation at present schemes for the treatment of tuberculosis, but it is to be regretted that the schemes generally are not in a more forward stage of preparation. With regard to the operation of

sickness and maternity benefits, the report states that the difficulty of obtaining medical certificates was met to a certain extent by the setting up of panels of certifying doctors in some of the Insurance Committee areas and by the appointment of medical advisers in the remaining areas. In the latter areas, however, the medical advisers furnish certificates only in cases referred to them by the societies, and do not furnish primary certificates. Societies in many cases continue, pending the setting up of a more efficient system, to accept, in cases where a medical certificate is not readily obtainable, a report from a sick visitor, extracts from reports of medical relief visitors, and written statements of clergymen, magistrates, or other responsible persons, and avail themselves of the services of the medical advisers only in doubtful cases.

INSURANCE ACT IN PARLIAMENT.

Insured Persons (Ireland).

In reply to Mr. Gretton, Mr. Benn said that the latest available figures showed that there were 729,598 insured persons in Ireland, of whom 717,798 were members of approved societies.

Lectures.

Mr. W. Benn informed Mr. Astor that lectures had been provided under Section 60 (1) (*b*) of the National Insurance Act by one committee in England (Leicestershire) and four in Scotland.

Departmental Committee on Excessive Sickness.

In reply to Mr. C. Bathurst, Mr. Benn stated that the Departmental Committee on Excessive Sickness had held sixty meetings, and that no meeting had been held since the evidence was concluded.

Sanatorium Benefit (Dependants).

Mr. W. Benn has informed Mr. Astor that the following Insurance Committees have applied, under Section 17 of the National Insurance Act, 1911, for contributions from the local authorities and the Exchequer towards the expenditure on sanatorium benefit where the benefit has been extended to dependants:

Scotland.—Counties: Ayr, Fife, Haddington, Lanark, Renfrew. Burghs: Arbroath, Clydebank, Coatbridge, Dunfermline, Inverness, Kilmarnock, Kirkcaldy, Rutherglen, Wishaw.
Ireland.—Meath.

In *Wales* the procedure has been modified by the provisions of Section 42 of the National Insurance Act, 1913. All Welsh Insurance Committees had extended the benefit to dependants, and grants from the Exchequer, equivalent in amount to corresponding contributions from the rates, had been made in respect of all areas except Pembrokeshire. In England the method of procedure under the Hobhouse grant had been adopted in the place of procedure under Section 17 of the National Insurance Act, 1911.

Medical Necessities.

Lord Ninian Crichton-Stuart asked whether it was proposed to make any additions to the list of medical necessities in the Second Schedule to Part I of the National Insurance Act, in view of specific diseases or accidents obtaining in certain industries.—Mr. W. Benn said that the question of any addition to the schedule of prescribed medical and surgical appliances, to which presumably the question referred, would be considered in connexion with the revision of the Regulations.

CORRESPONDENCE.

Statistics of a Country Practice.

Dr. Geoffrey Price (Kineton, Warwick) writes: In my small country practice I obtained the following statistics, which may be useful at the present time:

	No. on List.	Total A. and V.	A. and V. per head.	Cash Received.	Payment per A. or V.
				£ s. d.	s. d.
State-insured patients (year ending Dec. 31st, 1913)	223	1,053	4.72	69 3 4	1 4
Provident medical club patients (year ending June 30th, 1914)	158	1,457	9.2	30 2 2	nearly 5d

If and when the Insurance Committee squares up its accounts, the payment per attendances and visits will reach to about 1s. 9d. I provide drugs to two-fifths of the insured.

The provident medical club is under strict rules; it is limited to families earning £1 a week or less, and the membership consists mainly of old people, women, and children.

The subscriptions (collected by local secretaries) are as follows:

	Per Annum.
Males over 16	... 9s.
Females over 16	... 7s.
One child under 14	... 4s.
Two children under 14	... 8s.
Three children or more under 14 ...	... 9s.
Children 14 to 16 (each)	... 5s.
Old age pensioners	... 5s.

I provide all drugs.

A large proportion of members are those who are always ill or who possess big families.

If the Insurance Act were extended to dependants of insured persons, no doubt a larger proportion of robust persons would be included in comparison with the membership of the provident medical club. An income limit of £160 would admit three-fourths of the uninsured population of this part of the country (for here every employed person is *ipso facto* insured). At any rate, I should be mainly dependent for my living on insured or dependants of insured.

Many of my visits are two or three miles away. Fivepence a visit and medicine does not pay by any means; 1s. 9d. a visit and medicine will just pay here, but in large towns, where the cost of living—for example, rent and rates especially and wages for servants—is almost double, 1s. 9d. a visit by no means pays. But in order to reach this low standard it seems clear to me that nothing less than *18s. a head* must be asked for dependants (including medicine), because on an average each requires to be visited twice as often as does an insured person.

If the income limit were reduced to £52, then 9s. a head for dependants might be accepted for the sake of sweet charity.

Vital Statistics.

THE REGISTRAR-GENERAL'S ANNUAL REPORT.

The Seventy-fifth Annual Report of the Registrar-General, dealing fully with the vital statistics of England and Wales for the year 1912, has just been issued. The present report is the second of the new series, and continues to tabulate the statistics in the improved form initiated in the report for the preceding year. The adoption of administrative areas instead of registration areas as the units of tabulation, of a classification of causes of death on the lines of the International List of Causes of Death, and of a system of distribution of births and deaths of non-residents in the several areas, which were the essential innovations in the report for 1911, appear to have met with general approval, and have been repeated in the report for 1912. Such improvements as it has been found possible to make in these reports do not involve any addition to the data hitherto collected, nor any change in the method of collection. Alterations in these respects, desirable as they are for both statistical and administrative reasons, would necessitate a revision of the system of registration, which could only be effected by legislation. Some new tables have been introduced into the present report, and the secondary classification of causes of death, which was begun in the 1911 report for the first nineteen causes in the International List, is carried on for the causes numbered 20 to 38 in the List. This section comprises both tuberculosis and syphilis, and in regard to the forms and complications of these important diseases much information has now been tabulated for the first time. Other special features of this volume which may be noticed are (*a*) the tabulation of the births registered in 1911 according to the parents' occupation and (*b*) the table showing for each administrative area the population adjusted for institutions and the calculated annual deaths from which the standardization factor is derived. The statistics of

occupational fertility, as tabulated in the report, confirm the conclusions of students who have investigated the subject by the aid of less complete data to the effect that fertility varies greatly with social status, being with few exceptions lowest for professional and other middle class occupations and highest, as a rule, for those representing unskilled labour. It is not possible here to pursue the subject in detail, and reference must now be made to the principal statistical facts of the year.

Marriages.

The marriages registered during 1912 numbered 283,834, and were equal to a rate of 15.5 persons married per 1,000 of the population at all ages, which was slightly above the average rate for the preceding ten years. During the seventy-five years (1838–1912) covering the period of civil registration of marriages the rate has ranged from a maximum of 17.9 in 1853 to a minimum of 14.2 in 1886, the mean annual rate for the whole period being 15.8 per 1,000. Marriage-rates are, however, more accurately calculated on the basis of the marriageable section of the population, and in comparing rates over a number of years account has also to be taken of variations in the age constitution of this section of the population. Calculated in this way, there appears to have been a fall of about 23 per cent. in the marriage-rate since the period 1870–72. The mean age at marriage continues to advance both for men and for women, and in 1912 was 29.12 and 26.84 years respectively. There has been a concurrent decrease in the proportion of marriages of minors, which fell from 77.8 per 1.000 and 217.0 per 1,000 for husbands and wives respectively in 1876–80 to 39.2 and 139.4 per 1,000 in 1912.

Births.

There were 872,737 births registered during 1912, of which 835.209 were legitimate and 37,528 were illegitimate. The birth-rate in proportion to the total population of both sexes and of all ages was 23.8 per 1,000; it was 0.6 per 1,000 less than that recorded in 1911, and was no less than 3.4 per 1.000 below the average of the rates for the ten years 1901–10. The birth-rate was at its maximum in this country during the period 1876–80; since that date it has fallen almost uninterruptedly, and in 1912 was only 67.4 per cent. of what it was in 1876–80. This comparison is made on the crude rate, calculated on the total population; and when the rates are based on the female population between the ages of 15 and 45 years the fall is even more marked, the fertility as shown by the births in 1912 being only 62.4 per cent. of that in 1876–80; for legitimate births the ratio was 64.7 per cent., and for illegitimate only 54.9 per cent. As was pointed out in the previous report, the crude birth-rate is higher in Wales than in England, and that a broad division of the latter into North (counties north of the Humber), Midlands, and South (counties south of the Thames), gives the highest rate in the north and the lowest rate in the south. Again, by aggregating the county boroughs, the other urban districts, and the rural districts respectively, it is shown that the crude rate is highest in the boroughs and lowest in the rural districts. When, however, allowance is made for the differences in the constitution of the several populations, the rural districts show a greater fertility than either of the two classes of urban areas, and the county boroughs are shown to have a distinct advantage over the smaller urban districts. Carrying the process further and ascertaining the "effective fertility" by calculating the survivors at the end of the first, second, and fifth years of life, it is found that, while the rural districts maintain their superiority, the county boroughs fall below the smaller urban districts; London, which is dealt with separately, comes highest as regards its actual fertility, and ranks next to the rural districts in its effective fertility.

Deaths.

The deaths registered in England and Wales during 1912 numbered 486.939, of which 250,232 were among males and 236,707 among females. These deaths corresponded to a rate of 13.3 per 1,000 of the population, or 0.2 per 1,000 below the rate for 1910, which was the lowest recorded up to that time. During the period 1901–1912 the standardized death-rate, calculated on the age-constitution of the population in 1901. has fallen from 16.9 per 1,000 in that year to 12.9 per 1,000 in 1912, and in eight of these twelve years the rate has been successively the lowest on record. A similar fall in the mortality is also observed as a rule in other countries for which statistics are given in the report. Comparing the mortality of the two sexes it is found that male mortality at all ages is 21 per cent. greater than that of females (after making allowance for the less favourable age-constitution of the female section of the population), and that there is some excess in each quinquennial period of age except 10 to 15 years. The predominant causes of the excess of mortality among males were infantile diseases, violence, pneumonia, and phthisis. The rate of infantile mortality during 1912 was the lowest on record, the deaths of children under 1 year of age being equal to 95 per 1,000 of the registered births, which was 10 per 1,000 below the previous lowest on record (1910), and 22 per 1,000 below the average for 1906–10.

Causes of Death.

The principal causes or groups of causes contributing to the total deaths are shown in the report to be diseases of the nervous system, which caused 111 per 1,000 of the total deaths, organic heart disease 98, bronchitis 82, phthisis 78, pneumonia 77, cancer 77, old age 67, premature birth and diseases of early infancy 65, and violence 41 per 1,000. The death-rate in 1912 was lower than in 1911 from tuberculosis, from enteric fever, from diphtheria and croup, and from diarrhoeal diseases. The mortality from measles was above the average for the preceding ten years, but from scarlet fever the mortality was lower than in any previous year except 1911. The death-rate from cancer was again higher than in any preceding year.

The inquiries sent to medical practitioners asking for further information respecting deaths which had been indefinitely certified were fewer than in 1911. The total number of such inquiries was 9,912, to which 8,305 replies were received, against 12,563 inquiries and 10,718 replies in 1911. Of the 8,305 replies relating to deaths in 1912, 6,064 contained information amplifying that previously given in the certificates; 940 of such replies related to cancer, 430 to syncope, heart failure, 352 to tuberculosis, 264 to violence, 249 to peritonitis, 247 to cerebral tumour, and 235 to other tumours.

HEALTH OF ENGLISH TOWNS

In ninety-seven of the largest English towns 8,507 births and 4,421 deaths were registered during the week ended Saturday, July 4th. The annual rate of mortality in these towns, which had been 13.5, 12.9, and 12.1 per 1,000 in the three preceding weeks, rose to 12.7 per 1,000 in the week under notice. In London the death-rate was equal to 13.3, against 12.8, 12.2, and 12.1 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 5.1 in Edmonton, 5.5 in Devonport, and 5.9 in Ealing and in Swindon to 19.3 in Barnsley, 19.4 in Walsall, 19.9 in Bootle, and 20.0 in Oldham. Measles caused a death-rate of 1.3 in Liverpool and in Preston, 1.7 in Rochdale and 3.5 in Oldham; whooping-cough of 1.3 in Salford, 1.5 in West Bromwich, 1.8 in Great Yarmouth, and 1.9 in Barnsley; and diphtheria of 1.1 in Cardiff. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 33, or 0.7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 5 were recorded in Liverpool, and 3 each in Birmingham and in Darlington. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,993, 3,038 and 3,088 in the three preceding weeks, further rose to 3,092 on Saturday, July 4th; 442 new cases were admitted during the week, against 391, 405, and 440 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,216 births and 621 deaths were registered during the week ended Saturday, July 4th. The annual rate of mortality in these towns, which had been 14.4, 14.6, and 13.8 per 1,000 in the three preceding weeks, rose to 14.1 per 1,000 in the week under notice, and was 1.4 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 3.1 in Falkirk, 9.7 in Paisley, and 12.1 in Coatbridge to 15.7 in Ayr, 18.0 in Aberdeen, and 20.2 in Hamilton. The mortality from the principal infective diseases averaged 0.9 per 1,000, and was highest in Motherwell and Hamilton. The 305 deaths from all causes in Glasgow included 10 from whooping-cough, 4 each from measles and from infantile diarrhoeal diseases, and three from diphtheria. Diarrhoea caused 3 deaths in Hamilton and 2 in Aberdeen, and measles 3 in Dundee.

Naval and Military Appointments.

CHANGES OF STATION.

The following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during May:

	FROM	TO
Colonel R. W. Ford, D.S.O.	Aldershot	York.
,, T. P. Woodhouse	—	Aldershot.
,, R. Kirkpatrick, C.M.G., M.D.	Calcutta	Darjeeling.
,, C. Birt	Poona	Bombay.

		FROM		TO
Lieut.-Col.	C. H. Hale, D.S.O.	Maymyo		Sialkot.
,,	H. I. Pocock	Campbellpore		Murree.
Major	A. G. Thompson, M.B.	Pachmarhi		Honiton.
,,	B. W. Longhurst	Ambala		Sabathu.
,,	W. Tibbits, M.B.	,,		Multan.
,,	S. W. Sweetnam	—		Sheerness.
,,	C. W. Mainprise	Rawal Pindi		Kuldana.
,,	G. M. Goldsmith, M. B.	Lebong		Dublin.
,,	R. H. Lloyd	Multan		Dagshai.
,,	J. G. Gill	Rangoon		Devizes.
,,	V. J. Crawford	—		Hilsea.
,,	H. M. Nicholls, M.B.	Poona		Edinburgh.
,,	E. P. Connolly	Rawal Pindi		Murree.
,,	L. M. Purser, M.B.	Meerut		Ranikhet.
,,	W. R. P Goodwin	Fyzabad		Landour.
,,	R. L. Popham	Nowshera		Peshawar.
,,	H. G. Pinches	Sheerness		Dover.
,,	A. W. Gibson	Lahore		Dalhousie.
,,	E. V. Aylen	Rawal Pindi		Barian.
,,	L. Cotterill, M.B.	Nowshera		Cherat.
Captain	R. Storrs	Portland		Winchester.
,,	F. A. H. Clarke	Calcutta		Lebong.
,,	D. Ahern	Dublin		Curragh.
,,	D. G. Carmichael, M.B.	Sialkot		Cliffden.
,,	J. H. Duguid, M.B.	Secunderabad		Bellary.
,,	P. S. Stewart, M.B.	Malta		Tidworth.
,,	J. A. B. Sim, M.B.	R.A.M. Coll.		Aldershot.
,,	E. D. Caddell, M.B.	Dublin		Chatham.
,,	J. R. Foster	Kilbride		Dublin.
,,	E. C. Phelan, M.B.	Barrackpore		Belfast.
,,	M. O. Wilson, M.B.	Chatham		Sheerness.
,,	G. F. Rudkin	Dublin		Kilbride.
,,	H. V. B. Byatt	Poona		Karachi.
,,	D. B. McGrigor, M.B.	Agra		Landour.
,,	H. W. Carson, M.B.	Peshawar		Khanspur.
,,	A. Hendry, M.B.	Colaba		Satara.
,,	H. H. Blake, M.B.	Peshawar		Cherat.
,,	M. Leckie	—		Tidworth.
,,	A. G. Wells	Ambala		Inverness.
,,	D. H. C. MacArthur, M.D.	Dalhousie		Sabathu.
,,	H. Gall	Sialkot		Gharial.
,,	J. W. Lane, M.D.	Lahore		Dalhousie.
,,	F. W. M. Cunningham, M.D.	Sialkot		Murree.
,,	J. J. H. Beckton	,,		Rawal Pindi.
Lieutenant	B. H. H. Spence, M.B.	Rawal Pindi		Barian.
,,	J. M. Elliott, M.B.	,,		Baracao.
,,	F. R. B. Skrimshire	Bangalore		Madras.
,,	E. G. H. Cohen, M.B.	Agra		Chakrata.
,,	L. Buckley, M.B.	Ferozepore		Tret.
,,	W. Stewart, M.B.	Agra		Chakrata.
,,	A. S. Heale	Rawal Pindi		Campbellpore.
,,	R. K. Mallam, M.B.	,,		Ambala.
,,	W. McNaughtan, M.B.	Karachi		Quetta.
,,	W. W. Pratt, M.B.	Poona		Nasirabad.
,,	M. Burnett	,,		Colaba.
,,	W. B. Stevenson, M.B.	Rawal Pindi		Ambala.
,,	J. L. Ritchie, M.B., F.R.C.S.	,,		Murree.
,,	C. J. H. Little, M.B.	,,		Sialkot.
,,	T. H. Balfour, M.B.	Inverness		Fort George.
,,	P. M. J. Power	Winchester		Gosport.
,,	N. W. Stevens, M.B.	Dover		Woolwich.
,,	J. C. Sproule	Taunton		West Down Camp.
,,	H. F. Panton, M.B.	Rawal Pindi		Ambala.
,,	S. D. Large	Ewshott		S. Command.
,,	H. N. Sealy	Kildare		Belfast.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

ARGYLL AND BUTE DISTRICT ASYLUM, Lochgilphead.—Medical Superintendent. Salary, £500 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Male House-Surgeon. Salary, £150 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

BIRKENHEAD BOROUGH HOSPITAL. — Senior House-Surgeon (male). Salary, £120 per annum.

BIRMINGHAM: CITY FEVER HOSPITAL, Little Bromwich.—Male Assistant Medical Officer. Salary, £200 per annum.

BIRMINGHAM: CITY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer. Salary, £240 per annum.

BIRMINGHAM GENERAL HOSPITAL. — (1) House-Physician. (2) Resident Pathologist. (3) Obstetric House-Surgeon. (4) Resident Medical and Surgical Officer at the Jaffray Branch. Salary for (1), (2), and (3) £50 per annum, and for (4) £150 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum and £5 laundry allowance.

BIRMINGHAM: QUEEN'S HOSPITAL. — (1) House-Physician; (2) Two House-Surgeons. Salary at the rate of £50 per annum.

BIRMINGHAM UNION. — (1) Assistant Medical Officer at Dudley Road Infirmary. (2) Assistant Medical Officer at Selly Oak Infirmary and House. Salary, £140 and £160 per annum respectively.

BIRKENHEAD UNION INFIRMARY.—Senior Resident Assistant Medical Officer (male). Salary, £175 per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—House-Surgeon (male). Salary at the rate of £75 per annum.

BRADFORD ROYAL INFIRMARY.—Two House-Surgeons (males). Salary, £100 per annum each.

BRISTOL ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.

BURY ST. EDMUNDS: WEST SUFFOLK GENERAL HOSPITAL. —Resident Medical Officer. Salary, £120 per annum.

BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

CAMBERWELL: PARISH OF ST. GILES.—Second and Third Assistant Medical Officers for the Infirmary, etc. Salary, £170 and £150 per annum, rising to £180 and £170 respectively.

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.—Bacteriologist. Salary, £300 per annum.

CARDIFF: GLAMORGAN COUNTY COUNCIL.—Medical Officer for the Inspection of School Children. Salary, £250 per annum, rising to £350.

CARDIFF: KING EDWARD VII HOSPITAL.—Two House-Surgeons. Salary, £60 per annum.

CHELSEA PARISH.—(1) Medical Superintendent of the Infirmary and Medical Officer of the Workhouse. (2) Second Assistant Medical Officer to the Infirmary. Salary, £500 and £160 per annum respectively.

CHESHIRE COUNTY ASYLUM, Parkside, Macclesfield.—Locumtenent. Salary, 5 guineas per week.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary, £100 per annum each.

CROYDON COUNTY BOROUGH.— Assistant Medical Officer of Health and Assistant School Medical Officer. Salary, £250 per annum, rising to £300.

DERBY: DERBYSHIRE ROYAL INFIRMARY.—(1) House-Physician. (2) Assistant House-Surgeon. Salary, £125 and £80 per annum respectively.

DEVONPORT: ROYAL ALBERT HOSPITAL. — House-Surgeon. Salary at the rate of £150 per annum.

ESSEX EDUCATION COMMITTEE. — Medical Inspector. Salary, £300 per annum, rising to £400.

FALKLAND ISLANDS.—Assistant Colonial Surgeon. Salary, £400 per annum.

GREENWICH UNION INFIRMARY. — First Assistant Medical Officer. Salary, £175 per annum.

GLOUCESTERSHIRE EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary, £250 per annum, rising to £300.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HANTS COUNTY ASYLUM, Fareham.—Third Assistant Medical Officer. Salary, £250 per annum.

HEREFORDSHIRE COUNTY COUNCIL. — Assistant to Medical Officer of Health. Salary, £350 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician. Honorarium, 30 guineas for six months.

HULL: ROYAL INFIRMARY. — (1) Casualty House-Surgeon. (2) Assistant House-Surgeon. Salary, £80 and £100 per annum respectively.

HULL: VICTORIA HOSPITAL FOR SICK CHILDREN.—Lady Assistant House-Surgeon. Salary, £45 per annum.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £250 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL. —House-Surgeon. Salary, £100 per annum.

LEEDS GENERAL INFIRMARY.—(1) Resident Obstetric Officer; salary at the rate of £50 per annum. (2) Two House-Physicians.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £130 per annum.

LEICESTER ROYAL INFIRMARY.— Assistant House-Physician. Salary at the rate of £100 per annum.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL. — Assistant Resident Medical Officer. Salary, £150 per annum.

LIVERPOOL PARISH.—Assistant Medical Officer for the Highfield Infirmary. Salary, £180 per annum.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE. — Research Assistant in the Runcorn Research Laboratory. Salary, £150 per annum.

LONDON MEDICAL MISSION, Endell Street, W.C. — Resident Medical Officer. Salary, £120 per annum.

LONDON THROAT HOSPITAL, Great Portland Street, W.—Non-resident House-Surgeon. Salary, £50 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL. — House-Surgeon. Salary at the rate of £150 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN. — (1) House-Surgeon to Children's Department. (2) House-Surgeon for Obstetrical and Gynaecological Departments. Honorarium, £25 for six months each.

NEWARK-UPON-TRENT HOSPITAL.— Lady Resident Medical Officer. Salary, £100 per annum.

NORTHAMPTON GENERAL HOSPITAL.— Two House-Surgeons. Salary, £120 per annum each.

NORWICH: JENNY LIND HOSPITAL FOR SICK CHILDREN.— Lady Resident Medical Officer. Salary, £80 per annum.

NOTTINGHAM EDUCATION COMMITTEE. — School Dentist. Salary, £250 per annum, rising to £300.

NOTTINGHAM GENERAL DISPENSARY. — Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM GENERAL HOSPITAL. — Assistant House-Physician. Salary at the rate of £100 per annum.

OGMORE AND GARW URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £325 per annum, rising to £400.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

PETERBOROUGH INFIRMARY AND DISPENSARY. — House-Surgeon (male). Salary, £120 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Male Assistant Resident Medical Officer. Salary at the rate of £100 per annum and £10 honorarium on completion of six months.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary, £90 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, E.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

PORTSMOUTH PARISH.—Second Assistant Resident Medical Officer (male) to the Workhouse Infirmary, etc. Salary, £150 per annum, rising to £160.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL. — House-Surgeon (male). Salary at the rate of £110 per annum.

PRESTON COUNTY BOROUGH.—School Medical Officer. Salary, £350 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—(1) Junior House-Physician. (2) Junior House-Surgeon. Salary, £75 per annum each.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary at the rate of £80 per annum.

RAMSGATE GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £100 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Senior House-Surgeon (male). Salary, £120 per annum.

ROYAL EAR HOSPITAL, Soho, W.—House-Surgeon, non-resident. Honorarium, £40 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—(1) Resident Medical Officer. (2) House-Physician. Salary at the rate of £120 and £60 per annum respectively.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—(1) Surgeon to Out-patients. (2) Junior Resident Medical Officer. Salary at the rate of £50 per anuum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—Assistant Surgeon.

ST. MARY'S HOSPITAL, Paddington, W. — Resident Assistant Anaesthetist Salary at the rate of £100 per annum.

SALFORD ROYAL HOSPITAL. — (1) House-Surgeon. (2) Junior House-Surgeon. (3) Casualty House-Surgeon. Salary at the rate of £100 per annum each.

SALOP INFIRMARY.—House-Physician. Salary at the rate of £110 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY. — Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: CHILDREN'S HOSPITAL.—House-Surgeon for the East End Branch. Salary, £120 per annum.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN. — Senior and Junior Lady House-Surgeons. Salary, £100 and £80 per annum respectively.

SHREWSBURY: COUNTY ASYLUM. — Second Assistant Medical Officer (male). Salary, £230 per annum, rising to £250.

SOMERSET COUNTY COUNCIL.—Assistant Tuberculosis Officer. Salary, £300 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

SUNDERLAND; MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon. Salary, £130 per annum, rising to £150.

SURREY COUNTY COUNCIL.—Assistant Medical Officer of Health. Salary, £400 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Physician. Salary, £125 per annum.

THROAT HOSPITAL, Golden Square, W.—Two Resident House-Surgeons. Salary at the rate of £75 per annum each.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon (male). Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—(1) House-Physician. (2) House-Surgeon. Honorarium, £40 for six months each.

WALSALL AND DISTRICT HOSPITAL.—Assistant House-Surgeon. Salary, £110 per annum.

WALSALL AND WEST BROMWICH COUNTY BOROUGHS.—Tuberculosis Officer. Salary, £500 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL. — Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM COUNTY BOROUGH. — Assistant School Medical Officer. Salary, £250 per annum, rising to £400.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—(1) Junior House-Physician. (2) Junior House-Surgeon. Salary at the rate of £75 per annum.

WEST HARTLEPOOL: CAMERON HOSPITAL.—House-Surgeon. Salary, £150 per annum.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £120 per annum.

WINSLEY SANATORIUM FOR CONSUMPTION.—Assistant Resident Medical Officer. Salary, £150 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

WREXHAM INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Malton (Yorks), Runcorn (Chester), Shardlow (Derby).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BOOTH.—On July 8th, at 78, Southampton Street, Reading, the wife of Norman Booth, M.B., B.S.Lond., of a son.

MARSHALL.—On July 4th, at Old Court, Ealing, the wife of C. F. Marshall, M.D., F.R.C.S., of a son.

MARRIAGE.

DIGGLE—HORROX.—At Newington South U. F. Church, Edinburgh, on the 1st instant, by the Rev. Joseph Muir, B.D., assisted by the Rev. Dr. Young, the ex-Moderator of the U. F. Church of Scotland, Frank Holt Diggle, F.R.C.S.Eng. and Edin., son of James Diggle, Esq., C.E., J.P., St. Albans, Herts, to Mary Leah, daughter of Edward Horrox, Esq., of 14, Maclaren Road, Edinburgh. At Home, 40, Marlborough Road, Bradford, October 7th and 8th.

APPOINTMENTS.

UNIVERSITY COLLEGE HOSPITAL, W.C.—The following appointments have been made:

House-Surgeon.—H. W. Davies, M.B., B.S.
House-Physician.—H. V. Deakin, B.A., M.R.C.S., L.R.C.P.
Obstetric Assistant.—F. H. Rees, M.B., B.S.
Clinical Assistant in Dental Department.—B. Underwood, M.B., B.S.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals;

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.
HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.
LONDON HOSPITAL MEDICAL COLLEGE, Turner Street, E.
MANCHESTER HOSPITALS: Post-Graduate Clinics.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, Chenies Street, London, W.C.
NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.
WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.
WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		JULY.
11	Sat.	London: Science Committee, 10.30 a.m.
14	Tues.	London: Annual Representative Meeting Agenda Committee, 2.30 p.m.
		London: Standing Ethical Subcommittee, 2.30 p.m.
		London: Metropolitan Counties Branch Council, 4 p.m.
		North Wales Branch, Annual Meeting, Benllech, Anglesey, 2.45 p.m. Luncheon, 2 p.m.
		South-West Wales Division, Annual Meeting, Carmarthen, 3 p.m.
16	Thur.	Welsh Committee, Raven Hotel, Shrewsbury, 2.30 p.m.

Date.		Meetings to be Held.
		JULY (*continued*).
17	Fri.	Coventry Division, Coventry Hospital, 4.15 p.m.
19	Sun.	Holland Division, Sleaford, 3 p.m.

ANNUAL MEETING, ABERDEEN, 1914.

Annual Representative Meeting, Friday, July 24th, and following days.
Special Representative Meeting, July 27th.
Presidential Address, Tuesday, July 28th.
Sections—July 29th, July 30th, and July 31st.
Annual Exhibition, July 28th–31st.
Excursions, August 1st.

(*See also p. 35 et seq.*)

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 18TH, 1914.

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British Medical Association.

SCIENCE COMMITTEE.

THE Science Committee has presented to the Council particulars of the report of the work done by research scholars and recipients of scientific grants during the year.

(A) REPORTS OF SCHOLARS.

RELATIVE FREQUENCY OF BOVINE AND HUMAN TYPES OF TUBERCLE BACILLI IN HUMAN TUBERCULOSIS.

By A. PHILP MITCHELL, M.D., F.R.C.S.Edin.,
Ernest Hart Memorial Scholar.

INVESTIGATIONS with regard to the relative frequency of the bovine and human types of tubercle bacilli occurring in certain forms of human tuberculosis, and also investigations upon the transmission of bovine tuberculosis by cow's milk have been continued.

The results of some of these investigations were embodied in a thesis ("A study of tuberculosis of the tonsils and cervical lymph glands in children") which was submitted to the University of Edinburgh for the degree of Ch.M. (Master of Surgery) and awarded a Gold Medal at the Graduation Ceremonial in July, 1913.

During October and part of November the scholar devoted most of his time to the preparation of a report—"The infection of children with the bovine tubercle bacillus"—which appeared in the BRITISH MEDICAL JOURNAL of January 17th, 1914.

Having demonstrated that a large percentage of cases of tuberculous cervical glands in children residing in Edinburgh and district was due to the bovine tubercle bacillus, there seemed great need for an investigation of the milk supply. Accordingly towards the end of November a systematic examination of the Edinburgh milk supply was commenced. Samples of mixed milk were collected from the milk shops (which number fully 400) in each municipal ward. The deposit from each sample was inoculated into two guinea-pigs. A paper entitled, "The milk question in Edinburgh," dealing with the investigation of 201 samples of mixed milk, was published in the April number of the *Edinburgh Medical Journal*. The examination of the milk supply was completed recently, and a report—Tuberculous milk in Edinburgh: its relation to surgical tuberculosis in children—was published in the BRITISH MEDICAL JOURNAL of July 11th, p. 71.

Some other points of interest will be fully dealt with in a report on tuberculosis of the lymphatic glands in children, to be read at the Edinburgh Public Health Congress (July, 1914).

THE EXPERIMENTAL PRODUCTION OF PNEUMONIA.

By RICHARD ROBINS ARMSTRONG, M.B., B.C.Cantab.,
Research Scholar.

THE precise means by which infection reaches the lungs in pneumonia has long been discussed. While it is admitted that in bronchopneumonia infection travels by way of the air passages, a large number of authorities consider that lobar pneumonia is primarily an infection of the blood stream with preferential incidence in the lungs.

So lately as 1912, Kidd,[1] reviewing the whole subject of lobar pneumonia, apparently arrived at the conclusion that the balance of evidence is in favour of this disease arising primarily as a blood infection. Amongst pathologists it is generally recognized that many gradations exist between the forms of lobar, lobular and bronchial pneumonia, so that whether by microscopic or macroscopic examination it is at times difficult to assign to a particular specimen a place in any one group.

The frequency with which positive results are obtained on cultivation of the blood in cases of lobar pneumonia

[1] Lumleian Lectures, *Lancet*, 1912, vol. i.

and the comparative scarcity of positive results in the bronchial forms, have supported the view that lobar and bronchial pneumonia are the results of infection of the lung by different channels. Again, the experience of physicians affords strong evidence of an essential difference between the two types of the disease although many typical cases of lobar pneumonia arise resembling in their course the less acute bronchopneumonic forms.

It will be admitted, therefore, that an exact understanding of the etiology of the disease is of practical value. A conviction of the true channel by which the lungs are invaded in lobar pneumonia may serve to indicate a more vigorous line of treatment in the early stages than has hitherto been attempted, and disinfectants of the respiratory tract might be used with more confidence than formerly if it can be shown that the infection is by the air passages only. Moreover, a sound knowledge of the intimate pathology of pneumonia must surely afford a more rational introduction to specific treatment, and a better chance of success than has hitherto attended the somewhat empirical administration of antipneumococcal serums or vaccines.

Such considerations led the scholar to undertake an exhaustive study of the changes found in the lungs in all forms of pneumonia at all ages, attention being paid to the clinical course, bacteriology, and morbid anatomy in every case. In preparing microscopic sections the new method of embedding in gelatine, devised by Gaskell,[2] was employed, as this obviates the necessity of passing sections through alcohols to paraffin, and thus preserves intact the fatty elements, and almost completely prevents shrinkage of the delicate contents of the alveoli.

Certain conclusions based on this work bear directly on results obtained during the present year.

1. There seems reason to believe that all forms of pneumonia, not excepting lobar pneumonia, are inhalation infections.

2. Microscopic study of completely consolidated lungs revealed the fact that, in almost every case, many stages, ranging from early congestion with sero-fibrinous exudate to advancing resolution, could often be demonstrated at one time in adjacent parts of a lobe which was apparently the site of a homogeneous change. In fact, no essential differences could be found between lobar and bronchial pneumonia microscopically.

3. The changes which occur in the lungs in true septicaemic infections were studied, and it was found that a small group of cases may be recognized, particularly in young infants, in which the pulmonary changes are truly septicaemic in origin and the lesions altogether peculiar. Capillary congestion and proliferation of the endothelial constituents of the alveolar walls are conspicuous, alveolar collapse is invariable, but interalveolar exudate is scanty, and the bronchial epithelium untouched, affording a marked contrast to all other forms of pneumonia.

No definite information with regard to the nature of "the crisis" was obtained, there being no definite difference in the appearances in a lung just before or after crisis.

It soon became obvious that many stages of pneumonia could not be investigated in *post-mortem* material, particularly those important changes which lead to resolution, and which occur when recovery takes place. Attempts were therefore made to produce the disease in animals under experimental conditions.

In attempting to produce experimental pneumonia certain difficulties were encountered. For several reasons it was not possible to use dogs for the experiments, and the rabbit was the only animal of sufficient size which was available. It is well known that rabbits are extremely susceptible to pneumococcal infection, and almost invariably die within from twenty-four to forty-eight hours of a virulent septicaemia, and it became obvious that if a method of inoculation of the lungs were to be successful, simultaneous infection of a raw surface with pneumococci must be avoided for this reason.

Intravenous inoculation of cultures of pneumococci caused death within forty-eight hours of septicaemia with pericarditis, pleurisy with effusion, and sometimes some congestion and collapse of the lung bases. Microscopically, in some of these cases pneumococci were found in the veins of the lungs, in the interalveolar capillaries, and rarely within the alveoli. No true pneumonia was present, but areas of lung were virtually consolidated as a result of a combination of collapse, with enormous congestion and thickening of the interalveolar septa. Exudate within the alveoli was very scanty. The condition closely resembled the septicaemic pneumonia found in young infants, and has also close resemblance to the lesions found in the acute pneumonic form of bubonic plague—undoubtedly an infection of the lungs by way of the blood stream.

Direct injection of broth cultures of pneumococci into the lung at the lowest angle of the scapula caused death from septicaemia, but the difficulty of ascertaining the proper depth to insert the needle and the uncertainty of the method were strongly against its employment.

Intertracheal injection through the unbroken skin of the neck seemed a simple and obvious method but proved unsatisfactory in practice; either a local abscess was produced or, if the rather attenuated cultures used entered the trachea, in most cases no lesion followed.

To make certain of entering the trachea, a rabbit which had been been partly immunized by a dose of avirulent pneumococci three weeks before, was anaesthetized and the trachea exposed at the root of the neck: 5 c.cm. of an emulsion of dead *Bacillus coli*, followed by 5 c.cm. of an attenuated strain of pneumococci, were then injected into the trachea—the *coli* emulsion being used in the belief that it would predispose the bronchial and alveolar epithelium to infection. The animal did not appear much the worse, but on killing it four days later a lobular pneumonia in a stage of resolution was found.

The experiments of Lamar and Meltzer suggested that intubation and insufflation of cultures into the trachea would be a far more satisfactory method, but it was found that the long muzzle and narrow fauces of the rabbit with the small size of its larynx rendered intubation either with a hard or soft catheter extremely difficult.

Wintornitz and Hirschfelder[3] have recently succeeded in producing lesions in rabbits by this method, however, and their results have been published whilst the work here described was in progress.

Finally, the simple expedient was taken of opening the trachea at the root of the neck in a rabbit anaesthetized by chloroform, and introducing a soft rubber catheter of No. 6 or No. 7 size, with its lower end cut off. The catheter causes no respiratory distress, provided that it be not large enough to completely fill the trachea; it is passed gently downwards until its lower end engages in a main bronchus. The culture is injected by piercing the catheter with the needle of the syringe, and blowing the fluid into the lung by two puffs of a rubber insufflator attached to the external end of the catheter.

Injection by this means of 5 c.cm. of a virulent culture of pneumococci in broth caused the death of a rabbit in less than twenty-four hours with typical lobar consolidation of the whole of one lung. The solid lung sank in water, was dry and slightly granular on section; it was deep red in colour at its margin, and of greyish hue in its central portions, and a typical loosely adherent mesh of fibrinous exudate covered the pleura over its base and hinder margin. Microscopic examination showed the alveoli tensely distended with exudate in the stages of red or early grey hepatization. *Post mortem* the heart's blood swarmed with pneumococci.

If the virulence of the cultures were depressed by many subcultivations on agar or in broth it was found that the injection of 5 c.cm. of broth culture forty-eight hours' old did not cause death, although there was considerable diminution in the number of leucocytes present in the blood, the count falling to about 2,500 cells.

In such cases blood culture was negative. The rabbits were killed by chloroform on the fourth or fifth day after injection and the lesions studied. In most of the experiments massive consolidation of the greater part of a lobe was found, showing under the microscope an advanced stage of resolution.

The bulk of culture injected was found to be an important factor in determining the extent of the lesion produced. A larger area of lung was affected if 5 c.cm. of fluid containing 1 c.cm. of broth culture were injected than if 1 c.cm. of the undiluted culture were used.

Two parallel experiments are of interest as bearing on this point. The animals used were nearly all full-grown

[2] *Journ. of Path. and Bact.*, 1913.

[3] *Journ. Exper. Med.*, Baltimore, 1913, vol. xvii, p. 657.

rabbits of the same litter and approximately equal weight.

Into the first, 5 c.cm. of a very attenuated strain of pneumococci was insufflated in the manner described. The second received about 0.25 c.cm. of the heart's blood and spleen-pulp of a mouse diluted to 5 c.cm. with sterile broth; the mouse had died after twelve hours' illness of a pneumonic septicaemia. Twenty-four hours later, the first rabbit seemed a little distressed. Cultivation of the blood in both cases was negative, the leucocyte counts very low, 2,600 and 3,800 cells respectively as compared with 4,000 to 6,000 cells per cubic millimetre in the normal rabbit. Both animals died 24 hours later. The first showed a condition both macro- and micro-scopically resembling an acute bronchopneumonia affecting the whole of the right lung; the second showed massive consolidation of the lower half of the right lower lobe. In both animals, blood culture was positive *post mortem*. (Positive cultures were obtained in all fatal cases.)

Agar slopes were inoculated with a platinum loopful of each of the cultures employed. From the avirulent culture a very large number of colonies were grown within twenty-four hours, from the virulent dilution very few.

One strain of pneumococci from a single source—a fatal case of lobar pneumonia in a man of 30 years—was used in all the experiments. The virulence of subcultivations could be attenuated by subculture on ordinary media, or rapidly enhanced by passage through a feeble white mouse. Cultivation on blood agar or blood broth prepared from my own blood also served to increase virulence, but to a less degree.

Conclusions.

These and other similar experiments already appear to justify the following conclusions:

1. That lobar pneumonia may be produced by infection of the lung by way of the air passages with virulent cultures of pneumococci, and therefore this disease is probably not primarily a septicaemia.

2. That animals suffering from a lobar pneumonia may at first yield negative blood culture, but if the case progresses and terminates fatally, a positive blood culture is invariably found.

3. That animals may develop but recover from a lobar pneumonia, and, in such cases, the blood culture is persistently negative.

From these considerations it seems highly probable that lobar pneumonia is not primarily a blood infection, but that a secondary invasion of the blood stream is very prone to occur, and is of bad import.

The introduction into the lung of attenuated cultures gives rise in some cases to lesions apparently broncho-pneumonic in type, and the conclusion seems already justified that by altering the virulence of the infecting strain any variety of pneumonia—septicaemic, lobar, or bronchial—may be produced.

In certain cases, fatal in about twenty-one hours, with positive blood culture, it is found macroscopically that much collapse with some consolidation is present. Microscopically, there is evidence of an early affection of the lung by the blood stream, with secondary infection of the alveoli following rupture of infected interalveolar capillaries. The microscopic appearances exactly resemble those often found in lung lesions in cases of subacute experimental pneumonic plague, and the mechanism of infection in such cases may be similarly by way of the blood stream, and later of the respiratory passages.

The above brief account may serve to indicate the stage to which the inquiry has so far progressed.

The lesions of lobar and bronchial pneumonia have been successfully reproduced, and the type of disease can be foretold with a fair degree of accuracy if the approximate virulence of the infecting organs be known.

Subcutaneous inoculation of mice has served as a means of estimating the virulence of cultures, but there is a considerable variation in their individual susceptibility. In future experiments it is proposed to use large numbers of mice in order to eliminate this difficulty, and it is also proposed that the opsonic index of the several strains shall be tested against the blood of a standard normal rabbit.

So far as the inquiry has progressed, no information as to the nature of crisis has been obtained; as yet no similar phenomenon has been observed in any of the rabbits inoculated. The course of the disease in these animals appears to be nearly twice as rapid as in man; and this fact, together with the uncertain information which the temperature chart and leucocyte count afford in rabbits, seems to increase to some extent the difficulty of recognizing the phenomenon if it occur in them.

Further investigation may perhaps throw light on this important subject.

AN INVESTIGATION OF THE EFFECT OF NUCLEIN AND NUCLEIC ACID ON THE NORMAL ANTIBODY.

By S. PHILLIPS BEDSON, M.B., B.S.Durh.,
Research Scholar.

IT has long been known that the administration of nuclein or nucleic acid increases the resistance to infection both in man and animals, and this was at first thought to be due to the power of either body of producing a leucocytosis.

More recently Ledingham and Bulloch went into this question, investigating chiefly the effect of leucocytosis-producing substances on the opsonin content of the serum, and found that nuclein alone produced an increase in the opsonic power of the serum. In October, 1913, the scholar undertook an investigation of the effect of nuclein and nucleic acid on the normally occurring immune bodies, with a view to determining the manner in which these substances augmented the general resistance of the organism to infection, and with the hope that at the same time, by working with the simplest forms of antigen, some light might be thrown on antibody response in general. The first series of experiments performed confirmed the work of Ledingham and Bulloch, it being found that a yeast nuclein (Parke Davis; sol. No. 1) injected intravenously in rabbits in doses of 3 c.cm. produced a marked rise in the opsonic content of the serum in four hours, whereas similar injections of sodium cinnamate and pallianine (substances which both give rise to a well-marked leucocytosis) were without effect.

Time of Onset and Duration of Rise.

Experiments were next performed to determine the time of onset of this rise and its duration. The first indication of any change in the opsonic power of the serum was found to be twenty to thirty minutes after the injection; the rise was still marked eight hours later, but had completely disappeared in twenty-four hours. The most striking feature about this rise was the rapidity with which it fell on dilution and on heating as compared with rate of fall of the opsonic value of a normal serum on similar treatment. Thus in a dilution of 1 in 5 in normal saline the phagocytic index of the serum after injection usually fell below that of the normal serum, despite the fact that in the undiluted state it was twice, three, or even four times as great. An equally rapid fall was observed after heating the serums for thirty minutes at 56° C. It appeared, therefore, that there was no increase in the thermostable opsonin normally present in the serum.

Effect of Different Preparations of Nucleic Acid.

Different preparations of nucleic acid were then tested, with the result that, whilst a sodium nucleinate (Merck) was almost as active as the Parke Davis preparation, a yeast nucleic acid (Boehringer and Sohne) and a tissue nucleic acid, kindly supplied by Dr. Levene, gave no rise at all. As these two latter preparations were the purest of the four, it would appear probable that this effect was not due to the nucleic acid radicle, but to the presence of some impurity.

Effect of a Series of Injections on Opsonin Content of Serum.

The effect of a series of injections was next tested in order to see if a more stable opsonin would be produced than that which resulted from a single injection. Two preparations were employed, the Parke Davis nuclein and the Levene nucleic acid. The latter proved to have no effect either on the thermolabile or heat stable opsonins, whereas the former produced a distinct increase in the thermostable opsonin of the serum, although the opsonic power of the fresh serum was little augmented. This serum, however, when inactivated and complemented gave

a greater phagocytic index than did a normal rabbit serum. This thermostable opsonin could be completely removed from the serum by absorption with an emulsion of *Staphylococcus pyogenes aureus*, and the cocci so treated were much more readily phagocyted in the presence of fresh normal rabbit serum than were those treated with an inactive normal serum.

Effect of Nucleic Acid on the Opsonin of the Serum "in Vitro."

This question was now gone into, but, contrary to the results obtained *in vivo*, the effect of nucleic acid *in vitro* was markedly to diminish phagocytosis. Experiments showed that this was not due to any action of these substances on the leucocytes or on the cocci, but was probably to be attributed to a strong anticomplementary action, which could be readily demonstrated by means of a haemolytic system.

Nature of Response to a Single Injection of Nuclein.

Having concluded that the increased opsonic power of the serum, following a single injection, was not due to any increase on the part of the heat stable opsonins, the question arose, What was the nature of the response to a single injection? The possibility of an increase in the complement content of the serum was gone into, but this was found not to be the case. It was then thought that they were perhaps dealing with a thermolabile body of the nature of an amboceptor. It was therefore attempted to remove this body by absorbing the serum in the cold with an emulsion of *Staphylococcus pyogenes aureus*. The results of these experiments bore out to a certain extent this hypothesis, so in order to test it further an attempt was made to remove the complement from the serum by means of sensitized red-cell stromata, and to then test the opsonic power remaining in the serum. Controls with normal serums showed that the thermolabile portion of the opsonin was successfully removed by this means. After treating the serum of an injected rabbit in this manner it was found that the opsonic power of the serum fell to that of a normal serum from which the complement had been removed by red-cell stromata or which had been inactivated, but cocci sensitized with such a serum were phagocyted much more readily than those sensitized with an inactive normal serum when placed in the presence of fresh normal rabbit serum. It would appear therefore that in response to a single injection a body of true amboceptor nature is formed, which is, however, incapable of any action by itself unlike the thermostable opsonins produced by immunization. The question of the exact temperature at which this body is destroyed is now under investigation.

What is the Active Impurity in these Preparations of Nuclein and Nucleic Acid?

Seeing that this effect on the opsonin content of the serum could not be attributed to the nucleic acid radicle, it was decided to try to determine the nature of the impurity which was producing this effect.

Numerous authors have come to the conclusion that pure nucleic acid is without antigenic properties, and that those preparations which act as antigens are enabled to do so owing to the presence of some protein impurity. The usual chemical tests for protein were found to be inapplicable owing to the original colour of the solutions, and to the fact that the nucleic acid was thrown down as a heavy white precipitate by those reagents employed to precipitate proteins. It was therefore attempted to demonstrate the presence of proteins in these active preparations of nucleic acid by means of the anaphylactic reaction in guinea-pigs. This also had to be abandoned owing to the fact that the Parke Davis preparation was so toxic for the animals that controls and sensitized animals reacted alike, showing anaphylactic symptoms (convulsive symptoms, marked sudden fall in temperature, paresis of hind quarters). Finally, rabbits were immunized with the various preparations and their serums tested for complement fixation bodies. Here again difficulties arose. The nucleic acid preparations were found to be strongly anticomplementary, necessitating titration of complement in the presence of the antigen. Even when this was done several of the normal control rabbits employed at different times were found to deviate complement more strongly than did the injected rabbits, so that this method was also finally abandoned.

It is proposed now to commence with yeast, test its power of increasing the opsonic content of the serum, then prepare from it the yeast nucleo-proteins. By gradual purification this nucleo-protein is to be carried through the various stages of nuclein and impure nucleic acid up to pure nucleic acid, its effect on the antibody content of the normal serum being tested in each stage.

The question of the behaviour of the serum of the injected animal on dilution already referred to, will be gone into in more detail, and, finally, it is proposed to conclude this piece of work with a more complete study of the antibody produced in response to a single injection.

PES VALGUS, SWEATING, ETC.

By Edward G. Schlesinger, M.B., B.S.Lond.,

Research Scholar (January 1st to September 30th, 1914).

1. Investigations have been made of the pathology and treatment of that form of pes valgus known as spasmodic flat-foot. The theory that it is a protective spasm, secondary to arthritis of the tarsal joints, appears to be wrong, and it would seem that the primary condition is a spasm of peronei muscles. This has been found to be readily controlled by the injection of alcohol into the musculo-cutaneous nerve high up in the leg, followed by manipulation of the soft parts of the foot. All the usual operative and mechanical treatments for the condition, when well developed, have been tried and found inefficient compared to the method mentioned above.

2. In conjunction with Dr. Pembrey, investigations are being carried out on the subject of sweating and its relation to various influences. The apparatus used has been a specially constructed electrical hot-air bath, wherein, by a proper combination of moisture and heat, controlled by observations of the surface temperature of the skin, visible sweating of the arms and legs is readily produced. The cases investigated so far are various forms of nerve lesion, cord lesions, cases of skin grafting, as well as the influence of various drugs, etc,

3. Experiments are being carried out on the subject of adherent pericardium and pericardial reflexes. Adherent pericardium has been produced by the use of turpentine and scratching of the sac, and the animals observed for some time afterwards. A condition of chronic heart failure without myocardial changes has been observed, but further experiments are needed before any conclusion can be reached. A method of forming a new pericardium, by utilizing the omentum, is being worked out, but as yet certain technical difficulties remain to be dealt with.

4. Some preliminary work has been done with a view to attempting to produce and study hyperthyroidism in animals, by grafting in additional thyroids by means of direct vessel anastomosis.

(B) REPORTS OF GRANTEES.

A. E. Boycott, M.D.Oxon.

INVESTIGATION OF WATER DISTRIBUTION IN EXPERIMENTAL NEPHRITIS.

An inquiry has been made, in conjunction with Dr. J. S. C. Douglas, into the passage of liquid from the tissues to the blood which may be induced by the injection of strong solutions of, for example, dextrose into the circulation. It was found that the passage into the blood was slower in nephritic than in normal rabbits, as was also the subsequent expulsion of the extra liquid into the tissues. The results are in course of publication in the nineteenth volume of the *Journal of Pathology*. Subsequently attention has been paid to the composition of the liquid which may be drawn out of the tissues in this way. This investigation is still in progress.

R. A. Chisolm, M.D.Oxon.

I. THE WATER CONTENT OF THE TISSUES IN EXPERIMENTAL NEPHRITIS.

The results of this investigation have already been published in the *Journal of Pathology and Bacteriology*, vol. xviii, 1914.

II. THE REGULATION OF THE BLOOD VOLUME IN EXPERIMENTAL NEPHRITIS.

If a normal rabbit receives intravenously its estimated volume of Ringer's fluid of either normal, double, or half strength, it is found that the blood volume, as calculated from the percentage of haemoglobin, is restored to normal, both more quickly and more effectually than is the case with rabbits suffering from nephritis produced by the injection of potassium chromate, and treated in the same way. It is therefore probable that in chromate nephritis there is an alteration in the permeability of the vessel wall similar to that found by Boycott in the case of nephritis due to the injection of uranium nitrate.

The results have been published in full in the *Journal of Pathology and Bacteriology*, vol. xviii, April, 1914.

MYER COPLANS, M.D.Lond.

THE NATURE OF TOXINS AND ANTITOXINS, WITH SPECIAL REFERENCE TO ABSORPTION AND OTHER PHENOMENA BY ASBESTOS AND OTHER FINELY DIVIDED SUBSTANCES.

THE research deals with the effects of the silicates, more particularly the "asbestos" group of minerals, meerschaum, and the zeolites, both natural and synthetic, upon bacterial growth with special reference to immunity.

A. A study has been made with regard to the asbestos minerals and meerschaum on the absorption of the various toxins of tubercle, diphtheria, tetanus, and glanders, and search has been made in particular for phenomena of differential absorption, an example of which is seen in the behaviour of Ural asbestos towards Koch's old tuberculin, the proteoses, apparently non-specific and toxic, being removed before the specific anaphylactic substance.

Clinical tests are being carried out with this comparatively atoxic tuberculin both with regard to its diagnostic and therapeutic value.

Further, it has been noted that tetanus toxin is removed by the fibrous silicate from solution at a greater rate than diphtheria toxin, while in similar circumstances complement disappears more readily than haemolytic amboceptor, in the presence of fired asbestos.

B. (1) The influence on the morphology and other characteristics of various pathogenic organisms, such as *B. tuberculosis*, *B. diphtheriae*, *B. anthracis*, *and B. tetani*, by continuous growth in broth media in presence of "asbestos" minerals and other silicates, including the zeolites, has been studied.

B. tuberculosis.—In the presence of asbestos fibre racemose forms, non-acid-fast in character, have been observed, together with apparently normal forms. On inoculation into guinea-pigs a general tuberculosis ultimately appears, all the organisms in the tissues apparently being acid-fast.

The expressed and filtered broth from this series of cultures is found to be comparatively proteose-free, while it yields a specific cutaneous action with tuberculous subjects.

B. diphtheriae.—A toxigenetic strain when cultured upon broth to which has been added any of the "asbestos" group of minerals, meerschaum, or the zeolites, fails to produce toxin in appreciable quantity under conditions in which a control broth culture yields a toxin containing over 100 minimum lethal doses per c.cm.

After growth upon broth in the presence of asbestos-fibre a secondary culture of the organism upon normal broth yields a toxin which is diminished in strength by over 90 per cent. as compared with the original strain.

In similar circumstances a slightly toxigenetic strain derived from a case of clinical diphtheria of virulent type has been converted into a strain which now fails to produce toxin in appreciable quantity, although its rate of growth in nutrient media and its morphological characteristics appear to be unchanged.

In prolonged culture in presence of asbestos fibre in broth a number of long thread and branching forms appear. The organism maintains its vitality in such cultures for over a year.

B. anthracis.—The most notable change has been found in a three months old culture of a virulent variety upon broth containing sodium zeolite. The bacillus becomes markedly pleomorphic, coccoid and even sporothrix-like forms being found. Some of these forms have been isolated. Spore formation is scanty, and the virulence is greatly diminished.

(2) A possible interpretation of these results may be found in terms of gradual ionic substitution. With regard to the zeolites, bases of lime and magnesia in solution are replaced by those of soda or of potash derived from the zeolite, while under certain conditions the reaction is reversible. Salts of iron become oxidized and eventually are precipitated from solution upon the surface of a manganese-zeolite as ferric hydroxide.

In the case of the asbestos group of minerals the comparative basicity of the silicate under investigation may prove of importance in the practice of differential absorption from a mixture of substance. Thus, of the serpentine group, *chrysolite-asbestos* from Quebec, which is comparatively basic in character, may exercise a greater affinity for an acid-protein than would *actinolite*, a member of the hornblende series, which is comparatively an acid silicate, and might be therefore expected to manifest a preferential absorption towards alkali-protein.

It has been found in the case of a dilute solution of Witte's peptone placed in contact with Ural asbestos fibre that the phenomenon of absorption is accompanied by a marked rise in electro-conductivity of the liquid, coupled with a complete disappearance of the peptones and proteoses from the solution. A possible interpretation may be found in the increased rate of degeneration of the surface of the absorbing fibre which passes into the solution in the form of electrolytes.

E. W. HEY GROVES, M.D., M.S.Lond., F.R.C.S.Eng.

THE UNION OF BONES IN THE OPERATIVE TREATMENT OF FRACTURES.

MR. HEY GROVES reported that he had published the two following papers:

(i) An experimental study of the operative treatment of fractures. (Vide *British Journal of Surgery*, vol. i, No. 3, 1914.)

(ii) Hunterian lecture on the experimental principles of the operative treatment of fractures and their clinical application, delivered before the Royal College of Surgeons of England on February 6th, 1914. (Reprinted from the *Lancet*, February 14th and 21st, 1914.)

W. D. HALLIBURTON, M.D., F.R.C.P., F.R.S.

CEREBRO-SPINAL FLUID.

THIS research has been continued in conjunction with Professor W. E. Dixon, F.R.S. One paper relating to the secretion of the fluid has already appeared in the *Journal of Physiology;* a second, on the pressure of the fluid, is in the press, and further papers are in preparation. The main outcome of the work so far published is that the fluid is secreted by the epithelium of the choroid plexuses; this may be stimulated by the intravenous injection of extracts of the choroid gland, and of the brain, but not by the ordinary lymphagogues. Carbonic acid and the volatile anaesthetics in small doses also cause an increased secretion. The pressure of the fluid is influenced to a small extent by the variations in general arterial and venous pressure, but is mainly an independent secretory pressure, which is not secondary to changes in blood pressure.

E. L. KENNAWAY, M.B., B.Ch.Oxon.

1. The accuracy of Shaffer's method for the estimation of acetone bodies in urine has been tested, and this method has been combined with Scott-Wilson's procedure for the estimation of acetone. (Vide *Biochemical Journal*, July, 1914.)

2. An investigation has been made of the output of acetone bodies in diabetes and in other conditions, in conjunction with the work of Drs. Pembrey and Poulton upon the alveolar carbon dioxide pressure. (Vide *Journal of Physiology*, vol. xlvii, x.)

3. A number of estimations of the proportions of the different acetone bodies excreted in various forms of acidosis in man have been made, and the results are now ready for publication.

KATE KNOWLES, M.B., B.S.Lond.

OSTEOMALACIA.

THE grantee has only just collected together instruments for examining blood pressure, blood, and urine—the latter too recently to use—and is further handicapped by the fact that her work lies among a people—the Kashmiri—from whom it is almost impossible to extract reliable information, for they seem unable to give straight answers to straight questions. They know nothing of self-discipline, are very impatient, and are therefore difficult subjects on which to carry out prolonged and careful observations, especially if they are really suffering; with coaxing and bribing they can now be held for one or more months.

The grantee has investigated (since January, 1914) more or less thoroughly, according to the will of the patient, 27 cases. These include only marked acute cases. They are Hindu and Mohammedan women, living in the crowded, insanitary city of Srinagar.

Their diet is mainly rice, with vegetables. The Hindus may eat mutton and fish, but no other meat.

Children marry young—Hindus from 8 years of age upwards—but sexual intercourse is not supposed to take place until menstruation is well established, usually not before the girl is 16. Immorality, however, is said to be rife among both sexes, possibly due to the fact that the wife always goes to her own home for several months in the year. Menstruation usually normal. The most active exercise they have is beating the rice for the two daily meals. But both Hindus and Mohammedans walk tremendous distances.

One child is suckled until the next is born, if the mother has milk. There is usually an interval of over a year between the pregnancies.

Nearly all cases of osteomalacia suffer from pyorrhoea alveolaris and tetany, though these two diseases are common among all the women.

Rickets is rare among the children. The grantee regards the two diseases as quite distinct, and rejected two cases which would be usually considered osteomalacia, as they occurred in young unmarried girls, and had a history of lameness dating from childhood.

Among the 27 cases there have been 4 Caesarean sections since Christmas; from 3 of these one ovary was removed and sent to Dr. Blair Bell, who is kindly helping with the investigation. The veins were markedly congested and tortuous. So far it has not been possible to obtain any other specimens. The centrifugalizer arrived too recently for investigation of calcium in the urine. Examinations of blood will be commenced shortly.

Pelvic measurements all show marked contraction.

	I.	II.	III.	IV.
Interspinous	6½ in.	7½ in.	7⅞ in.	6½ in.
Intercristal	8½ in.	8¾ in.	8¼ in.	8½ in.
External conjugate	6½ in.	6¾ in.	6½ in.	*7 in.

* The vertebrae are so sunk together that this measurement is not a reliable one.

The outlet is, in many of the worse cases, so narrowed that the grantee could only introduce one finger at the back by pressing back the perineum (and her fingers are very thin) not far enough in to reach the promontory. The *blood pressure* is low, usually 100; the *pulse* rapid, about 100.

Treatment.

It is made a rule to keep the patients at rest on a diet from which meat and eggs, though allowing fish, are excluded, and give them syr. ferri iod. before putting them on any special drug, because in the past the grantee found marked improvement from so doing. A local Hindu woman, who has a reputation as a healer of osteomalacia, also allows fish only.

Of extracts of ductless glands the following have been used: Pituitary, thyroid, thymus, suprarenal, ovarian, in the form of tablets. Hypodermic injections of pituitrin were tried, but the patient objected so strongly that they were given up.

Each drug was given to two patients at the same time. The only one giving at all satisfactory results so far is pituitary extract; there has not been enough time on patients to be at all certain as yet about the others.

In taking the blood pressure, as far as possible one time of day has been kept to, and physical or mental strain for at least one hour previously guarded against.

ACTION OF DRUGS.

Pituitary Extract.

This was tried on three cases with markedly beneficial results.

1. A Mohammedan. Symptoms appeared after birth of first child three years previously. She was an absolute cripple, legs and thighs markedly flexed, with contraction of ham strings. She was given in her home pituitary extract, gr. ii, twice daily for two months, with marked disappearance of all pain, but she steadily refused to come into the in-patient department for treatment of the contractures.

2. A Mohammedan, on whom Caesarean section was performed, came into the dispensary as in-patient on March 22nd, three weeks after operation. She was unable to stand or extend her thighs.

Date.	Blood Pressure.	Pulse.	Temperature.	Treatment.
March 24th ...	110	88	Between 97.4° and 98.4° daily	Pituitary extract gr. ii daily
,, 25th ...	112	80		,, ,,
,, 26th ...	112	80		,, ,,
,, 28th ...	112	80		Pituitary extract gr. iv daily
,, 31st ...	136	88		,, ,,
April 1st ...	130	78		,, ,,
,, 3rd ...	150	78		,, ,,
,, 6th ...	154	80		,, ,,
,, 13th ...	160	88		,, ,,

There was marked lessening of pain; she walked on the 6th, and ran away on the 13th.

3. Hindu. Had four children, lame after the second, three years ago; unable to walk for one year and while carrying the last child. The grantee was called in when

Date.	Treatment.	Blood Pressure.	Pulse	Result.
Mar. 12th–20th	Hypodermics of pituitrin m xv	100	100	No sphygmomanometer till 20th.
Mar. 21st	—	122	100	Baby died.
,, 23rd	Pituitary extract gr. ij daily	114	88	Marked lessening of pain and tenderness.
,, 26th	—	115	80	Extended thighs.
,, 28th	Increased to gr. iv daily	112	80	Could stand.
April 1st	,, ,,	120	84	
,, 3rd	,, ,,	122	84	Walked without support.
,, 7th	,, ,,	132	84	Went home, but continued to attend.
,, 13th	Increased to gr. viii daily	132	88	
,, 16th	Reduced to gr. iv daily	145	80	Patient complained of dizziness.
,, 20th	,, ,,	150	80	
,, 22nd	,, ,,	150	84	
,, 25th	Patient had not taken medicine for 2 days; medicine resumed	138	80	Patient walked more firmly and briskly, but still complained of pain in limbs.
,, 28th	—	144	76	
,, 30th	—	152	92	
May 2nd	Pituitary extract gr. iv daily	132	96	
,, 4th	—	140	76	Patient markedly improved, walked quite quickly, though, of course, there was still deformity.
,, 6th	Pituitary extract gr. iv daily	124	80	
,, 8th	,, ,,	128	88	
,, 11th	,, ,,	122	88	
,, 13th	,, ,,	110	84	
,, 15th	,, ,,	110	84	
,, 18th	,, ,,	120	96	

the patient was in labour, got her away and did a Caesarean section. No ovary removed. Veins extremely congested and tortuous. Began treatment with pituitary extract on March 12th, three weeks after operation. Patient a little doubled up mass, shrieking when touched.

Patient had dysentery, so treatment stopped.

Ovarian Extract.

This was tried on two patients for one month; in both there was a slight rise of blood pressure to 10 mm., but no change in the pulse, and no marked lessening of pain so grantee tried—

Suprarenal Extract.

CASE I.—Mohammedan; has had three children, last three years ago; is now pregnant. Lame for the last three years; when admitted unable to straighten limbs, and, as *in all these cases*, shrieking with pain when touched.

Date.	Treatment.	Blood Pressure.	Pulse.	Result.
May 1st ...	Suprarenal gland gr. v daily	120	94	Some slight diminution in pain, but nothing marked.
,, 4th ...	,, ,,	106	94	
,, 6th ...	,, ,,	106	88	
,, 8th ...	,, ,,	106	96	
,, 13th ...	,, ,,	100	100	
,, 14th ...	,, ,,	98	100	
,, 15th ...	,, ,,	98	100	
,, 18th ...	,, ,,	98	100	
,, 20th ...	,, ,,	92	100	

Suprarenal will now be stopped and pituitary extract given if the patient refuses to have ovaries removed.

CASE II.—Mohammedan. This patient was previously on ovarian extract.

Date.	Treatment.	Blood Pressure.	Pulse.	Result.
May 1st ...	Suprarenal gland gr. v daily	104	80	No marked diminution of pain.
,, 4th ...	,, ,,	104	80	
,, 6th ...	Increased to gr. x daily	104	76	
,, 8th ...	,, ,,	108	76	
,, 14th ...	,, ,,	110	76	
,, 15th ...	,, ,,	100	80	
,, 18th ...	,, ,,	92	80	
,, 20th ...	,, ,,	92	88	

Pituitary extract will now be tried on this case.

Thymus Extract.

The two cases which had been on this for one month showed no signs of improvement nor change in pulse or blood pressure.

Thyroid Extract.

This was tried on one case only; she ran away after a week's treatment. She said she was much better, but the improvement began with syr. ferri iodidi and rest.

W. MACADAM, M.B., Ch.B.Glas.

THE result of this grantee's research into (1) the hepatic insufficiency as estimated from the nitrogen partition of urine, has been published in the *Journal of Pathology and Bacteriology*, vol. xviii (1913), and (2) the significance of the urinary excretion of creatin and creatinin, has been published in the *Practitioner* for April, 1914.

NATHAN MUTCH, M.B., B.C.Camb.

VARIATIONS IN THE EXCRETORY POWERS OF THE KIDNEYS IN HEALTH AND DISEASE.

1. Experiments have been performed which demonstrate the presence of an ileal flora capable of forming β iminazolylethylamine from histidine in a small group of constipated subjects. These same patients exhibit subnormal blood pressures. The bacteria found in the ileums of constipated patients with normal or raised blood pressures are unable to bring about this chemical change. β iminazolylethylamine was shown to bring about a fall in blood pressure when taken by the mouth. The significance of this observation is that it correlates the production of an intestinal toxin with the presence of the symptoms of poisoning by this toxin in the same patient.

2. More recently this grantee has isolated from the urine of constipated subjects, pure crystals of parahydroxyphenyl-acetic acid which is excreted when tyramine is taken by the mouth. This observation suggests the formation of a toxic substance, tyramine, from the proteolytic product tyrosine, by intestinal bacteria. Parahydroxyphenyl-acetic acid is readily detected by applying Millon's test to an ethereal extract of acidulated urine.

3. In conjunction with Mr. E. J. Cooke, the presence of urobilin in the urine of patients suffering from heart failure who are not jaundiced has been shown to be independent of any coincident pigmentation, and has been correlated with the tenderness of the liver.

4. A considerable number of unfinished experiments have been carried out to investigate the relationship between the excretion of urea by the kidney and the concentration of that substance in the blood. A corrected coefficient of the excreting power of the kidney for this compound has been found.

5. In conjunction with Mr. Ryffel and Dr. Eyre, an attempt is being made to correlate the bacteriology of the small intestine, the chemistry of the urine and stomach, the clinical signs and symptoms, the radiographic appearances, and the operation findings in patients suffering from constipation.

DAVID ORR, M.D.Edin.

THE INFLUENCE OF TOXINS ON THE CENTRAL NERVOUS SYSTEM.

IN this series of experiments conducted by Dr. Orr in conjunction with Dr. Rose, the effect on the spinal cord of a bacterial intoxication was studied, and the abdominal cavity chosen as the site of experiment for three reasons:

1. This site is the most suitable for an experiment in which one wishes to exclude infection of the lymph system of the spinal nerves.

2. To reproduce as closely as possible a gastro-intestinal intoxication, and observe the effects upon the spinal cord.

3. To ascertain in how far such toxic infection affected the sympathetic ganglion chain.

Celloidin capsules containing a broth culture of the *Staphylococcus pyogenes aureus* were placed in various parts of the abdomen, where they became attached to the various viscera by adhesive exudation. The experiments were conducted upon rabbits and dogs.

The changes found in the spinal cord were as follows:

1. The most highly developed structures, the nerve cells, suffer least of all.

2. There is primary degeneration of the myelin sheath round the cord margin and along the postero-median septum.

3. The myelin degeneration is greatest in the upper part of the cord.

4. There is oedema of the cord.

5. The perivascular neuroglia is actively proliferating.

6. The vessels are dilated and congested, are hyaline, and contain thrombi of the same nature.

The appearances, therefore, are characterized for the most part by *degenerative* changes, and differ very widely from those found in lymphagenous infections, where the morbid phenomena are of an *inflammatory* type, and all the fixed tissues are in a state of active proliferation.

M. S. Pembrey, M.D., M.A.Oxon.

THE INFLUENCE OF NARCOTICS AND ANAESTHETICS ON METABOLISM.

In conjunction with Drs. Kennaway and Poulton a preliminary account of further observations in acidosis in diabetes has been published (*Proc. Physiol. Soc.*, October 18th, 1913; *Journal of Physiol.*, vol. xlvii).

Observations upon the pulmonary ventilation and gaseous exchange in man during intratracheal anaesthesia have been made in conjunction with Dr. Shipway. A preliminary account of this work was published in the *Trans. Roy. Soc. Med.*, February 6th, 1914.

E. P. Poulton, M.B., B.Ch.Oxon.

OBSERVATIONS ON CO_2 IN ALVEOLAR AIR OF DIABETICS.

This grantee read a paper on the above subject in the Section of Medicine of the Royal Society of Medicine, a report of which appeared in the British Medical Journal of May 9th, 1914.

J. H. Ryffel, B.C., M.A.Camb.

LACTIC ACID.

The formation of lactic acid in the alimentary canal in accordance with diet and the nature of the organisms present is being investigated. Stools that are not acid have as yet been found to contain only traces of lactic acid, while acid stools frequently contain considerable quantities; thus the acid stools of an infant, whose diet contained a large proportion of carbohydrate, contained over 1 per cent. of lactic acid in the wet stool, the amount of lactic acid and the acidity of the stool to phenolphthalein being nearly equal. When the organisms are grown in dextrose peptone solution, the highest yield of acid and lactic acid is given by a Gram-positive bacillus similar to the Oppler-Boas bacillus, which occurs occasionally in faeces and when present will overgrow the other organisms in this medium. Faecal streptococci also produce considerable acid.

Observations are being made, with Dr. T. B. Heaton, on the chloride in urine and serum concurrently both in normal and pathological cases. The observations are not yet sufficiently complete for generalization, but there is clearly a much less definite relation between the chloride in urine and in serum than that which hold for urea.

On the influence of anaesthetics and narcotics on respiration and metabolism, studied with Dr. M. S. Pembrey, a preliminary account will shortly be published.

W. L. Symes, M.R.C.S.

ACTIVITY AND STABILITY OF TINCTURE OF DIGITALIS.

The result of this investigation was published in the British Medical Journal of June 20th, 1914, p. 1343 *et seq.*

W. W. C. Topley, M.B., B.C.Cantab.

CHANGES PRODUCED IN THE CENTRAL NERVOUS SYSTEM OF MONKEYS BY THE DIRECT INOCULATION OF THE SPIROCHAETA PALLIDA INTO THE CEREBRO-SPINAL CANAL.

The following experiments have been carried out in conjunction with Dr. F. W. Mott:

(*a*) Inoculation of a culture of the *Spirochaeta pallida* into the cerebro-spinal canal of a rhesus monkey.

(*b*) A similar inoculation with the cerebro-spinal fluid from a patient suffering from active syphilitic meningitis.

(*c*) The subdural inoculation of an emulsion of the cerebral cortex obtained *post mortem* from a case of general paralysis, and which was shown to contain numerous spirochaetes.

Two other monkeys are awaiting inoculation with suitable material.

The results so far have been entirely negative.

British Medical Association.

EIGHTY-SECOND ANNUAL MEETING, ABERDEEN, JULY, 1914.

The Eighty-second Annual Meeting of the British Medical Association will be held in Aberdeen in July, 1914. The President's Address will be delivered on Tuesday, July 28th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 24th, at 10 a.m.

Honorary Local Treasurer—
George Williamson, M.B.,
256, Union Street, Aberdeen.

Honorary Local Secretaries—
Thomas Fraser, M.B.,
16, Albyn Place, Aberdeen.
Fred. K. Smith, M.B.,
7, East Craibstone Street, Aberdeen.

PROVISIONAL PROGRAMME.

The following is the provisional time-table for the Aberdeen Meeting:

Friday, July 24th.
10 a.m.—Annual Representative Meeting.

Saturday, July 25th.
9.30 a.m.—Representative Meeting.

Monday, July 27th.
9.30 a.m.—Council Meeting.
10 a.m.—Representative Meeting.

Tuesday, July 28th.
9 a.m.—Exhibition of Surgical Instruments, Drugs, etc. The Exhibition will remain open until 6 p.m. on this and the three following days.
9.30 a.m.—Representative Meeting.
2 p.m.—Annual General Meeting.
*8.30 p.m.—Adjourned General Meeting, President's Address.

Wednesday, July 29th.
*9 a.m.—Religious Services.
10 a.m. to 1 p.m.—Sectional Meetings.
12.30 p.m.—Address in Medicine.
1.15 p.m.—Irish Medical Schools' and Graduates' Association, Luncheon.
2.30 p.m.—Secretaries' Conference, followed by Dinner.
3.30 p.m.—Garden Party by Town Council in Duthie Park.
*8.30 p.m.—Reception by University in Marischal College.

Thursday, July 30th.
8 a.m.—National Temperance League Breakfast.
9 a.m.—Council Meeting.
10 a.m. to 1 p.m.—Sectional Meetings.
12.30 p.m.—Address in Surgery.
7.30 p.m.—Annual Dinner.

Friday, July 31st.
9 a.m.—Council Meeting.
10 a.m. to 1 p.m.—Sectional Meetings.
*12.30 p.m.—Graduation Ceremony in Marischal College.
6 p.m.—Annual Exhibition closes.
8 p.m.—Popular Lecture, Marischal College.
*8.30 p.m.—Reception by Branch (Music Hall).

Saturday, August 1st.
Excursions.

*Academic dress or uniform should be worn on these occasions. Members desiring to have robes provided for them at Aberdeen should communicate with Messrs. Ede, Son and Ravenscroft, 93 and 94, Chancery Lane, London, W.C.; Mr. William Northam, 9, Henrietta Street, Strand, London, W.C.; or Messrs. L. Y. and J. Nathan, 4, Hardman Street, Liverpool.

THE SECTIONS.

The scientific business of the meeting will be conducted in sixteen Sections, which will meet on Wednesday, July 29th, Thursday, July 30th, and Friday, July 31st.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the

order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

SECTION OF MEDICINE.

In addition to the discussions on headache to be introduced by Dr. Harry Campbell, on artificial pneumothorax in pulmonary tuberculosis to be opened by Dr. Rist (Paris), and the joint discussion with the Section of Diseases of Children on the diagnosis of chronic pulmonary tuberculosis in infancy and childhood (see SUPPLEMENT, July 4th, page 4), it is proposed that the following papers shall be read:

BROWN, D. Durward (Harrogate). Rheumatoid Arthritis: Comparison of Medical and Surgical Standpoints.
EVE, F. C. (Hull). (1) Acute Atrophy of the Thyroid. (2) Transient Babinski's Sign in Functional Affections.
GRIFFITH, T. Wardrop (Leeds). On Two Cases of Patency of the Ductus Arteriosus—a Lantern Demonstration.
HAIG, William (Crieff). Rapid Relief in Acute Lumbago by Manipulation and Active Movement.
LISTER, A. H. (Aberdeen). On the Diastase Reaction, with Special Reference to its Presence in the Urine of a Case of Ruptured Duodenum.
MCKENDRICK, J. S. (Glasgow). Splenectomy in Relation to the Treatment of Anaemia.
PHILLIPS, L. P. (Cairo). (1) An Acute Case of Myelaemia (Splenomedullary Leukaemia) in a Child Treated with Benzol. (2) Banti's Disease associated with Diabetes.
TURNER, W. Aldren (London). The Outlook in Epilepsy.
WOODCOCK, H. de Carle, and CLARK, J. A. M. (Leeds). Artificial Pneumothorax.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

The following note indicates the line that will be taken by the openers of the discussion on the importance of the unconscious in psycho-pathology:

Dr. JUNG: The unconscious may be defined as "the sum of all those psychological events which are not apperceived." It contains all the psychic events which are unable to pass through the threshold of consciousness because of their lack of the necessary intensity. As an illustration of the unconscious, take the case of a merchant who, according to his conscious view, is happily married, successful, self-respecting, hard-working, enlightened, artistic, public-spirited. But, though unaware of it himself, he is also careless, indifferent, untrustworthy (for example, he is careless over his wife's requests, minimizes his income to income tax authorities, has misgivings about transactions on Fridays, etc.). The latter are compensating unconscious vices, and there may exist in him also unconscious compensating virtues, but the effect of either is liable to be influenced by essential hereditary dispositions, as also by the existence of motives for virtuous or vicious actions. Still the general result of the functioning of the unconscious in normal individuals is to produce a balance, all extreme conscious tendencies being toned down through effective opposite impulses in the unconscious. This is not the case in abnormal persons. In them the functioning of unconscious processes breaks through into the conscious mind in an abnormal manner and disturbs the adaptation of the individual to his environment. A normal person can unconsciously utilize his unconscious psychic tendencies to correct any one-sided conscious attitude, but the abnormal individual cannot do this: he even increases his one-sidedness by defending himself against his own compensating influences, and the result is a great lack of harmony between his conscious and unconscious attitudes. The unconscious begins to intrude violently on his conscious mental processes, and does so in forms which are altogether unacceptable to him so far as his conscious mind is concerned. This unacceptability of form is due to the distortion inevitably undergone by the compensating influence before it can make headway against the resistance of his unconscious mind, and to the necessity of the compensating influence presenting itself in the language of the unconscious—that is to say, in psychic material of the most heterogeneous and fantastic nature. The author also deals with Liebnitz's "perceptions insensibles," Kant's "shadowy conceptions," Freud's "Symtomhandlungen," and the latter's views as to the help offered by study of dreams in understanding the unconscious.

Dr. ERNEST JONES: The term "unconscious" should denote that region of the mind of which the subject is either temporarily or permanently unaware. The unconscious mental processes that can be experimentally demonstrated have been termed "subconscious" by Janet, "co-conscious" by Prince, and "pre-conscious" by Freud, and they contribute a great part of the structure of delusions, hallucinations, and other insane productions. It has long been suspected that still more buried mental processes exist, and by means of his psycho-analytic method Freud has been able to penetrate into this region, which he calls the "unconscious proper." Studies by this method have shown the etiological importance of emotional conflicts in general and of infantile and sexual factors in particular. This knowledge has afforded a consistent interpretation of manifestations previously incomprehensible, and revealed their coherent structure; it has determined the mechanisms causing their apparent unintelligibility, and bridged over the gap between the normal and abnormal by demonstrating that the same processes go on in both. Finally, it has provided a consistent guide for therapeutic efforts, which has already proved of the highest value in the field of the psychoneuroses.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Dr. ARCHIBALD DONALD has sent the following outline of his introduction to the discussion on the treatment of fibromyomata of the uterus:

(1) *Expectant treatment* should now be given up in all cases of fibroids causing symptoms, save in exceptional cases. Additional experience confirms the view arrived at some years ago that the climacteric does not always bring relief. The tumours may not disappear, and may not even diminish. Old age may cause complications from changes in position or from degenerations of the tumours. (2) *Palliative treatment* is not discussed. (3) *Operative treatment.* (i) Vaginal operations are only advised in exceptional cases (polypoid tumours projecting through or felt through a dilated cervix, and especially sloughing polypi). Vaginal hysterectomy should be abandoned. (ii) Abdominal operations. (*a*) Double oöphorectomy for fibroids is now given up. (*b*) Myomectomy should always be performed, if possible, in women of childbearing age. (*c*) Hysterectomy—either partial or total. The writer's personal bias is toward the subtotal method. The risk of cancer in the cervix after this operation is not worth considering. The mortality of abdominal hysterectomy is discussed, and the opinion is expressed that it is one of the safest of operations in abdominal surgery. The mortality seems to bear some relation to the age of the patient. Some points of technique are briefly discussed. Technical difficulties are chiefly met with in cervical fibroids, and in tumours with intraligamentous development. The writer believes that it is better as a rule to remove both ovaries. If they are left they may cause trouble by subsequent cystic degeneration, or by becoming adherent to the pelvic scar. Reasons are given for the opinion that the symptoms of the artificially induced climacteric are not so severe as is commonly supposed. The chief danger up to recent years was thrombosis and embolism in patients profoundly anaemic, but has become a less serious risk with the observance of scrupulous asepsis. The writer holds strong views on the *x*-ray treatment of fibroids. He classifies the objections to this treatment under the following heads: (1) Difficulties in diagnosis—mistakes are not uncommon (*a*) in cases of pelvic inflammation; (*b*) in cases of ovarian and tubal disease associated with uterine fibroids; (*c*) in cases of solid or tense ovarian cysts; (*d*) in sarcomata; and (*e*) in adenomata of the uterus. (2) Sufficient time has not elapsed to show what troubles may ultimately be caused by later changes in the tumours after the haemorrhage has been stopped; its seems probable that many tumours which seem to have been successfully treated by *x* rays will cause serious trouble in the future. (3) The risks of operations undertaken for degenerative or other changes after the climacteric are much greater than in operations for fibroids which are still active. In favour of operative or contrasted with *x*-ray treatment it is noted: (i) The mortality of the

operation in cases which are suitable for *x*-ray treatment (uncomplicated fibroids) is now very small; the mortality of *x*-ray treatment cannot be estimated for many years yet. (ii) The cases in which operation was most dangerous (profound anaemia) are now undertaken with little risk if the most rigid asepsis is observed. (iii) The patient after operation is once and for all relieved of all anxiety concerning the tumour.

SECTION OF OPHTHALMOLOGY.

Additional papers:

EDRIDGE-GREEN, F. W. An Analysis of the Results of the New Sight Tests of the Board of Trade.
GRIFFITH, A. Hill. Cases of Late Infection after Elliot's Operation.
HARMAN, N. Bishop. On the Necessity for a Definite Scheme of Co-operation for the Blind Schools of the Country.
MARSHALL, Devereux. Demonstration of a Simplified Edridge-Green Lantern (for Dr. Harrison Butler).
RAMSAY, Maitland. Epidiascopic Display of Colour Photographs.
WILSON, J. A. The Factor of Heredity in Short Sight.

SECTION OF SURGERY.

Additional paper:

FULLERTON, Andrew. Treatment of Two Cases of Intravesical Growth by the High-frequency Current.

RECEPTION ROOM.

THE reception room will be open during the Annual Meeting in the Advocates' Hall, Broad Street, Aberdeen, and members are advised to call there as soon as possible after their arrival in Aberdeen. They will there find full information at their disposal and will be able to obtain a copy of the *Daily Journal*.

ACCOMMODATION IN ABERDEEN.

A LIST of hotels and lodgings available in Aberdeen during the Annual Meeting is published in the advertisement pages (6 and 7) of this issue. Members desiring further information on this subject are asked to communicate with Dr. F. Philip, Honorary Secretary of the Hotels and Lodgings Committee, 29, King Street, Aberdeen.

At a recent meeting of the General Committee, consisting of influential citizens, the intention to give a hearty welcome to members of the Association was made evident, and a very large amount of private hospitality is likely to be offered. The Local Executive Committee hopes that members will not be led by the answers they may get from some of the hotels to suppose that the accommodation available in Aberdeen is filled up; any member who has difficulty in finding accommodation should not hesitate to communicate either with Dr. F. Philip, as above, or with Dr. Thomas Fraser, the other honorary local secretary, at the same address.

ARRANGEMENTS FOR LADIES.

A COMMITTEE of ladies has been formed to look after the comfort and interests of ladies accompanying members to Aberdeen. The Aberdeen Medico-Chirurgical Society has granted the use of its rooms at 29, King Street, as reception rooms for ladies from July 24th to 31st. There will be provided a rest-room, a writing-room, a tea-room, and a dressing-room. There will also be an office in the building where information regarding ladies' entertainments and motor drives will be given and tickets supplied. A member of the Ladies' Committee has given the use of her flat at 245, Union Street, where ladies living out of the town may dress for the evening entertainments. It is hoped that a corps of lady guides will be available for the assistance of visitors. For further particulars see SUPPLEMENT, July 4th, p. 11.

RELIGIOUS SERVICES.

THE annual service for the Association will be held in the West Parish Church of St. Nicholas (Church of Scotland) at 9 a.m. on Wednesday, July 29th. At the same hour a Roman Catholic service will be held in St. Mary's Cathedral (celebrant, the Bishop of Aberdeen; preacher, the Right Rev. Monsignor Meany), and a service of the Episcopal Church in Scotland in the Cathedral Church of St. Andrew's. Collections at these services will be made on behalf of the Royal Medical Benevolent Fund.

THE JOURNEY TO ABERDEEN.

Special Vouchers.—Railway facilities similar to those offered in previous years will be available this year—that is to say, return tickets, valid from July 22nd to August 3rd, will be issued at a single fare and a third on the presentation of a voucher, which will be supplied, to members who intend to go to Aberdeen, by the Financial Secretary and Business Manager, British Medical Association, 429, Strand, London, W.C., on receipt of the notification form. A separate voucher is required for each passenger.

Tourist Tickets.—The attention of those who intend to travel to Inverness or other places north of Aberdeen is drawn to the tourist ticket arrangements. The advantage of a tourist ticket is that it is available for six months, and the holder has the privilege of breaking the journey at many places *en route*. The tourist ticket from London to Inverness costs £3 3s., third class. In many instances a member travelling from England may find it more advantageous to take a tourist ticket than to make use of the special voucher.

London to Aberdeen by Sea.—Members travelling from the south may like to be reminded that they can make the journey from London by sea. The boats of the Aberdeen Steam Navigation Company, which are lighted by electricity and in every way well appointed, sail from Aberdeen Wharf, Limehouse, E., every Wednesday and Saturday (see advertisement, page 60). The return fares, available for six months, are—first cabin 45s., second cabin 25s.; private cabins can be obtained for an extra fee. A boat will leave on Wednesday, July 22nd, at 11 a.m., and on Saturday, July 25th, at 1 p.m. Further particulars can be obtained on application to the company at Aberdeen Wharf, Limehouse, or the City Passenger Agency, 25, Cannon Street, E.C.

RAILWAY FACILITIES FOR MEMBERS STAYING IN THE NEIGHBOURHOOD OF ABERDEEN.

DURING the meeting reduced fares, with a minimum of 1s., will be granted to places within a radius of fifty miles from Aberdeen. Members who propose travelling to and from Aberdeen daily should use the first half of the ticket on the first journey and the return half on the last journey; the reduced fares for the intermediate journeys will be granted on production, at the time of booking, of the card of membership.

Weekly Season Tickets.

Members staying at Banchory or Cruden Bay can obtain season tickets enabling them to travel to and from Aberdeen daily during the week of the Annual Meeting at the following rates: Cruden Bay, 10s.; Banchory, 8s. 8d. The season tickets will be issued from intermediate stations at proportional rates.

On the Caledonian Railway to Stonehaven and intermediate stations, during the meeting, return tickets will be issued at Aberdeen to places where members wish to reside. These tickets will be available for the day of issue or following day, or from Saturday to Monday, at a single fare and a third for the double journey, minimum 1s. Season tickets are also available for more than one journey, at a charge of not less than the accumulated fares per day as above, the minimum being 1s. a day.

ANNUAL EXHIBITION.

THE annual exhibition of surgical instruments, drugs, foods, etc., held during the annual meetings of the British Medical Association, will be arranged this year in the Marischal College, where also the Sections will meet, where the General and Representative Meetings of the Association will take place, and where the Addresses in Medicine and Surgery will be delivered. The exhibition on this occasion will, therefore, occupy a central and convenient position, and members will have an excellent opportunity of inspecting the exhibits.

GARDEN PARTIES.

IN addition to the garden party to be given by the Provost and Town Council of Aberdeen in Duthie Park on the afternoon of Wednesday, July 29th, garden parties will be given at the Deeside Hydropathic, which has a nine-hole approaching and putting course, and

tennis, croquet and bowls; at Inchmarlo House, on the north bank of the Dee about two miles beyond Banchory, which has first-class provision for tennis; at Parkhill House on the Don, surrounded by fine woods and within easy reach of three small lochs; at Banchory House, on a beautiful sweep of the river Dee about a mile beyond the historic bridge of Dee; and at Nordrach-on-Dee, which has extensive and beautiful grounds.

GOLFING ARRANGEMENTS.

THE competition for the Ulster Cup will be played over the Royal Aberdeen Golf Links, Balgownie, Bridge of Don, on Thursday, July 30th, beginning at 9 a.m. Intending competitors are requested to send their names and addresses along with their club handicap to Dr. H. de M. Alexander, 29, King Street, Aberdeen. The time for starting will be as nearly as possible that selected by the competitor, but late applicants may have to play at any unappropriated time, as the time-sheet must be rigidly adhered to. Other facilities offered by this and other clubs were mentioned in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of July 4th.

EXCURSIONS.

Alterations.

OWING to the difficulty in the guaranteeing of numbers, catering and transport arrangements, certain alterations in the excursions announced in the SUPPLEMENT of July 4th will be made.

The excursions to Grantown and Speyside on Wednesday, July 29th, and Saturday, August 1st, have been cancelled. The ordinary excursion for the public on those days leaves Aberdeen at 1 p.m. and arrives back at Aberdeen at 10.15 p.m. The fare is 2s. 6d., and luncheon can be obtained on the train at 2s. a head for a number limited to 72. Tickets can be obtained at the railway station. Certain alterations are being made in connexion with the excursion to Ballater, Balmoral, and Braemar, of which details will be announced in the *Daily Journal* and in the Reception Room.

The Great North of Scotland Railway will endorse at the Reception Room any tourists' tickets to Inverness, Strathpeffer, Nairn, etc., so that the same may be used for the return journey via Dunkeld.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BORDER COUNTIES BRANCH:
DUMFRIES AND GALLOWAY DIVISION.

A MEETING of the Dumfries and Galloway Division was held at the Dumfries Royal Infirmary on June 10th, when fifteen members were present.

Library of Division.—It was decided to accept the gift of books by Dr. Robertson (late of Penpont), and to purchase a bookcase for the same with a view to forming a nucleus of a library for the Division to be located in the Dumfries Infirmary.

Supplementary Report of Council.—The recommendations of the Council were considered and the Representative instructed as to his voting at the Representative Meeting.

Insurance Act.—The meeting agreed to the answers to be given to the schedule of questions regarding future developments of the Insurance Act.

Clinical Cases.—After the meeting Dr. LIVINGSTON submitted several interesting cases, showing excellent results after operation.

CONNAUGHT BRANCH.

THE annual general meeting of the Connaught Branch was held on June 19th at the Railway Hotel, Galway, when Dr. M. MCDONAGH was in the chair.

Election of Officers.—The following officers were unanimously appointed:

President: Dr. E. C. MacDowel (Sligo).
President-elect: Dr. Conor Maguire.
Honorary Secretary: Dr. John Mills (Ballinasloe).
Representative to Representative Meeting: Dr. T. B. Costello (Tuam).
Deputy Representative: Dr. D. J. Crowley (Loughrea). Failing the attendance of the Representative or Deputy Representative the Honorary Secretary was given power to arrange for a Representative.
Representative of the Branch on the Irish Committee, B.M.A.: Dr. R. B. Mahon.
Executive Committee: Drs. C. L. Birmingham, J. Carroll, D. J. Crowley, Joseph MacDonnell (Roscommon), M. J. McDonagh, J. A. Hanrahan, T. B. Costello, C. H. Foley, John Mills (Honorary Secretary).

Irish Medical Secretary.—Dr. HENNESSY, Medical Secretary for Ireland, addressed the meeting and detailed the events of the recent interview with Mr. Masterman which the Irish Medical Committee had obtained through the good offices of Dr. Cox, Medical Secretary, British Medical Association, and Dr. C. Addison, M.P. A general discussion followed, and on the motion of Dr. FOLEY, seconded by Dr. MILLS, it was unanimously resolved:

> That the Connaught Branch views with the greatest satisfaction the appointment of a permanent secretary for Ireland, and congratulates the Association on the selection of Dr. Hennessy, who has the complete confidence of the profession in Ireland.

Annual Report of Council.—The report of the Council, dated May 2nd, was considered, and it was unanimously agreed to allow the Representative to vote at Representative Meetings as he thought fit, subject to resolutions passed by the Branch.

Ethical Rules.—Various letters from the Medical Secretary were read. It was agreed unanimously to approve of the new Ethical Rules for each Division of the Branch.

Resignations.—Notices of resignation were read from twenty-one members of the Branch and accepted with regret.

Next Annual Meeting.—It was agreed tentatively that the next annual meeting should be held in Sligo or Claremorris.

New Members.—Drs. P. D. Daly and B. J. Mullin have been elected members.

KENT BRANCH:
ROCHESTER, CHATHAM, GILLINGHAM, AND DARTFORD DIVISIONS.

A COMBINED meeting of these Divisions was held at St. Bartholomew's Hospital, Rochester, on June 25th, when the chair was occupied by Dr. SALISBURY.

Assistant Medical Secretary.—The HONORARY SECRETARY announced that he had been elected by the Council to the post of Assistant Medical Secretary at the head office of the British Medical Association, whereupon the following motion, proposed by Dr. W. G. NIALL, and seconded by Dr. BURNER, was carried unanimously and ordered to be entered on the minutes:

> That this Division of the British Medical Association to which Dr. Courtenay Lord has for several years given such valuable services as honorary secretary heartily congratulates him on his election to the post of Assistant Medical Secretary to the British Medical Association, and expresses its confidence that his services in his new position will be of the greatest advantage to the Association and to the profession generally.

Election of Representative.—The Honorary Secretary was elected Representative for the Aberdeen meeting, and Dr. Chisholm Will, of Sidcup, was elected Deputy, and will attend the meeting.

Trade Unionism.—A discussion took place on the relative merits of trade union and trust for purposes of protection of funds, and the following resolution was passed:

> That in the interests of the Association it is desirable that the Council should obtain the opinion of the members of the Association as to whether the special fund should be protected by a trust or a trade union by means of the referendum.

School Medical Service.—The Representative was instructed to support the resolutions put down by the School Medical Officers' Association, and on other matters was given a free hand.

Expenses of Representatives.—It was decided to continue the special levy of 5s., out of which a grant is to be made for the Representatives' expenses. This levy is now due and may be sent to Dr. Barnes, New Road, Chatham.

LANCASHIRE AND CHESHIRE BRANCH:

St. Helens Division.

The annual meeting of the St. Helens Division was held on July 7th.

Election of Officers.—The following officers were duly elected:

Chairman: Dr. Joseph Unsworth.
Vice-Chairman: Dr. Robert Jackson.
Honorary Secretary and Treasurer: Dr. F. J. Knowles, Victoria Square, St. Helens (re-elected).
Representative for Representative Meeting and Representative on Branch Council: Dr. F. Pickering Bassett.
Executive Committee: Dr. C. H. Wilde (Prescot), Dr. W. Valentine (Earlestown), Dr. J. Masson (St. Helens), Dr. S. B. Siddall (St. Helens).

Insurance Acts.—Various matters affecting the profession, particularly with reference to National Insurance, were discussed.

METROPOLITAN COUNTIES BRANCH:

City Division.

Special Meeting.

A special general meeting of the Division was held in Balfour Hall, Kingsland Road, on July 7th, when Dr. C. F. Hadfield, Chairman of the Division, presided.

Model Organization Rules.—The meeting adopted the Model Organization Rules for Divisions, with certain alterations and additions, which have been forwarded for the consideration of the Council.

General Meeting.

An ordinary general meeting of the Division was held after the special meeting.

Supplementary Report of Council.—The supplementary report of Council was considered. Instructions on the various recommendations were given to the Representatives, and the following resolution, proposed by Dr. Major Greenwood, and seconded by Dr. Leslie Durno, was unanimously adopted, and directed to be forwarded as a notice of motion for the Supplementary Agenda of the Representative Meeting:

> That the Council be instructed to formulate a new by-law prohibiting any member of the Council becoming a candidate for a salaried appointment under the same unless he shall have ceased to be a member of the Council at least six months before an advertisement for such appointment shall have been issued.

Executive Committee.—Dr. Howard Stratford, F.R.C.S. Eng., was elected a member of the Executive Committee.

North Middlesex Division.

An ordinary meeting of the North Middlesex Division was held on July 9th, when Dr. Reginald Fuller was in the chair.

Appointments.—Dr. Marjoribanks was appointed to the Medical Charities Committee of the Branch and Drs. Brackenbury and Distin to the Insurance Committee.

Supplementary Report of Council.—The meeting resolved that adequate representation must be obtained if the proposed federation of Local Medical and Panel Committees was to be a success, and the Representative was instructed to urge this at the Annual Representative Meeting, so that London and Middlesex, the largest and third largest insurance areas, be represented.

Referee-Consultants and Specialists.

It was resolved that referee-consultants should be men of at least ten years' standing in general practice, and that they be whole-time officers with a salary of at least £750 per annum. With regard to specialists it was decided that those appointed should practise a recognized speciality, and need not be whole-time officers.

Division Model Rules of Organization.—The Division decided not to adopt the model rules of organization.

SOUTHERN BRANCH.

The annual meeting of the Branch was held at the South-Western Hotel, Southampton, on July 9th. In the unavoidable absence of the President, Dr. Cowper (Shanklin), the chair was taken by Dr. Carling (Southsea), Vice-President, and forty other members were present.

Election of Officers.—The scrutineers' report on the voting for the election of officers for 1914–1915 was read; 118 members had voted, unanimously accepting the nominations of the Branch Council, namely:

President-elect: Dr. C. G. B. Kempe (Salisbury).
Vice-Presidents: Dr. J. Cowper (Shanklin) and Dr. P. B. Bentlif (Jersey).
Honorary Secretary and Treasurer: Dr. James Green (Portsmouth).

Annual Report.—The annual report and balance sheet were submitted and unanimously adopted.

Expenses of Secretaries of Divisions.—On the motion of Dr. Ward Cousins, seconded by Dr. Hackman, it was resolved:

> That the first-class travelling expenses of secretaries of Divisions attending meetings of the Branch Council be in future paid by the Branch.

Rules of Organization.—The rules of organization, dated July 3rd, 1903, were repealed and new (draft) rules adopted, subject to any verbal alterations which the Council of the Association might require, and which the Branch Council was authorized to agree to.

Presidential Address.—Dr. Carling then vacated the chair in favour of Mr. G. H. Cowen, the President for the year, who moved a vote of thanks to Dr. Cowper for his services to the Branch as President for 1913–1914. This was seconded by Dr. Ward Cousins, and carried by acclamation. He then delivered an address on "Fashion in Medicine."

Vote of Thanks.—A vote of thanks, moved by Dr. Ward Cousins, and seconded by Mr. Franklin, was carried with enthusiasm.

Luncheon.—The members were entertained to luncheon by the President. A collection for Epsom College was made, and realized £7 2s. 6d. The health of the President, proposed in felicitous terms by Dr. Purvis, was cordially received, and the President very briefly responded.

Entertainments.—After luncheon the guests dispersed, some to the competition for the Childe Golf Cup, which resulted in a tie between Dr. Atkinson Dove and Dr. Leslie Wright; others went over the ss. *Edinburgh Castle* (Union Castle line); others inspected the cold storage, and yet others the White Star laundry. At 4 o'clock many members, with lady friends, returned to the hotel to afternoon tea, and so ended a very pleasant meeting.

SOUTH MIDLAND BRANCH.

The annual meeting of the South Midland Branch was held on June 25th at Berry Wood Asylum, Northampton, under the presidency of Dr. Harding. In accordance with the President's wishes, the meeting partook largely of the character of a social function. Previous to the meeting, the members were most hospitably entertained to luncheon, and it is a matter of great regret that only thirty members availed themselves of the President's kindness.

New Members.—The election of the following new members by Branch Council was announced: Dr. Muriset (County Hall, Northampton), Dr. Scargill (Luton, Bedfordshire), Dr. Spence (Bedford Hospital).

Transfer of District.—The meeting gave its assent to the transfer of Rugby and district to the Warwick and Leamington Division.

Benevolent Fund Committee.—Mr. Olgers submitted a report of the proceedings of the Benevolent Fund Committee, and suggested that a charity bag should be passed round the meetings to defray the expenses of the committee. After some discussion, it was decided that the expenses up to date should be defrayed from old Branch funds, and that in future a levy of 6d. per annum should be made on all members of the Branch to defray expenses and to use any surplus in the form of a subscription to Epsom College and the Royal Medical Benevolent Fund.

Model Organization Rules.—The following change was made in the Branch model rules:

> Rule 6. The number of members of Branch Council annually elected by the Divisions shall be respectively: Northamptonshire 4, Bedfordshire 3, Buckinghamshire 3.

Votes of Thanks.—On the motion of Mr. Percival, seconded by Dr. Kennish, a cordial vote of thanks was accorded to the retiring President (Dr. Hartley).

Presidential Address.—Dr. Harding then delivered his presidential address on the Mental Deficiency Act. He alluded, first, to the conditions which led to the intro-

duction of the bill, and expressed the opinion that had full advantage been taken of the powers available under the Lunacy Acts, while legislation would still have been called for, yet some of the evils which necessitated it might have been minimized. He referred to the difficulties which would be met with in certifying mental defectives. He then gave a sketch of the duties of local authorities under the Act. He advocated the separation of ineducable cases from those who had possibilities for training, and pointed out that, in order to have institutions of such size that they might be managed economically, it would be desirable and almost necessary for some local authorities to combine. The President was heartily thanked for his address, on the proposition of Dr. HICHENS, seconded by Dr. BIRKS.

Tea.—The members, together with many ladies, were then entertained to tea by Mrs. Harding, after which there was tennis and croquet for those who wished to play.

SURREY BRANCH.

THE first annual meeting of the Surrey Branch was held, by the invitation of the Reigate Division, at Reigate on June 17th, and, by the kind permission of the Mayor, took place in the council chamber of the municipal buildings.

Luncheon.—Previous to the meeting, members to the number of nearly forty were entertained to lunch at the White Hart Hotel by the Reigate Division.

Election of Officers.—The following officers for the ensuing year were appointed:

President: Dr. Alexander Radclyffe Walters (Reigate).
Vice-Presidents: Dr. Arthur Martin Mitchell (Guildford), Dr. James Hewetson (Reigate).
Honorary Secretary and Treasurer: Mr. Cecil P. Lankester (Guildford).
Honorary Auditors: Dr. A. M. Mitchell, Dr. F. Kearsley Weaver.

Annual Report.—The report for the past year was read and adopted.

Presidential Address.—The PRESIDENT delivered an interesting address, in the course of which he dealt especially with the changed conditions under which the profession had now to carry on its work.

Excursion.—Following the meeting, there was an excursion to Gatton Hall, the residence of Sir J. Colman, Bart., whose splendid show of orchids and flowers was much appreciated.

Dinner.—A successful dinner took place at the White Hart at 6.30.

SUSSEX BRANCH:

LEWES AND EAST GRINSTEAD DIVISION.

THE annual meeting of the Lewes and East Grinstead Division of the Sussex Branch was held at the County Hall, Lewes, on July 10th, when Dr. GOSTLING was appointed Chairman *pro tem.*

Model Rules of Organization.—The model rules were adopted.

Ethical Rules.—The ethical rules in the form recommended by the Annual Representative Meeting, 1912, were adopted.

Election of Officers.—The following officers were elected:

Chairman: Dr. Dow (Lewes).
Vice-Chairman: Dr. Steinhaeuser (Lewes).
Honorary Secretary: Dr. Vallance (Lewes).
Representative: Dr. Collins (East Grinstead).
Executive Committee: Drs. Fazan (Wadhurst), Loud (Lewes), Orton (Chailey), Preston (Hayward's Heath).

Scientific Meetings.—The question of undertaking work of clinical and scientific interest was considered, but no definite decision was arrived at.

Votes of Thanks.—It was resolved that the best thanks of the Division be given to Drs. Gostling and Allfrey for attending and assisting at the first meeting of this Division.

SHIP SURGEONS SUBCOMMITTEE.

THE following practitioners have consented to act as "Correspondents" of the Ship Surgeons Subcommittee, and are prepared to discuss with any ship surgeon in their area any matter of interest either to that surgeon or to ship surgeons in general, and to forward representations to the Subcommittee in regard to any question in connexion with which central action seems desirable:

Correspondent.	*Port.*
Dr. J. Godding, 56, Leadenhall Street, London, E.C.	London.
Dr. A. G. Hinks, 40, St. Vincent Row, Southend-on Sea	London.
Dr. H. T. Bates, Church Road, Wavertree, Liverpool	Liverpool.
Dr. C. Carlyle, 13, Menlove Avenue, Mossley Hill, Liverpool	Liverpool.
Dr. C. J. Cooke, 1, Sussex Terrace, Plymouth	Plymouth.
Dr. J. C. H. Beaumont, Chinsura, Khartoum Hill Road, Southampton	Southampton.
Dr. O. V. Currie, Union Castle Buildings, 58, Adderley Street, Capetown	Capetown.

Ship surgeons visiting these ports and desiring to discuss matters of interest to the service are invited to place themselves in communication with the correspondent for the port.

The Medical Secretary, 429, Strand, London, W.C., will be glad to hear from practitioners in passenger ports not mentioned above who are willing to act as correspondents to the Subcommittee.

Ship surgeons are also asked to forward for the guidance of the Subcommittee, either to one of the above correspondents or to the Medical Secretary, British Medical Association, 429, Strand, London, W.C., their views upon the following questions:

(1) Whether ship surgeons should receive full sea pay while in port *plus* a subsistence allowance at the same rate granted to the chief officer, with a possible liability to have to report every day at the office of the company, or whether they would prefer to receive full sea pay only in port without such liability; subsistence pay, however, to be paid upon those days in port when any duty connected with the ship is performed.

(2) Their views generally on the question of annual leave being granted with full pay to permanent ship surgeons.

Association Notices.

Special Representative Meeting, Aberdeen.

ON the requisition of the Council, notice is hereby given under Article 31 and By-laws 36 and 73, that a Special Representative Meeting of the Association will be held on Monday, July 27th, 1914, at 12 noon, at the Marischal College, Aberdeen, for the purpose of considering the following Report and Recommendation of Council (paragraphs 211 and 212 of Supplementary Report of Council, 1913–14), and, if considered advisable, amending By-law 67 accordingly:

SCOTTISH COMMITTEE.

211. The work of the Scottish Committee is growing, and it is found increasingly difficult for the Chairman to be able to attend all the Committee meetings in Scotland and Council and Committees in London as well. The Committee consequently desires to be able to elect a Deputy Chairman as well as Chairman. By-law 67 provides that each Standing Committee shall appoint from its own number a member of Council as Chairman, in order that the Council may be able to keep in touch with each Committee. The Scottish Committee wishes to be an exception to this By-law and to be able to have a Chairman not necessarily a member of Council, but that effective co-ordination shall be maintained by insisting that one of its three officers—Chairman, Deputy Chairman, or Honorary Secretary—shall be on the Council. As the Scottish members desire the change as early as possible, the Council has arranged that a special session of the Representative Body shall be held at Aberdeen on Monday, July 27th, 1914, at 12 noon, for the purpose (only one month's notice of such an alteration of By-laws being required in the case of a Special Representative Meeting).

212. The Council recommends:

RECOMMENDATION GG.—That the Special Representative Meeting, Aberdeen, amend existing By-law 67 of the Association, which reads as follows:

67. Each Standing Committee shall appoint from its own number a Member of Council as Chairman,

to read as follows:

67. Each Standing Committee except the Scottish Committee shall appoint from its own number a

Member of Council as Chairman. The Scottish Committee shall appoint from its own number a Deputy Chairman, as well as a Chairman, and either the Chairman or the Deputy Chairman or the Honorary Secretary of that Committee shall be appointed from amongst members of Council.

T. JENNER VERRALL,
Chairman of Representative Meetings.

June 24th, 1914.

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for Candidates for election of Members of Council by grouped Representatives for the year 1914–15 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting on Friday, July 24th, 1914. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

Separate forms have been prepared: (I) For Nomination by a Division (through its Representative), and (II) for Nomination by a Representative of a Constituency included in the Group, and those applying are requested to state for which purpose the form is desired.

The voting papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a Constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,
ALFRED COX,
Medical Secretary.

June 24th, 1914.

CHANGES OF BOUNDARIES.

DIVISIONS IN CHESHIRE.

THE following changes have been made in accordance with the Articles and By-laws of the Association, and take effect as from the date of publication of this notice:

That the following Divisions be substituted for the existing scheme of Divisions in Cheshire:

1. *Birkenhead Division:*—Birkenhead and Wallasey C.B.s, Higher Bebington, Lower Bebington, Bromborough, Neston and Parkgate, Ellesmere Port and Whitby, and Hoylake and West Kirby U.D.s, and Wirral R.D.

2. *Chester Division:*—Chester C.B., Hoole, Runcorn and Tarporley U.D.s, and Chester, Tarvin and Runcorn R.D.s (with the exception in the case of Runcorn R.D., of Appleton, Grappenhall, Hatton, Keckwick, Moore, Stockton Heath, Stretton, Thelwall, Higher Whitley, Lower Whitley, Walton Superior, and Walton Inferior C.P.s and Antrobus, Crowley, Daresbury, Latchford Without, and Sevenoaks townships, all of which are assigned to the Warrington Division, and Great Budworth C.P., which is assigned to the Mid-Cheshire Division).

3. *Crewe Division:*—Crewe M.B., Nantwich, Alsager, Buglawton, and Sandbach U.D.s and Nantwich, Malpas and Congleton R.D.s.

4. *Hyde Division:*—Dukinfield, Hyde, and Stalybridge M.B.s, Bredbury and Romiley, Compstall, Hollingworth, Marple, and Mottram-in-Longdendale U.D.s, and Tintwistle R.D.

5. *Mid-Cheshire Division:* — Ashton-on-Mersey, Sale, Altrincham, Bowden, Hale, Knutsford, Lymm, Wilmslow, Northwich, Middlewich and Winsford U.D.s, Bucklow and Northwich R.D.s, and Great Budworth C.P. in Runcorn R.D.

6. *Stockport, Macclesfield and East Cheshire Division:*—Stockport C.B., Macclesfield and Congleton M.B.s, Alderley Edge, Bollington, Yeardsley-cum-Whaley, Cheadle and Gatley, Handforth, and Hazel Grove and Bramhall U.D.s, and Macclesfield and Disley R.D.s.

Representation in Representative Body.—As regards the year 1914–5 the Cheshire members are represented on the basis of the Divisions as existing at April 30th, 1914. The question of the representation of the new and altered Divisions in the Representative Body, 1915–16, will be determined in due course by the Council.

BRANCH AND DIVISION MEETINGS TO BE HELD.

MIDLAND BRANCH: HOLLAND DIVISION.—Dr. R. Tuxford, Honorary Secretary, 12, Wide Bargate, Boston, gives notice that a meeting of the Holland and Kesteven Divisions will be held at the Carre Arms Hotel, Sleaford, on Sunday, July 19th, at 3 p.m. Business: To instruct the joint Representative to annual meeting.

PRESENTATION TO DR. WALLACE HENRY.

IN recognition of the services rendered by Dr. Wallace Henry to the medical profession in connexion with the administration of the Insurance Act, a presentation was made to him and Mrs. Henry on July 8th at a reception attended by some 160 members of the profession in the town of Leicester and the county districts.

Dr. HIGGS, who spoke on behalf of the borough practitioners, said that a great debt of gratitude was due to the executive of the British Medical Association for the manner in which it brought together the members of the profession and for the splendid fight it made on their behalf, and they were grateful to Dr. Henry as their representative on that executive. Further, Dr. Henry had shown remarkable energy and untiring zeal in connexion with the inauguration of the Leicestershire and Rutland Public Medical Service, and his work in connexion with the formation of the union of medical practitioners had been conspicuously successful. The fact that 98 per cent. of the practitioners in the district now belonged to the union spoke volumes for the organizing ability, tact, and zeal displayed by Dr. Henry, who was the leading spirit in the enterprise. There had been need for organization and unity at the outset of the campaign, but there would still be greater need for cohesion when the fight was renewed, as it would be next year. The medical profession was credited with much of the failure the Act had encountered; doctors were accused of carelessness in giving certificates of incapacity, whereas the difficulties of the societies were particularly due to actuarial miscalculations based upon false premisses. If the old friendly societies had exercised as little care in the admission of members as the approved societies, there would have been no surplus millions. Accusations were also made with regard to extravagant prescribing instead of costly dispensing. It behoved the members of the profession to stick together and to cling to those principles of trade unionism which they had so reluctantly been forced to adopt. Sanatorium benefit had not worked as successfully as had been anticipated, and he understood that it was proposed that the 6d. for the domiciliary treatment of tuberculous persons should be stopped and paid to a fund to be used for the employment of whole-time medical officers. That proposition would have to be fought tooth and nail, because consumptives, like others, had a right to free choice of doctor.

Dr. BURKITT, of Whitwick, who spoke on behalf of the county practitioners, said that Dr. Henry had not spared time or trouble, and as a result the profession was united in the counties of Leicester and Rutland. The Public Medical Service, which had been of inestimable value in the borough, was now spreading its benefits throughout the county districts. He believed that an effort would be made to introduce a whole-time State medical service, and it was to prevent such a scheme that Dr. Henry had laboured, and so far as Leicestershire was concerned, certainly not in vain.

Dr. FULTON, of Nottingham, speaking as a member of the Council of the British Medical Association, praised Dr. Henry's work for the profession.

Dr. HENRY, in reply, said that Leicestershire, by inaugurating the Public Medical Service and the Medical Practitioners' Union, had set an example to the rest of the country. Next year the special grant in aid given to provide the extra 2s. 6d. would expire, and its renewal would have to be considered. The profession must be prepared for that emergency, and also to deal with proposals for the inclusion of dependants and to meet efforts by the friendly societies to regain control over medical benefit.

The presentation consisted of a silver tea and coffee service with kettle and tray, the inscription on the latter being: "Presented to Dr. R. Wallace Henry, originator, founder, and first President of the Union of Medical Practitioners and of the Leicestershire and Rutland Public Medical Service. A mark of love and esteem from his colleagues."

THE POSITION OF THE DRUG FUND.

PHARMACEUTICAL DEPUTATION TO MR. MASTERMAN.

MR. MASTERMAN, on July 15th, received a deputation from the Pharmaceutical Society of Great Britain. It was introduced by Mr. W. S. Glyn Jones, M.P., Parliamentary Secretary to the Pharmaceutical Society of Great Britain, and consisted of Mr. Edmund White, president of the society; Mr. Sargeant (Leeds), a member of the Leeds Insurance Committee; Mr. P. F. Rowsell, J.P. (Exeter), a member of the Advisory Committee; Mr. Roper (Plymouth), a member of the Plymouth Insurance Committee; Mr. E. S. Waring (Messrs. Boots, Ltd.); Mr. Joseph (Cardiff); Mr. Deakin (Cheshire), a member of the Cheshire Insurance Committee; Mr. J. P. Gilmour (Glasgow), a member of the Joint Advisory Committee and of the Glasgow Insurance Committee; Mr. J. R. Hill, Resident Secretary of the Pharmaceutical Society in Scotland; and Mr. W. J. Uglow Woolcock, Secretary and Registrar of the Pharmaceutical Society.

Mr. GLYN JONES said that he wished to make it plain that the chemists who undertook work under the Insurance Act had always recognized the difficulties which must arise in the first period of the Act's working, but that their position had now reached a critical stage.

Mr. WHITE, the president of the society, said that he gratefully recognized the change which the Act had made in the position of the chemists, in that it had removed the greater part of the dispensing done for the working-class population from the hands of the doctors and entrusted it to the chemists. At the outset they decided that it was impossible to arrange payment on a capitation basis, and the present method of payment by tariff was arrived at after consultation between the society and the Commissioners. The society were of the opinion that the amount allocated for the supply of the drugs and appliances supplied from the tariff would, with proper safeguards, be sufficient. They thought that the experience of the past year had shown that the sickness-rate amongst insured women had a great effect in increasing the amount of drugs and appliances above what was estimated would be required. They also considered that a large amount of drugs for persons who were tuberculous but were not in receipt of sanatorium benefit were charged to the drug fund, but they were still of opinion that for the amount allocated insured persons generally could be supplied with all the drugs and appliances necessary, and the experience throughout the country justified this view. The agreement signed by the pharmacist contained a clause that if the 2s. did not provide a sufficient fund to pay the chemists' accounts in full a discount should be made. This undertaking was entered into because of the belief that the provision would in practice be unnecessary. The deputation did not wish to submit the results in detail, as the Commissioners already had this information. Broadly speaking, the fund had been sufficient in 150 areas in Great Britain out of 196. In the areas in which a deficiency had arisen the amount varied in percentage from 5 per cent. to 30 per cent. Unless something was done to enable the chemists in the latter areas to have their accounts, when they had been submitted to check and scrutiny, paid promptly and in full, a serious situation would arise. The net remuneration received by the chemists on the panel when their accounts were paid in full was so small that no margin was left for such discounting. Whatever other views might be held on the position, it was manifestly unjust that pharmacists who had no voice in what might be ordered were to supply at their own cost anything which medical men might choose to order. The deputation urged that when the Commissioners were satisfied that the accounts were correct and that all the provisions of the Regulations had been complied with as far as the Pharmaceutical Committee were concerned, the deficiency which had resulted should be made good. The deputation freely recognized that the position which had arisen could not be allowed to continue; they asked that steps should be taken in the interest of the service to prevent its recurrence.

Mr. ROPER, Mr. SARGEANT, and Mr. JOSEPH spoke in support of these views, and gave details of the experience of chemists in their own areas; and, in reply to Mr. MASTERMAN, Mr. WOOLCOCK made certain concrete suggestions for dealing with the difficulties which the deputation raised.

Reply.

Mr. MASTERMAN said: I have been very glad, with my colleagues, to receive you here this afternoon, and I should like to thank you for the tone and temper in which you submitted your propositions. I thoroughly endorse Mr. Glyn Jones's statement at the beginning of the deputation as to the very friendly way in which negotiations have been carried on from the beginning between your society and the Insurance Commission, and I am quite sure that in any changes or suggestions we may be able to elaborate you will find you lose nothing by having conducted the negotiations in such a spirit of goodwill.

Mr. White gave us an outline of the conditions which have led up to the present state of affairs. I must make it clear from the beginning what those conditions are, not so much for you as for the benefit of the other people outside who do not fully realize what they are. After long discussion it was originally agreed that the service of the provision of drugs should be undertaken experimentally on a system of what I may call a tariff and a discount; a tariff elaborated by you yourselves which, I think, has been adopted in every English and Welsh area—I believe there is some variation in Scotland—and which, in consequence of the discounting provisions, has not been examined by us, or I think examined in detail by the Insurance Committees. You agreed to try the experiment of working this tariff, on the distinct condition that supposing the money available in any area was less than the amount required at the tariff rates, the bills should be discounted in order to come within that amount. It is quite untrue for any one to say, therefore, that either the Commission, the Insurance Committee, the Government, or the insurance fund owes any individual chemist anything at all. There may be a very strong appeal for a variation in terms, but that must be of the nature of an appeal for adjustment owing to conditions having turned out differently from what was expected, and not an appeal or a demand which could be justified in a court of law, or which, indeed, represents any moral obligation at all on the part of the Government.

Then those conditions were subject to a special provision. It is a provision which has been mentioned this afternoon, and it is a provision to which we attach considerable importance. Clause 40 of the Regulations does definitely lay an obligation upon the Insurance Committee to proceed, upon a report of the Panel Committee prepared in response to action initiated by the Pharmaceutical Committee, to make surcharges where an excessive demand upon the drug fund has arisen owing to orders given which are extravagant either in character or in quantity.

You have given me some figures, Mr. White, about the effect of the experience of the year. I think you will agree that one of the most remarkable facts about these figures—one of the facts that requires careful investigation—is the enormous fluctuations and variations that such figures exhibit. You have the cost of drugs per insured person in the counties varying from as low as 1s. per head to 2s. per head—a variation of 100 per cent. You have variations in the county boroughs ranging from 1s. 6d. and 1s. 8d. in some of the smaller towns up to a little over 2s. in London, and the amazing figure of 3s. 2¼d. in Manchester, which I cannot help identifying not so much with excessive sickness as with the special system which the doctors have there adopted. Any one may say this may be due to variations in the conditions of life, or to the sickness incidence. But the next thing we find is enormous variations in boroughs which really are very similar in character and population. We have figures of 1s. 6d., 1s. 9d., and 2s. 3d. respectively in three towns, all situated in the same Midland area, and mostly engaged in the same type of occupation.

Then, I think, two of the gentlemen who spoke suggested—and I agree with them very cordially—that there is a loading of the drug fund in the case of women, due to the excessive sickness which we now acknowledge exists among the women insured population. But, then, in towns quite similar in character, engaged in the same occupations largely, with women working in the factories and mills, you have just the same enormous variations. Here, for example, in Lancashire, are four towns with figures of 2s. 2d., 2s. 3d., 2s. 9d., and 3s. respectively, all cotton towns, all with women workers. Then we have Mr. Glyn Jones's huge area, Middlesex, where I think

the figures are down to 1s. 9d.; while all round, in areas with populations exactly similar—in London and West Ham and such like committee areas—you have considerably higher drug expenditure. It is therefore necessary, before we consider anything in the nature of a policy, that we should understand the meaning of those variations.

Then I come to the much more serious question that was also dealt with by Mr. Woolcock—of the variations, not between areas, but within the same area, as between different doctors' lists of patients. There, I must confess, the statistics with which I have been furnished seem to me to show that some further explanation than that suggested by Mr. Glyn Jones is required, and that idea which Mr. Woolcock, I think, holds, that some doctors—if, as I hope, only a small minority—are quite careless and wasteful about prescribing, and that some doctors may be trying to compete unfairly with their colleagues by means of the quantity of medicine they are giving, seems to receive some *prima facie* justification.

Let me give you one or two figures that have been submitted to me in connexion with committees that have really investigated the question of over-prescription. Here, in the case of one committee in Lancashire, there is one doctor with a panel of 500, who shows an average cost of 11d. per person; while another doctor, with a panel of 1,100, shows an average cost of 9s. 10d. per person. Those are variations within the same committee area, and I have just chosen them at random. A doctor with a panel of 1,400, 1s. 4d.; another of 1,400, 2s. 6d.; a panel of 1,600, 3s. 5d.; a panel of 1,900, 3s. 11d.; and then, again, a panel of 2,000, with an average of 2s. per insured person. As far as I know, these are dealing with a homogeneous population, and not in a particularly poor borough, and such vast variations as these must mean an extraordinarily different standard of prescription between doctor and doctor.

In another borough in Lancashire I find variations of as much as from 1s. 8d. to 11s. 5d. I find an average cost per prescription (which is quite a different question from excessive sickness) varying from 5d. to 10d., which is 100 per cent. variation. And I find, what I think is more serious, that the average number of prescriptions per person varies between 1.8 and 4.3, over 100 per cent. Then again, in other areas where they have investigated individual cases, I find the same few doctors appear as ordering the most expensive medicines, as ordering medicines most frequently, and generally as running up the charge upon the drug fund far beyond the average of their colleagues. I need hardly say that, as you know, we want to give the insured persons through the Act good and adequate drugs. If we do not the Act is a failure. But either the majority of the doctors in the case of these areas are not doing their duty in prescribing, or the particular doctors I have referred to are doing something which is very different from their duty. Either one is wrong or the other. I think everything would seem to show that it is these few people who show such enormous excesses over the average who are the persons really to blame. And I am confident that we shall have the support of the overwhelming majority of the medical profession in any action which may be necessary to set these things right.

Then I come on to the apparatus for dealing with this problem. There I agree with Mr. Woolcock that it is time that we considered the whole of the present arrangements with a view to increasing their efficiency and economy. On the other hand, I must say that, as far as the present deficits are concerned, we cannot consider any question of assistance towards those districts where there has been proved to be excess beyond the amount provided, until such checks as are already provided by the Regulations have been put into the fullest operation. I want to make that statement as categorical and definite as possible. We have a small fund at our disposal to deal with drugs for excessive sickness, but this can only be applied towards excessive sickness, not excessive prescribing. And the first thing, therefore, that I must ask those you represent to do, however unwilling and however invidious the work appears, is to attempt seriously to put into operation Clause 40 of the Regulations. Some Pharmaceutical Committees are doing it, and are producing very remarkable results.

But my information, derived through Insurance Committees, is—you will correct me if I am wrong—that a very large number of your committees, in areas where discounting will otherwise take place, are taking no action at all in the matter. I must honestly tell those committees, through you, that if they for any reason think it inexpedient, or are unwilling, to take action, they can look for no help from us. The only committees which we can consider the question of assisting are those who have really tried to put the Regulations into operation. I have here—and I can give you the list at the end of the deputation—a list of some twenty areas where I am informed no action of any sort has been, or is being, taken, all of which would be subject to the discounting provisions, and here are the sorts of reasons which are given to us for not putting them into operation. "The chemists are unwilling to raise the question as a matter of policy, because they feel that to do so would be injurious to their interests, apart from National Health Insurance, as between doctors and chemists." Here is another, and a very important one, with a substantial deficit: "All parties appear to be fighting shy of the potential ill will the process involves." Here is another and a very important committee: "Abortive action taken, but chemists, instead of pressing, ask the Insurance Committee to make representations to the Commissioners for payment." Here are others: "No action contemplated"; "No action"; "Chemists are averse from bringing charges and do not wish to offend doctors." Another committee says: "No action taken; relations between doctors and chemists are cordial," and so on. Those are the most serious cases we are dealing with.

The first thing I want you to do is, by circulars or otherwise, to use what influence you can with these committees, and to tell them that, having represented their case to the Commissioners—and I may say very ably represented that case—you have had the intimation that they cannot expect any assistance at all unless this regulation has been made fully operative.

Mr. Glyn Jones: Would I be right in putting it in this way? There are certain duties resting upon the chemists and their committee in regard to preventing over-spending, and the obligation will be upon that committee to satisfy the Commissioners that they have to the full exercised such powers as they have got. But their action will not be dependent upon anything the Panel Committee or the Local Committee will do. They can only do what they are empowered as a Pharmaceutical Committee to do, and they must satisfy you that they have left nothing undone which under those powers they ought to have done.

Mr. Masterman: Certainly; and if you have found that all your applications are in vain, we shall have to see what action we will take in connexion with the Insurance Committee and the Panel Committee. I am not holding out any suggestion of a grant at the present moment either from the excessive drug fund or any other possible source, because I do not think in any case that could be given until we could either assure the auditors in the one case, or the Government and the House of Commons in the other, that the money was being given because of excessive sickness and not because of excessive prescribing in normal sickness.

Mr. Glyn Jones: I think I may say that we are keenly alive to this, that the whole system is on its trial, and we do realize it is absolutely in our interests to see that no call is made for fresh funds. It is as much to our interest to prevent waste as it is to anybody's interest.

Mr. Masterman: I am bringing no charge against anybody. I only ask you to look into these facts as my officials give them to me. Beyond that there comes the question of the future. There is the question of the tariff. Neither the Insurance Commission nor the Insurance Committees have made any attempt to discuss the tariffs with the representatives of the Pharmaceutical Society, because of the safeguard of discounting. I think the first thing you ought to be willing to consent to, if we are to make changes, is an examination of the tariff by representatives of all parties concerned.

I do not ask you to commit yourselves to this to-day, but I ask you to be willing that this should be done also—that in special or selected areas some kind of investigation should be held, immediately it was found that the time was ripe for it, into the actual amounts received and the money expended on insurance work by the chemists of those areas. You will remember that when we were discussing the whole question of the payment of the doctors, such

investigations were held by Sir William Plender in connexion with certain special areas. They were, of course, confidential in character. These investigations ought to be held by some one quite impartial as between chemists, doctors, insured persons, and the Commissioners. But I think your case might be strengthened for further action if you were willing to agree to such an investigation. Beyond that, I think investigations should be held into such points as those which Mr. Woolcock and Mr. White especially put forward this afternoon. What I really propose, then, is that we should establish immediately a committee of investigation on these subjects. I should like to have a small committee, and I should like to ask you to nominate some representatives. I do not mean to say that I want this committee to avoid or prevent any action we may take in other directions. The committee, on which you might appoint representatives—I think the Commission should have representation, and we would have some doctors also—might undertake to deal both with the tariff and with certain other points affecting it.

The last question that you raise is the question of some strengthening of the check which is now provided against excessive prescribing, or which ought to be provided by the Regulations. The question of the regulations under which the doctors will work next year is coming before the Commission in a very short time, and variations will have to be made in those regulations—if variations are made—fairly speedily in order to give the doctors an opportunity of deciding whether, when the variations are made, they will be prepared to serve again on the panel system. I will certainly note with interest and considerable sympathy the suggestions that you have made this afternoon. I do think that facts have shown us that we want something much more drastic in the nature of a check than Clause 40 as it at present operates, and I shall certainly see that your claims and contentions, supported as they are by statistics, are placed before those who will be negotiating from the doctors' point of view before we finally decide what regulations shall be made.

I have only one last word to say on the whole question. Your action in undertaking the dispensing and provision of drugs under the Act was experimental; so was the action of the doctors in working under the panel system. And no one, I think, can be quite clear at this moment what the ultimate form of the service will be, either as regards the dispensing service or the medical service. It depends very largely on the experience which is now being collected and examined, and it will be for Parliament ultimately to decide. I am quite sure that those doctors who, for whatever reason, are causing, through excessive prescribing, what is a serious situation as regards the drug supply in some of these areas, are seriously jeopardizing the continuance of the panel system itself.

I am sure that those who have a claim to speak for the medical profession as a whole will realize that fact, and co-operate with us in effecting reform. You are perfectly justified in putting before me the contention that, when we have said everything we have to say, even if we revise the tariff, even if we ask you to alter certain conditions, even if we take from you certain liabilities which you do not think you should justly bear, ultimately you are entirely in the hands of the doctors. No chemist can refuse to dispense the prescriptions for medicines handed in to him by any insured person, however numerous or extravagant, in special and particular cases, such prescriptions may be. Therefore, if from carelessness or any other undesirable quality, the kind of thing that Mr. Woolcock suggests is going on—that drugs are being wasted wholesale, that men and women are receiving drugs which there is no need for them to receive, and that some at least of the doctors on the panel are indifferent to the obligations which the panel service carries with it—then there will be an irresistible demand for a variation in the panel system by the time Parliament has to reconsider the whole question in the light of actual experience.

Gentlemen, I thank you for having listened so patiently to my remarks. I am asking you now to do two things: First of all, to press upon all the Pharmaceutical Committees for such action under Clause 40 as the Regulations provide. Until that has been done and we have come to a conclusion upon that question in each individual committee, I can make no promise as to any further provision of funds. Secondly, I ask you to join with me and appoint representatives on the committee which will examine the whole of this question. And, lastly, I promise that, apart from any question of deficits which have been already incurred, we will endeavour carefully to consider with the doctors and with you any further provision which may be necessary in order to prevent a recurrence of those deficits in the immediate future.

LOCAL MEDICAL AND PANEL COMMITTEES.

LEICESTER.

MEETING OF PRACTITIONERS.

A MEETING of practitioners on the panel was held on June 26th.

Report.—The SECRETARY presented a report of the proceedings of the Leicester Panel Committee, which showed that since its appointment in December last the Committee had met thirteen times, and the attendance of members had been very good. Dr. R. Wallace Henry had been elected Chairman, Dr. W. Moffat Holmes Vice-Chairman, and Dr. E. W. Holyoak, 2, Tower Street, Leicester, Secretary. The question of the allocation of funds available on account of insured persons who had not chosen or who had difficulty in being accepted by a doctor had been considered, and a resolution passed recommending the Insurance Committee to adopt a scheme whereby the funds available would be distributed, in direct proportion to the number of insured persons on each doctor's list, amongst the doctors signifying their willingness to give medical attendance, if and when required, to insured persons in their respective areas who had not chosen a doctor.

Record Cards.—The Committee had considered the matter of record cards, and a circular letter has been sent to every practitioner on the panel, pointing out the importance of keeping the records in a full and complete manner, including attendances on members of friendly societies who had contracted out of the Act.

Prescriptions.—The Panel Committee was requested by the Pharmaceutical Committee to make an investigation into sixty-seven prescriptions given by a practitioner on the panel, and report to the Insurance Committee whether in its opinion the cost of the supply of the drugs and appliances was in excess of what might reasonably be necessary for the adequate treatment of the patients. After a very thorough investigation into the circumstances, during which the practitioner concerned and representatives of the Pharmaceutical Committee were heard, the following resolution had been adopted:

> With reference to this complaint the Panel Committee has interviewed both the doctor and the representatives of the Pharmaceutical Committee. The Committee has heard the doctor's statement, and entirely believe in his bona fides in the matter. The complaint, however, raises a general question which has been considered and settled in many areas, and we recommend that proprietary articles shall only be dispensed when the Panel Committee has approved of their inclusion in a list, on the recommendation of the medical practitioner desiring to prescribe it.

The resolution was subsequently brought before the Insurance Committee, and the recommendation with regard to proprietary articles was accepted. The Pharmaceutical Committee having made further representations to the Panel Committee with regard to prescriptions given by nearly every doctor on the panel, a subcommittee was appointed to examine the prescriptions forwarded, and as a result of their investigations the following report was drawn up:

> The Panel Committee has carefully investigated 3,870 prescription forms, priced 1s. and over, sent in by the Pharmaceutical Committee of Leicester in accordance with the National Health Insurance (Medical Benefit) Regulations, part 4.40 (1) and (2), and is of opinion that the request for an inquiry in the form in which it was received was frivolous and vexatious. The Committee has come to this conclusion for the following reasons:
>
> 1. *Method of Selecting Prescriptions.*—To select all the prescription forms 1s. and over in value, quite irrespective of the number of prescriptions (such as mixtures, lotions, gargles, dressings, etc.) upon each form, is a misleading and fallacious method. Thus in 3,870 prescription forms there were 7,605 separate prescriptions given at a

total cost of £252 3s. 9d., and an average cost of 7.95d. per prescription, inclusive of dispensing fees, water, and overcharges.

In many cases these prescription forms have been used for the repetition of mixtures, a method suggested by the Chemists' Association in the first instance. (Thus a doctor has ordered two bottles of the same mixture on one form, and the adoption of this course has raised the apparent cost per prescription, and has now led to the suggestion of excessive and extravagant subscribing.)

2. *Cost of Dispensing.*—The Committee desires to point out that the dispensing fees amount to 27 per cent., or £70 7s. out of the total £252 3s. 9d., notwithstanding that in these prescriptions many of the items do not carry a dispensing fee, the chemists' remuneration having been provided in the tariff price for the articles.

The charge for water was also found to be a very considerable item, the amount allowed for on the tariff being ½d. for 6 oz. or under.

3. *Overcharges.*—Among the 3,870 prescriptions are 429 instances of overcharging.

There are also a very few instances of undercharging.

The Committee had been put to considerable expense (quite apart from the time and trouble involved) in having the prescriptions examined, and desired to ask if there was any means of recovering the cost of the investigation.

Expenses of Pharmaceutical Committee.—An application by the Local Pharmaceutical Committee to the Insurance Committee for the sum of £72 10s. for administrative expenses had been referred to the Panel Committee, which, after considering the matter, adopted the following resolution:

> That the Panel Committee, in order to save the Medical Benefit Fund, has raised the necessary funds to meet its administrative expenses in other ways, and is of opinion that the Pharmaceutical Committee should act in a similar manner.

TYNEMOUTH.

PANEL COMMITTEE.

A MEETING of the County Borough of Tynemouth Panel Committee was held on June 29th.

Pharmacopœia.—The report of the Pharmaceutical Subcommittee was received in which it was recommended that a fuller pharmacopœia should be drawn up for the use of practitioners on the panel. On the motion of Dr. FRASER, seconded by Dr. TINDLE, it was resolved that the pharmacopœia submitted by the Subcommittee be printed.

Medical Certificates.—Dr. MEARS and Dr. BOWER reported upon the conference in London with reference to the medical certificates. They said that a new form of certificate was to be submitted, and that the Commissioners desired that a certificate should have upon it a diagnosis. The Commissioners were proposing to hold further meetings, with reference to the certificates, in the country, and it was arranged that before the meeting was held a further meeting of the Panel Committee should be held to decide upon the course to be taken at the meeting.

INSURANCE COMMITTEES.

BRISTOL.

THE monthly meeting was held on July 6th, Dr. WALTER SAISE being in the chair.

Work of Medical Adviser.—In moving the adoption of the report of the Medical Service Subcommittee Mr. BROWN stated that 82 cases had been referred to the Medical Adviser, of which 34 were found fit to work, 19 did not attend, and 29 were not fit to work. Of these, 65 cases had been sent by Approved Societies, and 17 by the doctors. The results of the 65 cases were 20 fit, 17 did not attend, and 28 were pronounced unfit to work; of the doctor's cases 14 were fit, 2 did not attend, and 1 was unfit. The report was adopted.

Medical Benefit Committee.—Mr. MORRIS, in introducing the medical benefit report, said that the Pharmaceutical Committee had applied for the sum of £10 to be paid under Section 33 of the Act, and that this had been approved by the Panel Committee. The consent of the Commissioners was required. The Panel Committee had decided to make a levy on the practitioners on the panel other than that provided by Sec. 33 (2), and had requested the Insurance Committee to pay to its secretary from the practitioners' fund such sums as it might request, not exceeding £250 in any one year. The Committee agreed to accede to this request provided a signed authority was received from each individual practitioner on the panel. It was also reported that the recalculated provisional credit for medical benefits which had been received from the Commissioners represented an average of 113,725 insured persons entitled to medical benefits for the year ending January 11th, 1914.

Sanatorium Benefit.—The Sanatorium Benefit Subcommittee's report stated that 36 applications had been received since May 26th for sanatorium treatment. In the discussion that took place on the report, Mr. BROWN emphasized the importance of after-care. He thought that some means should be devised whereby patients on their return could be placed in circumstances to earn their living under better conditions, for unless something was done this part of the Act was being wasted. Mr. HILLIER spoke of the importance of the better housing, and the CHAIRMAN replied that the city authorities were fully alive to the fact and had done a great deal already in that direction. Dr. MICHELL CLARKE said that it was well recognized that of working men attacked with tuberculosis few were able to return to laborious work again. A great deal of money might be spent on sanatoriums to little purpose so long as the patients were not looked after on their return home. Light jobs for them were not easy to get, but it was one of the things that would have to be provided in the future. Too much reliance must not be placed on sanatorium treatment, and though the results were good, the system must be regarded as open to improvement and addition. The report was adopted.

Payment of Members.—The General Purposes Subcommittee reported that a reply had been received from the Commissioners to the resolution passed at the last meeting on the payment of members, expressing their inability to agree with the scheme proposed.

The Budget Proposals.—On the motion of Mr. MORRIS, a resolution was passed welcoming the appointment of medical referees and of nurses, the provision of facilities of modern methods of exact diagnosis, and opportunities of obtaining medical and surgical appliances.

CROYDON.

THE two medical representatives elected to serve on the Insurance Committee for the county borough of Croydon are Mr. E. H. Willock and Dr. G. Gilbert Genge.

INSURANCE NOTES.

MEDICAL REFEREES.

THE Insurance Commissioners (England) have issued a memorandum, A.S. 104 (*a*), to approved societies, stating that the arrangements for a general system of medical referees cannot be completed before the end of this year. The Administration Expenses Regulations will be amended so as to allow a total sum of 2d. a member instead of 1d. to be available in respect of expenditure on medical referees in the fifteen months, October 1st, 1913, to December 31st, 1914, of which not more than 1d. will be allowed in respect of the period ending January 11th, 1914.

DISABLEMENT BENEFIT.

Disablement benefit under the Insurance Act began on Monday last, July 13th. The benefit amounts to 5s. a week, for men and women alike, payable from the date when sickness benefit ceases—that is, after 26 weeks—as long as the insured person remains disabled, but not after the age of 70, when the old-age pension begins. Only persons who have been insured for 104 weeks and have paid 104 weekly contributions are eligible for the benefit. The paragraphs in the Act of 1911 as amended by the Act of 1913 are as follows:

SECTION 8.

Sickness Benefit.

(1) (*c*) Periodical payments whilst rendered incapable of work by some specific disease or by bodily or mental disablement, of which notice has been given, commencing on the fourth day of such incapacity, and continuing for a period not exceeding twenty-six weeks.

Disablement Benefit.

(*d*) In the case of the disease or disablement continuing after the determination of sickness benefit, periodical payments so long as so rendered incapable of work by the disease or disablement.

(3) In the case of insured persons who have attained the age of 70 the right to sickness benefit and disablement benefit shall cease.

(8) Notwithstanding anything in this part of the Act, no insured person shall be entitled

(*c*) to disablement benefit unless and until one hundred and four weeks have elapsed since his entry

into insurance, and at least one hundred and four weekly contributions have been paid by or in respect of him.

By Section 11 disablement benefit may be reduced or suspended in the case of an insured person in receipt of, or entitled to, compensation or damages in respect of any injury or disease, and by Section 12 no disablement benefit is payable to an inmate of any hospital, etc.

Section 14 (2) empowers an approved society with the consent of the Insurance Commissioners to make rules for, among other things, the infliction and enforcement of penalties for breach of any such rule, but enacts that—

> (*b*) No such rule shall provide for the suspension of any benefit for a period exceeding one year.
> (*c*) No such rule shall prescribe any penalty, nor shall any insured person be subject to any penalty, whether by suspension of benefit or otherwise, on account of the refusal by any such person to submit to a surgical operation, or vaccination, or inoculation of any kind, unless such refusal in the case of a surgical operation of a minor character is considered by the society, or on appeal the Insurance Commissioners, unreasonable.

No special regulations for the administration of Disablement Benefit have been issued, but the English Commissioners have issued the following circular (A.S. 138) on the subject.

Preliminary Notice.

Disablement benefit is in effect the continuation of sickness benefit, at a reduced rate, subject to the special condition that the member must have been 104 weeks in insurance and had 104 weekly contributions paid by or in respect of him.

It is payable only after a member's right to 26 weeks' sickness benefit is exhausted, either in one illness, or in illnesses "linked up" under Section 8 (5) of the Act of 1911 (Circular A.S. 129).

It is, like sickness benefit, subject to the condition that the member is "rendered incapable of work by some specific disease or by bodily or mental disablement." Societies will determine whether the member is, and continues to be, incapable of work on the same evidence as in the case of sickness benefit—that is, periodical medical certificates, sick visiting, medical referees, etc., and members are subject to the same rules as to behaviour during sickness, etc.

One hundred and four weeks from the earliest date of entry into insurance elapsed on July 12th, 1914; the week commencing July 13th, 1914, is therefore the first in respect of which any disablement benefit can be payable.

If a member has been in insurance for 104 weeks, but has not had 104 contributions paid in respect of him, he is entitled to pay up the contributions necessary to complete the number in order to qualify for disablement benefit.

Contributions so paid up by a member who is incapacitated by illness must always be at the full weekly rate. In the case of an employed contributor, however, arrears contracted during unemployment since July 14th, 1913, which are paid off at the reduced rate (ordinarily 4d. for men, 3d. for women) will count as full contributions towards the necessary 104.

The ordinary rate of disablement benefit is 5s. a week. For female members under 21, however, it is 4s. a week, and for Class H contributors 3s. a week.

FORMATION OF A PANEL MEDICO-POLITICAL UNION.

A MEETING of panel practitioners was held at the Caxton Hall on July 10th in connexion with an organization to be called the "Panel Medico-Political Union." Dr. H. J. CARDALE, a member of the London Panel Committee, presided, and with him on the platform were Dr. J. A. Angus (Paddington) and Dr. A. Welply, who acted as honorary secretary. It was stated that every member of the London panel had been invited to the meeting; about eighty practitioners were present.

Dr. WELPLY explained that a meeting to form a medico-political association was held a few weeks ago at the Queen's Hall. Owing to the fact that they had no funds the organizers felt they could not summon all the 1,600 practitioners on the panel, and therefore summoned 400 from all over the area. There had been some grumbles on the part of those who were not invited, and he hoped this explanation would be accepted. Dr. Welply read a letter from the editor of the *Medical World* offering the new body free use of the offices of the paper, with free typewriting assistance. The committee elected at the Queen's Hall meeting (six representatives of the south and six of the north side of the Thames) had decided to accept that offer. The committee also considered the question of the unallotted funds in London, and called a protest meeting of practitioners at the Caxton Hall (see BRITISH MEDICAL JOURNAL SUPPLEMENT, July 11th, p. 52). At a second meeting the committee considered the rules and constitution of the new association, and decided to recommend that it should be a trade union and be called the "Panel Medico-Political Union."

The suggested name was forthwith approved.

Adoption of the Trade Union Principle.

Dr. YOUNG proposed and Dr. A. SALTER seconded that the Union be conducted on the principles of a trade union.

Dr. DRAPER asked how the medical profession would be protected by resorting to trade unionism. It would still be possible to sue the individual member, as in the case of a labourers' union. The difference was that in the labourers' union the individual member had nothing, whereas in the case of doctors this might not be so.

The CHAIRMAN said the secretary undoubtedly was a person liable to be shot at, and Dr. Wallace Henry, of Leicester, in a memorandum on this point explained that the secretary was therefore "usually reliable but impecunious." (Laughter.)

The resolution having been carried, Dr. SALTER asked if the meeting was now acting as a trade union.

The CHAIRMAN: No, because we are not at present registered; we are considering draft rules to be submitted to the Registrar of Trade Unions.

Dr. SALTER raised the question whether it was possible for those present to approve rules unless they were actually members of a trade union and had paid their subscriptions.

Dr. ANGUS thought the association would not be a trade union until it was registered.

Dr. P. C. RAIMENT observed that the meeting seemed to be in a difficulty, and perhaps the experience of the National Medical Union would be of assistance. It was incorrect to say that the association would not be a trade union until it was registered. Registration meant nothing whatever; if a body of persons undertook certain duties or did certain acts having for their object the restraint of trade, those persons became *per se* a trade union and registration mattered nothing at all. It would be necessary for seven members, presumably members of the Executive Committee to sign two draft copies of the rules and send them with a sovereign to the Registrar. It had nothing to do with anybody except those who signed; members could be received on production of the rules. It was of great importance that the rules should be carefully considered, because, after registration, there was great difficulty in altering them.

Objects of the Union.

Dr. WELPLY explained that some of the proposed rules were still under consideration by a solicitor; but he read to the meeting such of the rules as were ready. These provided that the officers of the union should be a president, vice-president, treasurer, and secretary, an executive committee of twelve members and a general committee of twenty-nine members. The annual subscription would be one guinea, and the membership would be confined to practitioners engaged in service under the National Insurance Act. The right to admit or refuse any candidate was reserved to the Executive Committee. The objects of the union were to protect the interests of panel practitioners by supporting parliamentary candidates friendly to panel service and opposing those who were hostile, and by supporting the candidature of friendly representatives to Insurance Committees or other bodies concerned in the administration of the Act; to make representations to such bodies and to assist any other medical organization in its efforts on behalf of the insurance service. Special attention would be paid to proposed developments of the service and proposals to revise the remuneration or add to clerical duties. It was intended to establish a register of reliable *locumtenents* and assistants, and to help in the disposal of panel practices, especially in case of death. Subscriptions would be made to medical charities with a view to helping dependants of deceased practitioners, and, if practicable, a superannuation or pension scheme would be instituted.

The suggestion was made that as the general committee was to consist of twenty-nine members there should be upon it one representative of each panel area in London; but Dr. H. G. COWIE said that the union was not to be confined to London.

It was then urged that as the Executive Committee had been elected by representatives of a section of London

panel practitioners, it should only be regarded as provisional.

Dr. T. F. Keenan (a member of the Committee) agreed, and said it was desirable to avoid any suggestion that there had been packing. The Chairman gave an undertaking that at any early date the Committee would resign.

Dr. Welply stated that communications in support of the union had been received from many parts of the country.

The meeting expressed its general approval of the constitution and rules of the union, and the proceedings then terminated. The Chairman mentioned that the expenses to date amounted to £32 and the income to £21, and a collection was taken to make up the deficit.

Voluntary Insurance and Friendly Society Control.

The attention of the meeting was called to the bill introduced into Parliament by Sir R. Cooper providing for amendment of the Insurance Act on a voluntary basis and for a return to friendly society administration. Although it was suggested that the bill was a "window-dressing" measure and had no chance of passing, the meeting decided to express by resolution its disapproval of any interference with the basic principles of the Act, and especially of friendly society control.

Allocation of Patients.

Dr. A. R. Eates (Marylebone) has addressed a letter to the Insurance Commissioners in which he makes the following observations:

I took service under the Act in May, 1913, on the clear understanding that the terms of the Act in respect of the allocation of insured persons would be carried out in the year 1913, and that I should be allotted from 1,500 to 2,000 persons whose medical treatment I should be responsible for. I came to start practice in this neighbourhood on this understanding and on the written recommendation of the Clerk of the London Insurance Committee.

As time went on I was assured time and again that the allocation as required by the Act would be made. Then came, in the autumn of 1913, your memorandum stating that experience had discovered that an exhaustive allocation was impossible. While accepting your finding and recognizing the difficulties in the making of an exhaustive allocation, I yet had the hope and expectation that an allocation as far as practicable could and would be proceeded with.

It now transpires that in the month of August or September, 1913, a command from you to the London Insurance Committee postponed the allocation on the ground that the panel was not complete. The Insurance Committee, while claiming that they have traced and could allocate 80 per cent. of insured persons in their area, repudiate all responsibility for non-fulfilment of the terms of the Act, and would appear to fix the responsibility upon you.

The allocation not having been attempted has resulted in my having had applications to be placed on my list, mostly by persons requiring medical aid; and hence my list for thirteen and a half months represents 550 acceptances, for whom in the same period there have been required and given no less than 2,504 consultations and visits, while the remuneration for the same work comes out at about 8d. an attendance. I am well aware that I am not being paid per attendance, but on a capitation basis, and I bring to your notice the rate per attendance only to show you how your prohibiting the allocation affects my pay; for I am sure it was never in the contemplation of any one that adequate attendance should be paid for at the rate of 8d. per attendance.

At the risk of going beyond the legitimate subject of my statement, I would respectfully point out that in dealing with the method of disbursing the so-called "surplus" funds, and in a numerical allocation of the persons still not attached to any doctor's list there exist means for finding such an equitable alternative.

Salford Insurance Committee.

Statements have from time to time been made that the present system of administering medical benefit in Salford —namely, by payment per attendance, according to a fixed scale of fees—was accountable for numerous abuses, that the complete freedom of choice of doctor, with liberty to change a doctor even during an illness, tended to encourage malingering, seeing that if a patient were refused a certificate by one doctor he could go about from one doctor to another until he found one ready to grant a certificate, and that in this way the sickness funds of the approved societies were suffering unduly. Other charges have also been made, supposed to be inherent in the Salford system, and the Insurance Committee accordingly several months ago appointed a special subcommittee from its members to inquire into the system. At its first meeting the subcommittee resolved to inform all the larger approved societies having members in the area of its intended inquiry, and to request those that desired to give evidence to communicate with the clerk. It was also resolved to advertise in several of the Manchester and Salford newspapers inviting any insured person and persons connected with approved societies to give evidence. This has now been done, and the subcommittee has drawn up a long list of special questions which will be placed before any persons desirous of giving evidence, as a guide to the general line of inquiry which is proposed, though it is understood that witnesses will not be confined to these questions, but will be at liberty to bring forward any matter which is germane to the inquiry. The committee hopes to be able to report to the Insurance Committee during the autumn in plenty of time to allow of fresh arrangements being made, if thought desirable, for next year.

IRELAND.

Doctors and Insurance Certificates.

At the last meeting of the North Dublin Union a guardian brought to the notice of the board "the refusal of Dr. Walsh, Benburb Street Dispensary, and Dr. Donnelly, Clarence Street Dispensary, to grant certificates under the National Insurance Act, thus preventing their Poor Law patients receiving their sick benefits." He said that portion of Dr. Donnelly's salary came from granting certificates under his agreement with the board. He thought a person getting medical relief was just as much entitled to get a certificate from Dr. Donnelly as a person was to get a copy of the registration when death occurred. Dr. Donnelly denied that payments for certificates formed part of his salary. He thanked the board for allowing him the opportunity to give an explanation in person. Neither the guardians nor the Local Government Board were responsible for or had anything to do with the question of certificates. They did not, and could not, administer the National Insurance Act. The guardians might think that giving certificates was a matter of form. Since he unwittingly gave a false certificate nearly thirty years ago he made up his mind that he would not give certificates he could not stand cross-examination upon. Until the Commissioners arranged with the profession to make the thing bona fide and above board he would not give certificates. He would not submit to the indignity of anybody being able to say that he issued a false certificate. The guardian said that while the Commissioners and the doctors disputed the poor were deprived of their certificates, and asked Dr. Donnelly if it was fair that a person to whom he had to give medical relief had to go, owing to the doctor's action, to another doctor for a certificate. Another guardian said that the system was wrong, but the doctor was not responsible for that. Dr. Donnelly said that the certificates were the means of utilizing the knowledge of the doctors to safeguard the friendly societies. No action was taken in the matter.

Arrears in Ireland.

In Ireland the contributors, as a rule, who are in arrear may be regarded as casual labourers, who reside, for the most part, in urban areas. It has been assumed that there is an abnormal number of casual labourers in Ireland in arrear, but statistics prove the contrary. An analysis has been made of the contribution returns of a number of societies likely to have a considerable urban casual membership for the quarter ending October, 1912, and for the quarter ended April, 1913. These returns comprise about 152,000 men and 77,500 women, and they show that 10.4 per cent. of men and 10.5 per cent. of women would have been in arrear not exceeding eighteen contributions a year; 3 per cent. of men and 2.7 per cent. of women exceeding eighteen and not exceeding twenty-six contributions a year; and 5.2 per cent. of men and 4.1 per cent. of women exceeding twenty-six contributions a year. For a purely rural society containing 4,472 men and 639 women the figures were: 7.1 per cent. of men and 6.5 per cent. of women not exceeding eighteen contributions in arrear; 2.6 per cent. of men and 2.5 per cent. of women exceeding eighteen but not exceeding twenty-six contributions; and 4.3 per cent. of men and 3.4 per cent. of women exceeding twenty-six contributions. These figures are for a normal period, and it is expected a similar result would be found on the figures for the current quarter. As a matter of fact, many societies having members employed casually pay the arrears to

their members. The Dublin Brick and Stone Layers' Society do this, and some others. Hence the arrears in Ireland compare very favourably with those due in other parts of the United Kingdom.

Financial Status of Irish Societies.

On the whole, the financial status of the Irish societies is said to be good, with the possible exception of those societies which have a large female membership, and even these are not so bad from the actuarial standpoint as are some similar societies in England. An expert discussing the question recently said that some of the women's societies in Ireland were exceedingly good and some were pretty bad. These matters are at present being considered by the Advisory Board of the Insurance Commissioners of the three kingdoms, and it is expected that defects will be rectified prior to the valuation next year. A great deal depends on the grants under the present Budget becoming available in sufficient time. The grants for married women, especially the maternity benefits, have proved an exceptional drain on many societies, and in some districts there has admittedly been a great deal of malingering. There will have to be a decided improvement in regard to certification before the national insurance schemes can be worked on a sound actuarial basis. At present there are only eleven areas out of thirty-nine in which there are panel doctors, and on the whole the panel system has not been found successful in Ireland. Most of the assistance now given in regard to sickness is by clergymen and local magistrates, and by officials of the various societies, but there is too much tendency in Ireland to act as the good Samaritan and put on an insured person for benefit "just for a week or two—he is a very deserving fellow, you know." Such a policy plays ducks and drakes with any system of insurance, no matter how carefully it may have been thought out. At present a scheme, which it is believed will meet the wishes of the medical profession, is being considered by the Cabinet, and if this can be arranged the trouble regarding certification will be obviated, and matters will progress more satisfactorily in the future; an increase in the grants for administration is considered necessary as there are all-round complaints that these are entirely insufficient.

OFFICIAL PUBLICATIONS.

QUESTION OF THE NEED FOR OPERATIONS.

THE Insurance Commissioners have made the following rules, dated July 4th, 1914, under Article 50 of the National Health Insurance (Medical Benefit) Regulations (England), 1913, as to operations:

1. In these Rules, unless the context otherwise requires—

"The Commissioners" means the Insurance Commissioners:

"Question" means a question as to whether an operation or other service is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill.

2. Where an Insurance Committee and a Local Medical Committee fail to agree as to the decision of any question, the Insurance Committee shall prepare and submit to the Local Medical Committee:

(*a*) a written statement of the facts in connexion with which the question has arisen: and

(*b*) a written statement of the decision given by it and the grounds on which the decision is based.

3. The Local Medical Committee shall, as soon as may be after receipt of the said statements, furnish to the Insurance Committee a written statement of the decision given by it and the grounds on which the decision is based, and shall inform the Insurance Committee whether it concurs in the statement of facts prepared by the Insurance Committee, and, if not, in what respects it does not concur in that statement.

4. The Insurance Committee shall send the statements prepared by both Committees to the Commissioners and the Commissioners may, if they think fit, require both or either of the said Committees to furnish further particulars either with regard to the facts of the case or to the decision or the grounds of the decision.

5. The Commissioners shall furnish copies of all such statements or further statements to each of the Referees appointed by them for the purpose of deciding the question.

6. After consideration of the said statements the Referees shall inform the Commissioners whether, in their opinion, a hearing is desirable, and in the event of a hearing being required, the Commissioners shall fix the time and place of the hearing, and shall give not less than seven days' notice thereof to the Insurance Committee and the Local Medical Committee.

7. Each Committee shall be entitled to appear at the hearing by the chairman, clerk, or secretary of the Committee, or by counsel or solicitor, and produce such evidence, whether orally or in writing, as in the opinion of the Referees may be relevant to the matters at issue.

8. The Referees shall, as soon as may be after the hearing, report to the Commissioners the decision at which they have arrived.

9. While in the opinion of the Referees a hearing is not required, the Referees shall, as soon as may be after the matter has been referred to them, meet and consider the question and report to the Commissioners the decision at which they have arrived.

10. (1) Where the Commissioners think fit to refer for decision to Referees any question on which the Insurance Committee and the Local Medical Committee are agreed, the Commissioners may require either or both of the said Committees to furnish written statements of the facts in connexion with which the question has arisen and of their decision and the grounds on which the decision was based, and the Commissioners shall thereupon request the Referees appointed by them for the purpose to fix a day for the hearing.

(2) The statement or statements furnished in accordance with the provisions of the last preceding paragraph shall, for the purposes of the hearing, be evidence of the facts therein alleged.

(3) The Insurance Committee and the Local Medical Committee shall be given by the Commissioners not less than seven days' notice of a hearing held under this Rule, and shall be entitled to appear at the hearing by any of the persons mentioned in Rule 7.

11. At any hearing held under these Rules the Commissioners may produce such evidence, whether orally or in writing, as in the opinion of the Referees may be relevant to the matters at issue, and may appear by any one of themselves or of their officers or by counsel or solicitor.

12. The Commissioners may, if they think fit, dispense with any requirement of these Rules in any case where, regard being had to all the circumstances, it appears just or convenient to do so.

13. These Rules shall apply, with the necessary modifications, in the case of any question arising under Article 55 of the National Health Insurance (Administration of Medical Benefit) Regulations, 1912.

INSURANCE ACT IN PARLIAMENT.

CONTRIBUTION CARDS.

IN reply to Mr. Murray Macdonald, Mr. Wedgwood Benn said that the distribution of the contribution cards for the second half of the year had already been completed, and that any supplementary demands for cards were being immediately dealt with.

DRUGS DISPENSED BY DOCTORS.

Mr. Mills asked whether the Middlesex Insurance Committee had not yet paid the dispensing fees to the doctors on the panel in that county since the National Insurance Act came into operation on January 16th, 1913; that medical men in rural districts where chemists were few had done their own dispensing at their own cost, and that these doctors had had to pay out of their own money to their druggists since January, 1913, with the result that in one case about £67 10s., representing the fee for dispensing at the rate of 2s. a head per annum, was now due to one doctor in the area, and larger and smaller sums to other doctors; whether frequent applications had been made to the Insurance Committee for repayment without result; and what steps would be taken to ensure that the Middlesex Insurance Committee should forthwith pay these long overdue accounts.—Mr. Wedgwood Benn replied that it was understood that arrangements had now been made by the Middlesex Insurance Committee for the payment of the remuneration in question for the year 1913, and for the payment of advances from time to time on account of similar remuneration for the current year.

CORRESPONDENCE.

An Insurance Trust.

Dr. Henry George Dixon (London, E.C.) writes: In your issue of July 11th, page 48, you gave some extracts from the second annual report of the Insurance Commissioners; among others, one from their chief actuary, who insinuates that in many quarters the medical profession has betrayed the "trust" reposed in it by Parliament as regards medical benefit and the interests of the societies.

Now, the medical man's duty, first and last and all the time, is to his patients; but what the chief actuary is thinking of is the gigantic insurance trust constituted by the eighteen societies whose representatives met at Westminster the other day, and who form, in the opinion of many, a grave peril to the profession and even to the State.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following notifications are announced by the Admiralty: Fleet Surgeon Ernest A. Penfold, M.B., to the *Dido*, vice Knapp, July 7th. Staff Surgeon Patrick D. M. Campbell to the *Wildfire*, additional, for disposal, July 3rd. Staff Surgeon Frederick G. Wilson to the *Victory*, additional, for disposal on Surgeon Hole rejoining Dartmouth College, undated. Staff Surgeon Alfred J. Gailleton, M.B., to the *Falmouth* on recommissioning, August 11th. Staff Surgeon Frederick F. Mahon has been promoted to the rank of Fleet Surgeon, July 11th. Surgeon Charles H. L. Petch to the *Ajax*, July 15th. Surgeon Gustavus W. M. Custance to the *Hawke*, vice Petch, July 15th.

ARMY MEDICAL SERVICE.

Surgeon-General William W. Kenny, M.B., is placed on retired pay, July 14th.

Colonel (temporary Surgeon-General) William G. Macpherson, C.M.G., M.B., to be Surgeon-General, to complete establishment, July 14th.

Colonel Tom P. Woodhouse to be Surgeon-General, vice W. W. Kenny, M.B., retired, July 14th.

Colonel Harry S. McGill, from the half-pay list, retires on retired pay, July 8th.

Colonel Thomas J. O'Donnell, D.S.O., on completion of four years' service in his rank, is placed on the half-pay list, July 7th.

Brevet-Colonel Samuel Hickson, M.B., Honorary Surgeon to the King, from the Royal Army Medical Corps, to be Colonel, vice T. J. O'Donnell, D.S.O., to half-pay, July 7th.

Lieutenant-Colonel Frederick W. C. Jones, M.B., from the R.A.M.C., to be Colonel, vice T. P. Woodhouse, promoted, July 14th.

Lieutenant-Colonel Thomas W. Gibbard, M.B., R.A.M.C., is appointed an Honorary Surgeon to the King, and granted the brevet rank of Colonel, vice Surgeon-General W. W. Kenny, M.B., July 14th.

Royal Army Medical Corps.

Major John Hennessy, M.B., to be Lieutenant-Colonel, July 7th.

Major Lionel A. Mitchell, M.B., to be Lieutenant-Colonel, July 14th.

Captain Francis R. Coppinger, from the Indian Medical Service, to be Captain, vice J. B. Hanafin, M.B., who exchanges, July 15th.

Captain William W. Boyce from the half-pay list is restored to the establishment, June 29th.

Lieutenant Spence and Lieutenant Brett have been selected for employment with the Egyptian Army.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant-Colonel (Honorary Major in the Army) Andrew A. Watson, R.A.M.C. Territorial, to be Lieutenant-Colonel, No. 18 Field Ambulance, May 1st.

Captain Wilson H. P. Hey, M.B., F.R.C.S., No. 18 Field Ambulance, resigns his commission, July 4th.

The following Captains to be Majors: William H. G. H. Best, April 30th; James C. Furness, June 18th.

Lieutenant Hubert Cox resigns his commission, July 8th.

The following have been appointed Lieutenants on probation: Cadet Corporal William S. Dawson, Cadet Griffith I. Evans, and Cadet George H. Rossdale, from the Oxford University Contingent, Officers' Training Corps, May 20th and June 18th respectively. Cadet Sergeant Thomas W. Clarke, M.B., from the Edinburgh University Contingent, Officers' Training Corps, May 26th; Cadet Sergeant John Cullenan, from the Belfast University Contingent, Officers' Training Corps, June 4th; Cadet Arthur G. Fisher, from the Dublin University Contingent, Officers' Training Corps, June 5th; Cadet Staff Sergeant Francis D. Annesley, from the London University Contingent, Officers' Training Corps, May 26th; Cadet Corporal Ian D. Suttie, M.B., from the Glasgow University Contingent, Officers' Training Corps, June 15th. Henry C. Bazett, M.B., June 19th.

INDIAN MEDICAL SERVICE.

The Honourable Sir C. P. Lukis, K.C.S.I., M.D., F.R.C.S., K.H.S., Director-General, Indian Medical Service, is appointed to hold charge of the current duties of the office of the Sanitary Commissioner in addition to his own during the absence on leave of the Honourable Major J. C. Robertson, C.I.E., M.B., or until further orders.

Surgeon-General Aylmer M. Crofts, C.I.E., K.H.S., has retired, May 25th.

Colonel A. O. Evans, Inspector-General of Civil Hospitals, Burma, is granted, with effect from May 28th, combined leave for eight months.

The following officers have been promoted to the rank of Colonel: H. E. Banatvala, with effect from April 2nd; P. C. H. Strickland, with effect from May 15th.

Lieutenant-Colonel C. R. Pearce, I.M.S., has been appointed to the Bacteriological Department and posted to the Pasteur Institute, Burma.

The services of Major M. Corry, M.D., are placed temporarily at the disposal of Chief Commissioner, Delhi.

Major F. P. Mackie, M.B., F.R.C.S., Officer on special duty for the investigation of kala-azar, is granted privilege leave for three months with effect from June 27th.

The services of Major M. Mackelvie are placed permanently at the disposal of the Government of Bengal, with effect from October 10th, 1913.

The Honourable Major J. C. Robertson, C.I.E., M.B., Sanitary Commissioner with the Government of India, is granted privilege leave for two months with effect from the date on which he makes over charge by telegram on the completion of his special work at Aden.

The services of Captain N. N. G. C. McVean have been placed at the disposal of the Bombay Government for civil employ.

Subject to his having passed the examination held in April, 1914, H. S. Cormack, M.B., F.R.C.S.E., is promoted to the rank of Captain, with effect from January 28th, 1914.

The services of Captain C. H. Cross are placed temporarily at the disposal of the Government of Madras.

The services of Captain S. C. Chuckerbutty are placed temporarily at the disposal of the Chief Commissioner, Assam.

Captain C. Newcomb, M.B., is appointed to be a probationer in the Chemical Examiner's Department, and is attached to the Chemical Examiner's Laboratory at Calcutta.

Captain A. N. Dickson is appointed to officiate as an Agency Surgeon of the second class, and is posted as Agency Surgeon, Maskat, with effect from June 11th.

Captain N. W. Mackworth, M.B., F.R.C.S.E., has been promoted to Major, January 26th.

The services of Captain McGillivray, M.D., have been placed temporarily at the disposal of the Government of Burma.

Indian Subordinate Medical Department.

Senior Assistant Surgeon with the honorary rank of Lieutenant to be Senior Assistant Surgeon with the honorary rank of Captain: Harry W. De Lanty, January 28th.

To be Senior Assistant Surgeons with the honorary rank of Lieutenant, January 28th: First Class Assistant Surgeons Percival B. Mills, John J. A. Brachio, George P. O'Brien, Christopher G. Thompson, Henry Mansfield, and Edward J. Archer.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Highland Mounted Brigade Field Ambulance.—John Broadfoot, M.B., to be Lieutenant, May 1st.

Third East Lancashire Field Ambulance.—Captain Wilson H. P. Hey, M.B., F.R.C.S., resigns his commission, July 4th.

Attached to Units other than Medical Units.—Captain John Orr, M.B., resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform, July 4th. Lieutenant-Colonel (Honorary Major in the army) Andrew A. Watson is seconded for service with No. 18 Field Ambulance, R.A.M.C. (Special Reserve), May 1st. Captain Samuel M. Sloan, M.B., to be Major, May 22nd. Maurice C. Anderson to be Lieutenant, June 11th. Lieutenant Kenneth Mackinson, M.B., resigns his commission, July 11th.

Supernumerary for Service with the Officers' Training Corps.—Lieutenant Patrick Nicol, M.B., serving with the Aberdeen University Contingent, Senior Division, Officers' Training Corps, resigns his commission, July 4th.

Second South-Western Mounted Brigade Field Ambulance.—Lieutenant Rupert Waterhouse, M.D., to be Captain, October 15th.

First West Lancashire Field Ambulance.—Samuel McCausland to be Lieutenant, June 1st.

First London (City of London) Field Ambulance. — Cadet Lance-Corporal Eric Donaldson, from the University of London Contingent, Senior Division, Officers' Training Corps, to be Lieutenant, July 11th.

Second London Sanitary Company.—William J. M. Slowan, M.D., to be Lieutenant, June 9th.

For Attachment to Units other than Medical Units.—John Livingston, F.R.C.S.Edin., to be Lieutenant, May 23rd.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-seven of the largest English towns 9,091 births and 4,000 deaths were registered during the week ended Saturday, July 11th. The annual rate of mortality in these towns, which had been 12.9, 12.1, and 12.7 per 1,000 in the three preceding weeks, fell to 11.5 per 1,000 in the week under notice. In London the death-rate was equal to 10.6, against 12.2, 12.1, and 13.3 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 2.8 in Eastbourne, 4.3 in Exeter, 4.7 in Hornsey, and 6.0 in Enfield to 17.0 in Gateshead and in Tynemouth, 17.6 in Liverpool, and 22.8 in Bootle. Measles caused a death-rate of 1.4 in Sheffield, 1.7 in Rochdale, 1.8 in Liverpool, and 2.1 in Oldham; and whooping-cough of 1.5 in Birkenhead and 2.1 in Warrington. The mortality from the remaining infective diseases showed no marked excess in any of the large towns. One fatal case of small-pox was registered in Rochdale. The causes of 29, or 0.7 per cent. of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 8 were recorded in Birmingham, 4 in Liverpool, and 3 in Stoke-on-Trent. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,038, 3,088, and 3,092 in the three preceding weeks, further rose to 3,109 on Saturday last; 414 new cases were admitted during the week, against 405, 440, and 442 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,158 births and 597 deaths were registered during the week ended Saturday, July 11th. The annual rate of mortality in these towns, which had been 14.6, 13.8, and 14.1 in the three preceding weeks, fell to 13.6 per 1,000 in the week under notice, and was 2.1 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 7.0 in Clydebank and 7.3 in Paisley and Kilmarnock to 15.7 in Edinburgh, 16.9 in Dundee, and 22.0 in Ayr. The mortality from the principal infective diseases averaged 0.9 per 1,000, and was highest in Hamilton and Coatbridge. The 283 deaths from all causes in Glasgow included 9 from whooping-cough, 6 from measles, 6 from infantile diarrhoeal diseases, and 2 each from enteric fever, scarlet fever, and diphtheria. Whooping-cough caused 2 deaths in Coatbridge, and infantile diarrhoeal diseases 2 in Aberdeen.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 4th, 615 births and 375 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 665 births and 364 deaths in the preceding period. These deaths represent a mortality of 16.2 per 1,000 of the aggregate population in the districts in question, as against 15.7 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.5 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 26.6 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 16.3 (as against an average of 17.0 for the previous four weeks), in Dublin city 16.6 (as against 18.0), in Belfast 17.0 (as against 17.1), in Cork 20.4 (as against 18.4), in Londonderry 14.0 (as against 11.4), in Limerick 20.3 (as against 19.6), and in Waterford 9.5 (as against 16.6). The zymotic death-rate was 2.1, as against 1.6 in the previous week.

During the week ending Saturday, July 11th, 671 births and 368 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 615 births and 375 deaths in the preceding period. These deaths represent a mortality of 15.9 per 1,000 of the aggregate population in the districts in question, as against 16.2 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.4 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 29.0 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 15.0 (as against an average of 16.1 for the previous four weeks), in Dublin city 16.0 (as against 17.1), in Belfast 17.0 (as against 17.1), in Cork 15.6 (as against 17.0), in Londonderry 26.6 (as against 15.15), in Limerick 12.2 (as against 16.9), and in Waterford 17.1 (as against 17.6). The zymotic death-rate was 1.6, as against 2.1 in the previous week.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Male House-Surgeon. Salary, £150 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary, £160 per annum, increasing to £180.

BIRKENHEAD BOROUGH HOSPITAL. — Senior House-Surgeon (male). Salary, £120 per annum.

BIRMINGHAM: CITY FEVER HOSPITAL, Little Bromwich. — Male Assistant Medical Officer. Salary, £200 per annum.

BIRMINGHAM: CITY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum and £5 laundry allowance.

BIRMINGHAM: QUEEN'S HOSPITAL.—House-Surgeon. Salary at the rate of £50 per annum, and £10 bonus on satisfactory completion of six months' service.

BIRMINGHAM UNION.—(1) Assistant Medical Officer at Dudley Road Infirmary. (2) Assistant Medical Officer at Selly Oak Infirmary and House. Salary, £140 and £160 per annum respectively.

BIRMINGHAM UNIVERSITY.—Walter Myers Travelling Fellowship. Value, £150 for one year.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—House-Surgeon (male). Salary at the rate of £75 per annum.

BOLTON INFIRMARY AND DISPENSARY.—Two Honorary Aural Surgeons.

BRADFORD CITY HOSPITAL FOR CONSUMPTIVES.—Resident Medical Officer. Salary, £200 per annum.

BRADFORD ROYAL INFIRMARY.—Two House-Surgeons (males). Salary, £100 per annum each.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-Resident House-Surgeon. Salary at the rate of £150 per annum.

BRISTOL CITY ASYLUM. — Second Assistant Medical Officer. Salary, £200 per annum, rising to £250.

BURY ST. EDMUNDS: WEST SUFFOLK GENERAL HOSPITAL. —Resident Medical Officer. Salary, £120 per annum.

CANNING TOWN WOMEN'S SETTLEMENT HOSPITAL, Plaistow, E.—Senior Resident Medical Officer (female). Salary, £120 per annum.

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.—Bacteriologist. Salary, £300 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—Two House-Surgeons. Salary, £100 per annum.

CHORLEY: RAWCLIFFE HOSPITAL. — House-Surgeon (male). Salary, £100 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Physician; (2) House-Surgeon; (males). Salary, £100 per annum each.

DERBYSHIRE ROYAL INFIRMARY. — Honorary Assistant Physician.

DEVONPORT: ROYAL ALBERT HOSPITAL.—(1) House-Surgeon: salary at the rate of £150 per annum. (2) Locumtenent as House-Surgeon; salary, £5 5s. per week.

FALKLAND ISLANDS.—Assistant Colonial Surgeon. Salary, £400 per annum.

FIFE AND KINROSS EDUCATION COMMITTEE. — Assistant School Medical Officer. Salary, £250 per annum, rising to £300.

GLASGOW UNIVERSITY.—(1) Lecturer in Materia Medica and Pharmacology; salary, £350 to £400 per annum. (2) Assistant to Professor of Physiology; stipend, £150 per annum.

GREENWICH UNION INFIRMARY. — First Assistant Medical Officer. Salary, £175 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY. — Third House-Surgeon. Salary, £100 per annum.

HANTS COUNTY ASYLUM, Fareham.—Third Assistant Medical Officer. Salary, £250 per annum.

HEREFORDSHIRE COUNTY COUNCIL.—(1) Assistant to Medical Officer of Health; salary, £300 per annum. (2) Locumtenent for Tuberculosis Department; salary, £6 6s. per week.

HUDDERSFIELD EDUCATION AUTHORITY.—Assistant School Medical Officer. Salary, £300 per annum.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House-Surgeon (male). Salary, £80 per annum.

HULL: ROYAL INFIRMARY.—(1) Senior House-Surgeon. (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

HULL: VICTORIA HOSPITAL FOR SICK CHILDREN.—Lady Assistant House-Surgeon. Salary, £45 per annum.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £250 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

KING'S COLLEGE HOSPITAL, Denmark Hill, S.E. — Assistant Obstetric Physician.

LEAMINGTON SPA, WARNEFORD, LEAMINGTON AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary, £100 and £85 per annum respectively.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £130 per annum.

LEICESTER PARISH.—Senior and Junior Assistant Medical Officers at the North Evington Poor Law Infirmary. Salary, £200 and £150 per annum respectively.

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary, £120 per annum.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE. — Research Assistant in the Runcorn Research Laboratory. Salary, £120 per annum.

LIVERPOOL STANLEY HOSPITAL.—(1) Two House-Physicians. (2) Two House-Surgeons. Salary, £80 per annum each.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL. — House-Surgeon. Salary at the rate of £150 per annum.

MAIDSTONE: WEST KENT GENERAL HOSPITAL. — Assistant House-Surgeon. Salary, £80 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary, £60 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER ROYAL INFIRMARY. — Medical Officer for Out-patients and Accidents to the Central Branch. Salary at the rate of £100 per annum.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officers for the Infectious Hospitals Service. Salary, £250 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Resident Medical Officer (male). Salary at the rate of £80 per annum.

NEWARK-ON-TRENT HOSPITAL.—Lady Resident Medical Officer. Salary, £100 per annum.

NORTHAMPTON GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

NOTTINGHAM CITY.—Resident Assistant Medical Officer at the Bagthorpe Institution and Infirmary. Salary at the rate of £165 per annum.

NOTTINGHAM GENERAL DISPENSARY. — Assistant Resident Surgeon (male). Salary, £180 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

PETERBOROUGH INFIRMARY AND DISPENSARY. — House-Surgeon (male). Salary at the rate of £120 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Male Assistant Resident Medical Officer. Salary at the rate of £100 per annum and £10 honorarium on completion of six months.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary, £100 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary at the rate of £80 per annum.

ROCHDALE INFIRMARY AND DISPENSARY. — Senior House-Surgeon (male). Salary, £120 per annum.

ROYAL EAR HOSPITAL, Soho, W.—House-Surgeon, non-resident. Honorarium, £40 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—(1) Resident Medical Officer. (2) House-Physician. Salary at the rate of £120 and £60 per annum respectively.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion Square, W.C.—Assistant Surgeon.

SALFORD ROYAL HOSPITAL.—(1) House-Surgeon. (2) Junior House-Surgeon. (3) Casualty House-Surgeon. Salary at the rate of £100 per annum each.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £150 per annum.

SALOP INFIRMARY.—House-Physician. Salary at the rate of £110 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY. — Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: CHILDREN'S HOSPITAL.—House-Surgeon for the East End Branch. Salary, £120 per annum.

SHREWSBURY: COUNTY ASYLUM. — Second Assistant Medical Officer (male). Salary, £230 per annum, rising to £250.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOU ¿SHIELDS AND WESTOE DISPENSARY. — Junior House-S on (male). Salary, £115 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

STAFFORDSHIRE, WOLVERHAMPTON, AND DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS. — Locumtenent Tuberculosis Officer. Salary, £7 7s. per week.

SWANSEA GENERAL AND EYE HOSPITAL. — Two House-Surgeons. Salary, £125 per annum.

THROAT HOSPITAL, Golden Square, W.—Two Resident House-Surgeons. Salary at the rate of £75 per annum each.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon (male). Salary, £100 per annum.

WALSALL AND DISTRICT HOSPITAL.—Assistant House-Surgeon. Salary, £110 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL. — Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM COUNTY BOROUGH.—Assistant School Medical Officer. Salary, £250 per annum, rising to £400.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—(1) Senior House-Physician. (2) Senior House-Surgeon. Salary at the rate of £100 per annum each.

WESTMINSTER UNION INFIRMARY.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

WINSLEY SANATORIUM FOR CONSUMPTION.—Assistant Resident Medical Officer. Salary, £150 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

WREXHAM INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

YORK COUNTY HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

CERTIFYING FACTORY SURGEONS. — The Chief Inspector of Factories announces the following vacant appointments: East Newcastle (Northumberland), Maiden Newton (Dorset), West Newcastle (Northumberland).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

ASHBY, Hugh T., B.A., M.B., B.C.Cantab., M.R.C.P.Lond., Honorary Physician to the Salford Royal Hospital.

BARRINGTON-WARD, L. E., Ch.M., F.R.C.S., Surgeon (Out-patients) to the Great Northern Central Hospital.

GREENE, Arthur, M.A., M.D., F.R.C.S.I., Honorary Ophthalmic Surgeon to Watt's Naval Training School, Norfolk.

GREGOR, Alexander, M.D., Medical Referee under the Workmen's Compensation Act for County Court Circuit No. 59, and to be attached more particularly to Penzance, Helston, Redruth, Falmouth, Truro, St. Austell, and St. Columb Major County Courts, vice Dr. Sharp, resigned.

HOWELL, James B., M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health for Hammersmith.

HUDSON, R., M.D.Durh., L.R.C.P.and S.Irel., for the Pontymister District, co. Monmouth.

JONES, William E., M.R.C.S.Eng., L.R.C.P., Honorary Anaesthetist at the Blackburn and East Lancashire Royal Infirmary.

MACKAY, D. Matheson, M.D., C.M.Edin., M.R.C.S.Eng., L.R.C.P.Lond., Honorary Ophthalmic Surgeon to the Hull Royal Infirmary.

PINCHIN, A. J. Scott, M.D.Lond., M.R.C.P.Eng., Physician to Out-patients at the Hampstead General and North-West London Hospital.

POSTLETHWAITE, J. M., M.R.C.S., L.R.C.P., for the Whalley District, co. Lancaster.

POTTS, W. A., M.A., M.D., Medical Officer to the Birmingham Committee for the Care of the Mentally Defective.

RUSSELL, J. R., M.D.Durh., M.R.C.S., for the Westerham District, co. Kent.

SEDGWICK, Richard Ernest, M.D.Camb., Medical Referee under the Workmen's Compensation Act for County Court Circuit No. 3, and to be attached more particularly to the Carlisle, Haltwistle and Alston, Brampton, Penrith, Wigton, Appleby, and Keswick County Courts, vice Dr. Roderick Maclaren, deceased.

SYMES, John, M.B., Medical Referee under the Workmen's Compensation Act for County Court Circuit No. 59, and to be attached more particularly to Penzance, Helston, Redruth, Falmouth, Truro, St. Austell, and St. Columb Major County Courts, vice Dr. Sharp, resigned.

WATT, R. H., M.D.Edin., for the Longholm District, co. Dumfries.

WILLIS, Morley, F.R.C.S., Medical Referee under the Workmen's Compensation Act for County Court Circuit No. 18, and to be attached more particularly to the Nottingham and Newark County Courts.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

MCCARDIE. — On July 13th, at 39, Frederick Road, Edgbaston, Birmingham, the wife of Dr. McCardie of a son.

MARRIAGES.

HICKS—JAMES.—On July 8th, at Holy Trinity, South Hampstead, by the Rev. Arthur Griffiths, John Athelstan Braxton Hicks, M.D., M.R.C.P., only son of the late A. Braxton Hicks, Barrister-at-Law, H.M. Coroner, and Mrs. A. Braxton Hicks, of 3A, Perham Road, W., to Adeline Stephanie, only daughter of Wm. Lamprey James, Esq., of Exeter, and Mrs. Hall, of Westcliff-on-Sea.

TRAYLEN—KERSS.—On the 11th July, at St. Peter's Church, Belsize Park, Hampstead, by the Rev. H. M. M. Hackett, M.A., LL.D., Vicar, Charles Leonard Traylen, M.R.C.S., L.R.C.P., second son of the late J. C. Traylen, A.R.I.B.A., of Stamford, Lincolnshire, to Jane Douglas Kerss, daughter of J. J. Douglas Kerss, Esq., and Mrs. Kerss, of 3, Crossfield Road, Hampstead.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.

LONDON HOSPITAL MEDICAL COLLEGE, Turner Street, E.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, Chenies Street, London, W.C.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	JULY.
19 Sun.	Holland Division, Sleaford, 3 p.m.
	ANNUAL MEETING, ABERDEEN, 1914.
	Annual Representative Meeting, Friday, July 24th, and following days.
	Special Representative Meeting, July 27th.
	Presidential Address, Tuesday, July 28th.

Date.	Meetings to be Held.
	ANNUAL MEETING (*continued*).
	Sections—July 29th, July 30th, and July 31st.
	Annual Exhibition, July 28th–31st.
	Excursions, August 1st.
	(*See also p. 64 et seq.*)
29 Wed.	Scottish Committee, Scottish Committee Room, Aberdeen, 2 p.m.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 25TH, 1914.

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FUTURE DEVELOPMENTS OF THE INSURANCE ACT.

BUDGET PROPOSALS.

THE following Report of the Future Developments of the Insurance Acts Committee concerning the Budget proposals as to developments of the medical service under the Insurance Acts will be presented to the Annual Representative Meeting, and is here printed for the information of Divisions.

REPORT.

1. In par. 265 of the Supplementary Report of Council (page 479, SUPPLEMENT, June 27th, 1914) the Council reported that the Divisions had been asked to express their opinion on certain suggestions which were made after consideration of the proposals of the Chancellor for the development of the medical service under the Insurance Acts; and that it was hoped to issue a further report after these questions had been considered.

2. For the Report and Questions submitted to the Divisions *see* SUPPLEMENT, June 13th, p. 433.

ANALYSIS OF REPLIES.

3. The replies of the Divisions have now been analysed and the Chairman of the Committee, on behalf of the Committee, presents the following statement to the Representative Body.

4. The Report and Questions were sent out June 10th, 1914, to the following Divisions:

England	157
Scotland	25
Wales	8
Ireland	11
	201

Up to July 10th, 75 replies had been received, classified as follows:

England	64
Scotland	9
Wales	2
Ireland	—
	75

5. Since July 10th about a dozen other replies have been received. Although time has not allowed of them being analysed, they are on very similar lines to those mentioned above.

Provision of Institutional Treatment.

Question I. (a)—Is there sufficient hospital accommodation at present in the area of the Division to meet the requirements of the population?

Divisions answering "Yes" ...	30
,, ,, "No" ...	40

The Divisions answering "yes" may be divided into 24, which are mainly urban in character, and 6 which are mainly rural in character.

The 40 Divisions answering "no" may be divided into 30 mainly urban and 10 mainly rural.

Question I. (b)—Is the Division in favour of the suggestion as to the provision of capital by the Government to enable more hospital accommodation to be provided?

41 Divisions are in favour of the suggestions.

18 are against.

Of the Divisions in favour many express qualifications such as "if necessary," "if it does not involve interference with staff," "it seems to be inevitable," etc. Strong expressions of concern are made by several Divisions, which fear that the present voluntary hospital system may be upset.

Question I. (c)—If not in favour of the above suggestion, does the Division make any alternative suggestion?

5 Divisions suggest that vigorous efforts should be made to obtain more money from voluntary contributions.

Question I. (d)—Does the Division agree with the principle.....that patients whose treatment is subsidised by the State or other public authority could not be regarded by the profession as proper subjects for charitable treatment, and that those giving the treatment should be paid for their services?

56 Divisions agree with the principle.

8 do not agree with it.

One says the time is not ripe for consideration, and one reports that opinion was equally divided.

Of those agreeing with the principle 10 express the opinion that they would rather preserve the voluntary system in its entirety if possible.

Excessive Claims for Sickness Benefit and Medical Attendance.

Question II. (a)—Does the Division agree with the suggestion that the demand for medical attendance and sickness benefit beyond what was anticipated by actuarial estimate is due mainly to the existence among the insured of a large amount of sickness previously untreated or inadequately treated?

All except 4 agree to this proposition.

Question II. (b)—Is there any other cause which can be suggested for the increase?

Inclusion of women	12
Over insurance	9
Admission of bad lives	9
Desire to get something for their compulsory payments	6
Actuarial calculation based on picked lives	6
Inclusion of diseases due to misconduct	4
Novelty of system (now passing off)	3
Pregnancy claims	3
Lack of feeling of personal responsibility on part of insured	3
Initial three days without sick pay	3
Malingering	3
Low wages among women workers	2
Inclusion of domestic servants	2

The following are also suggested as reasons for the increase:—

(a) Activity of agents in getting persons to apply for benefits; (b) many people who are now insured are more fastidious than old club patients were as to the quantity and quality of their treatment; (c) patients have a higher standard of what their condition of health should be before returning to work; (d) unlimited panels—less time for proper examination and treatment; (e) the weakness of some practitioners in encouraging people to apply unnecessarily; (f) the open panel system allowing inclusion of "some doctors who will sign anything."

Question II. (c)—Does the present system tend to encourage patients to consult the doctor unnecessarily? Should any check be put on the patient's right to consult the doctor whenever he chooses? or does the Division think that on the whole it is better that the patient should be encouraged to see the doctor early even in cases which may (or may not) prove to be trivial?

Divisions which think present system encourages patients to consult doctor unnecessarily	35
Divisions which are not of this opinion	24
Doubtful	3
Divisions which consider that a check should be put on the right of the patient to consult the doctor whenever he chooses	1
Divisions which consider such a check desirable but impracticable	3
Divisions which do not wish for a check	60
Divisions which are of opinion that patients should be encouraged to see the doctor early in all cases	48
Divisions which state that they consider that any such encouragement is unnecessary	3

Question II. (d)—If the Division considers that there should be a check of the kind above alluded to the Committee would be glad to have any suggestions as to the nature of the check.

Most Divisions replying on this say that such a check even if desirable would not be practicable. Several suggest vaguely "a financial check."

Proposed New Services.

Control.

Question 1 (a)—Does the Division agree that it would be unwise to place clinical arrangements under the control of the Public Health Authority and consequently in all probability under the control of the Medical Officer of Health?

72 Divisions state, many of them with great emphasis, that they are of opinion that it would be unwise to place the proposed clinical arrangements under the control of the Public Health Authority. No Division gives an opinion in favour of control by the Public Health Authority.

Question 1. (b)—If the answer to the above is in the affirmative, does the Division agree with the proposal to set up a new Joint Committee or other new clinical authority?

Divisions which agree with the proposal to set up a new authority	60
Divisions which disagree with the proposal	8

Of the 8 Divisions which disagree with the proposal, one would prefer the Insurance Committee; another the Insurance Committee plus representatives of hospital staffs and managers; another suggests that the clinical arrangements should be under a "medical director" responsible to a Minister of Public Health; another that the authority should be a sub-committee of the Public Health Authority with representatives from Insurance, Education and Panel Committees, and from the Hospitals—the Sub-Committee to have a Clinical Medical Officer (not the M.O.H.) responsible to it. Many indicate that failing the institution of a new Joint Committee they would prefer the Insurance Committee to be the clinical authority.

Question I (c)—If the Division disagrees with the proposal the Committee would be glad to have alternative suggestions either as to principle, or as to the details of the proposed Joint Committee.

The following suggestions are made as regards the composition of the proposed new authority:

(a) Representatives of Local Division of B.M.A. instead of Local Medical Committee;

(b) Medical profession should be in the majority;

(c) Both Panel and Local Medical Committees to have representatives;

(d) Representatives of local medical profession and University Medical Colleges and Queen's Nurses, instead of representatives of Local Medical Committee;

(e) Nursing service to be represented, medical and clinical matters to be referred to an Advisory Committee of medical men.

QUESTION 2.—*Details as to Services (Laboratories).*

Question 2 (a).—Has the Division any suggestion to make as to the detailed work of the proposed clinical laboratories.

Suggestions are made that the work of the laboratories should include X-ray work: that local practitioners should be encouraged to attend the laboratories; and that great stress should be laid upon the personality of the head of the laboratory, who should be a whole-time and well qualified pathologist.

Many Divisions say that in the absence of fuller information they cannot give any answer to this question.

Question 2 (b).—Does the Division approve of the suggestion that the new laboratories should be linked up as far as possible with the Universities and other similar institutions?

Practically all the Divisions approve of the linking up of the laboratories with Universities and similar institutions.

One Division suggests that when the work is well done by the health authorities it should be left to them; two Divisions prefer that matter should be left to local hospitals; West Cornwall states that the linking up with the Universities would hardly affect that area as there is no University near enough; and Derbyshire considers that paragraphs 23 and 24 of the Report do not go far enough—to have the laboratory which served the Borough of Derby dependent upon the University Pathologist of Sheffield or Birmingham would render the laboratory of little or no *clinical* benefit. Boroughs such as Derby, of the size to have a good general hospital, ought to have a resident Pathologist, and he, possibly by virtue of his appointment, would be on the staff of all clinical institutions in the district and so be in close touch with all the clinical work which was going on.

Nursing.

Question (a)—Is the Division in favour of the provision of a nursing service to be utilised for the whole working class population?

All the Divisions replying are in favour except two, which think the work is adequately done now by charitable associations.

Question (b) Does the Division agree with the proposals made in paragraph 27 for the institution of such a service? and has it any additional suggestions to make on the subject?

Several Divisions think there should be a wage limit for persons entitled to use the nursing service. Many urge the necessity of safeguards lest nurses be used as independent practitioners. Several point out the necessity of the Model Rules of the Association as regards Nursing Associations being incorporated in any Rules for a nursing service. All agree that the existing associations should be utilised.

Several Divisions urge the necessity of pressing for state registration of nurses before the new service is instituted so that a proper standard may be maintained; two Divisions think that the service should be under the Insurance Committee; all the other Divisions prefer the proposed new Joint Committee if possible.

Referee-Consultants.

Question—Does the Division agree with the suggestions regarding these officers as laid down in this paragraph (paragraph 29)?

To deal with the suggestions *seriatim:*

(a) That as already agreed by the Special Representative Meeting, December, 1913 (Minute 70) they should be appointed by the Commissioners and only be removable by them; that they should be whole time officers and practitioners of not less than ten years' standing; that the commencing salary should not be less than £750 per annum; and that the appointment should be pensionable.

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55 Divisions agree.

1 Division disagrees.

2 Divisions think the referee duties should be entirely separate from the consultant duties.

4 Divisions prefer part-time officers.

(b) That they should be advisers on medical questions to the proposed Joint Committee, or failing it to the Insurance Committees.

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56 Divisions agree with the suggestion.

4 Divisions disagree.

(c) That in ordinary circumstances the specialist, or consultant, should be called in by the referee after consultation with the practitioner in attendance, but that arrangements should be made whereby in cases of emergency the practitioner should be entitled to call in a consultant and afterwards to report to the referee.

---

47 Divisions agree with the suggestion.

4 Divisions disagree.

(d) That consultants should not be whole-time officers.

All the Divisions replying agree except one.

(e) That with a view to preventing excessive use being made of the services of the referee, practitioners should be required to furnish a report of the case to the referee whenever that officer is called in on the practitioner's initiative, and should also be required to attend the consultation.

All the Divisions replying except seven, either definitely agree or make no comment.

Only four definitely disagree: One protests against any further reports being expected from a practitioner; another thinks that reports should only be expected in exceptional cases; another agrees with the proposition if the practitioner is required *either* to furnish a report *or* to attend a consultation.

(f) That approved Societies desiring the services of the referee should be required to make a full report as to their reasons therefor. Possibly the Societies might be expected to make a small payment for each case referred, as a further check on undue use of the referee's services.

All the Divisions replying agree unconditionally to the above suggestion except 5, and these make the following suggestions:

(a) deposit to be forfeited if the referee thinks the case is a frivolous one;
(b) Society should not pay anything;
(c) Societies should be definitely required to make an adequate payment.

Treatment Centres.

Question: Does the Division agree with the suggestions made in this paragraph? Has it any further suggestions to make on this subject?

---

55 Divisions agree with the suggestions.
11 disagree.

One Division agrees if it is understood that no deduction is to be made from the payments due to the panel doctor.

Furness Division makes the following comment:

"The Division considers the idea of Treatment Centres would be difficult to carry out in this area. Consultants would have to travel from Manchester, 100 miles, and a large fee paid to see quite a few. More economical method would be to send patients to Manchester. The Division is at a loss to know who would treat the patients at the Treatment Centre in an area similar to this, in view of the above fact, i.e., distance from consultants. Any such centre should be under control of new Joint Committee proposed."

The following further remarks are made on this subject:—

(a) "The Centre should be available for those insured persons who have made their own arrangements and whose doctors desire the opportunity of treating them at the Centre."

(b) "The word 'Clinic' appears to be preferable. The principle of the Clinics is agreed with, but all treatment, &c., undertaken by medical practitioners in such clinics should be paid for independently of capitation or other payment for attendance on insured persons."

"(c) These centres to be the district hospitals and to serve in *country districts*:

1. For treatment of urgent medical and surgical cases.
2. Treatment of school children.
3. Tuberculosis dispensaries.
4. Places where consultations can take place between patient, doctor, and consultants or tuberculosis officers."

(d) The work mentioned in this paragraph should be carried out at the Hospital and furthermore arrangements should be made by which all practitioners should have the opportunity of consulting with the staff and their fellow practitioners.

COMMENT ON ABOVE BY CHAIRMAN OF COMMITTEE.

In placing this Report before the Representative Body, the Chairman trusts that the practical unanimity of the Divisions on the suggestions submitted to them will enable the Representative Body to give such instructions as will enable the Council to press on the Government the views of the Association on these important and urgent matters. It is noted that the Insurance Act Committee, in considering this subject,

makes the following recommendation which the Chairman submits for the consideration of the Representative Body :—

Recommendation.—That the decisions of the Representative Body arising out of the Report of the Future Developments of the Insurance Acts Committee upon the matters referred to in the Budget Speech of the Chancellor of the Exchequer be forwarded immediately to the proper authority as the opinion of the medical profession thereon.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

Panel Committee.

At the first meeting of the newly-elected Panel Committee for London, held on July 21st, Dr. H. J. Cardale was appointed chairman, Dr. J. A. Angus vice-chairman, and Dr. Lauriston E. Shaw treasurer.

The Drug Fund.—It was reported that the cost of drugs and appliances for the first quarter of the medical year, 1914, was about £60,000, whereas the total amount available for the year was only about £150,000. As it appeared that some practitioners prescribed unduly expensive or excessive quantities of drugs, a letter had been sent to every practitioner on the panel calling attention to the matter.

Co-option of Members.—The Chairman said that the Committee had recently passed a resolution that it was desirable that the personnel of the Panel and Local Medical Committees should be identical. By means of co-option that desire might be accomplished. Dr. Major Greenwood thought it would be well to co-opt non-panel doctors elected on the Local Medical Committee. In no better way could harmony be promoted in the profession. A special subcommittee was appointed to report on the subject.

A List of Prohibited Drugs.—The meeting gave informal consideration to an extensive list, which the Insurance Committee considered on July 23rd, of preparations to be disallowed if supplied at the cost of the drug fund. The view was strongly expressed that although the meeting was in sympathy with the prohibition of practically all the items on the list, the Panel Committee should have been consulted before the Insurance Committee was recommended to take definite action. Mr. Atteridge moved that on this ground the Panel Committee Representatives be asked to seek postponement of the consideration of the list at the meeting of the Insurance Committee. This was voted down as it was felt that it might convey the impression that the Panel Committee sympathized with the prescribing of the prohibited articles. A motion was then carried expressing a desire for the insertion in the Insurance Committee's resolution of the words, "subject to the approval of the Panel Committee."

"*Rep. Mist.*"—The Pharmacy Subcommittee recommended that until an official pharmacopoeia was recognized by the Insurance, Panel, and Pharmaceutical Committees, or some modification was made in the method of ordering drugs and appliances, practitioners should be permitted to use the form "Rep. mist.," provided that the date of the original prescription was given and that the original prescription was supplied during the same calendar month. Dr. E. G. Goldie objected to this proposal on the ground that it would add to the work of the busy doctor. Dr. Major Greenwood spoke on the other side, and the recommendation was carried by 27 votes to 4.

CROYDON.

Local Medical Committee.

At a meeting of the Local Medical Committee, held on July 17th, Dr. Willock was elected chairman, Dr. Gilbert Genge honorary secretary, and Dr. Murphy treasurer.

Medical Service Subcommittee. — Dr. Nicholls was elected a member of the Medical Service Subcommittee.

Amendments to Drug Tariff.—A report relating to amendments required to the drug tariff was adopted and sent to the British Medical Association.

Panel Committee.

At a meeting of the Panel Committee, held on July 16th, Dr. C. G. C. Scudamore was elected chairman, and Dr. G. Gilbert Genge honorary secretary and treasurer. Drs. Willock, Genge, and Simmons were elected to serve on the Medical Service Subcommittee, and Dr. J. A. Howard was elected to complete the total number of elected members of the Committee.

Reports of Medical Service Subcommittee.—In reply to an inquiry, the Honorary Secretary was instructed to inform the Medical Secretary of the British Medical Association that the Croydon Insurance Committee already had a standing order as follows :

The names of persons concerned in cases of complaint reported upon by the Medical Service Subcommittee shall not be printed in the reports of that Subcommittee to the Committee.

BRISTOL.

Annual Report.

The first annual report of the Bristol Panel Committee has just been issued in pamphlet form, and summarizes most of the principal matters which have been before the Committee. Since it came into office last January it had held, down to the end of June, fourteen meetings, and the average attendance of 90 per cent. of the members shows the interest taken in its work. In its financial statement the liabilities up to June 30th are put down at about £92, but of this sum £60 is the half year's contribution of the Committee towards the salary of the medical adviser and referee, this being at the rate of 10s. a case on the number referred to him by the doctors themselves last year. It is understood that approved societies which use his services shall also contribute, but the payment by the Panel Committee is made as a matter of convenience to the panel practitioners and without prejudice to the question of the liability of the profession to pay any portion of such salary. It is subject to quarterly revision, and is given on the understanding that the approved societies will make use of his services without appointing their own referees.

On the question of the unallocated funds for 1913, the Panel Committee resolved in February that the distribution should be made *pro rata* to the doctors' acceptances up to January, 1914. The Insurance Committee, however, declined to accept this, but as the result of correspondence and an interview it was mutually agreed that the fund should be divided into two equal parts, one half being equally divided amongst all the practitioners on the panel, and the other half *pro rata* to their acceptances during the year, whole-time medical officers of institutions and assistants who accept no patients in their own name being excepted from the distribution.

Questions having arisen as to co-operation with approved societies, a conference with representatives of societies was arranged, and as a result the Panel Committee recommended that all panel practitioners should welcome and give fullest consideration to all information about the habits and conduct of insured persons, provided that it be sent in writing by the chief district officers of approved societies, but that professional confidence could only be maintained by refusing to give society officers any information other than can be conveyed by the certificates, and refusing personal interview with any agent, sick visitor, or other official of a society.

At the conference of Local Medical and Panel Committees convened by the British Medical Association in March, the Panel Committee was represented by its chairman, Dr. Devis, who was elected as a member of the provisional committee by that conference, and the Panel Committee resolved to guarantee a subscription of £6 towards the expenses.

In February the Committee urged the Bristol Insurance Committee to adopt a more generous attitude in allowing insured persons to make their own arrangements for medical benefit, but so far the Insurance Committee had hardly modified its attitude.

Early in the year the Insurance Committee applied to the Panel Committee for a payment towards the cost of the special continuous scrutiny of prescriptions issued by panel practitioners, with a view to controlling any tendency to excessive claims on the drug fund, and the sum of £50 per annum was suggested, but in spite of a second application the Panel Committee resolved to take no action. This may, perhaps, be read in conjunction with

the application of the Panel Committee under Section 33 of the Insurance Act, 1913, that a levy of ½d. a quarter for each insured person should be made for the expenses of the Committee. In reply to this application the Insurance Committee sought to make it a condition that the Panel Committee should pay £12 10s. a quarter towards the cost of checking prescriptions. As this condition was resented, the Panel Committee withdrew the application for a compulsory levy, and a voluntary levy of the same amount has been agreed on; this gives complete freedom from outside interference. The Bristol Panel Committee is not the only one that feels that it is under no legal obligation to contribute towards the cost of checking prescriptions.

The question of certificates for obtaining compensation under the Workmen's Compensation Act was fully considered in June, and it was resolved that such certificates should be withheld unless payment of 2s. 6d. for a simple certificate and 10s. 6d. for a full report is made or guaranteed, and the report quotes the two sections of the Compensation Act which make it incumbent on the employer to pay for any such certificate he requires a workman to obtain.

In accordance with a letter from the Medical Secretary of the British Medical Association, the Committee resolved to recommend the Insurance Committee to adopt a standing order providing that the names of doctors and persons concerned in cases of complaints reported on by the Medical Service Subcommittee shall not be printed in the reports to the Insurance Committee, so that identification may be impossible while the Insurance Committee has the question under discussion. At the same time it is evident that such complaints are extremely rare in Bristol.

The report concludes by quoting the form of indemnity which the Insurance Committee will accept as sufficient to enable it to deduct from sums due to practitioners such amount as may be resolved on and requisitioned by the Panel Committee, the aggregate not to exceed £250 in a year. As this is in the nature of a voluntary levy, to take the place of the compulsory levy which might be made under the Act of 1913, but which carries with it certain disabilities, every practitioner on the panel is urged to sign the indemnity.

NORTH RIDING OF YORKSHIRE.

Panel Committee.

THE third meeting of the Panel Committee was held at York on July 9th, when Dr. CANDLER-HOPE was in the chair, and fifteen practitioners, Mr. A. E. Walster (solicitor), and the clerk to the North Riding Insurance Committee were present.

Voluntary Levy.—On the motion of Dr. SCOTT, seconded by Dr. MURRAY, it was resolved that the motion of March 26th last be rescinded, and that a voluntary levy be adopted.

Finance.—Dr. MILLS, treasurer, presented his statement of accounts.

Scarborough Chemists' Claim on Panel Fund.—On the motion of Dr. ELVINS, seconded by Dr. CANDLER-HOPE, the Committee declined to consider the request of the Pharmaceutical Committee for the payment of their expenses out of the funds available for medical treatment.

Allocation.—It was agreed, on the motion of Dr. BAIGENT, seconded by Dr. TOWNSEND, that the allocation for 1914 be by unit as follows:

1 unit for 25
2 units for 25–50
3 units for 50 up to 100
4 units above 100 (equal shares)

Half these for border men, who are to be defined as "practitioners not residing in the area, but on the North Riding panel, and also on the panel of another county."

Pharmacopoeia.—It was agreed to appoint a committee to draw up a pharmacopoeia for the North Riding if the Insurance Committee agreed and to consider the ordering of drugs and medicine in connexion with domiciliary treatment of tuberculosis.

Domiciliary Treatment.—It was resolved, on the proposition of Dr. BAIGENT, that all cases of tuberculosis be treated as domiciliary cases.

District Medical Centres.—The following scheme for district medical centres was sanctioned: Barnard Castle, Leyburn, Malton, Northallerton, Pickering, Richmond, East Cleveland (Saltburn), Scarborough, Central Cleveland (South Bank), Thirsk, Thornaby-on-Tees, Whitby, West Cleveland (Yarm), York. It was suggested that all the doctors who collectively compose the fourteen North Riding medical centres should remain loyal to the referees of their own choice.

Mode of Election.—On the motion of Dr. LONG, seconded by Dr. SCOTT, it was agreed that Model Scheme B be accepted for this election only, and the expenses thereof to be paid by the Insurance Commissioners. It was agreed, on the motion of Dr. BAIGENT, seconded by Dr. STEELE, that there should be five centres (electoral) for the returning officer to meet the North Riding practitioners.

Certification.—The HONORARY SECRETARY briefly outlined the business of the conference held in London on June 16th, which he and Dr. Burnett had attended.

Agreement for 1915.—The Honorary Secretary was instructed to forward a letter to the Insurance Committee requesting that the agreement with the practitioners for the year 1915 be in their hands by September, or as early afterwards as possible, so that there may be time for the consideration of the same before the end of the year 1914, and it was decided to ask the Insurance Committee for a copy of the Mileage Scheme for 1914.

Local Medical Committee.

The tenth meeting of the Local Medical Committee was held at York on July 9th, when Dr. CANDLER-HOPE was in the chair, and seven members and Mr. A. E. Walster (solicitor), were present.

Finance.—Dr. MILLS, treasurer, submitted a statement of accounts, which was directed to be audited on the completion of the term of office of the Committee on July 15th, 1914.

Election of New Committee.—It was decided that the personnel of the Local Medical and Panel Committees should be identical.

Secretaryship.—Mr. A. E. Walster, solicitor, was appointed co-secretary of the Local Medical and Panel Committees, along with Dr. Mills.

EDINBURGH.

A MEETING of the Burgh of Edinburgh Panel Committee was held on July 8th, when Dr. DEWAR occupied the chair, and eleven members were present.

Provisional Credits.—The SECRETARY read a letter from the Burgh Insurance Committee dealing with provisional credits, July, 1914, and the Pharmaceutical Committee's expenses. The Panel Committee was asked:

(*a*) To make arrangements with the Insurance Committee for enabling any insured person who makes application, to be assigned to a practitioner on the panel (Reg. XXI, 4).
(*b*) To consider the Insurance Committee's method of calculation of the doctor's remuneration, and the distribution of the unallocated money for the half year to 11th inst. (Reg. XXXV, 1 and 3).

After discussion, copies of the letter were directed to be sent to the members of the Committee for further consideration.

Payments to Panel Practitioners.—A Subcommittee, consisting of the Chairman and Secretary (*ex officiis*), Drs. McIntosh, Martin, and Robertson, was appointed to consider the payments already made to panel practitioners for the year 1913, and to consider and report on the Insurance Committee's scheme for the payment of the unallotted money for the half year to 11th current.

Allocation of Insured Persons.—A Subcommittee, consisting of the Chairman and Secretary (*ex officiis*), Drs. Senter, McLaren, and Wilson, was appointed to devise a scheme to enable any uninsured person who makes application, to be assigned to a practitioner on the panel.

Expenses of Pharmaceutical Committee.—It was agreed to hold a joint meeting of the Panel and Pharmaceutical Committees with regard to the question of the Pharmaceutical Committee's expenses.

Donation to the Royal Infirmary.—The CHAIRMAN reported that, as a result of the postcard issued to panel practitioners, 50 per cent. had authorized a deduction of 10 per cent. from their share of the 1913 unallotted money, one or two had given a modified consent, five had refused to allow the deduction, and fifty-three had not replied. The Secretary was instructed to write the Clerk to the Insurance Committee regarding the donation. On the motion of Dr. ROBERTSON, seconded by Dr. WILSON, it was

unanimously agreed to approve the Chairman's action in issuing the postcard referred to.

Transfers.—Attention was drawn by Dr. CRAIG to a case of transfer by the Insurance Committee of an insured person from the list of one doctor to that of another during the medical year within the Edinburgh insurance area without the knowledge or consent of the doctor on whose list the patient originally was. After consideration, it was unanimously resolved:

> That, with reference to the transfer of insured persons from one doctor to another during the medical year within the Edinburgh insurance area—due regard being had to the mileage limit of certain doctors—Regulation XXVI, 6 and 7, should be strictly adhered to.

The Secretary was instructed to write the Clerk to the Insurance Committee accordingly.

Domiciliary Treatment Extras.—The CHAIRMAN explained the position as regards Edinburgh. Domiciliary treatment was only granted by the Insurance Committee if the housing conditions met the requirements of the Local Government Board. The Insurance Commissioners would not sanction the prescribing of medical comforts for insured persons who received domiciliary treatment—that is, meat, eggs, butter, and milk. It would only allow articles which could be dispensed by a chemist up to the limit of 5s. a week, such as malt and cod-liver oil emulsions, tonics, and bovril. A letter was read from Dr. Gray, in which he expressed the opinion that without medical comforts domiciliary treatment was only a name. After discussion, the following motions were agreed to unanimously:

1. That the Insurance Committee should use every means at their disposal to urge upon the local authority the need for so altering and improving the home conditions of insured persons discharged from sanatorium institutional treatment as to entitle them to domiciliary treatment.
2. That patients removed from the sanatorium should automatically be put upon domiciliary treatment.

The Secretary was instructed to convey the Committee's decision to the Clerk to the Insurance Committee.

A meeting of the Burgh of Edinburgh Panel Committee was held on July 17th, when Dr. DEWAR occupied the chair and nine members were present.

Treatment of Unallotted Insured Persons.—The report of the Subcommittee appointed to devise a scheme for enabling any insured person who makes application to be assigned to a practitioner on the panel (Regulation XXI, 4) was presented. The following recommendation contained therein was unanimously agreed to:

> That the city be divided into areas, and where an application is made by an insured person for a doctor the clerk should assign such person to one or other of the doctors in the area in regular rotation. Each doctor will, on assignment, be responsible for the medical care of the insured person.

Remuneration.—The Insurance Committee's method of calculation of the doctor's remuneration and the distribution of the unallocated money for the half year to July 11th (Regulation XXXV, 1 and 3) were discussed. The Panel Committee agreed with the Insurance Committee's method of crediting to each practitioner on the panel, with respect to each of the persons included in his list at the beginning of each quarter, an amount calculated in accordance with the rate contained in his agreement with the Committee. With reference to such further capitation fees to be allotted, Dr. ROBERTSON moved and Dr. SENTER seconded the following, which were carried unanimously:

1. That there be a *pro rata* distribution among all the doctors on the Edinburgh panel.
2. That doctors resident in Leith and Midlothian should be credited with the fees so ascertained.
3. That the credit fees falling to doctors resident in Edinburgh should be pooled and divided amongst such doctors equally.

Budget Proposals and National Insurance.—The administration of Budget proposals, so far as they affect the national insurance scheme, was considered, and it was unanimously decided, on the motion of Dr. ORR, seconded by Dr. ROBERTSON, that the motion carried on June 24th in favour of the administration being placed in the hands of a new committee, be rescinded, and that the administration be placed in the hands of the Insurance Committees. The Secretary was instructed to write acquainting the local members of Parliament with the Committee's decision.

ROXBURGHSHIRE.

PANEL COMMITTEE.

A MEETING of the Panel Committee was held in the Railway Hotel, St. Boswells, on July 2nd, when Dr. CULLEN presided, and six members and the clerk were present.

Mileage Grant.—From correspondence with the County Insurance Committee regarding the mileage grant, it appeared that since the matter was discussed at the last meeting the Commissioners had sent instructions to the County Committee to distribute £48 of the grant in accordance with a schedule prepared by them, so that only £48 remained to be distributed, and the opinion of the Panel Committee was asked as to how the latter sum should be divided. Considerable discussion took place as to the unfair and unbusinesslike method adopted by the Commissioners in dealing with this matter, and the clerk was instructed to send the following reply to the Clerk of the Insurance Committee:

Mileage Grant.

I submitted your letter of 29th inst. to a meeting of my Committee held on Thursday last.

In the first place my Committee note that, since the last occasion on which this matter was before them the Commissioners have allocated £48 of the grant to certain doctors, so that only £48 remains to be allocated.

I am to point out that my Committee resent very much indeed, and most strongly protest against, the procedure adopted by the Commissioners in connexion with this matter. Seeing that this money was to be allocated among the doctors on the panel, my Committee consider that the matter ought to have been submitted to them for at least their observations and suggestions before any distribution of the grant was made. Indeed, they consider that it would only have been courteous on the part of the Commissioners to have done so. Instead of that, the Commissioners have apparently thought it proper to ignore my Committee, and to accept the representations made to them by their own inspectors, who can have no reliable knowledge of the special difficulties experienced by each individual panel practitioner in this area, and that for the perfectly obvious reason that each individual panel practitioner was not consulted, either by the Commissioners or by any one on their behalf, on the points which you state weighed with them in coming to a decision as to the distribution of a portion of the grant. Moreover, my Committee is informed that even the Insurance Committee as a body were not consulted by the Commissioners in connexion with this matter. The Commissioners have thus ignored both the Insurance Committee and the Panel Committee, which bodies are alone capable of giving the Commissioners the necessary information with regard to the proper allocation of the grant in question.

The members of my Committee, who were present at the meeting on Thursday first, and who had received a portion of the grant, expressed the view that they would have preferred the whole matter to have been submitted to and disposed of by the Panel Committee before any distribution of the grant was made to them, and they are willing, even yet, to refund the money paid to them in order that this may be done.

In the whole circumstances, I am instructed to inform you that my Committee refuse to express any opinion as to the allocation of the remaining portion of the grant, on the grounds that (1) they ought to have been consulted regarding the allocation of the whole of the grant, and (2) that the portion of the grant already allocated has been so allocated in an unfair and improper manner.

Emergency Drugs and Appliances.—A letter was read from the Insurance Commissioners dealing with the list of emergency drugs and appliances submitted to them by the Pharmaceutical and this Committee, and the clerk was instructed to reply that sal-alembroth would not do as a substitute for corrosive sublimate wool, and that the usefulness in an emergency of the drugs mentioned was sufficiently proved by local customs and conditions.

Budget Proposals affecting the National Insurance Scheme.—A letter was submitted from the Chairman of the Local Medical Committee of the County of Lanark, along with the memorandum prepared by the Scottish Association of Insurance Committees regarding the recent Budget proposals affecting the national insurance scheme. The meeting, while sympathizing and concurring with the view expressed by the Insurance Committee, was of opinion that a Local Medical Committee should not take upon itself to circularize other Local Medical Committees throughout the country on such matters, but should communicate with a central body such as the British Medical Association, and allow it to circularize committees on subjects of universal importance.

Communication from the British Medical Association.—A circular from the British Medical Association, dated June 20th, relating to certain subjects was considered. The meeting expressed approval of the view that in

discussing reports of Medical Service Subcommittees the Insurance Committee should not mention either the name of the practitioner or the name of the patient, and the clerk was instructed to communicate to the Insurance Committee of this area the Model Standing Order securing secrecy on this point, based on that of the London Insurance Committee. The opinion that where a mistress wished a consultation in respect of her servant who was an insured person the panel practitioner concerned was entitled to charge a fee under such circumstances was noted. The meeting expressed the opinion that the discounting of chemists' accounts by Insurance Committees was very unfair and ought to be discontinued. It was also suggested that a meeting should be held with the Pharmaceutical Committee for the area for the purpose of drawing up a list of expensive and cheap drugs, to be circulated for the information of all concerned, with a view to conserving the drug fund.

Finance.—The Clerk reported that although the grant authorized in terms of Section 33, Subsection (2) of the Insurance Act, 1913, had been applied for jointly by the Pharmaceutical Committee and the Panel Committee on March 4th last, it was evidently the intention of the Commissioners not to make any grant until the end of the year. They had stated that until an estimate of the expenditure was prepared and submitted they would not consider the question of the grant. The Clerk reported that the administration expenses of Panel Committees had been met by voluntary levy in a number of insurance areas, and had apparently worked well. The voluntary levy would be deducted from the moneys payable to individual panel practitioners not exceeding one penny per insured person per annum on each list, as may from time to time be resolved upon and requisitioned by the Panel Committee, and that a form of application addressed to the Insurance Committee would require to be signed by each panel practitioner to authorize the deduction of this levy from the moneys payable. It was unanimously resolved to adopt the voluntary levy, and to intimate the withdrawal of the application for the grant referred to, so far as the Panel Committee was concerned.

INSURANCE ACT COMMITTEE.

THE eighteenth meeting of the Insurance Act Committee was held at the office of the Association on Thursday, July 16th. Dr. J. A. MACDONALD was in the chair, and the other members present were:—*England and Wales:* Dr. Mina L. Dobbie (London), Dr. E. R. Fothergill (Hove), Dr. Major Greenwood (London), Miss M. F. Ivens, M.S. (Liverpool), Dr. C. H. Milburn (Hull), Dr. I. W. Johnson (Bury), Mr. Herbert Jones (Hereford), Dr. G. K. Smiley (Derby), Mr. D. F. Todd (Sunderland), Dr. W. B. Crawford Treasure (Cardiff), Mr. E. B. Turner (London). *Scotland:* Dr. John Adams (Glasgow), Dr. R. McKenzie Johnston (Edinburgh). *Ireland:* Dr. J. S. Darling (Lurgan). *Ex officio:* Mr. T. Jenner Verrall, Chairman of Representative Meetings.

CERTIFICATES.

The Committee expressed the opinion that a practitioner who attended an insured person who was dissatisfied with his own panel practitioner, and supplied a certificate for Insurance Act purposes, was entitled to charge a fee for the same.

COMPLETE RECORDS.

It was decided, on the recommendation of the Defence Subcommittee, to draw the attention of Local Medical and Panel Committees to the desirability of impressing on practitioners the importance of keeping complete records of work done by them under the Insurance Act in view especially of the probability of it being necessary to collect further information at the end of the present year.

DRUG TARIFF—PRESCRIBING.

The Committee had before it the report of the Drug Tariff Subcommittee, and resolved to suggest to the Association members of the Advisory Committee certain emendations, and also authorized the Subcommittee to inform the representatives of the Pharmaceutical Society that the British Medical Association would use every effort to move Panel Committees to take full advantage of their powers in the matter of excessive prescribing given to them by Medical Regulation 40.

AGREEMENTS FOR 1915.

The following reply, dated July 6th, to an inquiry addressed to the Insurance Commissioners on April 1st, 1914, as to the time-table for medical agreements for the year 1915, was read:

> The Commissioners have now had an opportunity of reviewing the general situation in connexion with the continuance of the provision of medical benefit after the close of the current year, and they are accordingly now in a position to indicate the time-table which they propose to follow as regards the various stages in the consideration of the 1915 arrangements.
>
> The question of any revision of the current Regulations and agreement is already under consideration, and the Commissioners propose very shortly to fix dates for the preliminary discussion of any amendments which may prove in their opinion to be necessary or desirable. It is the intention of the Commissioners to hold the requisite conferences sufficiently early to enable them to make public and to issue to Insurance Committees the revised Regulations and Model Agreements, embodying such amendments as may ultimately be decided upon, by the first week in September. This will allow a period of seven weeks to be spent in collective discussion and negotiation between the medical profession and the Insurance Committee locally, it being essential that the form of the agreement should be finally settled by October 24th, at the very latest, to enable the Insurance Committee to prepare and print the necessary documents and to issue them to every practitioner on the panel without fail before November 5th.
>
> This time-table appears to the Commissioners to afford the fullest opportunity for consideration of the 1915 arrangements of which the circumstances will permit. They will use their best efforts to secure that it is strictly adhered to in practice.

It was resolved to obtain the opinion of the solicitor to the Association upon certain questions arising out of the judgement in the Salter case.

Regulations for 1915.

The Committee spent a considerable time in considering various suggestions for the amendment of the present regulations and instructed the Association members of the Advisory Committee thereon.

TITLE OF PANEL COMMITTEE.

On April 1st a letter written by the instructions of the Committee was forwarded to the Insurance Commissioners with reference to the title of Panel Committees. It was reported that the Commissioners had replied on June 9th to the following effect:

> (1) That the Commissioners had no special desire to retain the present title of Panel Committee provided some other title of equal appropriateness and general convenience can be found. (2) That the title "Practitioners Committee" proposed by the Association was hardly appropriate to a body expressly representative only of those practitioners who were under contract with the Insurance Commissioners. (3) That the Commissioners would be pleased to consider any observations or alternative suggestions which the Association might desire to offer on the subject with a view to meeting the desires of the Association, so far as they are in a position to do so.

UNALLOTTED FUNDS.

A communication was read from the General Secretary of the Scottish Clerks' Association forwarding copy of a resolution passed by the Committee of Management of that body, urging that the unallotted funds of Insurance Committees should not be distributed among the doctors on the panel but applied to the provision of more sanatorium accommodation and nurses.

The Insurance Act Committee resolved to inform the Scottish Clerks' Association that the Association had adopted the following resolution on the subject (Special Representative Meeting, December, 1913):

> *Minute 73.*—That such portion of the unallocated funds in the hands of Insurance Committees as are attributable to insured persons who have been attended individually as private patients should be distributed as a set-off to the medical bills of these patients,

and to state also that the Committee disagreed with the suggestion that any part of the funds should be diverted for any purpose whatsoever from the doctors who had attended, or were liable to attend, insured persons.

COMPENSATION CASES.

A letter of thanks was read from a brother of a deceased practitioner expressing, on behalf of himself and the

widow, their thanks for the assistance rendered. Two applications for assistance were considered. The Committee made a grant in one case, and regretted its inability to do so in the other. The Committee adhered to its previous decision in another case in which it had been unable to recommend a grant.

Appointment and Reference to the Committee.

In view of the resolution of the Council of June 24th, 1914, authorizing the Insurance Act Committee to report direct to the Representative Body as to the constitution and reference of the Insurance Act Committee for 1914–15 after consideration of the constitution, powers, and objects of the proposed Federation of Local Medical and Panel Committees, the Insurance Act Committee resolved to recommend to the Representative Body:

A. That an Insurance Act Committee be appointed for the forthcoming session with the same reference as that appointed by the Annual Representative Meeting, 1913, namely:

> To deal with all matters arising under the National Insurance Act that are dealt with by the National Insurance Commissioners, Insurance Committees, and Local Medical Committees; to watch the interests of the profession in relation to the National Insurance Act; and report to the Council.

B. That the Insurance Act Committee consist of the four *ex officio* members, two members to be elected by the Council, twelve members to be elected on a territorial basis by the grouped Representatives, one representative of each of the following organizations to be elected by the Council on the nomination of these bodies respectively, such nominees to be also members of the British Medical Association:

(*a*) the Association of Registered Medical Women together with the Northern Association of Registered Medical Women;
(*b*) the Society of Medical Officers of Health;
(*c*) The Poor Law Medical Officers Association of England and Wales.

C. That in the event of terms of co-operation being agreed to as between the proposed Federation and the Association, permission be given to the Insurance Act Committee to co-opt, on the nomination of the proposed Federation, seven additional members.

Subcommittees.

The Committee authorized the continuance in office of the existing Subcommittees until the first meeting of the Committee for the session 1914-15.

INSURANCE COMMITTEES.

Isle of Wight.

The Budget Proposals.—At a meeting of the Isle of Wight Insurance Committee on June 27th, the General Purposes Committee recommended that any schemes in connexion with nursing, medical referees, the establishment of clinics and pathological laboratories should be administered by the Insurance Committee. Dr. Robertson moved an amendment that the matter be referred back. This was seconded by Dr. Wood, and supported by Dr. Walker, the County Medical Officer of Health, who considered that medical referees should be appointed by the Commissioners. After some discussion the amendment was carried by 12 to 6. The question of the payment to be made to the County Council in respect of the services rendered by the County Medical Officer, Dr. Walker, in connexion with the applications for sanatorium benefit, the General Purposes Committee, having considered a recomendation from the Sanatorium Benefit Subcommittee that £60 should be paid for those services, suggested that the sum be paid subject to the approval of the Commissioners. An amendment proposing that £100 should be paid, having been moved and seconded, was put to the meeting, when seven voted for, and seven against, and the Chairman refusing to give his casting vote, the matter was referred back to the Committee.

Payments to Practitioners.—The Finance Committee reported the receipt of a notification from the Commissioners that the sum of £9,355 11s. had been credited to the Insurance Committee for the past year for the purposes of medical benefit, and recommended that on July 11th 80 per cent. only be paid on account to the doctors for the quarter ending on that day, in accordance with the number of insured persons on their lists at the beginning of the quarter. Contrary to the practice of most Insurance Committees, the Isle of Wight Committee has published the amounts paid for the quarter to all the doctors on the panel.

INSURANCE NOTES.

SCOTLAND.

Suspension of Sanatorium Treatment at Ayr.

Recently the Ayr Burgh Insurance Committee resolved to cease further sanatorium treatment of phthisis cases because it had been unable to obtain the funds to which it considers it is entitled. The Local Government Board having been appealed to decided (1) that where Insurance Committees, from want of funds or any other reason, discontinued the treatment of insured persons, it fell to the local authority to treat these cases if further treatment was necessary; and (2) that it rested with the local authority to determine the nature of the treatment, and that in doing so it ought to be guided by the medical officer of health. In the view of the Board it was advisable that the patients should not be removed until it was determined what further treatment was to be given to them.

IRELAND.

Maternity Benefit.

It appears from a report in the *Freeman's Journal* that Samuel Wilson, insured through the Irish National Foresters, applied to that society for maternity benefit (30s.) in respect of a child born last December, but was put off on one pretext or another from time to time. At the June session of the County Court at Tralee, he brought process against the society, but on the day of the hearing he received a cheque for 35s., being the amount of the maternity claim, and 5s. for costs of the process. The county court judge gave a decree for £2 10s. with costs 6s. 9d., and expenses £1. An appeal was heard at the Kerry assizes before Mr. Justice Kenny, who said that it was a mean and disgraceful thing for the society to appeal in the circumstances. He affirmed the decision of the county court judge with costs, and 25s. expenses.

The case will go far to confirm the truth of the strong criticisms of the methods of some of the societies in Ireland made by correspondents in that country.

ORGANIZATION OF AN EFFICIENT SERVICE.

[At a meeting of the Stockport, Macclesfield, and East Cheshire Division on March 5th, Dr. Picton read a paper in which he discussed the question, How best provision could be made for the work of the special departments of medicine and surgery in panel and general practice amongst the industrial classes. After the introduction of the Budget he modified the paper in accordance with the present situation as follows:]

When a young medical graduate has completed his series of hospital appointments, it sometimes happens that he passes straight into a single-handed private practice. Without any knowledge of medical life other than he has obtained within the walls of a hospital, he plunges suddenly into his untried duties outside. He may be good at his work and fitted for his career by familiarity with a large and varied range of diseases, but he finds himself confronted with a new series of problems.

In hospital he will have found that judgement is difficult and experience is fallacious; in private practice he will discover that not only the principles of medicine count, but also ways and means, improvization, arrangement, opportunity. He will soon come to appreciate his limitations. For a fracture he can get no radiogram; apparatus that he would have used in hospital is beyond the patient's means; for the school child he cannot, perhaps, perform a retinoscopy, because he has not possessed himself of a set of test glasses; for an operation he requires an anaesthetist, for haematuria a cystoscopy, for mastoid suppuration a Stacke's operation, for a spinal curvature systematic calisthenics. Faced with this situation, he will take one of two courses, according to his courage, his ideals, and his nature. He will either accept the fact that private practice is largely managed without things that he has been used to regard as requisites and acquiesce in the incomplete examination and treatment that can be carried on without them, or, on the other hand, he will do his best to provide them—by ingenuity, by improvization, and often to his own pecuniary loss.

True, in not a few neighbourhoods hospitals will be available to relieve him of many of his difficulties—and of a corresponding amount of his practice. But distance makes hospital treatment difficult in great tracts of rural England and many of the more scattered industrial districts. Again, such is the demand for beds that patients who require prolonged courses of treatment have little chance of remaining in hospital till cured; whilst the same cause leads to congested waiting lists and long delayed admission. In the result, therefore, great numbers of people who should have hospital treatment do not get it.

The practitioner who deems it his duty to cope with this state of things is doomed to many disappointments. His efficiency in such subjects as ophthalmology, orthopaedics, and major surgery, which may have seemed to him in his hospital surroundings to be thoroughly well grounded, recedes with the passage of time. His special skill, called for only occasionally, and at odd intervals, rusts with the appliances pertaining to it—if he be fortunate enough to possess them. In the midst of a single-handed general practice it requires exceptional determination to maintain in readiness the apparatus, the knowledge, and the practical skill requisite to deal with the varied and more special requirements of modern medicine.

The regulations of panel practice recognize this and do not require such work. Major operations, for instance, are outside the scope of the insurance doctor, except in emergency. Pity the general practitioner whose only excursions into abdominal surgery take place always in circumstances of exceptional difficulty—at night perhaps, and in a lamp-lit cottage. It is small wonder that the risk of moving a patient suffering with an acute abdominal condition into a distant institution is in these circumstances preferred to an attempt to carry out the letter of the law. For law it is since January 14th, 1913.

In the same way, but in less urgent matters, the occasional opportunities of using special skill are allowed to slip by. The hoarse voice suggests a benzoin inhalation, not a laryngoscopic examination; the hard pulse and ringing second sound indicate a mixture of acetate of iron without confirmation of their significance by the sphygmomanometer and the ophthalmoscope; the coexistence of carbuncles with loss of weight and a beefy tongue suggest a "tonic for the blood" rather than an examination for sugar, though these different investigations are, of course, part of the routine of a well-conducted practice.

The divorce of general practitioners from the special departments of medical work has gone too far. If each practitioner were, from his student days onwards, to retain a *pied-à-terre* in any one of them his general work would be stimulated by the fact that in one branch he was abreast of modern thought, and by that a standard would be set which would react favourably on the rest of his practice. The fullness of his knowledge in his special line would constantly remind him that his acquaintance with other special lines was elementary, and cause him to seek for his patients, when necessary, the aid of other doctors who specialized in those directions.

I suppose that roughly about a tenth of the patients who visit our surgeries require treatment demanding expert skill beyond the average powers of an ordinary practitioner. How many of them get it? The answer must vary according to the district and its hospital facilities, and the doctor and his energy and enthusiasm. But there are few neighbourhoods where the provision for that tenth of the patients is full and complete, while there are very many where the only provision is remote, costly, and haphazard.

Any foreigner hearing of our Insurance Act would suppose that this was no longer true of insured persons, but the surprising part is that it is just as true of them as of any others. The Act promised medical attendance and treatment, but this by the Regulations has hitherto been curtailed to what can be provided by a general practitioner of ordinary competence.

The hope raised by Section 8 (*a*)—that the treatment afforded would be full and complete—has not, so far, been realized. The as yet unexplained medical grants under the Budget may, however, mark the beginning of a fuller system. The logic of the situation demands that, whether we like it or not, the Act shall expand and treatment shall increase, both qualitatively and quantitatively—that is to say, so as to include specialist treatment and also to provide in its operation for dependants for all purposes of medical benefit.

How can special departments of medicine be best provided for in panel and general practice in industrial areas?

The simple answer "by the hospital" is, I am sure, not enough. Gratuitous work has now done all that can be asked of it—perhaps more than should be asked of it. On the other hand, general practitioners are suffering because they have not access to facilities for following some one or other of the special branches.

I do not want it to be supposed that I am going to suggest any such absurdity as that general practitioners should have the unrestricted right to follow their cases into hospitals. That system answers well in some cottage hospitals—to a point—but in a large institution, other than a mere nursing home, it would mean chaos. Nor do I think it, in the interest of the work, desirable. Concentration in the more elaborate branches of medicine is essential to success. Concentration of study, of patients, of appliances, and even of time—that is, the days and hours when the work is to be done—the out-patients attended to, and the wards visited.

But I do think that the one-tenth of our surgery patients that I spoke of earlier as requiring special treatment ought to be catered for in expanded out-patient departments of existing hospitals and cottage hospitals, or in similar institutions and departments to be newly formed; and that these departments should be officered largely by the general practitioners themselves. Let me add, at once, that consultants who devoted their whole time to special work—men of acknowledged standing—must necessarily be associated with any such proposal, either as the heads of the larger clinics, or as periodic visitors, or for assistance, in particular cases. It is to be hoped that the clinics mentioned in the Budget are to be clinics of this nature, and that it is not the intention that they should be officered by whole-time specialists.

Suppose that the newly-fledged practitioner with whom I started was attached on his entry into practice for two afternoons a week to such a clinic, dealing, say, with the ear or with the nose and throat. He would work there in association with other officers of the clinic, consisting, occasionally at least, of specialists, together with general practitioners already ripe in their speciality. Thus he would follow his chosen line under auspices and with facilities which would well-nigh ensure even a moderately gifted man attaining full competence. The objection will at once be raised that he would be treating his neighbours' patients, who would regard him as a specialist, and that that would give him an unfair advantage in the competition of general practice. Objections of this sort have already, to my knowledge, proved fatal to the co-operation of general practitioners in the work of the new tuberculosis dispensaries in at least one county. As a consequence that field of work is now closed to general practitioners. But need such objections be sustained in a system where many of the patients have not the right to seek in the doctor's surgery the treatment they obtain at the clinic, and where each doctor is recognized as doing special work of equal standing in the special subject of the clinic to which he is attached? School children with errors of refraction, who are now either not treated at all, or whose spectacles are provided by an optician or at a hospital after an expensive train journey, would be properly examined by refraction and otherwise at the local ophthalmic clinic. The child with adenoids, if his private doctor declined dealing with such a case, would be dealt with at the throat clinic, where also the panel practitioner could refer the workman with a brassy cough for laryngoscopic examination. The existence of the department would not preclude the practitioner from making such an examination himself had he the time and disposition to do so, but it would be there to relieve him of the responsibility if he had not.

Would practitioners object to being thus relieved of those patients for whose treatment they find it hard to efficiently provide? Would they not, on the other hand, welcome the opportunity themselves of taking part in the work of some speciality?

With regard to finance, I would propose that all doctors should be paid in respect of their work in the out-patient

departments or in clinics for a stated number of hours' work—say one or two hours once or twice a week. This would neutralize a tendency that might arise, if they were to be paid for the number of cases seen, to attract patients to attend the clinic whose case would be better dealt with by the panel or private doctor. One safeguard would have to be imposed. It would be probably wise to stipulate that no patient should attend a clinic except on production of a written request from his doctor.

The proposal with regard to some of the tuberculosis dispensaries now in process of creation differs from this. They are to be free to all comers for one consultation at least, after which the patient's doctor—and not the patient—is to be informed of the upshot of the examination. That system seems to me to require very anxious consideration before it is approved by the profession.

This tuberculosis dispensary system now coming into being is indicative of the rapid changes impending in the method of medical practice. Long ago sanitation was taken out of the hands of general practitioners. Scarlet fever and typhoid fever and diphtheria are diseases we are allowed to diagnose, but seldom to treat. School clinics in some districts already threaten to absorb the care of diseases of children, hitherto the undisputed province of the general practitioner. Midwives, under the Midwives Act, have done good work; but the ultimate effect of that legislation, by lessening the interest and the experience of general practitioners in obstetrics, is very doubtful. The village nurses are an enormous improvement on the Gamps of a dying generation; but they have their own tendencies to an abuse of their semi-official position. They often prescribe.

On the top of all these agencies which bit by bit have limited the field of our labours come the tuberculosis dispensaries, and the Budget proposals for clinics. In the distance looms the possible whole-time medical service. We ought to face the situation, to sink old prejudices, and to move with the times.

We, and we alone, have real and intimate knowledge of the medical needs of the people. The specialists who advise the Government are often out of touch with the field of our labours. On the other hand, we are so absorbed in our daily duties that we have scant time to pause and think of the impending possibilities. We cannot guide the nation if we remain inarticulate.

We know that it is better that family practitioners—all-round men—should remain, on the old intimate terms, amongst the population; but at the same time there is a demand for something new, and we must prepare to offer it. Medicine has moved on, and become more complex. It has developed a high degree of success in technical matters requiring special knowledge. The family practitioners cannot individually master each of these lines; but each practitioner could master one, and together, co-operatively, the present medical community could deal with them all. But then comes the objection, we should be dealing with each others' patients. To this I reply that medical customs and etiquette are only good feelings and good sense crystallized into rules. When times change, good sense will dictate new rules and new customs which will supersede the old.

Assume the clinics formed, who is to control them? I believe in Leicester friendly societies already charge a premium for the provision of specialist treatment at a special clinic not controlled by them. Insurance Committees already pay for beds per case in sanatoriums which are under private or independent public auspices.

The system I have outlined no more means that the control of the clinics or the hospital should pass into Government hands, than that a Government contractor's business should do so.

The Local Government Board might insist on a certain standard being maintained. It already does so in regard to the sanitation of sanatoriums used by Insurance Committees, but that does not imply Government control of the institutions. Education Committees could make contributions for the treatment of school children to the clinics I have suggested, without claiming to take over their management.

If the clinics are to be worth while, they must deal with practically the whole population; and, doing so, they will overlap the work and interests of several distinct existing bodies. The Education Committees and Public Health Committees of the county councils will both be interested in this new field of work. Clearly the medical practitioners, represented by the Local Medical Committees, will be deeply concerned—so will the Insurance Committees in the interest of the third of the population which they represent. So, finally, will be the local hospitals in which, or in connexion with which, the greater clinics should be organized. Surely, therefore, a joint committee composed of representatives of all five interests is the ideal controlling body to organize the clinics in any area.

Our profession has of late inevitably been distracted from its main work. The organization of these clinics now urgently demands our interest and watchful care. It is more worthy of our attention than mere trade unionism.

Organization for resistance to an infringement of our rights is well and necessary. But except in face of a threat which unites us, it is futile; in face of a proposal which divides us, it is sterile.

Organization for offering a more efficient medical service to the public is, I venture to think, an endeavour more in accord with our traditions and more likely to maintain the status and, incidentally, the emoluments of our ancient calling.

CORRESPONDENCE.

Panel Committees and Panel Practitioners.

We have received the following letter:

Sir,—What are the obligations of Panel Committees and the representatives who compose them towards the practitioners who elect them? Probably we shall all agree that they are bound to forward the interests of their constituents to the best of their ability, but opinions seem to differ as to whether they should act on their own judgement in matters of importance, or endeavour to discover the opinions and wishes of their constituents and act as far as possible in accordance with them. Does a representative cease to be a representative and become a free lance as soon as he is elected? Legally, it seems, he does, for the law gives Panel Committees power to decide various important questions, and does not provide that such decisions shall be reached after consultation with the general body of practitioners, though it nowhere forbids such consultation. Morally, however, many—perhaps most—of us hold that our representative should represent our views in committee, and should consult us on important matters, and that the committee should act in accordance with those views whenever possible. Moreover, many of us feel that we have the moral if not the legal right to lay our views before the committee through our representative on any action taken or proposed which concerns us as panel practitioners. The question is not merely an academic one: it has assumed practical importance in this neighbourhood recently, as the Lancashire Panel Committee adopts the purely legal view, and the representatives who compose it, with very few exceptions, regard themselves as free lances, and repudiate the suggestion that the areas have any right to interfere in "their" business. In this area quite a goodly number of men take an interest in affairs, attend meetings, and speak their minds on matters which concern them, but when they made certain representations through their representative to the Panel Committee the committee passed a resolution "regretting" their action!

There are 25 areas of varying size in the county, some containing less than 20, others more than 100, practitioners, and each has one representative. The Commissioners have decided that the new Panel Committee may have 40 members (there is only one committee for the whole county), but the present committee has adopted a scheme allowing for only 30, one representative from each area, and five to be co-opted. We feel that the larger areas should have an extra representative, so as to give something like proportional representation. The committee considers that this is no business of ours. Each panel practitioner, however, has the legal right to consider and object to any scheme for constituting a Panel Committee before such scheme is formally submitted to the Commissioners for approval, and we must conclude that the committee, in adopting this scheme and submitting it to the Commissioners without allowing us to consider it, was exercising some moral right hitherto unrecognized.

We think we ought to have an opportunity of considering and discussing with our representative any important

matter which is to be decided at the next Panel Committee meeting, and suggest that notice of such matters should be sent to area secretaries in time to allow this. The committee considers that this is a matter of procedure which they have the right to settle for themselves.

The Panel Committee decided that the money required by it could best be raised by a voluntary levy of ½d. a head of insured persons per annum, and sent round forms of agreement for signature allowing the deduction. From the fund so raised the committee proposes to defray its own necessary expenses, to allow £250 for the expenses of the twenty-five areas, and to keep the balance in its own hands, presumably to be applied to such purposes as it may decide upon. The practitioners of this area consider that it would be fairer for the committee to deduct from the fund what it requires, and to return to each area the proportion of the balance contributed by that area, thus giving each area the control of its own money after it has paid its proper proportion towards the expenses of the Panel Committee. This proposal was negatived by the committee almost unanimously, but we have good reason to believe that many of the representatives had not consulted their constituents on this matter.

In each area a Local Medical Committee was formed early in 1913, and these committees were recognized by the Commissioners, but the Panel Committee tells us that the Commissioners will no longer recognize them, and implies that there is therefore no longer any obligation on the Panel Committee to recognize them. Hitherto, if any trouble has arisen in connexion with medical benefit, the honorary secretary of the area has received notice of it from head quarters, and has worked overtime investigating it, if necessary calling a meeting of the committee or even of all practitioners in the area. In future the Panel Committee will doubtless deal with such matters itself, as it cannot well delegate its duties to "unrecognized" individuals. Wherever the Panel Committee takes a purely legal view of its obligations the panel practitioner is in this position—he may be inadequately represented in a large area, or he may be practically unrepresented, his representative being a free lance. He has no opportunity of expressing his opinions on matters which concern him nearly, as he may receive no intimation that they are to be considered; even if he does express his views through resolution at a general meeting, or through his committee, the Panel Committee need not recognize him. He is compelled (under the compulsory scheme) or morally bound (under the voluntary scheme) to allow a deduction from his earnings knowing that he will have no voice in deciding how the deducted money shall be used. In such circumstances he must soon come to regard the Panel Committee as a bureau within a bureau rather than as a committee representing him and his interests, and a proper sense of loyalty to the committee will hardly be his predominant feeling.

County Panel Committees should naturally be the heads of county defence organizations in the fights which are bound to come sooner or later (the first probably not later than the end of 1915), and it would be disastrous if the influence of any of these committees were undermined by lack of proper understanding between them and the general body of the practitioners whom they represent. As the new Panel Committees are being formed, now is the time for representatives and their constituents to come to such an understanding, and nothing should be taken for granted on either side.

In view of the importance of the principles involved in this question not merely to themselves, but to all panel practitioners, the practitioners of this area have felt justified in declining to agree to the voluntary levy asked for by the Panel Committee (at any rate for the present), in the hope that a little friction here at present may, by leading to a recognized *modus vivendi* here and elsewhere, tend to avert serious disorganization at some critical moment in the future.—We are, Sir,

J. PRICE WILLIAMS,
Chairman of Committee.
E. HIGSON,
Hon. Sec., Area 22 (Lancs.).

Swinton, Manchester, July 11th, 1914.

CONFERENCES WITH THE COMMISSIONERS.

Dr. S. NOY SCOTT (Plymstock) writes: I venture to suggest to doctors who attend any of the conferences which are now being held that they should be very careful in what they say or admit. I have just returned from one, and the impression I have formed is that the conference is a very subtle method of entrapping doctors to make certain admissions which will ultimately be used against them. The Commissioners were three very astute and able men—one being a lawyer able to take the quickest advantage of any opponent, one being a medical man whom the profession once trusted, and the other a quiet, observant man, who said practically nothing. It was noteworthy that although the conference was "confidential" yet the Commissioners were accompanied by an official shorthand writer, who took down the names of those who spoke and what they said. The two Commissioners who spoke were very suave and complimentary to us who were present, but had very hard things to say of doctors in other neighbourhoods, and I presume they say the same wherever they go, so that in another district we, the perfect ones here, are referred to as careless and slack behind our backs! Had I to attend another conference I should refuse to enter into any discussion until I had obtained from the Commissioners an absolute assurance that whatever was said by the doctors should not be used by the Commissioners as reasons for the issue of new regulations (to be ultimately enforced) until the doctors had definitely consented to accept them at a subsequent meeting. I say this because I very much fear that the Commissioners desire to obtain further "control" over the panel practitioners. It was repeated *ad nauseam* that the object of these conferences was improved "certification" (with which we probably all agree), but such improved certification has—it was admitted—for its ultimate end the lessening of the financial demands on the funds of the approved societies. That object may be good, but it is not one with which doctors are immediately concerned. If certain doctors, admittedly a very small minority, are careless or negligent, why do not the Commissioners use the power they already have of removing them from the panel? Why endeavour to make the work of all more irksome because a few black sheep, who, it must never be forgotten, are on the panel by the express intention and desire of the Commissioners, do not do their duty? Why should all the doctors be lectured and appealed to with a view of making the Act a financial success? In other words, to cover up the mistake of a too enthusiastic actuary who would not believe that the sickness-rate would be higher than he estimated!

Again, why should doctors be compelled to play the part of detectives? Will not doctors be guilty of breach of professional confidence if they disclose (as they were asked) on a certificate the primary cause of a person's illness? Is it permissible for a medical man to give away his patient (whether insured or otherwise) by saying on a certificate that the cause of a salpingitis is gonorrhoea? Or the cause of a miscarriage is a self-administered drug? Or that the cause of a pneumonia is alcoholism? I take it that the certificate is given simply to prove the fact that a person is unfit to work, and not that the illness is the result of a breach of the moral law. Should we not firmly refuse to disclose *all* we know of a patient's illness, except with that patient's full and expressed consent?

The Commissioners are trying very hard to induce us to break all the traditions of our profession, and I for one hope we shall be able to assume and maintain an attitude of defiance.

THE DRUG TARIFF.

Dr. F. E. H. DAUNT (Clapham Road, S.W.) writes: As one who had to serve three years' apprenticeship to a surgeon-apothecary in my young days before I could present myself for the much-derided L.A.H.Dub., may I point out the weak spots in the whole drug system? They may be classified thus: (*a*) A ridiculous price list without proper formulae; (*b*) the want of teaching of the modern practitioner to build up a prescription without the aid of such formulae (the only way they are taught at the hospitals), also the kind American houses who dictate the drugs that are to be given. I take the first point first. I prescribe a most ordinary prescription with regard to economic doses (the charges allowed are shown in parentheses), say:

Pulv. rhei	gr. lxiv	(1½d.)
Magnes. carb.	gr. clx	(½d.)
Sod. bicarb.	gr. clx	(½d.)
Ammon. carb.	gr. lxiv	(½d.)
Ol. menth. pip.	m. iv	(¼d.)
Aq. (supposed to be distilled) ad ...	ʒ viii	(1d.)

Dose, ʒ iv ex aqua.

Now the amount of these drugs that I am allowed to order at the above prices is as follows:

Rhei rad. pulv.	ʒ ij
Magnes. carb. lev.	ʒ iv
Sod. bicarb.	ʒ j
Ol. menth. pip.	♏ v
Ammon. carb.	ʒ iv
Aq. (directed to be distilled)	℥ xii (1d.)

I have not counted dispensing fees. It is obvious what a waste there is on this, and, one might say, every prescription ordered. And why aq. dest.? Do the Committee think chemists get it in by the puncheon? I am far from saying they don't, but surely one could find out. Its use is, however, quite unnecessary for most mixtures, and doctors ought to order aq. font.

Final instance; though I could keep on; liq. arsenicalis, ʒ j (½d.), same price for ʒ j.

Secondly, the modern formulas of all hospitals are deemed sufficient, and also the American houses, with their formulas for this and that, simplify the matter to many men; but when confronted with a drug tariff the weak points are quickly found out; an official pharmacopœia of concentrated formulae is absolutely necessary. Personally, I have had a circular saying that So-and-so's cod-liver oil and malt will be allowed to be prescribed by the Committee! What is the Committee thinking of? It costs double the price of the ordinary commercial article, and where is the advantage?

Reduced Payments in Scotland.

Dr. W. R. Martine, Chairman, and Dr. T. P. Caverhill, Secretary, of the East Lothian Panel Committee, write:

In every year for every person whose name stands on his list throughout the year as eligible for medical benefit and domiciliary treatment under sanatorium benefit, the doctor on the panel will get 7s. This sum may rise further to 7s. 6d. if the drug bill for the year is low.

This is an extract from a circular letter, dated December 20th, 1912, issued to Scottish medical practitioners by the Scottish Insurance Commissioners. We now learn that this guarantee is by no means being fulfilled. At a recent meeting of the East Lothian Panel Committee we were more than surprised to learn that, instead of receiving the guaranteed 7s. per insured person *plus* the floating sixpence to which the drug bill for the year 1913 proves we are entitled, we find that we are to be paid at a rate of about 6s. 6d.

Instead of receiving the "floating sixpence" as a "floating sixpence," we find to our amazement this sum—amounting to about £350—has been transferred, by order of the Commissioners, to the general panel fund, evidently with a view to making us believe that we are still getting 1s. 9d. a quarter per patient.

One doctor in our area, who has got at least 2,000 on his panel, instead of receiving 6d. for every person on his list, has now been asked to refund the sum of £10, with an explanation that he had been overpaid for the first three quarters. This doctor was not overpaid; he had received cheques for the first three quarters at the rate of 1s. 9d. per insured person per quarter. But the Commissioners now find that they are not in a position to fulfil the above-mentioned agreement, with the result that the medical profession as a whole are evidently being penalized because the approved societies and their members have not adhered to the regulations, especially Regulations 28 and 29.

The medical practitioners in East Lothian think that it is quite time that some drastic measures should be taken by a responsible body to have a thorough investigation of this serious state of affairs, and would like to know if a similar position exists in any other area. If this is so, we would like to hear if they are going to accept this position "lying down" or make a combined agitation, through the British Medical Association to the Commissioners, to have this very serious position inquired into.

Protest Meeting of London Panel Practitioners.

Dr. J. Alexander Angus (London, W.) writes: Dr. Coode Adams has drawn my attention to a letter of Dr. Bazett's which appeared in your issue of July 11th (Supplement, p. 52). I should have written you immediately, but have been away for a few days. In fairness, however, to Dr. Coode Adams, the statements of Dr. Bazett should not pass uncontradicted. The meeting at the Caxton Hall was perhaps the largest gathering of London practitioners ever held, and from first to last the Chairman was in perfect touch with his audience; his ruling was eminently fair, and the resolution was passed with only one dissentient. So much for the Botha-like methods of the chairman.

With regard to my being permitted to advocate certain forms of distribution of the unallotted funds, Dr. Bazett is again absolutely incorrect, and he seemingly confuses two separate matters. In giving a summary of the proceedings of the London Insurance Committee I stated merely the action of that Committee, and did not express one word otherwise about any scheme of distribution. The following were the words used:

On the 23rd of April the London Insurance Committee decided that a scheme should be prepared for the distribution of the money. We thought this was an eleventh-hour repentance, and the Medical Benefit Subcommittee, in response to the desire of the Insurance Committee, submitted a scheme for the payment of the money *pro rata*—this being in accordance with the original terms of the Act, and there being no question of a limit there would be less to quibble about.

As will be seen, these remarks were merely part of the history of the London Insurance Committee, and therefore it follows that Dr. Bazett's attack on Dr. Coode Adams is both unjust and uncalled for.

INSURANCE ACT IN PARLIAMENT.

Payments to Medical Men.

Mr. Worthington Evans asked whether the Middlesex Insurance Committee had yet distributed among the panel doctors any of the surplus funds for 1913; if not, what was the reason of the delay; and what addition it had made to the fixed remuneration per head of persons treated. Mr. W. Benn said that advances had been made to a total amount in excess of the amounts due in respect of insured persons on doctors' lists only; but the difference between the amounts due on the latter basis and the amount due in respect of the total insured population of the area entitled to treatment by doctors on the panel could not be ascertained until the completion of the settlement now in progress.

Mr. Worthington Evans also asked whether the Middlesex Insurance Committee had distributed among the panel doctors of its area any sum for tuberculosis treatment; and, if no such distribution had taken place, what was the cause of the delay.—Mr. W. Benn replied that the answer to the first part of the question was in the affirmative; the second, therefore, did not arise.

Drugs and Medicine supplied by Doctors.

Mr. Pratt asked whether it had been the practice in districts where there was no chemist available for the Local Insurance Committee to arrange with the doctors on the panel to supply drugs and medicine for a capitation payment of 1s. 6d. per insured person on their list; whether the Commissioners had sanctioned this arrangement, and whether it had worked satisfactorily; and whether the Commissioners had recommended in any such cases that instead of the capitation payment the doctors should be required to dispense their prescriptions in the same manner as chemists on a tariff rate.—Mr. W. Benn replied: The arrangement to which the hon. member refers is expressly provided for in the Regulations, and has generally been found to work satisfactorily. With regard to the last part of the question, if the hon. member will give particulars of any cases he has in mind, I will make inquiries.

Cost of Act to Exchequer.

In reply to Colonel Weston, Mr. W. Benn said that for the financial year, April 1st, 1913, to March 31st, 1914, the first complete financial year since the general commencement of benefits under the Act, the figures were as follows:

	£
Actuarial estimate [Cd. 5983, paragraph 16]	4,050,000
Approximate expenditure	5,906,500

The latter figure was based on the Annual Estimates (Original and Supplementary) laid before Parliament, the actual expenditure not being ascertainable until the Appropriation Accounts for the year were closed. It did not include sums of £305,000 voted for the treatment of tuberculosis (Class VIII, Vote 10), and £45,000 voted for the expenses of the Highlands and Islands Medical Service Board, which were only in a minor degree Insurance Act

services. The cost of central administration (Insurance Commissions, audit, etc.) was also excluded, as no original estimate of the cost was available for purposes of comparison.

ADMINISTRATION EXPENSES.

In reply to Major Hope, Mr. W. Benn said that no part of the sanatorium benefit funds of an insurance committee could be applied to defray the cost of any administration expenses other than those actually incurred, either directly or indirectly, in the administration of sanatorium benefit. The amount so applied necessarily varied in different areas, but was in all cases subject to review by the Treasury auditors. He did not think it would be practicable to keep the administration expenses of sanatorium and other benefits separate.

British Medical Association.

EIGHTY-SECOND ANNUAL MEETING, ABERDEEN, JULY, 1914.

THE Eighty-second Annual Meeting of the British Medical Association will be held in Aberdeen in July, 1914. The President's Address will be delivered on Tuesday, July 28th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 24th, at 10 a.m.

PROVISIONAL PROGRAMME.

The following is the provisional time-table for the Aberdeen Meeting:

FRIDAY, JULY 24TH.

10 A.M.—Annual Representative Meeting.

SATURDAY, JULY 25TH.

9.30 A.M.—Representative Meeting.

MONDAY, JULY 27TH.

9.30 A.M.—Council Meeting.
10 A.M.—Representative Meeting.

TUESDAY, JULY 28TH.

9 A.M.—Exhibition of Surgical Instruments, Drugs, etc. The Exhibition will remain open until 6 p.m. on this and the three following days.
9.30 A.M.—Representative Meeting.
2 P.M.—Annual General Meeting.
*8.30 P.M.—Adjourned General Meeting, President's Address.

WEDNESDAY, JULY 29TH.

*9 A.M.—Religious Services.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Medicine.
1.15 P.M.—Irish Medical Schools' and Graduates' Association, Luncheon.
2.30 P.M.—Secretaries' Conference, followed by Dinner.
3.30 P.M.—Garden Party by Town Council in Duthie Park.
*8.30 P.M.—Reception by University in Marischal College.

THURSDAY, JULY 30TH.

8 A.M.—National Temperance League Breakfast.
9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Surgery.
7.30 P.M.—Annual Dinner.

FRIDAY, JULY 31ST.

9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
*12.30 P.M.—Graduation Ceremony in Marischal College.
6 P.M.—Annual Exhibition closes.
8 P.M.—Popular Lecture, Marischal College.
*8.30 P.M.—Reception by Branch (Music Hall).

SATURDAY, AUGUST 1ST.

Excursions.

*Academic dress or uniform should be worn on these occasions. Members desiring to have robes provided for them at Aberdeen should communicate with Messrs. Ede, Son and Ravenscroft, 93 and 94, Chancery Lane, London, W.C.; Mr. William Northam, 9, Henrietta Street, Strand, London, W.C.; or Messrs. L. Y. and J. Nathan, 4, Hardman Street, Liverpool.

Honorary Local Treasurer—
GEORGE WILLIAMSON, M.B.,
256, Union Street, Aberdeen.
Honorary Local Secretaries—
THOMAS FRASER, M.B.,
16, Albyn Place, Aberdeen.
FRED. K. SMITH, M.B.,
7, East Craibstone Street, Aberdeen.

THE SECTIONS.

The scientific business of the meeting will be conducted in sixteen Sections, which will meet on Wednesday, July 29th, Thursday, July 30th, and Friday, July 31st.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

SECTION OF ELECTRO-THERAPEUTICS AND RADIOLOGY.

The proceedings will include an *x*-ray cinematographic demonstration by Professor BERGONIÉ.

The following are synopses of the papers introductory to the discussion on the comparative value of *x* rays and radium in the treatment of malignant growths.

Dr. HERNAMAN-JOHNSON: *X* rays and gamma rays differ chiefly in penetrative power. Within limits, the healing of a lesion is as much dependent on the hardness of the rays applied to it as upon their quantity. Generally speaking, increased hardness means increased therapeutic effect. Two principal advantages over *x* rays are claimed for radium: (*a*) The gamma ray is, *caeteris paribus*, intrinsically more valuable than the *x* ray. There is some justification for this claim, but it is only in rare cases that rays so hard as the gamma type are necessary to effect improvement; (*b*) Radium tubes can be brought into intimate contact with malignant neoplasms. This consideration makes radium-therapy the method of choice in disease of the vagina, uterus, rectum, oesophagus and naso-pharynx; also, in large irremovable tumours in any situation. But supplementary treatment by *x* rays to surrounding areas is necessary, as the law of inverse squares determines that only parts closely adjacent to the radium tube are efficiently irradiated. Stimulation of normal tissues to resist cancerous invasion is no less important than actual attack upon malignant cells. *X*-ray applications can now be made so as to exalt the normal and depress the abnormal. Radium, as at present used, is very uncertain in its action on healthy tissues. Hence, *x* rays are to be preferred for pre-operative and post-operative irradiation; they are also the method of choice in breast cases. As to comparative permanence of results, sufficient time has not yet elapsed to enable us to say whether radium "cures" are any more lasting than those accomplished by *x* rays.

Dr. JOHN MACINTYRE: (1) A careful consideration in the present state of our knowledge with regard to the different rays emitted by the *x*-ray tube and radium. (2) Comparison between the dangers from both and the therapeutic advantages. (3) Technique, with special reference to obtaining beneficial results and the avoidance of injury. (4) The action upon the superficial and deep tissues. (5) The limitation of agents on account of the anatomical situation. (6) That in selecting cases for either or both agents it should never be forgotten that malignant diseases may be classified into: (*a*) Operable cases in which the disease does not return; (*b*) cases operated upon in which the disease has returned once or more frequently; (*c*) cases that are inoperable and in which some such treatment may be of use; and (*d*) cases that are untreatable. (7) Conclusions arrived at should only be in cases where the diagnosis has been made absolute by microscopic or other examinations. (8) That all other lesions, such as syphilis,

tubercle, etc., which might possibly be present, should be carefully excluded. (9) That it should be remembered that one or more affections may be present at the same time. (10) That, while other methods of treatment may be tried in a case, the most valuable opinion can only be got in cases where the agents themselves only have been used.

The following are synopses of the papers introductory to the discussion on electro-therapy in neurasthenia:

Dr. Agnes F. Savill: Before any useful purpose can be served by a discussion on the electro-therapeutic treatment of neurasthenia, it is essential to have a clear idea as to the meaning of that somewhat loosely employed diagnosis. There are two opposing methods of treatment, employed respectively by those who consider that neurasthenia is primarily a disease of mental origin and by those who are equally confident that it is due to physical causes. Observers of the French school lead the van of psycho-therapeutists. Dejerine treats his cases by persuasive reasoning and moral re-education. Other workers obtain good results by attacking the physical symptoms, and these can be better treated by electrical methods than by drugs or "change of air." Neurasthenia affects the entire nervous system; the organs are disturbed because their metabolism is disordered when the nervous control is out of gear. When the brain and spinal cord are chiefly affected galvanism to brain and cord forms the best method of treatment. When the symptoms are due to alimentary toxaemia the sinusoidal current, applied to the abdomen, yields the best results. In all cases except those originating in alimentary toxaemia, psycho-therapeutic treatment is a valuable adjunct to physical methods, and should never be omitted. Even where the physician does not consciously employ psycho-therapeutics his success is probably due in part to the unconscious power attaching to that misunderstood and mysterious force—personality.

Dr. W. F. Somerville, after speaking of the importance of isolating a neurasthenic patient from all worries and exciting influences, of the value of the assistance of an observant nurse, and the importance of medical and dietary treatment, of massage and physical exercises, will show that since he began to employ high-frequency currents he has obtained better and more lasting results than previously in the treatment of neurasthenics. These currents improve the general circulation and overcome the want of proportion in the excretion of urea and uric acid usual in these patients. He is opposed to giving high-frequency treatment merely twice or thrice a week, and gives it twice daily on a condenser couch. It lasts ten minutes, the milliampèrage being from 250 to 800.

Section of Laryngology, Rhinology, and Otology.

We have received the following abstracts of two of the papers initiatory of the discussion on the treatment of inoperable growths of the nose and throat by diathermy:

Dr. W. Douglas Harmer: Description of the apparatus required and the results produced by the cautery. For the operation a general anaesthetic is necessary. Every part of the growth should be treated if possible, taking care that the surrounding tissues do not become too much heated. The surgeon must be prepared for tracheotomy, and must not tear away the sloughs roughly for fear of haemorrhage. The latter is never caused by the cautery. Notes of 20 patients follow, mostly cases of carcinoma of the tonsil, tongue, palate, or pharynx. From these it appears that pain has been slight; that little inflammation of surrounding parts has been caused; that temperature is rarely raised; that sepsis is uncommon; that there is an absence of shock; that sloughs separate in five to ten days, leaving a healthy wound without discharge, salivation, or haemorrhage. Patients have left the hospital on the average in six days. Unfavourable cases are those in which bone is involved. Complications have been rare, but in one case there was secondary haemorrhage, and two others died of septic pneumonia. The results obtained in each case are noted, and from these it is claimed that diathermy is a valuable treatment for massive ulcers in the nose or throat, especially when associated with dysphagia, blood-spitting, or constant expectoration. Although the relief is only temporary the patients have a less miserable life. The growth and glandular enlargement progress less rapidly, and there may be less tendency to recurrence than after a cutting operation. The obvious advantages over the knife are the rapidity of the operation, the possibility of removing a large growth without loss of blood, the fact that the vessels and lymphatics are sealed by the burning, and the quick recovery. With vascular naevi the results are excellent. It remains to be seen whether the treatment is useful for extensive carcinoma of the larynx, tuberculous laryngitis, or impermeable stricture of the oesophagus.

Dr. John Macintyre: (1) A comparison between the different agents should be kept in view. (2) Consideration of the resemblances and the different agents and their differences. (3) That all these agents act differently in different cases. (4) That in selecting cases for either or both agents it should never be forgotten that malignant disease may be classified into: (*a*) Operable cases in which the disease does not return; (*b*) cases operated upon in which the disease has returned once or more frequently; (*c*) cases that are inoperable and in which some such treatment may be of use; and (*d*) cases that are untreatable. (5) That different parts of the respiratory tract show great differences in responding to treatment. (6) That there is a difference in the anatomical tissues, particularly in the mucous membranes. (7) Necessity of elimination by careful examination of other lesions, such as syphilis and tubercle, which may be present as well as malignant disease. (8) Instances of cases which have failed to respond to one agent and have responded to another. (9) That the differences arise from the anatomical position of the diseased part. (10) The state of our knowledge about *x* rays and a definition as to what is meant by this, with particular reference to deep-seated therapy. (11) References to special cases; and (12) the importance of classifying our results as far as possible into groups which will enable us to judge best from these which have proved, by microscopic or other examination, to be truly malignant disease.

Section of Neurology and Psychological Medicine.

We are informed that the title of the demonstration to be given by Dr. L. Campbell Bruce has been changed to The relation of bacterial infections to various forms of insanity.

RECEPTION ROOM.

The reception room will be open during the Annual Meeting in the Advocates' Hall, Broad Street, Aberdeen, and members are advised to call there as soon as possible after their arrival in Aberdeen. They will there find full information at their disposal and will be able to obtain a copy of the *Daily Journal*.

ACCOMMODATION IN ABERDEEN.

A list of hotels and lodgings available in Aberdeen during the Annual Meeting was published in the advertisement pages (6 and 7) last week. Members desiring further information on this subject are asked to communicate with Dr. F. Philip, Honorary Secretary of the Hotels and Lodgings Committee, 29, King Street, Aberdeen.

For the convenience of members who may not previously have arranged for accommodation in Aberdeen the Executive Committee will have an office in a room at the railway station, where members on arrival may inspect a register of available apartments. In this office there will be a staff of assistants to give information and to direct inquirers.

The citizens of Aberdeen intend to give a hearty welcome to members of the Association, and a very large amount of private hospitality is offered. The Local Executive Committee hopes that members will not be led by the answers they may get from some of the hotels to suppose that the accommodation available in Aberdeen is filled up; any member who has difficulty in finding accommodation should not hesitate to communicate either with Dr. F. Philip, as above, or with Dr. Thomas Fraser, the other honorary local secretary, at the same address.

ARRANGEMENTS FOR LADIES.

A committee of ladies has been formed to look after the comfort and interests of ladies accompanying members to Aberdeen. The Aberdeen Medico-Chirurgical Society has granted the use of its rooms at 29, King Street,

as reception rooms for ladies from July 24th to 31st. There will be provided a rest-room, a writing-room, a tea-room, and a dressing-room. There will also be an office in the building where information regarding ladies' entertainments and motor drives will be given and tickets supplied. A member of the Ladies' Committee has given the use of her flat at 245, Union Street, where ladies living out of the town may dress for the evening entertainments. It is hoped that a corps of lady guides will be available for the assistance of visitors. For further particulars see SUPPLEMENT, July 4th, p. 11.

RELIGIOUS SERVICES.

THE annual service for the Association will be held in the West Parish Church of St. Nicholas (Church of Scotland) at 9 a.m. on Wednesday, July 29th. At the same hour a Roman Catholic service will be held in St. Mary's Cathedral (celebrant, the Bishop of Aberdeen; preacher, the Right Rev. Monsignor Meany), and a service of the Episcopal Church in Scotland in the Cathedral Church of St. Andrew's. Collections at these services will be made on behalf of the Royal Medical Benevolent Fund.

LUNCHEON TO SIR ALEXANDER OGSTON.

THE luncheon at which Sir Alexander Ogston is to be entertained by his former dressers and house-surgeons will take place at the Grand Hotel, Aberdeen, at 1.30 p.m. on Thursday, July 30th, when the chair will be taken by Sir James Porter, K.C.B., late Medical Director, R.N. Any former dresser or house-surgeon who wishes to attend to show his esteem and affection for Sir Alexander Ogston, and has not yet informed one of the honorary secretaries, is asked to communicate at once with Dr. J. W. Cook, 26, Manchester Road, Bury, Lancs.; or Dr. W. Sinclair, Royal Infirmary, Aberdeen.

PRESENTATION TO PROFESSOR STEPHENSON.

SUBSCRIBERS to the testimonial to Emeritus Professor William Stephenson, M.D., LL.D., F.R.C.S.E., are asked to note that the presentation of the portraits will take place in the Midwifery Class Room, Marischal College, on Tuesday, July 28th, at 3 p.m. (see also page 200 of this week's JOURNAL).

THE JOURNEY TO ABERDEEN.

Special Vouchers.—Railway facilities similar to those offered in previous years will be available this year—that is to say, return tickets, valid from July 22nd to August 3rd, will be issued at a single fare and a third on the presentation of a voucher, which will be supplied, to members who intend to go to Aberdeen, by the Financial Secretary and Business Manager, British Medical Association, 429, Strand, London, W.C., on receipt of the notification form. A separate voucher is required for each passenger.

Tourist Tickets.—The attention of those who intend to travel to Inverness or other places north of Aberdeen is drawn to the tourist ticket arrangements. The advantage of a tourist ticket is that it is available for six months, and the holder has the privilege of breaking the journey at many places *en route*. The tourist ticket from London to Inverness costs £3 3s., third class. In many instances a member travelling from England may find it more advantageous to take a tourist ticket than to make use of the special voucher.

RAILWAY FACILITIES FOR MEMBERS STAYING IN THE NEIGHBOURHOOD OF ABERDEEN.

DURING the meeting reduced fares, with a minimum of 1s., will be granted to places within a radius of fifty miles from Aberdeen. Members who propose travelling to and from Aberdeen daily should use the first half of the ticket on the first journey and the return half on the last journey; the reduced fares for the intermediate journeys will be granted on production, at the time of booking, of the card of membership.

Weekly Season Tickets.

Members staying at Banchory or Cruden Bay can obtain season tickets enabling them to travel to and from Aberdeen daily during the week of the Annual Meeting at the following rates: Cruden Bay, 10s.; Banchory, 8s. 8d. The season tickets will be issued from intermediate stations at proportional rates.

On the Caledonian Railway to Stonehaven and intermediate stations, during the meeting, return tickets will be issued at Aberdeen to places where members wish to reside. These tickets will be available for the day of issue or following day, or from Saturday to Monday, at a single fare and a third for the double journey, minimum 1s. Season tickets are also available for more than one journey, at a charge of not less than the accumulated fares per day as above, the minimum being 1s. a day.

ANNUAL EXHIBITION.

THE annual exhibition of surgical instruments, drugs, foods, etc., held during the annual meetings of the British Medical Association, will be arranged this year in the Marischal College, where also the Sections will meet, where the General and Representative Meetings of the Association will take place, and where the Addresses in Medicine and Surgery will be delivered. The exhibition on this occasion will, therefore, occupy a central and convenient position, and members will have an excellent opportunity of inspecting the exhibits.

GARDEN PARTIES.

IN addition to the garden party to be given by the Provost and Town Council of Aberdeen in Duthie Park on the afternoon of Wednesday, July 29th, garden parties will be given at the Deeside Hydropathic, which has a nine-hole approaching and putting course, and tennis, croquet and bowls; at Inchmarlo House, on the north bank of the Dee about two miles beyond Banchory, which has first-class provision for tennis; at Parkhill House, on the Don, surrounded by fine woods and within easy reach of three small lochs; at Banchory House, on a beautiful sweep of the river Dee about a mile beyond the historic bridge of Dee; and at Nordrach-on-Dee, which has extensive and beautiful grounds.

GOLFING ARRANGEMENTS.

THE competition for the Ulster Cup will be played over the Royal Aberdeen Golf Links, Balgownie, Bridge of Don, on Thursday, July 30th, beginning at 9 a.m. Intending competitors are requested to send their names and addresses along with their club handicap to Dr. H. de M. Alexander, 29, King Street, Aberdeen. The time for starting will be as nearly as possible that selected by the competitor, but late applicants may have to play at any unappropriated time, as the time-sheet must be rigidly adhered to. Other facilities offered by this and other clubs were mentioned in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of July 4th.

EXCURSIONS.

Alterations.

OWING to the difficulty in the guaranteeing of numbers, catering and transport arrangements, certain alterations in the excursions announced in the SUPPLEMENT of July 4th will be made.

The excursions to Grantown and Speyside on Wednesday, July 29th, and Saturday, August 1st, have been cancelled. The ordinary excursion for the public on those days leaves Aberdeen at 1 p.m. and arrives back at Aberdeen at 10.15 p.m. The fare is 2s. 6d., and luncheon can be obtained on the train at 2s. a head for a number limited to 72. Tickets can be obtained at the railway station. Certain alterations are being made in connexion with the excursion to Ballater, Balmoral, and Braemar, of which details will be announced in the *Daily Journal* and in the Reception Room.

The Great North of Scotland Railway will endorse at the Reception Room any tourists' tickets to Inverness, Strathpeffer, Nairn, etc., so that the same may be used for the return journey via Dunkeld.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the Journal.*]*

CAMBRIDGE AND HUNTINGDON BRANCH:

Isle of Ely Division.

The annual general meeting of the Isle of Ely Division was held at March on July 7th. In the absence of Dr. Curl, the Vice-Chairman, Dr. Gunson, presided, and there were nine others present.

Election of Officers.—The following officers were elected for the ensuing year:

Chairman: Dr. C. H. Gunson (Wisbech).
Vice-Chairman: Dr. H. Clapham.
Honorary Secretary: Dr. A. C. S. Waters.
Executive Committee: Drs. Barrett, Beckett, Butterworth, Clapham, Curl, Fegan, Gunson, Harding, Hamilton, Howe, Hendley, Lucas, Mawby, Martin, Stephens, Tylor, Waters.

METROPOLITAN COUNTIES BRANCH:

Wandsworth Division.

A special meeting of the Wandsworth Division was held on July 17th, when Dr. Nobbs presided. After reading the requisition calling the special meeting, the Chairman made a plea for the avoidance of all bitterness in any discussion which might follow.

Dr. Richards then formally moved:

> That the Representatives of the Wandsworth Division are hereby instructed to give notice that they will move at the Representative Meeting that any resolution standing in the records of the Association that service under the National Insurance Acts is derogatory to the profession be rescinded and expunged from the records of the Association.

Dr. Ll. Williams, in seconding, referred to the mischievous effects on the minds of panel practitioners of any resolutions declaring work under the Insurance Acts as derogatory to the profession.

Dr. M. G. Biggs, one of the Representatives, pointed out the difficulties in the way of bringing forward the resolution at the Representative Meeting.

After some further discussion, in which Drs. McMurtry, Knight, Gay, and A. C. Biggs took part, a vote was taken, and 13 voted in favour of the motion and 11 against. The motion was therefore carried.

Another motion before the meeting was:

> That this special meeting of the Division hereby rescinds the resolution passed at the annual meeting of this Division a few days ago by the casting vote of the Chairman that service under the Insurance Acts is derogatory.

It was pointed out that the motion was somewhat out of order, but Dr. Biggs, one of the Representatives, said that as the first motion had been passed he would undertake to vote against the St. Pancras and Islington motion, as this was evidently the mind of the meeting. This was agreed to unanimously. The meeting ended in a happy vein.

NORTH WALES BRANCH.

The annual meeting of this Branch was held at Benllech, Anglesey, on Tuesday, July 14th, at 2.45 p.m. The day being beautifully fine the meeting was held in the open air, on the lawn in front of the Glanrafon Hotel, a picturesque spot overlooking Benllech Bay on the north-east coast of the island. Owing to the unavoidable absence of the President, Dr. Enoch Moss (Wrexham), and the President-elect, Dr. J. D. Lloyd (Chirk), Dr. Evan Williams (Llangefni), the Senior Past President, was voted to the chair; twenty-seven other members were present, together with Dr. George Osborne Hughes of Winnipeg, who was accorded a hearty welcome.

General Business.

Report of Council.—The Honorary Secretary read the annual report of the Branch Council. Whilst congratulating the Branch on, in many respects, a very successful year, the Council regretted to record a decrease in membership. There were 157 non-members within the area of the Branch, a number which it was hoped would be lessened, and every member was asked to do his best to reduce it. Suitable reference was made to the death of two past Presidents, Dr. H. Grey Edwards of Bangor, and Dr. J. Lloyd Roberts of Abergele, who had in addition filled the office of Honorary Secretary for several years. The Council noted with satisfaction the establishment by the Association of a Welsh Committee having the same duties and powers as the Scottish and Irish Committees. North Wales having been deprived of its separate representative on the Central Council, it was recommended that a strong protest be entered, as if the Branch was to succeed, and its strength to be maintained, it was of the utmost importance that it should be in close touch with the central body. On the motion of Dr. R. M. Williams (Menai Bridge), seconded by Dr. Emyr O. Price (Bangor), the report was adopted, and the Honorary Secretary directed to forward the protest against the non-representation of the Branch on the Central Council both to the Welsh Committee and the Organization Committee.

Election of Officers.—Dr. Harry Drinkwater, F.R.S.Edin., of Wrexham, was elected President for 1915–16. Dr. H. Jones Roberts, of Penygroes, was re-elected Honorary Secretary, a special vote of thanks being accorded to him for his services, on the proposal of Dr. Hugh Jones (Dolgelly), seconded by Dr. J. W. Rowlands (Llanaelhaiarn). Dr. E. D. Evans (Wrexham) was elected as representative of the Branch on the Welsh Committee.

Places of Meeting for 1915.—It was decided to hold the intermediate meeting at Bettws-y-Coed and the annual meeting at Colwyn Bay.

Annual Meeting of the Association.—It was decided to invite the Association to hold its annual meeting at Bangor in 1917 or 1918.

Presentation to Dr. Emyr O. Price.

In recognition of his services to the Branch and to the profession in North Wales, particularly in connexion with the National Insurance Act, a Belsize two-seater motor car was presented to Dr. Emyr O. Price (Bangor). An account of the fund, and the ready way in which it was raised, having been given by Dr. J. R. Prytherch (Llangefni) and Dr. J. E. Thomas (Bangor), the secretary and treasurer of the movement, the Chairman formally made the presentation. Drs. Lloyd Williams (Llanberis), J. W. Rowlands (Llanaelhaiarn), Richard Jones (Blaenau Festiniog), R. M. Williams (Menai Bridge), and H. Jones Roberts (Penygroes) afterwards spoke in acknowledgment of the work of Dr. Price, who thanked the speakers and subscribers, adding that the profession had reason to be grateful to the Association, as, whatever its enemies might say, it had achieved much during the last few years for the profession.

Papers.

The following papers were read: Dr. A. Norman Leeming (Old Colwyn), on some fractures treated by Lane's plates and screws, with photographs before and after; Dr. H. Drinkwater (Wrexham), on the longevity of eminent medical men.

Dr. John Elliott (Chester) showed specimens from a case of lymphatic leukaemia, and reported a case of chronic pneumonia treated with pneumococcus vaccine.

Excursion.

Vote of Thanks.—On the proposal of the Honorary Secretary, seconded by Dr. Robert Parry (Carnarvon), a hearty vote of thanks was accorded to the Chairman, to Lord Boston for his invitation to visit Llugwy, and to the readers of the papers.

Luncheon and Tea.—Prior to the meeting the members lunched together at the Glanrafon Hotel, and at the close Dr. Emyr O. Price entertained them to tea.

Excursion to Llugwy.—After the meeting several of the members drove to Llugwy, at the invitation of Lord Boston, to view the old British encampment, which has a further inner enclosure either of Roman origin or showing Roman influence. The party was conducted by Mr. S. J. Evans, M.A., head master of the Llangefni County School.

SUSSEX BRANCH.

The first annual meeting of the Sussex Branch was held at Worthing on June 26th, when forty-one members were present.

Luncheon.—Lunch was very kindly provided by the President, Dr. W. AYTON GOSTLING, at his own house, when the health of Dr. Ainslie Hollis, President of the Association (who made a special effort to be present at the meeting), was drunk with full honours. After lunch the members adjourned to the Town Hall for business.

Election of Officers.—All the officers appointed at the inaugural meeting held last November were installed, with the exception of the Honorary Secretary, Dr. Rawdon Wood, who had recently left the district. Dr. F. H. Allfrey was elected in his place. The officers are:

President: Dr. W. Ayton Gostling.
Vice-Presidents: Dr. Ewart and Dr. Hobhouse.
Honorary Secretary and Treasurer: Dr. Allfrey.
Representatives on Branch Council: Drs. Benham, Fothergill, Burchell, Rawdon Wood, Morris, Gostling, Ewart, Muir-Smith, Culhane, Locke, and Boxall.
Auditors: Drs. Milbank-Smith and Bailey.

Annual Report.—The annual report was read and accepted. It showed that the Branch as organized on November 14th, 1913, consisted of 472 members, but that the list now only included 400. No expenses were incurred during 1913, and a sum of £38 1s. 4d. was received as the proportionate share of the credit balance on the dissolution of the South-Eastern Branch.

Treatment of School Children.—After some discussion it was, on the motion of Dr. BURCHELL, seconded by Dr. PARRY, resolved:

> That in the opinion of the Branch children attending elementary schools found to be suffering with the scheduled diseases should not be referred by the school medical officer to the voluntary hospitals or medical charities for treatment, and that such hospitals and medical charities be approached through the secretaries of the several Divisions with a view to their adoption of by-laws, rules, or regulations to prevent the use of the several institutions by the Education Authorities to relieve them of their statutory duties, and that a copy of this resolution be sent to each secretary of Division.

Cinematograph Demonstration.—After the meeting a cinematograph demonstration was provided by the Worthing Division, the subjects including the effect of "606" on the *Spirochaeta pallida*, the movements of the isolated heart and of the blood vessels, the life-history of the mosquito, etc.

Garden Party.—The Branch again enjoyed the hospitality of the President at a garden party at his house, where a most excellent musical programme was carried out.

Vote of Thanks.—Votes of thanks were accorded to Dr. Ayton Gostling for his hospitality, and to Dr. Morton Palmer for discharging temporarily the duties of honorary secretary.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

SOUTH-WEST WALES DIVISION.

THE annual meeting of the Division was held at the Ivy Bush Hotel, Carmarthen, on July 14th.

Election of Officers.—The following officers were elected for the ensuing year:

Chairman: Dr. David Phillips (Llandilo).
Vice-Chairman: Dr. Samuel Williams (Llanelly).
Secretary and Treasurer: Dr. D. R. Price (Ammanford) (re-elected).
Members of Branch Council: Drs. Evan Jones (Llanybyther), H. H. Roberts (Llanelly) and Y. H. Mills (Haverfordwest).
Members of Contract Practice Committee: Drs. J. Edgar P. Davies (Llanelly), Tom Morgan (Llandovery), and Owen Williams (Burry Port).
Members of the Executive Committee: Drs. Evan Evans (Llanelly), John Davies (Aberayron), Edgar Davies (Llanelly), Richard Hopkin (Llangadock), Evan Evans (Lampeter), T. J. Jenkins (Henllan), D. G. Lloyd (Newcastle-Emlyn), C. D. Mathias (Tenby), T. Morgan (Llandovery), E. R. Williams (Carmarthen), C. A. Brigstocke (Haverfordwest), D. Lewis Williams (Ferry Side), and Owen Williams (Burry Port).

Vote of Thanks.—On taking the chair Dr. PHILLIPS proposed a hearty vote of thanks to Dr. C. A. Brigstocke for the able manner in which he had carried out the duties of the chair during the past year. This was carried with applause.

Annual Representative Meeting.—The Representative for the Aberdeen meeting, Dr. Richard Hopkin, was instructed as to various matters that would be brought before the Representatives.

Association Notices.

Special Representative Meeting, Aberdeen.

ON the requisition of the Council, notice is hereby given under Article 31 and By-laws 36 and 73, that a Special Representative Meeting of the Association will be held on Monday, July 27th, 1914, at 12 noon, at the Marischal College, Aberdeen, for the purpose of considering the following Report and Recommendation of Council (paragraphs 211 and 212 of Supplementary Report of Council, 1913–14), and, if considered advisable, amending By-law 67 accordingly:

SCOTTISH COMMITTEE.

211. The work of the Scottish Committee is growing, and it is found increasingly difficult for the Chairman to be able to attend all the Committee meetings in Scotland and Council and Committees in London as well. The Committee consequently desires to be able to elect a Deputy Chairman as well as Chairman. By-law 67 provides that each Standing Committee shall appoint from its own number a member of Council as Chairman, in order that the Council may be able to keep in touch with each Committee. The Scottish Committee wishes to be an exception to this By-law and to be able to have a Chairman not necessarily a member of Council, but that effective co-ordination shall be maintained by insisting that one of its three officers—Chairman, Deputy Chairman, or Honorary Secretary—shall be on the Council. As the Scottish members desire the change as early as possible, the Council has arranged that a special session of the Representative Body shall be held at Aberdeen on Monday, July 27th, 1914, at 12 noon, for the purpose (only one month's notice of such an alteration of By-laws being required in the case of a Special Representative Meeting).

212. The Council recommends:

> RECOMMENDATION GG.—That the Special Representative Meeting, Aberdeen, amend existing By-law 67 of the Association, which reads as follows:
>
> 67. Each Standing Committee shall appoint from its own number a Member of Council as Chairman,

to read as follows:

> 67. Each Standing Committee except the Scottish Committee shall appoint from its own number a Member of Council as Chairman. The Scottish Committee shall appoint from its own number a Deputy Chairman, as well as a Chairman, and either the Chairman or the Deputy Chairman or the Honorary Secretary of that Committee shall be appointed from amongst members of Council.

T. JENNER VERRALL,
Chairman of Representative Meetings.

June 24th, 1914.

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for Candidates for election of Members of Council by grouped Representatives for the year 1914–15 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting on Friday, July 24th, 1914. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

Separate forms have been prepared: (I) For Nomination by a Division (through its Representative), and (II) for Nomination by a Representative of a Constituency included in the Group, and those applying are requested to state for which purpose the form is desired.

The voting papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a Constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,
ALFRED COX,
Medical Secretary.

June 24th, 1914.

CHANGES OF BOUNDARIES.

The following changes have been made in accordance with the Articles and By-laws of the Association, and take effect as from the date of publication of this notice.

1. Amalgamation of the Manchester Divisions.

That the areas of the Manchester (Central), Manchester (North), Manchester (South), and Manchester (West) Divisons be amalgamated to form one Division, to be known as the Manchester Division.

Representation in Representative Body.—On the existing membership figures the new Manchester Division would be entitled to return three Representatives for 1915–16.

2. New Sevenoaks Division.

That a new Division, to be known as the Sevenoaks Division, be formed, of area as follows:

The urban and rural districts of Sevenoaks and the civil parishes of Stanstead, Shipbourne, and Ightham; the new Division to form part of the Kent Branch, and the areas of the Maidstone and Tunbridge Wells Divisions to be modified accordingly.

Representation in Representative Body.—For the year 1914–15 the area of the new Division is represented with the Maidstone and Tunbridge Wells Divisions respectively. The question of its representation for 1915–16 will be determined by the Council in due course.

SUGGESTED CHANGES OF BOUNDARIES.

Proposed Discontinuance of East Anglian Branch and Formation of Essex, Norfolk and Suffolk Branches.

Notice is hereby given under Article 13 and By-law 73 to all concerned of a proposal made by the East Anglian Branch that that Branch be discontinued, and that new Branches as follows be substituted therefor:

1. Essex Branch.—*Area:* The county of Essex, such portion thereof as at present lies within the area of the East Anglian Branch, or such other portion of the county as may hereafter be arranged;
2. Norfolk Branch.—*Area:* Norfolk;
3. Suffolk Branch.—*Area:* Suffolk;

the Divisions of the new Branches to be those included at present in the respective counties, subject as above in the case of Essex.

Written notice of the proposal has been given under Article 13 to the Divisions of the East Anglian Branch, to the Metropolitan Counties Branch and to the Essex Divisions of that Branch, and the matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact, and his or her reason therefor, to the Medical Secretary, 429, Strand, W.C., not later than September 5th, 1914.

IRISH MEDICAL COMMITTEE.

Annual Meeting.

The annual meeting of the Irish Medical Committee was held in the Royal College of Surgeons, Dublin, on July 14th. In the absence of Dr. P. J. McNamara, Chairman, Dr. R. J. Johnstone, Vice-Chairman, occupied the chair, and the following members of the Committee attended: Drs. J. S. Darling, T. Hennessy, D. Forde, S. F. Gawn, P. J. O'Brien, J. J. O'Connor, J. Giusani, J. M. S. Kenny, W. M. Murphy, R. M. Blake, W. A. Moreton, K. F. Lynn, J. F. Fagan, W. J. O'Sullivan, W. F. Delaney, P. McKenna, W. Doolin, B. C. Powell. Dr. M. R. J. Hayes, Medical Secretary, and Mr. C. H. Gick, Assistant Secretary, were also in attendance. Apologies for inability to attend were received from Drs. J. Power, R. J. Rowlette, T. A. Davidson, J. Wolpherts, A. McBride, H. T. Warnock, J. J. Waters, P. J. McNamara, R. W. Leslie, J. J. O'Sullivan, P. J. Hamilton, E. W. Allson, E. C. Thompson.

Election of Officers for 1914–15.—The following officers were elected:

Chairman: Dr. P. J. McNamara.
Vice-Chairman: Mr. R. J. Johnstone.
Honorary Treasurer: Dr. P. J. McNamara.
Medical Secretary: Dr. T. Hennessy.
Assistant Secretary: Mr. C. H. Gick.

Subcommittees.

Finance and Executive: Drs. M. R. J. Hayes, R. J. Rowlette, R. M. Blake, J. Power, W. Doolin, A. A. McConnell, J. S. Darling, P. J. O'Brien, W. J. O'Sullivan.

Sanatorium: Drs. T. J. Kelly, R. J. Rowlette, J. J. O'Sullivan, J. Power, M. R. J. Hayes, S. Agnew, P. J. Hamilton, T. A. Davidson, R. P. McDonnell, J. J. Giusani, L. Kidd, D. Forde.

Poor Law: Drs. G. E. Greene, O. P. Kerrigan, W. W. Murphy, T. J. Kelly, C. H. Foley, W. J. Burns, T. T. Collins, T. Donnelly, A. C. Callaghan, J. J. O'Connor, G. A. Hickey, J. M. S. Kenny, J. F. Fagan, P. Donnellan.

Hospital: Drs. Rowlette, Kinkead, Hickey, E. C. Thompson, Allsom, Darling, Warnock, R. C. Peacocke, S. Pringle, W. A. Fogarty, Cotter, L. Kidd, G. Mackesy, L. A. Byrne, Sir John Lentaigne, Sir John Byers, Sir Alexander Dempsey, Sir Andrew Horne, Surgeon McArdle.

Dr. Thomas Hennessy, Medical Secretary, is *ex-officio* member of the above subcommittees.

Medical Secretary.—Dr. M. R. J. Hayes was requested to act as Honorary Medical Secretary until August 1st, when Dr. Hennessy would assume his duties as Medical Secretary to the Irish Medical Committee. A very cordial vote of thanks was unanimously passed to Dr. Hayes for his invaluable services to the Irish Medical Committee as Medical Secretary.

Vote of Condolence.—The Medical Secretary was requested to convey to Mrs. Porter Newell the sympathy of the meeting on the death of her husband, Dr. F. T. Porter Newell, who had been a valued member of the committee.

Finance.—A report dealing with the financial position of the Irish Medical Committee was read and approved.

Insurance Act.—Dr. O'Brien (Cork) stated that the County Cork Local Medical Committee had nominated Dr. O'Leary and Dr. Barry as representatives on the Local Insurance Committee, but he was informed that the Irish Insurance Commissioners had ignored the nomination of Dr. O'Leary. The Insurance Commissioners refused the nomination of Dr. O'Leary contrary to the undertaking given in their letter of March 7th, 1913, in which they stated "that in case of all future appointments of medical representatives on Insurance Committees the Commission will select representatives only from the nominees of the Local Medical Committees recognized under the Act." The County Cork Local Medical Committee is recognized under the Act, but it is understood the Commissioners have appointed on their own account a "medical adviser" who is not the nominee of the County Cork doctors or their Local Medical Committee.

Short Payments.—Dr. Davison (Ballymena) wrote in reference to short payments made to panel doctors for medical certification. The Medical Secretary was directed to inform Dr. Davison that each doctor concerned should take legal proceedings to recover the amount due, but that the Irish Medical Committee had no fund at its disposal which would enable it to undertake the expense of such legal proceedings.

Circular Letter.—A circular letter of June 25th last from the Secretaries of the Irish Medical Committee to the Medical Secretary of each panel area was unanimously approved of by the Committee.

WELSH COMMITTEE.

A meeting of the Welsh Committee appointed by the Council on October 31st, 1913, was held at the Raven Hotel, Shrewsbury, on Thursday, July 16th, when there were present: Mr. W. F. Brook (Swansea) (in the chair), Dr. W. Bickerton Edwards (Seven Sisters), Mr. E. D. Evans (Wrexham), Mr. D. R. Price (Ammanford), and Mr. James Neal (Deputy Medical Secretary, British Medical Association). Apologies for absence were received from Mr. J. E. H. Davies (Wrexham), Dr. A. Martin (Cardiff), Mr. C. E. Morris (Holywell), and Dr. W. B. Crawford Treasure (Cardiff).

Mr. W. F. Brook was appointed Chairman of the Committee, and Dr. W. Bickerton Edwards Honorary Secretary. In view of the fact that no further meeting of the Committee would be held this session, it was decided not to co-opt an additional member to represent Radnor and Montgomery.

The recommendation to be submitted by the Council to the Annual Representative Meeting respecting the future constitution of the Welsh Committee as a Standing Committee of the Association was carefully considered and approved.

The Committee also considered the future work to be undertaken by the Welsh Committee, and more especially the urgent need for the appointment of a medical organizer, who could personally visit any area in which difficulties arose. It was felt that the most pressing question requiring attention was the continued growth of "schemes" established under Section 15 (3) of the National Insurance Act, and that successful opposition to these schemes depended upon the Committee being able to send an organizer promptly to any area where a dispute became acute. Until the Council was prepared to appoint a whole-time Medical Secretary for Wales, the Committee determined that an effort must be made to obtain the services of a practitioner with sufficient leisure to visit personally any area affected; this would require funds, and it was decided to make certain recommendations on this matter to the Council.

It is proposed that quarterly meetings of the Welsh Committee should be held at Shrewsbury, and that an Executive Subcommittee shall be appointed to carry out the work in the interval, to meet when and where required.

SHIP SURGEONS SUBCOMMITTEE.

THE following practitioners have consented to act as "Correspondents" of the Ship Surgeons Subcommittee, and are prepared to discuss with any ship surgeon in their area any matter of interest either to that surgeon or to ship surgeons in general, and to forward representations to the Subcommittee in regard to any question in connexion with which central action seems desirable:

Correspondent.	*Port.*
Dr. J. Godding, 56, Leadenhall Street, London, E.C.	London.
Dr. A. G. Hinks, 40, St. Vincent Row, Southend-on Sea	London.
Dr. H. T. Bates, Church Road, Wavertree, Liverpool	Liverpool.
Dr. C. Carlyle, 13, Menlove Avenue, Mossley Hill, Liverpool	Liverpool.
Dr. C. J. Cooke, 1, Sussex Terrace, Plymouth	Plymouth.
Dr. J. C. H. Beaumont, Chinsura, Khartoum Hill Road, Southampton	Southampton.
Dr. O. V. Currie, Union Castle Buildings, 58, Adderley Street, Capetown	Capetown.

Ship surgeons visiting these ports and desiring to discuss matters of interest to the service are invited to place themselves in communication with the correspondent for the port.

The Medical Secretary, 429, Strand, London, W.C., will be glad to hear from practitioners in passenger ports not mentioned above who are willing to act as correspondents to the Subcommittee.

Ship surgeons are also asked to forward for the guidance of the Subcommittee, either to one of the above correspondents or to the Medical Secretary, British Medical Association, 429, Strand, London, W.C., their views upon the following questions:

(1) Whether ship surgeons should receive full sea pay while in port *plus* a subsistence allowance at the same rate granted to the chief officer, with a possible liability to have to report every day at the office of the company, or whether they would prefer to receive full sea pay only in port without such liability; subsistence pay, however, to be paid upon those days in port when any duty connected with the ship is performed.

(2) Their views generally on the question of annual leave being granted with full pay to permanent ship surgeons.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

THE following volumes were added to the Library during January–March, 1914:

Presented by the Authors.

Seton, Major B. C.: The Indian Medical Service. 1912
Taylor, Gerard C.: The Statistical Ready Reckoner. 1913

Presented by Dr. Branthwaite.

Report of the Inspector under the Inebriates Act for 1912.

Presented by George Bethell, Esq. (Medical Society of London).

General Index to the Journal of Mental Science, vols. xxxix to liv.

Presented by Dr. Hearsey.

Nyasaland Protectorate Sleeping Sickness Diary, xxii. 1914

Presented by Dr. Jepson, Worthing.

Elder: Ship Surgeon's Handbook, second edition. 1911

Presented by the Medical Officer, Local Government Board.

Drs. Eastwood and Griffith: Tuberculosis Infection. 1914
Drs. Eastwood and Griffith: Localized Tuberculosis in Swine. 1914
Dr. Farrar: On Enteric at Ashington. 1913
Dr. Seymour: On Lead Poisoning at Guisborough. 1913
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GENERAL MEDICAL COUNCIL.

MEETING OF THE EXECUTIVE COMMITTEE.

A MEETING of the Executive Committee of the General Medical Council was held on July 13th, Sir Donald MacAlister, President, in the chair.

INSPECTION OF QUALIFYING EXAMINATIONS.

The committee considered the resolution adopted by the General Council on June 1st, instructing it to make arrangements for the inspection of qualifying examinations to begin in 1915. The standing orders direct that three inspectors, for medicine, surgery, and midwifery respectively, must be appointed, for definite periods, at a remuneration of five guineas a day, together with an allowance for actual travelling expenses. The committee authorized the Registrar to obtain from the licensing bodies the dates of their qualifying examination to be held during the year 1915.

INSPECTION OF PUBLIC HEALTH EXAMINATIONS.

In accordance with the resolution of the General Council on June 1st, the committee resolved to recommend as follows:

(*a*) That an inspection of all the examinations for diplomas in public health should be commenced in 1915. Those bodies whose examinations in public health have been instituted since the last inspection should be first inspected.

(*b*) That one inspector should be appointed for all the examinations, and should be remunerated on the same scale as the inspectors of the final examinations. Where practicable a member of the Council should accompany the inspector as visitor.

"BRITISH PHARMACOPOEIA."

The committee resolved, as stated last week, that the new *British Pharmacopoeia* should be published on Friday, October 9th, and suggested that the price should be 10s. 6d. net. The committee placed on record its high appreciation of the skilful and assiduous work of Dr. Tirard and Professor Greenish, the editors.

HIGHLANDS AND ISLANDS BOARD.

The committee considered the draft scheme submitted by the Highlands and Islands (Medical Service) Board for the constitution of committees for the administration of grants, and directed the Board to be informed that it took no exception to the provisions of the draft scheme.

MADRAS MEDICAL REGISTRATION BILL.

The committee had before it the Medical Registration Bill for the Madras Presidency, which received the assent of the Governor-General on April 27th, 1914. The committee expressed its regret that the Act did not contain any provision for the prevention of practice by unqualified persons in the Presidency of Madras, and the hope that it would soon be practicable to require that those who undertook to practise any branch of medicine in the Presidency should be fully qualified for that responsible duty.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following notifications are announced by the Admiralty: Fleet Surgeon RAMSAY M. RICHARDS to the *President*, additional, for recruiting head quarters, temporary, undated. Staff Surgeon WILLIAM N. BLACKFORD to the *Pembroke*, additional, for disposal, July 25th. Staff Surgeon ERNEST F. ELLIS to the *Assistance*, vice Richards, July 28th. Surgeon GEORGE N. LEVICK promoted to the rank of Staff Surgeon with seniority, November 21st, 1910. Surgeon FRANK H. STEPHENS to the *Victory*, additional, for disposal. Surgeon ALBERT V. J. RICHARDSON, M.B., to the *Attentive*, vice Cox, July 25th. Surgeon JOHN H. BURDETT to the *Bulwark*, July 25th. Surgeon WILLIAM MEARNS, M.B., to the *Pembroke*, additional, for disposal, undated. Surgeon ARCHIBALD L. ROBINSON, M.B., to the *Pembroke*, additional, for disposal, undated.

ARMY MEDICAL SERVICE.

SURGEON-GENERAL R. W. FORD, D.S.O., has been appointed Deputy Director-General of Medical Services, Northern Command, vice Surgeon-General W. W. Kenny, K.H.I.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel F. W. JONES has been appointed to Tidworth as Assistant Director of Medical Services, Salisbury Command.

Lieutenant-Colonel J. S. DAVIDSON has been granted six months' leave.

Major F. A. STEPHENS has been appointed to the Central London Recruiting Dépôt.

Captain S. G. WALKER has been granted four months' leave.

Lieutenant BASIL H. H. SPENCE, M.B., is seconded for service with the Egyptian Army, June 30th.

Lieutenant PIERCE M. J. BRETT, M.B., is seconded for service with the Egyptian Army, July 1st.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT EBEN S. B. HAMILTON, M.D., to be Captain, June 29th.

Lieutenant WILLIAM CRYMBLE to be Captain, July 13th.

Lieutenants ALEXANDER J. GIBSON, M.B., and THOMAS W. WYLIE, M.B., are confirmed in their rank.

Cadet Corporal GEORGE PERRINS from the Oxford University Contingent, Officers' Training Corps, to be Lieutenant on probation, May 20th.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL J. FISHER, D.S.O., an Agency Surgeon of the second class is granted privilege leave for one month, with effect from June 1st, 1914.

Lieutenant-Colonel J. G. HULBERT, M.B., has been permitted to retire from the service, with effect from May 12th, 1914.

The services of Captain A. A. C. MCNEILL, M.B., have been placed at the disposal of the Government of India, Home Department, for civil employ.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Second South-Western Mounted Brigade Field Ambulance.—The order as to precedence of the undermentioned Captains, whose appointments were announced in the *London Gazette* of May 15th, is to be as now shown: JOHN M. DUPONT, M.D., HENRY NORMAN BARNETT, F.R.C.S.E.

East Anglian Clearing Hospital.—WILLIAM REDPATH, M.B., to be Lieutenant, July 18th.

Wessex Clearing Hospital.—ALFRED J. H. ILES to be Lieutenant, June 9th.

Third South Midland Field Ambulance.—HENRY J. D. SMYTHE to be Lieutenant, June 18th.

Attached to Units other than Medical Units.—Lieutenant ROBERT HENRY to be Captain, July 9th, 1914. Lieutenant-Colonel and Honorary Surgeon-Colonel DAVID LENNOX, M.D., resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform, July 22nd, 1914. Captain THOMAS HARPER, M.B., resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform, July 22nd, 1914. Captain GEORGE B. GILL, M.B., resigns his commission, July 22nd, 1914.

Vital Statistics.

VITAL STATISTICS OF LONDON DURING THE SECOND QUARTER OF 1914.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

IN the accompanying table will be found summarized the vital statistics of the metropolitan boroughs and of the City of London, based upon the Registrar-General's returns for the second quarter of the year. The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided. The 28,378 births registered during the quarter under notice were equal to an annual rate of 25.2 per 1,000 of the population, estimated at 4,516,612 persons in the middle of the year; in the corresponding quarters of the three preceding years the birth-rates were 25.2, 24.7, and 25.2 per 1,000 respectively. The lowest birth-rates last quarter were 12.1 in the City of Westminster, 14.6 in Holborn, 14.7 in Hampstead, 18.6 in Kensington, and 19.5 in Lewisham; among the highest rates were 30.4 in Bethnal Green, 30.9 in Bermondsey and in Stepney, 31.1 in Poplar, 31.4 in Shoreditch, and 39.2 in Finsbury.

During the last quarter the deaths of 14,711 London residents were registered, equal to an annual rate of 13.1 per 1,000; in the corresponding quarters of the three preceding years the rates were 13.2, 12.4, and 13.3 per 1,000 respectively. The death-rates last quarter ranged from 9.6 in Wandsworth, 10.0 in Lewisham, 10.6 in Hampstead, 11.5 in Paddington, and 11.8 in Fulham and in the City of Westminster to 15.7 in Stepney, 15.8 in Holborn, 16.0 in Southwark, 16.9 in Shoreditch, 17.1 in Bermondsey, and 18.8 in Finsbury.

The 14,711 deaths from all causes included 32 from enteric fever, 346 from measles, 69 from scarlet fever, 310 from whooping-cough, 143 from diphtheria, and 230 from diarrhoea and enteritis among children under 2 years of age. Enteric fever was proportionately most fatal in Fulham, St. Marylebone, Holborn, Lambeth, and Deptford; measles in Finsbury, Shoreditch, Stepney, Bermondsey, and Greenwich; scarlet fever in Fulham, Finsbury, the City of London, Southwark, Deptford, and Woolwich; whooping-cough in Finsbury, the City of London, Shoreditch, Bethnal Green, and Stepney; and diphtheria in Hackney, Stepney, Poplar, Deptford, and Woolwich. The mortality from diarrhoea and enteritis among children under 2 years of age in proportion to the births registered during the quarter was greatest in Islington, Stoke Newington, Hackney, Shoreditch, Bethnal Green, Poplar, and Bermondsey.

The deaths from phthisis among London residents last quarter numbered 1,445, and were equal to a rate of 1.28 per 1,000, against 1.21 and 1.27 per 1,000 in the corresponding quarters of the two preceding years. The death-rates from this disease last quarter ranged from 0.47 in the City of London, 0.55 in Hampstead, 0.63 in Lewisham, 0.79 in Wandsworth, and 0.96 in Paddington and in Kensington to 1.57 in Chelsea and in St. Pancras, 1.69 in Shoreditch, 1.78 in Poplar, 1.84 in Bermondsey, 2.10 in Holborn, and 2.22 in Finsbury.

Infant mortality, measured by the proportion of deaths under 1 year of age to registered births, was equal to 79 per 1,000 last quarter, against 89, 82, and 81 in the corresponding quarters of the three preceding years. Among the lowest rates recorded last quarter were 35 in Chelsea, 54 in the City of London, 55 in Lambeth, 63 in Paddington and in Lewisham, and 66 in Deptford; the highest rates were 100 in Stepney, 101 in Southwark, 104 in Bermondsey, 109 in Shoreditch, and 110 in Bethnal Green.

HEALTH OF ENGLISH TOWNS.

IN ninety-seven of the largest English towns 8,744 births and 4,018 deaths were registered during the week ended Saturday, July 18th. The annual rate of mortality in these towns, which had been 12.1, 12.7, and 11.5 per 1,000 in the three preceding weeks, rose to 11.6 per 1,000 in the week under notice. In London the death-rate was equal to 11.8, against 12.1, 13.3, and 10.6 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 3.7 in Ealing, 4.6 in Walthamstow, 4.9 in Devonport, 5.2 in Ilford, 5.6 in Eastbourne, and 5.9 in Wakefield to 15.8 in Stockton-on-Tees, 16.9 in South Shields, 17.2 in Preston, 17.7 in Middlesbrough, 20.1 in Blackpool, and 23.5 in Bootle. Measles caused a death-rate of 1.4 in Liverpool and in Bootle, and 1.7 in Newport (Mon.). The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 44, or 1.1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 12 were recorded in Birmingham, 8 in Liverpool, 3 in Gloucester, and 2 each in Bootle, Warrington, Preston, Hull, and Tynemouth. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,088, 3,092, and 3,109 at the end of the three preceding weeks, had further risen to 3,126 on Saturday last; 430 new cases were admitted during the week, against 440, 442, and 414 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN the sixteen largest Scottish towns 1,216 births and 559 deaths were registered during the week ended Saturday, July 18th. The annual rate of mortality in these towns, which had been 13.8, 14.1, and 13.6 per 1,000 in the three preceding weeks, further fell to 12.7 in the week under notice, but was 1.1 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 10.3 in Kilmarnock, 10.9 in Dundee and in Paisley, and 11.2 in Edinburgh to 17.0 in Coatbridge, 18.4 in Perth, and 18.9 in Hamilton. The mortality from the principal infective diseases averaged 1.3 per 1,000, and was highest in Falkirk and Hamilton. The 256 deaths from all causes in Glasgow included 11 from whooping-cough, 11 from infantile diarrhoeal diseases, 2 from measles, 2 from diphtheria, 1 from enteric fever, and 1 from scarlet fever. Five deaths from measles were recorded in Dundee and 2 in Hamilton; and from whooping-cough, 2 deaths in Falkirk.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, July 18th, 574 births and 371 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 671 births and 368 deaths in the preceding period. These deaths represent a mortality of 16.1 per 1,000 of the aggregate population in the districts in question, as against 15.9 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.5 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 24.8 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.2 (as against an average of 16.0 for the previous four weeks), in Dublin city 19.0 (as against 17.3), in Belfast 13.5 (as against 16.2), in Cork 14.3 (as against 15.8), in Londonderry 22.8 (as against 18.4), in Limerick 19.0 (as against 15.9), and in Waterford 24.7 (as against 16.1). The zymotic death-rate was 1.9 as against 1.6 in the previous week.

Analysis of the Vital Statistics of the Metropolitan Boroughs and of the City of London after Distribution of Death occurring in Public Institutions during the Second Quarter of 1914.

BOROUGHS.	Estimated Population middle of 1914.	Births.	Deaths.	Annual Rate per 1,000 Living.		Deaths from								Deaths of Children Under 1 Year of Age to 1,000 Registered Births.
				Births.	Deaths.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Diphtheria.	Diarrhoea and Enteritis (Under 2 Years).	Phthisis.	
COUNTY OF LONDON	4,516,612	28,378	14,711	25.2	13.1	32	—	346	69	310	143	230	1,445	79
Paddington	142,055	733	409	20.7	11.5	1	—	—	2	6	5	5	34	63
Kensington	170,817	792	508	18.6	11.9	—	—	—	4	3	2	7	41	78
Hammersmith	124,750	707	373	22.7	12.0	2	—	2	1	2	2	7	40	68
Fulham	158,849	1,034	466	26.1	11.8	3	—	1	4	16	3	10	40	83
Chelsea	63,791	340	203	21.4	12.8	1	—	—	1	3	1	—	25	35
City of Westminster ...	152,346	461	449	12.1	11.8	—	—	1	1	6	2	2	57	69
*St. Marylebone	112,892	1,010	371	35.9	13.2	3	—	—	1	7	3	6	40	44
Hampstead	86,731	318	230	14.7	10.6	—	—	—	—	7	1	1	12	72
St. Pancras	212,497	1,233	710	23.3	13.4	2	—	13	4	17	4	12	83	68
Islington	324,764	1,993	1,097	24.6	13.5	3	—	21	4	30	7	21	106	81
Stoke Newington ...	50,454	267	172	21.2	13.7	—	—	—	1	2	—	3	15	90
*Hackney	223,724	1,492	712	26.7	12.8	1	—	6	1	15	15	15	70	74
*Holborn	45,861	167	181	14.6	15.8	1	—	1	—	4	2	—	24	72
*Finsbury	83,212	813	389	39.2	18.8	—	—	36	3	17	2	8	46	86
City of London	17,129	112	66	26.2	15.5	—	—	—	1	2	—	—	2	54
Shoreditch	108,869	853	458	31.4	16.9	—	—	31	1	21	4	11	46	109
Bethnal Green	127,662	967	446	30.4	14.0	—	—	16	1	15	4	17	49	110
*Stepney	273,265	2,108	1,069	30.9	15.7	3	—	62	4	30	17	20	103	100
Poplar	160,222	1,241	592	31.1	14.8	1	—	20	1	5	11	14	71	85
Southwark	186,941	1,377	746	29.5	16.0	1	—	12	11	15	7	13	65	101
Bermondsey	124,213	955	528	30.9	17.1	1	—	29	1	8	3	10	57	104
*Lambeth	236,724	2,090	895	28.2	12.1	5	—	9	3	10	8	12	92	55
Battersea	167,338	1,027	518	24.6	12.4	—	—	13	1	9	5	6	51	86
Wandsworth	338,998	1,730	812	20.5	9.6	—	—	13	2	22	6	13	67	67
Camberwell	262,020	1,600	814	24.5	12.5	2	—	11	6	13	9	9	83	81
Deptford	109,182	759	326	27.9	12.0	2	—	16	3	—	6	1	32	66
Greenwich	96,037	639	344	26.7	14.4	—	—	26	1	1	3	1	31	77
Lewisham	172,433	839	430	19.5	10.0	—	—	2	3	12	5	4	27	63
Woolwich	122,836	721	397	23.5	13.0	—	—	6	3	12	7	2	36	90

* No correction is made for births in lying-in institutions; the boroughs principally affected are marked thus (*).

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Male House-Surgeon. Salary, £150 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

BETHNAL GREEN INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £180 and £160 per annum, rising to £200 and £180 per annum respectively.

BIRKENHEAD BOROUGH HOSPITAL. — Senior House-Surgeon (male). Salary, £120 per annum.

BIRKENHEAD UNION INFIRMARY. — Senior Male Resident Assistant Medical Officer. Salary, £175 per annum.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Locumtenent to act as Junior House-Surgeon. Remuneration, £5 5s. weekly.

BIRMINGHAM: CITY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—(1) House-Surgeon. Salary at the rate of £50 per annum, and £10 bonus on satisfactory completion of six months' service. (2) Secretary and General Superintendent. Salary, £400 per annum.

BIRMINGHAM: ROMSLEY HILL SANATORIUM. — Assistant Resident Medical Officer. Salary, £200 per annum.

BIRMINGHAM UNION.—Resident Assistant Medical Officer at the Selly Oak Infirmary. Salary, £160 per annum.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

BRADFORD ROYAL INFIRMARY.—(1) Two House-Surgeons. Salary, £100 per annum each. (2) Locumtenent House-Surgeon. Salary, 6 guineas a week.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-Resident House-Surgeon. Salary at the rate of £150 per annum.

BRISTOL CITY ASYLUM. — Second Assistant Medical Officer. Salary, £200 per annum, rising to £250.

CARDIFF: KING EDWARD VII HOSPITAL.—Two House-Surgeons. Salary, £100 per annum.

CHELSEA PARISH INFIRMARY.—Second Assistant Medical Officer. Salary, £160 per annum.

CHORLEY: RAWCLIFFE HOSPITAL. — House-Surgeon (male). Salary, £100 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Physician. (2) House-Surgeon (males). Salary, £100 per annum each.

DERBY: DERBYSHIRE HOSPITAL FOR SICK CHILDREN. — Resident Medical Officer. Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL. — House-Surgeon. Salary at the rate of £150 per annum.

DORCHESTER: COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £300 per annum, rising to £400.

EAST SUSSEX COUNTY ASYLUM, Hellingly.—Assistant Medical Officer.

EDINBURGH: THE HOSPICE.—Resident Medical Officer (female). Honorarium at the rate of £50 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House-Physician. Salary at the rate of £75 per annum.

FIFE AND KINROSS EDUCATION COMMITTEE. — Assistant School Medical Officer. Salary, £250 per annum, rising to £300.

GLASGOW UNIVERSITY. — (1) Lecturer in Materia Medica and Pharmacology; salary, £350 to £400 per annum. (2) Assistant to Professor of Physiology; stipend, £150 per annum.

GRIMSBY AND DISTRICT HOSPITAL.—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Salary, £100 and £80 per annum respectively.

HARTLEPOOL BOROUGH.—Medical Officer of Health and School Medical Officer. Salary (combined), £400 per annum, increasing to £500.

HEXHAM RURAL DISTRICT COUNCIL. — Medical Officer of Health. Salary, 250 guineas per annum and £20 as Medical Officer of Infectious Diseases and Small-pox Hospitals.

HULL: ROYAL INFIRMARY. — (1) Senior House-Surgeon. (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

HULL: VICTORIA CHILDREN'S HOSPITAL.—Lady Assistant House-Surgeon. Salary, £45 per annum.

JOHANNESBURG: SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH.—(1) Superintendent of Routine Division. (2) Curator of Museum, Photographer, and Photomicrographer. Salary, £700 and £400 per annum, rising to £750 and £550 respectively.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £250 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LEAMINGTON SPA, WARNEFORD, LEAMINGTON AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary, £100 and £85 per annum respectively.

LEEDS CITY HOSPITALS FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Two Assistant Medical Officers. Salary at the rate of £130 per annum each.

LEEDS GENERAL INFIRMARY.—(1) Two House-Physicians. (2) Assistant Clinical Pathologist. (3) Resident Medical Officer at the Ida and Robert Arthington Hospitals. Salary for (2), £150 per annum, and for (3), £60 per annum.

LEEDS TUBERCULOSIS ASSOCIATION.—Resident Medical Officer at the Sanatorium, Gateforth. Salary at the rate of £100 per annum.

LEICESTER ROYAL INFIRMARY.—(1) Assistant House-Surgeon. (2) Assistant House-Physician. Salary at the rate of £100 per annum.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE. — Research Assistant in the Runcorn Research Laboratory. Salary, £150 per annum.

LONDON LOCK HOSPITAL.—House-Surgeon to the Female Hospital, Harrow Road. Salary, £100 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—(1) Assistant House-Surgeon. (2) Assistant Resident Medical Officer. Salary at the rate of £105 and £80 per annum respectively.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer (male). Salary, £100 per annum, rising to £120.

MANCHESTER CORPORATION.—Fourth Medical Assistant at the Monsall Fever Hospital. Salary, £150 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—(1) Resident Medical Officer for the In-patient Department, Bowdon. Salary, £100 per annum. (2) Assistant Medical Officer and Pathologist. Salary, £60 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-patients and Accidents at Central Branch. Salary at the rate of £100 per annum.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN.—Four House-Surgeons.

MANCHESTER UNIVERSITY.—Two Scholarships. Value £100 each.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary at the rate of £60 and £40 per annum respectively.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Medical and Surgical Registrars. Salary for Medical Registrars at the rate of £50 per annum.

NORTHAMPTON GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

NOTTINGHAM CITY.—Resident Assistant Medical Officer at the Bagthorpe Institution and Infirmary. Salary at the rate of £165 per annum.

NOTTINGHAM GENERAL DISPENSARY. — Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary at the rate of £100 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OLDHAM ROYAL INFIRMARY.—Second and Third House Surgeons. Salary at the rate of £140 and £100 per annum respectively.

OXFORD CITY: Assistant Medical Officer of Health and School Medical Officer (male). Salary, £300 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.—House-Surgeon. Salary at the rate of £80 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN. Male Assistant Resident Medical Officer. Salary at the rate of £100 per annum and £10 honorarium on completion of six months.

PLYMOUTH GUARDIANS.—Resident Assistant Medical Officer for the Workhouse and Infirmary. Salary, £200 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL. — House-Surgeon (male). Salary at the rate of £90 per annum.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary, £100 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary at the rate of £80 per annum.

READING EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £300 per annum.

ROCHDALE INFIRMARY AND DISPENSARY. — Senior House-Surgeon (male). Salary, £120 per annum.

ROCHDALE UNION WORKHOUSE —Temporary Resident Medical Officer. Salary, £6 6s. per week.

ROYAL DENTAL HOSPITAL, Leicester Square, W.C.—Two House-Anaesthetists.

ROYAL EYE HOSPITAL, Southwark, S.E.—Junior House-Surgeon. Salary, £50 per annum.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstrator of Physiology. Salary, £150 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Resident Assistant Anaesthetist. Salary at the rate of £100 per annum.

SALFORD ROYAL HOSPITAL. — (1) Junior House-Surgeon. (2) Casualty House-Surgeon. Salary, £100 per annum each.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £150 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY. — Senior and Junior House-Surgeons. Salary, £100 and £30 per annum respectively.

SHEFFIELD: CHILDREN'S HOSPITAL.—House-Surgeon for the East End Branch. Salary, £120 per annum.

SHEFFIELD: CITY HOSPITALS FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Assistant Medical Officer. Salary, £150 per annum.

SHREWSBURY: COUNTY ASYLUM.—Second Assistant Medical Officer (male). Salary, £230 per annum, rising to £250.

SOUTH AFRICA UNION.—Medical Inspector of Schools throughout Natal. Salary, £700 per annum, increasing to £800.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SOUTHWARK UNION INFIRMARY.—Third Assistant Medical Officer. Salary at the rate of £160 per annum, rising to £170.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

STATE CRIMINAL LUNATIC ASYLUM, Retford.—Assistant Medical Officer (male). Salary, £225 per annum, increasing to £350.

STOKE-UPON-TRENT UNION.—Assistant Resident Medical Officer for the Workhouse and Hospital. Salary, £160 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary, £125 per annum each.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

WAKEFIELD: WEST RIDING COUNTY COUNCIL.—School Medical Inspector. Salary, £325 per annum, rising to £400.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon. Salary, £110 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—(1) Resident Medical Officer. (2) Senior House-Surgeon. (3) Senior House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary for (1), £160; for (2) and (3), £120; and for (4) and (5), £100 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Resident Casualty Officer and Anaesthetist. Salary at the rate of £40 per annum.

WEST RIDING: STORTHES HALL ASYLUM, Kirkburton.—Assistant Medical Officer. Salary, £230 per annum, rising to £270.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £120 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

WOOLWICH INFIRMARY.—Assistant Medical Officer at the Infirmary, Plumstead. Salary, £180 per annum, rising to £200.

YORK COUNTY HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Ashton-under-Lyne (Lancaster), Uppingham (Rutland).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

BAINBRIDGE, William, M.B., Ch.B.Edin., Assistant Ophthalmic Surgeon to the Hull Royal Infirmary, vice D. Matheson Mackay, M.D.Edin., appointed Honorary Ophthalmic Surgeon.

BRIDE, T. Milnes, M.D., Honorary Surgeon to the Manchester Royal Eye Hospital.

BROWNLEE, Alex., F.R.C.S.E., Resident Medical Officer of the Glan Ely Hospital for Consumptives.

CAMERON, A. F., M.D.Edin., Medical Superintendent of the Hospital Service of the Metropolitan Asylums Board.

CHETWOOD, Thomas, M.B.Lond., D.P.H.Oxford, School Medical Officer and Deputy Medical Officer of Health for the City of Sheffield, vice Dr. Ralph Williams.

CLARE, R. L., M.B., C.M.Edin., Medical Officer of the Flimby Lodge Schools of the Cockermouth Union.

CRAIG, F. W., M.B., Ch.B.Edin., Medical Superintendent of Health and Tuberculosis Officer for Londonderry.

CREGAN, G. T., M.B., Assistant Medical Officer to the South Infirmary, etc., of the Parish of St. Pancras.

CUSCADEN, G. S., M.R.C.S., Surgeon to In-patients at the Women's Hospital, Melbourne.

CUTHBERTSON, J. O., M.B., Ch.B.Oxon., District Medical Officer of the Droitwich Union.

DAVIES, A. V., M.B., District Medical Officer of the Oldham Union.

DICKSON, W. E. Carnegie, M.D., F.R.C.P.Edin., Director of the Pathological Department of the Royal Hospital for Diseases of the Chest, City Road, E.C.

EHRKE, F., M.D.Edin., District Medical Officer of the Great Yarmouth Union.

HARRIS, Wilfred, M.D.Camb., F.R.C.P., Physician to the Royal Westminster Ophthalmic Hospital.

HERKLOTS, G. A., M.R.C.S., L.R.C.P., Assistant Medical Officer of the Brighton Parish Workhouse.

HOGG, A. H., M.B. B.S.Durh., District Medical Officer of the Barnsley Union.

HORNE, G., M.D.Melb., Surgeon to In-patients at the Women's Hospital, Melbourne.

KERLEY, Patrick, M.B., B.Ch., R.U.I., Medical Officer to the Athlone No. 2 Dispensary District.

LOOSELY, Chas. J., L.R.C.P., M.R.C.S., Honorary Assistant Anaesthetist to the Royal Dental Hospital, London.

MCCULLAGH, W. McK., M.B., Assistant Medical Officer, St. Marylebone Parish Infirmary.

MACGREGOR, Alastair, M.D., C.M.Edin., Chief Assistant in the Electrical Department, St. Bartholomew's Hospital, E.C.

MARTIN, W. Y., M.B., District Medical Officer of the Leigh Union.

MASON, P. J., M.B., Ch.B.Birm., District Medical Officer of the Dudley Union.

MURRAY, D. S., M.D.Edin., Medical Officer Stratford-on-Avon Union Workhouse.

NATTRASS, J. H., M.B.Melb., Surgeon to Out-patients at the Women's Hospital, Melbourne.

PATERSON, M. W., M.R.C.S., L.R.C.P.Lond., Resident Assistant Medical Officer of the Salford Union Infirmary.

PLATT, H., M.R.C.S., L.R.C.P.Lond., Assistant Tuberculosis Officer under the Essex County Council.

SHAW, T. D. S., M.B., C.M.Edin., District Medical Officer of the Lichfield Union.

SMITH, Miss M. E. E., M.B., B.S.Lond., Assistant Medical Officer, Birkenhead Union Workhouse.

SPROTT, Barbara, M.B., B.S., Anaesthetist to the Chelsea Hospital for Women.

SUTHERLAND, R. Tate, M.D.Melb., Surgeon to Out-patients at the Women's Hospital, Melbourne.

TORNEY, J. H., M.B., B.Ch.Dub., District Medical Officer of the Plymouth Incorporation.

WATKIN, P. J., M.R.C.S., L.R.C.P., Assistant Medical Officer, Lambeth Parish Infirmary.

WRIGHT, F. R. E., M.B.Lond., District Medical Officer of the Barnstaple Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

ROBERTS.—On July 17th, at 104, Midland Road, Bedford, to Dr. and Mrs. E. Cleaton Roberts, a daughter.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, Chenies Street, London, W.C.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	JULY.
	ANNUAL MEETING, ABERDEEN, 1914.
	Annual Representative Meeting, Friday, July 24th, and following days.
	Special Representative Meeting, July 27th.
	Presidential Address, Tuesday, July 28th.
	Sections—July 29th, July 30th, and July 31st.

Date.	Meetings to be Held.
	ANNUAL MEETING (*continued*).
	Annual Exhibition, July 28th–31st.
	Excursions, August 1st.
	(*See also p. 93 et seq.*)
29 Wed.	Scottish Committee, Scottish Committee Room, Aberdeen, 2 p.m.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 1st, 1914.

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EIGHTY-SECOND ANNUAL MEETING

OF THE

British Medical Association.

ABERDEEN, 1914.

ANNUAL REPRESENTATIVE MEETING.

Mr. T. Jenner Verrall (Chairman of Representative Meetings) in the Chair.

The proceedings of the Annual Representative Meeting began on Friday, July 24th, 1914, in the Mitchell Hall, Marischal College, Aberdeen, at 10 a.m.

The return of the election of Representatives of Divisions for the year 1914-15 was received, approved and entered on the minutes. Notices of appointment of substitutes for Representatives were also received.

Admission of the Lay Press.

The meeting decided to admit representatives of the lay press on the understanding that if the meeting expressed a desire that any part of the proceedings should not be reported that request would be respected.

The President's Illness.

The Chairman said he was convinced that the Representative Body would approve of the following motion:

> The Representative Body greatly regrets that the President, in consequence of his recent serious illness, is unable to attend the annual meeting, but congratulates him on his progress, and hopes that he will soon be quite restored to health.

The Chairman of Council seconded the motion, which was carried.

Standing Orders.

The Standing Orders of the last Representative Meeting were adopted, with certain modifications intended to facilitate the conduct of business.

The Council having found that the following Standing Order was *ultra vires*:

> (i.) In addition to members nominated by the Council it shall be open to any member of the Representative Body to nominate a candidate for election as a service member of Council,

the following new Standing Order was substituted:

> 49. *Election of Service Members of Council.*—The election of members to represent the Royal Navy Medical Service, the Army Medical Service, and the Indian Medical Service on the Council shall be conducted as follows:
>
> At the commencement of the afternoon session of the first day of the Annual Representative Meeting the names of the candidates nominated by the Council to represent the respective services shall be submitted to the Annual Representative Meeting by the Chairman for election, in such way as the Chairman may think fit. The result shall in each case be declared by him as soon as possible.
>
> Except where otherwise decided by the Representative Body in respect of any specific appointment, the members representing the respective services on the Council shall hold office for a period of three years.

Standing Order 18 was altered to provide that local honorary secretaries, as well as members of the Representative Body, shall receive copies of the minutes of the Representative Meeting.

The late Dr. J. H. Keay.

The Chairman alluded to the death since the last Representative Meeting of Dr. J. H. Keay, who represented the Greenwich Division from 1910 to 1913, and a motion of sympathy and condolence was passed.

Order of Business.

The Chairman submitted the report of the Agenda Committee, and resolutions were passed embodying the meeting's decision as to the order in which the business would be taken.

The University's Welcome to the Association.

The Chairman introduced to the meeting Principal George Adam Smith, Principal of the University, by whose courtesy the Representative Body was meeting in the Marischal College; and also the President-elect of the Association, Sir Alexander Ogston, K.C.V.O.

Principal Adam Smith, who was received with loud applause, welcomed the meeting to the University of Aberdeen. It was proud to place its halls at the disposal of the Representatives during the coming week, and the University in the course of the proceedings would be at home to the members of the British Medical Association. To himself and his colleagues of the Medical School of the University it was a particular pleasure to welcome amongst the members of the Association attending the meeting very many old students of medicine in Aberdeen. The University was proud of the place those students had taken in the profession and bade them a hearty welcome on their return to their *Alma mater*.

Emeritus Professor Sir Alexander Ogston, K.C.V.O., said the members had had quite a characteristic reception from the north wind of the boreal region they had come to visit. He hoped that cold and inclement as was their exterior, there would be found underlying it a great and warm welcome. (Applause.)

The Chairman returned thanks on behalf of the Representative Meeting, remarking that they expected nothing less from a city so noted for its hospitality and geniality.

Annual and Supplementary Reports of Council.

The Annual and Supplementary Reports of Council for 1913–14, published in the Supplement of the Journal of May 2nd and June 27th, were received.

Annual Meeting, 1915.

A motion was carried with acclamation that the Annual Meeting of 1915 be held in Cambridge from July 2nd to July 10th; the Chairman explaining that the early date was necessary to meet local requirements. Sir T. Clifford Allbutt, K.C.B., was elected President-elect for 1915–16.

Vice-Presidents.

On the motion of the Chairman of Council it was unanimously agreed that Dr. W. Ainslie Hollis, President of the Association for 1913–14, and Dr. W. T. Hayward, Chairman of the Australian Federal Committee, be elected Vice-Presidents. Dr. Macdonald remarked that Dr. Hollis had admirably carried out his duties as President, and that he had a peculiar personal pleasure, after his recent visit to Australasia, in moving the election of Dr. Hayward, who had been a distinguished member of the Association there for many years—in fact, he was one of the original members who first formed a Branch of the Association in Australasia (the South Australian Branch), and more than any other was responsible for the success of the Association in Australasia.

The motion was carried with acclamation.

Preliminary Paragraphs.

The remainder of the annual report of Council under the heading "Preliminary" was carried (Supplement, May 2nd, pp. 266–7).

FINANCE.

The Treasurer, Dr. Rayner, had a sympathetic greeting after his recent illness. On moving that the paragraphs of the annual report of Council dealing with finance (Supplement, May 2nd, p. 267) be approved, Dr. Rayner thanked the meeting, and said that if there was any one who should be congratulated it was himself in being able again to take part in the meeting and strive to do his duty by the Association. (Applause.)

In reply to a question, Dr. Rayner explained that the item in the Journal account, "Contributions (General) and Reporting, £2.703," was principally made up of contributions, and did not represent the cost of reporting.

Answering Dr. Fothergill, who asked if the estimated surplus of £6,500 announced in the Supplement, May 2nd, p. 276, was still correct, Dr. Rayner said the estimate was drawn up in December last, and since then certain expenditure had been incurred. Although the Stevens action had been won by the Association, he was afraid it would have to pay certain expenses. Then, in December there was a financial slump, and the value of the securities of

the Association was written down; they had now, however, increased in value.

Dr. CUMING ASKIN (South Suffolk) asked if any members of Parliament sent reports to the JOURNAL; if they were paid for their work; and, if so, how much.

The TREASURER said that members of Parliament had sent reports to the JOURNAL so long as he could recollect. The sum paid depended on the amount of work done.

In dealing further with the question of the estimated surplus, the TREASURER said, in reply to Dr. HASLIP (Westminster), that since December further charges had been incurred, amounting to about £1,000. The matter had been very carefully estimated on a conservative basis, and it was calculated that the surplus would be £6,000.

Dr. R. M. BEATON (Council) mentioned the wages of the office staff; not the men at the top but the men near the bottom. He regretted to say that these employees were not well paid; some of the men in the office were receiving the same salary that they had eleven, twelve, and thirteen years ago. The Association was a democratic body, and wanted to do the best it could for the community, and yet this state of affairs existed, although the cost of living had gone up seriously. He moved that the Representative Meeting instruct the Finance Committee to give the matter very favourable consideration. Medical practitioners looked for fair remuneration for their work, and they should deal with their staff in the same way.

Several Representatives rose to second the proposal.

The TREASURER said he quite agreed with Dr. Beaton, and he thought it was only fair that the matter should receive consideration. Down to the end of last year the Association really could not afford to pay more wages. The expenses had been so heavy that the reserve fund had been drained to such an extent that the members of the staff had had to be satisfied, although they had suggested an increase. Now things were getting much easier for the Association and for the Treasurer, and he was more than willing—he was desirous—that the matter should be fully considered at an early date, so that the Association might not have to rest under the charge that it was paying its servants less than they ought to receive. There was no company or association in the country that was better served by its servants than the British Medical Association.

The resolution was adopted.

Dr. HASLIP (Westminster) suggested that the Association was being conducted extravagantly. There were now practically three organizing secretaries: one for the general office, one for Ireland, and one for Scotland, and soon there would be a request from Wales. London would not be behind; it was a constituency that numbered 5,000 members, yet London was a black spot on the Association's record. The Association's present financial position did not justify the payment of additional medical secretaries. A supplementary report should have been issued showing the latest financial position. In 1912 the Association had a deficiency of £8,000, and in 1913 of £4,000, and he thought a reserve should be built up.

Dr. DUNCAN (Chesterfield) said that 5 per cent. of the income was written off under the head of bad debts and 10 per cent. appeared amongst the assets as "arrears." In other words, 15 per cent. of the income was either totally or problematically lost. Was that good business management? He had never heard a better argument for the appointment of several organizing secretaries than Dr. Haslip's speech. The aim of the Association was that it should be conducted on a business footing. If London was a black spot, the sooner an organizing secretary was appointed for London the better; he would bring in more than his salary in additional subscriptions.

The TREASURER said he quite agreed with the remarks of the last speaker. It would be the duty of the extra secretaries to do such work as would pay their expenses; otherwise they would have failed in the object for which they were appointed. As to the unpaid subscriptions, many medical men left their widows unprovided for at their death, and the Association could not ask the widows or children to pay the arrears in those circumstances. As to the arrears, amounting to £1,480, written off, the Association, he had no doubt, would receive half of this amount in the course of next year. The total loss by deaths and arrears amounted to only 2 per cent. of the subscriptions, and on a turnover of between £30,000 and £35,000 a year that was not bad business.

The financial report was then approved.

Mr. D. F. TODD (Sunderland) moved the following rider:

> That all matters of finance shall be dealt with by a Finance Committee of the Council.

The Finance Committee only met once a quarter, and as a rule things were cut and dried for it. The result was that the Finance Committee could have practically no check on the work or the expenditure. He considered that financial matters should not be dealt with by the Organization Committee.

Mr. LARKIN (Chairman of the Organization Committee) thought this would be the wrong way of obtaining financial control. The rider involved an alteration of the by-laws. Each committee had to prepare its own work, and the Finance Committee supervised them all.

The CHAIRMAN OF COUNCIL said that every committee must consider its own business and come to a conclusion as to the way in which it should be carried out. Each committee submitted an estimate to the Finance Committee, which considered whether the financial position of the Association justified the expenditure. The rider would mean putting work on the Finance Committee which it would be nearly impossible for it to do.

The rider was lost.

Dr. SOUTHCOMBE (City) proposed a rider that a request for renewal of subscriptions be inserted in the JOURNAL instead of being sent by post at considerable expense. Subscriptions might then be obtained more rapidly, and several thousands of pounds be received at the beginning of the year.

The TREASURER said that various methods had been tried in order to get the subscriptions in early, and many had been found unsatisfactory.

The rider was lost.

ORGANIZATION.

AMENDMENT OF BY-LAWS.

On the motion of the CHAIRMAN of the Organization Committee, the special report of Council as to amendment of articles and by-laws (SUPPLEMENT, May 2nd, pp. 293-308) was received.

The recommendation of Council as to new by-laws providing that Councils of Branches and Executive Committees of Divisions should contain representatives of Local Medical Committees, and medical members of Insurance Committees (SUPPLEMENT, May 2nd, p. 293), was submitted by Mr. LARKIN.

Dr. B. G. MORISON (St. Pancras and Islington) objected that such an alteration in the by-laws was unnecessary. He strongly objected to the Association becoming the champion of a section of the profession. The Association should represent the profession as a whole and not any section in particular.

Dr. SOUTHCOMBE (City) moved the following amendment:

> That the recommendation be referred back for further consideration, and information as to the numerical proportion of such members of committees under the National Insurance Act to the members of the Executive Committees of Divisions.

He said the amendment was proposed because the Division felt that the matter required further consideration, as the by-laws, if adopted, would be for the benefit of one section only—namely, the insurance practitioners. The by-laws, if adopted, would allow insurance practitioners to be co-opted to the Executive Committees of Divisions, while the non-insurance practitioners would have no corresponding representation given them. That seemed unjust and unwise. The Divisions should be given the power of co-opting whom they wished and should not be limited to one section of the profession. His Division contained 175 members, of whom 100 were not working the Insurance Act. Why should 75 members have special representation on the Committee and 100 not have it?

Dr. CUTHBERTSON WALKER (Rochdale) stated that he was instructed by his Division to support the amendment by the City, not quite for the reasons given by the City, but

because it felt that the Council was acting too hastily in the matter. The proposed by-laws gave to the Divisions special powers in regard to certain practitioners; this was already covered by an existing by-law. The proposed by-law was also open to objection in that it would allow a mere quorum of an Executive Committee to co-opt members without reference to the Division as a whole, and thus would confer excessive power upon that Committee.

The Chairman of the Organization Committee, replying to Mr. Todd, explained that the by-law passed last year on this matter had not been found effective, and this revision was proposed.

Dr. E. A. Starling (Tunbridge Wells), in supporting the recommendation, expressed the hope that it would be agreed to by a large majority, because it was good for the profession and a great advantage to the Association. Last year the Branch with which he was connected—the South-Eastern—was divided, and it was found that the work was better done.

Mr. J. T. Macnamara (Lewisham) supported the amendment proposed by the City. Nearly 50 per cent. of the members of the Association were not on the panel. If those who thought they were giving security and unity to the organization by offering special privileges and powers to those working the Insurance Act would visit a few districts in London, they would realize that the proposals in the draft by-laws were not wise.

Dr. John Stevens (Edinburgh) hoped that, for the sake of maintaining harmony in the profession, the attempt at the representation of sectional interests in the Branches and Divisions would be defeated. If direct representation on the committees was to be given to the panel practitioners, then in justice representation must be given to the non-panel men also.

The Chairman of Council explained that the suggestion before the meeting was that the by-laws should be altered in a certain way in accordance with what the meeting had decided last year.

The amendment by the City was defeated.

Dr. Macnamara (Lewisham) desired to move an amendment that the members so co-opted should not exceed two.

The Chairman said he could not accept the amendment, as it would mean altering the words of the proposed by-laws and so adjourning the whole question.

The recommendation of Council was approved by 98 votes to 30.

REFERENDUM AND POSTAL VOTE.

The Chairman of the Organization Committee moved the adoption of the proposed draft, new, and amended articles and by-laws on the subject of the Referendum and Postal Vote (see Report of Council, Supplement, May 2nd, p. 298).

The Chairman of Council said that the eternal tinkering with the articles was the worst thing that could possibly happen to the Association. The paragraphs recommended for adoption introduced the principle of taking a referendum of all the members of the profession, many of whom were not members of the Association. It was desirable that the Representatives, if they were to commit themselves to these paragraphs, should do so with their eyes open. He appealed to them to be careful not to go on tinkering with the articles, because it would lead to unlimited trouble.

The Chairman of the Organization Committee said that this question was put perfectly clearly last year, and the Representatives then came to the conclusion that they wanted to make the Representative Body more elastic. He did not wish to say now whether they were right or wrong in so deciding—as a matter of fact he did not consider this was the time to raise that point—but it could not be disputed that the decision was made by the Representative Body with its eyes open. No one deprecated more than he did any tinkering with the articles, but he also deprecated a disposition on the part of the Representative Body to overturn just a year later its previous decision.

The Chairman (Mr. Verrall) said the draft by-laws which had been drawn up and had involved the expenditure of time and money, represented the views which the Representative Body expressed at Brighton last year.

The new articles and by-laws were then put to the vote, but not receiving the requisite two-thirds majority the motion was defeated.

In announcing this result, the Chairman remarked that he did not mean to suggest that the Representatives did not know what they had done, but in fact the meeting was now just where it was a year ago.

Subscription of Channel Islands Members.

The Chairman of the Organization Committee moved the adoption of the recommendation of Council (para. 37, Supplement, May 2nd, p. 298) with regard to by-laws regulating subscriptions of members in the Channel Islands and Isle of Man. The amended by-laws carried out the instructions of the Representative Body to exclude members living in the Channel Islands and the Isle of Man from the increased subscription, on the ground that members of the profession there were on the same footing as those in the colonies. The by-law was unanimously approved.

Subscription of Junior Members.

The following draft by-law was approved:

Provided as follows:

(c) In the case of a member resident in the British Islands and admitted before the expiration of two years from the date of his registration under the Medical Acts, the annual subscription shall be 25s. until December 31st next occurring after the expiration of the period of four years from the date of such registration.

Composition of Branch Councils.

The Chairman of the Organization Committee, in moving the draft by-laws on this matter (Supplement, May 2nd, p. 298), said that they were almost entirely verbal amendments. They were approved.

Proposed Change in Nature of Representative Body.

On the recommendations of Council on this matter (Supplement, May 2nd, p. 299), as follows:

(4) In speaking and voting upon any matter the Representative or Representatives of any constituency shall have regard and so far as may be conform to the preponderance of opinion of the members of that constituency so far as such opinion is known to him or them.

The Chairman said that the recommendations involved a most important and almost entire change in the nature of the Representative Meeting. The Representatives decided upon the change last year.

The recommendation was approved.

A Standing Welsh Committee.

The Chairman of the Organization Committee moved that part of the Report of Council proposing to set up a Standing Welsh Committee (Supplement, May 2nd, p. 300). The recommendation was approved.

Further Amendments of By-laws.

The meeting approved a number of amendments of by-laws, mainly of a verbal character. The remainder of the Report on matters of organization was then approved.

The Federation of Other Medical Bodies with the Association.

Dr. Fothergill (Brighton), in moving a rider to the motion that the report of the Organization Committee be approved, said that special interests arose, such as those of members connected with hospitals, the Poor Law, and public health, which did not find expression in the Divisions, and the result was that special societies were formed. The time had come to consider whether the British Medical Association should allow other associations to take from it the power to deal with their peculiar interests. The suggestion was that the Association should recognize these bodies by allowing them into the organization of the Association by direct representation. The question should be considered by a committee, which should propose the necessary alterations in the by-laws and articles as the Solicitor thought desirable. Organizations such as the Society of Medical Officers of Health, the Association of Women Practitioners, and others should send forward nominations to the Annual Representative Meeting, which would elect their representatives to the Council. In that way the Council would be able to voice the feelings of the whole profession.

The Chairman of Council said he was prepared to support the rider if it was made a reference to the Council and not to a committee specially appointed. The multiplication of committees was inconvenient and expensive.

Dr. Wallace Henry (Leicester) supported the proposal. In many instances resignations which had been received during the past year came from the members of sectional medical bodies. In his Division the resignations were chiefly from asylum officers, Poor Law officers, medical officers of health, education officers, and so on. All would agree that it was necessary to bind together the members of the medical profession, and he would like the suggestion to be widened to include the panel federations and non-panel organizations now being formed.

After some further discussion, the rider was agreed to in the following terms:

That it be referred to the Council to consider and report what alterations and additions to the articles and by-laws, and in the organization of the British Medical Association in the United Kingdom would allow of it becoming also a Federation for other medical bodies formed to safeguard the interests of one or more sections of the medical profession, while allowing all such bodies to continue their separate existence.

Annual Conference of Secretaries.

With regard to the Annual Conference of Secretaries, Dr. Southcombe (City) moved:

That the conference be empowered to appoint a subcommittee to consider matters of interest to honorary secretaries during the ensuing twelve months and to report to the next conference.

He urged that this was not a revolutionary proposal, and might be, in the opinion of many honorary secretaries, a very useful one. The motion was lost.

Candidates for Appointments.

On the report of the Council as to the appointment of an Assistant Medical Secretary (Supplement, May 2nd, p. 277), Dr. Major Greenwood (City) moved the following rider:

That the Council be instructed to formulate a new by-law prohibiting any member of the Council becoming a candidate for a salaried appointment under the same unless he shall have ceased to be a member of the Council at least six months before an advertisement for such an appointment shall have been issued.

While his Division did not want to criticize the action of the Council, it was strongly of opinion that a very important principle was broken by a member of the Council resigning to become a candidate for a post under the Association.

The Chairman of Council said it would be absurd for the Association to tie its hands and prevent itself from getting the best men. It would be a mistake for the Association to say that a man who had served it well should be debarred from taking an appointment under it.

The rider was rejected.

Advice to Non-Members.

Dr. Fothergill (Brighton) moved the following rider by Brighton:

That it be referred to the Council to consider and report on what terms and conditions, if any, the assistance, if asked for, of the British Medical Association in medico-political subjects shall be placed at the disposal of any registered medical practitioner who has resigned his membership or has never become a member.

Dr. Fothergill said that when a doctor, not a member of the Association, and especially one who had resigned, wrote to the Medical Secretary asking his advice in a case of difficulty, a fee should be charged.

The rider was carried after a brief discussion, during which it was suggested that the fee should be two guineas.

Entrance Fees on Rejoining.

Dr. Fothergill moved a further rider as follows:

That it be an instruction to the Council to consider and report, with any consequent amendments of the by-laws thought desirable, on the proposal that should any registered medical practitioner who has resigned his membership desire to become once more a member he be required to pay an entrance fee in addition to the annual subscription.

The time, he said, had come when the Association should refuse to allow doctors to go in and out of the Association when it suited their purpose temporarily.

Dr. Duncan (Chesterfield) questioned whether the proposal in the rider could be carried out. When a crisis came the Association must present a united face to the enemy. If those who stood aloof could be persuaded to join the Association it would be more to the benefit of the profession than a policy of excluding them.

Dr. R. M. Beaton (Islington and St. Pancras) thought it would be unfortunate to place a new impediment in the way of any member who had resigned from the Association but wished to rejoin.

The rider was rejected.

Representation of Divisions.

A proposal by Chester and Crewe that any Division, however small, should have a representative vote on all matters, was not accepted.

Dr. Batt (West Suffolk), in making a somewhat similar proposal, said that the Division he represented, though numerically very small, covered a large area. It felt very strongly that if independent representation were denied to small Divisions they would have no means of voicing their opinions.

Mr. Larkin said that the Council sympathized strongly with the view expressed by Dr. Batt, but it had to be remembered that the Representative Body was already large, and it was felt to be necessary that its numerical strength be kept down.

Dr. Askin (South Suffolk) and Dr. Douglas supported Dr. Batt, the latter observing that he had represented three or four constituencies grouped together, and the plan was most unsatisfactory. While it was not desirable to make the Representative Body larger than could be helped, the meeting should think two or three times before denying independent representation.

The Chairman of Council said that the motion was ineffective, because it was indefinite. The Organization Committee always considered sympathetically representations of the kind from a scattered area.

The amendment was lost.

Expenses of Representatives.

A rider by Greenwich and Deptford dealing with the question of expenses of Representatives was withdrawn, and in regard to another by Sunderland, to the effect that members attending executive meetings in London should be paid one guinea a day for expenses beside the railway fare, the Treasurer said he would be glad to support it if the members provided the funds. The rider was lost.

Composition of Representative Body.

Another rider by Sunderland was that the Council be instructed to submit a by-law to the Divisions embodying the principle that no Division should have more than one Representative at Representative Meetings.

Mr. Larkin said that although the country districts were badly represented, numerically they were much better represented in that meeting than the larger towns. The rider was rejected.

JOURNAL COMMITTEE.

The Chairman of the Journal Committee, Mr. Albert Lucas, moved that the section of the Annual Report of the Council referring to the British Medical Journal be approved.

An amendment by West Herts was to the following effect:

That this meeting is of opinion that the British Medical Journal does not satisfactorily fulfil the requirements of modern medical journalism, and requests the Council to revise the scheme of publication and its expenditure.

Dr. Hall said that the West Herts Division consisted of general practitioners. He considered that the general run of articles in the Journal was not of sufficient interest to the average general practitioner. He had been instructed to put forward the suggestion that each clinical or scientific article should be prefaced by an abstract of its contents in order to encourage men to read the article. There was a feeling that the leader writers were not sufficiently under control; the tone of the article which appeared on July 11th on "A Trade Union" seemed to be against trade unions. By what authority did that article appear? According to

the balance sheet, fees were paid to the editor in chief and his assistants for contributions in addition to salaries. It was suggested that there should be an inclusive salary for all work done by the editorial staff.

Mr. C. G. Meade said that if the Journal did not fulfil all the requirements of the general practitioner, why should he not take in some other periodical—such as, for instance, the *Daily Mail*?

Dr. Laffan (South of Ireland) said that the Journal did not represent the views of the members of the Association. He was proceeding to read from a recent letter he had addressed to the Journal, which had not been published, when a point of order was raised, and the Chairman ruled that the speaker could not read a letter involving personal charges against a gentleman who was not present to reply.

Dr. Laffan concluded by observing that if it was felt that the Journal as a technical and scientific journal was managed in the best interests of the Association he had nothing more to say.

The amendment was lost, on a show of hands, by a large majority.

Dr. Tuxford (Holland and Kesteven) proposed the following amendment:

> That a more detailed account be given in the accounts of the Journal, showing the actual amounts paid to contributors and their number other than the Editor and Sub-Editors.

The Chairman asked if Dr. Tuxford would indicate to the meeting what additional information he desired.

Dr. Tuxford said he was desirous of getting more data under the heading "General."

The Treasurer explained that the word "General" referred to contributions, and these formed the greater part of the sum.

The Chairman of Council said that this was a matter which came up year after year. A journal such as theirs required careful selection in regard to the men who contributed to it. Questions arose upon which articles had to be written on the shortest notice, and in such circumstances their Editor must be given a very free hand.

The amendment was defeated by a large majority.

Publication of Insurance Matters.

Dr. A. Tennyson Smith (Bromley) moved:

> That it be an instruction to Council that all matter referring to national insurance be printed in the Supplements of the Journal after "Association Notices."

He was of the opinion that the reporting of matters concerning Branches and Divisions was relatively much more important than matters dealing with Insurance Committees and insurance work generally and ought to have precedence. Lately that had been carried out, but for some time before matters pertaining to insurance had appeared at the beginning of the Supplement to the Journal.

Dr. Macnamara (Lewisham) thought this a small matter of detail; he might, for instance, suggest that the work of the Poor Law service should be given more prominence.

The Chairman of the Journal Committee thought the complaint was not a very serious one. They must trust their Editor to exercise his discretion in giving the most important place to those subjects which were engaging the greatest attention of the profession at the moment.

The amendment was rejected, and the motion approving the Section of the Report of Council under the heading "Journal" (Supplement, May 22nd, p. 279) was approved.

Inadequate Salaries.

Whereupon Dr. Fothergill (Brighton) proposed the following rider:

> That in the opinion of this meeting the whole-time staff of the Association should receive an inclusive salary, which should include all contributions to the Journal.

The rider was not intended to be an attack on the officials. These officials, in his opinion, were seriously underpaid, especially when consideration was paid to the status they should occupy in the public eye. His proposal was that the Association should pay its editorial staff an inclusive salary commensurate to the position they occupied and the duties they were expected to discharge. If the Editor, his assistants, and the Medical Secretary were to be called upon in moments of urgency to prepare special articles for the Journal, then the Association should be prepared to pay them a sufficiently large inclusive salary to cover that work.

The Chairman of the Journal Committee observed that there was something to be said for this rider. Long before this question was raised at the Annual Representative Meeting it had been taken into consideration by the Journal Committee, and he had personally discussed it with a number of journalists connected with the large daily newspapers. The Representatives had to remember that there was a very considerable difference between a technical and scientific journal such as theirs and daily newspapers. As matters stood, if the Association did not pay their editorial staff a small lineage rate, it would have to give them considerably larger salaries. At present the amount involved in these payments was very small, and he was inclined to think that the system of paying the staff for lineage was an incentive to them to do the work. Possibly, when making future arrangements or changes in the editorial staff, the point could be taken into consideration.

The Chairman of Council said that he believed the Association would get better results from a continuance of the present arrangement than by paying the staff an inclusive whole-time salary.

The rider was carried, with the concurrence of the Chairman of the Journal Committee, in the form of a reference to the Committee.

Science Committee.

Dr. F. J. Smith, Chairman of the Science Committee, moved that the Annual Report of Council under heading "Science" (Supplement, May 2nd, p. 279, paras. 72-78) be approved.

Dr. Carruthers, referring to the Middlemore Prize dealt with in the Report, asked if there would be any objection to publishing the names of the adjudicators, and suggested that in future competitors should be informed that the prize would be withheld in the event of a sufficiently high standard of merit not being attained.

Dr. F. J. Smith said that the terms under which the Middlemore Prize was offered were such that it need not be given if the adjudicators considered a sufficiently high standard of merit had not been reached.

Dr. C. E. S. Flemming said that the Science Committee had been asked to take steps to promote scientific work amongst the Branches and Divisions of the Association, but beyond sending out a somewhat colourless memorandum little had been done. He hoped that greater initiative would be shown in the future.

Dr. F. J. Smith detailed the steps which the Committee had taken to stimulate interest amongst the Divisions by getting them to form scientific committees. The response, he said, had been disappointing.

Dr. Beaton said the Science Committee ought not to ask the Divisions to send in reports and suggestions, but should submit proposals and suggestions for the consideration of the Divisions.

The Petition of Sir Ronald Ross.

Mr. E. B. Turner (Kensington) moved the following rider:

> That in the opinion of the Representative Meeting of the British Medical Association the petition of Sir Ronald Ross, K.C.B., F.R.S., to the House of Commons for remuneration for his services to the empire in having discovered how malarial fever can be prevented, should be granted.

A petition to the House of Commons was, he said, the only way in which recognition of the services of Sir Ronald Ross with regard to malaria could be obtained. There was no fund from which money could be granted, only a Civil List pension given as a matter of grace by the Ministry of the day.

Dr. F. J. Smith, Chairman of the Science Committee, in supporting the rider, said he felt it was to the lasting shame of Great Britain that it should allow its medical officers in the various protectorates and colonies to go into the by-ways of nature to battle with the diseases of man and beast and to sacrifice their health, practice, and even their lives, and yet give them nothing for it.

The Chairman of Council considered it was a disgrace to the nation that the work of such men was not recognized. Some time ago a distinguished soldier was granted an earldom and £100,000 for having performed great

services to the empire, and, while all admitted the worth of what he had done, still the work done by such men as Ross was a greater work for humanity.

The rider was approved and, on the motion of Mr. TURNER, it was agreed to transmit it to the Chancellor of the Exchequer.

ELECTIONS TO COUNCIL BY GROUPED REPRESENTATIVES.

The CHAIRMAN announced as follows the result of the election of twelve members of Council by grouped Representatives. He remarked that there had been contests in two groups only (indicated by the word "elected" in the subjoined list), and that there had been no nomination by the Representatives of the Leinster, Connaught, and South-Eastern of Ireland Branches.

OLDHAM, Dr. H. F., Morecambe	North of England Branch. North Lancashire and South Westmorland Branch. Yorkshire Branch.
GARSTANG, Mr. T. W. H., Altrincham.	Lancashire and Cheshire Branch.
MILBURN, Dr. C. H., Hull...	East York and North Lincoln Branch. Midland Branch. Cambridge and Huntingdon Branch. East Anglian Branch. South Midland Branch.
MACTIER, Dr. H. C., Wolverhampton (*elected*).	Birmingham Branch. Staffordshire Branch. North Wales Branch. Shropshire and Mid-Wales Branch. South Wales and Monmouthshire Branch.
GREENWOOD, Dr. MAJOR, London, N.W. (*elected*).	Metropolitan Counties Branch. Central, East and North Metropolitan Group: City, East Hertfordshire, Finchley and Hendon, Hampstead, Harrow, Marylebone, North Middlesex, South-West Essex, St. Pancras and Islington, Stratford, Tower Hamlets, and Willesden Constituencies.
BIGGS, Dr. M. G., London, S.E.	South and West Metropolitan Group: Camberwell, Chelsea, Ealing, Greenwich and Deptford, Kensington, Lambeth, Lewisham with Woolwich, South Middlesex, Wandsworth, West Hertfordshire, and Westminster Constituencies.
FINLAY, Dr. D. E., Gloucester.	Bath and Bristol Branch. Gloucestershire Branch. West Somerset Branch. Worcestershire and Herefordshire Branch. Dorset and West Hants Branch. South-Western Branch.
FOTHERGILL, Dr. E. R., Brighton.	Oxford and Reading Branch. Southern Branch. Kent Branch. Surrey Branch. Sussex Branch.
MOIR, Dr. J. MUNRO, Inverness.	Aberdeen, Northern Counties, Dundee, and Perth Branches. Edinburgh and Fife Branches.
MOORHOUSE, Dr. J. E., Stirling	Glasgow and West of Scotland Branch (4 City Divisions). Glasgow and West of Scotland Branch (5 County Divisions). Border Counties and Stirling Branches.
(Vacancy)	Connaught and South-Eastern of Ireland Branches. Leinster Branch.
DARLING, Dr. J. S., Lurgan	Munster Branch. Ulster Branch.

MEDICAL ETHICS.

Dr. BIGGS, Chairman of the Central Ethical Committee, presented the Annual Report of the Council under heading "Medical Ethics" (SUPPLEMENT, May 2nd, page 280, paragraphs 79–87).

ACTION OF DIVISIONS.

Dr. FOTHERGILL (Brighton) moved the following rider:

That it be referred to the Council to consider and report what steps should be taken to avoid incurring any financial loss for any libel action which may be brought against the Association owing to the conduct of any member, Division, or Branch acting in opposition to the advice and instructions of the Council.

The rider was adopted.

PUBLICATIONS TO THE PUBLIC ON MEDICAL SUBJECTS.

On the motion of the CHAIRMAN of the Central Ethical Committee, the following recommendation of Council was adopted:

That every medical practitioner who contributes to or in any way assists in the preparation of any publication on medical subjects intended for the use of the public must hold himself responsible for any undue or improper advertising that may take place in connexion with such publication, and also for the scope and distribution of the work.

WARNING NOTICES.

The CHAIRMAN of the Central Ethical Committee moved the following recommendation of Council:

That the Representative Body rescinds all its previous decisions relating to the Warning Notice, and empowers the Council to approve and adopt regulations which, in the opinion of the Council, are appropriate, relative to the insertion in the BRITISH MEDICAL JOURNAL of notices regarding appointments, and that the control of these notices be in future left entirely in the hands of the Council.

The Standing Orders were suspended, and the CHAIRMAN of the Central Ethical Committee explained that the motion had been drawn up with the intention of providing against any legal error in procedure.

The SOLICITOR said, in reply to a question by Dr. FOTHERGILL through the Chairman, that it did not appear to him that the proposal to delegate the matter to the Council would be contrary to the spirit or the letter of the Regulations.

In reply to Dr. TREASURE (Cardiff), who asked what would be done in a case which had to be dealt with quickly, the CHAIRMAN of the Central Ethical Committee said that the Committee had instructed him to deal with emergencies, and he had power to summon a special subcommittee if necessary.

The motion was approved.

"THE FAMILY ENCYCLOPAEDIA OF MEDICINE."

On the recommendation that the remainder of the Supplementary Report of Council under heading "Medical Ethics" be approved, Dr. J. SHAW (Buckinghamshire) drew attention to the publication of names in connexion with *The Family Encyclopaedia of Medicine*, and moved an amendment.

Dr. BIGGS explained the steps which had been taken in the matter, and the amendment was by leave withdrawn.

THE CONDUCT OF ETHICAL CASES.

Dr. L. L. PRESTON (Isle of Wight) moved the following rider:

That in view of the numerous technical legal difficulties in connexion with the conduct of ethical cases, the Council be requested to instruct the Medical Secretary that no correspondence be conducted in these cases without the direct supervision of the Solicitor to the British Medical Association.

Dr. BIGGS explained that in practice the Solicitor could not be consulted in every case, but he was called in whenever occasion arose.

The rider was withdrawn, and the remainder of the report of the Committee approved.

MEDICO-POLITICAL COMMITTEE.

STATE REGISTRATION OF NURSES.

Mr. GARSTANG (Chairman of the Medico-Political Committee) moved the recommendation:

That the Representative Body reaffirms its opinion that the State registration of nurses is desirable.

This was carried; and Dr. FOTHERGILL moved to add the following rider, which he said embodied the three conditions laid down by the Prime Minister in his reply to a deputation a short time ago:

That it be an instruction to Council to take afresh such steps as it considers desirable in order to obtain:

1. Unanimity amongst the various interests concerned as to the essentials of a Nurses' Registration Bill.
2. Satisfactory evidence that there is a large body of professional opinion in support of these essentials.
3. The support of the Government for legislation next session on the lines of these essentials.

Mr. Garstang said that practically everything the rider asked for had been done, and the rider was carried.

Mr. C. E. S. Flemming moved the following rider:

That this meeting views with concern the increasing number of insufficiently trained nurses, and instructs the Council to call upon the Government and the other authorities concerned to take steps to remedy this evil.

He said that the object of the rider was not only to support the movement for the registration of nurses, but to endeavour to obtain some more immediate action than could be expected by way of legislation. The number of inadequately trained nurses practising in the country was increasing rapidly, and constituted a danger not only to the patients but also to the profession. In many instances nurses—district nurses especially—after working for a short time in that capacity engaged themselves with nursing homes or other institutions, and posed before the public as fully trained nurses. He thought it was time to call upon the authorities to improve the position, and insist upon every nurse having a proper training. It would be well for the Divisions to make representations locally against this want of system.

Dr. J. S. Darling (Portadown and West Down) said that if the profession did not watch very narrowly there was a great danger of the standard of nursing being lowered all over the country, and of every district being flooded with half-trained women or women with no training at all.

The rider was approved.

Practitioners called in by Midwives.

Mr. Garstang moved the recommendation of Council inviting the Representative Body to express its opinion on the conditions which should govern the giving of assistance by private practitioners when called in by midwives.

Dr. G. K. Smiley (Derby) moved an amendment to replace the words "providing for three subsequent visits for the inclusive fee" by "subsequent necessary visits during the first ten days."

Dr. L. J. Picton seconded.

Dr. Fothergill (Brighton) objected to the amendment on the ground that if more than three subsequent visits were required the practitioner should receive further remuneration. Cases might last for two or three months, and medical practitioners would be doing a great deal of work for charity.

The amendment was carried.

Dr. Milburn moved that the attendance for the inclusive fee should last for one week instead of ten days.

The amendment was negatived after a brief discussion.

On the suggestion of Dr. Macnamara it was agreed that the figure for attendance at cases of operative interference and subsequent visits should be 2 guineas instead of £2.

It was further agreed that the hours of day visits should be from 8 a.m. to 8 p.m., and night visits from 8 p.m. to 8 a.m. The motion was then carried in the following form:

(*a*) That midwives could depend upon the assistance of the medical profession being forthcoming whenever required, provided the profession were assured of adequate provision being made for (i) free choice of doctor by patient, and (ii) payment of the medical practitioner called in.

(*b*) That payment of the medical practitioner so selected should be assured to him by a public authority such as the county or county borough councils in England and Wales.

(*c*) That the following should be the minimum scale of fees for the payment of medical practitioners called in on the advice of midwives, but power should be obtained to pay special fees in special cases:

	£	s.	d.
Attendance at cases of operative interference and necessary subsequent visits if during the first ten days	2	2	0
Attendance at cases without operative interference and three subsequent necessary visits during the first ten days	1	1	0
Assistance for administration of an anaesthetic...	1	1	0
Visit (including any necessary prescription):			
Day (8 a.m. to 8 p.m.)...	0	3	6
Night (8 p.m. to 8 a.m.)	0	7	6

Note.—The above fees apply to visits within two miles of the doctor's house; if beyond that distance an additional mileage fee of not less than 1s. per mile (outwards) or in outlying and sparsely populated districts such sum as is suitable to local circumstances and the local customs of the profession should be paid.

Dental Clinics.

Dr. Biggs proposed:

That the Representative Body approve the principle of the establishment of dental clinics, inasmuch as such clinics are calculated to diminish the amount of unqualified dental practice now in existence.

The motion was carried unanimously.

Practice of Dentistry by Unqualified Persons.

Mr. R. Harding (Hereford) moved a rider, which after discussion was, on the suggestion of the Chairman of Council, adopted in the following form:

That this Representative Meeting, being alarmed at the continued rapid increase in unqualified persons practising "dentistry," to the very great damage to the public health, and considering that from the standpoint of the general health the profession should endeavour to safeguard the nation from these dangers, instructs the Council to confer with the British Dental Association as to the best means of combating this particular evil.

The meeting adjourned at 6.30 p.m.

Saturday, July 25th.

The proceedings were resumed on Saturday, July 25th, at 9.30 a.m., Mr. T. Jenner Verrall (Chairman of Representative Meetings) in the chair.

The minutes of the previous day's proceedings were corrected and confirmed.

THE PROPOSED SPECIAL FUND.

The Chairman advised the Representatives in discussing the question—especially in relation to administration by a trust or trade union—to adhere to broad principles, and to remember the uncertainties of the law as regard trade unions. In reply to a question on the agenda by the Bromley Division, the Chairman said that he would adhere to his ruling last year, that a motion to form either a trust or a trade union would require a two-thirds majority to render the decision binding as the policy of the Association.

On the motion of Dr. Buttar, Chairman of the Special Fund Committee, the Report of Council on the Special Fund question (Supplement, May 2nd, p. 319-20) was received.

Dr. Buttar then moved the first of the Council's recommendations:

That immediate steps be taken to inaugurate a fund.

The report, he said, dealt with very difficult and controversial matters. The recommendation involved two questions: (1) Did the medical profession need such a fund; (2) If the fund was needed, ought it to be started immediately? Both these questions the Special Fund Committee answered in the affirmative. Historically there was no doubt that the need for a fund had been absolutely shown, and, as to the future, he asked whether it was likely to be so smooth that no fund would be needed. Was it not much more likely to be fraught with possibilities of disaster unless there were really a large fund in existence? The argument he relied on was that at some future date—he was not sure that it would be as soon as some thought—the dependants of insured persons would be included in the Insurance Act. If that came about, then, on the lowest estimate, four-fifths of the population of the country would be treated under the Insurance Act. If in the future any such proposal were made in a form which did not meet the conditions it considered necessary, the profession should be in a position to step in and enforce its authority. The next question which would arise was in reference to the special grant towards the cost of medical benefit. He did not think that the grant would be taken away, for it would be extraordinary if, having once paid the profession 7s. a head, it was proposed to cut the amount down after a few years to, say, 4s. 6d. a head, or any such sum; but if the Government desired to develop the Insurance Act service, in the matter of consultants under the Act, for instance, an attempt might be made to get the profession to do more work for the same pay as it was now receiving. If well protected by a fund, the profession might be able to meet such an attack successfully. Another danger—he thought it was much more imminent than any of the others suggested—was

that the profession might have to counter attempts to reinstitute friendly society control. There was a large party in the country anxious to put medical benefit under that control, and if that party succeeded in convincing the Government the profession would need once more to fight, and would require behind it a very large fund. Even if the proposed Special Fund were inaugurated now it would be some time before it could be adequate. If the question before the meeting were once more shelved he was afraid that very serious difficulties would result. In debating the controversial questions which would arise in the discussion, it seemed to him essential to keep two points constantly in view—the future good, first, of the profession, and, secondly, of the British Medical Association. He desired as much as any one the good of the British Medical Association, but he was bound to say he placed even before that the future good of the profession as a whole.

Dr. R. A. Lundie (Edinburgh and Leith) moved the following amendment:

> That the subject of an Emergency Fund be remitted to the Council for further consideration.

The object of the amendment, he said, was not to oppose the principle of the formation of a fund, but his Division had come to the conclusion that it was not desirable that the fund should be established at present. In the first place the Representative Meeting was very poorly informed as to the mind of members of the Association throughout the country on this question. The Special Representative Meeting last December had instructed the Divisions to take the opinion of practitioners resident within their areas by means of a postal vote. He did not know whether that postal vote had been taken in any of the Divisions, but he understood that nothing had been done by the central executive in the matter. In the Edinburgh and Leith Division the postal vote had certainly not been taken, and that Division felt that, if a fund were started without being fully assured of the support of a considerable bulk of opinion in the profession, it would be courting failure and disaster. There was a sharp line of division in the Council with regard to the administration of the fund. The division of opinion in the Council only reflected the division throughout the country. If a fund were established on trade union lines there would be a large number of resignations from the Association.

Dr. Fothergill said that on this question the Representatives had to act as statesmen on behalf of their professional brethren. Time would bring troubles, and when those arose the Association would be expected to act. There was no need to send the matter back to the Council. It was the Association's duty to start the fund. The fact that no one could see into the future was no reason for hesitating to take the step.

Dr. G. E. Hasip (London) said his Division opposed the immediate inauguration of the fund. Speaking as a member of the Council, he thought the question had not been sufficiently discussed by that body. The Council recommended that the fund should be collected and administered by a body separate from the British Medical Association. The administration of the fund would decide whether it was to be a success or failure, and, unless that point were settled, it would be useless to proceed. The proposal was to ask for subscriptions to a fund to be administered by a committee outside the Association. That, he contended, was impracticable; the greater the success of the outside fund, the stronger would be its position if it took up a course of action in opposition to the Association. The meeting should thoroughly consider the question before going further, and the only way to do so was to send it back to the Council. He admitted there might be a fight meanwhile, but that would affect members who were working the Insurance Act, and surely they would be alive to their own interests and be ready for it. He believed in having a strong fund, but money was not the only thing that would win a battle. The profession could win any battle simply by being united.

Dr. R. M. Beaton (Council) recalled his chairmanship of the last Special Fund Committee, whose finding was rejected at Brighton. The Association needed a special fund. The reasons advanced to the contrary were nearly always the same. The Representative Meeting was told that it did not know the mind of the Association, but if it waited until it got the mind of the last member the fund would never be started. The Council had had the matter before it time after time, and if it was returned to the Council again the Association would be in the same position next year. He agreed that money did not make the victory or the defeat. That lay with the men themselves, and if the individuals weakened it was no use saying that the leaders failed them. In the insurance fight the profession would have been successful if the individual practitioners had supported their leaders. They did not. The profession might have a great deal of money in the bank, but if the soldiers ran away the leaders would be defeated. The recommendation of Council that the fund should be administered by a body separate from the British Medical Association should be thoroughly debated. It was a momentous question, and if it was to be carried he would not vote for the special fund. The special fund should be administered by those who raised it, and not by an outside body, but he urged the members to put that matter out of their minds at present, and to consider the simple question of the inauguration of the fund.

Dr. J. R. Ratcliffe (Birmingham Central) said his Division opposed very strongly the postponement of the formation of the fund. Emergencies arose suddenly, and any day the profession might be in a position which would find it unprepared. He urged the formation of the fund on the ground of pure policy, for if the fight came the profession would have to meet attempts to reduce its remuneration. Members who were on Insurance Committees knew the strength of the desire of representatives of approved societies in that direction. Another claim the profession would have to meet was the desire of the approved societies to get control of the administration of medical benefit, which would very probably lead to a reduction in the amount to be paid to the doctors. The fund should be established so that the profession should be in the same position as the approved societies, which had huge funds they could use for fighting purposes. Union was a great thing in an army, but it was of no avail if the soldiers had no bullets. He urged them to have union and bullets. It was well known to the friendly societies that the profession had no fund; if it were raised it would have a moral effect on their opponents.

Dr. J. Ratcliff-Gaylard (Birkenhead) supported the proposal to form a fund, and urged that the meeting was not at present concerned with the question of how it should be administered. The plain issue was whether a fund was necessary. He was certain there was a consensus of opinion as to the necessity for a fund. Many practitioners were perfectly willing to be united with their fellows, but could not afford to be; not only unity, but the sinews of war, were needed. Their own welfare and the future welfare of the profession lay in the establishment of the fund at once.

Dr. J. T. Macnamara (Lewisham) was instructed to oppose the immediate establishment of the fund. He was a trade unionist in principle and a member of the National Medical Guild and the National Medical Union, but he contended it was quite possible to be loyal to either body and not be disloyal to the Association. It was inadvisable in the interest of unity to proceed with the establishment of a special fund. Having approved the establishment of the fund, the meeting would have to consider into whose hands it should entrust the money, and then disunion would spread in the Association. He asked the meeting to postpone the establishment of the fund.

Mr. E. B. Turner (Deputy Chairman of Representative Meetings) thought the meeting should decide the matter of the establishment of the fund once and for all. The sands were running out, and the half-crown which had been budgeted for came to an end next year, when the whole administration of the Act and the remuneration to the profession would come under review. Whatever might happen in the political world in the future, the profession would be between the upper and the nether millstone. Its members were not in numbers sufficient to be considered as a voting power in the State, and they would be used by either political party for its own ends. If the profession was prepared, it might be able to hold its own, or even get better terms. He was certain that unless there was money behind the profession nothing would be accomplished. It was not only those who were working under the Act who would be affected, but every member of the profession more or less. The fund should not be

raised by a part of the profession only; it must be the work of the whole.

Mr. C. G. MEADE (York) said he had been given by his Division an absolutely free hand on everything that came before the meeting. The profession would not only want a fund, but the Bank of England at its back, because doctors earning £2,000 would have to be compensated as well as those earning £300. There must be a fund, but now was not the time to raise it, because of the apathy in most Divisions. Interest should be stirred up in the Divisions on the question.

The meeting agreed that the question be now put, and the amendment for postponement was negatived.

Dr. J. S. DARLING (Portadown), continuing the debate on the Council's recommendation, said that the idea that the fund was to be what was commonly called a "strike fund" was so preposterous that it must be dismissed at once. The profession wanted a strong fund for propaganda to bring about union, and for kindred objects.

In reply to a question as to how much money was promised to the Defence Fund, and how much was actually received, the CHAIRMAN said that approximately £140,000 was guaranteed, and about 20 per cent. called up. The 20 per cent. represented £28,000, and about £20,000 was actually received.

The CHAIRMAN OF COUNCIL assured the meeting that the work done in the way of compensating men for loss in carrying out the policy of the Association had been gratefully acknowledged by the recipients. He had no doubt as to the necessity for the fund if the interests of the profession were to be protected against the encroachments of either the friendly societies or the Government. Every doctor who had the interest of the profession at heart must put his shoulder to the wheel if the fund was to be of any use. He agreed with Dr. Darling that the doctors could never hope to carry out anything like a strike in the ordinary sense. A strike by the medical profession was an unthinkable thing, but that did not alter the fact that it might be necessary for them to combine against suggested legislation, and to refuse to sign, for instance, a proposed agreement. For those purposes a fund was required; it could not be accumulated in a few days, and in spite of the present apathy of the profession—a very deplorable circumstance—the only way the fund could be made effective was to begin now. Possibly the beginning would be small, but he hoped there would be rapid accretions, so that the fund would ultimately be one on which they could depend.

Dr. BUTTAR, replying to the discussion, urged that a start should be made, however small it might be.

The motion—

That immediate steps be taken to inaugurate a fund—

was then carried by a large majority, and the announcement of the result was received with applause.

THE SUGGESTED OBJECTS OF THE FUND.

In moving the next recommendation of Council:

That the object of the fund shall be to protect the interests of the medical profession (*a*) by the formation of a reserve and (*b*) by doing such work as the British Medical Association is precluded by its constitution from undertaking,

Dr. BUTTAR said that the present work of the Association could be carried on by means of its ordinary subscriptions. The proposed fund would have nothing to do with its ordinary work; it was to be created to meet future emergencies. Most important was it that the fund should be in the nature of a reserve; that was its bedrock principle. Further, there was certain work which the constitution of the British Medical Association precluded it from doing, and the Special Fund Committee considered that the reserve fund would be valuable in that direction. Amongst these matters were operations which must be described as in restraint of trade. It had been said that under no conditions whatever could the medical profession strike, but it would be able to strike with regard to certain conditions. To say that the medical profession would "down tools" and attend no patients was absurd, but it could place itself in a position to refuse to sign contracts repugnant to it. If the Association tried to lead the profession in a refusal to sign further contracts under the Insurance Act it would be acting in restraint of trade, and would be prevented by its Articles of Association from carrying out such a policy. Therefore, in regard to the Insurance Act, it might be that action could be taken by other means which the Association was unable to use. There were many other things which the Articles and Memorandum precluded the Association from doing, and for which a special fund might be used.

Dr. J. WISHART KERR (Glasgow Eastern) moved an amendment to omit the last part of the recommendation, so that it would read:

That the object of the fund shall be to protect the interests of the medical profession.

He thought it inadvisable to say precisely what the money raised was to be used for, as the effect might be to limit its availability.

Dr. J. D. ROBSON (Dumfries and Galloway) seconded.

Dr. BUTTAR agreed that the meeting should not be too definite as to the uses of a fund, but should keep it as a reserve. Without the last words, "by the formation of a reserve," the amendment would leave matters too indefinite.

By a majority the motion was carried in the following form:

That the fundamental object of the fund shall be to protect the interests of the medical profession in the United Kingdom by the formation of a reserve.

Dr. FOTHERGILL asked the Solicitor for what purpose it would be possible to draw on the reserve fund after it had been constituted as such.

The SOLICITOR said that the phrase "reserve fund," used in a hard and concrete sense, had a certain interpretation placed upon it, but in this resolution he accepted its use merely as an indication of what was in the mind of the meeting. If it was to be argued and maintained hereafter that because the resolution had been passed this was to be a reserve fund which could only be used for one purpose, it would be a dangerous term to employ. He did not think it was intended in that sense, and if, as Solicitor, he was called upon to give a ruling, he would consider what was in the mind of the meeting at the time it passed the motion. Dr. Fothergill had put a question which it was practically impossible for him to answer. Until the meeting came to framing the rules and regulations in connexion with the trust, or whatever might be formed, it would be misleading for him to give a specific answer to the question. He believed he was rightly interpreting their minds when he said that there was to be placed upon the word "reserve" a certain latitude of construction.

Dr. WALLACE HENRY (Leicester) asked if the addition of the words "to be used at the discretion of the Committee" would not remove any technical objection which might be taken later on.

The SOLICITOR said that would be a somewhat dangerous thing to do. The suggestion he would make was that the motion should merely state that the fund was to protect the interests of the profession.

Dr. R. M. BEATON said the Articles of Association stated that one of the objects of the British Medical Association was "to promote and maintain the honour and interests of the medical profession." He moved those words as an amendment.

The amendment was lost.

Dr. J. R. RATCLIFFE (Birmingham Central) proposed the introduction of the words "in the United Kingdom" after the word "profession," on the ground that overseas members would not be concerned in matters relative to the Special Fund.

Dr. JOHNSON SMYTH (Bournemouth) seconded, and it was agreed to.

The recommendation of Council was then carried in the following amended form:

That the fundamental object of the fund shall be the protection of the interests of the medical profession in the United Kingdom by the formation of a reserve.

ADMINISTRATION OF THE FUND.

Dr. BUTTAR then moved the next recommendation of Council:

That the fund shall be collected and administered by a body separate from the British Medical Association.

He explained that the recommendation followed the lines of the report of the Committee which considered this question under the chairmanship of Dr. Beaton.

Dr. A. Fulton (Nottingham) moved, and Dr. C. H. Milburn (East York) seconded, an amendment that the following words be added:

But composed exclusively of members of the Association.

Dr. Haslip (Westminster) said that supposing the members of the Association who formed the administrators of the fund decided that it should be carried out on trade union lines, and then acted in a manner against the interest of the Association, what would be the position of the Association towards those members?

The Chairman said that the position would be governed and determined entirely by what were the rules or exact form of trust laid down by the governing body—points upon which the meeting had yet to express an opinion.

Dr. Haslip suggested that before going further into details the meeting should consider by what kind of body the fund should be administered, and that a later recommendation of Council should now be considered, namely:

That the collection and administration of the Special Fund shall be placed in the hands of a trade union.

The meeting agreed to follow this course.

At the instance of Dr. Johnson Smyth (Bournemouth) a question was addressed to the Solicitor as to whether, supposing a body composed of and controlled by members of the British Medical Association acted in restraint of trade, would that be considered as action by the British Medical Association itself and therefore lead to confiscation of the Special Fund?

The Solicitor said that he would not content himself by answering with a barren negative. There seemed to him to be a certain confusion in the minds of the Representatives as to what they were doing. The British Medical Association, with its present constitution, had not the power to do those acts for which the Special Fund would be required. It was desired and intended that a special fund should be raised for purposes which had been referred to as a war fund, a war chest, and a reserve fund for fighting purposes. They must not mix it up with the finances of the British Medical Association at all; although the fund might be raised under the aegis of the Association, it must be kept absolutely separate and distinct—apart from the funds of the British Medical Association. It must have a separate existence and be a separate entity to be totally and entirely apart from the British Medical Association. It might be a coincidence, an accident of circumstances, or whatever other term they liked to apply to it, but those who were in the position of controlling or governing the fund would be members of the Association. That was merely a qualification entitling them to be on the directorate. It did not link that fund up to the Association as being part of the Association. The perils in contemplation in the minds of the gentlemen who asked the question did not, in his opinion, exist.

The Trade Union Question.

Dr. Buttar then, in accordance with the desire expressed by the meeting, moved the recommendation:

That the collection and administration of the Special Fund shall be placed in the hands of a trade union.

He reminded the meeting that it had decided that the fund was to be a reserve to be used as occasion arose as a fighting fund. It would probably be agreed that in any fight which might arise it would be necessary to act in what was called "restraint of trade." If the fund was used in that manner certain dangers would be involved against which it must be protected by every available means. Acts had been passed which conferred immunity on funds in certain respects and in regard to what were called "torts." These Acts were known as the Trade Disputes Acts, and they applied to trade unions. The Council had examined carefully all the means proposed to protect the fund, and it recommended that the most effective way was by means of a trade union. There were only three types of bodies that could deal with the fund—the British Medical Association, some form of trust, or a trade union. The Association was completely ruled out. The next possibility—the trust—had been very thoroughly gone into. Mr. Colquhoun Dill's opinion was definitely that a trust was not the proper method of dealing with the matter. A trade union was not one merely because it was registered (there were such bodies as unregistered trade unions), and if a trust were employed in restraint of trade then it became an unregistered trade union, which had not the same protection at law as a registered trade union. How was a trust deed to be framed so as to protect the fund? The prime object of the fund was to compensate practitioners for any loss they might sustain in carrying out the declared policy of the Association, and he did not see how that could be done except by a trade union. One of the objects of the fund was that it should be used quickly for the defence of the profession. The only way of securing absolute immunity for the fund was by a trade union.

Dr. Tennyson Smith (Bromley), on behalf of his Division, moved:

That the Chairman of Council be requested to explain what special circumstances have arisen since the Annual Representative Meeting, 1913, to warrant the present "Majority Report" (on the trade union question) being put forward as the suggested policy of the Association.

The Bromley Division could not understand the reason for the vacillation of the Council in recommending one year that the Association should have nothing to do with a trade union, and then in the following year recommending it to adopt the trade union principle. He believed that when this subject was discussed in the Council only twenty-one members were present. Of that number, eleven voted for the recommendation now made, eight voted against it, and two did not vote. He thought on a question of such vital importance as this a majority of three could not be said to represent the opinion of the profession.

The Chairman of Council said that the statement made by Dr. Tennyson Smith as to the constitution of the Council at the time the decision was reached was perfectly correct. It was impossible for him to make any statement as to the mind of the Council in regard to the effect its recommendation would have on the various Divisions. All he could explain was the effect which the recommendation had on his own mind. Frankly, it left him astonished.

The meeting next considered the following amendment, proposed by Dr. Fothergill (Brighton), as an alternative to the trade union proposal:

That the collection and administration of the Central Fund shall be placed in the hands of a trust.

Dr. Fothergill doubted whether the British Medical Association could co-operate with a trade union. If a trade union were started, the two bodies, he believed, would tend to become rivals. Which body did the Representatives as members of the Association consider should be paramount? He hoped they would answer, "The British Medical Association." The question as to how the British Medical Association could keep control of the fund if it was under a trust had been raised. How had the Association kept control of the defence fund? Obviously by members of the Council looking after the Defence Fund in their private capacity, and appointing a committee to act on their behalf. The Association would lose its hold upon public opinion if it were a trade union. They wanted one united profession, one Association for the profession, and one policy for the profession.

Dr. Napier Jones (Reading) said that two other courses than those already suggested were open to the Association. One was the adoption of the political party method of a secret fund, but probably the Association was too democratic to accept that. The other method was that of a company. He was sorry that the committee which went into the question did not put before the constituencies the advantages of a company as compared with the advantages of a trade union. Whichever method was adopted the fund would not be absolutely safeguarded. A method which would bring Nemesis upon them was to tar themselves with the title of trade unionists.

Dr. Haslip said his Division was dead against the trade union proposal. It had failed to appreciate any of the arguments brought forward up to the present. He would tell Dr. Buttar and those supporting him that a trade union would be absolutely useless for London, at any rate until one opinion prevailed in the area in regard to the Insurance Act. If a trade union method were approved, the Association would have to come under the Trades Disputes Acts; members of the profession did not consider themselves the employees of their patients. The position was that the Association was being asked to form an

association in direct opposition to itself. If a trade union were decided upon, the Journal could not assist it, nor could all the machinery which had taken years to build up be placed at the disposal of a trade union. His objection to trade unionism was that it killed individualism. Though through a trade union the profession might get a minimum remuneration, it might also get a maximum..

Mr. E. B. Turner (Deputy Chairman of Representative Meetings) thought the one thing the meeting had at heart was the success of the fund. He would not speak with regard to the success of the fund among the Representatives themselves,who might be called the leaders of the Association. Their position would make it a question of honour on their part to support the fund, but he would look at it from the point of view of the medical "man in the street," who might ask whether the money he subscribed would be in danger or not. Personally he had come to the conclusion that the money would not be safe unless it were protected by a trade union. When first he had anything to do with the Association—three years ago—he was as strong an opponent of trade unions and their methods as any one could be, but from the moment he was elected to a committee of the Association he commenced to participate in and carry on trade union action, and if he did a thing he did not mind being called by the name of those persons who did it. The very fact that the Association fought against the Insurance Act in its committees, in the Defence Fund, and in the common pledges made him feel that now they were straining at a gnat if they did not call themselves what they in fact were. Trade unions had power to raise a levy for direct representation in Parliament, and one of the most important things members could do was to send to Parliament some one well versed in industrial practice to voice there the needs of the profession. He wanted to make it perfectly clear that he and those who thought with him believed that by what they suggested they would be helping the Association, and that if the fund were properly established it would be for the benefit of every one who held a medical degree.

Dr. Beaton quoted Mr. Dill's opinion that it was competent for the Association or the Council or the officials to act as trustees of a separate fund raised by voluntary contributions from the members of the British Medical Association and applicable for their benefit, the fund being kept wholly distinct from the funds of the Association, and bearing its own expenses of administration. Mr. Dill said the money would then be as safe as in a trade union. Trade union funds might be safe, but there were considerable difficulties, and he asked the meeting to consider seriously what the man in the street would think of the medical profession if it became a trade union. Mr. Turner said they should act as trade unionists. Did that mean they should have peaceful picketing, the throwing of bricks, and all the rest of it? As a matter of fact it was impossible for doctors to be trade unionists. All their training was individualistic, and they would find it difficult to submit to trade union discipline.

The Chairman of Council thought this was one of the most serious debates in which members of the Association had ever taken part. The question was as between a trust fund and a fund to be administered by a trade union. The greatest argument he had heard on behalf of the trade union was that it would secure the fund. He put it to the meeting that that was practically a phantom idea; at any rate the difference between the security of the fund under a trade union scheme and under a trust or other scheme was so thin as to be a phantom. The opinion of a distinguished member of the Bar had, on his instructions as Chairman of Council, been obtained with regard to the relation between a trade union and a trust. Put in simple language, this was that any incorporated body which did any act which could be construed by the courts as interfering with trade was practically a trade union, whether it was registered or not, and its funds would be protected just as if it were a registered trade union. If that were the case, why should the members trouble to register themselves as a trade union? They could establish funds and carry out schemes in exactly the same way as a trade union. It was also said that if a trade union were formed, it would run on parallel lines to and be correlated with the British Medical Association, but he asked how that was possible. To show what was the ultimate object of the trade union supporters, Dr. Macdonald pointed to a proposal on the agenda. The proposition was that the British Medical Association should surrender all the work it had been doing in defence of the profession in the past and become simply a scientific body. Were they prepared to extinguish themselves, because that was what it really amounted to? There would be no further need for the Representative Meeting, the Insurance Act Committee, the Medico-Political Committee, or the Ethical Committee. He wanted every Representative who was a loyal member of the Association to recognize the ultimate aim of those who wished the fund to be governed by means of a trade union. Some of them had gone through very strenuous work during the past ten or twelve years to build the Association up as an effective power. Were they, he asked, going to destroy all that had been done hitherto? He appealed to them to abandon the idea of making themselves into a trade union. He thought it was much better that they should establish a fund under a trust or some other association, because then the British Medical Association could retain some power of control. This was one of the most serious positions in which the Association had found itself, and he hoped when voting the Representatives would consider carefully what their votes involved.

Dr. Major Greenwood asked if the funds of an unregistered trade union were as safe as those of a registered trade union under the Trades Disputes Act.

The Solicitor said he thought the meeting had got a little confused in its mind as to what a trade union was. He wanted them clearly to understand that it was not registration that made it a trade union, but the constitution, the powers extended to it, and the primary objects with which it was invested and which it had to discharge. In regard to the case of "Dallimore *v.* Williams," it was important to point out that that case had not been decided on the question of a registered trade union. The case was really decided under Section IV of the Trades Disputes Act, the principal question which arose being whether a bona fide trade dispute was prevailing at the time. The decision in that case had a certain bearing upon the question addressed to him by Dr. Major Greenwood. He (the Solicitor) was of opinion—and that opinion was fortified by opinions which were of weight and authority, and were derived from greater experience than his own—that an unregistered body which exercised the powers of a trade union could plead Section IV of the Trades Disputes Act, and could get protection under it.

The Brighton amendment in favour of a trust was then carried by a large majority, and the motion in favour of a trade union accordingly fell.

On the amendment as a substantive motion several further amendments were introduced, and it was finally carried by the requisite two-thirds majority in the following form:

> That the collection and administration of the Special Fund shall be placed in the hands of a trust or association, or other form of organization not being a registered trade union.

Trust Fund Committee.

On the motion of Dr. Fothergill, the following rider was adopted:

> That this Representative Meeting do elect six of its number, not members of the Council, who, together with six members of the Council elected by the Council, shall form a provisional committee to establish the Trust Fund and shall hold office either until the fund is completely inaugurated or until the next Annual Representative Meeting, whichever shall first occur;

and motions referring to the constitution and administration of the fund were referred to it.

Dr. Milburn proposed that the meeting should decide the point which had already been raised on the first of the recommendations of Council, whether the fund was to be administered by members of the Association only or by members and non-members. He objected to its being administered by non-members. He moved accordingly, and Dr. Major Greenwood seconded.

Dr. Buttar thought the Committee should not be tied but left to thresh the thing out, and present a scheme to the Representative Meeting.

Dr. Wallace Henry, while agreeing that it would be undesirable to fetter the Committee to the extent proposed, suggested that nine-tenths of the Committee should be composed of members of the Association. It was possible

that a considerable amount of money might be received from practitioners who were not members, and the Association would be more likely to receive contributions from outsiders if they had a small representation on the Committee.

Dr. B. G. MORISON said that the fittest persons to administer funds in the hands of the Association were its members.

The motion was carried in the following form:

That the fund shall be collected and administered by a body separate from the British Medical Association, composed exclusively of members of the Association.

SCIENTIFIC WORK OF THE ASSOCIATION.

Dr. NOY SCOTT (Plymouth and West Cornwall), in view of the meeting's decision, withdrew the following rider:

That it is desirable for the future that the British Medical Association should confine its policy to promoting the scientific and social welfare of the medical profession by leaving all medico-political work to be done by some other body formed for such purpose and registered as a trade union.

He desired to place on record the expression of the Division's very strong opinion that the scientific work of the Association was suffering owing to the attention which was being devoted to the medico-political part of the Association's work.

NATIONAL MEDICAL GUILD.

Mr. GARSTANG (Mid-Cheshire) withdrew the following rider, in view of all that had happened since it was drafted:

That this Representative Meeting is of opinion that the members of the British Medical Association should be officially advised to become members of the National Medical Guild, and that the Council be instructed to give effect to this opinion.

FUTURE MEDICO-POLITICAL POSITION OF THE ASSOCIATION.

The SOLICITOR dealt with a motion sent in by Dr. Cuthbertson Walker, that the Annual Representative Meeting, 1914, instruct the Council of the Association to take the opinion of counsel on the legal position and powers of the Association with respect to medico-political work consequent on the decision as to the formation of a trust taken in conjunction with the Memorandum of Association, and report to the Divisions. The Solicitor said he was perplexed to know how this question arose. If counsel raised any objection to the Association continuing its medical-political work, the objection would certainly be very embarrassing. So far as he was concerned, he might say quite candidly that he did not feel that he needed the opinion of counsel at all, because there was nothing in the resolutions which had been passed to create that necessity.

Dr. J. CUTHBERTSON WALKER said he would not press the question, but he merely wished to put it forward because of the feeling which existed amongst many members in the North of England, who might be led to reconsider their relations with the Association.

MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

Mr. GARSTANG, Chairman of the Medico-Political Committee, said that before submitting a memorandum embodying a new policy of the Association in regard to medical inspection and treatment of school children, it would be necessary to ask the Representative Body to rescind all previous decisions having reference to any question of the medical inspection and treatment of school children.

After some discussion and explanations from the Chair, the motion was agreed to.

Mr. GARSTANG then moved the recommendation of Council embodying the proposed policy of the Association on this matter (SUPPLEMENT, May 2nd, p. 281). He said there had been meetings between representatives of the Medico-Political Committee and representatives of the school medical officers before these arrangements were proposed.

Dr. W. H. F. OXLEY (Tower Hamlets) proposed as an amendment to refer back the memorandum to the Council for further consideration. In London the profession, after hard fighting, had obtained a position which was superior to that laid down by the memorandum. In London treatment was given wholly by general medical practitioners. The memorandum seemed in one part to lay it down that the proper way to give treatment was through the general medical practitioner, but in another that if the local Education Committee were not satisfied that that way was the best way the Association would agree. That was a weak position to take up. He criticized the proposed composition of the committee, which was to administer a centre, as members of the Education Committee were to be in the majority. In London the profession had obtained the position that the committee managing the treatment centre was composed solely of medical men practising in the area. If the report was adopted as the policy of the Association, while it might be satisfactory in the country, it would compromise the position in London.

Dr. B. G. MORISON (St. Pancras), in seconding the amendment, said that in all the areas in London the work was done by general practitioners, and no difficulty had been experienced. The profession in London did not want the specialist or the whole-time doctor introduced, as the general practitioner could do the work well.

Dr. BEATON said that there were about twenty centres in London all worked by general practitioners. What was proposed now for London was something worse, and he urged that the matter should be referred back.

Dr. WALLACE HENRY said that it was regrettable that the position in London had not been put more clearly before the Committee. If a clause to exempt London could be inserted it would be desirable. He urged strongly upon the meeting that it should allow the memorandum to be adopted for provincial areas. Outside London education authorities would not at present sanction schemes of the same character as existed in London, and the Board of Education was stiffening its requirements.

Dr. RATCLIFFE (Birmingham Central) said that it was not possible in all large centres to get the conditions which prevailed in London, but he agreed that it would not be advisable to disturb these arrangements.

Mr. GARSTANG was prepared to agree that London might be excepted.

Dr. GOODBODY (Marylebone) said the difficulty appeared to be that the proposal to exclude London might tempt the London County Council to reduce the London terms to the level of those in the country.

Mr. GARSTANG said that if the whole memorandum were referred back the Medico-Political Committee would be put in an awkward position, because the Association would be asking it to insist on arrangements which it knew could not be carried out in certain districts.

The amendment to refer the whole memorandum back to the Council for further consideration was defeated.

Dr. OXLEY moved that the memorandum should not apply to London.

On the suggestion of the CHAIRMAN, the motion before the meeting was amended and adopted with a rider in the following form:

That the memorandum submitted by the Council be approved as the minimum policy of the Association in the matter of medical inspection and treatment of school children.

Rider:

That the support of the Association should be given to all schemes which local Divisions consider are superior to that in the memorandum.

Mr. GARSTANG opposed the following amendment by Plymouth:

That assistant whole-time medical officers whose duties include school medical work shall commence at a salary of not less than £350 per annum, rising by annual increments of £25 to a maximum of not less than £500.

The amount, he said, had been £250, and the Committee came to the conclusion that it would be unwise to jump to £350 at one step.

The amendment was lost.

Dr. TENNYSON SMITH (Bromley) withdrew an amendment to delete from the report of the Council a model scheme for school treatment centres (SUPPLEMENT, May 2nd, p. 314). Since his Division had discussed this subject, a similar scheme had come into existence in Leicester and had been working very well, so that it was possible that similar schemes might be approved by the Board of Education in other areas.

ELECTION OF CHAIRMAN AND DEPUTY CHAIRMAN.

The CHAIRMAN announced that he and Mr. Turner had been re-elected to the Chairmanship and Deputy-Chairmanship of the Representative Meetings respectively. The announcement was received with applause.

The meeting adjourned at 6.30 p.m.

Monday, July 27th.

THE proceedings of the Representative Meetings were continued on Monday, July 27th, at 10 a.m. Mr. T. JENNER VERRALL (Chairman of Representative Meetings) presided. The minutes of Saturday were corrected and confirmed.

ELECTION OF MEMBERS OF COUNCIL.

The CHAIRMAN announced that the result of the election of four members of Council by the Representative Body as a whole, which had been carried out on the principle of the transferable vote, was as follows: Mr. E. B. Turner (London), Dr. W. J. Greer (Newport, Mon.), Sir James Barr (Liverpool), and Dr. Wallace Henry (Leicester).

GROUPING OF BRANCHES OUTSIDE UNITED KINGDOM FOR 1915–16.

On the motion of the CHAIRMAN of the Organization Committee, the following recommendations of Council (SUPPLEMENT, June 27th, p. 474) were adopted:

That the Branches outside the United Kingdom be grouped for the election of seven members of Council for the year 1915–16 in the same way as for the year 1914–15, except that Ceylon be grouped with the Indian Branches instead of with Hong Kong and China and Malaya, and that the new Orange Free State, Natal Coastal, Natal Inland, Pretoria, and Witwatersrand Branches be incorporated in the group containing the other African Branches.

That the Hong Kong and China and Malaya Branches form a separate group for the election of a member of Council, 1915–16, as was the case in 1913–14.

Dr. J. MITFORD ATKINSON (Hong Kong and China and Malaya Branches) thanked the meeting for granting this facility.

BRANCHES OUTSIDE THE UNITED KINGDOM.

On the motion of the CHAIRMAN OF COUNCIL (in the absence of the Chairman of the Dominions Committee), the Annual Report of the Council on this subject (SUPPLEMENT, June 27th, p. 481) was approved.

SOUTH AFRICAN MEDICAL CONGRESS.

On the following rider by Border (South Africa) Branch,

That the Council of the Association send a representative to attend a South African Medical Congress,

Dr. W. T. HAYWARD said that as an Australian, who had the advantage of knowing the benefits Australia had received from the visit of a representative of the Association, he wished to say a word in favour of the proposal to give the members in their fellow Dominion of South Africa the same advantage as Australia had recently enjoyed. He might also say that if it were possible to obtain the services of Dr. Macdonald he felt sure that the good work that he did in Australia would be repeated in South Africa. Dr. Macdonald's visit had greatly cemented the affection between the Branches in Australia and the parent Association, and he was certain the same thing would happen in South Africa.

Dr. CRAGO (Sydney) also added his testimony of appreciation to the work done in Australia by the Chairman of Council.

Dr. MACDONALD thanked Dr. Hayward and Dr. Crago, and said that to these two gentlemen, perhaps more than any one else, was due the success of his Australian tour. He believed that his Australian visit had been of great benefit to the Association. It was not a personal question at all, but a visit from a man who had done something in connexion with the central work of the Association to the Branches of the dominions overseas was appreciated by them, and he thought that a considerable accession of strength both to the dominions and the home country would result from the visit.

The rider was adopted.

NATIONAL INSURANCE BUSINESS.

The Representative Meeting proceeded to consider national insurance business.

Dr. MACDONALD, as Chairman of the Insurance Act Committee, moved that the Representative Body approve the Model Scheme for the Treatment of Tuberculosis, published in the SUPPLEMENT of May 2nd, p. 316.

On the motion of Mr. E. J. DOMVILLE, Chairman of the Public Health Committee, certain verbal amendments proposed by that Committtee were agreed to.

Dr. C. E. S. FLEMMING (Wilts) moved the insertion of the words in italics in the following clause:

That, *if possible*, no patient shall be treated at the dispensary except on the recommendation of a medical practitioner.

The amendment, he said, was intended to meet the case of very poor persons, uninsured, who, if treated by a general practitioner, could not pay. It was felt that absolute prohibition of any treatment by the tuberculosis officer would make the working of this scheme impracticable.

The amendment was carried.

RELATIONS WITH VOLUNTARY INSTITUTIONS.

Dr. L. T. GILES (Scarborough) moved an amendment intended to relieve the members of a medical staff of a voluntary institution of the onus of having to settle whether they would take the money for their personal benefit or not. If money were paid for the services of the staff it was only fair that it should be their own. But at one hospital the money might be devoted to the payment of the staff and in another it might be handed to the board for use in the hospital. But differences of opinion might arise, and ill-feeling might be created under these proposals between neighbouring hospitals.

Dr. T. H. W. ALEXANDER (Banff, Elgin, and Nairn), who seconded, said the matter should be left to the local hospitals, as in different areas different conditions existed. It would be better to have the matter settled locally than by a general resolution.

Dr. FOTHERGILL said that the Association's policy was that if the State paid any voluntary institution the medical staff must be paid. The amount of money the State would give to a hospital, either directly or indirectly, in this matter was infinitesimal when compared with the services rendered by the staffs. Let the Representatives look ahead to the developments of the future as to hospitals.

Dr. G. PARKER (Bristol) said he was instructed by his Division to oppose the payment of hospital staffs, as it was felt that there were serious difficulties in the way of honorary staffs of hospitals accepting such payments; it would place them in an awkward position in regard to practitioners in the town. Members of hospital staffs thought also that it would place them in a difficult position with the committees of their institutions, and that there would be difficulties in keeping the accounts of the dispensary separate from those of the hospital.

Dr. HASLIP (Westminster) said this was a channel through which a State medical service might be introduced. Honorary staffs felt that if they accepted money from the Government it would want a voice in the management of the hospitals. No Government would give money without having some control, and the Representative Meeting must face the fact that the Government meant to have control of the hospitals in the future. Who asked the Government to interfere in the health of the nation? The medical profession did so by pointing out to the Government that people suffering from certain diseases should be isolated from others. One of the large general hospitals in London was seriously considering whether it should not in future become entirely a paying hospital, because it would then not be liable to interference by the Government.

The CHAIRMAN OF COUNCIL called attention to the fact that the Representative Meeting had definitely laid down the policy of the Association to be that medical practitioners should not give gratuitous aid to those who were assisted by the State.

Mr. LARKIN (Liverpool) admitted that as a member of a hospital staff he would be placed in an awkward position with his lay committee if the resolution were passed, but that was not a reason why it should be rejected. The Representatives must stick to the principle that payment for medical services must go to the profession. It must not be supposed that hospital staffs only were affected, as

the matter intimately concerned every member of the profession.

Dr. F. L. POCHIN (Oldham) said his Division objected to the principle of payment, on the ground that, if and when it was extended, surgeons on hospital staffs would have to do an operation for appendicitis for about ten shillings, as no more would be available, and the general public would ask why doctors outside the hospital could not do the operation for the same fee.

Mr. J. FURNEAUX JORDAN (Birmingham Central), speaking from practical experience of the question as an honorary surgeon of a hospital, stated that for every case treated in the institution a sum of five guineas was sent by the city council ostensibly for the medical staff. This, however, the staff did not accept, handing it over to the general funds of the hospital. Honorary surgeons in a hospital should not accept payment for services when the hospital was a charitable institution supported by voluntary contributions. When, however, the State paid, the matter was entirely different, and he did not see why the staffs of hospitals should be put on a different footing to other members of the profession.

Dr. A. C. FARQUHARSON (Bishop Auckland and Durham) hoped the Representative Meeting would recognize the necessity of at least some payment being made by the governing authority to the medical staff of a hospital. In the Durham area a flat rate of 30s. a week for insured and uninsured alike had been agreed with the local hospitals for maintenance. The county council estimated that on this basis cases sent into hospitals would involve an expenditure of about £3,000 a year, but it was to be borne in mind that that money did not come from the State. It had been suggested more than once that it was the State which was doing this, but in his view that was not the case. There was a vast difference between the State and the local or municipal authority, and it was the latter which provided the money out of the county council funds, subject, of course, to the approval of the Local Government Board. It would be much better for the profession if it put forward a valid claim for at least one half of the money available for such purposes instead of leaving the disposal of it entirely in the hands of county councils to do with what they pleased.

Dr. J. R. RATCLIFFE (Birmingham Central) said that speaking as a general practitioner he felt there was a principle at stake as between the consultant and the general practitioner. It was not a fair thing that the consultants of hospitals should say that because they treated poor people in the hospitals who could not afford to pay they should get this money for others who were earning a fairly good wage and were contributing to the insurance funds. Then there was another principle at stake. There was no doubt that the doom of the voluntary hospital in the large industrial centres had been sounded. The hospitals were now finding that they had not the funds to meet the increased work which was being thrust upon them by the Insurance Act. Accordingly, they were asking the Government and the Insurance Committees that they should be paid for the treatment and maintenance of insured persons in the hospitals. If the money was to go to the hospitals for such maintenance and treatment, surely the medical practitioner had the right to a share of it.

Dr. S. W. SWINDELLS (North Lincoln) thought that before the Representative Meeting established a rule to demand payment it should be certain that the profession was able to live up to that position. Every resolution passed by the Representative Body which could not be lived up to involved great damage to the prestige of the profession.

The CHAIRMAN OF COUNCIL remarked that the situation was one which every medical practitioner in the country had to face sooner or later. If the medical profession did not establish the principle that it had a right to be paid for work done then the State would not recognize the claim. The claim must be asserted.

Dr. CRAWFORD TREASURE (Cardiff) said that his Division had gone through a big struggle of this kind recently, and had succeeded in establishing the principle that when the profession gave services to any governing body, whether municipal or State, these should be paid for.

Dr. C. E. ROBERTSON (Glasgow Southern) observed that it must be remembered that the governors of hospitals laid down rules under which the medical staffs acted.

The amendment, which took the form of deleting the following paragraph from the Model Scheme (SUPPLEMENT, May 2nd, p. 317):

> 15. From all moneys received by the governing body of a voluntary tuberculosis dispensary or voluntary medical institution in respect of the Tuberculosis Medical Service, a proportion to be agreed upon between the governing body and the medical staff should be placed to a special fund which shall be distributed as the medical staff shall decide,

was lost by a large majority.

Dr. NEVILLE CROWE (Worcester) moved an amendment to delete from paragraph 16 of the Model Scheme certain suggestions to medical staffs as to ways in which moneys received for treatment might be used for research work, for the purchase of books, or for benevolent or other purposes. He explained that his Division felt that any money so paid should go direct to the medical staff.

The amendment was lost.

Dr. L. J. PICTON (Stockport, etc.) proposed the following amendment:

> The chief tuberculosis officer should be a part-time or whole-time officer, and if a whole-time officer should receive not less than £500 per annum or £400 if resident, or if part-time officer a proportionate salary.

The Association's policy, he said, had been to retain for private practitioners as much as possible of their existing work. Various developments of the Insurance Act threatened to curtail that work. The tuberculosis scheme might be cited as an example, clinics were another, and various other State organizations were about to be established to do medical work. If the Association agreed that only whole-time officers should be employed the profession would give away the principles which it had been insisting upon.

Mr. LARKIN seconded.

Dr. FOTHERGILL objected that if part-time doctors in this matter were to be general practitioners they would be going to see other doctors' patients.

Dr. B. G. MORISON (St. Pancras and Islington) objected to a cast-iron rule, because the conditions varied in different districts. In some a part-time officer was useful, and in others a whole-time appointment would be preferable. From experience, the members of the profession in his part of London had come to the conclusion that the part-time man could do much in dealing with tuberculosis.

The CHAIRMAN, in reply to Mr. DOMVILLE, said it was true that this matter had been fully before the Divisions, and none had sent up dissentient amendments.

The amendment was lost.

Mr. H. P. COSTOBADIE (Bath) proposed an amendment to paragraph 2 of the Model Scheme, dealing with salaries of assistant tuberculosis officers, to the effect that the salary should be exclusive of travelling and other expenses, and this was agreed to.

Dr. L. J. PICTON moved an amendment to provide that part-time officers should be paid a proportionate salary to those of whole-time officers. The existing policy of the Association, he said, was that the chief tuberculosis officer should be a whole-time officer, and that domiciliary treatment should be done by the general practitioner. If the scheme were carried that policy would be reversed. Gradually encroachments were being made in one direction and another on the practice of the general practitioner, and the action the Association was asked to take proposed another encroachment. The Association must establish the right of the general practitioners to treat their own patients.

Mr. LARKIN said the doctors must balance their opportunities against their jealousies. Doctors should sink their jealousies for the sake of their opportunities.

The CHAIRMAN OF COUNCIL hoped the Representatives would understand clearly that they were being asked to approve the suggestion that the appointments of assistant tuberculosis officers should be whole-time. The difficulty arose in connexion with the determination of the insurance areas. Most of them were sufficiently large for a whole-time officer with one or two or more assistants, and the opinion of the Insurance Commissioners was that all those men, for various reasons, should be whole-time officers. If the work was to be carried out efficiently—as every medical practitioner wanted—in the opinion of the Council a whole-time officer would be the more effective. He would be more or less in the capacity of consultant, called in by the general practitioner.

Dr. PICTON, in reply, said his experience was that a sufficiently qualified junior practitioner could not be obtained. This clause of the Model Scheme was ineffective and impracticable, and further had the disadvantages that he had already outlined.

The amendment was lost.

Dr. PICTON moved to delete the clause of the Model Scheme as to dispensary treatment which provides:

> That the medical officer in charge of the dispensary should not be engaged in private practice.

The amendment was lost by a large majority.

Domiciliary Treatment.

In regard to the paragraph of the Scheme providing that for domiciliary treatment of uninsured persons a contract rate should be at the rate of £1 per quarter per patient,

Dr. T. C. ASKIN (South Suffolk) moved to substitute the sum of £1 10s.

Dr. W. DUNCAN (Chesterfield) said that Derbyshire was well advanced in this matter. The county had as many whole-time officers as any county of its size. It was treating uninsured persons. The local authority had already agreed that the treatment of uninsured persons should be paid for at the rate of £1 a month. Local representatives of the profession did not want to go back and ask that the payment should be at the rate of £1 a quarter.

The CHAIRMAN OF COUNCIL observed that possibly the appearance of the figure £1 was due to an error in calculation.

It was eventually agreed that the words, "shall be at the rate of not less than £1 per month per patient," should be introduced in place of the words, "shall be at the rate of £1 per quarter per patient."

Dr. C. E. S. FLEMMING (Trowbridge) moved that the form of report on domiciliary cases required by the Local Government Board was unsatisfactory and might with advantage be simplified and improved. The form, he said, was so elaborate that it defeated its own ends. It would be better that the Board should issue a much simpler form of report. He proposed, therefore, that the Council should make representations to that end, and this was agreed to.

Dr. B. G. MORISON (St. Pancras and Islington) moved the following rider:

> (*a*) That this Representative Meeting, while recognizing that there is a place for the co-operation of sanatoriums and hospitals in the treatment of tuberculosis, is strongly of opinion that the domiciliary treatment of tuberculous persons, as well as that carried out in local dispensaries, ought to be entrusted to the fullest possible extent to practitioners engaged in general practice.
>
> (*b*) That the voluntary hospitals to which medical schools are attached should have the opportunity of having all clinical material they need for teaching purposes.

He said the rider was an endeavour to leave the work as much as possible in the hands of the general practitioner.

Some discussion took place in regard to the words "as well as that carried out in local dispensaries," in the first clause of the rider, and Dr. MORISON, in reply to a question, said that he did not wish to raise the question of whole or part time services. All he said was that general practitioners should be eligible.

Dr. MORISON agreed to the deletion of the words, "as well as that carried out in local dispensaries," and the first portion (*a*) of the rider was agreed to.

With regard to (*b*) the CHAIRMAN OF COUNCIL asked who was going to supply the hospitals with material. If a dispensary was established in an area in which a teaching hospital was established, how could tuberculosis patients be persuaded to go to the hospital to be used as subjects for teaching?

It was agreed that the question raised by rider (*b*) should be referred to the Council.

The Model Scheme as amended was then approved by the requisite two-thirds majority.

CIRCULATION OF THE SCHEME TO INTERESTED BODIES.

On the motion of the CHAIRMAN of the Public Health Committee, the following rider was adopted:

> That the Model Scheme for the Treatment of Tuberculosis be circulated to municipal councils, Insurance Committees, and other bodies whom it might concern, with a view to obtaining their co-operation.

PROPOSED FEDERATION OF LOCAL MEDICAL AND PANEL COMMITTEES.

The Council in its supplementary report published in the SUPPLEMENT of June 27th, p. 478, made the following recommendations, which, it desired, should be understood to be purely tentative and conditional on the establishment of the proposed Federation, and upon the Representative Body being satisfied with its constitution, powers, objects, etc.:

Recommendations.

H.—That in the event of the proposed Federation of Local Medical and Panel Committees being formed, it be granted adequate representation on the Insurance Act Committee of the British Medical Association, and that the decision as to the exact amount of such representation be deferred until the policy of the Federation has been confirmed by the Local Medical and Panel Committees concerned.

I.—That steps be taken to secure that the necessary amendments be made in the Regulations of the Association to allow of two direct representatives being nominated by the proposed Federation of Local Medical and Panel Committees for election by the Representative Body on the Council of the British Medical Association, such representatives to be members of the Association.

J.—That provided other arrangements for co-operation are satisfactory the work of the proposed Federation and Association be carried out by the same staff on the premises of the Association; and that, subject to payment by the Federation on an agreed tariff, the Association place the following facilities at the disposal of the proposed Federation:

(i.) Office accommodation.
(ii.) Clerical assistance.
(iii.) Printing, etc.
(iv.) Space in the SUPPLEMENT of the BRITISH MEDICAL JOURNAL for reporting the proceedings of the Federation and its Branches.

K.—That there should be co-operation between the Scottish, Irish, and Welsh Executive Committees of the proposed Federation and any separate committees set up by the Association in those countries.

L.—That it be understood that if the above proposals are accepted by both the Association and the proposed Federation, the Federation shall not take action independent of the Association in any negotiations with lay bodies.

M. That the whole of the foregoing decisions be provisional only, dependent upon whether the Representative Body is satisfied with the constitution, powers, objects, etc., of the proposed Federation.

The CHAIRMAN OF COUNCIL, in moving the provisional approval of the Recommendations, recalled that at the annual meeting at Brighton it was considered desirable that the work of Local Medical and Panel Committees should be correlated with that of the Association. The proposals were provisional and depended on the Representative Meeting approving of the constitution and aims of the Federation of Local Medical and Panel Committees. The Chairman of Council amended Paragraph L above, by the addition of the words "so long as the Insurance Act Committee retains its present powers."

The CHAIRMAN said that every member of the meeting would be anxious not to make either of two mistakes. First of all they were desirous of not being precipitate in the way of joining with a body which, however complete it might ultimately be, had not as yet elaborated a complete constitution. On the other hand, they desired to show no hesitation in supporting the proposed Federation when once they were thoroughly sure that it was likely to be an effective body with a reasonable chance of permanent existence.

Dr. FOTHERGILL (Brighton) moved:

> That it be an instruction to the Council to issue as soon as possible to the Divisions, Local Medical and Panel Committees, a memorandum placing before them the effect of the proposals to establish a Federation of Local Medical and Panel Committees.

Dr. Fothergill said this proposal was a compromise between agreeing to the suggested Federation and asking the Association to have nothing to do with it. The scheme of federation would introduce the danger of overlapping in the Central Office. It was proposed that the Federation should have rooms there and should use the Association's clerical staff and its whole organization. The Federation, of course, was prepared to pay for these privileges, but the consequent overlapping would be most undesirable. The work of the Medical Secretary and his staff would be duplicated to the production of the greatest confusion.

Dr. Farquharson, who seconded the amendment, said that the only proper and constitutional procedure would be to refer the matter to the Divisions. What was in the minds of the Federation was known only very imperfectly, and the Association ought not to enter into anything in the shape of a hard and fast bargain at this stage.

Mr. D. F. Todd (Sunderland), Chairman of the Provisional Committee in the matter of the proposed Federation of Local Medical and Panel Committees, said he would have preferred to explain his position before an amendment was moved, but he bowed to the Chairman's ruling. He thought the Association should empower the Council to deal with the matter. If there was no call for the formation of a federation of committees, surely the medical men of the country would not have contributed to the funds of the Provisional Committee. The constitution had been drawn up on the broadest possible lines. It was quite true that it had not yet received the considered opinion of the Local Medical and Panel Committees, but it was hoped that it would be considered by them ere long. All members of the proposed Federation were most anxious, in accordance with the instructions given them by their constituents, to work in the most hearty co-operation with the British Medical Association. The framers of the proposal recognized that there was a large number of medical practitioners who were not members of the Association. The membership of the Association was 16,000, whereas on the *Register* there were 30,000 practitioners. It was hoped through direct communication with the Local Medical and Panel Committees, and through the Divisions of the British Medical Association, to get the outsiders into line. There was great necessity for union in the profession, which had common enemies in approved societies, Government departments, and in weak brethren within its own ranks; and it was thought that the Federation would achieve union and combination rapidly and successfully. In what was suggested the British Medical Association would have a direct interest. The profession would be in the midst of a fight in the early part of next year. If it was not agreed to empower the Council to deal with the question, the profession would be in a weak position.

The Chairman of Council said that Mr. Todd and he differed in only one point—what was to be done with the recommendation. Mr. Todd desired that the matter should be delegated to the Council to be dealt with; but he maintained that was not constitutionally possible.

Mr. Napier Jones (Reading), as a member of the Federation Committee, said that there was no desire to form a body which would be antagonistic to the British Medical Association. Overlapping existed to a deplorable extent at the present moment, and he hoped something would be done to reduce it.

Dr. Fothergill replied, and the amendment was carried.

On the amendment being put as a substantive motion, the Chairman of Council moved that it take the following form:

> That the Council be instructed to submit the adoption of the memorandum on the constitution of the proposed Federation of Local Medical and Panel Committees, after that constitution has been approved by the constituent bodies, and to call a Special Representative Meeting if necessary after replies have been received.

Mr. E. B. Turner (London) seconded.

The motion was carried.

APPOINTMENT OF, AND REFERENCE TO, INSURANCE ACT COMMITTEE FOR 1914–15.

Dr. Macdonald, as Chairman of the Insurance Act Committee, presented the following report:

1. It will be noted that the only recommendation on this point is Recommendation N in the Supplementary Report of Council (para. 257, p. 478, SUPPLEMENT, June 27th):

> *Recommendation N.*—That the Representative Body appoint an Insurance Act Committee for 1914–15.

The Council at the time of issuing that report did not enter into any details, as it was felt that the composition of the Insurance Act Committee might be governed to a considerable extent by the decisions of the Representative Meeting on the question of the relationship between the Association and the proposed Federation of Local Medical and Panel Committees.

2. The Insurance Act Committee, having considered all the information now at its disposal, recommends:

B. That an Insurance Act Committee be appointed for the forthcoming session with the same reference as that contained in Minute 200 of the Annual Representative Meeting, 1913, namely:

> To deal with all matters arising under the National Insurance Acts, to watch the interests of the profession in relation to the National Insurance Acts, and report to the Council.

C. That the Insurance Act Committee consist of the four *ex officio* members; two members to be elected by the Council; twelve members to be elected on a territorial basis by the grouped representatives; and one representative of each of the following organizations, to be elected by the Council on the nomination of those bodies respectively, such nominees to be also members of the British Medical Association:

> (*a*) The Association of Registered Medical Women, together with the Northern Association of Registered Medical Women;
> (*b*) The Society of Medical Officers of Health;
> (*c*) The Poor Law Medical Officers Association of England and Wales.

D. That, in the event of terms of co-operation being agreed to as between the proposed Federation and the Association, permission be given to the Council to co-opt, on the nomination of the proposed Federation, seven additional members.

3. The difference between the proposed committee and the present one, leaving out of consideration for the time being any question of nominees of the proposed Federation, is that there will be two members elected by the Council, instead of four as at present, and one member nominated by the two associations of registered medical women in combination, instead of one member from each of them as at present. The new Committee would, therefore, number twenty-one, exclusive of any representatives of the proposed Federation, as against twenty-four in the present Committee.

Dr. Mark R. Taylor (West Cornwall) asked if it was proposed to include, amongst those who were to be co-opted, non-members of the Association who might be members of Panel Committees.

Dr. Macdonald said he did not think the meeting could acquiesce in the idea of non-members becoming members of an executive committee of the Association.

By agreement the proposals of an amendment by Brighton, with reference to D above, were referred to the Council, and it was agreed that the reference to the Committee should be as follows:

> To deal with all matters arising under the National Insurance Acts; to watch the interests of the profession in relation to the National Insurance Acts, and report to the Council.

VOLUNTARY HOSPITALS AND MATERNITY BENEFIT.

The Special Report of Council on voluntary hospitals and treatment of cases in receipt of maternity benefit (SUPPLEMENT, May 2nd, pp. 317–8) was received, and the following recommendation in the Special Report was adopted:

I. That as it is necessary for the training in midwifery of medical students and pupil midwives that there should be an adequate supply of clinical material available for that purpose, no parturient woman should be refused treatment in the obstetric department of a voluntary hospital or similar institution on the ground that she is eligible for a maternity benefit.

Dr. Macdonald, as Chairman of the Committee, moved:

II. That women entitled to maternity benefit under the National Insurance Acts should not be regarded as eligible for free treatment except on the recommendation of a medical practitioner.

Dr. G. Parker (Bristol) opposed the motion. His Division did not think it possible for such women to get a certificate from a medical practitioner. The general practitioners did not think it should be part of their duty to grant such certificates. They objected to that duty being enforced upon them by the Association.

The motion was carried by a large majority.

On the next Recommendation:

III. That all women receiving treatment through the obstetric department of a voluntary hospital or similar institution who are entitled to a maternity benefit shall be required to pay such sum to the hospital or institution as shall be determined upon by the governing body.

Dr. H. Grey (Bristol) said that the motion meant discrimination, not as to whether a patient was a fit subject for treatment in a hospital, or whether she was rich enough to pay for treatment outside, but whether the

money in the patient's pocket had come from the State or through some other channel. There was a strong animus against State support. The idea of discriminating between the source of the money of the patients struck at the fundamental principle of the voluntary hospital, which was that treatment was given to patients because they were unable to pay.

The recommendation was eventually approved, and the remainder of the report on this subject was then received.

TREATMENT OF EMPLOYEES OF VOLUNTARY INSTITUTIONS.

The Chairman of Council moved the following motion arising out of the Annual Report of Council (Supplement, May 2nd, p. 286):

> That in those cases where the medical officer of any voluntary hospital is required to attend insured members of the staff of such an institution, the moneys paid by the Insurance Committee in respect of the medical attendance and treatment of such insured persons (exclusive of drugs and appliances) shall be paid to the medical officer of the institution who is responsible for such attendance and treatment, irrespective of any salary paid to such officer.

Dr. G. Parker (Bristol) opposed the resolution, as he considered it was ineffective, in that it would not attain its end and would not pay the men who did the work.

The Chairman of Council said that the proposal was actually being carried out in some hospitals. There was no difficulty at all about it. The Committee of the Taunton Hospital had recognized the fairness of the proposal and granted the request at once.

Sir James Barr thought that any resolution of this kind would be ignored by the hospitals and that the meeting was treading on dangerous ground. Such a resolution might do damage to the Association, and certainly its adoption would do no good to the Association or themselves.

On a division 81 voted for the proposal and 44 against. As a two-thirds majority was necessary the Chairman announced that the motion was not carried.

Free Choice of Doctor.

Mr. E. B. Turner (as Chairman of the Non-Panel Committee) moved the following recommendation of Council (Supplement, May 2nd, p. 288):

> That the policy of the Association be that such insured persons as may wish to make their "own arrangements" with medical practitioners not on the panel may do so without the necessity of such practitioners entering into any written contract, and with no consequential loss of benefits to the insured persons.

Mr. Turner said the resolution came from a very representative committee, setting forth the opinions of practitioners not on the panel all over the United Kingdom. The policy of the Association was that there should be absolutely free choice of doctor, whether the practitioner were on or off the panel. Any question of making own arrangements under the Insurance Act was at present in the hands of the Insurance Committee. One of the reasons which led the Committee to bring forward the resolution was that, while Insurance Committees gave that privilege with one hand to any practitioner, circumstances took it away with the other. One of the first of these was the tactless document on the subject issued by the Commissioners for signature. A great many gentlemen felt that in signing that document they were practically giving away all the reasons that had led them to withhold their names from the panel; they felt that in a modified way they were in the same position as practitioners on the panel. Non-panel practitioners felt that, if possible, they should attend their own patients practically under pre-insurance conditions. It was not the wish or intention of the Committee that any action by it should imperil the good fight in Wales against the illegal encroachment under the Insurance Act. The agents of many societies, perhaps not so much the old friendly societies as associations which had recently become approved societies, had put a great deal of pressure on these insured persons with the view of getting them to give up the practitioner they had chosen, and pointing out that if they went to some other practitioner on the panel the question of sick pay would be adjusted with greater satisfaction and less trouble to them. In some districts great pressure had been brought to bear on those people to change to gentlemen on the panel.

Dr. Major Greenwood asked whether it would be possible to carry this proposal into effect without fresh legislation.

Mr. Turner admitted that a modification of the Insurance Act would be necessary.

Dr. Haslip, speaking as a non-panel man, desired to ask whether this resolution was to be taken seriously. Why should the few be privileged to treat patients without a contract any more than the majority who had to work the Act? Further, he asked if there was not a great danger in this proposal. The trouble in South Wales had been caused through combinations of persons being allowed to make their own arrangements. No Government would give money unless it was known that insured persons would receive the same medical treatment as could be got under the Act. He believed there would be no unity in the medical profession until the whole of the profession worked the Insurance Act. They could not, however, guarantee any progress in the future if motions which were merely pious opinions—for they amounted to no more—were continually brought forward and no definite policy was outlined.

Dr. John Stevens (Edinburgh and Leith) thought the motion did no more than claim a right both for the medical profession and the public in a free country. Why should any practitioner have to attend any patient under a contract? As for the non-panel section of the profession, it would not, as a body, come under the Act. He claimed the support of no less a personage than the Chancellor of the Exchequer, who on May 1st, 1912, said: "There is nothing in this Act that enforces contract practice." This undoubtedly showed that there was no idea in Mr. Lloyd George's mind at that time of forcing the profession under a contract as he subsequently did.

Dr. Biggs (Marylebone) said non-panel doctors wanted to be able to attend their own patients, upon many of whom they had been in attendance for thirty or forty years. These patients would not be numerous, but naturally they did not like to give them up. The proposal would not encourage the establishment of any such medical aid associations as those in South Wales. It was true the proposal required an amendment of the Act, but there was no reason, though attempts to get amendments had failed before, why they should not try again.

Dr. W. E. Thomas (North Glamorgan and Brecknock) opposed the motion. The Welsh Commissioners were allowing insured people to contract out, with the consequence that medical aid societies had been started in every part of South Wales. Were the Representative Meeting to pass a resolution that would help these schemes in South Wales? He moved that the meeting proceed to the next business.

In reply to the Chairman, Dr. Thomas said that if the resolution were accepted it would be most harmful to the interests of the profession in South Wales.

Dr. W. Duncan (Chesterfield) said that every doctor, panel or non-panel, submitted himself to an unwritten contract which would be enforced in the law courts if the patient was wrongly treated. If this resolution was passed no new practitioner would ever join the panel. They would accept the loophole, and the present holders of contracts would repudiate them, so that there would be a perfectly open scheme for the whole country, with a multiplicity of details making smooth working impossible.

Dr. Ratcliff-Gaylard (Birkenhead) was certain that a large number of panel practitioners were willing to go a long way towards healing the breach which existed in the profession, if that were possible. But under this motion that was impossible, for it would be detrimental to practitioners all over Great Britain. Another reason why the motion should be rejected was that the Commissioners would not consent to vary the terms of an agreement in the way in which the motion asked.

Dr. Beaton asked if the practitioners who had gone on the panel had not injured men all over the country? In his view they had, and would it not be some recompense that some generous action should be done now? He contended that the resolution would do no injury to those on the panel, and it would be a generous thing to pass it.

Dr. H. H. Tomkins (S.W. Essex) said it was not to be taken for granted that the money to be paid to non-panel doctors for attendance under contracting-out arrange-

ments could or would be paid to medical aid institutes. The money could not possibly go to the institutes, and therefore could not possibly do any harm to those in the position of the profession in Wales. The non-panel doctor, under this proposal, would only get money in respect of single patients and not from a number in combination. No panel doctor would give up capitation fees to take advantage of the proposed alternative. It was very little for non-panel practitioners to ask from their panel brethren to help them to obtain.

Dr. Goodfellow (Council, Lancashire and Cheshire Branch), on behalf of Manchester (South) Division, moved an amendment to provide that on an insured person signifying in writing to the Local Insurance Committee his intention of contracting out the consent of the Committee should be given. He urged that the question involved was one of common justice, not only to the doctor, but to the insured person.

The Solicitor, in answering a question as to whether a non-panel doctor, if the motion were passed, would have the same responsibility as a panel practitioner, said he could only infer from the document before him what the position would be. If there were no direct contract entered into, and if the insured person was handed over to the medical man without a written agreement, it appeared that the responsibility would not be maintained.

Mr. Turner, replying to the discussion, said he was sorry Dr. Haslip should have the impression that the proposal was not put forward seriously. There were members of the profession in England still who held strongly to those principles on which the Association just a year and a half ago was united. He was indeed sorry these opinions should be supposed to have been put forward in a frivolous spirit. The non-panel practitioners represented the majority of the profession as a whole, and in the near future the Association would require their aid when it found itself impaled on one or other horn of a dilemma—either whether the present Government withdrew the Treasury grant or a Unionist Government brought in an alternative scheme.

The proposal did not receive the support of two-thirds, and was declared not carried.

Title of Panel Committee.

The following amendment, moved by Stratford, was defeated:

That the title of the Panel Committee should be Panel Practitioners Committee in preference to the title of Practitioners Committee suggested by the Council.

Dr. Fothergill (Brighton) moved, in connexion with the appointment of intermediaries between the Non-Panel Committee and non panel practitioners:

That the only intermediaries by whom the views of any section of the medical profession should be obtained are the officials of the Branch or Division concerned.

After some discussion, the Chairman appealed to the Representatives not to accept the amendment, and it was lost on a division.

Reasons why Practitioners will not accept Service under the Insurance Acts.

Dr. Bradbrook (Buckinghamshire) moved:

That Appendix IX to the Annual Report of Council (Supplement, May 2nd, p. 318), on the reasons why medical practitioners will not accept service under the National Health Insurance Acts, be deleted.

He asserted that the appendix consisted of a tissue of unwarranted conclusions based upon erroneous premisses.

Mr. Turner, in reply, maintained that the appendix was strictly accurate.

The motion was lost.

The meeting adjourned at 6.30 p.m.

Tuesday, July 28th.

The Representative Meeting was resumed at 9.30 a.m. on Tuesday, July 28th, Mr. T. Jenner Verrall presiding. The minutes were revised and confirmed.

Working the Insurance Act.

The following amendment by the North Middlesex Division as to future developments of the Insurance Acts (Supplement, May 2nd, p. 288) was withdrawn:

That this Representative Meeting, realizing that the medical clauses of the National Insurance Act in their present or some other amended forms are permanent, instructs the Council to ascertain from the Divisions what alterations in the Act would facilitate its working.

Dr. R. M. Beaton (St. Pancras and Islington) moved:

That this Representative Meeting is of opinion that the working of the medical clauses of the National Insurance Act by members of the profession is derogatory to the profession and against the public interest.

Dr. Beaton said that this was an olive branch from the non-panel practitioners. The non-panel section of the profession was trying in every way to get the two sides united. If this amendment did not satisfy the meeting, he appealed to the Representatives to try and devise something that would. He had been at many informal meetings in Aberdeen on the subject, and the object of all had been to endeavour to find some method of bringing all the members of the profession together again. Dr. Beaton asked leave of the meeting to substitute for his amendment the words of the resolution of the Special Representative Meeting at the Connaught Rooms in January, 1913:

That this meeting records its emphatic protest against the discreditable methods adopted by the Government whereby a position of urgency was created under which many practitioners, finding themselves threatened with financial ruin, were compelled to give unwilling service under the National Insurance Act on terms which this meeting considers to be derogatory to the profession and against the best interests of the public.

The meeting declined to allow this resolution to be substituted.

Dr. Beaton, continuing, said that if the profession, represented by those present, after eighteen months' trial, held to the old position, then he asked them to reaffirm it. If, however, they had come to the conclusion that they were wrong in January, 1913, he was willing to accept the rescission of the "derogatory" resolution, even by a majority of one. He was anxious, above everything, that the meeting should come to a decision.

Mr. Furneaux Jordan (Birmingham) said that if the amendment was meant as an olive branch to bring peace between the panel and non-panel practitioners, his opinion was it was so worded that it would defeat its own object. A large number of practitioners went on the panel unwillingly, but he believed they would come off now as unwillingly.

Dr. Ratcliff-Gaylard (Birkenhead) unhesitatingly declared that the work the panel section were doing could neither be derogatory to the profession nor against the public interest, provided those engaged on the panels performed their duties conscientiously. It was those men who had too many persons on their lists, who rushed through their work, and who thought more of £ s. d. than the honour of the profession, who were doing that which was derogatory to the honour of the profession and against the public interest.

Dr. C. G. Meade (York) appealed to the meeting to "bury the hatchet" once and for all, and so make the Association the great unifying force it ought to be.

Dr. Macdonald moved that the meeting proceed to the next business. He thought it was high time the profession forgot what had happened in the past and made an endeavour to become united again.

The motion to proceed to the next business was carried by a large majority.

Dr. M. G. Biggs (Wandsworth) moved, and Dr. A. Wilson (Wandsworth) seconded, the suspension of the Standing Orders, so that, on behalf of their Division, they might propose that any resolutions stating that service under the Insurance Act was derogatory to the Association should be rescinded and expunged from the records of the Association.

The motion was not carried, and the matter dropped.

The Central Defence Fund.

Mr. D. F. Todd (Sunderland) moved:

That no further calls be made on the guarantors of the Central Insurance Defence Fund.

This was carried.

Dr. Fothergill (Brighton) moved a rider:

That it be an instruction to the Council to consider and report with recommendations, after consulting the

contributors to that fund, what steps, if any, should be taken in order to transfer the contributions to a trust fund or otherwise to deal with the same.

Mr. TODD hoped the rider would not be passed, as it would only delay matters and cause complications and confusion.

Dr. FOTHERGILL said that the question was what was to be done with the money now in hand.

The SOLICITOR, in an explanatory statement, pointed out that the Council of the Association had in hand the balance of a fund which had been voluntarily contributed upon the lines of what he might call a trust, the objects of which were defined when contributions to the fund were solicited. Before the Council could divert into another channel the balance of such fund some procedure of the nature of that indicated by Dr. Fothergill's amendment would have to be resolved upon.

On being put to the meeting the rider was carried.

MEDICAL AID INSTITUTIONS.

Dr. J. BROWNLEE (Cleveland) moved the following rider in connexion with the Report of Council as to concessions to approved institutes (SUPPLEMENT, May 2nd, page 285):

That this Representative Body protests strongly against the immunity from control by the Local Insurance Committee enjoyed by medical aid institutes, and calls on the Council to take action with a view to having this amended, as being unfair both to ordinary medical practitioners on the panel and to those insured persons who are members of such institutes.

The CHAIRMAN OF COUNCIL explained that at present the Council was taking legal action on the whole matter, and it would proceed with strong action, if it could, after the legal opinion was obtained.

MEDICAL REFEREES.

A rider by West Herts, that whole-time medical referees should be appointed as soon as possible, was withdrawn.

FEES OF MEDICAL REFEREES.

Dr. CROWE (Worcester) moved the following rider:

That half a guinea be the minimum fee for examination and report as referee under the National Insurance Act, and that mileage be charged extra at the rate of not less than 1s. a mile beyond one mile.

He said that in his Division approved societies were offering a fee of 7s. 6d. for referees, with no mileage, but that no practitioners had accepted it.

Dr. RATCLIFFE (Birmingham) opposed the rider on the ground that the question of referees was under consideration by the Commissioners.

Mr. C. J. PALMER (Nottingham) said that in his neighbourhood practitioners acted loyally by the resolution passed by the Representative Body, but shortly afterwards in many other parts doctors were found accepting lower fees and no objection was made by the Association.

Dr. E. RAYNER (Treasurer) suggested that instead of "1s. a mile," the words should be "1s. a mile or part of a mile beyond a mile."

The suggestion was approved and the rider was carried.

ARRANGEMENTS WITH HERBALISTS.

Dr. MAJOR GREENWOOD (City) moved a rider:

That the employment by the Worcester Insurance Committee of herbalists in the place of registered medical practitioners is a serious infringement of the Medical Acts, and that the Council be instructed to take legal opinion with the view of testing the matter in the law courts.

Dr. Greenwood said it had been said that before the passing of the Insurance Act herbalists and bonesetters and others were not prevented by law from practising. In one sense that was true. Under the Insurance Act, however, insured persons might choose herbalists, and panel and non-panel practitioners alike were affected.

Dr. CROWE (Worcester) said that it was understood that the decision recently obtained by the Apothecaries Society against a herbalist would be appealed against.

The CHAIRMAN OF COUNCIL said the Council was in constant communication and was working along with the Defence Union in this matter. It was necessary to take care not to follow any course which would raise an outcry such as had been experienced in connexion with the conscientious objector to vaccination.

POWERS OF PANEL COMMITTEES AS TO EXCESSIVE PRESCRIBING.

Dr. WALLACE HENRY moved the following rider:

That this meeting instructs the Council to urge upon all Panel Committees the necessity of availing themselves of their rights under the Regulations to make a careful investigation of chemists' accounts, and to make a full report to the Insurance Committee of all cases of complaints made by the Pharmaceutical Committees respecting excessive and extravagant prescribing.

The question of the drug tariff, he said, was causing a great deal of friction, not only between doctors and chemists but between doctors, Insurance Committees, and the public. The resolution was proposed with the view of stimulating the interest of Panel Committees in the subject through members who might be present at the Representative Meeting. If Panel Committees could be persuaded to exercise their rights—not merely waiting until a complaint was laid, but asking that the chemists' accounts should be submitted to them—it would be of the greatest advantage. When these accounts were received they should be gone into most carefully, and the eyes of the medical profession would be opened to the iniquity of the present drug tariff. The suggestion that there should be a flat rate for pills, tinctures, etc., was preposterous. The profession could bring the facts before Insurance Committees; it would be able to remove a large amount of the prejudice due to allegations as to the excessive cost of prescribing. In Leicester the profession had been so successful in its investigations that the Local Insurance Committee had appointed a special subcommittee to go into the whole question. It was of the greatest importance that the Panel Committees should exercise the power given to them, under the Act and Regulations, of investigating cases in which it was alleged that medical practitioners were grossly extravagant, and if that were done it would be ascertained that the number of such complaints in which the charge was well founded was infinitesimal. Of the prescriptions sent to the Panel Committee by the Pharmaceutical Committee in Leicester not more than half-a dozen could reasonably be described as extravagant.

Dr. MARK R. TAYLOR (West Cornwall) said that his Division had been considering how the drug tariff might be cut down, and his own feeling was that spirituous tinctures should be eliminated, although the chemists declared that this could not be done without infringing the Food and Drugs Act.

The motion was agreed to.

THE REGULATIONS FOR CERTIFICATION.

Dr. F. W. POCHIN (Oldham) moved:

That this meeting requests the Insurance Act Commissioners to issue simple and explicit regulations *re* certification printed on cards which can be exhibited in the waiting rooms of doctors for the information of their patients.

He said the Insurance Commissioners had informed him that a suggestion to this effect had already occurred to the Commissioners, and that if the plan would be welcomed by the profession it would be carried out.

Dr. CUTHBERTSON WALKER seconded the motion, which was carried.

RETURNED MEDICAL CARDS.

Dr. MACDONALD moved the recommendation of the Council (SUPPLEMENT, June 27th, p. 478):

That it is no part of the duty of a panel practitioner to correct and keep up to date the list of addresses of insured persons.

The motion, he said, was intended to combat a tendency by Insurance Committees and approved societies to require practitioners to trace removals or be mulcted by non-allowance of capitation fees in respect of names not traced.

The motion was carried.

PRIVATE FEES ON NON-PRODUCTION OF MEDICAL CARDS.

The CHAIRMAN OF COUNCIL moved:

That a medical practitioner should be entitled to charge private fees to those insured persons demanding treatment of him but who fail to produce their medical cards, in view of the instruction of the various Insurance Commissioners to Insurance Committees than when the medical card system is in full operation a practitioner would be entitled, on giving treatment, to require insured persons on his list to present their medical cards should such a course appear necessary.

Dr. J. C. Walker (Rochdale) moved an amendment that the motion should open with the words, "That a medical practitioner is entitled to charge private fees," but this was not accepted by the meeting.

The motion was then approved.

Consultants under the Insurance Act.

The Chairman of the Non-Panel Committee, Mr. E. B. Turner, moved the adoption of the recommendation of Council (Supplement, June 27th, p. 478) as follows:

> That the policy of the Association should be opposed (with some possible special exceptions) to whole-time consultative appointments in connexion with the Insurance Acts, and that it should be in support of the performance of such duties being open, under conditions of free choice and adequate remuneration, to all registered medical practitioners qualified to perform them.

The recommendation was approved.

FUTURE DEVELOPMENTS OF THE INSURANCE ACT.

The Chairman of Council then presented the analysis of the replies of Divisions to the questions attached to the report of the Future Developments of Insurance Acts Committee concerning the Budget proposals as to Developments of the Medical Service under the Insurance Acts (Supplement, July 25th, p. 81).

The Chairman of Council also submitted a number of motions bearing on the subject. The first three (*a*, *b*, *c*) were approved without debate as follows:

> (*a*) That in order to carry out the promise made in the National Health Insurance Act, 1911, that insured persons should have "adequate medical treatment," it is the duty of the Government to make provision for the necessary institutional treatment.
>
> (*b*) That the staffs of voluntary hospitals receiving persons for whose treatment a payment is made by or on behalf of the State cannot be expected to treat such persons as charitable cases.
>
> (*c*) That in any future developments of the medical service under the Insurance Acts the clinical arrangements should not be placed under the public health authority, but either (1) under a new clinical authority composed of representatives of the insurance, public health, and education local authorities with representatives of the Local Medical and Panel Committees and of the local hospitals; or (2) under the Insurance Committee strengthened for this purpose by the addition of representatives of the above-named bodies.

The next paragraph was:

> (*d*) That the proposed clinical laboratories should be linked up as far as possible with the local hospitals and the nearest university laboratories.

Dr. C. E. Robertson (Glasgow) said that in that city the whole of the work intended to be done by the insurance institutions was already being done free by the medical officer of health. He thought it was undesirable to stop machinery which had been working for years and transfer it to local hospitals and universities.

Dr. John Adams (Glasgow) said that the work carried on in Glasgow by the medical officer of health and others had to do entirely with the investigation of infectious diseases. The work proposed under the motion was entirely different or supplementary to it.

The resolution was carried, as were also the following paragraphs:—

> (*e*) That the Representative Body welcomes the proposal of the Government to establish a nursing service to be utilized for the whole working-class population, and is of opinion that when established it should be under the control of the proposed new joint clinical authority, or failing that, of the Insurance Committee strengthened as suggested in motion (*c*) above.
>
> (*f*) That the medical referees under the Insurance Acts should be the advisers on all medical questions to the clinical authority referred to in motion (*c*).
>
> (*g*) That the consultants and specialists who are to be placed at the disposal of the referees should not be whole-time officers.
>
> (*h*) That the Representative Body welcomes the proposal to institute treatment centres or clinics in connexion with the medical service under the Insurance Acts, and is of opinion that they should be under the control of the clinical authority referred to in motion (*c*).

It was agreed that these resolutions be sent to the Chancellor of the Exchequer.

On the report of the Future Development of Insurance Acts Committee, as a whole, Mr. E. B. Turner expressed the hope that the Representatives would approve the report, which was an excellent one as far as it went. He trusted that the meeting would give an expression of opinion that the Council should continue the Committee.

The report was approved, with a rider embodying a recommendation to Council as suggested by Mr. Turner.

Dr. Macevoy moved the following amendment to paragraphs 265–6 of the Supplementary Report of Council (Supplement, June 27th, p. 479):

> That, in order that the full medical view of the causes of the excessive claims for sickness benefit and medical benefit revealed by the experience of the National Insurance Act should be stated and the suggestions of the medical profession for checking abuse of sickness and medical benefits should be offered, ample evidence should be collected and considered.
>
> That it be an instruction to the Council to obtain this evidence from the Divisions and from medical practitioners and report thereon.

It was, he said, desirable that the causes of increased attendance on insured persons should be ascertained. He was sorry there was not as much sympathy with non-panel practitioners as there should be. It was the duty of the Association to make conditions such that a non-panel practitioner could go on the panel.

The amendment was adopted.

SCOTTISH MATTERS.

On the motion of the Chairman of the Scottish Committee, Dr. J. R. Hamilton (Hawick), the paragraphs of the Annual Report of Council under heading "Scotland" (Supplement, May 2nd, pages 290–1), also those of the Supplementary Report on this subject (Supplement, June 27th, page 480), were received.

Scottish Office.

Dr. Lundie (Edinburgh and Leith) moved an amendment that the Scottish Office and its staff should be located in Edinburgh, on the grounds that Edinburgh was the capital of Scotland and the city in which the administrative affairs of the country were centred. The Insurance Act Commissioners also had their offices in Edinburgh, and it was most desirable that the Scottish Medical Secretary should have ready access to the Commissioners.

The Chairman of Council suggested that the simplest way would be to leave the matter to be settled by the Scottish Committee.

Dr. Adams (Glasgow) thought that a proposal from Dundee:

> That freedom be given to the Scottish Committee to determine the locus of the office in Scotland,

would be advantageous if the words were added so that it read as follows:

> That the Scottish Committee decide the locus of the Scottish Office after they have consulted the various Scottish Divisions as to where that office shall be, and that they act upon the answers received from the Scottish Divisions.

Dr. Hamilton said that Edinburgh being the seat of the Scottish Insurance Commissioners and the Scottish Local Government Board, it would be more convenient that the Scottish Office of the British Medical Association should also be established in the city. The Scottish Committee was most anxious to get in touch with young graduates in Scotland, and the best centre for that was undoubtedly Edinburgh. In Edinburgh University last year, and up to June 1st of the present year, there were no fewer than 943 graduates and licentiates, while the figures for the other university centres in Scotland were: Glasgow, 329; Aberdeen, 152; and St. Andrews, 41.

Dr. Adams (Glasgow), in opposing the proposal that the Scottish Office should be in Edinburgh, remarked that while Edinburgh was one of the finest cities in the world, it was not a centre of business activity. The proposal to establish a Scottish Office was a serious matter for the Association, as it involved an estimated expenditure of £1,350 annually.

After some further discussion, it was resolved by a large majority that the Scottish Office should be located in Edinburgh.

IRISH BUSINESS.

On the motion of Dr. Darling, acting for the Chairman of the Irish Committee, the Annual Report of Council under heading "Ireland," as to organization of the profession in Ireland (Supplement, May 2nd, p. 291), was approved.

MEDICAL TREATMENT OF SCHOOL CHILDREN.

Model Scheme of Treatment Centres.

The meeting then resumed consideration of the portion of the Report of the Council dealing with medico-political affairs, continuing the discussion of the Model Scheme for school medical treatment centres. The consideration was resumed of an amendment by Bromley making the following suggestions as to the payment of the staffs of treatment centres:

In rural areas remuneration to be as follows:
(*a*) Refraction: 7s. 6d. per case, with a probable average of three attendances per case.
(*b*) Nasal obstructions, adenoids, tonsils, and suppurating ears: 10s. 6d., to include treatment of two or more of those defects in the same child. Attendances being limited to four per case.
(*c*) Ringworm: 21s. per case for medical treatment, 31s. 6d. per case treated by radio-therapy.
(*d*) Administration of anaesthetics: 10s. 6d. per case.

Some general discussion took place on the subject, and the CHAIRMAN OF COUNCIL suggested that the fixing of fees for particular operations might be left to the Divisions. In this suggestion he was supported by Mr. LARKIN.

The amendment was finally carried in the following form:

In rural areas the profession shall receive remuneration for the following diseases: (*a*) Refraction; (*b*) nasal obstructions, adenoids, tonsils, and suppurating ears; and (*c*) ringworm.

Treatment by Private Practitioners.

Dr. TENNYSON SMITH (Bromley) moved an amendment to provide that:

Committees called "Organization Committees, Medical Treatment of School Children," should be formed in each Branch and should report to the Branch Council. The duties of those committees should be (1) to formulate a simple scheme, and (2) to conduct all business with the local education authorities, should the practitioners in any part of its area be desirous of carrying out treatment of school children found on examination to be defective. Each committee on its formation should issue an appeal to all medical practitioners in its area not to deal directly, but indirectly through the committee, with the local education authorities or any Care Committee acting on their behalf. It should also issue an appeal to the medical staffs of all voluntary hospitals in its area not to treat gratuitously at their charitable institutions those school children found defective on examination.

The matter was referred to the Council. Various other minor amendments by Bromley were also referred to the Council, and some verbal amendments were accepted.

Treatment by Medical Charities.

Dr. FOTHERGILL (Brighton) moved the following amendments to the Model Scheme:

1. That no case in the first instance should be referred to a voluntary (charitable) institution for treatment.
2. That the education authority shall be required to pay for all children of their schools receiving treatment at a voluntary hospital such sum as shall be arranged with the governing body.
3. That from such sum an amount agreed upon by the governing body and the Medical Board shall be placed to a special fund which shall be distributed as the Medical Board shall decide.

The amendments were carried.

Remuneration of Whole-time Officers.

The following rider by Hereford was agreed to:

That in the opinion of the Representative Body no whole-time medical officer of health nor school medical officer should accept any wholly new appointment involving fresh duties unless adequate remuneration is added to that previously received by him.

Dr. S. NOY SCOTT (Plymouth) moved the following rider:

That whole-time medical officers whose duties include school work be included in the provisions of the bill to secure superannuation and security of tenure of office.

Mr. GARSTANG, Chairman of the Medico-Political Committee, asked if it was meant that the Association, through its Council, should prepare an independent bill to this effect. If that were so, he did not see that there was any chance of reaching a practical issue. At the same time it was understood that the Government might deal with this matter, and if that happened he would promise to keep in view the object aimed at by the rider, and on this understanding the rider was withdrawn.

Dr. B. G. MORISON moved the addition of the following clause to the Model Scheme:

If a child whose parents or guardians are apparently in the position to afford to pay private fees is presented for treatment, the practitioner concerned shall have the right to refer the case to the Medical Treatment Committee for further investigation.

The proposal was carried unanimously.

Treatment of School Children at Voluntary Hospitals.

Dr. GARSTANG moved the recommendation of Council (SUPPLEMENT, May 2nd, page 281):

That the Representative Body approve the memorandum submitted by the Council on the treatment at voluntary hospitals of school children found to be defective on medical inspection.

This was agreed to.

Dr. BRADBROOK (Buckinghamshire) moved the following amendment, which was agreed to:

That clinics should be started to treat defective school children in place of sending them to the voluntary hospitals.

Legal Risks in Regard to Medical Certificates.

On the motion of Mr. GARSTANG the meeting adopted the Report of the Council in regard to legal risks of practitioners in issuing medical certificates under any Act of Parliament (SUPPLEMENT, May 2nd, p. 282).

Salaries of Medical Women.

On the motion that the remainder of the Report of Council under the heading "Medico-Political" be approved,

Miss IVENS, M.S. (Liverpool), who was received with applause, moved the following rider:

That the salaries paid to medical women be the same as those paid to men.

She hoped the meeting would pass the rider unanimously, and in addition would suggest that a copy be sent to the proper quarters. Equal salaries for equal work was a policy that the Association of Medical Women (to which she belonged) regarded as fundamental. An attempt had recently been made by a Government Department to upset that principle by the appointment of a woman inspector under the Board of Control. She was thankful to say that the two selected women had both withdrawn, and the post was still open. At the same time, it would strengthen their hands if the rider were carried.

This was agreed to.

Medical Inspection of Emigrants.

Mr. GARSTANG, in moving approval of the Council's recommendation that the fee for making examinations of emigrants for the Government of any oversea dominion should not be less than than 5s. a head, said the matter had come before the Medico-Political Committee in connexion with the medical inspection of emigrants for certain lines of steamships. Only a superficial examination was required, and the Committee considered that the fee for examination should be 5s. This was accepted by the Council. Since then additional information had come to hand, and having consulted his Committee, he had its authority to reopen the question, and he hoped the meeting would agree to the amended terms—namely, 5s. for adults and 3s. for children, on the ground that one certificate only was required per family, given on a printed form, which included both parents and children.

The recommendation was approved.

Fees for Life Insurance Examinations.

Mr. GARSTANG moved the following recommendation of Council (SUPPLEMENT, June 27th, page 476):

That the Representative Body decide whether (*a*) fees for life insurance examinations should be based on the amount of evidence required in confirmation of the examiner's professional opinion of the life, or (*b*) there should be a fixed minimum fee for that opinion irrespective of the number of questions to be answered.

The Committee considered that the full certificate should not be given for less than a guinea, but it had been agreed that a "half-way" certificate might be given for half a

guinea and another certificate for 5s. The Council rejected that report and said that no certificate should be issued for less than a guinea. There being a divergence of opinion, it was decided to ask the Representative Meeting what it wished.

Clause (*a*) of the motion was approved, on the proposition of Dr. JOHNSON (Bury), seconded by Dr. RATCLIFFE (Birmingham). Clause (*b*) therefore fell to the ground.

The following rider by Worcester was remitted to the Council:

That the question of fees for medical examinations and reports for life insurance be considered by the Annual Representative Meeting, 1914, with a view to the Council approaching the insurance companies in order to obtain the adoption of a universal rate all over the country.

REMUNERATION OF SHIP SURGEONS.

Mr. GARSTANG moved the following recommendation of Council (SUPPLEMENT, June 27th, pages 476–7) be adopted:

1. That fees for medical and surgical attendance should be payable by first and second class passengers in all cases of illness and injury except those due to the voyage.
2. That in those cases where the ship surgeon is at liberty to charge a fee, the minimum fee shall be 5s. and 2s. 6d. per attendance in the case of first and second class passengers respectively.
3. That accounts for any such fees should not be subject to any preliminary scrutiny by the commander, but it is clearly understood that any passenger questioning the legitimacy of any charge may make representations accordingly to the commander.

Dr. DANVERS (Southampton), speaking from personal experience of four large steamship lines, criticized the various recommendations and moved an amendment to refer the matter back for further consideration.

Mr. GARSTANG expressed sympathy with the objections of Dr. Danvers, and agreed to take the matter back for further consideration.

PUBLIC HEALTH AND POOR LAW MATTERS.

DEATH OF DR. MUMBY.

The CHAIRMAN OF COUNCIL, in moving, in the absence of the Chairman of the Public Health Committee (Mr. Domville), the reception of the part of the Report of the Council dealing with Public Health and Poor Law matters, said he had to express the sympathy of the meeting with the widow of the late Chairman of the Committee (Dr. Mumby), who had died during the year.

SECURITY OF TENURE OF MEDICAL OFFICERS OF HEALTH.

Dr. MACDONALD mentioned that the deputation which waited upon the Government in regard to the security of tenure of medical officers of health was received very favourably, and Mr. Samuel had promised to deal with the matter at an early date.

NEW POOR LAW ORDERS.

On the paragraph of the report dealing with Poor Law Institutions Order, 1913, and the Poor Law Institutions (Nursing) Order, 1913 (SUPPLEMENT, June 27th, p. 480),

Dr. MACNAMARA (Lewisham) suggested that the Association should take action to prevent the Local Government Board issuing exemptions from its own Orders before they had been in existence three months.

The CHAIRMAN OF COUNCIL said that if Dr. Macnamara would supply him with particulars he would undertake that the Committee would consider the matter.

The remainder of the Supplementary Report of the Council under heading "Public Health and Poor Law" was then approved.

HOSPITAL QUESTIONS.

The section of the Report of the Council on the subject of hospitals (SUPPLEMENT, May 2nd, p. 290) was received.

An amendment by Worcester as follows was referred to the Council:

That in order to check the extension of medical aid institutions, and to assist the profession in combating them when established, the Association endeavour to enlist the support of the staffs of voluntary hospitals not only in refusing professional recognition to the medical officers of these institutions, but also refusing treatment to patients sent by them to hospitals, except in cases of grave urgency.

The foregoing resolution shall not apply to those institutions where the medical officer of the institution has retained his post with the consent of the local profession.

NAVAL AND MILITARY.

Surgeon-General BENSON, in the absence of the Chairman of the Naval and Military Committee, moved the reception of the Naval and Military Section of the Report of the Council (SUPPLEMENT, May 2nd, p. 290).

The following motions were adopted:

That the officers elected at the Annual Representative Meeting, 1914, to represent on the Council the Royal Naval Medical Service, the Army Medical Service, and the Indian Medical Service be appointed to serve for a period of three years in each case.

That Director-General Sir James Porter, K.C.B., R.N. (retd.) be elected to represent the Royal Navy Medical Service on the Council for 1914-17.

That Colonel R. I. D. Hackett, A.M.S. (retd.), be elected to represent the Royal Army Medical Service on the Council for 1914-17.

That Surgeon-General P. H. Benson, I.M.S. (retd.), be elected to represent the Indian Medical Service on the Council for 1914-17.

The remainder of the report on this subject was then approved.

THE LATE DR. MUMBY.

The Chairman, Mr. T. JENNER VERRALL, moved that a resolution of sympathy and condolence be forwarded to the relatives of Dr. Mumby.

This was carried in silence, the Representatives standing in their places.

DR. W. T. HAYWARD.

The CHAIRMAN read the following letter from Dr. W. T. Hayward:

"I desire through you to thank the Representative Body for the great honour it has conferred on the medical profession in Australia by the election of one of its members as a Vice-President of the British Medical Association.

"I congratulate myself that I am the recipient of that honour, and most cordially thank the members of the Representative Meeting."

APPROVAL OF THE COUNCIL'S REPORT, AS AMENDED.

It was then agreed, on the motion of the CHAIRMAN OF COUNCIL, that the Report of the Council and the Supplementary Report, as amended, be approved.

ELECTION OF COMMITTEES.

The MEDICAL SECRETARY announced the results of the election of the several committees as follows:

Insurance Act Committee.—Dr. A. C. Farquharson (North of England, North Lancashire and South Westmorland, Yorkshire), *Dr. J. W. Johnson (Lancashire and Cheshire), Dr. G. K. Smiley (East York and North Lincoln, Midland, Cambridge and Huntingdon, East Anglian, South Midland), *Dr. W. B. Crawford Treasure (Birmingham, Staffordshire, North Wales, Shropshire and Mid Wales, South Wales and Monmouthshire), Mr. W. McAdam Eccles (Metropolitan Counties—Central, East, and North Divisions), *Mr. E. B. Turner (Metropolitan Counties—South and West Divisions), Dr. D. E. Finlay (Bath and Bristol, Gloucestershire, West Somerset, Worcestershire and Herefordshire, Dorset and West Hants, South-Western), Dr. Rowland Fothergill (Oxford and Reading, Southern, Kent, Surrey, Sussex), *Dr. John Hunter (Aberdeen, Northern Counties of Scotland, Dundee, Perth, Edinburgh, Fife), *Dr. John Adams (Glasgow and West of Scotland—City and County Divisions, Border Counties, Stirling), (No nomination received) (Connaught, South-Eastern of Ireland, Leinster), *Dr. J. Singleton Darling (Munster, Ulster).

Finance Committee.—Dr. G. E. Haslip (Westminster), Dr. D. Lawson (Aberdeen, etc.), Dr. R. L. Langdon-Down (S. Middlesex), Dr. Milner Moore (Eastbourne).

Organization Committee.—Mr. J. A. P. Barnes (N. Middlesex), Dr. A. T. Campbell (Glasgow, North Western), Mr. Russell Coombe (Exeter).

Journal Committee.—Dr. C. H. Hall (West Herts), Mr. Albert Lucas (Birmingham Central), Dr. Johnson Smyth (Bournemouth).

Medico-Political Committee.—Mr. E. J. Domville, Dr. W. Duncan (Chesterfield), Mr. A. C. Farquharson (Bishop Auckland and Durham), Mr. Bishop Harman (Marylebone), Dr. J. T. Macnamara (Lewisham), Mr. Wallace Henry (Leicester).

*Elected unopposed.

Public Health Committee.—Dr. L. J. Blandford (Stockton-on-Tees), Dr. J. Gordon (Aberdeen, etc.), Dr. T. Barrett Heggs (Faversham), Mr. E. J. Domville.

Hospitals Committee.—Professor Bolam (Hexham, etc.), Dr. Bushby Eason (Liverpool), Mr. McAdam Eccles (Marylebone), Mr. Bishop Harman (Marylebone), Dr. H. C. Mactier (South Staffs).

Naval and Military Committee. — Surgeon-General Greany, Colonel Raglan Thomas.

Dominions Committee.—Surgeon-General Benson, Surgeon-General Greany.

THANKS TO THE UNIVERSITY OF ABERDEEN.

The CHAIRMAN proposed from the chair that the best thanks of the meeting be tendered to the Senate of the University of Aberdeen and to the Local Committee for the arrangements made for the comfort and entertainment of the members of the Representative Body.

The resolution was carried by acclamation.

THANKS TO THE CHAIRMAN.

Mr. E. B. TURNER moved a hearty vote of thanks to Mr. T. Jenner Verrall for the manner in which he had presided over the meeting. They were thankful to him for his courtesy, for his impartiality, and for the flashes of humour with which he had enlightened their work.

Dr. DARLING seconded, and the motion was carried by acclamation.

The CHAIRMAN, in acknowledging, said the very occasional attempts of the Representatives at disorderly behaviour were a positive relief to him, as it enabled him, also just occasionally, to exhibit that natural ferocity which generally he kept under control.

The proceedings then terminated.

SPECIAL REPRESENTATIVE MEETING.

FORMATION OF A SCOTTISH COMMITTEE.

THE proceedings of the Annual Representative Meeting were interrupted for a short time on Monday morning, July 27th, when a Special Representative Meeting took place for the purpose of authorizing the formation of a Scottish Committee of the Association. Mr. T. JENNER VERRALL (Chairman of Representative Meetings) presided.

The authority convening the meeting—namely, the notice published in the SUPPLEMENT of June 27th, 1914—was taken as read.

On the motion of Mr. LARKIN (Chairman of the Organization Committee), the recommendation of Council proposing the necessary alteration of by-laws to legalize the formation of a Scottish Committee was approved.

The remainder of the Report of Council on this subject (SUPPLEMENT, June 27th, p. 475) was then approved.

The minutes of the meeting were confirmed, and the proceedings of the Annual Representative Meeting were resumed.

ANNUAL GENERAL MEETING.

THE eighty-second Annual General Meeting of the British Medical Association was opened in the Mitchell Hall, Marischal College, Aberdeen, on Tuesday, July 28th, at 2 p.m.

INDUCTION OF THE PRESIDENT.

Dr. MACDONALD, Chairman of Council, in the unavoidable absence of the President, occupied the chair.

The Financial Secretary, Mr. GUY ELLISTON, having read the notice convening the meeting, the minutes of the last general meeting were confirmed.

The Chairman, Dr. MACDONALD, said that the members of the profession in Aberdeen had selected a President of the Association for the coming year, and the Council of the Association had confirmed that selection. It therefore gave him very great pleasure to ask their distinguished townsman, Sir Alexander Ogston, to occupy the chair of the British Medical Association for the year 1914–15, and to wish him a very successful and prosperous year of office.

Dr. Macdonald then invested Sir Alexander with the President's badge.

The CHAIRMAN OF COUNCIL then vacated the chair in favour of Sir ALEXANDER OGSTON, who was received with loud applause.

THE RETIRING PRESIDENT.

Mr. T. JENNER VERRALL moved:

That the warmest thanks of the Association be given to William Ainslie Hollis, M.A., M.D., F.R.C.P., for the distinguished services he has rendered to the Association during his year of office.

To any one who had known Dr. Hollis it would be no surprise to learn that he had shown during his year of office a large capacity for the work. Not only had he shown capacity but he had manifested a great willingness to carry it out. As an old personal friend of his own—they were colleagues of long standing at the County Hospital at Brighton—he could testify that Dr. Hollis was a gentleman of very warm feelings, courteous of demeanour and instinct, with a great sense of duty. In carrying out the work of the Association Dr. Hollis was fortunately placed in being resident within a reasonable distance of London, and he availed himself largely of the advantage he enjoyed in that respect by attending very largely the meetings of committees and assisting in the work of the Association at the head office. It was a great regret to them all that, as a result of the serious illness through which he had passed—and from which all would be glad to learn he had in large measure recovered—it had been impossible for him to travel so far north as Aberdeen.

Dr. MACDONALD, in seconding the resolution, said that as Chairman of Council he had had many opportunities of seeing the admirable manner in which the President did his work.

The resolution was unanimously adopted.

THE PRESIDENT-ELECT.

The PRESIDENT said he had much pleasure in introducing to the Representatives the President-elect, Sir Thomas Clifford Allbutt.

Sir CLIFFORD ALLBUTT said he had received the pleasant charge of conveying to the Association an invitation from the Branch of the Association in Cambridgeshire and Huntingdonshire, and also from the University of Cambridge, the borough of Cambridge and the county of Cambridge, to hold its meeting next year in the City of Cambridge. (Applause.) For some years Cambridge had been in a transition state as regarded its medico- and medico-surgical departments, and he regretted that the medical schools were even now only two-thirds completed. A great and new departure had been taken in several directions—such, for example, as the new building for the physiological department, which would start fully in October, and which would be warmed up and in active energetic work by next summer, and the Representatives would be able to judge for themselves Other departments of great interest had quite recently been established. The psychological laboratory had been at work for many months, but the pathological department was suffering, for it was among those which, pending the completion of the building scheme, were housed in somewhat undignified quarters. The bio-chemical department would be at work fully by next summer. A professor had been engaged in bio-chemical work for the last ten or fifteen years, but it was only quite recently that the university had been in a position to enable him to establish a laboratory to tackle the great work which he was doing. The agricultural department might seem a little remote from medical interests, but its purposes were not altogether alien. In connexion with the pathological department a small estate of ten to fifteen acres had been devoted to the field laboratories, which were concerned in large part with the diseases of animals, and so formed a department of comparative medicine, which, though still young, was in active work; and it would be still more active next summer. That brought them in close touch and co-operation with the larger part of the agricultural department—he would not call it veterinary medicine, but animal medicine — working between the pathological field laboratories and the agricultural department, and by its chemical work closely allied to other departments. Cambridge would have something unique to show in the Research Hospital, which had now been at work for some years, and still remained the only research hospital, so far as he knew, in existence. He had to apologize for asking the Association to alter the date of its annual meeting from the customary time to a period rather earlier than usual. The undergraduates came up in crowds for their serious work in the Long

Vacation. The laboratories were then hard at work and the colleges full, so that it would have been impossible for the University to have taken in the Association in the later half of July. The colleges, he was informed, would exercise a generous hospitality, and their gates could not be open to visitors during the Long Vacation term. He therefore trusted that it might not be found very inconvenient to the members to meet a little earlier than was customary. He offered the Association a most cordial welcome to meet within the walls of Cambridge next summer.

Dr. Macdonald, Chairman of Council, said that the Association gladly accepted the invitation extended to them, through Sir Clifford Allbutt, to hold its annual meeting in Cambridge. He felt sure that he was expressing the feelings of every one when he said that they were looking forward with pleasurable anticipations to their visit.

Appointment of Auditors.

On the motion of Sir Thomas Flitcroft (Bolton), seconded by Dr. Milner Moore (Eastbourne), Messrs. Price, Waterhouse, and Co. were appointed Auditors of the British Medical Association until the next Annual General Meeting, at a remuneration of 150 guineas.

The meeting adjourned until 8.30 the same evening.

PRESIDENT'S ADDRESS.

The proceedings of the Annual General Meeting were resumed in the Music Hall, Union Street, Aberdeen, at 8.30 p.m. on Tuesday, July 28th.

Among those present upon the platform were; Sir Alex. Ogston, K.C.V.O., President; Sir James Barr, Past President; Professor Sir T. Clifford Allbutt, K.C.B. (President-elect), the Lord Provost of Aberdeen and Mrs. Maitland, the Right Honourable Robert Farquharson, M.D., of Finzean; Mrs. Carter, Miss Constance Ogston, Professor and Mrs. Adam Smith, Mr. and Mrs. Wm. Webster, Professor and Mrs. Grierson, Professor Matthew Hay, Bishop Chisholm, Dr. David Nicolson, C.B., Sir James Porter, Professor Nichol, D.D., Moderator of the Church of Scotland, Professor Marnoch, Dr. A. E. Garrod, Dr. and Mrs. Thos. Fraser, and Dr. F. K. Smith.

Civic Welcome to the Association.

Lord Provost Maitland said it was his duty and his very great pleasure, on behalf of the Corporation of Aberdeen, to offer the Association a very hearty welcome to the city of Aberdeen. Aberdonians were proud of their city, and he hoped that the visitors from afar, before they left, would agree that they had something to be proud of. Aberdonians felt very greatly honoured by the Association's visit; they recognized that the British Medical Association was a body of very great distinction and importance, which they had not had the honour of receiving in their city before. Aberdonians were proud of the situation of their city, of their granite, and particularly of their University. They felt and believed that their buildings at Marischal College were well worthy of pride; they were not only proud of them, but of the men and women who had made the building famous, and who were going to make it more famous still. The people of Aberdeen were proud of their Aberdeen doctors. They had gone out all over the world and they had given a very good account of themselves. But those whom they had sent away for the good of their country (laughter) were as nothing to the men they had kept. Aberdeen had always picked the best and kept them, and they were grateful that the Association had chosen one of their most distinguished Aberdeen surgeons to be the President for this year. On behalf of his colleagues in the City Council he extended a most hearty welcome, and expressed the hope that the visitors might enjoy their stay amongst them; that it might not be all work, but a little play and recreation, and a great deal of pleasant intercourse with their professional brethren. He bade them heartily welcome. (Applause.)

Dr. Macdonald (Chairman of Council), on behalf of the British Medical Association, thanked the Lord Provost for the welcome which had been extended to the Association. It was the Association's loss that it had not visited the city before. He was certain that before the members left, that view would be confirmed and that their stay would not only be profitable but a source of pleasure to them all.

Foreign Guests and Visitors.

Dr. Thomas Fraser made the following presentations:

Professor Onodi (Budapest), Professor D. S. Demetriades (Athens), Professor A. Maurice (Paris), Professor Umberto Gabbi (Rome), Professor Gauss (Germany), Dr. C. G. Jung (Zürich), Professor Leduc (Nantes), Professor H. Morestin, M.D. (Paris), Professor Plaut (Munich), Dr. Rist (Paris), Professor Frank (Cologne), Professor E. Pontoppidan (Copenhagen), Professor J. J. R. Macleod (Cleveland, U.S.A.), Von Pirquet (Vienna) Dr. Meding (New York), Dr. Greene (San Francisco), Dr. Sandison Brock (Rome), Dr. A. G. Peter (Gold Coast), Dr. Simpson Morland (Switzerland), C. I. Rutherford (Ceylon), Casey A. Wood (Chicago), Professor Reeve (Toronto), and Bergonié (Bordeaux).

Delegates from the Overseas Dominions.

Bombay Branch.—Major E. F. Gordon Tucker.

Border Branch (South Africa) and Natal Branch (Inland).—Dr. P. P. J. Ganteaume, Dr. R. J. Love (Ind. Cape Province).

British Honduras Branch.—Dr. James Cran.

Burma Branch.—Lieut.-Col. J. Penny, I.M.S.

Cape of Good Hope (Western) Branch.—Dr. Julius Petersen.

East Africa and Uganda Branch.—Dr. C. A. Wiggins.

Egyptian Branch.—Dr. Llewellyn Phillips.

Gibraltar Branch.—Dr. Alexander Woodman Dowding.

Hong Kong and China Branch.—Dr. Charles T. Griffin, Dr. G. M. Tharston, Major F. F. Elwes, C.I.E., I.M.S., Captain J. Forrest, I.M.S., Major E. M. Illington, I.M.S., Captain A. C. Ingram, I.M.S., Lieutenant-Colonel R. K. Mitter, I.M.S., Captain D. S. A. O'Keeffe, I.M.S., Major T. H. Symons, I.M.S., Major C. G. Webster, I.M.S.

Tasmanian Branch.—Dr. Hugh Armstrong.

Toronto Branch.—Professor R. A. Reeve, M.D., LL.D.

Victoria Branch.—Dr. H. Cordiner and Dr. Russell Hamilton.

West Australia Branch.—Dr. H. O. Teague.

Malaya Branch.—Dr. G. A. Finlayson, Dr. P. Fowlie.

New South Wales Branch.—Dr. George Allan, Dr. W. H. Crago, Dr. L. Herschell Harris, E. T. Thring, Esq., Dr. J. Grenville Waine, Dr. A. Murray Will.

New Zealand Branch.—Dr. A. A. Martin.

Orange Free State and Basutoland Branch.—Dr. N. M. McFarlane, Dr. D. M. Tomory, Lieutenant-Colonel Basada.

Pretoria Branch.—Dr. J. J. Boyd, Dr. A. W. Sanders.

Punjab Branch.—Captain S. H. L. Abbott, Lieutenant-Colonel Henry Smith.

South Australia Branch.—Dr. A. A. Lendon, Dr. H. Swift, Dr. W. T. Hayward (Vice-President).

South Indian and Madras Branch.—Captain S. H. Lee Abbott.

The Gold Medal of the Association.

Dr. Macdonald, Chairman of Council, said a pleasing duty had fallen to him—to intimate that the Council of the British Medical Association had decided to confer on two members of the Association the medal for distinguished merit. This medal, Dr. Macdonald explained, was conferred for various reasons. It might be given for acts of distinguished bravery; it might be conferred for some distinguished achievement in the advancement of science, or for distinguished work done by a member for the Association and its members. It was for the third reason that medals were to be presented to two members. First, it was with the greatest possible pleasure he asked the President to present the Association's medal to Mr. T. Jenner Verrall, Chairman of the Representative Meeting. (Loud applause.) It was impossible fully to appreciate the work which Mr. Verrall had done for the Association. There was no honour which could be conferred on Mr. Verrall that would at all measure the value of the work he had done for the Association. He had been a member of the Association and one of its most vigorous workers for the last five-and-twenty years: he was General Secretary of the meeting in Brighton in 1886, and he was also Secretary of his Division for many years. The last two or three years had been a very strenuous time in the history of the Association, and during that period Mr. Verrall had held two very difficult positions—those of Chairman of the Insurance Act Committee and Chairman of the Representative Meeting. It was not possible to estimate all that Mr. Verrall had accomplished. It had certainly meant the sacrificing of time, money, and leisure, and had cast much trouble and anxiety on his shoulders.

The President then presented the medal.

Mr. T. Jenner Verrall, who was received with acclamation, on rising to respond, said that he fancied those who knew him would agree that, in general, he had but little difficulty in expressing himself with regard to any matter in which he was personally concerned. If he failed to do

so on this occasion, it would be due not to any want of will on his part, but to want of power. He took it, from the applause they had bestowed upon him, that the audience endorsed the action of the Council, and that they believed he had done good work in the Association for many years. (Applause.) He could assure them that his efforts on behalf of the Association had afforded him a great deal of acute pleasure. No man, he held, could do good work unless he enjoyed the performance of it. If, therefore, he had appeared to be unhappy as Chairman of the Representative Meeting—he did not think so—then he could honestly say that he had entirely belied his feelings. No doubt he had held that office during an anxious time—since the introduction of the Insurance Act—and he was inclined to claim, in regard to the reasons for which Dr. Macdonald said medals were awarded, that the reason why this medal had been given to him was not because of his long services to the Association, but because of his distinguished bravery. (Laughter.) In conclusion, Mr. Verrall remarked that if there was no Standing Order limiting the length of speeches by recipients of gold medals, there certainly ought to be, and the time allowed ought not to exceed two minutes. He thanked the Association for the gift of the medal, and assured the members that it would remain amongst his most treasured possessions. (Applause.)

The Chairman of Council (Dr. MACDONALD) asked the President of the Association to present the medal to Dr. Edwin Rayner, the Treasurer of the Association. All would agree that the Treasurer of an Association such as theirs held a very important position. During the past few years the post of Treasurer to the Association had been a most anxious one, because the Association, as they all knew, had passed through a critical period. In such a time as that questions of finance required to be carefully dealt with in order to ensure that, so far as possible, the Association was maintained in a state of prosperity. There was no doubt that, accepting Mr. Verrall's suggestion, the Association was under a deep debt of gratitude to Dr. Rayner for the distinguished bravery he had shown in administering the finances of the Association during a critical period. Indeed, Dr. Rayner's services, like those of Mr. Verrall, were such that they could not be adequately measured. Dr. Rayner by his personality had endeared himself to every one. He had held the position of Treasurer for seven years—an unprecedented time in the history of the Association.

The President then invested Dr. Rayner with the Gold Medal.

Dr. RAYNER, in acknowledging the presentation, thanked the members of the Association for the reception they had given him, not only on that but on many other occasions, and expressed his indebtedness for the handsome acknowledgement just made of the services he had striven to render to the Association during more years than he cared to think of. He thanked Dr. Macdonald for his kind remarks, and the members of the Council of the Association concerned in this matter. It did not happen to everybody, especially to a civilian, to receive acknowledgement of any service that he did during his lifetime. Monuments were put up to civilians usually after their death, though soldiers and sailors received honours during their lifetime. He had been singularly favoured during his lifetime with presentations and presents; he had received more compliments and won more friends than he deserved. He regarded it as a very great honour and pleasure to have received this medal, and his pleasure was more than doubled by the knowledge that his friend, the Chairman of Representative Meetings, had been equally honoured. Mr. Verrall deserved the honour more than he did, and he hoped that Mr. Verrall would live long, not only to render service to the Association, but that his family would have him with them for many years to be proud of the honour which had just been conferred on him. This had been a very happy day for him. He was getting old, and, though he might live many years longer, at the same time he took that occasion to be one of, if not *the*, crowning glory of his life.

PRESIDENT'S ADDRESS.

The PRESIDENT then delivered his address, which is published at p. 221 of the JOURNAL.

VOTE OF THANKS.

Professor MARNOCH, Professor of Surgery in the University of Aberdeen, said that when the profession in Aberdeen resolved to invite the British Medical Association to meet there and the invitation was accepted, they looked in one direction, and one only, for a President. Sir Alexander Ogston was very reluctant and diffident, but such was their pertinacity and such their unanimity that ultimately he consented to lay aside his hobbies, to come out of his retirement, and to lead them. (Applause.) No more fitting selection could have been made, and no selection could have given more gratification to Aberdeen graduates, or to the profession which Sir Alexander Ogston adorned. (Loud applause.) Sir Alexander Ogston had given them a most interesting and fascinating address—an address which would grow both in interest and fascination when they had time to sit down quietly and peruse it. He proposed:

> That the best thanks of the meeting be given to Sir Alexander Ogston, K.C.V.O., for his interesting and able presidential address on the occasion of the eighty-second annual meeting of the British Medical Association.

Dr. A. E. GARROD said he was privileged in being called upon to second the motion of the Professor of Surgery. He was sure that to all the medical men present it must have added to the pride which they felt in their profession to see a great surgeon wearing so lightly and so gracefully the garment of the historian. It was equally gratifying to them to hear in such felicitous terms of the growth from its earliest beginnings of the intellectual centre of a region familar to many present but, on the other hand, unfamiliar to many who had come to attend the meetings of the British Medical Association. It was well to remember that this was a region which the Roman raided but never ruled, in which the Saxon never settled, and which was such a great seat of learning that for centuries it supported two universities and not one only. (Applause.)

The motion was carried with acclamation.

The President bowed his thanks, and the proceedings terminated to the singing of the National Anthem.

ADDRESS IN MEDICINE.

THE Address in Medicine was delivered in the Mitchell Hall, Marischal College, Aberdeen, on Wednesday, July 29th, at 12.30 p.m., by Dr. A. E. GARROD, M.D., F.R.C.P., F.R.S., physician to St. Bartholomew's Hospital. The chair was occupied by the President of the Association, Sir ALEXANDER OGSTON, K.C.V.O., M.D.

The PRESIDENT briefly introduced Dr. GARROD, who then gave the address published at p. 228 of the JOURNAL.

Sir JAMES BARR, at the conclusion of the address, moved:

> That the best thanks of the Association be accorded to Dr. A. E. Garrod, F.R.S., for his able and interesting address on medicine on the occasion of the eighty-second annual meeting in Aberdeen.

The motion, he felt, had already commended itself to the audience, as shown by the attentive hearing it had given to the lecturer. The address had been extremely able and instructive, and the admirable diction in which it had been couched must have commanded the approval of all present. (Applause.) Dr. Garrod was evidently somewhat of an athlete, for he had covered the whole field of medicine in the space of about an hour, and few men could do that. He did not think any one else present could have delivered an address covering such a wide range. The field Dr. Garrod had described made his hearers realize the extent of the whole sphere of medicine. The lecturer had begun by dealing with the medical student, and in this connexion Sir James Barr remarked that the medical student of the present day was a long-suffering animal. Nowadays he got far too much crammed into him; he had to swallow facts and had little time to digest them. Again the vast field over which Dr. Garrod had travelled showed how chemistry had come to the front at the present day. The audience had been most convincingly shown what chemistry was doing. There was one point which Dr. Garrod omitted to mention, and that was his own work in the field of chemistry. Very few men of the present day had contributed as much as Dr. Garrod to chemical pathology and chemical physiology. Therefore, in thanking him

for the address, their indebtedness to Dr. Garrod for his personal services should be remembered. (Applause.) Dr. Garrod had dealt with some points in relation to digestion, and from his remarks it appeared that the audience would be able to eat its lunch with freedom, for they had been assured that in the matter of diet there should not be too many restrictions. (Laughter and applause.) The restrictions appeared to be that it did not matter much what one ate or did not eat so long as one did not eat too much. The address was bound to meet with approval and would be read with admiration. (Applause.)

Professor IRVING CAMERON (Toronto) said it gave him peculiar pleasure to second the vote of thanks because of the wide divergence there was between the lines of work which he and the lecturer followed. It was evident from the address itself that it emanated from one who had had the advantage of a classical education, and it demonstrated, to his mind, the benefits which come to those who had enjoyed such an education. Dr. Garrod, in his address, had given a wonderful illustration of what could be done in a short space of time by one who really knew his subject. To those who graduated, say, thirty or forty years ago, organic chemistry was very much of a closed book, and they regarded with admiration any one who could dilate on that subject in the way Dr. Garrod had. He had infinite pleasure in seconding the motion.

The motion was carried, and Dr. Garrod having bowed his acknowledgements, the proceedings terminated.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

YORKSHIRE BRANCH.

THE annual meeting of the Yorkshire Branch was held at the Bradford Royal Eye and Ear Hospital on June 17th.

Election of Officers.—The officers for the year 1914–15 were elected:

President: Dr. Bronner.
Secretary and Treasurer: Dr. H. J. Campbell.

Report of Council.—The report of the Council was read by Dr. BRONNER.

President's Address.—The PRESIDENT then gave an interesting address on "Twenty-nine years' work at the Bradford Royal Eye and Ear Hospital."

Cases, Specimens, and Papers.—Mr. BASIL HALL showed a number of specimens of growths removed from the abdomen, described the cases, and commented upon the methods of operation employed. Mr. APPLEYARD described a case of osteoma of the frontal sinus. Mr. BASIL HUGHES read a paper upon some points in the treatment of syphilis; and Dr. VINING made a communication advocating the more extended use of whole milk in the artificial feeding of infants.

Vote of Thanks.—A vote of thanks was passed to Dr. STANGER for his able services as President during the past year, and he was elected a permanent Vice-President.

Next Meeting.—It was decided to hold the next meeting of the Branch in October at Scarborough, and the next annual meeting at York in June, 1915.

Annual Dinner.—The annual dinner was held at the Midland Hotel in the evening, and was well attended.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

LOCAL MEDICAL AND PANEL COMMITTEES.

LIVERPOOL.

LOCAL MEDICAL COMMITTEE.

A GENERAL meeting of the medical profession of Liverpool was held in the Liverpool Medical Institution on June 30th (Mr. F. CHARLES LARKIN in the chair), to receive the report of the proceedings of the Local Medical Committee during the past year, and to consider the scheme for the constitution of future Local Medical Committees.

Report.—The report showed that the committee had met 23 times, with an average attendance of 14.5, and had dealt with various matters which have arisen, particularly questions on the scope of medical benefit, excessive prescribing, certificates, drug tariff, removal of a practitioner from the panel, etc. As regards the agreement for 1914, the committee emphasized the fact that for some months it endeavoured to secure an early copy of this agreement, so that panel practitioners might have reasonable time to consider it, but the committee was unsuccessful in getting an advance copy. As regards finance the expenses have been met by a voluntary subscription of 5s. Strong comment was made on the fact that out of 210 panel practitioners only 130 subscribed, while 103 non-panel practitioners had responded.

CENTRAL ORGANIZATION OF COMMITTEES.

The meeting approved of the principles and objects of the Central Organization of Local Medical and Panel Committees to work in association with the British Medical Association.

Scheme for future Committee.—A scheme for the constitution of the future committee was agreed upon, namely, that the Local Medical Committee should consist of the Panel Committee, with the addition of seven members to be elected at a general meeting of the profession and that an endeavour should be made for the complete committee to contain among its members, medical practitioners practising specially the following branches:

(1) Surgery, (2) medicine, (3) gynaecology, (4) ophthalmology, (5) otology and laryngology, (6) dermatology.

BERKSHIRE.

LOCAL MEDICAL AND PANEL COMMITTEE.

THE twenty-third meeting of the Berkshire Local Medical Committee and the sixth of the Panel Committee, were held conjointly at the Royal Berkshire Hospital, on July 21st, 1914.

Payments of Arrears for 1913.—The HONORARY SECRETARY explained the position of the Berkshire Insurance Committee with respect to the payments of arrears for 1913. The Committee claimed £1,900 as due to them, but the Commissioners would only promise £875, and had not yet paid this. The Chairman of the Insurance Committee and Chairman of the Finance Subcommittee had interviewed the Commissioners, who acknowledged that the Berks Insurance Committee had a genuine grievance, but stated that they were unable to do anything more. The following resolution was passed:

> This Committee strongly protests against the non-payment of arrears for 1913, and urges the Berkshire Insurance Committee to take immediate action with the Commissioners for the purpose of obtaining them.

Practitioners and Lists of Patients.—The following resolution was also passed, and the Honorary Secretary was instructed to forward it to the Insurance Committee:

> That the Committee is of the opinion that any practitioner on the panel desiring a list of the patients whom he is liable to treat, and for whom the Committee is bound to pay, ought to be supplied with the same by the County Insurance Committee.

Protest against General Meeting in August.—As the new Panel Committee had not been elected in June on account of the dilatory methods of the Commissioners, the Honorary Secretary was instructed to protest against a general meeting being held in August as so many practitioners would be away for their holidays.

HAMPSHIRE.

DR. G. A. E. ROBERTS (Honorary Secretary, Hampshire Panel Committee) writes: I have been asked by the Hampshire Local Medical and Panel Committees to send you a copy of the enclosed letter, which is being sent to all panel practitioners in this county:

Twyford, near Winchester,
July 27th, 1914.

Dear Sir.—At a meeting of the Local Medical and Panel Committees, held at Winchester on July 23rd, it was unanimously agreed that the acceptance of insured persons who wish to transfer from the panel of a deceased doctor within the period of three months from the date of his death would be detrimental to the best interests of the profession.

It should be remembered that the Regulation allowing a practice to be carried on temporarily by a locumtenent appointed by the family of a deceased doctor was put in at the request of the medical profession.—I remain, yours faithfully,

GEO. A. E. ROBERTS,
Honorary Secretary.

MONMOUTHSHIRE.

PANEL COMMITTEE.

THE recently-elected Monmouthshire Panel Committee held its first meeting at St. James's Hall, Pontypool, on July 23rd. It was convened by the Returning Officer, Mr. W. J. EVERETT, solicitor, and the following members were present: Drs. T. W. Bevan, Evans, Frost, Hackett, Hayles, Logie, Lloyd Mulligan, Haslett, O'Keefe, Ryan, Steel, J. D. Sullivan, T. D. Sullivan, and Verity.

The Panel Committee consists of twenty-four members, and, in addition to the fifteen members present at the meeting, includes the following nine gentlemen: Drs. Brown, Barnard, De Gruchy, Drapes, Griffiths, J. O'Sullivan (Cwm), Shoolbred, Wade, Williams.

Election of Officers.—The following officers were appointed:

Chairman: Dr. J. W. Mulligan.
Vice-Chairman: Dr. H. T. Evans.
Secretary: Dr. E. Ryan.

Vote of Thanks to Returning Officer.—A vote of thanks was passed to Mr. W. J. Everett for the courteous and capable manner in which he had performed the duties of Returning Officer.

Formation of Rural and Industrial Subcommittees.—It was decided to form two subcommittees to look after the interests of the rural and industrial areas respectively, the Rural Committee to consist of eight members and the Industrial Committee of sixteen members, both committees to report to the Panel Committee.

Letter to Welsh Commissioners.—The SECRETARY was instructed to write to the Welsh Commissioners, asking them to recognize the Panel Committee as the Local Medical Committee.

Unallocated Funds.—The SECRETARY produced a balance sheet sent him from the Insurance Committee, showing the amount of unallocated funds in the hands of that body. The total amount was £1,859 13s. On the motion of Dr. EVANS, seconded by Dr. LLOYD, and carried unanimously, the following resolution was passed:

> That the unallocated capitation fees for medical attendance be divided *pro rata* to the amounts paid to each panel doctor for the year ending January 14th, 1914, and that the unallocated drug fund be divided on the same basis, taking into consideration the amounts already paid for the supply of drugs to the insured persons outside the mile limit.

On the motion of the CHAIRMAN, seconded by Dr. LLOYD, it was resolved:

> That a committee consisting of Dr. Steel, Dr. Evans, and Dr. Ryan be appointed for the consideration of financial matters and for the division of the unallocated funds, and that plenary powers be given to it.

The SECRETARY pointed out that any member who absents himself from three consecutive meetings must be reported to the Welsh Commissioners unless the Panel Committee considers that he has a reasonable excuse for such absence.

Next Meeting.—It was decided to hold the next meeting at St. James's Hall, Pontypool, on a date to be arranged.

NEWPORT (MON.).

PANEL COMMITTEE.

AT a meeting of the Newport (Mon.) Panel Committee was held on July 24th, when sixteen members were present.

New Local Medical Committee.—Correspondence with the Welsh Insurance Commission was read respecting the Panel Committee's scheme for the election of a new Local Medical Committee, and the Honorary Secretary was instructed to take action thereon.

Panel Committee Expenses.—It was resolved to circularize each panel doctor to pay a levy of one farthing per quarter for each insured person on his list into the above fund.

Suspense Slips.—Resolved that the clerk to the Newport Insurance Committee be requested to supply each panel doctor with the names and addresses of those on his "suspense slips."

Deduction from Payment to Panel Doctors.—A discussion arose on the action of the Newport Insurance Committee in retaining 10 per cent. of the moneys payable to the panel practitioners. This practice was severely criticized and ultimately it was decided to seek legal advice on the matter.

SUTHERLAND.

PANEL COMMITTEE.

Presentation to Dr. Dix.—A presentation of a solid silver tea service was made to Dr. R. H. Dix at the meeting of the committee of Sunderland panel practitioners on July 21st in recognition of his services as honorary secretary of the Local Medical Insurance and Panel Committees since their inception. Dr. MODLIN presided over a numerous gathering of doctors, and made the presentation. Drs. Pearcey (who had kindly undertaken the duties of honorary treasurer and secretary), Todd, Chalmers, Wallace, McNaughton, Milbanke, Rowstron, and others added their appreciation of Dr. Dix's very valuable services to the profession and to the panel doctors in particular. He had been ably assisted in the clerical work by Mrs. Dix, to whom also thanks were expressed. In reply, Dr. DIX thanked his fellow practitioners for their gift, which had come as a complete surprise to him. He had been very glad to act as honorary secretary of the committees, and he hoped the members would co-operate in the future as loyally as they had done in the past. The tray of the tea service is inscribed as follows:

Presented to Richard Henry Dix, M.D., in recognition of his valuable and untiring services as honorary secretary of the Sunderland Medical Insurance and Panel Committees, July, 1914.

INSURANCE COMMITTEES.

LONDON.

A MEETING of the London Insurance Committee was held on July 23rd, when intimations were received from the Insurance Commissioners and the London County Council of representatives elected or appointed to the Committee for the ensuing three years. Mr. F. Coysh was elected Chairman of the Committee in succession to Mr. J. A. Dawes, M.P.

Unallotted Funds.

Mr. HARRIS called attention to a letter from Dr. Bazett in the BRITISH MEDICAL JOURNAL (SUPPLEMENT, July 11th, p. 52), and asked if any proceedings had been commenced against the Committee by Dr. Bazett in respect of the unallotted portion of the Medical Benefit Fund, 1913.

The CHAIRMAN of the Medical Benefit Subcommittee stated that a writ had been received at the instance of Dr. Bazett.

The Committee, however, proceeded to consider an urgency report by the Subcommittee, which stated that a letter, dated July 22nd, had been received from the Insurance Commissioners with reference to the unallotted funds.

The Commissioners wrote that they understood that some members of the Committee were oppressed by considerations of the possible liabilities to which they might become subject if the unallotted funds were distributed. While the Commissioners had never seen any reason to modify their view as to the legal aspects of the matter, they appreciated the difficulties of the Committee's position, and, after taking further legal advice, made the following suggestion as to a solution of the problem:

The total fund available for the remuneration of practitioners on the panel was derived as to thirteen-eighteenths from moneys credited to approved societies on the insurance fund, and as to five-eighteenths from the Exchequer grant (representing the extra 2s. 6d. voted by Parliament). The sum indisputably due to practitioners was more than covered by the thirteen-eighteenths from the approved societies, and the Commissioners suggested that the Committee should complete its payments (if it had not already done so) so far as sums not in dispute were concerned. The Commissioners would then proceed to distribute the balance in accordance with the Regulations and on the basis of particulars to be supplied by the Committee, using the Exchequer grant for the purpose, and taking from each practitioner his receipt in full discharge of all claims upon the Committee.

The Medical Benefit Subcommittee advised the Committee to accept this suggestion. The members of the Committee who in the past have opposed the distribution of the unallotted funds objected to the letter from the Commissioners being considered at such short notice, but the newly-elected members of the Committee expressed a desire to remove this thorny question from the purview of the Committee in order to concentrate on the improvement of the Insurance Act administration in the metropolis.

The Commissioners' offer was accepted by a large majority.

The Cost of Drugs.

Mr. Edward Smith, Chairman of the Finance Subcommittee, made the announcement that the expenditure on drugs for insured persons was markedly increasing in London. During the first five months of the medical year the bills received from the chemists amounted to £80,000, and if the present rate of increase was maintained the total for the year would amount to £210,000, whereas the total drug fund would not exceed £140,000 or £150,000.

Removal of Dr. Salter's Name from the Panel.

As promised at the last meeting of the Committee, further details were supplied as to the Medical Benefit Subcommittee's action in omitting the name of Dr. A. Salter of Bermondsey from the medical list for 1914. It will be remembered that Dr. Salter succeeded in an action to compel the Committee to restore his name. The Subcommittee stated that its action was taken on the advice of the Insurance Commissioners who, asked if the Committee could include the name of a practitioner who varied the approved form of agreement, replied that the right of a practitioner to be included in the medical list was dependent upon his entering into the agreement approved by the Commissioners, and that where a practitioner refused to enter into such agreement, the Committee had no power to include his name. There was no time to report the matter to the full committee before the medical year began, so the Subcommittee took the action which had led to legal proceedings.

Drugs Administered by Practitioners.

The Committee passed the following resolution relative to the supply of drugs required to be supplied by a doctor personally to his patient:

> That the Committee is of opinion that practitioners on the panel should not order on prescription forms provided by the Committee drugs and appliances required to be administered or applied by them in person in accordance with Clause 12 of their agreement, and that, after July 31st, 1914, accounts rendered by chemists for drugs and appliances so supplied be disallowed.

Application for Injunction.

We are informed by Mr. H. Bazett that application was made on the morning of July 29th before Mr. Justice Bailhache by counsel on his behalf for an interim injunction against the London Insurance Committee to prevent them from acting on the resolution carried at their last meeting, and from disposing of any part of the balance left in the Panel Fund for 1913 until the action brought by Mr. Bazett against the Committee shall have been heard and decided.

A summons for an injunction was granted by Mr. Justice Bailhache, returnable on Friday, July 31st.

Mr. Bazett's action is for a mandamus to compel the Committee to "distribute" the unallotted persons, as required by the Acts and Regulations, and for damages for breach of their agreements with him through their failure and definite refusal to do this for 1913.

INSURANCE NOTES.

The Salford Guardians and Maternity Benefit.

The House Committee of the Salford Board of Guardians have just reported to the board that there is an increasing number of women who are insured under the National Insurance Act who are taking unfair advantage of the accommodation provided by the guardians for maternity cases. They enter the institution when they expect their confinement to take place, and obtain medical treatment and other attention at the expense of the ratepayers, and then on their discharge obtain the maternity benefit to which they are entitled under the Act. The guardians are unable to obtain any part of this benefit towards the cost of their treatment in the institution, and accordingly the committee recommended that the attention of the Insurance Commissioners should be drawn to the matter, and they should be asked to see that the benefit was, if possible, withheld from women who were confined in the wards of the institution. There was some opposition on the part of several of the guardians to the recommendation, but eventually it was approved by the board.

INSURANCE ACT IN PARLIAMENT.

Medical Attendance Arrangements in Middlesex.

Mr. Nield asked the hon. member for St. George's-in-the-East, as representing the Insurance Commissioners, whether the Commissioners will address a remonstrance to the Middlesex Insurance Committee for not permitting Miss Ruby Holt to make her own arrangements for medical attendance, seeing that she has been attended from childhood by Dr. Bennett of Ealing, who has also for years past attended every member of her family.—Mr. Wedgwood Benn said: No, sir.

In further reply to Mr. Nield, Mr. Benn said: Payment has been made to all insured persons entitled to a contribution from the special arrangements fund, except those who have made their own arrangements with the particular doctor referred to. In their case the Insurance Committee is endeavouring, for the special convenience of the doctor and in accordance with his wishes, to obtain the insured person's consent to payment being made to the doctor direct.

Salaries of Panel Doctors.

Mr. Crean asked the Chief Secretary for Ireland whether he was aware that the salaries of the panel doctors in the county of Cork were more than six months in arrear; if he could state who was responsible for this neglect; and if, in view of the fact that any discontent on the part of the doctors for such neglect might cause inconvenience to the insured persons, he would insist on the Irish Insurance Commissioners having these liabilities discharged more regularly.—Mr. Benn said: My right hon. friend is informed by the Irish Insurance Commissioners that the accounts of the doctors in the area referred to who have undertaken to furnish the necessary certificates to insured persons have been settled up to March 31st last. Payment up to June 30th will be made as soon as the necessary particulars have been received.

Medical Benefit.

In reply to Mr. William Thorne, who asked whether medical benefit to insured persons included the provision of proprietary tonic foods; whether in certain conditions of ill health drugs were of little value and that effective treatment could often be given with suitable concentrated food; and if he would allow medical practitioners at their discretion to prescribe on the lines indicated, Mr. Benn said insured persons were entitled to proper and sufficient medicines as part of their medical benefit; and the question whether any particular compound or preparation was included within that category fell to be decided in the first instance by the Insurance Committee on the circumstances of the individual case.

Sickness Benefit.

In reply to Mr. Greene, who asked whether it were still the case that under the National Insurance Act no sickness benefit was paid to members who fell sick outside the United Kingdom, in spite of the fact that their weekly contributions were still levied during the whole of their stay abroad, Mr. Wedgwood Benn said that the hon.

member was under a misapprehension. Sickness benefit was not paid, but neither were contributions compulsorily payable in the circumstances stated.

Payment of Sickness Benefit to Persons in Hospital.

Lord Ninian Crichton-Stuart asked whether an insured woman who was now a paying patient at a convalescent home, and otherwise entitled to sick benefit under the National Insurance Act, has the payment of her benefit postponed until she leaves the home, or whether, by regulations or otherwise, the benefit can be paid to her weekly. Mr. Benn said if the member was an inmate of one of the institutions referred to in Section 12 of the Act of 1911, benefit would not, under the provisions of that section and Section 15 of the Act of 1913, be paid to her until she had left the institution, though it would be payable at once to her dependants if she had any. Whether the above provisions apply in a particular case could not be stated without full information as to the circumstances.

Disablement Benefit.

In reply to Mr. G. Locker-Lampson, Mr. Benn said the Insurance Commissioners had no means of making any precise calculation as to the number of persons who, on July 13th, became entitled to disablement benefit, but on the best estimate of which the circumstances admitted, they were inclined to believe that the number approximates to 80,000.

Sanatorium Benefit.

Mr. Worthington Evans asked how many new sanatoriums had been built by means of grants from the £1,500,000 provided by the Finance Act, 1911, and how many were in course of erection.—Mr. Herbert Samuel said that so far as England was concerned, the number of cases in which building was being aided by capital grants was sixty-nine. The work had been completed in twenty-two cases; in the remaining cases the plans had been approved by the Local Government Board, and in most of them the buildings were, he assumed, in course of erection. In addition, fourteen sites had been approved for the erection of new sanatoriums.

Sanatorium Treatment.

Mr. C. Bathurst asked whether the Commissioners have received resolutions passed by the Insurance Committees of London, Birmingham, Halifax, and other boroughs in support of the proposal to place the insured person who was being treated in a sanatorium in the same position as one who was being treated in an ordinary hospital as regards the application of his benefits; and, if so, what action do the Commissioners propose to take in this matter.—Mr. Benn said resolutions of the kind described in the first part of the question had been received from certain insurance committees. With regard to the second part, the Commissioners had no power to take any action.

Sanatorium Treatment for Postal Workers.

In reply to Mr. Mount, Mr. Hobhouse said the medical attendance provided by the Post Office for its staff did not include the provision of sanatorium treatment. About one half of the established staff were voluntary subscribers to the Post Office Sanatorium Society, an unofficial society controlled by the members themselves. He understood that the staff, in return for the subscription of 2s. a year, were able to obtain sanatorium treatment when required without delay and for as long as might be necessary. In reply to Sir Ryland Adkins, Mr. Hobhouse said that it applied to those who subscribe an annual amount to the society.

Tuberculosis (Kirkintilloch).

In reply to Mr. Barnes, Mr. McKinnon Wood said it was the fact that the Insurance Committee of the county of Dumbarton had declined to recommend for sanatorium benefit certain insured persons suffering from tuberculosis, and that the local authority of the burgh of Kirkintilloch had not yet agreed to treat these cases. From the information before it the Local Government Board for Scotland was not satisfied that the cases of Nellie Woods and Donald McPhee were being properly treated, and it was in communication with the local authority on the whole subject.

Government Nursing Grant.

Mr. C. Bathurst asked the Chancellor of the Exchequer if he could now state whether it was proposed to make the county and borough councils or the Insurance Committees the authorities for the administration of the proposed Government nursing grant; and whether any use would be made of the county nursing associations in establishing a county nursing service with the aid of such grant?—Mr. Montagu said the service referred to would be administered by the Insurance Commissions through the Local Insurance Committees. It was hoped to secure the co-operation of the county nursing associations.

Cost of Printing.

In reply to Mr. Neild, Mr. Benn said the cost of printing done on behalf of the Joint Committee and the several Commissions to March 31st last, and borne upon the Stationery Office Vote was, approximately, £194,000. No information was available as to the expenditure of Insurance Committees on printing.

Approved Societies (Invested Funds.)

In reply to Mr. F. Hall, Mr. W. Benn said the total amount of invested funds of approved societies under the National Insurance Acts in England, Scotland, Ireland, and Wales respectively was as follows:

	Sums standing to the credit of Societies in the Investment Account with the National Debt Commissioners.	Sums paid to Societies for Investment or Invested on their behalf in Specific Securities.	Total.
	£	£	£
England	1,668,690	1,220,840	2,889,530
Scotland	155,168	106,375	261,543
Ireland	103,342	38,370	141,712
Wales	43,998	31,236	75,234

CORRESPONDENCE.

East Sussex Medical and Panel Committee.

The following letter, with proposed circular, having reference to the amount credited to the East Sussex Insurance Committee for the purpose of paying for medical benefit, has been sent by the East Sussex Medical and Panel Committee to the National Health Commissioners (England). A copy has been forwarded to us for publication:

Sir,—The Executive Committee of the East Sussex Panel Committee, at an emergency meeting held on July 20th, considered a memorandum prepared by the Clerk to the East Sussex Insurance Committee with reference to revised provisional credits for the purposes of medical benefit.

They wish to protest emphatically against the method by which the societies are debited on the basis of contribution cards surrendered. They wish to point out that medical practitioners are expected to attend insured persons for whom no contribution cards have been surrendered; more especially cases of continued sickness, who pay no contributions on arrears.

The Executive Committee have also considered the question of attendance on temporary residents, and would desire to point out that no payments have yet been made to practitioners on account of their attendance on temporary residents under the arrangements agreed upon in April, 1913. The Executive have drafted the enclosed circular, which will be brought before the first meeting of the newly elected Panel Committee, together with any explanations which the Commissioners may wish to offer to the medical profession for the continued delay in settling the accounts due.—I am, Sir, yours truly,

H. Vallance,
Honorary Secretary.

199, High Street, Lewes,
July 21st.

The Clerk to the Insurance Commissioners (Eng.),
Buckingham Gate, S.W.

To Practitioners on the Panel for East Sussex.

The Panel Committee at its meeting held on considered—

1. The revised provisional credits in respect of medical benefits.
2. The question of payment for attendance on temporary residents.

1. *Revised Provisional Credits.*—You will have noticed that, whereas your list of patients has probably been continuously increasing, the cheque received by you in July, 1914, was not so large as might have been expected. This is owing to the fact that the Commissioners have reduced the amount of money credited to the Medical Benefit Fund.

They base their justification for this step on figures obtained from the contribution cards surrendered by the insured persons. It is quite evident that a considerable number of insured persons who are on doctors' lists do not surrender their contribution cards regularly for the following reasons amongst others:

(*a*) Because they have only just become entitled to medical benefit.
(*b*) Because no contributions are paid by persons in receipt of sickness benefit (the very patients who give us most trouble are therefore those who are *not credited* to the medical benefit fund).
(*c*) Some persons who should have been suspended for arrears still remain on our lists.

From these considerations it seems evident that the Commissioners are unable or unwilling to pay us the 8s. 6d. per insured person promised, and the panel practitioners must be prepared to receive, in future, remuneration only on the basis of about 95 per cent. of the patients who are actually upon their lists.

2. *Remuneration re Temporary Residents.*—No payment has yet been made on account of temporary residents. The Panel Committee would strongly advise practitioners not to attend any more temporary residents on or after August 15th, 1914, unless a payment on account has been received. They would advise that each practitioner send to the Clerk to the Insurance Committee a letter asking for a payment on account, and informing him that until this is forthcoming no temporary residents will be attended.

Hospitals and Asylums.

ROYAL MATERNITY CHARITY OF LONDON.

THE annual report for the year 1913 of this charity shows that 885 confinements were attended by its medical and nursing staff at a cost of £1 15s. 2d. per patient. There was only 1 death among the mothers (this being due to intercurrent pleuro-pneumonia) and 12 among the infants (13.65 per 1,000), while 29 of the children were stillborn (32.39 per 1,000). The ages of the mothers ranged from 18 to 48, and all were attended in their own homes, primarily by the midwives on the staff of the charity, who called for the assistance of the medical men attached to it in 11.92 per cent. of all cases. Some lessening in the number of cases attended is attributed to the operation of the Insurance Act, and it is stated that, while those in employment, with stamped cards, receive a maternity benefit of 30s., those out of employment, such as casual labourers' wives, street hawkers, and the like, get no aid from the State and still have to look to philanthropic enterprises such as the Royal Maternity Charity.

DEACONESS HOSPITAL, EDINBURGH.

THE annual meeting of contributors to the Church of Scotland Deaconess Hospital was held on March 24th, under the presidency of the Rev. Professor Nicol, D.D. During the year 481 patients were admitted to the hospital, and 440 operations were performed; the mortality was only 3 per cent. The district nurses paid 238 visits, and 1,569 surgical out-patients received attention. The total income was £2,572 6s. 2d., and the expenditure was £2,603 14s. 8d., leaving a deficit of £31 8s. 6d.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN ninety-seven of the largest English towns, 8,759 births and 3,928 deaths were registered during the week ended Saturday, July 25th. The annual rate of mortality in these towns, which had been 12.7, 11.5, and 11.6 per 1,000 in the three preceding weeks, fell to 11.3 per 1,000 in the week under notice. In London the death-rate did not exceed 10.6, against 13.3, 10.6, and 11.8 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 4.5 in Bath, 5.5 in Leyton, in Bournemouth, and in Devonport; 5.9 in Ealing and in Hornsey; and 6.1 in Wimbledon and in Ipswich to 17.1 in St. Helens, 17.2 in Preston, 17.8 in Bootle, 19.0 in Lincoln, 21.9 in Middlesbrough, and 22.0 in Stockton-on-Tees. Measles caused a death-rate of 1.0 in Sheffield and in Leeds, and 1.4 in Bootle and in Oldham; and whooping-cough of 1.1 in Salford, 1.4 in Warrington and in Burnley, and 1.9 in Barnsley. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 30, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 7 were recorded in Birmingham, 4 in Liverpool, and 2 each in London, Barrow-in-Furness, Huddersfield, South Shields, and Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,092, 3,109, and 3,126 at the end of the three preceding weeks, had further risen to 3,135 on Saturday last; 414 new cases were admitted during the week, against 442, 414, and 450 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN the sixteen largest Scottish towns 1,219 births and 592 deaths were registered during the week ended Saturday, July 25th. The annual rate of mortality in these towns, which had been 14.1, 13.6, and 12.7 per 1,000 in the three preceding weeks, rose to 13.5 in the week under notice, and was 2.2 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 4.4 in Kilmarnock, 6.3 in Kirkcaldy, and 9.4 in Ayr to 14.5 in Coatbridge, 16.0 in Aberdeen, and 18.1 Greenock. The mortality from the principal infective diseases averaged 1.1 per 1,000, and was highest in Dundee and Coatbridge. The 287 deaths from all causes in Glasgow included 11 from infantile diarrhoeal diseases, 7 from whooping-cough, 3 from measles, 3 from scarlet fever, and 2 from enteric fever. Three deaths from measles and 3 from scarlet fever were recorded in Dundee and 2 deaths from measles in Coatbridge.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Male House-Surgeon. Salary, £150 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House-Surgeon (male). Salary, £120 per annum.

BIRKENHEAD UNION INFIRMARY.—Senior Male Resident Assistant Medical Officer. Salary, £175 per annum.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House-Surgeon. Salary, £100 per annum

BIRMINGHAM: QUEEN'S HOSPITAL.—Secretary and General Superintendent. Salary, £400 per annum.

BRADFORD CITY COUNCIL.—Resident Medical Officer for the City Hospital for Consumptives. Salary, £200 per annum.

BRADFORD EDUCATION COMMITTEE.—Chief School Dentist. Salary, £350 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRIDGE OF WEIR CONSUMPTION SANATORIUM.—Lady Assistant. Salary, £75 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-Resident House-Surgeon. Salary at the rate of £150 per annum.

BURY ST. EDMUNDS: WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

CANCER HOSPITAL (FREE), Fulham Road, S.W.—House-Surgeon. Salary, £70 per annum.

CARDIFF COMMITTEE FOR THE CARE OF THE MENTALLY DEFECTIVE.—Medical Officer. Salary, £300 per annum.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

CROYDON BOROUGH HOSPITAL.—Assistant Resident Medical Officer. Salary, £150 per annum.

DERBY: DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (lady). Salary, £80 per annum.

DEVONPORT; ROYAL ALBERT HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

DORCHESTER: DORSET COUNTY HOSPITAL.—House-Surgeon. Salary, £125 per annum.

DOWNPATRICK: DOWN DISTRICT LUNATIC ASYLUM.—Second Assistant Medical Officer (male). Salary, £170 per annum, rising to £200.

EAST SUSSEX COUNTY ASYLUM, Hellingly.—Third Assistant Medical Officer. Salary, £250 per annum, rising to £275.

EDINBURGH ROYAL ASYLUM, Morningside,—Assistant Physician. Commencing salary, £175 per annum.

EDINBURGH: THE HOSPICE.—Resident Medical Officer (female). Honorarium at the rate of £50 per annum.

ELDWICK SANATORIUM.—Resident Medical Officer (woman). Salary, £100 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House-Physician. Salary at the rate of £75 per annum.

GREENWICH UNION INFIRMARY.—First Assistant Medical Officer. Salary, £175 per annum.

HULL: ROYAL INFIRMARY.—(1) Senior House-Surgeon. (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

INVERNESS: NORTHERN INFIRMARY.—House-Surgeon. Salary, £100 per annum.

JARROW-ON-TYNE: PALMER MEMORIAL HOSPITAL.—House-Surgeon (male). Salary, £170 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

KIRKMABRECK PARISH COUNCIL.—Medical Officer. Salary, £40 per annum.

LANCASTER ROYAL INFIRMARY.—House-Surgeon. Salary, £110 per annum.

LEAMINGTON SPA: WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House-Physician. Salary, £85 per annum.

LEEDS CITY HOSPITALS FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Two Assistant Medical Officers. Salary at the rate of £130 per annum each.

LEEDS TUBERCULOSIS ASSOCIATION.—Resident Medical Officer at the Sanatorium, Gateforth. Salary at the rate of £100 per annum.

LEICESTER POOR-LAW INFIRMARY.—(1) Senior Assistant Medical Officer. Salary, £200 per annum. (2) Junior Assistant Medical Officer, Salary, £150 per annum.

LIVERPOOL EDUCATION COMMITTEE.—Two Assistant School Medical Officers. Salary at the rate of £250 per annum.

LONDON LOCK HOSPITAL, Harrow Road, W.—House-Surgeon to the Female Hospital, Harrow Road. Salary, £100 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—(1) Assistant House-Surgeon. (2) Assistant Resident Medical Officer. Salary at the rate of £105 and £80 per annum respectively.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £80 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer (male). Salary at the rate of £100 per annum, rising to £120.

MANCHESTER CORPORATION.—Fourth Medical Assistant at the Monsall Fever Hospital. Salary, £150 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer for the In-patient Department, Bowdon. Salary, £100 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-patients and Accidents. Salary at the rate of £100 per annum.

MANCHESTER: ST. JOHN'S HOSPITAL FOR THE EAR.—Honorary Clinical Assistants.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary at the rate of £60 and £40 per annum respectively.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Junior House-Surgeon. Salary at the rate of £85 per annum.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Medical and Surgical Registrars. Salary for Medical Registrars at the rate of £50 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary at the rate of £100 per annum.

OLDHAM ROYAL INFIRMARY.—Second and Third House-Surgeons. Salary at the rate of £140 and £120 per annum respectively.

OXFORD CITY: Assistant Medical Officer of Health and School Medical Officer (male). Salary, £300 per annum.

PAISLEY INFECTIOUS DISEASES HOSPITAL.—Resident Medical Officer. Salary, £150 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Male Assistant Resident Medical Officer. Salary at the rate of £100 per annum and £10 honorarium on completion of six months.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary, £100 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Senior House-Surgeon (male). Salary £120 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Assistant to the Pathologist. Salary, £150 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—(1) Senior Resident Medical Officer. Salary at the rate of £90 per annum. (2) Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ST. BARTHOLOMEW'S HOSPITAL.—Tuberculosis Dispensary Medical Officer. Salary, £300 per annum.

ST. GILES UNION.—(1) Assistant Medical Officer for Infirmary and Gordon Road Institution. Salary, £200 per annum. (2) Assistant Medical Officer for Infirmary. Salary, £190 per annum.

SALFORD ROYAL HOSPITAL.—Casualty House-Surgeon and Junior House-Surgeon. Salary at the rate of £100 each per annum.

SALFORD UNION INFIRMARY.—Resident Assistant Medical Officer (male). Salary, £150 per annum.

SALISBURY GENERAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: CHILDREN'S HOSPITAL.—House-Surgeon for the East End Branch. Salary, £120 per annum.

SHREWSBURY: COUNTY ASYLUM.—Second Assistant Medical Officer (male). Salary, £2 0 per annum, rising to £250

SOUTHEND-ON-SEA TOWN COUNCIL.—Assistant Medical Officer of Health. Salary at the rate of £250 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SOUTHWARK UNION INFIRMARY.—Third Assistant Medical Officer. Salary at the rate of £160 per annum, rising to £170.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY.—House-Physician (male). Salary at the rate of £120 per annum.

STOKE-UPON-TRENT UNION.—Assistant Resident Medical Officer for the Workhouse and Hospital. Salary £160 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary, £125 per annum each.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Junior House-Surgeon. Salary, £150 per annum.

WAKEFIELD: WEST RIDING COUNTY COUNCIL.—School Medical Inspector. Salary, £325 per annum, rising to £400.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon. Salary, £110 per annum.

WANDSWORTH UNION INFIRMARY.—Second Assistant Medical Officer (male). Salary at the rate of £150 per annum.

WARRINGTON UNION INFIRMARY.—Resident Assistant Medical Officer. Salary, £150 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—(1) Resident Medical Officer. (2) Senior House-Surgeon. (3) Senior House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary for (1), £160; for (2) and (3), £120; and for (4) and (5), £100 per annum.

WEST RIDING: STORTHES HALL ASYLUM, Kirkburton.—Assistant Medical Officer. Salary, £230 per annum, rising to £270.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £120 per annum.

WILLESDEN URBAN DISTRICT COUNCIL.—Male Assistant Medical Superintendent of Isolation Hospital. Salary, £200 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: Gargrave (York).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

BOURNE, A. W., M.B., B.C., F.R.C.S. Obstetric Surgeon to Out-patients, St. Mary's Hospital, London.

BREND, W. A., M.B., B.Sc., Medical Referee under the Workmen's Compensation Act for County Court Circuits Nos. 42 and 44.

DIXON, Gerald C., M.B., Ch.B.Vict., Second House-Surgeon to the Manchester Royal Eye Hospital.

GAZDAR, Gertrude, M.B., B.S., Curator of the Museum of the Royal Free Hospital.

JONES, G. H., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Bicester Union.

LLOYD, Muriel A., M.B., B.S., Assistant Anaesthetist to the Royal Free Hospital.

MUMBY, W. Maxwell, M.B., Ch.M.Edin., F.R.C.S.Eng., Surgeon to the Ear, Nose, and Throat Department, Dewsbury and District Infirmary.

NEWSHOLME, H. P., M.B., Ch.B.Oxon., B.Sc.Lond., M.R.C.P., D.P.H., Assistant Medical Officer of Health, Surrey County Council.

OLIVER, M. W. B., M.A., M.B., B.C.Camb., F.R.C.S.Eng., Assistant Ophthalmic Surgeon to the Miller General Hospital.

PIRRIE, R. Reid, M.D., Visiting Medical Officer to the Northern Counties Joint Poor-Law Colony for the Feeble-minded and Epileptics, Prudhoe Hall, Northumberland, and Visiting Physician-in-Charge of the Durham County Council Sanatorium, Sealburn, Ryton-on-Tyne.

POSTLETHWAITE, J. M., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Clitheroe Union.

STANFORD, W. Bedell, M.D., M.R.C.S., L.R.C.P., Honorary Medical Officer to the King Edward Memorial Hospital, Ealing, W.

STIRLING, William, M.B., Ch.B.Vict., Resident Surgical Officer to the Manchester Royal Eye Hospital.

THOMSON, A., M.B., C.M.Edin., D.P.H.Camb., District Medical Officer of the Stratford-on-Avon Union.

VINER, Geoffrey, M.D.Lond., F.R.C.S.Eng., Assistant Surgeon to the Royal Westminster Ophthalmic Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

RORIE.—At 165, Princes Street, Dundee, on Sunday, July 26th, to Dr. and Mrs. G. A. Rorie, a son.

MARRIAGE.

CROSSLEY—SKINNER.—On July 29th, at Wavendon, Leonard Crossley, M.D., of Winsley, Wilts, to Innes Muriel Skinner, of Wavendon, Bucks.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

LONDON HOSPITAL MEDICAL COLLEGE, Turner Street, E.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 8TH, 1914.

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EIGHTY-SECOND ANNUAL MEETING
OF THE
British Medical Association.

ABERDEEN, 1914.

ADDRESS IN SURGERY.

THE Address in Surgery was delivered in the Mitchell Hall, Marischal College, Aberdeen, on Thursday, July 30th, at 12.30 p.m., by Sir JOHN BLAND-SUTTON, F.R.C.S., Surgeon to the Middlesex Hospital, London. Sir ALEXANDER OGSTON, K.C.V.O., M.D., the President of the Association, occupied the chair and formally introduced the lecturer.

THE ADDRESS.

Sir JOHN BLAND-SUTTON then delivered the address, which was published in the last issue of the JOURNAL (page 235).

Professor MARNOCH (Aberdeen) said his colleague, Dr. J. Scott Riddell (Senior Surgeon to the Royal Infirmary, Aberdeen), had been unavoidably deprived of the pleasure of listening to this address and of proposing the motion which he had now been called upon to submit. The address was so scholarly and pregnant with so many bright flashes of humour that it would be quite superfluous on his part to make any appreciative references to it. He had simply to move:

> That the best thanks of the Association be given to Sir John Bland-Sutton, F.R.C.S., for the able and interesting address on surgery he had delivered at the eighty-second annual meeting in Aberdeen.

Dr. LISTER (Physician to the Royal Infirmary, Aberdeen) said that he felt it a great honour to be asked as a physician to second this vote of thanks to Sir John Bland-Sutton. He felt this honour more particularly by reason of the fact that he had been at one time house-physician at Middlesex Hospital — the hospital to whose renown the work of Sir John Bland-Sutton had so materially added. After hearing the address —as indeed after reading or hearing any of Sir John's writings or addresses—one felt that it was the work of a man who was not a mere courageous craftsman, but one who was not only renowned as a pathologist, from the point of view of human and comparative pathology, but who was, in addition, a wide scientific observer. (Applause.) Sir John had shown in this address that width and scope of knowledge which afforded a reason why the whole medical profession awaited with so much interest all his utterances and writings. While they thanked him most heartily for the brilliant address he had just delivered, they would always remember it for the rare and rich expression of his sense of humour. (Loud applause.)

The motion was carried with acclamation, and Sir John having bowed his acknowledgements the proceedings terminated.

ANNUAL DINNER.

ON Thursday, July 30th, a large number of members of the Association and guests assembled for the annual dinner in the large hall of the Music Room, Aberdeen, which had been most artistically decorated for the occasion in drapings of rose pink. Dinner was served in traditional Highland style, to the accompaniment of Scottish and other airs rendered by an accomplished orchestra, and of frequent incursions into the hall by pipers of the Gordon Highlanders for such purposes as "playing in the haggis" and making such other demonstrations as immemorial custom dictates at Scottish banquets.

Sir ALEXANDER OGSTON, K.C.V.O., was in the chair, and among those present were: Lord Provost Maitland; the Principal of the University, the Rev. G. A. Smith, D.D., LL.D.; the Secretary of the University, Mr. D. Rose Thom; Sir William Osler, Bart., M.D., F.R.S.; the Right Rev. Professor Nicol, Moderator of the Church of Scotland; the Right Rev. Æneas Chisholm, Roman Catholic Bishop of Aberdeen; the Right Rev. Anthony Mitchell, Bishop of Aberdeen and Orkney; Sir John Fleming, LL.D.; Mr. Duffus, Chairman of Directors, Aberdeen Royal Infirmary; Mr. Ledingham, Chairman of the Royal Asylum Board; Mr. John Michie, H.M. Commissioner, Balmoral; Professor Gabbi, Rome; Professor Leduc, Nantes; Professor Pontoppidan, Copenhagen; Professor Plaut, Munich; Professor Bergonié, Bordeaux; Professor Cowan, Aberdeen.

LOYAL TOASTS.

The PRESIDENT proposed the toasts of "The King" and "The Queen, the Queen Mother, the Prince of Wales, and other members of the Royal Family." These were duly honoured.

THE CITY AND UNIVERSITY OF ABERDEEN.

Mr. T. JENNER VERRALL, Chairman of Representative Meetings, in proposing the toast of "The City and University of Aberdeen," remarked that this was, in effect, the toast of "Our Hosts." Primarily, of course, the members of the Association from various parts of the United Kingdom and the empire and from other countries were in Aberdeen as the guests of their

brethren in the city and its neighbourhood; but in a sense the visitors were all guests of the city and university. The conjunction of the two names in one toast showed the trend of local feeling: it was realized that the health of each meant the prosperity of the other. During the Representative Meeting he noticed, in one of the intervals, in the quadrangle of the university buildings—where by courtesy of the University the meetings were held—rows of the city carts filled with happy, smiling, flag-waving children. It was a sight no doubt familiar to residents, but he liked to think of it as symbolical. The men of business in the city went about their affairs, the lecturers and professors of the University went on with their teaching, but, should occasion demand it, the two streams of life of the city and university would flow towards one another, and form one grand, strong stream for the public good. It was unnecessary in proposing the toast to go into the history of Aberdeen, the more so that the President had so recently delivered a most interesting address on the subject. But out of that past doctors liked to recall one memory—the establishment of the university and the setting up of a chair of medicine—the first in the United Kingdom. From that had grown many important results. Numerous were the products of Aberdeen, but it exported nothing more valuable than its graduates, and, if he might particularize, its medical graduates. These, of course, were not all Aberdonians. The advantages of the Aberdeen degrees attracted many others, but of those who were Aberdonians born and bred he would say that they were known beyond the city, and in thinking of their qualities it must be concluded that into their composition must have entered a considerable portion of the famed local material—polished granite. (Laughter and applause.) He numbered many Aberdonians among his personal friends, and in the future, when speaking with them and the rich resonant "r" rolled out, the gates of memory would be unlocked, and he would see the long, wide street, simple, dignified, severe, leading on to the lovely grey tower of the Marischal College. Mr. Verrall concluded by saying that, although the members of the Association were nearly all strangers to Aberdeen, they had received a welcome that made them feel no longer strangers, but friends.

Lord Provost MAITLAND said he felt it a very great honour, though a heavy responsibility, to respond for the first half of the toast so eloquently proposed by Mr. Verrall. He found some comfort from the fact that most of the guests and visitors had "speired" about Aberdeen during the past three or four days, and that already they must know a very great deal about the city. Aberdeen owed a great deal to Nature; there were in the city and its surroundings many things of which other cities might well be envious. For these things they were most thankful; he did not know that they had any right to be proud of them, but Aberdonians were thankful that they had ancestors of the right sort, men who, over one hundred years ago, did the principal part of the planning and laying out of the city, and were responsible for the construction of beautiful Union Street, of which the citizens were so justly proud. He was particularly proud of those ancestors because they dared to undertake that huge work at a cost which, for their time, was very heavy; in fact they rendered themselves bankrupt in the doing of it. All the same, he honoured them in that they had the courage to do the right thing, and that they had been able to leave to their successors such a heritage. Their example was an inspiration to those who now had some hand in the control and management of the city, that they should strive to leave to those who came after something worthily done that would be both a joy and credit to them. Aberdeen had fortunately a considerable number and variety of industries, and as a consequence it had never suffered times of extreme depression. In this respect they were like the old lady of ample proportions who, when asked how she was, replied: "Weel ye see I'm owre big tae be a' ill at once." (Laughter.) Aberdeen possessed a large and prosperous fishing industry—the second largest in the United Kingdom. The granite industry was famous over the whole of the United Kingdom. Aberdeen and its neighbourhood also had, he believed, the largest output of paper of any part of the United Kingdom, and, in addition, they depended largely on their linen and woollen factories. After all, however, as Mr. Verrall had said, their most important industry was the brain-polishing one, over which Principal Smith so ably presided, and for which he was now to reply. They accepted the tribute paid to their University—it was a tribute often paid to them all—that Aberdeen doctors and students of all kinds had gone forth into the world, speedily won their way to the front and to the top, and remained there as long as they lived. He hoped the guests would carry away from Aberdeen many happy memories, and that they would hasten back again. (Applause.)

Principal GEORGE ADAM SMITH said those connected with the University of Aberdeen were proud to be linked with their good ally, the city of Aberdeen, in greetings and acknowledgements. Lord Provost Maitland and he had run for three years in double harness, and in such good step that he fondly wished their respected civic head was to be re-elected for another period of office. His colleagues and he in the University of Aberdeen had looked forward to this visit from the British Medical Association with high expectations of the honour and advantage it would bring to them, and if their expectations had been high these had been more than fully realized. He would speak, not in the name of the living only, but, as it were, in the presence of those past teachers and students of the university whose labours had contributed to the fame of the medical school, and whose spirits they would like to imagine were not absent from so auspicious an occasion as the first visit of the British Medical Association to their *Alma mata*. (Applause.) What a long and famous list these past teachers and students constituted! Alexander Reid, physician to Charles I, and the author of several works on anatomy and surgery; Arthur Johnston, also physician to the same Charles; George Buchanan, the greatest Latin poet Scotland ever produced; Patrick Dunn, who, he would like to remind his Irish friends, was many times re-elected President of the Royal College of Physicians in Ireland; John Arbuthnot, the physician to Queen Anne and the friend of Pope, the brightest wit in the wittiest age of English letters, and the inventor of the name "John Bull." (Laughter.) Englishmen should be reminded that it was Aberdeenshire which gave them their name, and it was still Aberdeenshire which sent them so much of the best of the roast beef of old England. (Laughter.) Then there was the long succession of the Gregorys, five generations in all, covering no fewer than 220 years, from 1638 to 1858—illustrious, first, as mathematicians and then as mediciners—illustrious, and, he might add, familiar to all, bitterly familiar, on account of the latest of their many inventions, from one's very childhood. (Laughter.) Another of the same clan, Sir James McGrigor, was chief of Wellington's medical staff, the saviour of countless lives in the Peninsular Campaign, and the reformer of the administration of military medicine in Great Britain. Another was Sir William Fordyce, the distinguished London physician, and one of the University's most munificent benefactors. He would mention the name of one other, although it might not be familar to all present, namely, Francis Adams of Banchory—Grecian Adams, as he was called, the translator of Galen and Hippocrates. There were others he might have named, but time would not suffice; there were the anatomists, Allan Thomson, John Struthers, James Matthews Duncan, and George Dean, the untimely end of whose distinguished career in pathology they all lamented. (Applause.) It was most remarkable how many of that list had combined the faithful performance of their medical duties with the cultivation of the Muses—Johnston, Arbuthnot, Adams and several of the Gregorys. Full proof had been afforded in the oration of the President that the same instincts and abilities still lived in their ranks. (Applause.) Long might it be so, for Literature had that to give to Medicine and Medicine had that to give to Literature which neither derived from any other source. With such examples before them, did it not behove the men of this generation to see that they did not allow the far heavier curriculum that science imposed upon medical students of the present day to crowd out these opportunities of a literary culture of which their predecessors had taken such advantage, to the delight of their compeers and contemporaries and the ennoblement of the whole of their profession? (Applause.) These, then, were the traditions inspiring the School of Medicine in Aberdeen, of which he dared to say—not being one of them himself—that its present staff, whether in systematic or clinical teaching or in research, was more than fully

worthy. Those who were charged with the administration of the curriculum were anxious to ensure that there should be given the full freedom, opportunity, and equipment required. On behalf of his colleagues of the University Court and the Senatus he would say that words could not tell what the discussions and demonstrations of the British Medical Association had meant to them during the present meeting. The survey revealed to them during the week of the recent expansion of medicine and the possibilities still lying before it justified the many additions recently made to the medical curriculum and to the medical staff, and encouraged and directed them in their unceasing task of keeping the medical school abreast of the rapid advancement of science. The medical curriculum had, indeed, broadened since Huxley in 1874 in his Rectorial Address sketched his simple programme. The authorities of Aberdeen University would seek to preserve their high standards and endeavour to supply to the ranks of the medical profession men as faithful and as skilled as they had sent out in the past. (Applause.)

The British Medical Association.

The Right Rev. Anthony Mitchell, Bishop of Aberdeen and Orkney, gave the toast of "The British Medical Association." He exercised this privilege, he said, with the greatest possible pleasure, because it gave him an opportunity of saying with what satisfaction and pride the general public of Aberdeen regarded the fact that the Association had chosen the city for its annual meeting. They felt that an honour had been done not only to the local representatives of the medical profession, but also to the city itself, and hoped that the members of the Association from a distance would carry away warm and happy memories of their stay in the Granite City. It was a pity that the weather had not been as warm as he could assure them it sometimes was, but he would remind them that it was at least possible to go further north and fare worse. (Laughter.) In this connexion, the bishop told the story of a visitor from Peterhead, a prosperous centre of population still further north, who spent the winter in Aberdeen, and when he returned to his native place was asked what he thought of the city. His reply was, "It would have been a fine place if it hadna been so 'awfu' relaxin'." (Laughter.) He hoped the relaxing properties of the Aberdeen climate had not affected the health of the members of the Association. In the city of Aberdeen, as Principal Smith had already well demonstrated, they admired and held in high esteem their own local representatives of the medical profession. They had reason to be proud of them. He could claim to have many personal friends amongst the medical men of Aberdeen and its surroundings, and he knew something, both from a professional and non-professional point of view, of their many qualities. He would say of them that, apart from their skill and efficiency in professional work, they were a body of men worthy of the highest admiration for their qualities of head and heart. What they could say of the medical men in Aberdeen was true of the profession throughout the whole world. Mankind generally felt that in the medical profession they had something not only to be thankful for as constituting one of the greatest factors in the evolution of the happiness and welfare of the human race, but also in that splendid devotion to duty at all costs and with the greatest regardlessness for personal comfort and convenience which characterized medical men all over the world. The British Medical Association—he spoke as an outsider and a layman—seemed to him to be a body which was peculiarly fitted not only to advance the professional efficiency of the medical man, but also to uphold those other ideals of which he had spoken. In the first place, it was a world-wide federation. There was something fine about the catholicity of the medical profession; it knew no time and no country. The old theological dictum was perhaps better realized in the medical profession than anywhere else—*quod semper, quod ubique, quod ab omnibus*. No matter where a discovery was made it at once penetrated to the ends of the earth. The clever surgeon or physician in America did not keep his knowledge to himself; he was only too glad to let anything he had discovered go wherever it might find a welcome. In addition to the catholicity of the profession, the Association existed also to advance the status of the members, to defend their interests, as well as to provide a medium for the exchange of progressive thought in medicine or surgery. In these aims of the Association the general public sympathized to the fullest extent. Whatever might be the future of the medical profession there was no doubt that the general public would deplore anything which tended to lessen its present high status. It would be a distinct loss to humanity at large if the profession ceased to attract the best men produced in the universities throughout the world. (Applause.) Medicine was a progressive profession; there was no standing still. It faced the problems of health and disease with open eyes, and it was always ready to follow wherever the truth led. There had been times in the past history of medicine, as in every other human concern, when there had been clouds of ignorance descending to retard its progress, but the public, not only in the city of Aberdeen, but throughout the world, trusted that the progressive spirit would live and go on. (Applause.)

Dr. J. A. Macdonald, who was the first to reply on behalf of the British Medical Association, said that the toast had been proposed in such kindly terms, and with so much eloquence, that it was difficult for one who belonged to a profession whose work lay in deeds and not in words, to make a fitting reply on behalf of the great British Medical Association. It was undoubtedly a great Association, for its Branches were spread all over the wide world. It did its best to advance the interests of the medical profession, and to promote the health and happiness of the community at large. He had just returned from a voyage round the world, on a visit to the various Branches of the British Medical Association in Australasia, China, and Canada, and he came back impressed with the power and the influence of the Association. (Applause.) It seemed to him that the medical profession was not only engaged in the care and alleviation of sickness—thereby adding to the health and happiness of the world—but it was employed, as no other profession in the world was, in trying to get rid, as far as it could, of its means of emolument. (Laughter.) One of the greatest objects of the profession was the prevention of illness, and the Association, with its ramifications all over the world, was one of the best influences for the realization of that object. Side by side with this ideal was the lighter aspect—the social side of the Association—which was strikingly exemplified in that gathering. The members of the Association made it their business to go from one district to another year after year, and wherever they went they met with a most cordial reception. In his long experience of the British Medical Association there had been no visit more pleasurable than this one to the city of Aberdeen. (Applause.) They had proved that inside the Granite City—externally cold and stern—there beat hearts of gold. From Aberdeen the Association had received a reception which it would not easily forget.

Dr. W. T. Hayward (Chairman of the Australian Federal Committee), who also replied, spoke of the links between the medical profession in Australia and their brethren at home. Last year, at the meeting of the South Australian Branch of the British Medical Association, the toast of the evening was not "The South Australian Branch," but "The British Medical Association." On that occasion the President, in replying to the toast, expressed a wish that the hall in which the meeting was held could have been connected by telephone, or some other means, to the Council Chamber of the Association in London, because then the members of the Council would have known from the enthusiasm manifested that the Australian hearts beat in unison with the parent Association in the British Isles. (Applause.) Professionally, they were not lagging behind in Australia, for quite 95 per cent. of the profession belonged to the British Medical Association. Dr. Hayward proceeded to sketch in interesting detail the work of the Australian Branches, and remarked that there also the profession was threatened with the introduction of an Insurance Bill, but had managed to obtain from the Government a promise to consult the British Medical Association in matters in which the interests of the general public and the medical profession were alike concerned. That was an important step because it gave the profession an opportunity of moulding any bill which might be presented. He was impressed with all he had seen in Aberdeen of the Association's work, but what he had seen also prompted the reflection that to advance professionally members of the Association must have peace in their ranks. (Applause.) They should

endeavour to let bygone troubles remain at rest and strive to work together in union. While beneficent progressive work was bound to be done in the higher branches of the profession, it was to the general practitioner that they must look to keep up its reputation as far as the general public was concerned. If practitioners cast aside the scientific aspect of their work, and if humanitarianism gave way to commercialism, then they might say farewell to the honour and glory of the medical profession. (Applause.)

THE GUESTS.

Dr. GORDON (Aberdeen) proposed the toast of "The Guests." The number, renown, and various nationalities of the guests made it difficult to find the "winged word" which would do justice to the toast. One of the great objects of the British Medical Association was to secure the active co-operation of workers in all countries who were endeavouring to prevent disease or to cure it when it had appeared. This great chain of scientific work for the good of humanity encircled the world and bound medical practitioners together in a solid brotherhood of man. The kingdom of science had no barriers, no guarded frontiers. What had been discovered by one investigator was the property of all, and each one tingled with pride to know that a fresh discovery had been made. Members of the profession in this country honoured those who spurned delights and lived laborious days. Friendship was one of those priceless gems which not even scientific emulation could tarnish. In linking the name of Professor Pontoppidan with the toast, Dr. Gordon remarked that their guest came from the small but ardent country of Denmark, which had done so much in early days, by the hammer or war, to weld Great Britain into a nation. Now they welcomed Professor Pontoppidan as a scientific soldier of peace who had gained his laurels in the laboratory. Dr. Nicol, who would also reply to the toast, had received the highest ecclesiastical honour that his Church could bestow.

Dr. NICOL (Moderator of the Church of Scotland) said he had been asked to reply on behalf of the sister and more directly sacred profession of the ministry. The alliance between the two professions had been long and intimate; in earlier times the minister of the parish was often the parish doctor, and in those days there were many men in high places who were at the same time eminent theologians and distinguished and skilful medical practitioners. The progress of medicine in recent years read like a romance, and towards that progress the medical faculty in the University of Aberdeen had substantially contributed. As it was true of the Church so it was true of medicine, that there were no limits to the conquests still to be made. The future before the medical profession was one of increasing splendour in the work of bringing glory to the Creator and relief to man's estate.

Professor ERIK PONTOPPIDAN, who was able to make himself easily understood in English, said that the foreign guests felt it a great honour to have been invited by an Association of such world-wide reputation as the British Medical Association. They were grateful for all they had learnt at the meeting, and no one came to Britain without learning. He was old enough to remember the great work of Lister and Hutchinson, but he had been struck with the way that medicine in this country was being carried forward by the younger workers. The foreign guests united in wishing every prosperity to the British Medical Association in scientific and every other respect. (Applause.)

THE ULSTER CUP.

At this stage it was announced that Dr. D. Barty King (London), who was unable to be present, was the winner of the Ulster Golf Cup.

THE PRESIDENT.

The health of the President was proposed by Sir WILLIAM OSLER, who said the medical profession honoured the President, first, for his splendid record as a surgeon—he was known all over the world in that capacity; secondly, as a teacher—a great and good one whose students were all over the world, carrying with them the best traditions of Scottish surgery; and thirdly, for the splendid example he had given of how to mature. No man in the profession had matured more gracefully or satisfactorily. It might not be known to the modest Scots that for at least 200 years the Adonis of the profession had always been in Scotland. "Since the death of that splendid man and noble-looking Scot, Argyll Robertson, I have always thought," said Sir William Osler, "that my dear old friend of forty-two years has taken his place." (Applause.)

The PRESIDENT, in responding, remarked that this was one of the occasions on which a Scot envied the gifts of those whom they used to designate their old enemies of England—the gift of entrancing oratory, like that of Sir John Bland-Sutton, or the power to emulate the manner in which Dr. Garrod condensed the whole history of the philosophy of medical thought from 400 B.C. to July 29th, 1914—(laughter)—into a lecture of one hour—crystal clear, beautiful, exquisite. He would confine himself to the adequate and yet inadequate word "Thanks." Since the Association honoured him by nominating him Vice-President, with the further hope of becoming President, he had received great encouragement from the officials of the Association, and had had a brotherly word from Dr. Ward Cousins of Portsmouth. Even Dr. Hollis, amid his own illness and trouble, sent a letter of hopes for the success of the meeting. He thanked Sir William Osler for his kind references.

The proceedings concluded with the singing of "Auld Lang Syne" and the National Anthem.

UNIVERSITY OF ABERDEEN.

HONORARY DEGREES.

A SPECIAL session of the Senate of Aberdeen University was held in the Mitchell Hall, Marischal College, on Friday morning, July 31st, when the honorary degree of Doctor of Laws (LL.D.) was conferred upon Sir John Bland-Sutton, Sir Victor Horsley, Mr. T. Jenner Verrall, Dr. W. T. Hayward, of Adelaide, South Australia, and Dr. A. E. Garrod. Principal GEORGE ADAM SMITH performed the ceremony in the presence of a large assembly.

After an opening prayer, in which reference was made to the war crisis then impending, the PRINCIPAL said: The Senatus Academicus, being desirous of signalizing the visit of the British Medical Association to the city and university, has resolved to confer upon certain representatives of the Association the highest honour which it is in its power to bestow. I call upon the Promoter-in-Law to present these gentlemen for the degree.

THE PRESENTATIONS.

Professor MATTHEW HAY then made the presentations in the following terms:

Mr. Vice-Chancellor,—It is my privilege and duty on behalf of the Senatus Academicus to ask you, as Vice-Chancellor of the University, to confer the honorary degree of Doctor of Laws on the following distinguished members of the great Association whose annual meeting is for the first time in its history being held within our city.

I present to you first Sir John Bland-Sutton, Fellow and Member of the Council of the Royal College of Surgeons, and reader of the brilliant Address in Surgery, which made so deep an impression on all who were privileged to hear it. Sir John is one of those men who would probably have attained to eminence in science without any formal academic training. In his boyhood he had already begun to accumulate accurate observations on the habits and diseases of animals, and it was no surprise to those who knew his remarkable scientific instincts that, within some four years after completing his student curriculum, he should have produced a book on comparative pathology that marked almost a new departure in this highly important, although, as yet, inadequately cultivated field of medical research. This publication was followed within a very few years by his fascinating and inspiring work on the evolution of disease. It is of interest to us in Aberdeen to recall that his earlier book was based on the lectures he delivered as occupant of the lectureship founded at Middlesex Hospital by Sir Erasmus Wilson, the distinguished son of a native of Aberdeen, and the founder of our own Chair of Pathology. Since these earlier years Sir John has published several works of the greatest value to pathologists and surgeons, and all of them characterized by exceptional powers of observation and by a rare philosophic insight. His writings, for example, on tumours and cysts are the best this country possesses, and he is admittedly our highest surgical authority on the diseases peculiar to women. Amid the demands of a great surgical practice his interest in pathological research has continued unabated, as is evidenced,

if evidence were needed, by his recent munificent gift of a pathological institute to the hospital with which his medical career has from first to last been intimately associated. I ask you, Mr. Vice-Chancellor, to confer the degree of Doctor of Laws on Sir John Bland-Sutton.

I have next to present to you Archibald Edward Garrod, a graduate in Arts and Medicine of the University of Oxford, a Fellow of the Royal College of Physicians, a Fellow of the Royal Society, and reader of the Address in Medicine. I hope I may venture to say without disparagement of the readers of addresses in previous years that Aberdeen has been particularly favoured by the selection made for the present meeting of the Association. In the fascinating address of Dr. Garrod we had a masterly and felicitous exposition of some of the most important advances that have been made in the application of chemistry to the unravelling of biological and pathological processes. But for the intimate acquaintance exhibited in the discussion of a highly intricate and difficult subject, one would scarcely have guessed—such was the modesty of the reader—that there is no more original worker and no greater authority on human metabolism than Dr. Garrod. His studies of metabolic anomalies, or metabolic sports, as he is pleased to call them, have not only helped to explain the mysteries of certain obscure diseases but have thrown on the processes of metabolism generally a flood of light which has been welcomed by every worker in biochemistry. It is to Dr. Garrod that we also owe the important discovery of the true nature of the urinary pigments and of their significance in health and disease. We have in these days many able and ingenious workers in biochemistry, but I venture with some confidence to assert that there is no one in this or any other country who surpasses Dr. Garrod in his dual capacity of biochemist and clinician. It does not detract from the honour due to him that his work has been in a territory of medicine, in the exploration of which he has been preceded by his father, the late Sir Alfred Garrod, one of the most brilliant names in English medicine in modern times. I ask you, Mr. Vice-Chancellor, to admit Dr. Archibald Edward Garrod to the degree of Doctor of Laws.

Mr. Vice-Chancellor, while the Senatus of the University has regarded it as a privilege to be given this opportunity of marking with their approval the selection by the Association of the readers of the Addresses in Medicine and Surgery, they are also glad to take advantage of the presence of the Association in our city to show their appreciation of the arduous and distinguished labours of those members who have been taking a leading part in the organization and administration of this great Association of British medical men—an Association that now embraces medical practitioners in every part of the British Empire. I shall submit two names in this connexion.

I first present, as a representative of the Association in our overseas dominions, Dr. William Thornborough Hayward, honorary physician to the Adelaide Hospital, honorary consulting medical officer to the Adelaide Hospital for Children, and for many years lecturer in clinical medicine and therapeutics in the University of Adelaide, and a member of the Council of the University. This city and University, through the numerous sons and alumni that have gone forth year after year to share the burden of empire in all parts of Greater Britain, have a peculiar regard for those whose represent, on occasions like the present, our far-off dominions. We recognize in Dr. Hayward, who comes from one of the greatest of those dominions, a physician who, notwithstanding the claims of an important medical practice and of his work as a teacher, has chosen to devote his great administrative powers to organizing the medical profession not only within his own State of South Australia, but throughout the whole of the Commonwealth of Australia. No one is more trusted and esteemed by his fellow medical men in Australia, who have elected him to the Chairmanship of their Federal Committee of the British Medical Association. The Senatus believes that in asking you, Mr. Vice-Chancellor, to confer the honorary degree of Doctor of Laws on Dr. Hayward, it is bestowing on him an honour which will meet with the approval of the whole Association.

Mr. Vice-Chancellor. I have also much pleasure in presenting to you Mr. Thomas Jenner Verrall, Consulting Surgeon to Sussex County Hospital, and one of the direct representatives of England on the General Medical Council of the United Kingdom, but best known to all of us as the brilliant, and trusted, and popular Chairman of the Representative Meetings of the British Medical Association. Our local newspapers have for several days in their reports of these meetings been giving all of us some notion of the numerous, important, and difficult questions with which this parliament of the medical profession has to deal, and have also given us indications of the quite unusual skill and tact with which the chairman has guided and controlled the deliberations. The Association has been peculiarly fortunate in the most critical period of its history in having had two leaders of such exceptional ability as the Chairman of their Representative Meetings and the Chairman of their Council. The Association has already during the present meeting shown its appreciation of the value of Dr. Verrall's services by awarding to him the Gold Medal of the Association—the highest honour which the Association can bestow, and one which, I believe, is only rarely awarded. The Senatus of the University has gladly availed itself of this opportunity of identifying itself with the honour done to Dr. Verrall by the Association, and asks you, Mr. Vice-Chancellor, to supplement that honour by conferring on him the degree of Doctor of Laws.

I have finally to ask you, Mr. Vice-Chancellor, to bestow the degree of Doctor of Laws, *in absentiâ*, on Sir Victor Horsley, who has been obliged to leave the meeting of the Association before its close.

Sir Victor Horsley, a graduate in Science and Medicine of the University of London, a Fellow of the Royal College of Surgeons, a Fellow of the Royal Society, and Emeritus Professor of Clinical Surgery in University College, is well known as a man of unusually varied gifts and of limitless energy. He is one of the few men connected with the British Medical Association who have found it possible to combine sustained scientific activity with a prominent part in the administration of the Association, for he occupied for a time the onerous post now held by Dr. Verrall. Sir Victor Horsley early achieved a high scientific reputation through his classical researches on the localization of the functions of the brain—an important sphere of investigation in which one of the most distinguished of our own graduates, Sir David Ferrier, has also worked with brilliant success. The researches of Sir Victor on the physiology and pathology of the thyroid body are also of first-rate importance, and have largely led to therapeutic developments that are now universally applied with striking benefit in various diseased conditions that had previously baffled all medical skill. In more recent years Sir Victor Horsley is best known to the medical world as perhaps the greatest living expert in brain surgery—one of the most difficult departments in the whole domain of surgery. Sir Victor Horsley's reputation is as high on the Continent as in his own country, and he has received many marks of honour from abroad, including the Lannelongue International Gold Medal for Surgery.

The degrees having been severally conferred and each recipient having been cordially received, the PRINCIPAL addressed them in the following terms:

"Gentlemen, we are proud to welcome you to the ranks of our honorary graduates, and, as we have already prayed, may the blessing of Almighty God, so manifestly resting upon your great labours in the past, continue with you in health and strength for many more years to come. The University of Aberdeen will follow your careers hereafter with a new and fresh interest."

The ceremony concluded with the Benediction.

EXCURSIONS.

Inverness, Elgin, and Nairn.

MEMBERS of the profession residing in Elgin, Nairn, Inverness, and Strathpeffer arranged very interesting short tours to the Highlands, starting from Aberdeen on Friday evening or Saturday morning. Some members of the party stopped at Nairn, where they were entertained by the medical profession to luncheon, at which they met some of the leading citizens of the town. Dr. Brodie Cruickshank extended a welcome to the guests, and Dr. Smyly of Derby replied. The remainder of the party from Aberdeen went on to Inverness, where they were entertained to luncheon by the Provost and Town Council. After luncheon the visitors were driven to Culloden Moor, where they were met by the party from Nairn. The story of the battle was related by Mr. Bain of Nairn and Colonel Alexander Fraser of Inverness, and the burial places of the clansmen killed in the action—the last stand of the Highlanders for the Stuart dynasty—were visited.

From the battlefield the Nairn party went on to Kilravock Castle, the seat of Colonel Rose, and Mr. Donaldson gave an interesting outline of the history of the ancient building and of the Rose family. Crossing the river Nairn, the excursionists' next halt was at Cawdor

Castle, which had been thrown open to the party by the Dowager Countess of Cawdor, who also provided a welcome cup of tea. The old furnishings, tapestries, and carvings, and the hawthorn tree round which the castle was built, were shown, and in the room approached by a winding staircase in which tradition says that King Duncan was murdered by Macbeth Dr. Cruickshank gave a brief account of the history of the castle. The exquisite flower garden was much admired. Dr. Macdonald, Chairman of Council, conveyed the thanks of the Association to the Countess of Cawdor, to Captain Ian Campbell, and to Mr. and Mrs. Robertson. The Inverness party returned by Croy, Dalcross, and Castle Stewart, a seat of the Earl of Moray, to that town, where in the evening the medical profession of Inverness entertained them to dinner under the chairmanship of Dr. MacFadyen, the senior member of the profession in the town. A pleasant evening was spent, enlivened by song, sentiment, and story.

On Sunday the party drove by the shore of Loch Ness, up Glen Urquhart by Kerrow to Cannich, and down Strath Glass to the Beauly river, which runs through a wild gorge with precipitous walls, affording many picturesque points of view. Passing through Beauly, the party reached Strathpeffer, where they were met by Drs. Bruce (of Dingwall), Douglas, Duncan, Kaye, and hospitably entertained at the Ben Wyvis Hotel, the Spa Hotel, and the Highland Hotel recently built by the Highland Railway Hotel. After luncheon the party was received at the Wells by Sir George Hastings, the managing director of the Spa Syndicate. The baths, electric, and radium departments were visited, and afterwards the new pump-room, where the waters were tasted.

The characteristic waters of Strathpeffer are the three sulphur wells—the Old or Castle Leod, the Upper or Sutherland, the Morrison, and the Cromartie. The last named, which is the strongest, contains 23 cubic inches of sulphuretted hydrogen, and about 38 of carbonic acid to the gallon. The chief mineral constituent is magnesium sulphate, but magnesium carbonate and chloride, sodium sulphate, and calcium carbonate are present also. The Sutherland Well contains more magnesium sulphate than the other springs, and is generally taken in the morning as a mild laxative. There is also a chalybeate spring containing iron carbonate and some free carbonic acid. Strathpeffer is especially used for the treatment of chronic rheumatism and gout, lumbago, sciatica, and similar affections, as well as in gouty eczema and in chronic disorders of digestion. The chalybeate spring is found useful as a tonic after a course of the sulphur waters and baths, and an after-cure may be followed at one of the numerous places on the sea lochs or among the mountains. The bathing establishment has been much enlarged during recent years. The baths include the sulphur baths of the natural water, peat, douche, Russian, and Nauheim baths, Plombières treatment, the Schwalbach bath, and the special Strathpeffer bath of strong sulphur water aërated with carbonic acid. The electric, light, and high-frequency departments have already been mentioned, and a stock of radium is held sufficient to give forty treatments a day. The spa is beautifully situated in a broad valley at the foot of Ben Wyvis; it has an excellent golf course with a well-appointed golf club. There is also a small social club in the pump-room, and a large music room in the gardens which are large and beautifully laid out. Fishing is to be had in the neighbourhood, and it is easy to make excursions to the many beautiful hills and valleys within easy reach.

The party returned by Dingwall and Beauly to Inverness, after a motor run of some ninety miles through some of the most characteristic scenery of the Highlands. Early on Monday morning the party broke up, some making excursions to Loch Maree and others to Loch Duich; others spent the day on the links of the Inverness Golf Club, which had extended the courtesy of its green to the members of the Association during their visit. Others went down the Caledonian Canal to complete their holiday in West Scotland.

The members of the party will always retain a grateful memory of the cordial hospitality they received from the profession in the historic city of Inverness, one of the brightest and most beautifully situated towns in Europe, with the broad peat-stained river Ness here chained, embanked, and bridged, sweeping through it, and from their colleagues in Elgin, Nairn, and Strathpeffer. In particular they are grateful to Dr. J. Munro Moir, of Inverness, Honorary Secretary of the Northern Counties of Scotland Branch, who spared no trouble to make the excursion to the Highlands agreeable to every one who joined and succeeded to the full.

On Monday the banks of the Findhorn and Glenfernen House (by the kind permission of the Earl of Leven and Melville) were visited from Nairn.

Another party visited the cathedral city of Elgin and its interesting and beautiful surroundings. On Friday, July 31st, an advance party enjoyed a motor excursion to Grantown-on-Spey by Speyside, returning by Dava and the Findhorn, where the beautiful scenery at the Divie Sluie, and Ribyas, was much appreciated. A larger party arrived in Elgin on Saturday forenoon, and were entertained to lunch by the local medical men. In the afternoon the golfers were motored to Lossiemouth, when a pleasant game was enjoyed on this far-famed course. Another party visited Gordon Castle, Fochabers, the northern home of the Duke of Richmond and Gordon, and were shown over the sights of the castle and the gardens. Others went to the ancient Priory of Pluscarden, and in the evening all declared they had spent a delightful day. Sunday forenoon was warm and pleasant, but lowering clouds caused some anxiety to the organizers of a motor trip to Grantown-on-Spey. However, an optimistic and happy party started in five cars lent by local medical men in Elgin and Forres for this delightful run. Rain soon began to fall and a breakdown by one of the cars decided some of the party to shorten the trip, and only Craigellachie was visited by these. Two cars, however, went on bravely, and in spite of adverse weather conditions the whole party enjoyed the day and their visit to the Laich o' Moray.

Association Notices.

CHANGES OF BOUNDARIES.

Formation of a Wiltshire Branch, with Salisbury, Swindon, and Trowbridge Divisions.

The following changes have been made in accordance with the Articles and By-laws, and take effect as from the date of publication of this notice:

That a new Branch of the Association be formed, to be known as the Wiltshire Branch, coterminous with Wilts county, with Divisions as follows:

1. *Salisbury Division.*—That part of the county south of a line drawn from west to east from north of Warminster to south of Ludgershall;

2. *Swindon Division.*—That part of the county to the north and east of a line drawn from west of Malmesbury to west of Ludgershall (not including Pewsey);

3. *Trowbridge Division.*—That part of the county lying between these two lines;

and that the areas of the Bath, West Dorset, and Winchester Divisions, and Bath and Bristol, Dorset and West Hants and Southern Branches be modified accordingly.

Representation in Representative Body.—For 1914–15 the members of the area will under the By-laws continue to be represented upon the basis of the 1914 Annual List. The arrangements to be made as regards 1915–16 will be determined in due course by the Council.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A list of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

THE WAR.

NOTIFICATION TO INSURANCE COMMITTEES.

The following letter has been addressed to all Insurance Committees in England:—

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.,
August 5th, 1914.

Sir.—In view of the mobilization of His Majesty's forces, I am directed by the National Health Insurance Commission (England) to invite your attention to the following respects in which the Committee's administration is immediately affected.

Panel Practitioners Enrolled or Embodied for Active Service.

In the event of any practitioner on the panel for the area being enrolled or embodied for active service, and accordingly finding it necessary to relinquish his duties towards the insured persons on his list, it will of course devolve upon the Insurance Committee to see that the requisite arrangements are made for the medical attendance of those persons during his absence. The Commissioners recommend the Committee, therefore, to issue forthwith a circular letter to all practitioners on the panel requesting that the Committee may be informed by any practitioner so situated of the fact of his enrolment or embodiment and of any arrangements which he proposes to make for carrying on his practice by deputy during his absence. Such a circular should also, it is suggested, inform practitioners that in the event of any practitioner so situated not finding it possible to make arrangements prior to his departure for carrying on his panel practice, the Committee will themselves be prepared to arrange with other practitioners on the panel to act as his deputies during his absence on active service.

The Committee will doubtless take any steps necessary to inform themselves as to whether any practitioner on the panel has, prior to the issue of their circular, been obliged to absent himself without notifying the Committee or making any arrangements for the appointment of a deputy. In such cases the Committee will presumably proceed, in consultation with the Panel Committee, to arrange with other practitioners to act as deputies during the absence on active service of the practitioner in question.

In any area in which, owing to mobilization the Committee are deprived of the services of any considerable number of the practitioners on the panel, it may possibly be found more convenient to make some general arrangements in consultation with the Panel Committee. The Commissioners will be pleased to advise committees in any cases of difficulty which they may experience.

Army and Navy Reserves and Territorials.

The calling up of deposit contributors who are in the Army or Navy Reserves or Territorials will materially affect their position as regards insurance from the moment they are so called up. From that moment they will be treated, not as deposit contributors, but in the same way as serving soldiers and sailors who are not members of approved societies; that is, the only benefit they will be entitled to is maternity benefit, and this will be paid out of the Navy and Army Fund.

It will not be necessary for Insurance Committees to take any action at present in regard to the suspension of these contributors from medical and sanatorium benefit.

On receipt of a claim for maternity benefit from the wife of a man who has been called up for service and was previously a deposit contributor, the Committee should forward the usual certificate to the National Health Insurance Commission, Maida Hill, London, W., but should clearly mark it "Now called up for service," quoting his regiment, ship, shore establishment or marine division, and, where the information can be obtained without delay, his regimental or official number. *The vouchers in support of the claim should accompany the certificate.*

Insurance Committees will be informed in due course of the deposit contributors within their areas who have been called up.—I am, Sir, your obedient servant,

S. P. VIVIAN.

AN EXAMPLE FROM SOUTHAMPTON.

At a meeting of the profession in Southampton, held on August 4th, it was unanimously resolved:—

A. That this meeting of the medical profession loyally undertakes to safeguard the interests of those of their colleagues who are called to leave their practices in the service of their country, and also undertakes any medical duties for the sole benefit of the absentees.

B. That a committee of not less than seven, with power to add to their number, be elected to facilitate the carrying out of the above resolution.

Drs. Fox, Gillespie, Hamilton, Harman, Jolliffe, Robson, and Tebbs were elected on the committee.

At a meeting of the Committee, held the same evening, the following resolutions were carried:

1. That each doctor, liable to be called away for duty, be asked to make any arrangements he can with the doctor or doctors in his neighbourhood to do his work, including attendance at confinements.
   Inability to make such arrangements should be notified by telephone to Dr. Hamilton (Telephone, Southampton 39 or 442), who will notify the Committee of the same.
   The Committee will in such cases make the best arrangements possible for the carrying on of the work of the absent doctor.
2. That no deputy doctor be expected to attend at the surgery of any doctor who has been called away, *i.e.*, that all surgery patients be seen at the deputy's surgery.
3. That National Insurance Patients attending the surgery shall be shown a printed list of doctors on the panel who are remaining in the town, all of whom have undertaken this work, and shall be referred to one of them for treatment. The Committee feel that in many cases, owing to the exceptional calls on the deputy's time, it will be impossible for him to keep the usual records.
   NOTE.—About half of the doctors in active practice in Southampton are liable to be called up.
4. In the case of National Insurance Patients paying nine shillings per head, or Southampton Public Medical Service patients, or similar club patients, or private patients, the deputy doctor either—
   (A) Will dispense and charge sixpence a bottle of medicine against the absent doctor, or—
   (B) Will write prescriptions to be dispensed by a chemist, who will be paid by the absent doctor at a contract rate to be settled between such doctor and chemist—unless other arrangements have been made by the absent doctor, *e.g.*, with his own dispenser.
5. That the Local Insurance Committee be notified of the arrangements made under Resolution 3.
6. That the remaining Poor Law Doctors be asked to do the necessary Parish work of the absent Poor Law Doctors.
7. That books with counterfoils be supplied to each deputy doctor to keep the records of the work (apart from Insurance and Parish work) done for his absent colleagues.
8. That a copy of the above resolutions, and of the first resolution carried at the General Meeting, be sent to each doctor in the area of the County Borough of Southampton.
9. That this Committee also send, as soon as possible, copies of the above resolution to the doctors in the County Area of the Old Southampton Division of the British Medical Association, and to the Chairmen of the Winchester and the Portsmouth Divisions of the British Medical Association, asking them to take any steps, in their areas, they think necessary.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

ASHTON-UNDER-LYNE: DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Male House-Surgeon. Salary, £150 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

BETHNAL GREEN INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £180 and £160, rising to £200 and £180 per annum respectively.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House-Surgeon (male). Salary, £120 per annum.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BODMIN: CORNWALL COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary, £225.

BRADFORD CITY COUNCIL.—Resident Medical Officer for the City Hospital for Consumptives. Salary, £200 per annum.

BRADFORD EDUCATION COMMITTEE.—Chief School Dentist. Salary, £350 per annum.

BRADFORD ROYAL INFIRMARY.—(1) House-Surgeon. (2) House-Physician (males). Salary, £100 per annum each.

BRENTFORD UNION.—Second Assistant to the Medical Superintendent of the Infirmary and Medical Officer of Warkworth House, etc. Salary, £200 per annum.

BRIDGE OF WEIR CONSUMPTION SANATORIUM.—Lady Assistant. Salary, £75 per annum.

BRIGHTON THROAT AND EAR HOSPITAL. — Non-Resident House-Surgeon. Salary at the rate of £150 per annum.

BRISTOL CITY LUNATIC ASYLUM.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

BRISTOL GUARDIANS.—Two Assistant Medical Officers at the new Infirmary, Southmead. Salary, £150 per annum each.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House-Physician. Salary, £100 per annum.

BURY ST. EDMUNDS: WEST SUFFOLK GENERAL HOSPITAL. —Resident Medical Officer. Salary, £120 per annum.

BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Physician. Salary at the rate of £100 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL. — Second House-Surgeon. Salary, £80 per annum.

CANCER HOSPITAL (FREE), Fulham Road, S.W.—House-Surgeon. Salary, £70 per annum.

CARDIFF COMMITTEE FOR THE CARE OF THE MENTALLY DEFECTIVE.—Medical Officer. Salary, £300 per annum.

CARNARVONSHIRE EDUCATION COMMITTEE.—School Dentist. Salary, £250 per annum,

CHORLEY: RAWCLIFFE HOSPITAL. — House-Surgeon (male). Salary, £100 per annum.

COLONIAL OFFICE. — Bacteriologist for British Guiana. Salary, £550 to £600 by annual increments of £25.

CROYDON BOROUGH HOSPITAL.—Assistant Resident Medical Officer. Salary, £150 per annum.

DERBY: DERBYSHIRE HOSPITAL FOR SICK CHILDREN. — Resident Medical Officer (lady). Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL. — House-Surgeon. Salary at the rate of £150 per annum.

DORCHESTER: DORSET COUNTY HOSPITAL.—House-Surgeon. Salary, £125 per annum.

DOWNPATRICK: DOWN DISTRICT LUNATIC ASYLUM.—Second Assistant Medical Officer (male). Salary, £170 per annum, rising to £200.

EAST SUSSEX COUNTY ASYLUM, Hellingly.—Third Assistant Medical Officer. Salary, £250 per annum, rising to £275.

EDINBURGH ROYAL ASYLUM, Morningside.—Assistant Physician. Commencing salary, £175 per annum.

ESSEX COUNTY HOSPITAL, Colchester.—House-Surgeon (male). Salary, £100 per annum.

GLENELG PARISH COUNCIL.—Medical Officer. Salary, £140 per annum.

HULL: ROYAL INFIRMARY.— — (1) Senior House-Surgeon, (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

JARROW-ON-TYNE: PALMER MEMORIAL HOSPITAL.—House-Surgeon (male). Salary, £170 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL. —House-Surgeon. Salary, £100 per annum

LANCASHIRE COUNTY COUNCIL.—Two Junior Assistant Tuberculosis Officers. Salary, £300 per annum, rising to £350.

LEAMINGTON SPA: WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL. — House-Physician. Salary, £85 per annum.

LEICESTER ROYAL INFIRMARY. — Assistant House-Surgeon. Salary at the rate of £100 per annum.

LIVERPOOL EDUCATION COMMITTEE.—Two Assistant School Medical Officers. Salary at the rate of £250 per annum.

LONDON LOCK HOSPITAL.—House-Surgeon to the Female Hospital. Salary, £100 per annum.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury. — Resident Medical Officer (male). Salary for first six months at the rate of £100 per annum, rising to £120.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER ROYAL INFIRMARY.—(1) Two House-Physicians. (2) Four Junior House-Surgeons.

MANCHESTER TOWNSHIP.—Junior Resident Assistant Medical Officer to the Workhouse, Crumpsall. Salary, £120 per annum.

MANSFIELD AND DISTRICT HOSPITAL.—Resident House-Surgeon. Salary, £200 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary at the rate of £60 and £40 per annum respectively.

NATIONAL SANATORIUM, Benenden.—Assistant Medical Officer. Salary, £120 per annum.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORWICH CITY ASYLUM, Hellesdon.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

NOTTINGHAM GENERAL DISPENSARY. — Assistant Resident Surgeon (male). Salary, £180 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Male Assistant Resident Medical Officer. Salary at the rate of £100 per annum, and £10 honorarium on completion of six months.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

PRESTON ROYAL INFIRMARY.—House-Physician. Salary, £120 per annum.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary, £100 per annum.

ROCHDALE INFIRMARY AND DISPENSARY. — Senior House-Surgeon (male). Salary, £120 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—(1) Senior Resident Medical Officer. Salary at the rate of £90 per annum. (2) Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Resident Assistant Anaesthetist. Salary at the rate of £100 per annum.

SALFORD ROYAL HOSPITAL.—Casualty House-Surgeon. Salary at the rate of £100 per annum.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £150 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY. — Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHREWSBURY: COUNTY ASYLUM.—Second Assistant Medical Officer (male). Salary, £230 per annum, rising to £250.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

STATE CRIMINAL LUNATIC ASYLUM, Retford. — Locumtenent (male). Salary, £5 5s. per week.

SUNDERLAND ROYAL INFIRMARY.—(1) House-Physician. (2) Junior House-Surgeon (males). Salary, £120 and £100 per annum respectively.

SWANSEA GENERAL AND EYE HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary, £125 per annum each.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon (male). Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL. — Junior House-Surgeon. Salary, £150 per annum.

WALSALL AND DISTRICT HOSPITAL.—Junior House Surgeon. Salary, £110 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL. — Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.— (1) Resident Medical Officer. (2) Senior House-Surgeon. (3) Senior House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary for (1), £150; for (2) and (3), £120, and for (4) and (5), £100 per annum.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £120 per annum.

WEST RIDING OF YORK.—Assistant Medical Officer at the Storthes Hall Asylum. Salary, £230 per annum, rising to £270.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.— House-Physician (male). Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Dunstable (Beds.), Trillick (co. Tyrone).

MEDICAL REFEREES.—The Home Secretary announces vacancies as Medical Referees under the Workmen's Compensation Act, 1906, for Cardiff and Barry County Courts in Circuit No. 24; and also for the Shetland District in the Sheriffdom of Caithness, Orkney, and Shetland,

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

COADY, E. T., F.R.C.S.I., Surgeon to the Drogheda Memorial Hospital.

DONALDSON, T. C., M.D., M.Ch.R.U.I., B.A.O., District Medical Officer to the Staines Union.

ELLIOT, T. S., L.R.C.P., M.R.C.S., Certifying Factory Surgeon for the Southwell District, co. Nottingham.

HENDERSON, W. M.B., Ch.B.Aberd., Assistant Medical Officer of the Paddington Parish Infirmary and Workhouse.

NEWSHOLME, H. B., M.B., Ch.B., M.R.C.P.Lond., D.P.H., Assistant Medical Officer of Health for Surrey.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

WILDMAN.—On July 27th, at 1, Highfield, Doncaster Gate, Rotherham, the wife of W. Stanley Wildman, F.R.C.S., of a daughter.

MARRIAGE.

LUNDHOLM—AUCHENCLOSS.—At Gardens Church, Cape Town, on July 28th, by the Reverend Mr. McClure, Gösta Lundholm, second son of Mr. and Mrs. C. O. Lundholm, Upper Norwood, London (formerly of Ardeer), to Agnes Barr Auchencloss, M.B. and Ch.B.Glas., eldest daughter of the late James Currie Auchencloss (formerly of Glenfield, Paisley), and Mrs. Auchencloss, Saltcoats. (By cable.) Residence: Modderfontein, Transvaal.

DEATH.

GARNER.—On July 28th, Colin Garner, L.R.C.P.E., elder son of the late J. E. Garner, M.D., 6, Winckley Square, Preston, aged 34.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

LONDON HOSPITAL MEDICAL SCHOOL, Turner Street, E.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 15TH, 1914.

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Association Intelligence.

PROCEEDINGS OF COUNCIL.

A MEETING of the Council was held at Aberdeen on Monday, July 27th, 1914.

Present.

Dr. J. A. MACDONALD (Taunton), Chairman of Council, in the Chair.

Mr. T. JENNER VERRALL (Bath), Chairman of Representative Meetings.

Dr. EDWIN RAYNER (Stockport), Treasurer.

Sir JAMES BARR (Liverpool), Past-President.

Dr. JOHN ADAMS, Glasgow
Dr. R. M. BEATON, London
Dr. M. G. BIGGS, London
Dr. CHARLES BUTTAR, London
Dr. J. SINGLETON DARLING, Lurgan
Mr. E. J. DOMVILLE, Chelwood
Dr. D. E. FINLAY, Gloucester
Dr. FRANK FOWLER, Bournemouth
Dr. ADAM FULTON, Basford, Nottingham
Mr. T. W. H. GARSTANG, Altrincham
Dr. JOHN GORDON, Aberdeen
Dr. MAJOR GREENWOOD, London
Dr. J. R. HAMILTON, Hawick, N.B.
Dr. G. E. HASLIP, London
Mr. W. T. HAYWARD, Reading (Victorian, South and West Australian Branches)
Mr. F. CHARLES LARKIN, Liverpool
Dr. J. LIVINGSTONE LOUDON, Hamilton, N.B.
Mr. ALBERT LUCAS, Birmingham
Dr. C. H. MILBURN, Hull
Dr. J. MUNRO MOIR, Inverness
Mr. E. C. MONTGOMERY-SMITH, London
Dr. J. E. MOORHOUSE, Stirling
Dr. H. FALCONER OLDHAM, Morecambe
Dr. GEORGE PARKER, Bristol
Dr. F. J. SMITH, London
Mr. D. F. TODD, Sunderland
Mr. E. B. TURNER, London
Mr. DENIS WALSHE, Graigue
Mr. E. H. WILLOCK, Croydon
Dr. O. R. M. WOOD, Woolpit.

APOLOGIES.

Letters of apology for non-attendance were read from Mr. W. F. Brook, Dr. H. J. Campbell, Dr. David Ewart, and Dr. W. Ainslie Hollis.

ROYAL COMMISSION ON VENEREAL DISEASES.

A communication from the Ladies' National Association for the Promotion of Social Purity, asking for the support of the Association to a Memorial to the Royal Commission on Venereal Diseases, was considered, but the Council, while thanking the Ladies' National Association for the invitation, stated that it would prefer to act independently in the matter.

SCIENCE COMMITTEE.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN.

The Chairman of the Science Committee was empowered to appoint a representative of the Association when he has received the opinion of the officers of the Section of Electro-Therapeutics and Radiology.

ERNEST HART MEMORIAL SCHOLARSHIP.

Dr. Richard Robins Armstrong was reappointed Ernest Hart Memorial Scholar for a period of one year, to continue his research into (1) "The causation, method of infection and spread, and the treatment of all forms of pneumonia"; (2) "Experimental production of pneumonia in animals."

ORDINARY RESEARCH SCHOLARSHIPS.

Dr. S. Phillips Bedson was reappointed to a scholarship for a continuation of the investigation on the effect of nuclein and nucleic acid on the normal antibody, and also an experimental inquiry into purpura and allied conditions.

Dr. Edward G. Schlesinger was reappointed to continue his researches: (1) The regulation of sweating, and its relation to internal and external changes. (2) The influence of the pericardium on the circulation, and the possibilities and effects of its surgery. (3) The surgical applications of variations in blood supply by means of vessel anastomosis.

Dr. Orlando Inchley was appointed to investigate the influence of the constant current on the absorption of drugs.

GRANTS.

Grants in varying sums, amounting to £335, were voted to Drs. Edward Bach, J. O. W. Barratt, W. L. Cassells, Robt. Alex. Chisolm, Alfred J. Clark, Myer Coplans, Henry R. Dean, John Donald, J. S. C. Douglas, Leonard Findlay, Gordon W. Goodhart, Ernest W. Hey Groves, E. L. Kennaway, Kate Knowles, P. P. Laidlaw, Ivy McKenzie, Nathan Mutch, Andrew Peden, M. S. Pembrey, E. P. Poulton, J. H. Ryffel, M. J. Stewart, and W. L. Symes.

AWARD OF GOLD MEDALS FOR DISTINGUISHED MERIT.

Mr. T. Jenner Verrall.

The Gold Medal of the Association was awarded to Thomas Jenner Verrall, M.R.C.S., L.R.C.P., of Bath, Consulting Surgeon, Sussex County Hospital, for his eminent services to the British Medical Association in many capacities: as a member and sometime as Chairman of the Insurance Act Committee of the Association during the strenuous period of the introduction and passing into law of the National Insurance Act; as a member of Council for several years; as Chairman of Representative Meetings; and as a direct representative of the medical profession on the General Medical Council.

Dr. Edwin Rayner.

The Gold Medal of the Association was awarded to Edwin Rayner, M.D., F.R.C.S., Consulting Surgeon, Stockport Infirmary, for his eminent services to the British Medical Association both as a member of the Council and various Committees for many years; as Chairman of the Finance Committee; and as Treasurer of the Association for the unparalleled period of seven years, and during a time of great financial stress.

VOTE OF THANKS.

A hearty vote of thanks was passed to the Chairman of Council and Sir James Barr, Deputy Chairman of Council, for their services during the past year.

A further meeting of the Council was held in Aberdeen on Thursday, July 30th, Dr. J. A. MACDONALD, Chairman of Council, in the chair.

NEW MEMBERS.

The CHAIRMAN welcomed the new members on attending the 1914–15 Council for the first time.

APOLOGIES.

Letters of apology for non-attendance were read from Mr. H. B. Brackenbury, Dr. E. R. Fothergill, Dr. A. Fulton, Dr. D. E. Finlay, Dr. James Galloway, Dr. R. Wallace Henry, and Mr. D. F. Todd.

RETURNS OF THE ELECTION OF MEMBERS OF COUNCIL BY THE REPRESENTATIVE MEETING.

Elected by the Groups.

The CHAIRMAN of Representative Meetings reported the returns of the election to the Council by grouped Representatives:

Dr. M. G. Biggs, Dr. J. S. Darling, Dr. D. E. Finlay, Dr. E. R. Fothergill, Mr. T. W. H. Garstang, Dr. Major Greenwood, Dr. H. C. Mactier, Dr. C. H. Milburn, Dr. J. Munro Moir, Dr. J. E. Moorhouse, and Dr. H. F. Oldham.

By the Representative Body as a Whole.

Sir James Barr, Mr. W. J. Greer, Dr. R. Wallace Henry, and Mr. E. B. Turner.

ANNUAL MEETINGS, 1916–17–18.

The CHAIRMAN reported that the North Wales Branch had forwarded an invitation to the Association to meet at Bangor in 1917 or 1918.

Arising out of the foregoing invitation Mr. JAMES GREEN asked how the invitation from the Portsmouth Division to hold the Annual Meeting at Portsmouth in 1916 stood. The CHAIRMAN, in reply, stated that the invitation had been duly recorded and entered on the minutes for future consideration.

CENTRAL NURSING COUNCIL FOR LONDON.

In response to a request from the Chairman of the Provisional Committee of the Central Nursing Council for London (Sir Arthur Downes, of the Local Government Board), that the Association should nominate a representative of the medical profession in London to serve on the Central Council now being established, Mr. E. B. Turner was nominated.

QUESTION OF THE APPOINTMENT OF A SCOTTISH MEDICAL SECRETARY.

This matter was referred back to the Scottish Committee for further consideration and report at the October meeting of the Council.

ELECTION OF COMMITTEES, 1914–15.

Committees for 1914–15 are constituted as follows:

The President, the Chairman of Representative Meetings, the Chairman of Council, and the Treasurer are *ex officio* members of all Committees.

FINANCE COMMITTEE.

The Chairman of the Organization, Journal, Science, Medico-Political, and Central Ethical Committees.

By the Representative Meeting.	*By the Council.*
Dr. G. E. Haslip, London.	Sir James Barr, M.D., LL.D., Liverpool.
Dr. David Lawson, Banchory.	Dr. Charles Buttar, London.
Dr. R. Langdon-Down, London.	Dr. George Parker, Bristol.
Dr. J. Milner Moore, Eastbourne.	Mr. D. F. Todd, Sunderland.

ORGANIZATION COMMITTEE.

By the Representative Meeting.	*By the Council.*
Mr. J. A. Percival Barnes, London.	Mr. T. W. H. Garstang, Altrincham.
Dr. A. T. Campbell, Glasgow.	Mr. W. J. Greer, Newport, Mon.
Mr. Russell Coombe, Exeter.	Mr. F. Chas. Larkin, Liverpool.

JOURNAL COMMITTEE.

By the Representative Meeting.	*By the Council.*
Dr. C. H. Hall, Watford.	Sir James Barr, M.D., LL.D., Liverpool.
Mr. Albert Lucas, Birmingham.	Dr. James Galloway, London.
Dr. W. Johnson Smyth, Bournemouth.	Dr. J. Munro Moir, Inverness.

SCIENCE COMMITTEE.

By the Council.

Dr. Charles Bolton, London.	Dr. R. Wallace Henry, Leicester.
Professor W. E. Dixon, F.R.S., Cambridge.	Dr. C. J. Martin, F.R.S., London.
Mr. W. J. Greer, Newport, Mon.	Dr. F. J. Smith, London.
Dr. J. S. Haldane, F.R.S., Oxford.	Professor Ralph Stockman, Glasgow.

CENTRAL ETHICAL COMMITTEE.

By the Representative Meeting.	*By the Council.*
Dr. A. G. Bateman, London.	Dr. M. G. Biggs, London.
Mr. J. Henry Ewart, Eastbourne.	Dr. Thomas A. Goodfellow, Manchester.
Mr. J. Furneaux Jordan, Birmingham.	Mr. P. Napier Jones, Crowthorne, Berks.
Dr. J. Wishart Kerr, Glasgow.	Dr. C. H. Milburn, Hull.
Dr. R. Langdon-Down, London.	Dr. Milner Moore, Eastbourne.
Mr. P. G. Lee, Cork.	Mr. E. B. Turner, London.

MEDICO-POLITICAL COMMITTEE.

By the Representative Meeting.	*By the Council.*
Mr. E. J. Domville, Bristol.	Mr. H. B. Brackenbury, London.
Dr. W. Duncan, Chesterfield.	Dr. Adam Fulton, Nottingham.
Dr. A. C. Farquharson, Spennymoor.	Mr. T. W. H. Garstang, Altrincham.
Mr. N. Bishop Harman, London.	Dr. John Gordon, Aberdeen.
Mr. J. T. Macnamara, London.	Dr. H. C. Mactier, Wolverhampton.
Dr. R. Wallace Henry, Leicester.	Dr. J. Ratcliff-Gaylard, Birkenhead.

PUBLIC HEALTH COMMITTEE.

By the Representative Meeting.	*By the Council.*
Dr. L. J. Blandford, Stockton-on-Tees.	Mr. James Green, Portsmouth.
Mr. E. J. Domville, Bristol.	Dr. Major Greenwood, London.
Dr. John Gordon, Aberdeen.	Mr. Herbert Jones, Hereford.
Dr. T. Barrett Heggs, Sittingbourne.	Dr. J. Livingstone Loudon, Hamilton, N.B.

HOSPITALS COMMITTEE.

By the Representative Meeting.	*By the Council.*
Professor R. A. Bolam, Newcastle-on-Tyne.	Dr. M. G. Biggs, London.
Dr. T. H. Bushby, Liverpool.	Dr. H. J. Campbell, Bradford.
Dr. John Eason, Edinburgh.	Dr. James Galloway, London.
Mr. W. McAdam Eccles, London.	Mr. R. J. Johnstone, Belfast.
Mr. N. Bishop Harman, London.	Dr. D. J. Mackintosh, M.V.O., Glasgow.
Dr. H. C. Mactier, Wolverhampton.	Professor J. Rutherford Morison, Newcastle-on-Tyne.

NAVAL AND MILITARY COMMITTEE.

The Representatives on the Council of the Royal Navy Medical Service, the Army Medical Service, and the Indian Medical Service, namely: Sir James Porter, K.C.B., R.N., Colonel R. I. D. Hackett, A.M.S., and Surgeon-General P. H. Benson, I.M.S.

By the Representative Meeting.	*By the Council.*
Surgeon-General J. P. Greany, I.M.S., London.	Colonel W. H. Bull, Stony Stratford.
Colonel J. Raglan Thomas, Exeter.	Lieut.-Colonel R. H. Elliot, London.

DOMINIONS COMMITTEE.

Members of the Council who represent Colonial Branches, namely: Captain S. H. Lee Abbott, Dr. David Ewart, Dr. Chas. T. Griffin, Mr. W. T. Hayward, and Dr. C. J. Martin, F.R.S.

By the Representative Meeting.	*By the Council.*
Surgeon-General P. H. Benson, I.M.S., Walmer.	Dr. T. D. Greenlees, Weymouth.
Surgeon-General J. P. Greany, I.M.S., London.	Mr. C. G. D. Morier, London.

ARRANGEMENTS COMMITTEE.

By the Council.

Dr. H. J. Campbell, Bradford.	Dr. J. R. Hamilton, Hawick.
Dr. Thomas Fraser, Aberdeen.	Mr. R. J. Johnstone, Belfast.
Dr. James Galloway, London.	Mr. Albert Lucas, Birmingham.

And six members to be appointed by the Local Executive.

INSURANCE ACT COMMITTEE.

One Representative of each of the following organizations: Association of Registered Medical Women together with the Northern Association of Registered Medical Women; Society of Medical Officers of Health; and Poor Law Medical Officers' Association of England and Wales.

By the Representative Meeting.

Dr. John Adams, Glasgow.	Dr. E. Rowland Fothergill, Hove.
Dr. J. Singleton Darling, Lurgan.	Dr. John Hunter, Edinburgh.
Mr. W. McAdam Eccles, London.	Dr. I. W. Johnson, Bury.
Dr. A. C. Farquharson, Spennymoor.	Dr. G. K. Smiley, Derby.
Dr. D. E. Finlay, Gloucester.	Dr. W. B. Crawford Treasure, Cardiff.
	Mr. E. B. Turner, London.

By the Council.

Dr. W. A. Ainslie Hollis, Hove.	Mr. D. F. Todd, Sunderland.

FUTURE DEVELOPMENTS OF INSURANCE ACT COMMITTEE.

By the Council.

Mr. H. B. Brackenbury, London.
Mr. Russell Combe, Exeter.
Dr. E. R. Fothergill, Hove.
Miss Mary F. Ivens, M.S., Liverpool.
Mr. F. Chas. Larkin, Liverpool.
Dr. A. E. Larking, Buckingham.
Dr. L. J. Picton, Holmes Chapel, Cheshire.
Mr. D. F. Todd, Sunderland.
Dr. O. R. M. Wood, Woolpit, Suffolk.

And with power to co-opt six additional members.

SPECIAL FUND COMMITTEE.

By the Representative Meeting.

Prof. R. A. Bolam, Newcastle-on-Tyne.
Dr. W. Duncan, Chesterfield.
Mr. J. H. Ewart, Eastbourne.
Dr. W. E. Thomas, Ystrad Rhondda.
Dr. D. G. Thomson, Norwich.
Dr. C. S. Young, Dundee.

By the Council.

Mr. W. F. Brook, Swansea.
Dr. E. R. Fothergill, Hove.
Dr. R. McKenzie Johnston, Edinburgh.
Dr. A. Tennyson Smith, Orpington, Kent.
Mr. D. F. Todd, Sunderland.
Mr. H. H. Tomkins, London.

NON-PANEL COMMITTEE.

Concerning the appointment of a Non-Panel Committee, Dr. BIGGS gave notice that he would move at the next meeting of Council that the Non-Panel Committee be reappointed.

THE PATHOLOGICAL MUSEUM.

We have already paid a preliminary tribute to the work of this department, and have now to detail some of the more interesting exhibits therein found. Though the specimens were not so numerous as those in some of the previous meetings, which, perhaps, is an advantage, seeing that the time at the disposal of members is limited, there were many novelties which repaid those who journeyed round the museum.

The specimens were arranged in fourteen sections, and first and foremost was the microscope room, in which a very large number of microscopes were exhibited, owing to the kindness of the University of Aberdeen and the Bausch and Lomb Optical Company. In the Tropical Medicine Section Dr. Bahr had arranged a large and comprehensive collection of specimens illustrating sprue, and including sections of the alimentary tract from the tongue downwards, in which yeast cells and mycelium elements were well demonstrated. In another room Dr. Bahr showed various viscera from cases of sprue and a collection of intestines the seat of bacillary and amoebic dysentery respectively, and also numerous photographs and coloured drawings from cases of yaws.

The Royal Naval College, Greenwich, exhibited many microscopical specimens of *Schistosoma haematobium*, *S. japonicum*, and other species, and Fleet Surgeon Bassett-Smith showed macroscopic specimens of these diseases. He also demonstrated the Leishman bodies in specimens from liver and spleen punctures and other material, and amongst these were some of the flagellate forms of the *Leishmania* parasite from kala-azar, together with some living flagellate forms of *L. donovani* that he had grown in culture media.

Dr. Daniel E. Anderson, of the Honeyman-Gillespie Trust, brought an interesting collection of specimens illustrative of diseases in the West Indies, including venomous and non-venomous snakes, ankylostomes, ticks, and various flukes. These latter were of great interest, for, in investigating the cause of certain imperfections in meats imported in this country, he had shown that this was due to the *Fasciola hepatica* in the liver of these cattle, which viscus, however, was never supplied with the meats, but was minced up in the slaughter-house together with the other viscera. He also exhibited a fetus, instancing pre-natal small-pox, the mother having died from the disease. A specimen so rare as this, we would suggest, ought to be presented to the Royal College of Surgeons.

The Liverpool School of Tropical Medicine also contributed various specimens, of which we noted particularly the small intestine of a dog the seat of numerous *Taenia echinococcus*, the dog having been fed on human hydatids. Dr. Williamson showed a case of biting flies.

In the Section of Laryngology, Rhinology, and Otology, Dr. Fraser showed a most valuable collection of histological specimens illustrating the various inflammatory changes in the middle ear and labyrinth, which we have never seen equalled in any collection, and elsewhere he also exhibited a most instructive reconstructed model of the middle and inner ear. In this Section we also saw a demonstration of malignant disease consisting of specimens contributed by the Throat Hospital, Golden Square, whilst the work of the Manchester school was well represented by Sir W. Milligan's collection of foreign bodies removed from the air and food passages and *x*-ray photographs in general.

A new departure was a section devoted to recent research. Great interest was aroused by the exhibit of Mr. James M. Graham (Edinburgh University), showing his experimental work on sutures of blood vessels; this included the healed vessels, casts of the lumen to show that there was no occlusion, and various specimens of the aorta and other vessels from the cat and the dog.

The most recent work on the ductless glands included an exhibit by Mr. Rupert Farrant (London). This consisted of slides showing the various changes in the thyroid glands in the different toxaemias and infective diseases, a work which has already brought Mr. Farrant forward as one of our best and most active original investigators. His photographs from cases under treatment and other specimens showed the valuable results he has obtained by treatment based upon his experimental findings.

Dr. Haig was responsible for a histological exhibit showing the developmental stages of the pituitary bodies in the guinea-pig, cat and other animals. There were many *x*-ray photographs also bearing upon the diseases of the pituitary body and changes in the pituitary fossa shown by Drs. Finzi (London), Gilbert Scott (London), Professor MacIntosh and Dr. Fearnside.

In the section devoted to the circulatory system, Dr. Carey Coombs (Bristol) showed histological sections illustrating rheumatic carditis from cases of chorea and acute rheumatism, whilst Dr. Falconer showed a specimen of thrombosis of the artery of the auricular-ventricular bundle, and of infiltration of the auricular-ventricular bundle in cases of complete heart-block and tachycardia respectively. The subject of auricular flutter was also illustrated by sections of the intraventricular septum, the sinus node, etc., from his own cases. Elsewhere were electrocardiograms from various cases shown by Dr. W. T. Ritchie, some fine specimens of infective endocarditis (Dr. Teacher), and a specimen of aneurysm of the interauricular septum from a case of heart-block; this, together with a pulmonary valve, the seat of four cusps, came from the Aberdeen University Pathological Department.

In the Section of Dermatology there were numerous lifelike casts, photographs, etc., illustrating the various lesions, and amongst these, of particular note, were the direct coloured photographs exhibited by Mr. Haldin Davis (London).

The Section of Radiology and Electro-therapeutics was made of special interest on account of Dr. Thurstan Holland and Dr. E. Spriggs showing radiograms of gall stones, and also by the photographs of bismuth meals, especially those taken after the operation of gastro-jejunostomy, and of rectal injections of bismuth; these latter were included in a large exhibit by Dr. W. F. Somerville (Glasgow). There were also some specimens by Dr. Gilbert Scott showing the use of collargol in diagnosing the various renal lesions.

In the Section of Ophthalmology there was a fine series of coloured photographs, illustrating diseases of the external eye, by Dr. Maitland Ramsay.

Other coloured photomicrographs which aroused attention was a series illustrating some diseases of the nervous system, exhibited by Dr. Mott.

In the Section of Surgery drawings and photographs appeared to preponderate; these included photographs illustrating cancer of the tongue, shown by Mr. W. G. Spencer (London), a collection by Mr. G. L. Chiene (Edinburgh), illustrating his various operations for hernia, etc., and some sketches of operations by Professor F. M. Caird. There were several specimens of diverticulitis, shown by Mr. W. McAdam Eccles and Mr. Gordon Watson; the spleen from a case of splenic anaemia (Aberdeen University), and a much enlarged spleen removed by operation from a case of chronic acholuric jaundice.

There was a small Section of Anatomy, by Dr. N. Calder, in which were displayed various abnormalities, including an extra lobe of the lung and an accessory thyroid.

The final section, devoted to the history of medicine, was most complete and most interesting of all. This was divided into: (1) Egyptian; (2) Greek and Roman; (3) early and middle English; (4) old pharmacy instruments; (5) old medical instruments; (6) old surgical instruments; (7) eye instruments; (8) dental instruments; and lastly, a large collection of portraits of eminent medical men of the past. This had been collected and arranged by Mr. Dilling, and the unique collection of engravings was kindly lent by Mr. J. F. Kellas Johnstone. The portraits were arranged in the catalogue in alphabetical order, and aroused much interest.

A printed catalogue, was, as usual, supplied to visitors, but, as we have pointed out on previous occasions, it lost a little of its value by not containing clinical descriptions of the specimens shown, though this is, perhaps, expecting too much of the hard-worked Secretaries and Museum Committee.

We, personally, have to express our thanks to Dr. J. M. Duncan, Chairman of this Committee, for so kindly taking us round the museum and pointing out the more important features therein.

Meetings of Branches and Divisions.

EAST ANGLIAN BRANCH.

THE annual meeting of the East Anglian Branch for 1914 was held at Great Yarmouth on July 1st. In the absence of the president, Dr. JAMES RYLEY, President-elect, was voted to the chair.

Report of Council.—The annual report of council stated that the Branch was in a prosperous condition, with a membership of about 500. The annual meeting held at Ipswich under the presidency of Dr. Herbert H. Brown (when luncheon was kindly given by the President) had been largely attended, and was most successful. The council expressed its warm thanks to Dr. Brown for his unbounded hospitality to all present on that occasion. The autumn meeting was held at King's Lynn and the spring meeting at Lowestoft. All had been well attended and many valuable papers were read. Three special meetings of the council had been held at Ipswich and two meetings of the Ethical Committee. The meeting at Lowestoft resolved to invite Dr. Silva Jones of Southend-on-Sea to become President in 1915, which honour he had accepted. The report was approved.

Election of Officers.—The following officers were elected:

President: Dr. Ryley (Great Yarmouth).
President-elect: Dr. Silva Jones (Southend-on-Sea).
Vice-Presidents: Drs. Burton Fanning, John Turner, Herbert H. Brown.
Secretary for Essex: Dr. B. H. Nicholson (Colchester).
Secretary for Norfolk: Mr. Hamilton A. Ballance (Norwich).
Secretary for Suffolk: Dr. J. Gutch (Ipswich).
General Secretary and Treasurer: Dr. B. H. Nicholson (Colchester).

Financial Statement.—The financial report of the Branch was approved.

Clinical Cases.—Dr. JAMES RYLEY (Great Yarmouth) and Dr. CLEVELAND (Norwich) showed some interesting radiographs, and Dr. Ryley showed two cases of simple chronic glaucoma treated by Colonel Elliot's operation.

Luncheon.—The members present, to the number of about forty, then partook of luncheon in the Assembly Rooms, by kind invitation of the President-elect, Dr. JAMES RYLEY, who proposed the health of the King, and Dr. THOMSON that of Dr. Ryley.

Induction of President.—The general meeting was resumed after lunch, when Dr. Thomson was voted into the chair for the purpose of introducing the President-elect, Dr. James Ryley, who thereupon entered into office as President of the Branch for the year, and took the chair of the meeting.

On the motion of Dr. BARTON, seconded by Mr. A. C. MAYO, it was unanimously resolved:

That a hearty vote of thanks be accorded to Dr. H. H. Brown of Ipswich for the assiduous way in which he has performed the duties of President of the Branch for the past year and for his great hospitality during his year of office, and that he be hereby elected a Vice-President of the Branch for the term of three years.

Division of Branch.—Dr. D. G. THOMSON (Norwich) moved and Dr. H. E. ROWELL (East Rudham) seconded:

That this general meeting of members of the East Anglian Branch, having received the final memorandum of the Subcommittee upon the proposed subdivision of the Branch, is of opinion that the time has now arrived when, in the best interests of the members, the Branch should be divided into three Branches, following, so far as possible, the County boundaries of Norfolk, Suffolk and Essex, and instructs the General Secretary to communicate the wishes of the Branch to Head Office without delay.

The meeting had before it the final memorandum of the division of Branch Subcommittee of April 23rd, 1914. Drs. WOOD, FREEMAN, BIDEN, and MAYO took part in the discussion, and the resolution was carried by 15 to 2.

On the motion of Dr. THOMSON, seconded by Mr. H. POTTS (Great Yarmouth), the following resolutions were carried *nemine contradicente*:

This meeting delegates to the Branch Council:

1. The duty of fixing the most suitable date on which the above resolution, if approved by the Central Council, shall come into operation.
2. Full power to deal with and settle all matters, financial or otherwise, which may arise in connexion with the dissolution of the Branch.
3. The duty of taking such steps as may be necessary to secure that, upon the dissolution of the East Anglian Branch, the Norfolk, Suffolk, and Essex Branches shall be constituted with the least possible delay.

This meeting is further of opinion that after the dissolution of the East Anglian Branch it will be advantageous to hold from time to time combined meetings, for social and scientific purposes, of two or more of the newly formed Branches.

Excursions.—At the termination of the general meeting some of the members took a trip to sea, others going by motor to Burgh Castle.

Tea.—Dr. and Mrs. James Ryley kindly entertained the members present, with the ladies accompanying them, to tea at their house in Gorleston.

OXFORD AND READING BRANCH.

THE annual meeting of the Oxford and Reading Branch was held in the library of the Royal Berkshire Hospital, Reading, on July 23rd, when Sir WILLIAM OSLER, Bart., President, was in the chair, and twenty-four members were present.

Election of Officers.—The following officers were elected for the ensuing year:

President: Sir William Osler, Bart., Oxford (re-elected).
Vice-President: Dr. W. J. Maurice, Reading (re elected).
Treasurer: W. T. Freeman (re-elected).
Secretary: E. W. Squire (re-elected).
Branch Council: The three vacancies on the Council were filled by P. Napier Jones, Chairman of the Reading Division; E. C. Montgomery, and A. J. Edge, of Maidenhead. Dr. G. H. R. Holden, Representative for Reading, becomes *ex officio* a member of the Branch Council.

Finance.—The TREASURER announced a balance in hand of £20 8s. 7d. It was then unanimously resolved:

That the Branch should be regularly paid its capitation fee of 2s. per member per annum, and that the Branch Council should have entire control of the expenditure of its funds.

Division Reports.—The reports of the Oxford and Reading Divisions were read and adopted. The former reported seventeen resignations since January.

Examination of Insured Persons.—It was unanimously resolved:

That no member of the Branch should accept a lower fee than one guinea for a second opinion upon an insured person.

The scientific proceedings are reported in the JOURNAL, p. 335.

Association Notices.

SUGGESTED CHANGES OF BOUNDARIES.

PROPOSED FORMATION OF A CHANNEL ISLANDS DIVISION.

NOTICE is hereby given to all concerned of a proposal made on behalf of the Guernsey and Alderney Division and Southern Branch Council for formation of a Channel Islands Division, to include Alderney, Guernsey, Jersey, and Sark.

The matter will be determined in due course by or on behalf of the Council of the Association. Any member affected by the proposed change, and objecting thereto, is requested to notify the fact, and his or her reason therefor, to the Medical Secretary, 429, Strand, London, W.C., not later than September 26th, 1914.

Proposed Transfer of Bottesford from Leicester and Rutland to Nottingham Division.

Notice is hereby given under Article 13 to all concerned of a proposal made on behalf of the Leicester and Rutland Division for the transfer of the civil parish of Bottesford from the area of that Division to the area of the Nottingham Division.

Written notice of the proposal has been given to the Nottingham Division and Midland Branch and the matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact, and his or her reason therefor, to the Medical Secretary, 429, Strand, W.C., not later than September 15th, 1914.

CLASSIFICATION OF PRACTITIONERS IN GREAT BRITAIN.

A document was placed before the Annual Representative Meeting at Aberdeen which had been prepared by instruction of the Council, giving the results of a careful analysis of the practitioners in Great Britain in their relation to the Insurance Act, and the information it contained will probably be of interest to many members of the profession.

The analysis was only rendered possible by the existence at the Central Office of a very complete card register of the profession, supplemented by the assistance of the honorary secretaries of the Divisions of the Association throughout the country. The Council desired to ascertain—first, how many individual practitioners were serving under the Insurance Act; and, secondly, how many of those who were not so serving were in general practice and therefore to be reckoned as eligible for panel work. The first point could have been answered, in a fashion, simply by getting all the panel lists and adding the numbers of panel doctors together, but this would not have shown how many practitioners were on more than one panel. A complete set of the panel lists throughout Great Britain was therefore obtained and used for marking the card register so as to show whether a given practitioner was on the panel or not. A list of the non-panel practitioners in each Division was then prepared and sent to the honorary secretary of the Division for correction. He was asked to state either from own local knowledge or after consulting others, whether the practitioners on the list were in active practice, and, if so, in what kind of practice they were engaged.

On July 20th all the lists, with the exception of 17, had been returned. These latter were classified in the Central Office by means of the *Medical Directory* and other information at the disposal of the Association. The figures thus obtained may be taken as approximately correct and as certainly the most complete and accurate set of figures on this subject which are likely to be compiled by anyone.

Classification of Practitioners as on July 20th, 1914.

	Panel.	Non-Panel.	Total.
England	11,825	12,441	24,266
Wales	901	506	1,407
Scotland	1,796	2,020	3,816
Totals	14,522	14,967	29,489

On discriminating between the non-panel practitioners who are in general practice and those who are not, the following results emerge:

Classification of Non-Panel Practitioners.

	In General Practice.	Not in General Practice	Total.
England	3,818	8,623	12,441
Wales	188	318	506
Scotland	416	1,604	2,020
Totals	4,422	10,545	14,967

Those not in general practice consist of retired practitioners; those in the services; whole-time medical officers of health, school medical officers, tuberculosis officers, and resident medical officers of various kinds; those engaged in whole-time teaching appointments; and specialists and consultants.

Duplicates—that is to say, practitioners on more than one panel—have been eliminated; but no account has been taken of the fact, on which comment was made by many of the secretaries of Divisions in returning their lists, that a considerable number of practitioners who are themselves not on the panel have partners or assistants who are.

It is interesting to compare the above figures with those given by the Insurance Commissioners in their second annual report. On page 176 of that document, the strength of the panel in England on May 31st, 1914, is given as 16,059, but it is stated that practitioners on the panel of more than one Insurance Committee were necessarily included more than once in this figure. The Insurance Commissioners' figures for Wales, again not allowing for duplicates, are 1,246, as against 901, which the Association's analysis shows to be the true figure. The Scottish Commissioners have attempted to eliminate duplicates, and they give a total of 1,790 individual doctors on the panel, which, it will be seen, closely approximates to the Association's figures. The difference is easily accounted for by the fact that the Commissioners' figures are dated January 12th, 1914, whereas those of the Association were made up on various dates between February and July.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

Panel Committee.

Legal Questions in Regard to the New Agreement.

At a meeting of the London Panel Committee on July 28th it was reported that the Insurance Commissioners had under consideration the revision of the medical benefit regulations and the terms of service of practitioners on the panel for the medical year 1915, and that it was proposed to issue the revised regulations and the model agreements, embodying any amendments, by the first week in September.

Having regard to the result of the recent action brought by Dr. Salter against the London Insurance Committee in regard to the variation of the terms of his agreement, and various points of difficulty arising from time to time in connexion with the interpretation of agreements, it was decided to take the opinion of counsel on the whole question, and especially as to whether a practitioner could delete an objectionable clause from the agreement. A subcommittee was empowered to prepare a case for submission to counsel.

Co-opted and Representative Members.

Dr. Ethel Bentham and Dr. R. V. Donnellan were appointed members of the Medical Service Subcommittee of the London Insurance Committee for the ensuing year, and the following practitioners were co-opted upon the Panel Committee:

Drs. W. Coode Adams, Ethel Bentham, E. Burnet, H. G. Cowie, James Galloway, T. D. Lister, H. H. Mills, H. H. Norton, Lauriston E. Shaw, D. L. Thomas, and R. T. Williams.

Free Treatment of those Affected by the War.

A special meeting of the London Panel Committee was held on August 7th to consider the proposal mentioned in the last issue of the Journal, that practitioners on the panel should undertake free of charge the treatment of necessitous dependants of reservists on their lists and insured persons unemployed as a result of the war, and should act on behalf of panel colleagues absent on military duty.

The Chairman, Dr. H. J. Cardale, moved the resolution, which was received with applause.

Dr. J. A. Angus (Vice-Chairman) suggested that some means would have to be adopted to keep medicines prescribed under the resolution separate from those paid for by the insurance fund. Subsequent speakers expressed the opinion that practitioners should make themselves responsible for the cost of drugs, and Dr. Angus said he

was glad to note the feeling of the meeting and to withdraw his suggestion.

Dr. R. V. DONNELLAN thought the resolution would press more severely upon practitioners in some districts than upon others. He wished the proposal could be extended so that they could work in conjunction with practitioners not on the panel, and a more equal distribution of the work be arrived at.

Dr. B. A. RICHMOND (Secretary of the Committee) said it was very desirable not to interfere with the natural desire of the non-panel section to render similar service. The Panel Committee could not speak for other than panel practitioners.

Dr. CLAUDE TAYLOR hoped the profession would include in the scope of the resolution persons who belonged to nations with whom this country was at war. He hoped also that doctors would not be encouraged to leave their work at home, when there were probably sufficient men unattached to take up duties at the front.

Dr. A. REID agreed that practitioners should make no difference in respect of nationality in their treatment of patients.

The resolution was carried.

Co-operation for the Relief of Distress.—A subcommittee of six, with powers of co-option, was appointed to advise as to any arrangements suggested by the Government or any other body appointed to deal with the problem of sickness, unemployment, or destitution in the county of London which might result from the state of war.

The Shortage of Drugs.—A letter was received from the Secretary of the Pharmaceutical Committee, stating that the supplies of certain drugs would be affected by the war, and asking the Panel Committee to exercise its influence in husbanding stocks. It was notified that amongst the drugs of which there was a shortage were the following:

Salicylates, acetyl-salicylic acid, all preparations such as phenacetin, phenazone (antipyrin) and acetanilide.
All syrups and glycerine preparations.
Carbolic acid and all antiseptic dressings, especially lint, boric lint, and absorbent wool.
All bismuth, quinine, and cinchona preparations.
Citric acid, citrates, tartaric acid, tartrates, and Epsom salts.

The Committee decided to call the attention of practitioners to the matter.

CAMBRIDGESHIRE.

PANEL COMMITTEE.

A MEETING of the Panel Committee was held at Cambridge on July 28th.

Election of Officers.—The following officers were elected:

Chairman: Dr. Apthorpe Webb.
Secretary: Dr. Stevenson.

Voluntary Levy.—The SECRETARY reported that sixty-five out of sixty-eight men on the panel were subscribing to the voluntary levy of 1d. per annum per insured patient, which was considered very satisfactory.

Suppression of Names of Parties before a Medical Service Committee.—The Standing Order proposed by the British Medical Association whereby names of parties before a Medical Service Subcommittee should be suppressed was approved, and it was resolved that the Insurance Committee should be approached with regard to it.

Unallotted Persons.—The scheme for dealing with unallotted persons was approved. It was drafted to avoid any allocation of patients by a third party. It provided that doctors must give immediate treatment to and accept on their lists all insured persons who applied to them, but provided an appeal to the Insurance Committee if there were good grounds for refusing the person as a permanent patient. Doctors who failed to comply with these rules might be excluded from sharing in the surplus moneys from the Panel Fund, which were to be distributed proportionately to the members on doctors' lists.

Federation of Panel and Local Medical Committees.—The scheme for the federation of Panel and Local Medical Committees was held over to be considered in detail at a later meeting, though the Committee had approved of it in principle and had subscribed to the Provisional Committee.

PERTHSHIRE.

A MEETING of the Panel Committees of Perth and Perthshire was held at Perth on August 6th, when six members were present.

On the motion of Dr. TROTTER, seconded by Dr. ROBERTSON, it was resolved:

That in the event of any member of the panel being called on as a Territorial officer, and being unable to secure a substitute, the other panel practitioners will attend, as far as possible, to the patients of that doctor, undertaking the duty collectively, this arrangement only to apply meanwhile until the end of the current quarter. This motion to apply to the county, leaving out the words "undertaking . . . collectively."

It was also resolved, on the motion of Dr. TROTTER:

That the Scottish Committee of the British Medical Association is the best co-ordinating body for the Local Medical and Panel Committees of Scotland.

INSURANCE COMMITTEES.

MANCHESTER.

At the first meeting of the new Insurance Committee for Manchester Mr. Walter Davies was re-elected chairman. In the minutes of the Medical Benefit Subcommittee reference was made to a letter sent by the honorary secretary of the Manchester Panel Committee requesting that in future issues of medical certificates there should be printed on them the words, "This certificate must not be used for any other purposes than those of the National Health Insurance Acts." Dr. McGowan explained that it had frequently happened that certificates given to insured persons to entitle them to obtain sickness benefit from their approved society had been used for other purposes. For example, when patients were members of one or several other societies in addition to their approved society, the certificate given for the approved society had been also used for non-approved societies, and the Panel Committee thought that this was an abuse which might be prevented by the insertion of the words suggested. A member of the Committee expressed the opinion that the friendly societies had dealt fairly with the doctors in the past, and for the doctors to impose this restriction was driving the nail in too far. The Chairman, however, pointed out that the Panel Committee had merely made a suggestion, but the societies were under no compulsion to accept it.

SALFORD.

A MEETING of the Salford Insurance Committee was held on July 30th, and Alderman Haddart was re-elected chairman for the ensuing year. After the election of the various subcommittees, the clerk announced that the total charges for visits and attendance by the panel practitioners for the month of May was £3,900, and towards this, on the basis of 85,000 insured persons, there was available £3,249, which would permit of payment to the doctors of about 90 per cent. of their credit notes. During the month 14,702 patients had received treatment at an average cost of 5s. 3d. per patient for medical attendance apart from drugs and appliances. The claims sent in by the chemists for prescriptions dispensed during the month amounted to £606, the cost per patient being 9.9d. for drugs and appliances. There were 29,706 prescriptions dispensed, the average cost per prescription being 4.9d. This last item is a considerable reduction on the year 1913, when the average cost per prescription was 7.1d. Taking the whole period from January 12th to May 31st, the total claims by the chemists for prescriptions dispensed amounted to £3,688, and the amount of money available, based on the estimate of 85,000 insured persons at 2s. per head per year, was £3,260, which enabled a payment of 88 per cent. of the credits. The balance of chemists' accounts that were left unpaid was about £443, a sum of £15 being kept in hand. In the corresponding period of last year the amount left unpaid to the chemists was £787, showing a considerable decrease in the cost for drugs and appliances.

INSURANCE ACT IN PARLIAMENT.

STATE MEDICAL SERVICE.

Mr. BENN, in reply to Mr. Charles Bathurst, stated that the Government had definitely decided not to establish a State Medical Service in connexion with the National Health Insurance scheme.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-seven of the largest English towns 9,464 births and 4,192 deaths were registered during the week ended Saturday, August 1st. The annual rate of mortality in these towns, which had been 11.5, 11.6, and 11.3 per 1,000 in the three preceding weeks, rose to 12.1 per 1,000 in the week under notice. In London the death-rate was equal to 12.1, against 10.6, 11.8, and 10.7 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 3.4 in Exeter, 4.4 in Wimbledon and in Southport, 4.9 in Merthyr Tydfil, 5.0 in Walthamstow, 6.6 in Ealing and in Coventry, and 6.7 in Oxford and in Devonport, to 17.2 in Bolton, 17.3 in Middlesbrough, 17.4 in Barnsley, 18.5 in Aberdare, 18.6 in Birkenhead, and 19.0 in Huddersfield. Measles caused a death-rate of 1.4 in Liverpool, 1.6 in West Hartlepool, and 1.7 in Wigan and in Oldham; and whooping-cough of 1.4 in Huddersfield and in Cardiff. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 112, 151, and 209 in the three preceding weeks, further rose to 302 in the week under notice, and included 67 in London, 31 in Sheffield, 19 in Liverpool, 15 in Hull, 14 in Birmingham, 13 in Leeds, and 12 in Birkenhead. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 39 or 0.9 per cent. of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 12 were recorded in Birmingham, 6 in Liverpool, 5 in Stoke-on-Trent, 3 in Sheffield, 3 in Gateshead, 2 in Reading, and 2 in Barrow-in-Furness. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,109, 3,126, and 3,135 at the end of the three preceding weeks, further rose to 3,154 on Saturday, August 1st; 305 new cases were admitted during the week, against 414, 430, and 414 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,167 births and 569 deaths were registered during the week ended Saturday, August 1st. The annual rate of mortality in these towns, which had been 13.6, 12.7, and 13.5 per 1,000 in the three preceding weeks, fell to 12.9 in the week under notice, but was 0.8 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 5.9 in Kilmarnock, 7.0 in Clydebank, and 9.7 in Paisley, to 17.8 in Dundee, 21.5 in Perth, and 21.8 in Coatbridge. The mortality from the principal infective diseases averaged 1.1 per 1,000, and was highest in Motherwell and Hamilton. The 238 deaths from all causes in Glasgow included 15 from infantile diarrhoeal diseases, 3 from measles, and 5 from whooping-cough. Six deaths from infantile diarrhoea were recorded in Dundee, 3 in Edinburgh, and 2 in Hamilton.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 25th, 604 births and 335 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 574 births and 371 deaths in the preceding period. These deaths represent a mortality of 14.5 per 1,000 of the aggregate population in the districts in question, as against 16.1 per 1,000 in the previous period. The mortality in these Irish areas was, therefore, 3.2 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 26.1 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 15.3 (as against an average of 15.9 for the previous four weeks), in Dublin City 17.1, in Belfast 14.5, in Cork 13.6, in Londonderry 15.2, in Limerick 12.2, and in Waterford 13.3. The zymotic death-rate was 1.8, as against 1.9 in the previous week.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL BLENKINSOP is granted leave for four months.

Lieutenant-Colonel W. T. SWAN has been transferred from the Southern to the Western Command, taking up the duties of Deputy Director-General of Medical Services.

Major H. R. BATEMAN has been appointed a Specialist in Bacteriology at Shorncliffe.

Captain C. A. T. CONYNGHAM has been transferred from the Fifth (Mhow) to the Ninth Division.

INDIAN MEDICAL SERVICE.

THE services of Captain P. K. TARAPORE, Superintendent, Central Gaol, Mandalay, are placed permanently at the disposal of the Burma Government for employment in the Gaol Department.

Lieutenant-Colonel J. L. MACRAE, M.B., Civil Surgeon, Coorg, is granted privilege leave for three months with furlough for one year in continuation, with effect from September 1st, 1914.

The following officers are appointed permanently to the Bacteriological Department, with effect from February 14th, 1914:—Captains E. C. HODGSON, W. D. H. STEVENSON, M.B., J. TAYLOR, M.D., H. W. ACTON, J. MORISON, M.B., F. W. CRAGG, M.D., J. A. CRUICKSHANK, M.B., R. E. WRIGHT, M.B. The following officers are appointed *pro tempore*, with effect from February 14th:—Captains J. H. HORNE, M.B., R. KNOWLES, H. C. BROWN, M.B.

Captain R. A. NEEDHAM is confirmed in the appointment of Health Officer, Simla, with effect from February 14th.

The services of Captain V. N. WHITAMORE have been placed at the disposal of the Government of India, Department of Education, for employment with travelling dispensaries in the United Provinces.

The services of Captain A. A. C. MCNEILL, M.B., are placed temporarily at the disposal of the Government of Bengal for civil employment.

The following promotions are made:

To be Surgeon-General.—Colonel T. GRAINGER, C.B., M.D., vice Surgeon-General A. M. Crofts, C.I.E., K.H.S. (ret.), dated May 25th, 1914.

To be Colonel.—Lieutenant-Colonel W. R. EDWARDS, C.M.G., M.D., vice Colonel T. Grainger, C.B., M.D., dated May 25th, 1914.

To be Majors.—Captain W. S. PATTON, M.B., dated January 26th, 1914; Captain (and Brevet-Major) S. R. CHRISTOPHERS, M.B., dated March 1st, 1914.

INDIAN SUBORDINATE MEDICAL DEPARTMENT.

Senior Assistant Surgeon with honorary rank of Lieutenant to be Senior Assistant Surgeon with honorary rank of Captain: JOHN OSWALD WESTON, February 1st.

To be Senior Assistant Surgeon with honorary rank of Lieutenant: First Class Assistant Surgeons WILLIAM J. KEY STONE and EDMUND J. CULPEPER.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during June:

	FROM	TO
Surg.-Gen. Sir A. T. Sloggett, Kt., C.B., C.M.G., K.H.S.	—	War Office.
,, H. G. Hathaway, C.B.	Lucknow... ...	Darjeeling.
Colonel F. H. Treherne, F.R.C.S. Edin.	Meerut	Mussoorie.
,, H. J. Barratt	Bareilly	Ranikhet.
,, W. W. Pike, D.S.O., F.R.C.S.I.	Sialkot	Abbottabad.
Lieut.-Col. F. W. C. Jones, M.B.	Meerut	Tidworth.
,, R. H. Hall, M.D. ...	Aldershot ...	,,
,, A. P. Blenkinsop ...	Delhi	Simla.
,, W. E. Hardy	Cawnpore ...	Calcutta.
Major E. H. Condon, M.B.... ...	Bareilly	Meerut.
,, J. C. B. Statham	London District	West Africa.
,, R. A. Cunningham, M.B. ...	Meerut	Mussoorie.
,, P. H. Falkner, F.R.C.S.I....	London	Purfleet.
,, A. H. Safford	Warley	Colchester.
,, P. H. Henderson, M.B. ...	Portsmouth ...	Gosport.
,, R. T. Popham...	Peshawar ...	Nowshera.
,, R. Mc.K. Skinner	Labore	Calcutta.
,, H. F. Shea, M.B.	Ambala	Kasauli.
Captain J. E. H. Gatt, M.D. ...	Benares	Murree.
,, D. P. Watson, M.B. ...	—	Curragh.
,, J. T. McEntire, M.B. ...	Cork	Tralee.
,, J. Fairbairn, M.B. ...	—	Scottish Comd.
,, H. W. Russell, M.D. ...	Ambala	Kasauli.
,, A. D. O'Carroll, M.B. ...	Aldershot ...	Ewshott.
,, C. Scaife, M.D. ...	Belgaum	Pontefract.
,, D. M. Corbett, M.B. ...	Ambala	Wrexham.
,, E. D. Caddell, M.B. ...	Chatham ...	London.
,, E. C. Phelan, M.B. ...	Belfast	Londonderry.
,, C. H. Denyer	Agra	Parkhurst.
,, F. T. Turner	—	Southern Comd.
,, M. O. Wilson, M.B. ...	Sheerness ...	Chatham.
,, G. Petit	Multan	Benares.
,, R. F. O'T. Dickinson ...	Bareilly	Irish Command.
,, A. Shepherd, M.B. ...	Shwebo	Mandalay.
,, W. H. S. Burney	Ferozepore ...	Solon.
,, W. J. Tobin	Bangalore ...	Nasirabad.
,, C. L. Franklin, M.B. ...	Potchefstroom...	Cape Town.
,, A. S. M. Winder, M.B. ...	Lucknow... ...	Sitapur.
,, J. M. Weddell	Delhi	Fyzabad.
,, H. G. Robertson, M.B. ...	Malta	Scutari.
,, R. C. G. M. Kinkead, M.B.	Bloemfontein ...	Potchefstroom.
,, E. C. Stoney, M.B. ...	Bhamo	Maymyo.
,, C. H. H. Harold, M.D. ...	Ambala	Dagshai.
,, T. J. Hallinan, M.B. ...	Multan	Kalabagh.
,, J. K. Gaunt, M.B. ...	Scutari	Malta.
Lieutenant C. M. Finny, M.B. ...	Rawal Pindi ...	Upper Topa.
,, C. D. K. Seaver ...	Jullundur ...	Dalhousie.
,, B. H. H. Spence, M.D.	Barian	Egypt.
,, J. M. Elliott, M.B. ...	Baracao	Rawal Pindi.
,, D. W. Bruce, M.B. ...	Lahore	Multan.
,, L. Buckley, M.B. ...	Tret	Gharial.
,, S. P. Sykes, M.B. ...	Jutogh	Khyra Gali.
,, A. G. Biggam, M.B....	Rawal Pindi ...	Jutogh.
,, A. Hood, M.B. ...	,,	Agra.
,, C. M. Ingoldby ...	,,	Jullundur.
,, S. J. Higgins	Sitapur	Lucknow.
,, W. V. Corbett... ...	London	Pirbright.
,, J. C. Sproule	West Down Camp	Rollestone Camp.
,, A. F. C. Martyn ...	Aldershot ...	Egypt.
,, H. T. Panton, M.B. ...	Ambala	Mhow.
,, H. Beddingfield, M.B.	Hounslow ...	Woolwich.
,, S. D. Large	Ewshott... ...	Edinburgh.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

AYLESBURY: ROYAL BUCKINGHAMSHIRE HOSPITAL.—Male House-Surgeon. Salary, £100 per annum, rising to £120.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Male House-Surgeon. Salary, £150 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House-Surgeon (male). Salary, £120 per annum.

BOOTLE BOROUGH INFECTIOUS DISEASES HOSPITAL.—Resident Medical Officer. Salary, £150 per annum.

BRADFORD EDUCATION COMMITTEE.—Chief School Dentist. Salary, £350 per annum.

BRADFORD ROYAL INFIRMARY.—House-Physician (male). Salary, £100 per annum.

BRIDGE OF WEIR CONSUMPTION SANATORIUM.—Lady Assistant. Salary, £75 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-Resident House-Surgeon. Salary at the rate of £150 per annum.

BRISTOL CITY LUNATIC ASYLUM.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

BRISTOL GUARDIANS.—Two Assistant Medical Officers at the new Infirmary, Southmead. Salary, £150 per annum each.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House-Physician and House-Surgeon. Salary, £100 each per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL. — Second House-Surgeon. Salary, £80 per annum.

CANCER HOSPITAL (FREE), Fulham Road, S.W.—House-Surgeon. Salary, £70 per annum.

CANNING TOWN WOMEN'S SETTLEMENT HOSPITAL, Plaistow. —Senior Resident Medical Officer. Salary, £120 per annum.

CARDIFF COMMITTEE FOR THE CARE OF THE MENTALLY DEFECTIVE.—Medical Officer. Salary, £300 per annum.

CARNARVONSHIRE EDUCATION COMMITTEE.—School Dentist. Salary, £250 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—House-Surgeon. Salary at the rate of £50 per annum.

CHORLEY: RAWCLIFFE HOSPITAL. — House Surgeon (male). Salary, £100 per annum.

COLONIAL OFFICE.—Bacteriologist for British Guiana. Salary, £350 per annum, rising to £600 by annual increments of £25.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer. Salary, £225.

CROYDON BOROUGH HOSPITAL.—Assistant Resident Medical Officer. Salary, £150 per annum.

DERBYSHIRE HOSPITAL FOR SICK CHILDREN. — Resident Medical Officer (lady). Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL. — House-Surgeon. Salary at the rate of £150 per annum.

DORCHESTER: DORSET COUNTY HOSPITAL.—House-Surgeon. Salary, £125 per annum.

EDINBURGH ROYAL ASYLUM, Morningside.—Assistant Physician. Commencing salary, £175 per annum.

EGYPT.—Assistant Medical Officer at the Egyptian Hospitals for the Insane. Salary, L.E.45 per month, rising to L.E.55.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—(1) House-Physician. (2) Assistant House-Surgeon. Salary, £200 per annum each.

GLASGOW ROYAL ASYLUM.—Senior and Junior Assistant Physicians. Salary at the rate of £300 and £200 per annum respectively.

GLENELG PARISH COUNCIL.—Medical Officer. Salary, £140 per annum.

HALIFAX ROYAL INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HOSPITAL FOR CONSUMPTION, Etc., Brompton. —House-Physician. Honorarium, 25 guineas for five months.

HOSPITAL FOR WOMEN, Soho Square, W.—Clinical Assistants in Out-patient Department.

HULL: ROYAL INFIRMARY.—Assistant House-Surgeon. Salary, £100 per annum.

INVERNESS: NORTHERN INFIRMARY.—House-Surgeon. Salary, £100 per annum.

JARROW-ON-TYNE: PALMER MEMORIAL HOSPITAL.—House-Surgeon (male). Salary, £170 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL. —House-Surgeon. Salary, £100 per annum.

LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

LANCASHIRE COUNTY COUNCIL.—Two Junior Assistant Tuberculosis Officers. Salary, £300 per annum, rising to £350.

LEAMINGTON SPA: WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL. —House-Physician. Salary, £85 per annum.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. Salary, £130 per annum each.

LEICESTER POOR LAW INFIRMARY.—Senior and Junior Assistant Medical Officer. Salary, £200 and £150 per annum respectively.

LIVERPOOL: DAVID LEWIS NORTHERN HOSPITAL. — (1) Resident Surgical Officer. (2) House-Surgeon. (3) Two House-Physicians. Salary, for (1) £70 per annum, and for (2) and (3) £60.

LONDON COUNTY ASYLUM, Colney Hatch.—Junior Assistant (Sixth) Medical Officer. Salary, £200 per annum, rising to £220.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100.

MANCHESTER HOSPITAL FOR CONSUMPTION. — Honorary Assistant Physician.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £120 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL INFIRMARY.—(1) Three House-Physicians. Salary, £20 each for six months. (2) House-Surgeon. Salary, £20 for six months. (3) Four Junior House-Surgeons. (4) Medical Officer for Out-patients. Salary at the rate of £100 per annum.

MANCHESTER TOWNSHIP.—Junior Resident Assistant Medical Officer at Crumpsall Institution. Salary, £120 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary at the rate of £60 and £40 per annum respectively.

NATIONAL SANATORIUM, Benenden.—Assistant Medical Officer. Salary, £120 per annum.

NEWCASTLE-UPON-TYNE PARISH.—Assistant Medical Officer at Poor Law Institution and Infirmary (male). Salary, £200 per annum, rising to £250.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum, rising to £140.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Male Assistant Resident Medical Officer. Salary at the rate of £100 per annum, and £10 honorarium.

PORTSMOUTH PARISH. — Second Assistant Resident Medical Officer for the Workhouse Infirmary, etc. Salary, £150 per annum, rising to £160.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

PRESTON ROYAL INFIRMARY.—House-Physician. Salary, £120 per annum.

PRESTWICH UNION INFIRMARY. — Assistant Medical Officer. Salary, £140 per annum.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary, £100 per annum.

ROCHDALE INFIRMARY AND DISPENSARY. — Senior House-Surgeon (male). Salary, £120 per annum.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon (male). Salary, £110 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Senior and Junior Resident Medical Officers. Salary at the rate of £90 and £70 per annum respectively.

ST. MARYLEBONE PARISH.—District Medical Officer. Salary, £100 per annum.

SALISBURY GENERAL INFIRMARY.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £75 per annum respectively.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum.

SHEFFIELD CHILDREN'S HOSPITAL.—House-Surgeon for Out-patient Department. Salary, £120 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary, £125 per annum each.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon (male). Salary, £100 per annum.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon. Salary, £110 per annum.

WALTHAMSTOW EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £300 per annum, rising to £450.

WEST BROMWICH AND DISTRICT HOSPITAL. — Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E — (1) Resident Medical Officer. (2) Senior House Surgeon. (3) Senior House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary for (1), £160; for (2) and (3), £120, and for (4) and (5), £100 per annum.

WESTMINSTER CITY UNION.—Assistant Medical Officer for the Infirmary, Hendon. Remuneration, £160 per annum, rising to £180.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £120 per annum.

WEST RIDING OF YORK.—Assistant Medical Officer at the Storthes Hall Asylum. Salary, £230 per annum, rising to £270.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

WREXHAM INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: Leiston (Suffolk).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

FLEMMING, G., M.B., C.M., M.R.C.P.Eng., has been appointed Medical Superintendent to the Durham County Sanatorium.

GANDY, E. Worsley, B.A.Cantab., M.R.C.S., L.R.C.P., Administrator of Anaesthetics to Westminster Hospital, S.W., and Assistant Anaesthetist to Royal Ear Hospital, Soho.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

MOLE.—On August 10th, at 19, Mortimer Road, Clifton, Bristol, the wife of Harold F. Mole, F.R.C.S., of a son.

MARRIAGE.

SAUNDERS—MINTO.—On August 10th, at the Presbyterian Church, Whitley Bay, W. Eric Roper Saunders, M.R.C.S.Eng., L.R.C.P. Lond., to Ruth Ann, fourth daughter of the late Captain Andrew Minto of Berwick-on-Tweed.

DEATH.

ACTON.—At West End, Hants, on August 8th, Walter Acton, F.R.C.S. and L.S.A., suddenly after a long illness, aged 88.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

DUBLIN: ROTUNDA HOSPITAL.

LONDON HOSPITAL MEDICAL SCHOOL, Turner Street, E.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 22ND, 1914.

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British Medical Association.

SOUTH AFRICAN COMMITTEE.

THE annual meeting was held at Kimberley on July 11th, 1914, when Sir KENDAL FRANKS was in the chair. The members present were:

1. *Western Branch.*—Drs. L. A. W. Beck, Hugh Smith and Simpson Wells.
2. *Eastern Province Branch.*—Dr. Seale.
3. *Border Branch.*—Drs. Barcroft Anderson and Hill.
4. *Griqualand West Branch.*—Drs. Chas. Symington and A. Fuller.
5. *Natal Coastal Branch.*—Dr. A. McKenzie.
6. *Natal Inland Branch.*—Dr. Campbell Watt.
7. *Witwatersrand Branch.*—Sir Kendal Franks, and Drs. Maynard and Napier.
8. *Pretoria Branch.*—Dr. Troup.
9. *Orange Free State Branch.*—Dr. Manning.

Payment of Members' Travelling Expenses.—The Honorary Secretary, Dr. D. CAMPBELL, reported that, of the Branches which replied, only one stated it was not in a position to pay travelling expenses.

Unethical Conduct.—Each Branch which had replied had accepted the Committee's suggestion that it should be asked by Branches for an opinion upon the evidence taken at inquiries.

Delegate from the Association.—Regret was expressed that the Association at home had not found it possible to send a delegate to the congress; it was trusted that it might be practicable to do so on a future occasion.

Finance.—The annual report and balance sheet for 1913 showed a balance of £64 4s. in hand, but it was stated that certain Branches were considerably in arrears, and it was resolved to inform Branches that all moneys due by them to the Committee should be paid to its treasurer by December 1st in each year.

Medical Witnesses' Fees.—The SECRETARY read the reply from the Secretary for Justice to the Committee's letter advocating an advance in the subsistence and travelling rates. The reply was of an encouraging nature, but it appeared that the only increase was in the subsistence rate, which was raised from 20s. to 30s. a day. Dissatisfaction was expressed at the absence of any advance in travelling rates, and of a special fee for giving evidence. A subcommittee was appointed to report to the next meeting.

Railway Medical Officers.—The SECRETARY reported that he had received returns from a large majority of these officers, and had tabulated the proposed amendments. After considerable discussion a subcommittee was appointed to take further steps in the matter.

Medical Defence Fund:—The subcommittee appointed to draw up a scheme presented an interim report, in which it was stated that it was necessary to take legal advice on certain points, the subcommittee to obtain such advice.

Fees for Medical Boards.—The replies received from Branches were discussed, and it was resolved that a minimum fee of £2 2s. should be paid for each examination to each member; that Government should be responsible for the fee, but that this should not apply to district surgeons if in their own areas.

Association Notices.

SUGGESTED CHANGES OF BOUNDARIES.

PROPOSED FORMATION OF A HYDERABAD AND CENTRAL PROVINCES BRANCH.

NOTICE is hereby given to all concerned of a proposal made by members and non-members of the Association resident in the Nizam's Dominions and Central Provinces for formation of a Branch of the Association, to include these combined areas and to be known as the Hyderabad and Central Provinces Branch. The matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact and his or her reason therefor to the Medical Secretary, 429, Strand, W.C., not later than October 22nd, 1914.

LOCAL MEDICAL AND PANEL COMMITTEES.

ESSEX.

THE first meeting of the session was held on August 13th, having been called under schemes "B" and "D" by the returning officer for Essex (Dr. HARDING H. TOMKINS), who reported that the Representatives elected or returned were for both Committees, thus securing identical personnel. The total cost was only £5 13s. 8d.

Election of Officers.—Dr. Leigh Day was re-elected Chairman, and Dr. J. Douglas Wells Vice-Chairman, but as he had joined his regiment Dr. C. E. Brunton was appointed Deputy Vice-Chairman. Dr. Harding H. Tomkins was re-elected Secretary, Dr. Erskine was appointed for areas 5 and 6, Dr. J. A. T. White for area 17, and Dr. C. Gordon Roberts for area 21, all previously members. Dr. H. Reynolds Brown was co-opted, as also Dr. J. Harrison, Dr. A. Butler Harris, Dr. J. H. Salter, Dr. J. Gidley-Moore and Dr. A. Berrill. All these elections, appointments and co-options were for both Committees.

Balance Sheet of Panel Moneys.—A request was made for a statement of all moneys due to panel doctors, and all payments made, in order to ascertain if all panel, urban area dispensing fees, and money due for unallotted persons and drug suspense fund had been paid.

Shortage of Drugs.—The Insurance Committee was asked to circularize all panel doctors as to the shortage of drugs due to the war. It was agreed to pay one-third of the cost of checking prescriptions; since last year there was a surplus of £1,750, while the first six months of this year showed a deficit of £3,300 odd. Two members were appointed to a joint subcommittee to consider all matters as between the Pharmaceutical, Panel, and Insurance Committees.

The War and Doctors on Service.—The following resolution was sent to the Insurance Committee:

> That whilst we are willing to undertake the treatment (without charge to the practitioner) of panel patients as deputy for any practitioner called up for active service, it is impossible to keep the record cards for these patients.

The hope was expressed that a meeting would be called in every area to consider the steps to be adopted in order to attend the patients of doctors on service and the

necessitous dependants of reservists and Territorials pending arrangements by local lay committees—representative of charitable organizations, friendly societies, local councils, etc.—which are now being formed.

District Subcommittees.—The Insurance Committee was requested to make proper provision for the adequate representation of the profession upon the new district subcommittees, and it was agreed that the areas should be rearranged so as to be coterminous with the twenty-one panel areas of Essex.

New Agreements.—A resolution requesting the Insurance Committee to send a draft copy of new agreements at least two months before signature was required was passed unanimously.

INSURANCE COMMITTEES.

Manchester.

The War.

A special meeting of the Manchester Insurance Committee was held on August 11th to consider, in the first place, the circular from the Insurance Commissioners calling attention to the necessity of making adequate arrangements for the medical treatment of insured persons in districts where panel doctors had been called to the front or to serve with the Territorials. It is not anticipated, however, that any great difficulty will arise in this respect in either Manchester or Salford. A communication was also received from the Panel Committee containing suggestions for maintaining the service as complete as possible. In order to safeguard the interests of any panel practitioner called away on active service, it was suggested that a sum of money should be reserved out of the panel fund equal to what would have accrued to them if they had not been called up. It may be pointed out that under the Manchester and Salford system of payment by attendance the panel fund is a pool out of which the panel doctors are paid according to the number of attendances given to the insured. Up to the present the doctors' accounts have never been paid in full, as the pool has only sufficed to pay a percentage. It can therefore matter little to the Insurance Committee if the panel doctors themselves agree that part of the pool should be reserved for such a special purpose. Some legal difficulties, however, may possibly arise, as the Insurance Committee has to submit all its payments to the official auditors, and the suggestion for safeguarding the interests of those called up for service may have to be somewhat modified. The Committee, however, decided, in view of the extra calls that are sure to be made on the panel doctors, to pay as large a percentage of the doctors' accounts as can possibly be arranged. It was also decided to address to doctors and chemists a circular calling attention to the difficulty that may arise from the lessened supply, owing to the war, of certain drugs in common use.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-seven of the largest English towns 7,478 births and 4,164 deaths were registered during the week ended Saturday, August 8th. The annual rate of mortality in these towns, which had been 11.6, 11.3, and 12.1 per 1,000 in the three preceding weeks, fell to 12.0 per 1,000 in the week under notice. In London the death-rate was equal to 11.9, against 11.8, 10.7, and 12.1 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 2.2 in Ealing, 5.2 in Reading and in Bath, 5.7 in Ilford, 6.1 in Wimbledon and in Bournemouth, 6.2 in Brighton, and 6.6 in Croydon to 16.7 in Southport, 17.0 in Liverpool, 17.1 in Swansea, 18.5 in Bootle, and 19.3 in Dewsbury. The deaths of children under 2 years of age from diarrhœa and enteritis, which had been 151, 209, and 302 in the three preceding weeks, further rose to 332; of this number, 69 were recorded in London, 27 in Birmingham, 26 in Sheffield, 22 in Liverpool, 17 in Hull, and 16 in West Ham. Measles caused a death-rate of 1.5 in Leeds and 3.5 in Oldham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 42, or 1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of these, 7 were recorded in Birmingham, 6 in Liverpool, 5 in Gateshead, 3 in London, and 3 in Southport. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,126, 3,135, and 3,154 at the end of the three preceding weeks, had further risen to 3,155 on Saturday, August 8th; 378 new cases were admitted during the week, against 430, 414, and 405 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In sixteen of the largest Scottish towns 1,057 births and 509 deaths were registered during the week ended Saturday, August 8th. The annual rate of mortality in these towns, which had been 12.7, 13.5, and 12.9 per 1,000 in the three preceding weeks, fell to 11.6 in the week under notice, and was 0.4 per 1,000 below the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 4.6 in Perth, 5.4 in Hamilton, and 6.3 in Motherwell and in Falkirk to 13.3 in Paisley, 17.0 in Coatbridge, and 17.8 in Kirkcaldy. The mortality from the principal infective diseases averaged 1.5 per 1,000, and was highest in Dundee, Coatbridge, and Greenock. The 238 deaths from all causes in Glasgow included 19 from infantile diarrhœa, 11 from whooping-cough, 3 from enteric fever, 2 from diphtheria, 2 from scarlet fever, and 1 from measles. Four deaths from measles were recorded in Dundee; from diphtheria, 2 deaths in Edinburgh; from whooping-cough, 2 deaths in Greenock; and from infantile diarrhœa, 3 deaths in Dundee, and 3 in Leith.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 1st, 598 births and 363 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 604 births and 335 deaths in the preceding period. These deaths represent a mortality of 15.7 per 1,000 of the aggregate population in the districts in question, as against 14.5 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.6 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.9 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.3 (as against an average of 15.9 for the previous four weeks): in Dublin city, 18.3; in Belfast, 15.0; in Cork, 15.6; in Londonderry, 17.8; in Limerick, 14.9; and in Waterford, 11.4. The zymotic death-rate was 2.3, as against 1.8 in the previous week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following notifications are announced by the Admiralty: Deputy Surgeon-General C. J. Mansfield, M.V.O., to the *Pembroke*, for R.N. Barracks, Chatham, July 29th. Fleet Surgeon P. H. Boyden, to the *Collingwood*, on recommissioning, August 26th. Fleet Surgeon G. Taylor, to the *Formidable*, on recommissioning, August 26th. Fleet Surgeon E. J. Finch to the Chatham Division, Royal Marines, for Royal Marine Battalion, August 5th. Fleet Surgeon E. A. Shaw (retired), to Chatham Dockyard, vice Iredell, August 5th. Fleet Surgeon J. J. Walsh, M.B., to the *Drake*, on becoming parent ship. Fleet Surgeon E. D. J. O'Malley to the *Europa*, on becoming parent ship. Fleet Surgeon E. H. H. de C. Herry, M.D., to the *Euryalus*, on becoming parent ship. Staff Surgeon A. B. Marsh, to the *Collingwood*, on recommissioning, August 26th. Staff Surgeon A. A. Forrester, to the *Formidable*, on recommissioning, August 26th. Staff Surgeon C. E. Stanford to the Eastney Division, Royal Marine Artillery, for Royal Marine Battalion. Staff Surgeon E. B. Kenny to the *Victory*, for Royal Naval Barracks, August 5th. Staff Surgeon J. A. Thompson, M.B., to the *Goliath*, on becoming parent ship. Staff Surgeon T. W. Myles, M.D., to the *Pembroke*, additional for disposal, June 29th. Staff Surgeon A. R. Thomas to the *Pembroke*, additional for disposal, June 29th. Surgeon T. C. Patterson, to the *Vivid*, additional, for Royal Naval Hospital, Plymouth, July 25th. Surgeon J. H. Wright to the *Vivid*, for Royal Naval Barracks, August 5th. Temporary Surgeons R. W. Brander, D. P. Brown, A. M. Russell, R. A. Barlow, D. K. Adams, J. C. Walker, W. Meikle, and S. Robertson, to the *Pembroke*, for disposal, August 5th. Stanley S. H. Shannon, formerly a Staff Surgeon has been placed on the Emergency List, August 9th.

ARMY MEDICAL SERVICE.

Colonel Richard H. S. Sawyer, M.B., on completion of four years in his rank, is placed on the half-pay list, August 3rd.

Colonel John C. Culling, on completion of four years' service in his rank, is placed on the half-pay list, August 8th.

Lieutenant-Colonel James Meek, M.D., from the Royal Army Medical Corps, to be Colonel, vice R. H. S. Sawyer, August 3rd.

Lieutenant-Colonel William T. Swan, M.B., from the R.A.M.C., to be Colonel, vice J. C. Culling, August 8th.

Royal Army Medical Corps.

Majors S. W. Sweetnam and A. E. Milner have been placed on retired pay, July 28th.

Major Claude B. Martin, M.B., to be Lieutenant-Colonel, and to be supernumerary, August 3rd.

Major Charles B. Lawson, M.B., to be Lieutenant-Colonel, August 3rd.

Major Joseph F. M. Kelly, M.B., to be Liutenant-Colonel, August 8th.

Captain P. C. Field is seconded for service with the Egyptian Army, July 1st.

Captain Robert J. B. Buchanan is placed temporarily on the half-pay list on account of ill-health, August 8th.

Captains T. B. Moriarty, R. H. Nolan, and T. T. H. Robinson have joined the London District.

Captain M. P. Leahy has joined the Queen Alexandra Royal Military Hospital, Millbank.

Captain C. R. Sylvester-Bradley has been appointed Deputy Assistant Director of Medical Services, East Lancashire Territorial Division.

The following Lieutenants to be Captains, July 27th: B. Biggar, J. D. Kidd, C. M. Finny, G. Wilson, W. S. R. Steven, E. G. S. Cane, W. A. Frost, W. T. Graham, F. A. Robinson, D. Reynolds, J. S. Levack, P. M. J. Brett, P. Hayes, T. A. Weston, W. Bisset, T. C. R. Archer, W. L. E. Fretz, C. D. K. Seaver.

Lieutenant G. E. Dyas has been appointed to the Queen Alexandra Royal Military Hospital, Millbank.

Lieutenant P. Hayes has been appointed a Specialist in Dermatology, Fifth (Mhow) Division.

The undermentioned Lieutenants are confirmed in their rank: George E. Dyas, Percival D. Warburton, Allan Watson, M.B., Norman N. Lothian, M.B., John G. Gill, M.B., David W. Rintoul, M.B., Stanley M. Hattersley, M.B., John W. C. Stubbs, M.B., Arthur J. A. Menzies, M.B., John F. G. Gwynne, M.B., Thomas F. P. Breen, M.B.

Temporary rank of Lieutenant has been granted to the following whilst employed with the army: FREDERICK G. CHANDLER, M.B., ARTHUR J. EAGLETON, M.B., GEORGE D. JAMESON, ALMA P. FORD, REGINALD K. MACGREGOR, HAROLD Y. MANSFIELD, M.B., LEONARD C. SOMERVELL, HENRY W. BATCHELOR, MALCOLM DONALDSON M.B., F.R.C.S., ROBERT G. BROWN, OWEN L. V. DE WESSELOW, M.B., KENNETH B. AIKMAN, DUNCAN W. PAILTHORPE, CHARLES S. P. HAMILTON, JOHN F. TAYLOR, M.B., WILLIAM H. D. SMITH, M.B., HORACE W. HAY, ST. JOHN D. BUNTON, HAROLD A. DOUGLAS, M.B., HENRY D. ROBB, M.B., ALEXANDER F. POTTER, JOHN A. COWAN, M.B., MAITLAND RADFORD, M.B., WILLIAM M. HOWELLS, M.B., HERBERT A. WATERMEYER, GILBERT C. CHUBB, M.B., F.R.C.S., WILLIAM KELSEY-FRY, ARTHUR J. WAUGH, HAMISH M. ANDERSON, M.B., GEORGE C. METCALFE, CHARLES S. E. WRIGHT, M.B., JOHN B. MOORE, M.D., LOUIS LAZARUS, ARTHUR G. H. LOVELL, M.B., F.R.C.S., HOWARD A. BELL, ERNEST SCOTT, M.B., WILLIAM ALLAN, M.B., GEORGE H. CHISNALL, M.B., IVAN S. WILSON, M.D., F.R.C.S., MARTYN H. WATNEY, M.B., CHARLES W. B. LITTLEJOHN, M.B., RUPERT S. SCOTT, VERNON C. WHITBY VICKERS, JAMES LA F. LAUDER, PERCY P. BUTLER, HENRY B. OWENS, WILLIAM H. LISTER, EDWIN J. WYLER, M.D., ARTHUR E. BROWN, LANCELOT G. BOURDILLON, HUGH J. ORR-EWING, M.B., DAVID G. WATSON, M.B., HUGH D. WILLIS, M.B., MONAMY A. C. BUCKELL, M.B., CLAUDE C. HARRISON, M.B., GEORGE M. CAMPBELL, M.B., ROBERT D. M. MACPHERSON, M.B., CYRIL SHERRIS, M.B., ALLAN MANN, M.B., JOHN WHIGHAM, M.B., RONALD SILCOCK, CYRIL E. THWAITES, JOHN B. HAYCRAFT, M.B., REGINALD S. S. STATHAM, M.D., CECIL B. HOGG, M.B., ARTHUR S. GLYNN, M.B., JOHN DOTTO, RONALD HODSON, M.B., JOHN S. AVERY, M.B., JOHN L. JACKSON, M.B., FINDLAY MURCHIE, M.B., WILLIAM O. HALPIN, M.D., FREDERICK E. S. WILLIS, CYRIL J. W. CLAYTON, LIONEL H. Y. STEPHEN, GEOFFREY T. LOUGHBOROUGH, JAMES E. H. ROBERTS, M.B., F.R.C.S., PHILIP W. JAMES, M.D., ERIC WORDLEY, M.B., BASIL W. ARMSTRONG, ARTHUR E. BULLOCK, EDWARD W. CARRINGTON, M.B., RALPH L. SCOTT, M.B., F.R.C.S., FRANCIS R. THORNTON, M.B., HERBERT H. P. MORTON, HENRY G. WILTSHIRE, ERNEST R. WALKER, WALTER S. DANKS, M.D., FREDERICK J. THORNE, M.B., JOSEPH G. GREENFIELD, M.B., AUBREY D. VERNON-TAYLOR, EDWARD M. WOODMAN, F.R.C.S., JAMES E. T. JONES, THOMAS MARTIN, M.B., REX STANSFIELD, HERBERT WALKER, ALGERNON C. S. SMITH, FREDERICK T. HILL, JOHN SAINSBURY, M.B., GEORGE H. VARLEY, M.B., ALEXANDER R. ESLER, ARTHUR F. S. SLADDEN, M.D., KENNETH B. DICKSON, ARTHUR K. ARMSTRONG, RAYMOND B. TAYLOR, M.B., WILLIAM L. G. DAVIES, HAROLD SHELDON, M.B., HAROLD B. WHITEHOUSE, F.R.C.S., ADOLPH R. N. MACGILLICUDDY, ROBERT M. MILLER, HAROLD E. BATTLE, and CARLETON Y. FORD, M.D.

Lieutenant D. REYNOLDS to be Official Cantonment Magistrate, Sialkot, from July 2nd, relieving Captain W. D. Reid, proceeding on leave.

INDIAN MEDICAL SERVICE.

THE services of Captain A. A. C. MCNEILL, M.B., are placed temporarily at the disposal of the Government of Bengal.

The services of Lieutenant-Colonel W. R. EDWARDS, C.B., C.M.G., were placed temporarily at the disposal of His Excellency the Commander-in-Chief for the period from May 1st to 24th, 1914.

The services of Lieutenant-Colonel W. R. EDWARDS, C.B., C.M.G., are placed permanently at the disposal of His Excellency the Commander-in-Chief, with effect from May 25th, 1914.

The services of Lieutenant-Colonel C. R. PEARCE, M.B., are placed temporarily at the disposal of the Government of Burma for appointment as Director of the Burma Pasteur Institute.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Second Home Counties Field Ambulance.—Captain W. E. ALSTON from attachment to units other than medical units to be Captain, June 20th.

Notts and Derby Mounted Brigade Field Ambulance.—HERBERT WALLACE, M.B., to be Lieutenant, June 27th.

Second Lowland Field Ambulance.—Lieutenant DUGALD H. MACPHAIL to be Captain, July 4th.

Third Northumbrian Field Ambulance.—Captain STANLEY F. LINTON, M.B., from the list of officers attached to units other than medical units to be Captain, May 25th.

Home Counties Clearing Hospital.—Major JAMES S. WARRACK, M.D., from attachment to units other than medical units to be Major, June 25th.

North Midland Mounted Brigade Field Ambulance.—Lieutenant THOMAS D. BUCHANAN to be Captain, August 19th.

Third Highland Field Ambulance.— DOUGLAS H. SCOTT to be Lieutenant, August 19th.

Sixth London Field Ambulance.—Lieutenant JOSEPH E. RYAN, M.D., to be Captain, August 1st.

First South Midland Field Ambulance.—To be Lieutenants, August 19th: MORRIS WILKS, M.B., and WILLIAM BOWATER.

Second West Riding Field Ambulance.—CRAUFURD T. MATTHEWS to be Lieutenant, August 19th.

Third London General Hospital.—To be Captains, August 19th: THEODORE G. A. BURNS, FRANCIS W. GOODBODY, M.D., FRANCIS H. HUMPHRIES, M.D., ARTHUR E. DODSON, SOMERVILLE HASTINGS, F.R.C.S., and RAYMOND E. APPERLY.

Fourth London General Hospital.—WALTER D'E. EMERY, M.D., to be Captain, August 19th.

Third Northern General Hospital.—Professor HENRY R. DEAN, M.D., F.R.C.P., to be Major, August 19th.

Third Scottish General Hospital.—JAMES R. C. GREENLEES, M.D., to be Captain, August 19th.

Fourth Southern General Hospital.—EDWARD R. CLARKE, M.B., to be Captain, August 19th.

Fifth Southern General Hospital.—Captain EDWARD J. D. TAYLOR, M.B., from the Mobilization List to the permanent personnel, to be Major, August 19th.

Attached to Units other than Medical Units.—Lieutenant WILLIAM MURRAY, M.D., to be Captain, April 16th. OSWALD L. SCARBOROUGH to be Lieutenant, July 22nd. HAROLD DEARDEN to be Lieutenant, August 19th. Lieutenant DAVID G. KENNARD to be Captain, August 19th.

Supernumerary for Service with the Officers' Training Corps.—Cadet Quartermaster-Sergeant THOMAS D. INCH, M.B., Edinburgh University Contingent, Senior Division, O.T.C., to be Lieutenant for service with the medical unit of that contingent, August 19th.

For Attachment to Units other than Medical Units.—WALTER R. BRISTOW, M.B., F.R.C.S., to be Lieutenant, June 28th.

Lieutenant-Colonel LAWRENCE J. BLANDFORD, M.D., from the Second Northumbrian Field Ambulance, to be Divisional Sanitary Officer, Northumbrian Division, R.A.M.C., vice Major THOMAS E. HILL, M.B., resigned, August 8th.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

ABERYSTWYTH GENERAL HOSPITAL.—House-Surgeon and Secretary (male). Salary, £175 per annum.

ASHTON-UNDER-LYNE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

AYLESBURY: ROYAL BUCKINGHAMSHIRE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Male House-Surgeon. Salary, £150 per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—House-Surgeon. Salary at the rate of £100 per annum.

BIRMINGHAM CITY FEVER HOSPITAL.—Temporary Medical Superintendent. Salary, £250 per annum.

BIRMINGHAM UNION INFIRMARY.—(1) Assistant Medical Officer (male). Salary, £160 per annum. (2) Fourth Assistant Medical Officer (male). Commencing salary, £140 per annum.

BOOTLE BOROUGH HOSPITAL.—Senior and Junior House-Surgeons. Salary, £120 and £100 per annum respectively.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House-Surgeon. Salary at the rate of £150 per annum.

CANNING TOWN WOMEN'S SETTLEMENT HOSPITAL, Plaistow.—Senior Resident Medical Officer. Salary, £120 per annum.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

CLINICAL RESEARCH ASSOCIATION, LIMITED.—Assistant Director of the Laboratories. Remuneration to commence with £250 per annum.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer. Salary, £225.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Senior House-Surgeon. Salary, £150 per annum. (2) House-Physician. Salary, £110 per annum. (3) Junior House-Surgeon. Salary, £100 per annum.

CROYDON BOROUGH HOSPITAL.—Assistant Resident Medical Officer. Salary, £150 per annum.

DERBY: DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (lady). Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

DORCHESTER: DORSET COUNTY HOSPITAL.—House-Surgeon. Salary, £125 per annum.

DUNDEE ROYAL INFIRMARY.—Resident Medical Officers.

DURHAM: SHERBURN HOSPITAL.—Medical Officer. Salary, £300 per annum.

GENERAL LYING-IN HOSPITAL, York Road, S.E.—House-Physician. Salary at the rate of £50 per annum.

GLASGOW ROYAL MATERNITY AND WOMEN'S HOSPITAL.—(1) Two Indoor House-Surgeons. (2) Two Outdoor House-Surgeons. (3) Outdoor House-Surgeon for West End Branch.

GLENELG PARISH COUNCIL.—Medical Officer. Salary, £140 per annum.

HACKNEY UNION INFIRMARY.—Junior Assistant Medical Officer. Salary, £140 per annum.

HALIFAX ROYAL INFIRMARY.—(1) Second House-Surgeon. Salary, £120 per annum. (2) Third House-Surgeon. Salary, £100 per annum.

HOLBORN UNION INFIRMARY.—Second Assistant Medical Officer. Salary, £150 per annum.

HULL: ROYAL INFIRMARY.—Assistant House-Surgeon. Salary, £100 per annum.

HULL: VICTORIA HOSPITAL FOR SICK CHILDREN.—House-Surgeon (lady). Salary, £50 per annum.

JAMES MURRAY'S ROYAL ASYLUM, Perth.—Assistant Physician. Salary, £200 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LANCASHIRE COUNTY ASYLUM, Winwick.—(1) Assistant Medical Officer to act as Pathologist. Salary, £250 per annum, rising to £300. (2) Locumtenent Medical Officer. Salary, six guineas per week.

LEAMINGTON SPA: WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House-Physician. Salary, £85 per annum.

LEICESTER ROYAL INFIRMARY.—(1) Ophthalmic House-Surgeon. Salary at the rate of £100 per annum. (2) Assistant House-Surgeon. Salary at the rate of £100 per annum.

LEYTON URBAN DISTRICT EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer and Assistant Medical Officer of Health. Salary at the rate of £300 per annum.

LIVERPOOL: DAVID LEWIS NORTHERN HOSPITAL.—(1) Resident Surgical Officer. (2) House-Surgeon. (3) Two House-Physicians. Salary, for (1) £70 per annum, and for (2) and (3) £60.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer (male). Salary for the first six months at the rate of £100 per annum, rising to £120.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL INFIRMARY.—(1) Three House-Physicians. Salary, £20 each for six months. (2) House-Surgeon. Salary, £20 for six months. (3) Four Junior House-Surgeons. (4) Medical Officer for Out-patients. Salary at the rate of £100 per annum.

MANCHESTER SOUTH TOWNSHIP HOSPITAL.—Second and Third Assistant Resident Medical Officers. Salary, £175 and £150 per annum respectively.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary at the rate of £60 and £40 per annum respectively.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORFOLK COUNTY EDUCATION COMMITTEE.—Assistant Medical Officer. Commencing salary, £300 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum, rising to £140.

PAISLEY INFECTIOUS DISEASES HOSPITAL.—Resident Medical Officer. Salary, £150 per annum.

PARISH OF ST. LEONARD, SHOREDITCH.—Junior Assistant Medical Officer for Union Infirmary. Salary, £150 per annum.

PORTSMOUTH ROYAL HOSPITAL.—House-Surgeon (male). Salary, £90 per annum.

PRESTON ROYAL INFIRMARY.—House-Physician. Salary, £120 per annum.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary, £100 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Resident Medical Officer. Salary at the rate of £60 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Senior House-Surgeon (male). Salary, £120 per annum.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—Resident House-Physician. Salary at the rate of £110 per annum.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon (male). Salary, £110 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Senior and Junior Resident Medical Officers. Salary at the rate of £90 and £70 per annum respectively.

SALISBURY GENERAL INFIRMARY.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £75 per annum respectively.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Resident House-Surgeon. Salary, £80 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD ROYAL HOSPITAL.—Honorary Assistant Dental Surgeon.

SOMERSET COUNTY EDUCATION COMMITTEE.—Male Assistant School Medical Officer. Commencing salary, £300 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary, £125 per annum each.

TAUNTON AND SOMERSET HOSPITAL.—(1) Senior House-Surgeon. Salary, £120 per annum. (2) Resident Assistant House-Surgeon. Salary, £80 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon. Salary, £110 per annum.

WALTHAMSTOW EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £300 per annum, rising to £450.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—(1) Resident Medical Officer. (2) Senior House-Surgeon. (3) Senior House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary for (1), £160; for (2) and (3), £120; and for (4) and (5), £100 per annum.

WEST LONDON HOSPITAL, W.—Two House-Physicians, and Three House-Surgeons.

WHITECHAPEL UNION INFIRMARY.—Second Assistant (male) Resident Medical Officer. Salary, £120 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

WREXHAM INFIRMARY.—Resident House Surgeon. Salary, £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Corris (Merioneth), Yatton (Somerset).

MEDICAL REFEREE.—The Home Secretary announces a vacancy as Medical Referee under the Workmen's Compensation Act, 1906, for the Eastern District of the Sheriffdom of Perth.

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

GRAHAM, J. W. F., L.S.A.Lond., District Medical Officer to the Aylesbury Union.

HOLT, H. M., M.R.C.S., L.S.A., D.P.H., Certifying Factory Surgeon for the Malton and Norton Urban and Rural Districts.

HOOTON, W. H., M.R.C.S., L.R.C.P., Radiologist to the Clayton Hospital, Wakefield.

HUTTON, M., M.B., Ch.B.Glas., D.P.H., Medical Officer of the Oldham Union Cottage Homes.

MACLEOD, Elizabeth, M.B., Ch.B.Edin., Assistant Medical Officer of the West Ham Union Workhouse.

MCLEOD, C. R., M.B. Ch.B.Aberd., Assistant Medical Officer of the Birmingham Union Infirmary.

MILLS, Claude Harry, M.R.C.S., L.R.C.P., Honorary Assistant Surgeon to St. Paul's Hospital for Skin and Genito-Urinary Diseases.

NEIL, J. Campbell, M.B., Ch.B.Edin., Junior House-Surgeon to the Blackburn and East Lancashire Royal Infirmary.

PARKER, H. G., F.R.C.S., L.R.C.P.Edin., Honorary Aural Surgeon to the Bolton Infirmary and Dispensary.

SHARP, L. W., M.R.C.S., L.R.C.P.Lond., Acting Resident Physician of the Mundesley Sanatorium.

SHENNAN, Theodore, M.D., F.R.C.S.E., Regius Professor of Pathology in the University of Aberdeen, vice Professor George Dean, deceased.

STEWART, J. A., C.M.Glas., M.R.C.S., L.R.C.P.Lond., District Medical Officer to the Dewsbury Union.

THORNLEY, Norman G., M.B., Ch.B., Honorary Surgeon to the Ear, Nose and Throat Department, Bolton Infirmary.

WACHER, H., M.B., B.C.Camb., M.R.C.S., L.R.C.P.Lond., District and Workhouse Medical Officer to the Canterbury Union.

WALKER, G., M.B., B.C., D.P.H., District Medical Officer to the Staines Union.

WAY, W., M.R.C.S., L.R.C.P.Lond., District Medical Officer to the Bramley Union.

WHITE, H. V., M.D. Manchester, Honorary Assistant Surgeon to the Manchester Royal Eye Hospital.

ST. THOMAS'S HOSPITAL.—The following appointments have been made:—

Casualty Officers and Resident Anaesthetists: R. M. De Mowbray, M.R.C.S., L.R.C.P.; V. C. Pennell, B.A.Cantab., M.R.C.S., L.R.C.P.; E. W. N. Hobhouse, M.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P.; L. G. Bourdillon, M.R.C.S., L.R.C.P.; E. L. K. Sargent, B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.; A. R. C. Doorly, M.R.C.S., L.R.C.P.; K. H. McMillan, M.R.C.S., L.R.C.P.; N. P. L. Lumb, M.R.C.S., L.R.C.P.

Casualty Assistants: F. L. Cassidi, B.A.Cantab., M.R.C.S., L.R.C.P.; W. H. Marshall, B.A.Cantab., M.R.C.S., L.R.C.P.

Resident House-Physicians: J. A. G. Sparrow, M.A., M.B., B.Ch.Oxon.; G. T. Hebert, B.A., M.B., B.Ch.Oxon.; L. W. Shelley, B.A.Cantab., M.R.C.S., L.R.C.P.; J. C. Davies, B.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P.

Resident House-Surgeons: G. A. Bird, M.B., B.S., B.Sc.Lond., M.R.C.S., L.R.C.P.; H. G. Chaplin, M.R.C.S., L.R.C.P.; C. W. Wheeler-Bennett, M.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P.; J. S. Sloper, M.B., B.S.Lond., M.R.C.S., L.R.C.P.

House-Surgeon to Block 8: M. J. Petty, M.A., M.B., B.C.Cantab., F.R.C.S.Eng.

Obstetric House-Physicians: (Senior), A. C. Ballance, M.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P.; (Junior), H. P. Dawson, B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.

Ophthalmic House-Surgeons: (Senior), C. L. Gimblett, B.A. Cantab., M.R.C.S., L.R.C.P.; (Junior), P. G. Doyne, B.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P.

Clinical Assistants: (Throat), J. E. Sharp, B.A.Cantab., M.R.C.S., L.R.C.P.; (Skin), C. H. M. Gimlette, B.A.Cantab., M.R.C.S., L.R.C.P.; (Ear), J. E. Sharp, B.A.Cantab., M.R.C.S., L.R.C.P.; (Children's Surgical), C. W. Sparks, M.R.C.S., L.R.C.P.; (Children's Medical), A. W. Dennis, B.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P.; A. F. Potter, M.R.C.S., L.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

GILLESPIE.—At Eastwood, Notts, on the 13th inst., the wife of Hope M. Gillespie, M.B., of a daughter.

MASINÁ.—On July 23rd, at Nepean Sea Road, Malabar Hill, Bombay, India, the wife of H. M. Masiná, F.R.C.S., of a daughter.

MARRIAGES.

BOOTH—ELLIOTT.—On August 18th, at St. Barnabas Church, Kensington, by the Rev. G. Pelham Ackworth, uncle of the bridegroom, Claude Hebden Barker, M.R.C.S., son of the late Samuel Barker Booth, of Gray's Inn, London, to Grace Octavia, youngest daughter of the late Edmund Frederick Elliott and Mrs. Elliott, Holland Road, Kensington.

PIRIE—COLLIE.—At Balnagarth Pifodels, Aberdeen, on the 15th inst., by the Rev. Martin Lewis, D.D., assisted by the Rev. C. W. Hunter, M.A., and the Rev. James Wishart, B.D., William Rattray Pirie, M.B., C.M., M.A.Aberd., to Ella Gordon, daughter of the late George Collie, Advocate in Aberdeen.

DEATHS.

KELSALL.—At Surbiton, on August 12th, Isabel Gertrude, wife of Captain Robert Kelsall, Indian Medical Service, and only daughter of the late Brigade-Surgeon Edward James Sexton, aged 38.

MACKNESS.—On August 12th, at Fort Street House, Broughty Ferry, Harold Carr Mackness, youngest son of G. O. C. Mackness, M.D., aged 17.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

DUBLIN: ROTUNDA HOSPITAL.

LONDON HOSPITAL MEDICAL SCHOOL, Turner Street, E.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 29TH, 1914.

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Association Notices.

CHANGES OF BOUNDARIES.

LEICESTER AND RUTLAND AND NOTTS DIVISIONS.

THE following change has been made in accordance with the Articles and By-laws, and takes effect as from the date of publication of this notice:

That the civil parish of Bottesford be transferred from the area of the Leicester and Rutland Division of the Midland Branch to that of the Notts Division of the same Branch, the areas of the two Divisions being modified accordingly.

Representation in Representative Body.—Unaffected.

ADJUSTMENT OF AREAS OF DUNDEE, PERTH, AND STIRLING BRANCHES AND FORFARSHIRE DIVISION.

The following changes have been made in accordance with the Articles and By-laws, and take effect as from the date of publication of this notice:

That (1) Alyth be transferred from the area of the Forfarshire Division of the Dundee Branch to that of the Perth Branch; (2) that the portion of Perthshire served by the railway from Callender to Stirling be transferred from the area of the Stirling Branch to that of the Perth Branch, the areas of the three Branches and of the Forfarshire Division being modified accordingly.

Representation in Representative Body.—Unaffected.

LOCAL MEDICAL AND PANEL COMMITTEES.

STAFFORDSHIRE.

PANEL COMMITTEE.

A MEETING was held at Stafford on August 20th, when Dr. T. RIDLEY BAILEY was in the chair, and sixteen other members were present. Dr. Lefevre was appointed secretary during the absence of Dr. Hodder on military duty, and Dr. H. A. Bull treasurer.

The War.—The following resolutions were adopted:

That the attendance of panel patients of doctors in the county called to active military service will be carried on by their colleagues in the various districts in those cases where the doctors have been unable to make their own arrangements for such treatment.

That this meeting of the Staffordshire Panel and Local Medical Committees, representing the whole of the medical profession in the county, is willing on its behalf to undertake the gratuitous treatment of the dependants of non-commissioned officers and men called to the colours during the war on the representation of the Local Distress Committees or other competent organizations.

Medical Service and Benefit Subcommittees.—Dr. W. Mitchell Smith was appointed Representative of the Local Medical Committee on the Medical Service Subcommittee, and on the invitation of the General Purposes Committee of the County Insurance Committee the Chairman undertook, during Dr. Hodder's absence, to act as his deputy on the Medical Benefit Committee. Dr. Lefevre will act as Dr. Hodder's deputy on the Medical Service Subcommittee.

Allocation of Insured Persons.—A scheme for the allocation of insured persons who experience difficulty in finding acceptance and for the distribution of the unallotted fees under Articles 21 (4) and 35 (1) of the 1913 Regulations was approved.

Executive Committee.—An executive committee of seven members, together with the Chairman and Secretary, was appointed, and cases of excessive prescribing were referred to it, with power to act.

SURREY.

PANEL COMMITTEE.

THE first meeting of the second Panel Committee was held at Surbiton Cottage Hospital on Friday, August 21st.

Elections.—The following officers were elected:

Chairman: Dr. Lankester (Guildford); *Honorary Treasurer:* Dr. Walters (Reigate); *Honorary Secretary:* Dr. Cran (New Malden).

The following were nominated to fill vacancies: Dr. Howlett (Kingston-on-Thames); Dr. Hodgson (Chertsey); Drs. Cowie and Hill (Wimbledon); Dr. Bentley (Mitcham); Dr. Dottridge (Godalming).

Finance.—The HONORARY TREASURER reported that 158 panel practitioners out of 421 in the county had signed the declaration authorizing the clerk to make a deduction towards the expenses of the Panel and Local Medical Committees.

Emergency Committee.—The following were elected to deal with any matter of emergency: Drs. Lankester, Walters, Lyndon and Cran, together with the Vice-Chairman (when appointed).

Federation of Panel and Local Medical Committees.—It was decided to support this scheme as long as the liability of any individual committee was limited.

NORTH RIDING OF YORKSHIRE.

THE Emergency Committee has issued a circular to all doctors resident in the North Riding or named on the county panel asking them loyally to comply with the following suggestions:

1. To undertake to safeguard the interests of their colleagues who are called to leave their practices in the service of their country, and also undertake any medical duties for the sole benefit of the absentees.
2. To secure the medical treatment by practitioners on the North Riding panel of insured persons on the lists of their colleagues who are absent on military and naval duties, and have been unable to make suitable arrangements.
3. To express their willingness to undertake, free of charge, the medical treatment of necessitous dependants of reservists on their lists, and of all insured persons who have become unemployed as a result of the war.

HULL.

DR. JOHN DIVINE, Honorary Secretary of the Hull Local Medical and Panel Committees, reports that all the members of the profession resident in the area (panel and non-panel) have been circularized, asking those willing to give gratuitous attendance to necessitous dependants of soldiers and sailors on active service to register their names, the practitioners attending such cases only in their own immediate neighbourhoods, or where their previous knowledge of the families disposes them to do so. Consultants are not asked to undertake any of the

general work, but it is expected that they will indicate their willingness to give gratuitous consultations in such cases; the proposed arrangements are to hold good during the period of active service or until the necessity for another and better plan becomes apparent.

COUNTY OF GLAMORGAN.

Panel Committee.

At the first meeting of the new Panel Committee, held in the Glamorgan County Hall on August 18th, Dr. W. E. Thomas (Ystrad Rhondda) was re-elected Chairman, and Dr. J. Shaw Lyttle (Creigian) Secretary. It was announced that nineteen members out of a total of thirty-two had been declared elected, and it was decided to fill the vacancies at the next meeting.

The War and Doctors on Service.—The Secretary was instructed to send the following resolution to the Insurance Committee:

> That this Committee is of opinion that panel doctors should do their utmost to carry on the work of those doctors who have been called upon for duty in connexion with the war, and that all the dependants of those called up should be attended free of charge,

and to point out to the Insurance Committee that the surplus panel money would be of great service at the present time.

Local Medical Committee.—Letters from the Insurance Commissioners were read regarding a scheme for the constitution of a Local Medical Committee for the county, and the Secretary was instructed to write to the Commissioners stating that while it was agreed that it would be advisable in many instances that the members of the Local Medical Committee should be the same as the members of the Panel Committee, the meeting was of opinion that the Local Medical Committee should be elected in accordance with the Act.

INSURANCE NOTES.

IRELAND.

Certification of Insured Persons.

At a recent meeting of the Insurance Committee of the county borough of Dublin the following resolution was unanimously passed:

> That we, the Insurance Committee of the borough of Dublin, are of opinion that the Irish Insurance Commissioners should come to some satisfactory arrangement with the approved societies and doctors so that insured persons in Dublin may get the benefit of the moneys voted by Parliament for the purpose of furnishing sickness certificates free of cost by the establishment of a certifying panel for this district. We earnestly appeal to their patriotism as Irishmen to the members of the medical profession in Dublin to endeavour by mutual agreement with the Irish Commissioners to retain this money voted specially for certification work in Ireland, and so avoid its being returned from year to year to the British Treasury.

The present system of certification for sickness benefit in Dublin and throughout most of Ireland is that carried on by a comparatively small body of doctors called "Medical Advisers." These medical advisers not only certify for their own patients, but, being part of their duty, they intrude themselves on the insured patients of other doctors for the purpose of certifying for sickness benefits. In several instances they have entered the metropolitan hospitals to certify patients on whom serious operations had been performed. One of the leading surgeons in Dublin relates a curious incident: an insured person on whom he had operated for a bunion was subsequently visited by a medical adviser who relied on the patient's history of his case for a diagnosis, with the result that he considered he was dealing with a case of tuberculosis, cut off his weekly sick pay, and recommended the patient to apply for tuberculosis benefit. Several glaring cases of injustice to the insured in Ireland have occurred at the hands of the medical advisers, who, not being the medical attendants of the insured, are not in a position to form a fair estimate of the claims of the insured to sick benefits. Notwithstanding that the Chancellor of the Exchequer twelve months ago promised to find all the money the profession in Ireland demanded for certification, the Irish Commissioners, apparently at the instigation of certain officials of politico-religious societies in Ireland, will have nothing but a scheme based on the present system of medical advisers. This scheme is strenuously opposed by a united profession in Ireland who consider it a national insult that, unlike the profession in Great Britain, they are not to be trusted to certify their own patients for sickness benefit. The scheme of medical advisers recommends itself to the societies' officials chiefly on the grounds that the doctors who will staff this scheme will owe their appointments to the influences of these officials, and thus will not be in a position to act independently towards the insured. Practically in all cases where the insured were allowed to express an opinion on the scheme advocated by the society officials it was strongly unfavourable. All the public bodies in Ireland having either a direct or indirect interest in the administration of the Insurance Act have also pronounced against the employment of part or whole time certifiers on the basis of the medical advisers. Almost half the population of Ireland receive medical treatment, in the first instance, at the hands of the Irish dispensary doctors, whose miserable salaries in the aggregate amount to something over £100,000 per annum, yet instead of supplementing the Poor Law medical officers' salaries and the small fees of these doctors in cities and towns who afford medical attendance on a number of the insured, it is proposed to spend £91,000—Ireland's grant for certification—on some one hundred and thirty medical advisers, whose only duty will be to certify for sickness benefit without affording any medical attendance on the insured. This grotesque proposal is the latest achievement of Irish officialdom.

SCOTLAND.

Medical Referees.

The Insurance Commissioners for Scotland have issued a circular renewing their recommendation to approved societies to make only temporary arrangements for medical referees, and stating that they have decided to continue the present provisional arrangements and to amend the Administration Expenses Regulations so as to allow such further amount, not exceeding 1d. a member, to be carried to the Administration Account as is required to meet any deficiency shown to be due to expenditure on medical referees up to December 31st, 1914.

The effect will be that an extra 2d. per member in all (in addition to any sum that can be spared from the ordinary administration allowance) will be available in respect of expenditure on medical referees in the fifteen months October 1st, 1913, to December 31st, 1914, of which not more than 1d. will be allowed in respect of the period ending January 11th, 1914.

SICKNESS AND DISABLEMENT BENEFITS DURING PREGNANCY.

In response to inquiries from societies, the English Commissioners on August 21st issued a circular (A.S. 143) stating that no distinction should be drawn as regards the payment of sickness or disablement benefit between incapacity due to pregnancy and incapacity due to other causes. So far as this interpretation of the Act involves a charge upon societies' funds in excess of that assumed in the actuarial estimates upon which the finances of the Act were based, provision has been made for meeting this charge from a special grant voted by Parliament. The circular is to be read subject to the express provision of the Act by which Married Women Special Voluntary Contributors (Class H) are debarred from receiving sickness or disablement benefit for two weeks before and four weeks after confinement, except in respect of a disease or disablement neither directly nor indirectly connected with childbirth.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following notifications are announced by the Admiralty: Deputy Surgeon-General Donald T. Hoskyn, M.B., has been promoted to the rank of Surgeon-General, August 7th. Fleet Surgeon Daniel J. P. McNabb has been promoted to the rank of Deputy Surgeon-General, August 7th.

ARMY MEDICAL SERVICE.

Royal Army Medical Corps.

Major Frederick A. Stephen from the half-pay list is restored to the establishment, August 4th.

To be Lieutenants, July 31st: David C. G. Ballingall, M.B., late Officers' Training Corps; Herbert G. Winter; James M. Evatt, late Officers' Training Corps; Francis G. Thatcher, M.B., late Officers' Training Corps; William P. Mulligan, M.B., late Officers' Training Corps; Gerard P. Selby, from the Officers' Training Corps; John G. Butt, M.B.; Neil Cantlie, M.B., from the Officers' Training Corps; Edward A. P. Brock, late Officers' Training Corps; Lieutenant Percival T. Priestley, M.B., from the R.A.M.C. Special Reserve;

Edward Phillips, M.B.; Spence D. Reid, M.B.; Peter J. Ryan, M.B.; Barcroft J. L. Fayle; Evelyn A. Sutton.

Lieutenants restored to the establishment, August 8th: Henry O. Thompson and Lewis R. Shore.

Lieutenant P. Hayes has been appointed a Specialist in Dermatology, Fifth (Mhow) Division, with effect from July 6th.

The following have been granted the temporary rank of Lieutenant: Gavin Stiell Brown, M.B., and John Greene, John B. Young, M.B., William F. Evans, M.B., John A. West, Robert L. Roe, M.B., James H. Ritchie, M.B., Thomas M. Low, M.B., Thomas H. Holroyd, M.B., Andrew B. Lindsay, M.B., Cedric L. Dodd, M.B., John McI. Falkiner, F.R.C.S.I., Arthur S. Woodwark, M.D., Frederick J. Whitelaw, M.B., Charles H. Denham, M.B., Robert B. Rutherford, M.B., Frederick L. Napier, M.B., George D. Ferguson, M.B., George E. Elkington, M.B., James J. Woodburn, M.B., John H. Hood, M.B., Edward T. C. Milligan, M.D., James F. Fairley, M.D., F.R.C.S., Sydney F. McDonald, M.D., Henry L. Martyn, M.B., F.R.C.S., Sydney E. Parker, M.B., Cecil Corbin, M.B., Charles R. Porter, George W. L. Kirk, M.B., David C. Monro, M.B., John M. Gillispie, M.B., Alister F. Cowan, M.B., Frederick C. Atkinson-Fleming, M.B., Norman W. Anderson, M.D.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

C. J. A. Griffin, late Cadet Sergeant, London University Contingent, Officers' Training Corps, to be Lieutenant, August 5th.

Frank Cook, M.B., F.R.C.S., late Cadet Corporal, London University Contingent, Officers' Training Corps, to be Lieutenant, August 6th.

The following cadets and ex-cadets of the Officers' Training Corps to be Lieutenants: John R. Crolius, Francis H. Guppy, R. F. Fagan, Cyril J. A. Griffin, Robert Ellis, M.B., Norman L. Reis, William H. A. D. Sutton, Christopher G. Schurr, Frank Cook, M.B., F.R.C.S., Raymond Stowers, John A. Binning, Francis G. A. Smyth, Clifford W. Sparks, Ennis R. Chambers, William Dunlop, Harry E. Cresswell, John Stephenson, Henry K. V. Soltau, Robert P. S. Mason.

To be Lieutenants: Richard A. Preston, M.B., Arthur B. Preston, Albert G. W. Compton, Charles H. Thomas.

Officers from the Unattached List Officers' Training Corps to be Lieutenants: Lieutenant William C. Mackie, M.B.; Second Lieutenant William B. Alcock, M.B.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Highland Mounted Brigade Field Ambulance.—Evan A. Mackenzie to be Lieutenant, August 22nd.

Notts and Derby Mounted Brigade Field Ambulance.—Oswald K. Wright, M.B., to be Captain, July 31st.

First Home Counties Field Ambulance.—Robert R. J. Holmes to be Lieutenant, August 22nd.

First East Lancashire Field Ambulance.—To be Lieutenants, August 22nd: John Morley, M.B.; Frederick S. Bedale; Alexander M. Mackay, M.B.

Second East Lancashire Field Ambulance.—Lieutenant William J. Purves to be Captain, June 21st.

Third East Lancashire Field Ambulance.—To be Lieutenants, August 22nd: John C. Jefferson, M.B., F.R.C.S.; Nicholas H. H. Haskins, M.B.; Frank K. Tomlinson, M.B.

Third West Lancashire Field Ambulance.—Harry Middleton, M.B., to be Lieutenant, August 22nd.

Third Lowland Field Ambulance.—James A. Henderson, M.B., to be Lieutenant, August 22nd.

Second South Midland Field Ambulance.—To be Lieutenants, August 22nd: William J. C. B. Pitt, Ernest J. C. Groves, M.B.; Ralph A. Broderick, M.B.

First North Midland Field Ambulance.—Herbert W. Joyce to be Lieutenant, August 22nd.

First Northumbrian Field Ambulance.—Major Frank Hawthorn, M.D., to be Lieutenant-Colonel, August 22nd.

Second Northumbrian Field Ambulance.—Captain Duncan A. Cameron, M.B., to be Major, August 8th.

First West Riding Field Ambulance.—Harry Lee to be Lieutenant, August 22nd.

Second West Riding Field Ambulance.—Captains to be Majors: Harold Collinson, M.B., F.R.C.S., August 5th; Frederick Whalley, M.B., August 6th.

First London (City of London) General Hospital.—Major D'Arcy Power, M.B., F.R.C.S., to be Lieutenant-Colonel, August 22nd.

Fifth Northern General Hospital.—Captain Robert W. W. Henry, M.D., from the Mobilization List, to be Major on the permanent personnel, August 22nd.

First Southern General Hospital.—To be Captains, August 11th: Bernard J. Ward, F.R.C.S.; Samuel G. Webb.

Fifth Southern General Hospital.—Lieutenant-Colonel and Honorary Surgeon-General George G. Sparrow and Lieutenant-Colonel John R. S. Robertson resign their commissions, August 22nd. Major Charles F. Routh, M.B., to be Lieutenant-Colonel, August 22nd. Captains to be Majors, August 22nd: Charles A. S. Ridout, M.D., F.R.C.S.; Rolland A. Dove. To be Captains, August 22nd: Hugh B. T. Morgan, M.D., John Blackwood, Henry L. Driver, William Carling, M.B., Philip H. Green, M.B.

First Western General Hospital.—Pantland Hick, M.D., to be Captain, August 22nd.

First London (City of London) Sanitary Company.—To be Lieutenants, August 22nd: Arthur T. Pitts, Evelyn C. Sprawson.

North Midland Clearing Hospital.—Bernard Stracey, M.B., to be Captain, August 22nd.

Attached to Units other than Medical Units.—Lieutenant Richard P. Ryan, F.R.C.S.I., to be Captain, January 1st, 1914. Major George M. Dobson, M.B., Reserve of Officers, to be Major, August 1st. George A. Brogden, M.D., to be Lieutenant, August 22nd

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-seven of the largest English towns, 9,707 births and 4,366 deaths were registered during the week ended Saturday, August 15th. The annual rate of mortality in these towns, which had been 11.3, 12.1, and 12.0 per 1,000 in the three preceding weeks, rose to 12.6 per 1,000 in the week under notice. In London the death-rate was equal to 12.2, against 10.7, 12.1, and 11.9 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 5.1 in Southport, 5.9 in Swindon, 6.0 in Enfield, 6.9 in Ilford, 7.0 in Wimbledon, and 7.1 in East Ham, to 17.0 in Gateshead, 18.1 in Sunderland, 18.4 in Barnsley, 18.7 in Tynemouth, 19.2 in Liverpool, and 19.9 in Cambridge. Measles caused a death-rate of 1.6 in Leeds and 2.4 in Oldham. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 209, 302, and 332 in the three preceding weeks, further rose to 348, of which 102 occurred in London, 28 in Liverpool, 22 in Sheffield, 16 in Manchester, 15 in Leeds, and 13 in Birmingham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 34, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 8 were recorded in Birmingham, 5 in Liverpool, and 2 each in Preston, Blackpool, Sunderland, and South Shields. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,135, 3,154, and 3,155 at the end of the three preceding weeks, had fallen to 3,072 on Saturday, August 15th; 535 new cases were admitted during the week, against 414, 405, and 378 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns, 1,215 births and 608 deaths were registered during the week ended Saturday, August 15th. The annual rate of mortality in these towns, which had been 13.5, 12.9, and 11.6 per 1,000 in the three preceding weeks, rose to 13.8 in the week under notice, and was 1.2 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 2.7 in Hamilton, 8.2 in Clydebank, and 8.8 in Kilmarnock, to 15.7 in Aberdeen, 16.9 in Perth, and 17.3 in Ayr. The mortality from the principal infective diseases averaged 1.7 per 1,000, and was highest in Falkirk and Ayr. The 293 deaths from all causes registered in Glasgow included 18 from infantile diarrhoeal diseases, 12 from whooping-cough, 2 from scarlet fever, 2 from enteric fever, and 1 from diphtheria. Three deaths from measles were recorded in Dundee; from diphtheria 4 deaths in Edinburgh; and from infantile diarrhoea 4 deaths in Dundee and 3 in Edinburgh.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 8th, 544 births and 378 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 598 births and 363 deaths in the preceding period. These deaths represent a mortality of 15.4 per 1,000 of the aggregate population in the districts in question, as against 15.7 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.4 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 23.5 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.3 (as against an average of 16.2 for the previous four weeks), in Dublin city 18.3 (as against 17.6), in Belfast 17.9 (as against 15.0), in Cork 14.3 (as against 14.8), in Londonderry 12.7 (as against 20.6), in Limerick 12.2 (as against 14.6), and in Waterford 9.5 (as against 16.6). The zymotic death-rate was 1.8, as against 2.3 in the previous week.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Male House-Surgeon. Salary, £150 per annum.

BIRMINGHAM CITY FEVER HOSPITAL.—Temporary Medical Superintendent. Salary, £250 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer. Commencing salary, £240 per annum.

BIRMINGHAM UNION INFIRMARY.—(1) Second Assistant Medical Officer; commencing salary, £160 per annum. (2) Assistant Medical Officer; salary, £160 per annum. (3) Fourth Assistant Medical Officer; commencing salary, £140 per annum.

BOOTLE BOROUGH HOSPITAL.—Senior and Junior House Surgeons. Salary, £120 and £100 per annum respectively.

BOOTLE BOROUGH HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer. Salary, £150 per annum.

BOROUGH POLYTECHNIC INSTITUTE, London, S.E.—Medical Woman as Lecturer on First Aid.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRIDGE OF WEIR: CONSUMPTION SANATORIA OF SCOTLAND.—Lady Doctor as Resident Assistant. Salary, £75 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House-Surgeon. Salary at the rate of £150 per annum.

BRISTOL ROYAL INFIRMARY.—Dental House-Surgeon. Salary at the rate of £100 per annum.

CARLISLE: CUMBERLAND INFIRMARY.—Resident Medical Officer (male). Commencing salary at the rate of £80 per annum.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

CITY OF LONDON LYING-IN HOSPITAL.—Resident Medical Officer. Salary at the rate of £50 per annum.

CLINICAL RESEARCH ASSOCIATION, LIMITED.—Assistant Director of the Laboratories. Remuneration to commence with, £250 per annum.

COLVEND.—Medical Officer for the parishes of Colvend and Southwick and Kirkbean. Salary, £70 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Senior House-Surgeon; salary, £150 per annum. (2) House-Physician; salary, £110 per annum. (3) Junior House-Surgeon; salary, £100 per annum.

CROYDON BOROUGH HOSPITAL.—Assistant Resident Medical Officer. Salary, £150 per annum.

CROYDON UNION.—Assistant Medical Superintendent of the Infirmary and Assistant Medical Officer of Workhouse and Children's Homes. Commencing salary, £225 per annum.

DERBY: DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (lady). Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

DURHAM COUNTY HOSPITAL.—House-Surgeon. Salary, £150 per annum.

DURHAM: SHERBURN HOSPITAL.—Medical Officer. Salary, £300 per annum.

EDINBURGH ROYAL ASYLUM, Morningside.—Assistant Physician. Commencing salary, £175 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—(1) House-Physician. (2) House-Surgeon. Salary at the rate of £75 each per annum.

GENERAL LYING-IN HOSPITAL, York Road, S.E. — House-Physician. Salary at the rate of £50 per annum.

GLASGOW: ROYAL SAMARITAN HOSPITAL FOR WOMEN.—Resident Medical Officer. Honorarium, £25 per annum.

GLENELG PARISH COUNCIL.—(1) Medical Officer for Northern Division; salary, £140 per annum. (2) Medical Officer for Southern Division; salary, £160 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

HALIFAX ROYAL INFIRMARY.—(1) Second House-Surgeon; salary, £120 per annum. (2) Third House-Surgeon; salary, £100 per annum.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary, £100 per annum.

HULL: VICTORIA CHILDREN'S HOSPITAL. — Lady House-Surgeon (Resident). Salary, £50 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. Salary, £120 each per annum.

LEICESTER ROYAL INFIRMARY.—(1) Ophthalmic House-Surgeon; salary at the rate of £100 per annum. (2) Assistant House-Surgeon; salary at the rate of £100 per annum.

LIVERPOOL: ROYAL SOUTHERN INFIRMARY.—Two House-Physicians and three House-Surgeons. Salary at the rate of £60 each per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer (male). Commencing salary at the rate of £100 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL INFIRMARY.—(1) Three House-Physicians; salary, £20 each for six months. (2) Four Junior House-Surgeons. (3) Medical Officer for Out-patients; salary at the rate of £100 per annum. (4) Assistant Medical Officer to the Convalescent Hospital, Cheadle; salary at the rate of £80 per annum.

MANCHESTER TOWNSHIP INSTITUTION, Crumpsall.—Second Resident Assistant Medical Officer. Salary, £135 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary at the rate of £50 and £40 per annum respectively.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORFOLK COUNTY EDUCATION COMMITTEE. — Assistant Medical Officer. Commencing salary, £300 per annum.

NORTHUMBERLAND COUNTY COUNCIL.—Temporary Clinical Tuberculosis Medical Officer. Salary at the rate of £500 per annum.

NOTTINGHAM CITY ASYLUM.—Junior Assistant Medical Officer (male). Commencing salary, £200 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum, rising to £140.

OLDHAM.—Assistant Tuberculosis Officer. Salary, £350 per annum.

PORTSMOUTH ROYAL HOSPITAL.—House-Surgeon (male). Salary, £90 per annum.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary, £100 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—(1) House-Physician. (2) House-Surgeon. (3) Casualty House-Surgeon. Salary, £80 each per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Senior House-Surgeon (male). Salary, £120 per annum.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon (male). Salary, £110 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Senior and Junior Resident Medical Officers. Salary at the rate of £90 and £70 per annum respectively.

ST. GILES'S, CAMBERWELL, UNION INFIRMARY.—Assistant Medical Officer. Commencing salary, £190 per annum.

ST. PANCRAS UNION INFIRMARY.—Senior Assistant Medical Superintendent. Salary at the rate of £175 per annum.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £150 per annum.

SALISBURY GENERAL INFIRMARY.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £75 per annum respectively.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Resident House-Surgeon. Salary, £80 per annum.

SANITARY INSPECTORS' EXAMINATION BOARD. — Four Examiners.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD UNIVERSITY: DEPARTMENT OF PATHOLOGY.—Junior Demonstrator in Pathology. Salary, £200 per annum.

SOMERSET COUNTY EDUCATION COMMITTEE.—Male Assistant School Medical Officer. Commencing salary, £300 per annum.

SOUTHEND-ON-SEA: ROCHFORD UNION.—District Medical Officer and Public Vaccinator. Salary, £80 per annum.

STOCKPORT UNION HOSPITAL.—Resident Assistant Medical Officer. Salary, £150 per annum.

TORQUAY: TORBAY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon (male). Salary, £100 per annum.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon. Salary, £110 per annum.

WARRINGTON UNION INFIRMARY.—Resident Assistant Medical Officer. Salary, £150 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL. — Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—(1) Resident Medical Officer. (2) Senior House-Surgeon. (3) Senior House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary for (1), £160; for (2) and (3), £120; and for (4) and (5), £100 per annum.

WEST HAM UNION INFIRMARY.—(1) Third Assistant Resident Medical Officer (male): salary, £180 per annum. (2) Fourth Assistant Resident Medical Officer (male); salary, £160 per annum. (3) Second Assistant Resident Medical Officer (male) for Sick Home; salary, £170 per annum.

WEST LONDON HOSPITAL, W.—Two House-Physicians, and Three House-Surgeons.

WHITECHAPEL UNION INFIRMARY.—Second Assistant Resident Medical Officer (male). Salary, £120 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary at the rate of £125 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Ballyshannon (Donegal), Belleck (Fermanagh), Sligo (Sligo).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

EVANS, D. Gordon, M.B., B.S.Lond., House-Surgeon to the Sheffield Royal Infirmary.

FLEMING, G., M.B., C.M., M.R.C.P.E., Medical Superintendent to the Durham County Sanatorium.

HOLLAND, Eardley, M.D.Lond., M.R.C.P., F.R.C.S.Eng., Assistant Obstetric Physician to King's College Hospital.

SALISBURY, Walter, M.B., B.S.Lond., Assistant Resident Medical Officer at the Queen Charlotte's Lying-in Hospital, Marylebone Road, N.W.

WILLIAMS, J. McGeagh, M.D.Belfast, D.P.H.Manchester, District Tuberculosis Officer for Chester.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

MORRISTON-DAVIES.—On August 23rd, at 85, New Cavendish Street, W., the wife of H. Morriston-Davies, M.C., F.R.C.S., of a daughter.

MARRIAGE.

SUSMANN—BROOKS.—On August 27th, at St. Mary's Church, Twyford, Berks, by the Vicar, the Rev. R. H. Acworth, assisted by the Rev. Charles Sadler, of Liddon House, Thurloe Square, W., Walter James Susmann, M.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P., of Erchfont, Henley-on-Thames, to Lena Mary, only daughter of the late Dr. Bransby and Mrs. Brooks, of Sonning-on-Thames.

DEATH.

HILL.—August 24th, at his residence, "St. Domingo," Hoylake, Cheshire, Charles Alexander Hill, of 13, Rodney Street, Liverpool, M.B., B.C.Camb., M.R.C.S.Eng., L.R.C.P.Lond., and D.P.H.Vict.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

DUBLIN: ROTUNDA HOSPITAL.

LONDON HOSPITAL MEDICAL SCHOOL, Turner Street, E.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 5TH, 1914.

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THE WAR.

PROVISION OF FREE MEDICAL ATTENDANCE FOR DEPENDANTS OF MEN SERVING WITH THE COLOURS.

RECENT issues of the BRITISH MEDICAL JOURNAL have contained ample evidence of the desire of the medical profession throughout Great Britain to give gratuitous medical attendance to the necessitous dependants of men called away from their ordinary employment to do military service for the country. The movement was entirely spontaneous, and began simultaneously in many widely separated parts of the country. It was strongly reinforced when it became known that the pharmacists in many districts were prepared to undertake to supply medicines without charging a dispensing fee to the dependants of all those to whom the medical profession had offered to give gratuitous attendance.

As it was evident that both general and local organization would be necessary to ensure that the work should be done without friction and without abuse, the Chairman of the Council and the Medical Secretary of the British Medical Association, acting with the President and the Parliamentary Secretary of the Pharmaceutical Society of Great Britain, put certain suggestions before the Government, and offered the services of these two bodies in the organization of the proffered gratuitous medical and pharmaceutical service.

The offer has been most sympathetically received by the Government, but, owing to the careful consideration which so large a scheme demands, particularly in its financial aspects in regard to meeting the cost of drugs, we understand that an official announcement cannot yet be made. It is, however, to be anticipated that doctors and chemists will receive a communication on the subject in the course of next week. In the meantime it would seem advisable that local action should be limited to meeting provisionally any emergencies which have already arisen, and that the final and definite arrangements should be deferred so that all districts may co-operate in a uniform manner in the national scheme which is being evolved.

WEST SUFFOLK.

A meeting of medical men resident in West Suffolk, summoned by the West Suffolk Division, was held at the Town Hall, Bury St. Edmunds, on August 25th. It was unanimously resolved to undertake to safeguard the interests of any practitioner called up on service, and to give free medical attendance to all necessitous cases resulting from the war on the production of a voucher from the Relief Committee of the borough of Bury St. Edmunds or the county of West Suffolk. It was agreed to ask practitioners to refer to the Secretary if unable to obtain assistance when required as a result of the war, and the Secretary is collecting the names of any retired practitioners who may be willing to offer their services.

DUMBARTONSHIRE.

At a combined meeting of the Dumbartonshire Division and the County Panel and Local Medical Committees, on August 26th, it was unanimously resolved to give medical attendance free of charge to the necessitous dependants of all men on active service at home or abroad vouched for by the Soldiers' and Sailors' Families Association, or its local committees, and to co-operate with the official relief committees. It was resolved also to safeguard the interests of medical practitioners absent on military service, and it was stated that all such had already made arrangements. It was resolved, further, that members should be at liberty to give first aid or home nursing lectures in connexion with Voluntary Aid Detachments, without fee during the war.

EDINBURGH AND LEITH.

A special meeting of the Division, the large attendance at which included non-members who had been invited to be present, was held on August 28th. A resolution was adopted pledging those present to safeguard the interests of professional brethren called to the service of the country in this national crisis. The Senior Secretary, Dr. G. K. Paterson, reported that twenty-eight practitioners in Edinburgh and Leith had been called to whole-time service, but all had made satisfactory private arrangements for their medical work. Dr. Norman Walker, Chairman of the Scottish Medical Emergency Committee, said that the whole of the medical service in Scotland was at present adequately arranged for, but that stress, especially in the country districts, might be expected in the future. The Chairman of the Division, Dr. R. A. Lundie, said that medical men wished to take their fair share of the burden of distress that might arise among the families of those called to service or as a result of unemployment. Many patients of this class would go to the dispensaries, and others who had private medical attendants should be encouraged to continue to employ them. He had already discussed the medical organization to meet distress with

the Soldiers' and Sailors' Families Association and with the Town Clerks of Edinburgh and Leith, who were acting secretaries of the National Relief Fund in those cities. It was unanimously agreed:

> That it is desirable that the medical profession in Edinburgh and Leith should systematically co-operate with the Soldiers' and Sailors' Families Association, and with the Local Committees of the National Relief Fund, with regard to the provision of medical attendance on persons rendered necessitous by the war.

Dr. John Stevens said the work should be entirely voluntary; should be undertaken by the profession as a whole; and that there should be no kind of binding agreement. It would not apply to persons under the Insurance Act, or invade the work of the Poor Law or charitable institutions. The meeting expressed the opinion that there should be medical representation on the Central Relief Committee and on the ward committees. The meeting appointed a special emergency committee of sixteen, with power of co-option.

Greenock.

At a meeting of the practitioners of Greenock, on August 25th, it was resolved to safeguard the interests of practitioners called out on active service, and to attend private patients on the basis of an equal division of fees received between the absent practitioner and the practitioner who did the work, but that full midwifery fees should be paid to the doctor doing the work. With regard to insured patients, it was agreed that where no arrangements had been made by the practitioner before leaving, the relation should be the same as in regard to insured patients on his own list till the return of the absent practitioner, and it was decided to give the necessary attendance, keep records, etc., on the understanding that the absent practitioner pay at the rate of 1s. a visit and 6d. for attendance at consulting room. Where arrangements had been made as to insured patients by the practitioner before leaving, any such patients not accepting the arrangement of the absent practitioner should be regarded as private patients and charged accordingly. It was further agreed not to accept any persons from the list of a practitioner absent on active service unless by that practitioner's consent. A reference committee of three was appointed to settle any matter of dispute which might arise.

RECEPTION OF THE WOUNDED AND SICK.

The first detachments of wounded soldiers are now reaching this country and are being sent, as far as possible, to hospitals in the neighbourhood of their homes. It has been noted by various observers that for the most part the wounded men landed in this country do not appear to be seriously hurt, and have been able, for example, to walk from the trains to the conveyances provided for them. The reason, of course, is that the more serious cases have not been subjected to the trials of a long journey, but are being treated at base hospitals in France.

The London Hospital.

At the London Hospital a telephone message was received on Sunday morning, August 30th, asking the hospital to receive 100 cases that night. For some time past the hospital authorities have been making ready for a sudden call, and operations of expediency that could be postponed have not been undertaken, although many operations for varicoceles, hydroceles, and varicose veins have been done to fit men for active service. For the conveyance of the wounded from Waterloo Station to the hospital, Messrs. J. Lyons and Co., Ltd., through the kind offices of a member of the hospital board, lent a number of their vans, whose shape and construction rendered them very suitable for the purpose. Other cases were conveyed in taxicabs. The transfer was superintended by members of the hospital medical staff and students of the medical school, under the direction of the military officer in charge. The 100 men arrived at the hospital at 9.5 p.m. and by 10 p.m. all were in bed and many asleep.

Another 200 men were received on Monday morning. The London Hospital undertook to provide 250 beds for soldiers and a like number for sailors. So far, there has been no call upon accommodation for sailors, but the provision for soldiers has overflowed into that department. When the 300 patients came to be examined it was noted that their wounds were completely aseptic, and the excellence of the treatment by the Royal Army Medical Corps was generally commented upon. One soldier coming from Mons had had a limb in a splint for four days. With the exception of one or two chest wounds the cases were for the most part leg and arm wounds. The worst case is that of a sergeant who was struck in the shoulder while lying on the ground firing. The bullet ploughed its way through the upper part of the trunk and came out in the lower part of the back. There were 38 cases of fracture in the first 100; many were due to bullet wounds: bad leg wounds were caused by bayonet thrusts. Shrapnel caused ragged wounds with loss of substance. Some cases of retention of urine had suffered considerably from forty-three hours' continuous travelling. There were many cases of sore feet due to the severity of forced marches both before and after the thirty-six hours' fighting near Mons. A distance of 104 miles was covered in three days by some regiments; one man who had lost his boots did this march in a pair of slippers given him by a Belgian woman. To make it possible to wear them he had to cut away the toes of the slippers. All the men were suffering from strain and lack of sleep.

The *x*-ray department of the hospital has been very busy; as many as 40 cases have been examined in a day, and the value of this aid to surgical science has been amply demonstrated. In addition to bullets, in a good many cases fragments of bullets and shrapnel are embedded. No evidence of the use of dum-dum bullets was found.

We were informed that the men were "perfectly cheery," and that about 40 per cent. of them will be able to leave the hospital in a week, and go back to the front in a fortnight.

2nd Eastern General Hospital (Brighton).

On Monday, August 31st, just under a month from the declaration of war, the 2nd Eastern General Hospital (Territorial) received intimation from the War Office that 300 wounded from the front would arrive within a few hours. Up to this time only about 50 beds in the hospital had been occupied, mainly by Territorials taken ill or suffering from slight injuries received in their work, although a few operations, such as for appendicitis, for the radical cure of hernia, and for removal of loose cartilage in the knee, had been performed.

Major Rooth, the commanding officer, at once placed each of his medical and surgical officers in charge of certain wards, and transport for the wounded from the station to the hospital was organized.

The men had been landed at Southampton, and the first train carrying them reached Brighton at 8.30 a.m. on September 1st. The railway and police authorities had made excellent provision, and Major Rooth had half his company with him at the station to superintend the removal of the men from the train to the fleet of motor cars, motor and horse ambulances, and railway vans in waiting. As each soldier was placed in his vehicle he was given a paper with the name of the ward to which he had been assigned. As each vehicle arrived it was met by the registrar, Lieutenant Walker, who directed it to the proper ward, and as car after car rapidly succeeded each other one could only marvel at the really splendid organization which rendered it possible to remove from train to ward 300 wounded men, many of them requiring to be carried—some on stretchers—without flurry or hitch in less than two hours.

When the patients reached their wards, the more seriously injured were put at once to bed, but those who were well enough were sent to the bathrooms, and as some of them had not had their clothes off for three weeks this luxury was appreciated. The medical officer then made his rounds, examined the cases, made his diagnosis, and ordered the treatment and diet of the men.

The following is an example of the kind of cases admitted. One surgeon with 26 admissions, had about twenty men with bullet, shell, or shrapnel wounds. In seven of these the bullet required extraction, and in these cases the *x* rays were used previous to operation. Among other cases were a few examples of bruises of bones, one or two of abdominal injuries, and one of traumatic orchitis.

The men, who were of all ranks—officers, non-commissioned officers, and men, both English and Belgian—were in excellent spirits, and delighted to be so comfortably housed and fed. It was magnificent to see their eagerness to get back to the front. They had no complaints to make of their treatment since they had received their wounds: the Belgians had done everything they could to make them comfortable, but many of them had had a very severe time. No sooner were they in one hospital than they were shelled out and had to be taken to another, and to many this happened more than once.

Too much praise cannot be given to the administrator, Major Rooth, to the registrar, Lieutenant Walker, to the quartermaster, Lieutenant Ross, and to the non-commissioned officers and men for carrying out so successfully in every detail the first great task imposed upon the hospital.

PORTSMOUTH.

A batch of sick and wounded—121 cases—reached Portsmouth soon after 8 a.m. on September 1st. They had arrived at Southampton the previous night, were conveyed to Fratton railway station in a hospital train and removed to the 5th Southern General Hospital (T.F.), established in a municipal school. The care and comfort with which this was accomplished reflect great credit on the staff under the direction of Lieutenant-Colonel J. Kyffin, R.A.M.C. (T.F.), the officer commanding the hospital. The wounded are from the battle of Mons; there are many cases of rheumatism due to exposure. Some are wounded in the legs and feet. The men generally look as if they had passed through a rough time. There are about 16 serious cases; the others are not of a critical character, and will probably soon be able to get into the comfortable recreation rooms which have been provided.

LIVERPOOL.

1st Western General Hospital.

The officer commanding the 1st Western General Hospital (Liverpool) sends us a diary of the mobilization of this hospital, from which it appears that the telegram to mobilize was received at 9 p.m. on Tuesday, August 4th, and by the following evening the nucleus staff—39 N.C.O.'s and men—had been medically examined and found fit, except two who were returning from Wales. All the officers whose services were available on mobilization resided in Liverpool, and nurses had been warned and could be available in a few hours, so that the unit as regards its personnel was then already mobilized. Authority to occupy the Liverpool City Hospital at Fazakerley was received on August 7th, and under arrangement with the authorities the annexe was occupied by the unit on August 8th, when 120 beds were ready and an increase of 100 a day prepared for. Surgical and medical equipment and *x*-ray apparatus had been accepted on loan and the services of a bacteriologist and a specialist for the venereal wards had been arranged for. On August 9th the men's quarters were transferred to the annexe and administrative block, all stores arranged and labelled, and the men detailed to various duties. The hospital was inspected on Tuesday, August 11th, by G.O.C. in C. and D.D.M.S., who expressed satisfaction with the arrangements, and the first two patients were admitted at 9.30 p.m., when the first officers whose services were available on mobilization were called on, and the War Office was informed that 250 beds were provided. Since that date patients have been regularly admitted and dismissed, and all arrangements in this respect are working smoothly. Skiagrams have been taken; swabs, blood, etc., examined; and the venereal wards attended by a specialist; throat, nose, and ear work is in charge of one of the officers who is a specialist in these diseases. Down to August 28th 236 patients had been admitted, 49 discharged, and 187 remained. The greatest credit is due to the West Lancashire County Association and the Liverpool Corporation for a scheme which permitted this unit to occupy such excellent and appropriate premises in so short a space of time, and to the corporation officials and staff for the rapidity with which the whole hospital was prepared and handed over.

2ND CITY OF LONDON GENERAL HOSPITAL.

The Territorial scheme for general hospitals provided four for London. Of these one has been established in the new buildings of King's College Hospital, and a second has been installed in St. Mark's College, King's Road, Chelsea, S.W., and the adjoining London County Council secondary school. Colonel Eustace M. Callender, on taking over the buildings, found that his chief difficulty would be to provide adequate sanitary appliances, and it has been necessary to build a series of sanitary annexes and to make a number of temporary structural alterations in the buildings to fit them for their new purpose. The Medical Section of 260 beds is organized in the college, where, on two stories, there are a series of wards varying very much in size, but providing cubic space of 1,200 to a minimum of 1,000 cubic feet. The nurses are comfortably housed in the third story and have in addition a dining-room and sitting-rooms. The Surgical Section, with the same number of beds, is established in the secondary school, which is on an adjoining site, direct connexion having been established by taking down a section of the party wall. An operating room, with sterilizer and all the necessary fittings, is complete, and the beds are all practically ready for occupation. It is proposed to use the smaller rooms, in which four or five beds can be placed, for specially serious cases or for officers.

The male personnel is accommodated in a detached building. A large sterilizer and complete appliances for disinfection have also been installed. The kitchens are established in the basement, and were fitted up by the gas company in forty-eight hours. The grounds of the building on one side open on to the platform of Chelsea station, which is in communication with all the principal lines in the country, so that patients can be brought to the doors of the hospital direct by the ambulance trains. The hospital will be ready to receive patients before the end of this week. In addition to the officer commanding, the resident staff will consist of the registrar, quartermaster, and six newly gazetted lieutenants of the Royal Army Medical Corps. The consulting staff will be furnished by members of the visiting staffs of St. Thomas's, Guy's, and the London Hospitals. Pending the final adjustment of the arrangements at this hospital, some 120 wounded men who would have been directed to it have been admitted to St. Thomas's Hospital.

Wounded soldiers have also been received at the Royal Herbert Hospital, Woolwich (300), at Plymouth (100), Bishop's Stortford (140), Birmingham, and elsewhere.

THE BRITISH RED CROSS SOCIETY.

SIR FREDERICK TREVES expressed to our representative the opinion that the arrangements of the Army Medical Department for the wounded are exceedingly complete in every detail. They would be better looked after in this war, he said, than in any campaign in history. The manner in which the department had expanded to meet the requirements of the situation had been extraordinarily complete. The War Office was affording to the British Red Cross Society every assistance in its power.

The Rest Station.

Owing to the present position of the fighting line the rest station, which it was reported last week would be established at Havre, has not yet been set up, but is ready to be placed wherever the War Office may direct.

Increased Financial Aid.

Thanks to powerful aid given by the daily press, anxiety as to funds for Red Cross work is now in some measure relieved. The total on September 2nd was nearly £142,000.

A Hospital near Paris.

A unit composed of 10 surgeons, 10 dressers, and 20 nurses is being sent to France to take charge of a hospital to be established in a house near Paris, placed at the disposal of the Society by a French nobleman. Another house in the same district has been handed over to the Society by a member of the Rothschild family. The unit is taking over stores and a complete equipment, and will land at Cherbourg. It will be accompanied by Mr. Bennett, one of the Commissioners of the Red Cross Society in France.

The Unit in Brussels.

News has been received of the unit in Brussels, to which reference was made last week; it is entirely of a satisfactory nature.

THE MEDICAL SERVICE OF THE NEW ARMY.

The history of the Boer war afforded ample evidence that hastily enrolled and dispatched civil surgeons were at first handicapped by their ignorance of military routine.

We are now face to face with a prolonged struggle for our existence, and it is realized that it will be necessary to increase enormously our available army. The first hundred thousand men have already been enlisted. It will be necessary to increase this force during the campaign before us, and to supply it with an adequate medical staff. The hands of the military officials are full at the present moment, supplying the immediate wants of the campaign, and they can have little time for preparation for the future. The question arises whether the British Medical Association can help in supplying the need.

A correspondent makes the suggestion that a special committee of men acquainted with army medical methods should be formed, with a view to establishing a reserve of medical men instructed in the elementary principles of army medical work, so that when occasion arises the medical profession may offer to the War Office men having some knowledge of military routine. He suggests that the central office of the Association should be responsible for dealing with correspondence, keeping a register of medical men available and of the direction in which their services can be used, and for furnishing information to those willing to render assistance to the country. He proposes that as soon as possible classes should be started in suitable centres at which lectures and instruction in the duties of army medical officers should be given, and that if possible the services of a sergeant should be obtained to teach the elements of such matters as "stretcher drill." The manuals in use in the Royal Army Medical Corps would be indicated.

He considers that if the organization of the British Medical Association were used in this manner, much time might be saved later on when more men are required for active service, while the path of the medical recruit would be smoothed by the possession of some elementary knowledge of his duties.

NOTES.

Casualties in the Medical Service.

The first list of casualties among British officers, dated September 1st, appears to refer only to three infantry divisions and one cavalry brigade. It contains the names of the following medical officers:

Wounded.—Gibbon, Captain T. H.

Missing.—Brown, Lieutenant A. J.; Cahill, Captain R. J.; Collingwood, Major P. H.; Egan, Captain W.; Hattersley, Lieutenant S. M.; Hills, Lieutenant H. W.; Irvine, Major F. S.; Lauder, Lieutenant C. L.; Lynch, Captain J. P.; Priestley, Captain H. E.; Routh, Lieutenant L. M.; Sutcliff, Captain A. A.; Thompson, Colonel H. N.

The large number of missing of all arms is to be attributed to the fact that the British Force had been fighting a rear-guard action for over a week. It is, of course, possible that many of the medical officers are with ambulance units in the country overrun by the Germans.

Canadian Women's Hospital.

The women of the Dominion of Canada have, through H.R.H. the Duchess of Connaught, presented a naval hospital, which has been accepted by the Admiralty with deep gratitude. It is being established and equipped to supplement the Royal Naval Hospital at Haslar, and will be known as the "Canadian Women's Hospital."

First Aid Lectures.

The British Red Cross Society has issued (through the Oxford University Press, and Hodder and Stoughton, London) a note-book with diagrams for use during attendance at Red Cross courses and first aid. On the left-hand page are clear reproductions of the diagrams shown during the lectures; the right-hand page is blank for notes. The illustrations have been prepared, under the direction of the Education Subcommittee of the British Red Cross Society, by Dr. Georges Dupuy. The price of the note-book, which is quarto shape, is 1s. net.

Life Insurance.

In reply to questions in the House of Commons as to the demand of certain insurance companies that sailors and soldiers should pay an additional 5 per cent. on their life insurance policies to cover war risks, the Prime Minister, on August 27th, said that he hoped that the matter would be settled satisfactorily without the intervention of the State.

As was pointed out in the Journal of August 22nd, the extra premium demanded did not apply to world-wide and unconditional policies issued by the best offices, but to policies of restricted type. We are informed that at a meeting of the Life Offices Association on August 31st it was resolved, so far as Territorials at home or abroad are concerned, to recommend all life offices to waive the proposed extra charge. This applies only to policies in existence before the declaration of war. Any member who considers it possible that he may be called to active military service at home or abroad should look into the exact terms of his policy, and obtain a written guarantee from the life office. Those already called up who did not take these precautions before leaving should authorize some reliable person to attend to this matter.

School Medical Service.

In view of the fact that in a number of areas school medical officers and others engaged in the work of the School Medical Service are serving with the navy or army, the Board of Education has issued a circular to local education authorities, pointing out the great importance of maintaining the work of the School Medical Service. The Board appeals to these authorities "to do their best to make good working arrangements for carrying on the work of school medical officers, assistant school medical officers, specialist officers, school nurses, and other officers engaged in the work of the School Medical Service, who are absent on duties connected with the present crisis." The Board, on its part, undertakes to make every allowance for the difficulties with which local education authorities are confronted.

Ambulance Courses in Dublin.

Classes in first aid and home nursing will be given at the Alexandra College, Dublin, under the St. John Ambulance Association and the Department of Agriculture and Technical Instruction for Ireland, whose syllabus for instruction in first aid to the injured, hygiene, and emergency nursing, and ambulance work will be followed. All qualified members, past and present, of the college ambulance classes are eligible to join the college unit of the St. John Brigade, and arrangements are being made to convert this unit into a Voluntary Aid Detachment.

A number of ladies have gone into residence at the Richmond, Whitworth, and Hardwicke Hospitals with the object of providing a continuous supply of persons having a preliminary knowledge of emergency nursing. Lectures and classes in accordance with the scheme approved by the Department of Technical Instruction for nurses will be held in the hospitals and will be open to members of the public desirous of obtaining the certificate of the Department.

The Dublin Centre of the St. John Ambulance Association has arranged, for the benefit of those attending ambulance lectures, a special evening course, to be delivered as follows at the Royal Dublin Society's Lecture Theatre:

September 2nd.—Asepsis and Antiseptics, by Mr. William Taylor, Vice-President, Royal College of Surgeons of Ireland.

September 9th.—The Prevention of Enteric Fever in War Time, by Dr. Coleman, C.M.G.

September 16th.—Wounds and their Treatment, by Mr. Conway Dwyer, President, Royal College of Surgeons of Ireland.

September 23rd.—Professor McWeeney.

September 30th.—Women's Work in War, by Dr. MacDowel Cosgrave.

October 7th.—Water: Its Danger and Methods for its Purification, by Sir Charles Cameron.

Questions in Parliament.

The following are brief reports of answers made to questions in the House of Commons touching matters of interest to medical men serving in the Territorial Force:

Pay.

Mr. Sanders asked the Under-Secretary of State for War if his attention had been called to the case of country doctors

and veterinary surgeons called out with Territorial units whose pay was 15s. 6d. a day, while they lost their private practice, whereas a civilian practitioner newly joined for war service got 24s. a day and £60 bounty at the end of the war; and whether he would take steps to remedy this inequality of treatment.—Mr. Baker replied that all such officers commissioned in peace drew, under the terms of their contract, the pay and allowance of the regular army, varying according to rank. The rate quoted, 15s. 6d. a day, was that of a captain R.A.M.C., but field allowance of 3s. 6d. a day was also allowable, so that the total drawn was 19s. It was necessary to give higher rates to those commissioned on emergency, but there was no intention of making this universal.

Vaccination Regulations.

In reply to Mr. Chancellor, the Under-Secretary of State for War (Mr. Tennant) stated on August 26th that a circular had been issued recently informing general officers commanding that members of the Territorial Force who had conscientious objections should not be vaccinated. It was considered that the danger of an outbreak among a body of insufficiently vaccinated troops was very real, and every effort was consequently being made to persuade men to undergo vaccination; those who objected were being informed that unless they submitted to vaccination they were not likely to be of service in the field.

ORGANIZATION OF THE RELIEF OF DISTRESS.

A NUMBER of circulars have been issued by the Local Government Board for the guidance of bodies concerned with the relief of distress arising in consequence of the war.

In a memorandum to the distress committees the Board states that, as far as it is possible to discriminate, cases of ordinary poverty should not be dealt with, but left to the Poor Law authorities. The local committees should co-operate closely with labour exchanges, and, where the demands of the normal labour market are inadequate, should consult the local authorities with a view to expediting public works. Men engaged should conform to ordinary standards of competence. When relief works are set up each man should only be employed a certain number of days a week, and single men capable of service with the forces should not receive assistance until other applicants have been provided for. Relief without work should only be given as a last resort, and then only on a minimum scale; it should take the form of tickets for food, and be given to the wives rather than the husbands. The principles upon which relief is given should be definitely laid down in order to secure uniformity of treatment.

The circular does not deal specifically with the large class of men and women clerks, shops assistants, etc., who at present appear to be seriously affected by the war.

A separate circular has been issued to the mayors of the London boroughs in which it is suggested that to avoid overlapping, and to ascertain the relative needs of applicants, each local committee should set up a register for persons—

(1) In receipt of poor relief;
(2) Registered by the distress committee;
(3) Dealt with by the Soldiers' and Sailors' Families Association, and
(4) All other applicants for assistance.

Full particulars are to be recorded of the qualifications for employment, and any income of each applicant, including assistance already received from public or charitable sources.

The boards of guardians have been informed that any out-relief granted to dependants of soldiers or sailors or members of the Territorial Force since August 2nd will be refunded from the Prince of Wales's Fund, and the guardians are to erase from their records all entries which would identify the recipients with the receipt of Poor Law relief, and to notify such persons that this has been done, and that the help given to them has come from the Prince of Wales's Fund and not from the Poor Law.

The Invalid Kitchens of London.

The organization known by this name, which has been at work for four years, and at present has five kitchens, proposes to extend its organization to all the boroughs in London. Its object is to provide a suitable meal daily to women recovering from childbirth, convalescents from hospitals and dispensaries, phthisical cases waiting for admission to sanatorium, and to sick and ailing children, and milk for infants. The kitchens habitually work in co-operation with the hospitals, district nurses, and the Charity Organization Committee, and arrangements have now been made with the Soldiers' and Sailors' Families Association, by which the kitchens have undertaken to supply food to invalids, children, maternity and all other cases recommended by the Association. Each kitchen has a Visitors' Committee, which recommends each case. The charge of one penny is made to the recipient. We have had an opportunity of visiting this week two of the kitchens, and can say that the meals are excellent and the joints of prime quality supplied by local butchers at special terms. The milk is also of first-rate quality, and is supplied by the Pure Food Committee. The average cost of the meals to the organization is 5d., or, if administrative expenses are included, 7d.

The kitchens fulfil a distinct place in the organization to meet the present emergency, and their existence should be widely known to the medical profession. The Southwark Invalid Kitchen is at 273, Scovell Road, Borough, S.E.; the Bermondsey and Rotherhithe at 104, Jamaica Road, S.E.; Hoxton at 139, East Road, N.; Stepney and Limehouse at 40, White Horse Street, Commercial Road, E.; and Victoria Docks at Butcher's Road, Custom House, E. The central organization is conducted by Lady Muriel Paget, 31, Dover Street, W.

THE WORK OF PARLIAMENT.

THE pressure on our space has prevented our continuing a connected account of the proceedings in Parliament. The proceedings, however, have been of so unique a character, and necessarily so disconnected, that perhaps a more useful purpose will be served by piecing them together in a general summary.

Legislation has been introduced and passed into law with such astonishing rapidity that even members of Parliament themselves have been left breathless in the rear when they have attempted to keep up with what was going on. Many of the bills introduced were passed into law on the same day, and scarcely any with more than a day's interval. Some of them also have been of a very drastic, indeed almost of a revolutionary, character, and in ordinary times would have given rise to weeks, perhaps months, of controversy. Not many of them are of a professional character, but a summary of them may be of interest.

On Monday, August 3rd, when Sir Edward Grey's great statement was made, the bill establishing a moratorium for a month and known as the "Postponement of Payments Bill," was passed into law and received the Royal assent.

On Tuesday, August 4th, the War Risks State Insurance Scheme was announced and approved. The Anglo-Persian Oil Companies Bill and the Expiring Laws Continuance Bill, together with a Committee Stage of all the Votes in Supply, totalling many millions, were passed in the space of about an hour.

On Wednesday, August 5th, the vote of credit for one hundred millions was adopted, the Milk and Dairies Bill (Scotland) passed through its report stage and was read a third time, and many minor measures also were passed. The bills relating to procedure of prize courts, and the restrictions on aliens were also introduced and passed through all their stages. The Housing Bill, relating to provision of housing at Rosyth and at other places where Government employees are located, went through its remaining stages, and was read a third time.

On Thursday, August 6th, the Currency of Bank Notes Bill establishing the new paper money as a legal tender was introduced and passed through all its stages, and received the Royal assent, and a bill to exempt from electoral disabilities all those who were absent in the naval or military services of the Crown was passed through all its stages, as was also a bill authorizing allowances to police reservists, and many minor measures, together with a Consolidated Fund Appropriation Bill.

On Friday, August 7th, a bill authorizing compensation for injuries at war was introduced, and passed through all its stages, and the Provision of Meals Act was extended to Ireland. The Elementary Education (Defective and Epileptic Children's) Bill also passed through all its stages, as well as the Defence of the Realm Bill relating to the treatment of spies. Patent Design and Trade Mark bills were introduced and passed through all their stages.

On Saturday, August 8th, an important bill relating to the powers of the Board of Trade to deal with persons who unreasonably withhold foodstuffs and if found necessary to control supplies passed through all its stages.

On Monday, August 10th, a most important Housing Reform measure was introduced and passed through all its stages; it represented the substance of the original Housing Bill which had been dropped, and authorized the expenditure of 4 millions in providing and in assisting the provision of housing for the purposes of the bill. The expression "housing purposes" to which the money may be devoted means the provision, maintenance, improvement, and management of dwellings and gardens and other works or buildings for the convenience of persons belonging to the working classes. The plan of the bill is that loans should be made either through a local authority or to an authorized society. An authorized society means a society, company, or body of persons approved by the Treasury whose objects include the erection, improvement, or management of dwellings for working classes which does not trade for profit, or whose conditions forbid the payment of any interest or dividend at a rate exceeding 5 per cent. per annum.

On Monday, August 10th, the House adjourned until Tuesday, the 25th, when a large number of further emergency bills were introduced relating to the control of the hours of opening licensed premises, provision of superannuation for teachers, control of patents, an amendment of the Currency of Bank Notes Act, the detention and treatment of aliens, and various minor matters. The majority of these bills passed through

their final stages on Wednesday, August 26th, as did other bills extending the Provision of Meals Act to Scotland, and the Housing Bill to Ireland. The Intoxicating Liquor (Temporary Restriction) Bill occupied some considerable time. It was finally passed on August 28th, and before the adjournment of the House on Monday, the 31st, a further bill relating to exemptions in respect of payment of death duties in connexion with persons killed in the war was passed into law.

Asylums Officers.

Mr. McKenna stated on August 27th that the years of service of asylums officers called to the colours would be aggregated and reckoned with their future period of service in the same capacity if they returned to their duties after the war.

Insurance Act Sanatorium Benefit.

Mr. Wedgwood Benn has stated, in reply to Major Hope, that Insurance Committees were under no obligation to defray the cost of treatment obtained otherwise than in the general arrangements made by them, and usually the whole of a committee's income available for the purpose was already earmarked, so that it was not in a position to contribute to the cost of accommodation privately obtained. He added, however, that he would make inquiries into any particular case submitted to him.

Medical News.

OWING to the necessary curtailment of the number of pages in the weekly issues of the BRITISH MEDICAL JOURNAL, all correspondents are particularly requested to write as succinctly as possible.

THE post of Secretary to the American Ambulance in Paris has been filled.

DR. WILLIAM PERCY GOWLAND, F.R.C.S.Eng., Senior Demonstrator and Assistant Lecturer on Anatomy in the University of Liverpool, has been appointed to the Chair of Anatomy at the University of Otago, Dunedin, New Zealand.

THE usual course of lectures and demonstrations for sanitary officers arranged by the Royal Sanitary Institute will begin on September 21st. Particulars can be obtained from the Secretary of the Institute, 90, Buckingham Palace Road, S.W.

THE Hoffmann-La Roche Chemical Works ask us to state that their head offices and laboratories are at Basle, Switzerland, though they have laboratories and works also at Grenzach in Baden. They inform us that they have in this country large stocks of omnopon and their other products, and that they do not propose to increase the prices.

THE Chadwick Trustees are making arrangements for providing, or assisting in the provision of, lectures and demonstrations on naval, military, and hospital hygiene. They have resolved also to award, at the close of this year, the Chadwick Gold Medal and £50 each to the naval and military medical officer respectively in the British service who shall have distinguished himself most in promoting the health of the men in the navy and the army.

LOCAL MEDICAL AND PANEL COMMITTEES.

DUMBARTONSHIRE.

AT a meeting on August 26th, the Local Medical and Panel Committees resolved to protest against the objection made by the Commissioners to the proposal to grant an honorarium to the Secretary.

The SECRETARY reported that during the first quarter of this year there had been an increase in chemists' accounts of about 50 per cent. compared with the same period last year, and of about 30 per cent. in the second quarter. At this rate the Drug Fund must fail to meet claims against it at the end of the year, and "the floating 6d." would be absorbed in part if not altogether. The Committee had no evidence of an abnormal amount of illness in the county during the first half of this year, but had reason to believe that in great part the increase in the chemists' accounts was due to lavish prescribing, and to extravagance both as to the quantity and nature of the drugs and appliances ordered. The Secretary was instructed to issue a warning circular drawing attention to the extraordinary increase and the means by which it might be checked without impairing efficiency of treatment, and also to point out that any practitioner found to have prescribed in an excessive or extravagant manner was liable to be compelled to refund the abnormal expenditure so caused.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN ninety-seven of the largest English towns 9,213 births and 4,272 deaths were registered during the week ended Saturday, August 22nd. The annual rate of mortality in these towns, which had been 12.1, 12.0, and 12.6 per 1,000 in the three preceding weeks, fell to 12.3 per 1,000 in the week under notice. In London the death-rate was equal to 12.8, against 12.1, 11.9, and 12.2 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 3.5 in Coventry, 4.1 in Reading, 4.2 in Blackpool, 5.1 in Enfield, 5.8 in Oxford, and 5.9 in Tynemouth, to 17.6 in Bury and in Rotherham, 17.7 in Wigan, 18.5 in Bootle, 18.8 in Warrington, 21.2 in Dewsbury, and 22.2 in Sunderland. The deaths of children under 2 years of age from diarrhoea and enteritis, which had been 302, 332, and 348 in the three preceding weeks, further rose to 446; of this number 109 were recorded in London, 31 in Sheffield, 30 in Liverpool, 25 in Birmingham, 18 in Sunderland, 15 in Manchester, and 15 in Newcastle-on-Tyne. Measles caused a death-rate of 1.1 in West Ham, 1.6 in St. Helens, and 2.8 in Oldham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 36, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of these, 6 were recorded in Birmingham, 6 in Liverpool, 3 in West Bromwich and in Bootle, and 2 each in Blackburn, Sheffield, Sunderland, and Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,154, 3,155, and 3,072 at the end of the three preceding weeks, had further fallen to 3,071 on Saturday, August 22nd; 414 new cases were admitted during the week, against 405, 378, and 335 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN sixteen of the largest Scottish towns 1,186 births and 658 deaths were registered during the week ended Saturday, August 22nd. The annual rate of mortality in these towns, which had been 12.9, 12.6, and 13.8 per 1,000 in the three preceding weeks, rose to 15.0 in the week under notice, and was 2.7 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 10.8 in Hamilton, 11.0 in Falkirk, and 11.7 in Clydebank to 16.7 in Aberdeen, 17.6 in Motherwell and in Kilmarnock, and 18.9 in Ayr. The mortality from the principal infective diseases averaged 1.8 per 1,000, and was highest in Motherwell and Kilmarnock. The 300 deaths from all causes in Glasgow included 26 from infantile diarrhoea, 9 from whooping-cough, 5 from diphtheria, 5 from enteric fever, 3 from scarlet fever, and 1 from measles. Two deaths from diphtheria were recorded in Edinburgh, and from diarrhoea and enteritis, 3 deaths in Dundee and 3 in Leith.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, August 15th, 597 births and 354 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 544 births and 378 deaths in the preceding period. These deaths represent a mortality of 15.3 per 1,000 of the aggregate population in the districts in question, as against 16.4 per 1,000 in the previous period. The mortality in these Irish areas was therefore 2.7 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.8 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 19.1 (as against an average of 16.8 for the previous four weeks), in Dublin city 20.0 (as against 18.2), in Belfast 14.8 (as against 15.2), in Cork 11.6 (as against 14.5), in Londonderry 17.8 (as against 17.1), in Limerick 4.1 (as against 14.6), and in Waterford 15.3 (as against 14.7). The zymotic death-rate was 2.2, as against 1.8 in the previous week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

ROYAL NAVAL VOLUNTEER RESERVE.

WILLIAM C. MACARTNEY, M.B., and DAVID JAMES WILLIAMSON, M.D., have been appointed August 21st and 9th, respectively.

WILLIAM G. EVANS, M.D., has been appointed a Surgeon, August 26th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

THE following have been granted the temporary rank of Lieutenant: FRANCIS W. O'CONNOR and CHARLES N. BINNEY, M.B., August 10th; LEONARD L. HADLEY, M.B., HERBERT M. HARRISON, and HAROLD E. M. WALL, August 11th; CHARLES H. EVANS, F.R.C.S.E., and JAMES R. C. GREENLEES, M.B., August 12th; WILLIAM A. STEWART, TREVOR A. LAWDER, M.B., DONALD K. MCDOWELL, GEORGE W. SMITH, M.B., ALAN D. ANDERSON, and ARTHUR A. MARTIN, M.D., F.R.C.S Edin., August 13th; JOHN HEWAT, M.D., GILBERT L. K. FINLAY, M.B., EDWARD O'CONNOR, M.B., ALECK W. BOURNE, M.B., F.R.C.S., JOHN D. CARROLL, M.B., WILLIAM DUGUID, M.B., ROBERT H. C. LYONS, M.B., ARTHUR S. PLANT, CECIL BLUETT, HUBERT A. PALLANT, JOHN W. PELL, JOHN F. G. RICHARDS, M.B., ARTHUR H. BINDLOSS, M.B., EDWARD J. NANGLE, ROBERT M. ALCORN, August 14th; GEORGE C. M. M'GONIGLE, M.D., WILBERFORCE SMITH, F.R.C.S., CAMERON R. GIBSON, M.B., LESLIE MEAKIN, RICHARD W. SMITH, M.B., SIDNEY T. DAVIES, EDWARD A. SEAGAR, M.B., JAMES N. ARMSTRONG, M.B., HUGH P. COSTOBADDIE, F.R.C.S.Edin., VICTOR F. SOOTHILL, M.B., ARTHUR N. HODGES, M.B., Lieutenant EDWARD ERCELL STEELE, M.D., Canadian Army Medical Corps, OSCAR R. L. WILSON, M.B., CHARLES E. HIBBARD, HENRY G. PEAKE, M.B., ARTHUR TILBURY, and EDWARD M. THOMSON, August 15th; HENRY CORDNER, M.B., FRANCIS HERNAMAN-JOHNSON, M.D., FRANK D. CAIRNS, M.B., BERNARD H. WEDD, M.D., and GEOFFREY M. FLEMING, M.B., August 16th; ARTHUR TURNBULL, M.B., and HENRY C. E. QUINN, August 17th; FREDERICK C. K. AUSTIN, M.B., ALLAN L. CHRISTIE, M.B., and ALEXANDER T. I. MACDONALD, M.D., August 18th; Major THOMAS KAY, M.B., R.A.M.C., August 20th.

INDIAN MEDICAL SERVICE.

An exchange is sanctioned between Captain F. R. COPPINGER, M.B., I.M.S., and Captain J. B. HANAFIN, F.R.C.S.I., R.A.M.C., with effect from July 15th, 1914.

The services of Captain G. G. JOLLY, I.M.S., have been placed at the disposal of the Government of Bombay for employment in the Sanitary Department.

Captain W. L. HARNETT, I.M.S., has been appointed as Surgeon to the Governor of Bengal.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

To be Lieutenants: PHILIP S. VICKERMAN, M.B., late Lieutenant R.A.M.C., Special Reserve, August 11th; JOHN W. MCNEE, M.B., August 13th.

Cadets and ex-Cadets of the Officers' Training Corps to be Lieutenants: JOHN M. WATT, August 4th; JAMES E. JAMESON, JOHN F. LYONS, CYRIL E. H. GATER, THOMAS C. STUDLEY, CHARLES D. M. BUCKLEY, M.B., JOHN C. A. DOWSE, M.B., HARRY E. B. WHITE, M.B., MORTIMER MCG. RUSSELL, JOSEPH P. QUINN, EDGAR LL. F. NASH, August 5th; ROBERT L. IMPEY, BERTRAND C. O. SHERIDAN, DOUGLAS C. PIM, August 6th; JOHN S. DOCKRILL, DOUGLAS CRAN, THOMAS C. OWEN, and GEORGE DALZIEL, M.B., August 8th; JOHN A. C. KIDD, JOHN L. PERCEVAL, EDWARD N. H. GRAY, RICHARD E GRANDY, M.B., and MAURICE B. KING, August 9th; ERIC S. MAWE, August 11th; JAMES C. OGILVIE, August 12th; CECIL M. WEST and FRANK P. FREEMAN, August 13th.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Eastern Mounted Brigade Field Ambulance.—MEREDITH S. DOUBBLE (late Captain Eastern Mountain Brigade Field Ambulance) to be Captain, August 26th.

Second London (City of London) Field Ambulance.—LOUIS COURTAULD, M.B., to be Lieutenant, August 26th.

Second North Midland Field Ambulance.—To be Lieutenants, August 26th: LIONEL T. CHALLENOR, MAURICE H. BARTON.

First South Midland Field Ambulance.—To be Captains, August 26th: WILLIAM M. STURROCK, M.B.; WILLIAM MCCALL, M.B.

Second South Midland Field Ambulance.—Lieutenant JOHN DALE, M.B., to be Captain, August 26th.

Third Northumberland Field Ambulance.—Lieutenant AUGUST F. PERL, M.B., to be Captain, July 13th.

First Welsh Field Ambulance.—JOSEPH M. FONSECA to be Lieutenant, August 26th.

Fourth London General Hospital.—Lieutenant-Colonel NESTOR J. C. TIRARD, M.D., from the Mobilization List, to be Lieutenant-Colonel on the permanent personnel, August 26th. Captain ERNEST R. CARLING, M.B., F.R.C.S., to be seconded under the conditions of paragraph 112 of the Territorial Regulations, August 26th. The following officers to be seconded, August 26th: Major RICHARD G. G. HEBB, M.D., Captain RAYMOND H. P. CRAWFORD, M.D., Captain FRANCIS JAFFREY, F.R.C.S., Captain EDMUND J. SPRIGGS, M.D.

Fourth Northern General Hospital.—Lieutenant-Colonel GEORGE S. STEPHENSON, M.D., resigns his commission, August 26th. HUGH B. W. SMITH, M.B., F.R.C.S., to be Captain, August 26th.

Fourth Scottish General Hospital.—Captain JOHN S. BARR, M.B., resigns his commission, August 26th.

First London (City of London) Sanitary Company.—CRESACRE G. MOOR to be Lieutenant (supernumerary), August 26th.

Third Lowland Field Ambulance.—Lieutenant ARTHUR C. MCMASTER, M.B., from the 1st New Zealand Field Ambulance, to be Lieutenant, August 29th, 1914.

Second Eastern General Hospital.—Quartermaster and Hon. Major THEODORE F. H. BRISCOE is seconded, August 29th, 1914. HARCOURT H. ROSS to be Quartermaster, with the honorary rank of Lieutenant, August 29th, 1914.

Third North Midland Field Ambulance.—Lieutenant CRICHTON STIRLING LEE is seconded, August 29th, 1914.

First London (City of London) General Hospital.—Major CHARLES B. LOCKWOOD, F.R.C.S., resigns his commission, August 29th, 1914.

Second Northern General Hospital.—To be Captains, August 29th, 1914: GEORGE C. HAYES, F.R.C.S., EDWARD W. BAIN, F.R.C.S., CHARLES W. VINING, M.D., and SAMUEL W. DAW, F.R.C.S.

Fifth Southern General Hospital.—Erratum: In the *Gazette* of August 21st, for Lieutenant-Colonel and Hon. Surgeon-General George G. Sparrow read Lieutenant-Colonel and Hon. Surgeon-Colonel.

Sanitary Officers.—Captain JOHN DALE, M.B., from the Second South Midland Field Ambulance, is appointed Sanitary Officer to the South Midland Territorial Division, August 26th.

Attached to Units other than Medical Units.—CHARLES G. BRENTNALL, M.B., to be Lieutenant, August 26th. CHARLES W. EDWARDS, F.R.C.S., to be Captain, August 26th. LEONARD WEST, M.B., to be Lieutenant, August 26th.

COLONIAL MEDICAL SERVICES.

THE following changes are notified by the Colonial Office:

WEST AFRICAN MEDICAL STAFF.

Death.—E. J. H. Garstin, Medical Officer, Nigeria.

Transfers.—J. W. S. Macfie, Medical Officer, Nigeria, has been transferred to the Gold Coast.

Promotions.—A. C. Parsons, Medical Officer, Nigeria, to be a Sanitary Officer, Nigeria; W. J. D. Inness, Medical Officer, Nigeria, to be a Sanitary Officer, Nigeria.

New Appointments.—The following gentlemen have been selected for appointment to the staff: T. P. Fraser, M.B., Ch.B.Aberd., D.P.H. Cantab., Nigeria; A. S. Burgess, M.R.C.S.Eng., L.R.C.P.Lond., M.B., B.C.Cantab., Gold Coast; E. Gibson, L.R.C.P.and S.Edin., Nigeria; C. J. B. Pasley, M.R.C.S.Eng., L.R.C.P.Lond., Nigeria; T. Ryan, M.B., Ch.B., B.A.O.Dubl., Gambia; C. MacKey, M.B., Ch.B.Vict. Univ., Manchester, D.P.H., D.T.M.Liverpool, Nigeria; J. M. O'Connell, L.R.C.P.and S.Ire., Sierra Leone.

OTHER COLONIES AND PROTECTORATES.

A. L. Fitzmaurice, M.R.C.S.Eng., L.R.C.P.Lond., M.B., B.S.Lond., has been selected for appointment as a Medical Officer, Somaliland: E. H. Black, M.B., Ch.B.Edin., D.P.H.Camb., has been selected for appointment as a Medical Officer in the Federated Malay States; P. W. H. Burne, M.B., B.S.Lond., has been selected for appointment as a Medical Officer in the Straits Settlements.

THE TECHNICAL STAFF OF A GENERAL HOSPITAL IN WAR.

SURGEON-GENERAL G. J. H. EVATT, C.B., writes: There are two officials in a war general hospital of whom I would like to say a few words.

1. *The Secretary or Executive Officer* holds a post of truly great strain. On his efficiency, devotion, and self-sacrifice hangs much of the hospital efficiency. If he be defective failure ensues. But to officers of this line of duty no "specialist" pay is granted. This is an error, for it is a true specialism to effectively run a huge war hospital. Indeed, specialist pay falls short of what such payment should be. A larger extra pay is needed to compensate for the extreme stress of the work. It is to train such executive officers I keep on urging the need of a Professor of Hospital Administration at the Milbank College. I urge in vain, for no one has as yet been appointed, devoted *solely* to this highly technical duty.

2. *The Registrar or Statistical Officer.*—I know no one specially in training for this important office, nor does any specialist pay come to him; yet to keep the statistics of this ever-changing crowded institution skill is needed. In addition he should compile the technical report on the medical and surgical history of the hospital, and the lessons to be learnt from that history for future campaigns. The case papers of all men dying should come into his records, and he is responsible for the accuracy of techuical papers of patients transferred to other hospitals. On the registrars in the field and in the base hospitals, as well as those in the great receiving military hospitals in England, really depends the fullness of that professional history of wars for which we so constantly look and are so often disappointed. Whoever acts as registrar-general and chief statistical officer at the base should take back with him to England a mass of technical information of real value in the future study of the campaign. To deny specialist pay to these officials is quite shortsighted and needs urgent remedy.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BIRMINGHAM MENTAL HOSPITAL.—Assistant Medical Officer (male). Commencing salary, £200 per annum.

BIRMINGHAM UNION INFIRMARY.—(1) First Assistant Medical Officer; salary at the rate of £225 per annum. (2) Second Assistant Medical Officer; salary at the rate of £180 per annum. (3) Fourth Assistant Medical Officer; salary at the rate of £160 per annum. (4) Assistant Medical Officer for Erdington Infirmary and Cottage Homes; salary at the rate of £180 per annum. (5) Assistant Medical Officer for Selly Oak Infirmary; salary at the rate of £160 per annum.

BRIDGE OF WEIR: CONSUMPTION SANATORIA OF SCOTLAND.—Lady Doctor as Resident Assistant. Salary, £75 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House-Physician (lady). Salary, £100 per annum.

BRISTOL ROYAL INFIRMARY.—Dental House-Surgeon. Salary at the rate of £100 per annum.

CANCER HOSPITAL (FREE), Fulham Road, S.W.—Two House-Surgeons. Salary, £100 per annum.

CARLISLE: CUMBERLAND INFIRMARY.—Resident Medical Officer (male). Commencing salary at the rate of £80 per annum.

CHESHIRE EDUCATION COMMITTEE.—Fourth Assistant to the Chief School Medical Officer. Salary, £350 per annum.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

COLVEND.—Medical Officer for the parishes of Colvend and Southwick and Kirkbean. Salary, £70 per annum.

COUNTY BOROUGH OF EASTBOURNE.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary, £350 per annum.

DERBY: DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (lady). Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

DOVER: ROYAL VICTORIA HOSPITAL.—House-Surgeon. Salary, £100 per annum.

DURHAM COUNTY HOSPITAL.—House-Surgeon. Salary, £150 per annum.

DURHAM: SHERBURN HOSPITAL.—Medical Officer. Salary, £300 per annum.

EDINBURGH ROYAL ASYLUM, Morningside.—Assistant Physician. Commencing salary, £175 per annum.

GLENELG PARISH COUNCIL.—(1) Medical Officer for Northern Division; salary, £140 per annum. (2) Medical Officer for Southern Division; salary, £160 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

GREENWICH UNION INFIRMARY.—First Assistant Medical Officer. Salary, £175 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HALIFAX ROYAL INFIRMARY.—(1) Second House-Surgeon; salary, £120 per annum. (2) Third House-Surgeon; salary, £100 per annum.

HEREFORD: HEREFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £150 per annum.

HOSPITAL FOR WOMEN, Soho Square, W.C.—Clinical Assistants in the Out-patient Department.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary, £100 per annum.

HULL: VICTORIA CHILDREN'S HOSPITAL.—Lady House-Surgeon (Resident). Salary, £50 per annum.

KENSINGTON UNION INFIRMARY.—Second Assistant Resident Medical Officer (male). Salary, £160 per annum.

KENT EDUCATION COMMITTEE.—Temporary School Medical Inspector. Salary at the rate of £300 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LAMBETH UNION INFIRMARY.—Sixth Assistant Medical Officer. Salary at the rate of £150 per annum.

LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer to act as Pathologist. Salary, £250 per annum, rising to £300.

LEICESTER ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £100 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—Two House-Physicians and three House-Surgeons. Salary at the rate of £60 each per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon (male). Salary at the rate of £100 per annum.

MILE END UNION INFIRMARY.—Junior Assistant Medical Officer. Salary, £140 per annum.

NOTTINGHAM CITY ASYLUM.—Junior Assistant Medical Officer (male). Commencing salary, £200 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum, rising to £140.

OLDHAM.—Assistant Tuberculosis Officer. Salary, £350 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, E.—(1) Senior Resident House-Surgeon; salary at the rate of £150 per annum. (2) Assistant House-Surgeon; salary at the rate of £80 per annum.

PORTSMOUTH CORPORATION MENTAL HOSPITAL.—Assistant Medical Officer. Salary, £250 per annum.

PRESTON ROYAL INFIRMARY.—(1) Resident Medical and Surgical officer; salary, £150 per annum. (2) Assistant Resident Medical and Surgical Officer; salary, £120 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—District Resident Medical Officer. Salary at the rate of £60 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon (male). Salary, £110 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer (male). Salary at the rate of £100 per annum.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer; (2) House-Physician; (3) House-Surgeon; (4) Junior House-Surgeon; (5) Casualty House-Surgeon. Salary, (1) at the rate of £120 per annum, (2) at the rate of £110 per annum, (3), (4), and (5) at the rate of £100 per annum.

SALFORD UNION INFIRMARY.—Resident Assistant Medical Officer (male). Salary, £150 per annum.

SALISBURY GENERAL INFIRMARY.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £75 per annum respectively.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD EDUCATION COMMITTEE.—Assistant School Medical Officer. Commencing salary, £300 per annum.

SHEFFIELD UNIVERSITY: DEPARTMENT OF PATHOLOGY.—Junior Demonstrator in Pathology. Salary, £200 per annum.

SHREWSBURY: ROYAL SALOP INFIRMARY.—House-Physician. Salary at the rate of £110 per annum.

SOUTH SHIELDS UNION INFIRMARY.—Assistant Resident Medical Officer (male). Salary, £175 per annum.

SURREY COUNTY ASYLUM, Merstham.—Assistant Medical Officer. Salary, £150 per annum, rising to £200.

TORQUAY: TORBAY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

WELSH HOSPITAL FOR THE EXPEDITIONARY FORCE.—Four Medical Officers and Four Medical Students as Dressers.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anæsthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E. (1) Resident Medical Officer. (2) Senior House-Surgeon. (3) Senior House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary for (1), £160; for (2) and (3), £120; and for (4) and (5), £100 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—(1) Resident Medical Officer; salary at the rate of £125 per annum. (2) House-Surgeon; salary at the rate of £125 per annum.

WOMEN'S HOSPITAL FOR CHILDREN, Harrow Road, W.—Dental Surgeon. Honorarium, 25 guineas per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: Ballyhaise (Cavan).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

ARDAGH, V. L., M.D.Dubl., Certifying Factory Surgeon for the Marden Newton District, co. Dorset, and District Medical Officer to the Dorchester Union.

BARKER, A., B.C.Camb., District Medical Officer of the Ware Union.

BOSWELL, N. A., M.B., Ch.B.Birm., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Runcorn District, co. Cheshire.

COLTART, H. N., M.R.C.S., L.R.C.P.Lond., District and Workhouse Medical Officer of the Epsom Union.

DICK, W., L.R.C.P., L.R.C.S.Edin., District Medical Officer of the Freebridge Lynn Union.

EGGAR, W. H., M.R.C.S., L.R.C.P.Lond., District Medical Officer to the Cuckfield Union.

FERGUS, Annie G., M.B., Ch.B.Edin., Assistant Medical Officer to the Bradford Union.

HALLEN, A. E. H. C., M.D.Edin., M.B., C.M., District Medical Officer to the Holborn Union and Medical Officer of Children's Receiving Home.

JONES, J. K., L.R.C.P., L.R.C.S.Edin., District Medical Officer of the Oswestry Incorporation.

LEWIS, T. P., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer to the City of Westminster Union Infirmary.

LITTLE, H. N., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Dunstable District, co. Bedford.

MATHESON, J., M.B., C.M.Aberd., Certifying Factory Surgeon for the Greenwich District, co. London.

PINNIGER, A. E., M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., District Medical Officer to the Isle of Thanet Union.

SAVY, Joseph H. N. F., M.B., Ch.B.Glasg., Medical Superintendent, Crooksbury Sanatorium, Farnham.

SCOTT, Alexander, M.D Glas., Medical Referee under the Workmen's Compensation Act in cases of industrial disease (except nystagmus) arising in the Sheriffdoms of Ayr, Lanarkshire, Renfrewshire, and Bute, and Sterling, Dumbarton, and Clackmannan, and to take also cases of telegraphist's cramp and writer's cramp arising in the sheriffdoms.

SMITH, Walter R. H., M.D.Dubl., Senior Assistant Medical Officer of Health to the Salop County Council.

SOLOMONS, Bethel, M.D.Dubl., F.R.C.P.I., Visiting Gynæcologist to the Rotunda Hospital.

TEMPEST, H., M.R.C.S., L.R.C.P.Lond., District Medical Officer to the Wetherby Union.

WALES, H., M.R.C.S., L.R.C.P.Lond., District Medical Officer to the Skipton Union, and Certifying Factory Surgeon for the Gargrave District, co. York.

WALKER, M. G. L., M.B., Ch.B.Leeds, District Medical Officer to the Skipton Union.

YEOMAN, S., M.B., B.C.Camb., M.R.C.S.Eng., District Medical Officer to the Prestwich Union.

The following have been appointed Medical Referees under the Workmen's Compensation Act, 1906, with a view to their being employed in all cases of telegraphist's cramp and writer's cramp in the circuits indicated in which the services of a medical referee are required: Arthur S. Barnes, M.D., M.R.C.P. (Circuits 21, 22, 25, and 26); J. Michell Clarke, M.D., F.R.C.P. (Circuit 34); T. Wardrop Griffith, M.D., F.R.C.P. (Circuits 11, 12, 13, and 14); Astley V. Clarke, M.D. (Circuit 20); Theodore Thompson, M.D., F.R.C.P. (Circuits 38 to 48 and 51, and the County Court of the City of London); George Hall, M.D., M.R.C.P. (Circuits 1 and 2); Joseph Wilkie Scott, M.D. (Circuits 18 and 19); Judson S. Bury, M.D., F.R.C.P.Lond. (Circuits 4 to 9); Harold A. Scholberg, M.B.Lond. (Circuits 24 and 30); Edwin Bramwell, M.B.Edin., F.R.C.P.Lond. (Sheriffdoms of Fife and Kinross and the Lothians and Peebles).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

DEATH.

VISGER.—August 30th, at Beachcroft, Clevedon, Nesta Gwynne, the dearly loved wife of Charles Visger, aged 38 years.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

DUBLIN: ROTUNDA HOSPITAL.

LONDON HOSPITAL MEDICAL SCHOOL, Turner Street, E.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 12TH, 1914.

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PROVISION OF FREE MEDICAL ATTENDANCE FOR DEPENDANTS OF MEN SERVING WITH THE COLOURS.

PROPOSED GOVERNMENT SCHEME.

WE are informed that it has not been found possible to complete this week the scheme for organizing the provision of free medical attendance for dependants of men serving with the colours as had been hoped. Full details, it is expected, will be ready for publication next week.

BURGH OF EDINBURGH PANEL COMMITTEE.

A meeting of this Committee, convened to make arrangements for meeting medical emergencies during the war, was held at 5, St. Andrew Square, on September 3rd. Resolutions were passed to safeguard the interests of insurance practitioners called out for service at home or abroad, and to undertake their medical work free of charge to the absentees; to co-operate with the local relief committee in providing free medical attendance at their homes for the necessitous dependants of soldiers, sailors, reservists, and territorials on active service; and to recommend that permanent transfers of patients from the insurance list of absent practitioners should not be sanctioned during the continuance of the war. Suggestions were also adopted to the effect that every insurance practitioner be invited by post-card to guarantee free medical attendance to those dependants who may require it, and who are provided with a voucher by the local relief committee; that chemists be invited to supply medicines, etc., at the tariff rate—no dispensing fee to be charged; when the family is absolutely necessitous the charge for medicines might be met by the local relief committee, or, alternatively, the local relief committee might refer such patients for medicine to any of the provident dispensaries; that consultants should be invited to give free consultations to dependants when necessary, at the request of the medical attendant; that in maternity cases the doctor and patient should make arrangements whereby a modified fee should be paid—say 15s.; it was also suggested that the local relief committee take steps to endeavour to secure payment of this fee out of the maternity benefit; that the local relief committee, acting in co-operation with the Soldiers' and Sailors' Families' Association, should be communicated with for the purpose of carrying out these objects; and that the relief committee in granting vouchers to those deserving of free medical attendance should be requested to distribute the work as equally as possible among practitioners, due regard being had to the propinquity of doctor and patient. It was recommended that the local relief committee should avail itself of the provident dispensaries existing in or near these districts, where adequate attendance could easily be obtained, to supplement the services of the doctors above referred to.

Thirteen members of the Edinburgh panel are giving their whole services to the country in the present crisis, and all have provided for the carrying on of their work by deputies.

A copy of these resolutions and suggestions was sent to every practitioner on the Edinburgh panel with a post-card for reply.

STAFFORDSHIRE BRANCH.

At a meeting of the Council of the Branch held on September 1st, at which representatives from Panel Committees were present, the following resolutions were unanimously passed:

1. That all members of the profession remaining in Staffordshire should take every means to safeguard the interests of medical men on military duty, at home or abroad, and should undertake any medical duties for the sole benefit of the absentees;
2. That after the return of a practitioner from service the deputy should, for a period of twelve months, refuse on any consideration, except that of urgency, to treat any of the returned practitioner's patients whom he had seen as deputy; and
3. That medical men in Staffordshire should undertake, free of charge, the medical treatment of all such dependants, not already provided for, of men engaged in the service of the Empire, in the Navy, Army, Reserves, and Territorial Forces, called to the colours, as may be recommended by a competent authority, and should undertake to give all necessary medical and surgical attendance that may be required in connexion with any emergency hospital, convalescent hospital, or sanatorium for sailors or soldiers, wounded or invalided, and generally give professional advice and assistance in regard to any scheme that may be devised for the alleviation of sickness and distress consequent upon the war.

LIVERPOOL.

At a meeting of the Executive Committee of the Liverpool Division, held at the Liverpool Medical Institution on September 4th, the following resolution was passed, and the Honorary Secretary requested to forward it to the Lord Mayor and to all the practitioners within the area of the Division:

> This committee recommends the medical practitioners of Liverpool to give their services gratuitously to the necessitous dependants of men on active service who are recommended as such by any recognized relief committee, provided that arrangements are made for supplying them with medicines and appliances, and that the hospitals remain open to receive such cases as cannot be attended satisfactorily at their own homes.

PATENTS AMENDING ACT.

IN introducing this measure, which afterwards received the Royal assent, the President of the Board of Trade said that its object was to suspend and not to confiscate the right of aliens in patents they had previously exercised in this country. Power, however, was taken in issuing a licence to a British subject to exercise a patent in this country to provide that the licence should be not only for the period of the war but also for the full period of the patent. In this way manufacturers who took up these licences would have some justification for feeling that throughout the life of the patent their property would not be jeopardized.

It was subsequently announced that the President had appointed a committee to consider and advise as to the

best means of obtaining for the use of British industry sufficient supplies of chemical products, colours and dye-stuffs of kinds hitherto largely imported from countries with which we are at present at war.

The Lord Chancellor is chairman, and other members are: Dr. George T. Beilby, F.R.S., Dr. J. J. Dobbie, F.R.S., Mr. David Howard, Mr. Ivan Levinstein, Professor Raphael Meldola, D.Sc., F.R.S., Mr. Max Muspratt, Professor W. H. Perkin, Ph.D., D.Sc., F.R.S., Mr. Milton Sharp, Sir Arthur J. Tedder, Mr. Joseph Turner, Mr. T. Tyrer, together with Mr. John Anderson, of the National Health Insurance Commission, and a representative of the Board of Trade. The secretary of the committee is Mr. F. Gossling (of the Patent Office).

Price of Drugs.

The Pharmaceutical Committee, which is advising the Government on the question of the rise in price of various drugs, is holding frequent meetings. It consists of Messrs. Edmund White, E. T. Nethercoat, C. A. Hill, John C. Umney, and W. J. U. Woolcock. Information is in the hands of the Committee to the effect that the prices of certain drugs are inflated by reason of the action of particular dealers; and recommendations will probably be made that the Government should exercise its powers under the recent Act in order to prevent such inflation.

CORRESPONDENCE.

A State Medical Service and Free Choice of Doctor.

Dr. Milson Russen Rhodes (Wendover) writes: Will you permit me to demonstrate once and for all that the State Medical Service scheme has included from its commencement the principle of free choice of doctor? Again and again I note in the Journal unfounded statements such as was made by Dr. Michael Dewar in his paper in the Section of Medical Sociology, reported in the Journal of August 8th, page 290. My contribution to this discussion unfortunately had to be read in my unavoidable absence, else in your report of it on page 291 would have been included my reply to the following statement of Dr. Dewar:

> A State service would necessarily abolish the great principle of "free choice," which was fought for strenuously and granted by an overwhelming majority in Parliament. Is it considered now we were wrong in fighting for that principle?

Why—necessarily! This and all arguments in this paragraph might be used for pointing out that free choice would be included in a State Medical Service, because we had already fought for it strenuously, and it was granted us by an overwhelming majority in Parliament.

Evidently on the face of it there was as much reason, justification, and "absence of sentiment" in the minds of the profession for believing free choice of doctor could or would not be embodied in the Insurance Act, as there is now in the minds of the opponents of a State Medical Service that such free choice could or would not be included in a State Service Act or amending Act to the Insurance Act.

We fought for it, and, as Dr. Dewar states, we gained it—then the question is settled, and in any system or scheme of State medicine it will naturally be included. But we have seen it can be included in an Insurance Act, though one of the great reasons the profession was opposed to the Insurance Act was that it could not be included. Is it not time that mere catch statements, such as this, should be given up for sound reason and common-sense arguments?

In the article you refer to in your report of my contribution to the Section of Medical Sociology as appearing as long ago as April 20th, 1912, in the Journal, the principle of free choice was laid down in the basis of a State Medical Service, principle No. 3 being, "Let every householder or lodger already in or coming into a neighbourhood put his name down to the medical man of his choice." And this principle has been adopted by the majority of advocates of a State Medical Service ever since.

But this scheme (published in pamphlet form, "A National Medical Service"; 1912, Cornish, St. Ann's Square, Manchester) has this great improvement on the present unlimited number of patients allowed to any panel man under the Insurance Act, and anticipates the taking in of the dependants of insured persons—namely: Principle No. 5, "Let such medical man be allowed only a certain number of families (or households)—say 300 to 500—and as soon as the number is made up for one doctor, then the neighbourhood must choose one of the others."

The individual relationship will be in every way maintained as well as under the Insurance Act, and there will be in every way as much inducement to look after his patients well on the part of the medical officer as there is under the Insurance Act.

I trust, Sir, this will for ever lay this spectre created by our opponents, just as the Insurance Act has laid it now both in the minds of the profession and the public.

Vital Statistics.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[Specially Reported for the "British Medical Journal."]

The quarterly return of the Registrar-General dealing with the births and deaths in the second quarter of the year, and with the marriages during the three months ending March last, has just been issued. The annual marriage-rate during that period was equal to 11.1 per 1,000 of the population, and was 0.1 per 1,000 less than the mean rate in the corresponding quarters of the ten preceding years.

The 226,013 births registered in England and Wales last quarter were equal to an annual rate of 24.3 per 1,000 of the population, estimated at 37,302,983 persons in the middle of the year. The birth-rate last quarter was 2.3 per 1,000 below the average for the corresponding period of the ten preceding years, and 0.4 per 1,000 below the rate in the second quarter of 1913. The birth-rates in the several counties ranged from 16.7 in Rutlandshire, 17.1 in Cardiganshire, 17.2 in Sussex, 17.9 in Carnarvonshire, 18.4 in Oxfordshire, and 18.5 in Dorsetshire to 27.3 in Carmarthenshire, 27.6 in Northumberland, 28.8 in Staffordshire, 29.7 in Monmouthshire, 29.8 in Glamorganshire, and 32.3 in Durham. In ninety-seven of the largest towns the birth-rate averaged 25.5 per 1,000, and ranged from 13.1 in Hastings, 14.1 in Southport, 14.2 in Bournemouth, 15.7 in Blackpool, and 15.9 in Bath to 33.3 in Sunderland, 33.5 in Stoke-on-Trent and in St. Helens, 33.7 in Bootle, 34.2 in Rhondda, and 34.4 in Middlesbrough; in London the rate was 25.2 per 1,000.

The excess of births over deaths during the quarter was 101,879, against 105,808, 102,293, and 105,620 in the second quarters of the three preceding years. From a return issued by the Board of Trade it appears that the passenger movement between the United Kingdom and places outside Europe resulted in a net balance outward of 7,030 passengers of British nationality, and a balance inwards of 13,566 aliens. Between Europe and the United Kingdom there was a net balance inward of 19,308 British and of 15,887 aliens. Thus the total passenger movement resulted in a net balance inward of 41,731 persons.

The deaths registered in England and Wales last quarter numbered 124,134, and were in the proportion of 13.3 annually per 1,000 persons living; the rate in the second quarters of the ten preceding years averaged 13.9 per 1,000. The lowest county death-rates last quarter were 8.8 in Middlesex, 10.2 in Rutlandshire, 10.5 in Buckinghamshire, 10.7 in Berkshire and in Essex, and 10.9 in Surrey; the highest rates were 15.6 in Cardiganshire and in Carnarvonshire, 15.8 in Yorkshire North Riding and in Radnorshire, 16.1 in Lancashire, and 16.7 in Merionethshire. In ninety-seven of the largest towns the death-rate averaged 13.8 per 1,000; in London the rate was 13.1 per 1,000, while among the other towns it ranged from 7.1 in Ilford, 8.6 in Ealing, 8.8 in Eastbourne, 8.9 in Enfield, 9.0 in Willesden and in East Ham, and 9.1 in Edmonton to 17.2 in Stockton-on-Tees, 17.4 in Stoke-on-Trent and in Manchester, 18.3 in Liverpool, 18.6 in Oldham, and 19.5 in Middlesbrough.

The 124,134 deaths from all causes included 3 from small-pox, 307 from enteric fever, 2,677 from measles, 645 from scarlet fever, 2,658 from whooping-cough, 1,122 from diphtheria, and 1,428 from diarrhœa and enteritis among children under 2 years of age. The mortality from whooping-cough and diphtheria was approximately equal to the average; that from scarlet fever was slightly below the average; and that from enteric fever and measles was about two-thirds of the average.

The rate of infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 88 per 1,000, or 10 per 1,000 less than the average proportion in the ten preceding second quarters. Among the several counties the rates of infant mortality last quarter ranged from 45 in Buckinghamshire and in Rutlandshire, 47 in Berkshire, 48 in Wiltshire, and 49 in Montgomeryshire to 101 in Warwickshire, 102 in Nottinghamshire, 103 in Carnarvonshire, 104 in Yorkshire North and West Ridings, 105 in Denbighshire, 106 in Durham, 108 in Carmarthenshire, 110 in Merionethshire, and 111 in Lancashire. In ninety-seven of the largest towns the rate averaged 93 per 1,000; in London it was 79 per 1,000, while among the other towns it ranged from 36 in Bath, 37 in Eastbourne, 41 in Hastings, and 47 in Hornsey to 130 in Stoke-on-Trent, 133 in Bradford, 138 in Rochdale, 139 in Barnsley, and 143 in Middlesbrough. The deaths among persons aged 1 to 65 years were equal to an annual rate of 7.6 per 1,000, and those among persons aged 65 years and upwards to a rate of 79.8 per 1,000 of the population estimated to be living at those ages.

The mean temperature of the air last quarter was from one to two degrees above the average; the rainfall was below the average; and the duration of bright sunshine exceeded the average throughout the country.

HEALTH OF ENGLISH TOWNS.

In ninety-seven of the largest English towns 8,834 births and 4,720 deaths were registered during the week ended Saturday, August 29th. The annual rate of mortality in these towns, which had been 12.0, 12.6, and 12.3 per 1,000 in the three preceding weeks, rose to 13.6 per 1,000 in the week under notice. In London the death-rate was equal to 13.6, against 11.9, 12.2, and 12.8 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 5.3 in East Ham, 5.9 in Ealing, 6.3 in Ilford, 6.7 in Bath, and 6.8 in Enfield and in Southend-on-Sea to 21.6 in Gloucester, 21.7 in Oldham, 22.0 in South Shields, 22.9 in Tynemouth, 23.2 in Sunderland, and 26.3 in Bootle. The deaths of children (under

2 years) from diarrhoea and enteritis, which had been 332, 348, and 446 in the three preceding weeks, further rose to 677, of which 161 occurred in London, 61 in Liverpool, 37 in Birmingham, 30 in Leeds, 28 in Manchester, and 23 in West Ham and in Sheffield. Measles caused a death-rate of 1.6 in Rotherham and 2.8 in Oldham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 33, or 0.7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 6 were recorded in Birmingham, 4 in South Shields, and 3 in Liverpool. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,155, 3,072, and 3,071 at the end of the three preceding weeks, had risen to 3,216 on Saturday, August 29th; 536 new cases were admitted during the week, against 378, 335, and 414 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,059 births and 631 deaths were registered during the week ended Saturday, August 29th. The annual rate of mortality in these towns, which had been 11.6, 13.8, and 15.0 per 1,000 in the three preceding weeks, fell to 14.4 in the week under notice, but was 0.8 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 4.1 in Hamilton, 5.1 in Kirkcaldy, and 7.3 in Kilmarnock to 20.0 in Perth, 21.1 in Clydebank, and 23.6 in Ayr. The mortality from the principal infective diseases averaged 2.3 per 1,000, and was highest in Greenock and Glasgow. The 303 deaths from all causes in Glasgow included 46 from infantile diarrhoeal diseases, 12 from whooping-cough, 6 from scarlet fever, 6 from enteric fever, 3 from diphtheria, and 1 from measles. Two deaths from diphtheria were recorded in Edinburgh, and from infantile diarrhoea 3 deaths in Edinburgh, 3 in Dundee, and 3 in Greenock.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

The following announcements are notified by the Admiralty: Deputy Surgeon-General O. W. Andrews to Portsmouth Dockyard; Fleet Surgeon A. G. Eastment to the *Defiance*; Fleet Surgeon W. J. Bearblock to the *Invincible*; Staff Surgeon W. Bastian to the *Aurora*; Surgeon (temporary) M. B. Hay to the *Gibraltar*; Surgeon W. H. King to the Royal Marine Infirmary, Deal.

ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon H. B. Padwick to the *Pembroke*, for Royal Naval Hospital, Chatham.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Arthur E. Morris, M.D., retained on active list under provisions of Article 120, Royal Warrant for Pay and Promotion, 1913, to be Supernumerary, August 31st, 1914.

Major Edmund P. Hewitt from the Half-pay List, is restored to the Establishment, August 21st.

The following are granted the temporary ranks indicated, while serving with the Australian Medical Unit, dated September 2nd:—To be Lieutenant-Colonel: Lieutenant-Colonel William L'Estrange Eames, C.B., Australian Army Medical Corps. To be Majors: George Horne, Robert Dick. To be Captains: Robert A. R. Wallace, William B. Studdy, Walter R. Reynell, M.B., Randall V. McDonnell, Herschell L. L. Harris, Sydney W. Patterson, Mark C. Gardner, M.B.

The following Captains have been appointed Majors, dated September 1st: John W. S. Seccombe, Herbert V. Bagshawe, Robert J. Franklin, Maurice G. Winder, George H. J. Brown, M.B.

Supernumerary Captain Harry S. Ranken, from the Seconded List, is restored to the Establishment, August 8th.

The following have been granted the temporary rank of Lieutenants: Edward W. Archer, M.B., Galvin A. E. Argo, M.B., R. H. Alexander, M.B., L. Adamson, M.D., John S. Buchanan, M.B., Mark B. Baines, M.D., Gideon R. E. Colquhoun, Michael J. Cronin, M.B., Spencer S. Crosse, Durie A. Chamberlain, David D. Craig, M.B., Walter Dawson, M.B., Cosmo W. Fowler, M.B., Rudolf W. Galloway, M.B., Harry L. S. Griffiths, Thomas Gilchrist, M.B., Ronald N. Hunter, Charles H. Hart, M.B., Robert H. Hodges, William Henderson, M.B., Thomas H. W. Idris, Francis H. Moxon, M.B., James M. McLaggan, M.B., Douglas McAlpine, M.B., Francis L. Nash-Wortham, F.R.C.S.Edin., John Proctor, M.B., Cresswell L. Pattison, M.B., William D. Reid, M.B., Gerald N. B. Sebastian, Isachar R. Smith, M.B., Thomas S. Stafford, Andrew Topping, M.B., Edward H. Udall, John M. Wilson, Ralph J. Tait, M.B., Robert W. W. Vaughan, M.B., John M. Johnston, M.B., Robert F. Young, M.B., Douglas B. Spence, Herbert C. Lucey, M.D., Walter J. Paramore, John P. Charles, M.B., John Higgins, William W. Ingram, M.B., Edmund B. Jardine, Roy R. Kerr, M.B., David A. Laird, M.B., John G. Priestly, M.B., Henry A. Ronn, M.B., Aubrey W. Vénables, Tom Bragg, Arthur V. Poyser, M.B., Frank A. Hampton, M.B.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

The following Lieutenants have been confirmed in their rank: John McC. Orme, John Cullenan, George Perkins, Edward S. Rowbotham, Frederick McKibbin.

The following to be Lieutenants: John Fraser, late Lieutenant, R.A.M.C., Special Reserve, August 11th. On probation: Henry S. Baker (August 13th); Oswald C. S. Tandy, M.B. (August 14th); John L. Kilbride, M.B. (August 16th); David C. L. Vey (August 8th); William Fotheringham, M.B., Austin Smith, M.B. (August 20th); Archibald W. Russell, M.B. (August 21st); Ernest A. Dyson, M.B. (August 24th).

The following Cadets and ex-Cadets of the Officers' Training Corps to be Lieutenants on probation: John D. Steele, Samuel D. Lodge, John J. D. La Touche, Francis H. Goss, George V. Stockdale, M.B., Charles G. Todd, Henry Evers, Frank C. Harrison, James Purdie, M.B., Geoffrey S. Trower, Alexander Glen, M.B., Peter W. Edwards, George C. L. Woodroffe, Oswald D. Jarvis, William Barclay, M.B., Alfred L. Robertson, M.B., William W. S. Sharpe, William C. B. Meyer, M.B., David S. Martin, Robert McKinlay, John A. Musgrave, Harold L. Mooney, John P. Macnamara, Joseph C. A. McCalden, M.B., Archibald B. Mitchell, M.B., Frederick R. S. Shaw, John J. B. Edmond, Arthur C. Bateman, James R. McCurdie, M.B., David C. Barron, M.B., Thomas Parr, Douglas M. M. Fraser, John W. Malcolm, Clement Lovell, M.D., Bernard Goldsmith,

INDIAN MEDICAL SERVICE.

The following promotions are made:

Majors to be Lieutenant-Colonels.—T. A. Granger, M.B., Brevet Lieutenant-Colonel; H. J. K. Bamfield, J. W. Grant, M.B., A. H. Moorhead, M.B., W. D. Hayward, M.B., W. E. Scott-Moncrieff, M.D., F.R.C.S.E., dated July 28th, 1914; S. Evans, M.B., A. Gwyther, M.B., F.R.C.S.E., J. A. Hamilton, M.B., F.R.C.S.E., J. H. McDonald, M.B., dated July 29th, 1914.

Captains to be Majors.—W. C. Ross, M.B., H. Hallilay, M.B., A. J. V. Betts, M.B., F. E. Wilson, M.B., B. B. Paymaster, H. Ross, M.B., J. Forrest, M.B., L. Hirsch, D. S. A. O'Keeffe, M.B., dated July 26th, 1914; H. H. Broome, M.B., F.R.C.S., F. N. White, M.D., D. Heron, M.B., F.R.C.S.E., H. C. Keates, M.D., L. Reynolds, M.B., R. A. Needham, M.B., J. Kirkwood, M.D., F.R.C.S.E., dated July 31st, 1914.

Lieutenant-Colonel W. E. Scott-Moncrieff, M.D., F.R.C.S.E., is permitted to retire from the service, with effect from July 29th, 1914.

Major L. J. M. Deas, Agency Surgeon, Southern States of Central India, is appointed temporarily to hold charge of the current duties of the office of Political Agent, Southern States of Central India, in addition to his own duties, with effect from July 18th, 1914.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Second South Midland Field Ambulance.—Kenneth A. P. R Murray to be Lieutenant, August 29th.

Fourth London General Hospital.—Captain William Turner, M.B., F.R.C.S., is seconded under the conditions of paragraph 112 of the Territorial Force Regulations, August 29th.

Sanitary Service.—Captain Middleton Connon, M.D., is seconded, August 29th.

Attached to Units other than Medical Units.—Surgeon-Lieutenant S. E. Rigg to be Surgeon-Captain, July 15th.

For Attachment to Units other than Medical Units.—Reginald S. S. Statham, M.D., to be Lieutenant, August 29th.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—(1) House-Surgeon (male); (2) House-Physician (male). Salary, £75 each per annum.

BENENDEN NATIONAL SANATORIUM.—Assistant Medical Officer. Salary, £120 per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Honorarium at the rate of 52 guineas per annum.

BIRMINGHAM CITY ASYLUM, Rubery Hill.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM FEVER HOSPITAL.—Assistant Medical Officer. Salary, £200 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer (lady). Commencing salary, £240 per annum.

BIRMINGHAM MENTAL HOSPITAL.—Assistant Medical Officer (male). Commencing salary, £200 per annum.

BIRMINGHAM UNION INFIRMARY.—(1) First Assistant Medical Officer; salary at the rate of £225 per annum. (2) Second Assistant Medical Officer; salary at the rate of £180 per annum. (3) Fourth Assistant Medical Officer; salary at the rate of £160 per annum. (4) Assistant Medical Officer for Erdington Infirmary and Cottage Homes; salary at the rate of £180 per annum. (5) Assistant Medical Officer for Selly Oak Infirmary; salary at the rate of £160 per annum.

BRENTFORD UNION INFIRMARY.—Second Assistant Medical Superintendent. Salary, £200 per annum.

BRIDGE OF WEIR: CONSUMPTION SANATORIA OF SCOTLAND.—Lady Doctor as Resident Assistant. Salary, £75 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House-Physician (lady). Salary, £100 per annum.

BRISTOL ROYAL INFIRMARY.—Dental House-Surgeon. Salary at the rate of £100 per annum.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, S.W.—House-Physician. Honorarium of 30 guineas for six months.

BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

CANCER HOSPITAL (FREE), Fulham Road, S.W.—Two House-Surgeons. Salary, £100 per annum.

CHELSEA UNION INFIRMARY.—First Assistant Medical Officer. Commencing salary, £200 per annum.

CHELTENHAM GENERAL HOSPITAL.—House-Physician and House-Surgeon. Salary, £100 each per annum.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

DERBY: DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (lady). Salary, £80 per annum.

DERBYSHIRE EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary, £300 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

DURHAM: SHERBURN HOSPITAL.—Medical Officer. Salary, £300 per annum.

EPPING RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary, £100 per annum.

EPPING RURAL DISTRICT ISOLATION HOSPITAL.—Medical Superintendent. Salary, £200 per annum.

EPPING UNION.—District Medical Officer and Public Vaccinator. Salary, £125 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £200 per annum.

GLASGOW EYE INFIRMARY.—Resident Assistant House-Surgeon. Surgeon. Salary, £75 per annum.

GLENELG PARISH COUNCIL.—(1) Medical Officer for Northern Division; salary, £140 per annum. (2) Medical Officer for Southern Division; salary, £160 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HALIFAX ROYAL INFIRMARY.—(1) Second House-Surgeon; salary, £120 per annum. (2) Third House-Surgeon; salary, £100 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON GENERAL HOSPITAL.—Two Medical Women as Resident Casualty Officers. Salary at the rate of £50 per annum.

HARRIS LOCAL MEDICAL COMMITTEE.—Two Medical Practitioners. Salary, £300 each per annum.

HUDDERSFIELD ROYAL INFIRMARY.—Junior Assistant House-Surgeon (male). Salary, £80 per annum.

HULL ROYAL INFIRMARY.—(1) Senior House-Surgeon; salary, £150 per annum. (2) Assistant House-Surgeon; salary, £100 per annum. (3) Resident House-Surgeon (lady); salary, £60 per annum.

KENT COUNTY ASYLUM, Chartham.—Third Junior Assistant Medical Officer (male). Salary, £250 per annum.

KENT COUNTY ASYLUM, Maidstone.—Second Assistant Medical Officer (male). Salary, £280 per annum.

KENT EDUCATION COMMITTEE.—Temporary School Medical Inspector. Salary at the rate of £300 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer to act as Pathologist. Salary, £250 per annum, rising to £300.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. Salary, £150 per annum.

LEICESTER ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £100 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—Two House-Physicians and three House-Surgeons. Salary at the rate of £60 each per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER TOWNSHIP INSTITUTION, Crumpsall.—Second Resident Assistant Medical Officer. Salary, £135 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon (male). Salary at the rate of £100 per annum.

MILE END UNION INFIRMARY.—Junior Assistant Medical Officer. Salary, £140 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Resident Medical Officer and Junior House-Surgeon. Salary, £150 and £85 per annum respectively.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum, rising to £140.

OXFORD EYE INFIRMARY.—House-Surgeon. Salary at the rate of £100 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, E.—Senior Resident House-Surgeon. Salary at the rate of £150 per annum.

PRESTON ROYAL INFIRMARY.—(1) Resident Medical and Surgical Officer; salary, £150 per annum. (2) Assistant Resident Medical and Surgical Officer; salary, £120 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—Resident House-Physician. Salary at the rate of £110 per annum.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon (male). Salary, £110 per annum.

ROYAL DENTAL HOSPITAL, Leicester Square, W.C.—House-Anaesthetist.

ROYAL EAR HOSPITAL, Soho, W.—Honorary Radiographer.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer (male). Salary at the rate of £100 per annum.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer; (2) House-Physician; (3) House-Surgeon; (4) Junior House-Surgeon; (5) Casualty House-Surgeon. Salary, (1) at the rate of £120 per annum, (2) at the rate of £110 per annum, (3), (4), and (5) at the rate of £100 per annum.

SALISBURY GENERAL INFIRMARY.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary, £100 and £75 per annum respectively.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: EAST-END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon for Out-patient Department. Salary, £120 per annum.

SHEFFIELD UNIVERSITY: DEPARTMENT OF PATHOLOGY.—Junior Demonstrator in Pathology. Salary, £200 per annum.

SHREWSBURY: ROYAL SALOP INFIRMARY.—House-Physician. Salary at the rate of £110 per annum.

SOUTH LONDON HOSPITAL FOR WOMEN.—Two Medical Women as Clinical Assistants.

SOUTH SHIELDS UNION INFIRMARY.—Assistant Resident Medical Officer (male). Salary, £175 per annum.

SURREY COUNTY ASYLUM, Merstham.—Assistant Medical Officer. Commencing salary, £250 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Physician (male). Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Chelsea, S.W.—House-Surgeon. Honorarium of £40 for six months.

WAKEFIELD: CLAYTON HOSPITAL.—Junior House-Surgeon. Salary, £150 per annum.

WALSALL AND DISTRICT HOSPITAL.—Senior House-Surgeon. Salary, £150 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Commencing salary at the rate of £120 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—(1) Senior House-Physician; (2) Junior House-Surgeon; (3) Junior House-Physician. Salary for (1), £120; and for (2) and (3), £100 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon and Resident Medical Officer. Salary at the rate of £125 each per annum.

WOMEN'S HOSPITAL FOR CHILDREN, Harrow Road, W.—Dental Surgeon. Honorarium, 25 guineas per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Buncrana (Donegal), Carrickfergus (Antrim), Leven (Fife).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

GAYTON, W. J., L.M.S.S.A.Lond., Assistant Medical Officer of the Kensington Parish Infirmary.

PHILP, C. Hastings, M.B., B.C.Cantab., Honorary Anaesthetist to the Herefordshire General Hospital.

RICHMOND, G., M.B., Ch.B.Glasg., Medical Officer of the Ashton-under-Lyne Union Workhouse.

STATHERS, G. N., L.R.C.P.Edin., M.R.C.S.Eng., D.P.H., District Medical Officer to the Brackley Union.

WHINCUP, Frank, M.R.C.S., L.R.C.P., F.R.C.S.E., Physician to the Royal Salop Infirmary.

WHITE, C. R., L.R.C.P Edin., L.R.C.S.Edin., L.F.P.S.Glasg., District Medical Officer to the Hay Union.

WILSON, O. R. L., M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer of the Southwark Union Infirmary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

MARRIAGES.

DENNING—BURNS.—On September 2nd, at All Hallows, London, Arthur Fiolliott William, M.B., B.S.Lond., youngest son of J. V. Denning, Surgeon, of London, to Adelaide Mary E., second daughter of the late James and Mrs. Burns, of Southsea.

GOYDER—GOLDSMID.—On September 1st, in London, Francis Willoughby Goyder, M.B.Cantab., F.R.C.S.Eng., of Bradford, to Isabella Helen Mary, only child of the late John Henry Goldsmid.

DEATHS.

BAIN.—On August 24th, at Straythorpe, York Place, Harrogate, Leslie Curtis, younger son of William Bain, M.D., F.R.C.P., aged 18.

FAWCETT.—At 165, Goldhawk Road, suddenly, on September 6th, 1914, Francis Henry Fawcett, son of the late Rev. Hy. Fawcett, of Landkey, Devon, aged 46 years.

TANNER.—On September 8th, at his residence, 8, Glenmore Road, N.W., John Tanner, M.D., etc., late of Queen Anne Street, W., suddenly, of heart failure, in his 79th year. Funeral on Saturday, the 12th inst., at Marylebone Cemetery, Finchley, preceded by service at St. Peter's Church, Belsize Park, at 11.45. Friends please accept this intimation.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

DUBLIN: ROTUNDA HOSPITAL.

LONDON HOSPITAL MEDICAL SCHOOL, Turner Street, E.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 19TH, 1914.

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PROVISION OF FREE MEDICAL ATTENDANCE FOR DEPENDANTS OF MEN SERVING WITH THE COLOURS.

THE letter which the President of the Board of Education has addressed to the press is printed below, together with the letter from the Chairman of Council and Medical Secretary of the British Medical Association stating the nature of the arrangements made:

17th September, 1914.

Dear Sir,—The public will be glad to learn that a scheme has been devised for providing, wherever practicable, free medical attendance, with medicine and appliances, to those dependants of soldiers and sailors serving with the colours whose circumstances are such as to render them not unsuitable recipients.

The scheme originated in an offer made by the British Medical Association and the Pharmaceutical Society of Great Britain, who recently informed the Government that in view of the marked desire shown by medical men and pharmacists throughout the country to help in the present crisis, they felt justified in promising the co-operation of their professions in a scheme for providing medical attendance without charge, and medicine and appliances at cost price.

This generous offer has been gratefully accepted by the Government, who fully recognize the magnitude of the sacrifice which it will entail on the two professions and the expenditure and labour involved on the part of the British Medical Association and the Pharmaceutical Society. I am glad to say that the Executive Committee of the Prince of Wales's Fund have decided to defray the cost of medicine and appliances supplied in connexion with the scheme, so that the benefits of the scheme will be available entirely free of cost to those for whom they are intended.

The Central Committee for the Prevention and Relief of Distress have set up the following special Subcommittee to bring the scheme into operation on a properly organized and comprehensive basis: it includes representatives of the British Medical Association and of the Pharmaceutical Society and also of the National Health Insurance Commission—a department whose experience will be helpful in bringing this scheme into operation.

Duke of Devonshire, Chairman.
Dr. C. Addison, M.P. (Parliamentary Secretary of the Board of Education), Vice-Chairman.
Dr. Alfred Cox, Medical Secretary of the British Medical Association.
Mr. W. S. Glyn-Jones, M.P., Parliamentary Secretary of the Pharmaceutical Society.
Dr. J. A. Macdonald, Chairman of Council of the British Medical Association.
Dr. B. A. Richmond, Secretary of the London Panel Committee.
Mr. S. P. Vivian, Assistant Secretary of the National Health Insurance Commission (England).
Mr. J. Smith Whitaker, Deputy Chairman of the National Health Insurance Commission (England) and member of the National Health Insurance Joint Committee.
Mr. Edmund White, President of the Pharmaceutical Society.
Mr. W. J. U. Woolcock, Secretary of the Pharmaceutical Society.

With Mr. J. A. Barlow (of the Board of Education) and Mr. J. Rae (of the National Health Insurance Commission) as Joint Secretaries.

The British Medical Association and the Pharmaceutical Society are now communicating the arrangements proposed to the individual members of the professions, and are inviting their co-operation. The Subcommittee will shortly make a further announcement on the subject, and will as soon as possible inform local relief committees of the names of those doctors and chemists who offer their services under the scheme, and of the machinery for putting it into operation.

Any communications with regard to the scheme should be addressed to the "Secretaries of the Subcommittee on Medical Provision for Dependants of Men serving with the Colours, Wellington House, Buckingham Gate, London, S.W.," or, in the case of doctors or chemists, to their respective professional associations.

I am, yours faithfully,
JOSEPH A. PEASE.

The following is the text of the letter issued to the profession in Great Britain by the British Medical Association:

OFFER OF FREE MEDICAL ATTENDANCE TO DEPENDANTS OF MEN SERVING WITH THE COLOURS.

To the Members of the Medical Profession in England, Wales, and Scotland.

Dear Sir,—Seeing that the medical profession and pharmacists all over the country were spontaneously offering to give their services gratuitously to dependants of those serving with the colours, the Pharmaceutical Society of Great Britain and the British Medical Association felt it advisable to offer to the Government their assistance in placing this service on a properly organized basis. The Government has gratefully accepted the offer, and the Cabinet Committee for the Prevention and Relief of Distress has appointed a Subcommittee to bring the scheme into operation. The Duke of Devonshire is Chairman of the Subcommittee, and the signatories of this letter have been appointed as members. Further particulars as to the reference to and composition of the Subcommittee will be found in the BRITISH MEDICAL JOURNAL and *Lancet* of September 19th, 1914.

The scheme contemplates that lists of practitioners willing to give gratuitous medical attendance (not including midwifery) and of pharmacists willing to provide drugs, medicines [and those appliances scheduled in the Insurance Act Regulations] at cost price to themselves and without any fee for dispensing, shall be compiled and furnished to the local relief committees all over the country by the British Medical Association and the Pharmaceutical Society respectively, through the Central Subcommittee. The beneficiaries under the scheme will be those dependants of men serving with the colours whose circumstances are, in the opinion of the local relief committee, such as to justify their receiving the benefit of this service. The scheme in outline is as follows:

1. The person requiring medical assistance will apply to the local relief committee—doctors will, of course, refer suitable cases themselves.

2. On that committee being satisfied that the person is dependent on someone serving with the colours, and

is a suitable recipient of the benefit of the service, he or she will be supplied with a voucher which will be accepted by all doctors on the list as evidence of bona fides.

3. The voucher will be in the form of a booklet having leaves (perforated) for prescriptions. Prescriptions on other forms cannot be accepted by the chemists.

4. The pharmacists will tear out the prescriptions and will send them at weekly intervals to the offices of the Pharmaceutical Society of Great Britain, at 17, Bloomsbury Square, W.C., who will price and check them free of cost. Payment will be made out of the Prince of Wales's Fund for prescriptions supplied in conformity with the provisions of the scheme.

Doctors practising in rural areas where no chemist is available, in order to obtain payment on the basis above referred to, should detach and forward the prescriptions in the same way.

5. The book will be so arranged that a duplicate of the prescription will remain for the information of the doctor when he sees the patient again.

6. All persons applying to the local relief committee will be referred to the doctor who usually attends them (if he is on the list) or, if they have no family doctor, will be referred to the doctor on the list who is nearest to them.

7. Local relief committees are being formed in (1) counties, (2) county boroughs, (3) boroughs of over 20,000 population, (4) urban districts with over 20,000.

The British Medical Association has undertaken the compilation of the lists of doctors without cost to the Fund, and appeals with confidence to all general practitioners, whether members of the Association or not, to assist it in providing for the dependants of those who are fighting the battles of the country or may be called upon to do so, a medical service which the profession will be proud to look back on in years to come. This appeal is not made to consultants or specialists, because it is believed that, as always, any person provided with a recommendation from a general practitioner will be seen gratuitously at any of the hospitals. The profession may be assured that the Government thoroughly appreciates the magnitude of the offer made on behalf of the profession.

It is very important that the lists of those willing to offer their services should be in the hands of the Central Subcommittee at an early date, and the Honorary Secretary of the local Division of the Association has been asked to forward his list not later than September 29th. If your name is to be included in the list it is necessary that you should notify him *at once*.

The enclosed form should be used for the purpose. If you are willing to give your services you should sign in the space provided, and at the same time mark on the map by means of a rough circle the district covered by your practice. This is necessary in order that each local relief committee may be furnished with a complete list of the doctors offering their services whose practices extend into their area. Should your practice touch more than one relief committee area the circle drawn by you should indicate the fact, and your name will then be furnished to each of the relief committees concerned.

If you feel unable to offer your services in connexion with the above arrangements you should insert the words "do not" in the blank space. In this event it will not be necessary to insert on the map the area of your practice.

On the completion of the form it should be folded as shown on the back, and sent to the Honorary Secretary of the local Division of the Association.

In view of the urgency of the matter we should be obliged if you would give it your immediate attention.—We are, yours faithfully,

J. A. Macdonald,
Chairman of Council.
Alfred Cox,
Medical Secretary.

British Medical Association,
Sept. 18th, 1914.

THE ASSOCIATION IN AUSTRALASIA.

The following letter has been received from the Honorary Secretary of the South Australian Branch with reference to the election by the annual meeting at Aberdeen of Dr. W. T. Hayward, Chairman of the Australian Federal Committee, to be a Vice-President of the British Medical Association:

British Medical Association.
South Australian Branch.

Dear Sir,—I am directed to acknowledge the receipt of your cable notifying this Branch of the election of Dr. W. T. Hayward as a Vice-President of the Association.

The Council of this Branch regards the honour which has been conferred upon Dr. Hayward not only as a compliment to the profession in Australia, but also as a well-merited recognition of the distinguished services of Dr. Hayward to the Association in the Commonwealth of Australia.—Yours faithfully,

H. S. Newland,
Honorary Secretary.

Professional Chambers, Adelaide,
August 4th.

CORRESPONDENCE.

Owing to the necessary curtailment of the number of pages in the weekly issues of the British Medical Journal and Supplement, all correspondents are particularly requested to write as succinctly as possible.

A State Medical Service and Free Choice of Doctor.

Dr. Lauriston Shaw (London, W.) writes: I hope you will agree with me that medical men should follow the example of politicians and postpone the public discussion of controversial questions until a more convenient season. There is plenty for us all to do during the present crisis in trying to secure a constant flow of qualified men into the profession and the suitable distribution of their services amongst the civilian and military population. I would only therefore ask Dr. Milson Russen Rhodes not to conclude because no immediate answer is forthcoming to his letter in your last issue that his attempt "to demonstrate once and for all" the truth of a proposition so many deny has been attended by success. When the war is over I should be glad of the opportunity of maintaining against Dr. Rhodes's severest criticism the truth of the proposition that no form of "State Medical Service" approved by any considerable body of laymen is compatible with a degree of "free choice of doctor" which would be regarded as reasonable by any considerable body of medical men.

Dr. Michael Dewar (Edinburgh) writes: I am sorry that, after reading Dr. Milson Rhodes's letter, I am still unable to see eye to eye with him. The purport of his letter is simply to say that "free choice" would be included in a State Medical Service. I do not suppose that any one denies the proposition, but what value will it have in practice? It would be a dead letter, and certainly the mere statement that the principle of "free choice" will form part of a State Medical Service cannot lay for ever the so-called "spectre" created by his opponents. It is futile to enter into an argument with one who is obsessed with the one idea of a State Medical Service, and thinks that a mere statement should be accepted as proof that it could by any possibility materialize into an actual and workable fact.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

The following notifications are announced by the Admiralty: Fleet Surgeon J. Martin to the *Vivid*, additional for the *Benbow*, to date on joining and on commissioning, undated. Fleet Surgeon G. E. Kennedy (retired) to the *Pembroke* for Royal Naval Barracks, vice Holyoake, undated. Fleet Surgeon G. Strickland has been placed on the retired list, September 14th. Staff Surgeon J. D. Keir to the *Dolphin*, undated. Staff Surgeon J. Stoddart, M.B., to the *President*, additional for duty with Naval Division at Crystal Palace, September 7th. Staff Surgeon G. P. Silver to the *Vivid*, for Royal Naval Barracks, vice Lewis, September 11th. Acting Surgeon W. G. Thwaites, M.B., to the *Neptune*, September 8th. Surgeon G. A. Jackson, M.B., has been placed on the retired list, September 7th. Surgeons J. M. Horan (acting) and R. E. Cameron, M.B. (temporary), to the *Vivid*, additional for the *Benbow*, to date on joining and on commissioning, undated. Surgeon F. C. Blakeston to the *Vivid* for Royal Naval Barracks, vice Haydon, undated. Temporary Surgeons J. Spencer-Daniell, H. G. Anderson, M.B., R. E. R. Burn, A. Scott, A. C. Morton, R. E. Cameron, and P. Nunneley to the *Victory*, additional for Haslar Hospital; N. V. Williams, M.B., H. G. Brown, W. L. M. Goldie, and G. D. Muir, M.B., to the *Pembroke*, additional for Chatham Hospital, September 14th; W. A. McKerrow to the *Vivid*, additional for Plymouth Hospital as part complement, September 10th.

ARMY MEDICAL SERVICE.

Royal Army Medical Corps.

Captain John H. Peek, M.D., from the Australian Army Medical Corps, is granted the temporary rank of Captain, September 11th.

The following have been granted the temporary rank of Lieutenant: Clifford H. Brookes, M.D., John G. Brown, M.B., Edward R. C. Cooke, Richard Bright, and William T. Milton, M.D., Captain; Leonard B. Cane, M.D., from R.A.M.C. (T.F.), and William Ormesby, Stanley G. Luker, M.D., F.R.C.S.E. and James H. Fletcher, Hugh McLean, Alexander Manuel, M.B., Gerald Whittington, M.B., George T. Whyte, F.R.C.S.I., William J.

MALONEY, M.D., F.R.C.S.Edin., JAMES C. DICK, M.B., NIGEL P. BOULTON, M.B., EVAN H. JONES, M.B., CYRIL D. FAULKNER, CHARLES L. HERKLOTS, GEOFFREY D. HARDING, M.B., DOUGLAS M. HUNTER, M.B., JOHN M. MITCHELL, M.B., JOHN MOWAT, M.B., JOHN M. MOYES, M.B., ANEURIN E. ROBERTS, M.B., FRANCIS C. ROBBS, THOMAS H. RAVENHILL, M.B., JOHN A. ANDREWS, M.B., JOHN S. ARKLE, M.B., HUGH J. COUCHMAN, M.B., EDWARD GORDON, M.B., BERNARD G. GUTTERIDGE, FRANK W. HARLOW, M.B., GEORGE B. HOLROYDE, REGINALD S. A. HEATHCOTE, M.B., GAVIN D. MCLEAN, M.B., DONALD MACINTYRE, M.B., LOUIS A. MORAN, SAMUEL E. MCCLATCHEY, M.B., MATTHEW W. B. OLIVER, M.B., F.R.C.S., HENRY W. PARNIS, M.B., GAVIN STIELL, RICHARD H. STEVENS, EDWARD SEELLEY, M.B., FREDERICK E. TILLYARD, M.B., HILL W. WHITE, M.B., GERALD D. H. WALLACE, ROBERT E. CREE, M.B., REGINALD G. ABRAHAMS, M.B., ROBERT M. ALLAN, M.B., PERCY W. BLACK, BAGOT N. BLOOD, JAMES H. BARRY, ALEXANDER E. CHISHOLM, M.B., F.R.C.S.Edin., CLAUD N. COAD, M.B., GEORGE D. ECCLES, JOHN M. GLASSE, M.B., JOHN H. G. HUNTER, M.B., ALEXANDER W. HENDRY, M.B., RICHARD A. JONES, GEORGE H. LUNAN, M.B., JOHN R. MARRACK, M.B., BENJAMIN B. NOBLE, M.B., THOMAS BOURNE-PRICE, ROBERT E. ROBERTS, M.B., ROBERT C. ROBERTSON, M.B., PHILIP SMITH, WILFRED A. SNEATH, M.B., F.R.C.S., WILLIAM LUMLEY.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

THE following cadets and ex-cadets of the Officers' Training Corps to be Lieutenants on probation: CHARLES H. BRENNAN and WILLIAM A. N. FOX, August 8th; HUGH A. FAWCETT, August 13th; SIDNEY W. RINTOUL, M.B., August 21st; ROBERT R. NEWELL, August 30th; FRANK S. GILLESPIE, M.B., ROBERT R. G. ATKINS, M.B., HAMILTON B. GOULDING, M.B., WILLIAM E. TYNDALL, M.B., GEORGE S. MCCONKEY, M.B., KENNETH K. DRURY, M.D., and DANIEL DOUGAL, M.D., August 31st; FRANCIS M. TAYLOR, September 2nd.

The following to be Lieutenants on probation: RALPH R. SCOTT, August 6th; MAURICE A. O'CALLAGHAN, August 10th; GEORGE A. BRIDGE, M.B., August 31st; ARCHIBALD J. GILCHRIST, September 1st.

The notification of the appointment of HENRY EVERS to a commission in the *Gazette* of September 1st is cancelled.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

First East Anglian Field Ambulance.—GILBERT C. GRAY to be Lieutenant, August 10th.

Second East Anglian Field Ambulance.—Major GEORGE B. MASSON to be Lieutenant-Colonel, September 16th; Captain WILLIAM J. CAIE, from attached to units other than medical units, to be Captain, August 10th.

Third East Anglian Field Ambulance.—Lieutenant WILLIAM R. M. TURTLE, M.B., from attached to units other than medical units, to be Lieutenant, September 16th.

First Wessex Field Ambulance.—The following to be Lieutenants, September 16th: GEORGE D. PERRY and ROBERT BURGESS.

Second Wessex Field Ambulance.—Captain RICHARD P. RYAN, from the list of officers attached to units other than medical units, to be Captain, September 12th.

First North Midland Field Ambulance.—Major EDWIN A. WRAITH, to be Lieutenant-Colonel, September 16th. The following Captains to be Majors, August 1st: THOMAS A. BARRON and FREDERICK R. BREMNER, M.B.

Second North Midland Field Ambulance.—JOSEPH FRANCIS DIXON, M.D. (late Captain, New Zealand Mounted Rifles), to be Captain, September 16th.

Third Northern General Hospital.—THOMAS B. MOUAT, M.D., F.R.C.S., to be Captain, September 16th.

Fifth Northern General Hospital.—Officers whose services will be available on mobilization: THOMAS C. CLARE to be Captain, August 30th.

First South-Western Mounted Brigade Field Ambulance.—WILLIAM C. HODGES to be Lieutenant (supernumerary), September 16th.

Second Home Counties Field Ambulance.—HERBERT S. HOLLIS, M.B., to be Captain, September 16th.

Second South Midland Field Ambulance.—The following Captains to be Majors, September 16th: WILLIAM A. L. HOLLAND and JOHN H. HOBLING.

Second West Riding Field Ambulance.—SAMUEL S. GREAVES to be Lieutenant, September 16th.

Third London General Hospital.—Captain JAMES E. LANE, F.R.C.S., is seconded, September 16th.

Fifth Southern General Hospital.—Captain JOHN T. LEON, M.D., is seconded, September 12th.

Sanitary Service.—Major ROBERT BURNET, M.B., to be Lieutenant-Colonel, August 10th.

Attached to Units other than Medical Units.—Lieutenant JOSEPH M. A. COSTELLO, M.B., to be Captain, August 5th; Surgeon-Lieutenant HARRY G. F. DAWSON, from the Welsh Divisional Engineers, to be Captain, August 5th; Lieutenant VINCENT HOWARD to be Captain, September 16th; Lieutenant ARTHUR C. BIRD to be Captain, September 16th; ARTHUR HENRY SMITH (late Captain, 8th Ardwick Battalion, Manchester Regiment), to be Captain, September 12th; HYMAN LIGHTSTONE, to be Lieutenant, September 12th; Surgeon-Major ALEXANDER COSGRAVE resigns his commission on account of ill-health, September 16th. The transfer to the Territorial Force Reserve of Captain LEONARD B. CANE, M.D., announced in the *London Gazette* of August 21st, is cancelled. WILLIAM A. ROBERTSON to be Lieutenant, September 16th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-seven of the largest English towns 8,817 births and 5,016 deaths were registered during the week ended Saturday, September 5th. The annual rate of mortality in these towns, which had been 12.6, 12.3, and 13.6 per 1,000 in the three preceding weeks, further rose to 14.4 per 1,000 in the week under notice. In London the death-rate was equal to 15.4, against 12.2, 12.8, and 13.6 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 4.3 in Bournemouth, 5.2 in Reading, 6.5 in Southport, 6.6 in Ealing and in Eastbourne, 7.0 in Darlington, and 7.4 in Bath, to 21.0 in Gateshead, 21.2 in Stoke-on-Trent and in Tynemouth, 21.6 in Liverpool, 23.9 in Middlesbrough, and 24.8 in South Shields. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 348, 446, and 677 in the three preceding weeks, further rose to 947, of which 269 occurred in London, 71 in Liverpool, 50 in Birmingham, 31 in Manchester, and 25 in West Ham, in Stoke-on-Trent, and in Leeds. Measles caused a death-rate of 1.1 in West Ham and in Leeds, and 4.5 in Oldham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 44, or 0.9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 7 were recorded in Birmingham, 6 in Gateshead, 5 in Liverpool, 3 in London, and 3 in Tynemouth. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,072, 3,071, and 3,216 at the end of the three preceding weeks, had further risen to 3,318 on Saturday, September 5th; 548 new cases were admitted during the week, against 535, 414, and 536 in the three preceding weeks.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, August 22nd, 606 births and 373 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 597 births and 354 deaths in the preceding period. These deaths represent a mortality of 16.1 per 1,000 of the aggregate population in the districts in question, as against 15.3 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.8 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 26.2 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 16.6 (as against an average of 17.3 for the previous four weeks), in Dublin city 16.3 (as against 18.4), in Belfast 17.6 (as against 15.6), in Cork 24.5 (as against 13.8), in Londonderry 10.1 (as against 15.9), in Limerick 13.5 (as against 10.9), and in Waterford 17.1 (as against 11.9). The zymotic death-rate was 2.3, as against 2.2 in the previous week.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—(1) House-Surgeon (male); (2) House-Physician (male). Salary, £75 each per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Physician for Out-patients. Salary, £40 per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Honorarium at the rate of 52 guineas per annum.

BIRMINGHAM CITY ASYLUM, Rubery Hill.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM EDUCATION COMMITTEE.—(1) Temporary School Medical Officer; (2) Assistant School Medical Officer. Salary, £500 and £300 per annum respectively, the latter increasing to £450.

BIRMINGHAM FEVER HOSPITAL.—Assistant Medical Officer. Salary, £200 per annum.

BIRMINGHAM UNION.—(1) First, Second, and Fourth Assistant Medical Officers at the Dudley Road Infirmary; salary, £225, £180, and £160 per annum respectively. (2) Assistant Medical Officer at the Erdington Infirmary and Cottage Homes; salary, £220 per annum. (3) Assistant Medical Officer at the Selly Oak Infirmary; salary, £180 per annum.

BIRMINGHAM: YARDLEY ROAD SANATORIUM AND ANTI-TUBERCULOSIS CENTRE.—Third Assistant Medical Officer. Salary, £200 per annum.

BRIDGE OF WEIR: CONSUMPTION SANATORIA OF SCOTLAND.—Lady Doctor as Resident Assistant. Salary, £75 per annum.

BRISTOL ROYAL INFIRMARY.—Dental House-Surgeon. Salary at the rate of £100 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary, £135 per annum.

BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

CAMBERWELL: PARISH OF ST. GILES.—Assistant Medical Officer for the Infirmary. Salary, £190 per annum, rising to £200.

CARDIFF: KING EDWARD VII HOSPITAL.—(1) House-Surgeon for Ophthalmic and Ear, Nose, and Throat Departments; (2) Two House-Surgeons. Salary at the rate of £100 per annum each.

CHELTENHAM GENERAL HOSPITAL.—(1) House-Physician; (2) House-Surgeon (males). Salary, £100 per annum each.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

DERBY COUNTY ASYLUM, Mickleover.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

DERBYSHIRE EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary, £300 per annum.

DORSET COUNTY COUNCIL, Dorchester.—Temporary Assistant County Medical Officer of Health. Salary at the rate of £250 per annum.

DUNDEE: ROYAL INFIRMARY.—Three Resident Medical Officers. Salary at the rate of £40 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—(1) House-Physician; (2) House-Surgeon; (3) Ten Clinical Assistants. Salary for (1) and (2) at the rate of £75 per annum.

GLENELG PARISH COUNCIL.—Medical Officer for Southern Division. Salary, £160 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

HALIFAX ROYAL INFIRMARY.—(1) Second House-Surgeon; salary, £120 per annum. (2) Third House-Surgeon; salary, £100 per annum.

HAMPSHIRE COUNTY COUNCIL, Winchester.—Assistant County Medical Officers of Health. Salary, £500 per annum, rising to £400.

HULL ROYAL INFIRMARY.—(1) Senior House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

HULL: VICTORIA CHILDREN'S HOSPITAL.—Lady House-Surgeon (resident). Salary, £60 per annum.

ILFORD URBAN DISTRICT COUNCIL.—Medical Officer of Health, etc. Salary, £525 per annum, rising to £600.

JOHANNESBURG: SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH.—Superintendent of Routine Division. Salary, £700 per annum, rising to £750.

KENT COUNTY ASYLUM, Chartham.—Third Junior Assistant Medical Officer (male). Salary, £250 per annum.

KENT COUNTY ASYLUM, Maidstone.—Second Assistant Medical Officer (male). Salary, £280 per annum.

KING'S LYNN: WEST NORFOLK AND LYNN HOSPITAL.—House-Surgeon. Salary, £150 per annum.

LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer to act as Pathologist. Salary, £250 per annum, rising to £300.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. Salary, £130 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident House-Physician. Salary, £30 for six months.

MANCHESTER: COUNTY ASYLUM, Prestwich.—Assistant Medical Officer. Salary, £250 per annum, rising to £300, and upon promotion to £450.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL INFIRMARY.—(1) Three House-Physicians; (2) Four Junior House-Surgeons; (3) Medical Officer for Out-patients and Accidents to the Central Branch; (4) Assistant Medical Officer to the Convalescent Hospital, Cheadle. Salary for (1), £29 for six months; for (3) and (4) at the rate of £100 and £80 per annum respectively.

MERTHYR TYDFIL COUNTY BOROUGH.—Assistant School Medical Officer. Salary, £300 per annum, rising to £400.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon (male). Salary at the rate of £100 per annum.

MIDDLESEX COUNTY ASYLUM, Napsbury.—Temporary Assistant Medical Officer. Salary, 5 guineas a week.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—(1) Resident Medical Officer; (2) Junior House-Surgeon. Salary, £150 and £85 per annum respectively.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORTHAMPTON COUNTY COUNCIL EDUCATION COMMITTEE.—Assistant School Medical Officer (temporary). Salary, £25 per month.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum, rising to £140.

PADDINGTON INFIRMARY.—Second Assistant to Medical Superintendent of Infirmary and Medical Officer of Workhouse. Salary, £140 per annum, rising to £150.

PLAISTOW FEVER HOSPITAL, E.—Second Assistant Medical Officer (female). Salary at the rate of £100 per annum.

PRESTON: ROYAL INFIRMARY.—(1) Resident Medical and Surgical Officer; (2) Assistant Resident Medical and Surgical Officer. Salary, £150 and £120 per annum respectively.

QUEEN MARY'S HOSPITAL FOR CHILDREN, Carshalton.—Assistant Medical Officers. Salary at the rate of £250 per annum.

RAMSGATE GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £100 per annum.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon (male). Salary, £110 per annum.

ROYAL EAR HOSPITAL, Soho, W.—Honorary Radiographer.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer (male). Salary, at the rate of £100 per annum.

ST. PANCRAS PARISH.—Senior Assistant Medical Superintendent of the South Infirmary, etc. Salary, £175 per annum.

ST. PETER'S HOSPITAL FOR STONE, Etc., Henrietta Street, W.C.—Junior House-Surgeon. Salary at the rate of £75 per annum.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer; (2) Casualty House-Surgeon. Salary at the rate of £120 and £100 per annum respectively.

SALISBURY GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Anaesthetist. Honorarium, £15 per annum.

SHEFFIELD: CHILDREN'S HOSPITAL.—(1) House-Surgeon; (2) House-Surgeon to the East End Branch. Salary, £150 and £120 per annum respectively.

SHREWSBURY: ROYAL SALOP INFIRMARY.—House-Physician. Salary at the rate of £110 per annum.

SOUTHAMPTON FREE EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £120 per annum.

SOUTHSHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SUNDERLAND ROYAL INFIRMARY.—House-Physician (male). Salary, £120 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary, £125 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Physician (male). Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Chelsea, S.W.—House-Surgeon. Honorarium of £40 for six months.

WAKEFIELD: CLAYTON HOSPITAL.—Junior House-Surgeon. Salary, £150 per annum.

WALSALL AND DISTRICT HOSPITAL.—Senior House-Surgeon. Salary, £150 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Commencing salary at the rate of £120 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—(1) Senior House-Physician; (2) Junior House-Surgeon; (3) Junior House-Physician. Salary for (1), £125; and for (2) and (3), £160 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon. Salary, £150 per annum.

WINSLEY SANATORIUM FOR CONSUMPTION, near Bath.—(1) Senior Resident Medical Officer; (2) Assistant Resident Medical Officer. Salary, £300 and £150 per annum respectively.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at the rate of £125 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Beith (Ayr), Huckuall Torkard (Notts).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

BURROWS, Arthur, M.D.Lond., Radiologist to the Manchester and District Radium Institute, the Royal Infirmary, Manchester.

BURSTAL, E., M.B., Ch.B.Oxon., Medical Officer of the West London District School, Ashford.

CLARKE, A. I., L.R.C.P.Edin., L.R.C.S.Edin., L.R.F.P.S.Glasg., Assistant Medical Officer of the Infirmary, Bagthorpe, Nottingham.

CRAWFORD, Robert, M.B., Ch.B.Glasg., Medical Referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of Fife and Kinross, to be attached more particularly to the Kirkcaldy District.

HAMILTON, Graeme, M.B., Ch.B., Certifying Factory Surgeon for the Ashton-under-Lyne District, Medical Officer for No. 10 District of the Ashton-under-Lyne Union, and Public Vaccinator for the No. 10 District of the Ashton-under-Lyne Union, vice Dr. Alexander Hamilton, resigned.

WADE, Henry, F.R.C.S.E., reappointed Assistant to the Edinburgh Infirmary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

HOLFORD.—On September 9th, at Burton-on-Trent, the wife of Chris. Tredwell Holford, F.R.C.S.Edin., M.R.C.S., L.R.C.P.Lond., of a daughter.

MARRIAGE.

BIGGART—TODD.—The marriage took place at the Parish Church, Westbury-on-Trym, of Dr. Arnold Samuel Longbotham Biggart, M.B., Ch.B.Edin., younger son of Dr. Samuel Biggart, of West Hartlepool, and Miss Edith Mary Todd, youngest daughter of Mr. Arthur Todd, of Cote Lodge, Westbury-on-Trym. The bride's brothers were unable to be present owing to military duties. The ceremony was performed by the Rev. S. Wilkins, assisted by the Rev. J. H. Little, formerly of West Hartlepool.

DEATHS.

WIGLESWORTH.—August 24th, at 13, Esplanade, Waterloo, aged 80 years, Arthur Wiglesworth, M.R.C.S., L.R.C.P., L.S.A. (Univ. Coll., London), sometime Acting Assistant Surgeon, Osmanli Irregular Cavalry, Crimean war, youngest son of the late Thomas Wiglesworth, of Bolton Hall, Lancashire.

WILSON.—On 15th September, at Roseneath, St. Marks, Cheltenham, Abram, son of the late Thomas Wilson, of Fairbank, Westmorland, and beloved husband of Sarah Wilson, M.B., aged 73 years. Interment at Selside, Westmorland, Saturday, 19th inst.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses and Lectures are to be given next week at the following schools, colleges, and hospitals:

DUBLIN: ROTUNDA HOSPITAL.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 26TH, 1914.

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REPORT OF CONFERENCE AND DINNER OF HONORARY SECRETARIES OF DIVISIONS AND BRANCHES, ABERDEEN, 1914.

THIS Conference was held at Marischal College, Aberdeen, on Wednesday, July 29th, when there were present the following secretaries:

Dr. A. C. Adeney, Tunbridge Wells Division; Dr. R. Alcock, North Staffordshire Division; Dr. George Alexander, Furness Division; Dr. F. H. Allfrey, Sussex Branch; Dr. B. E. A. Batt, West Suffolk Division; Dr. F. Beaton, Morpeth Division; Dr. David Blair, Lancaster Division; Dr. Eleanor C. Bond, Bournemouth Division; Dr. W. Bryce, Glasgow and West of Scotland Branch; Dr. Joseph A. Clarke, Argyllshire Division; Dr. H. Neville Crowe, Worcester Division; Dr. J. Singleton Darling, Portadown and West Down Division; Dr. James Don, North of England Branch; Dr. R. Eager, Exeter Division; Dr. W. Eardley, Wakefield, Pontefract and Castleford Division; Dr. Frank Fowler, Dorset and West Hants Branch; Dr. Thomas Fraser, Aberdeen Branch; Dr. J. Gardner, Glasgow Southern Division; Mr. James Green, Southern Branch; Mr. W. J. Greer, South Wales and Monmouthshire Branch; Dr. G. S. Haynes, Cambridge and Huntingdon Branch; Dr. C. Jephcott, Chester and Crewe Division; Dr. H. D. Ledward, East Herts Division; Mr. S. Colen Legge, Worcestershire and Herefordshire Branch; Mr. C. Courtenay Lord, Rochester, Chatham, and Gillingham Division; Dr. J. H. Lyell, Perth Branch; Dr. H. C. Mactier, South Staffordshire Division; Dr. H. A. McLean, Glasgow Eastern Division; Mr. J. B. Maxwell, South Essex Division; Dr. James Melvin, Rochdale Division; Dr. John Mills, Connaught Branch; Dr. J. Munro Moir, Northern Counties of Scotland Branch; Dr. J. M. Morris, Swansea Division; Dr. W. T. Mullings, Westminster Division; Dr. B. H. Nicholson, East Anglian Branch; Dr. W. H. F. Oxley, Tower Hamlets Division; Dr. L. A. Parry, Brighton Division; Dr. R. C. Peacocke, East Leinster Division; Dr. G. Pollock, Wandsworth Division; Dr. D. R. Price, South-West Wales Division; Dr. E. J. Primrose, Glasgow North-Western Division; Dr. David Riddell, Kendal Division; Dr. C. H. D. Robbs, Kesteven Division; Dr. S. Robson, Gateshead Division; Mr. C. G. C. Scudamore, Croydon Division; Dr. J. Shearer, Blackburn Division; Dr. A. Tennyson Smith, Bromley Division; Dr. F. K. Smith, Aberdeen Branch; Dr. W. Muir Smith, Eastbourne Division; Dr. A. G. Southcombe, City Division; Dr. E. A. Starling, Kent Branch; Dr. J. A. Stephen, Banff, Elgin, and Nairn Division; Dr. J. Stevens, Edinburgh Branch; Dr. J. Barr Stevens, Renfrewshire and Buteshire Division; Dr. W. S. Syme, Glasgow Central Division; Dr. D. G. Thomson, East Norfolk Division; Dr. F. G. Thomson, Bath and Bristol Branch; Mr. H. Chisholm Will, Bromley Division; Dr. Sophia M. V. Witts, Sheffield Division; Dr. F. E. Wynne, Wigan Division.

Dr. A. G. SOUTHCOMBE, Honorary Secretary of the City Division, was elected to the chair.

The Conference nominated the three retiring members to serve on the Conference of Secretaries Subcommittee of the Organization Committee—namely, Dr. A. G. Southcombe, Mr. W. J. Greer, and Dr. Tennyson Smith

The MEDICAL SECRETARY opened a discussion on matters of special interest to secretaries. He stated that it was the desire of the Organization Committee that the Conference should be really a conference in which opinions should be freely interchanged, and not merely an address by himself. He laid great stress on the need of active and friendly co-operation between the head office and the Division and Branch secretaries, and said that he looked upon the latter as not only the backbone of the local work of the Association, but also as the eyes and ears of the head office. He urged that secretaries should keep him fully informed of local matters of medical interest by sending newspaper cuttings which were often of the greatest use. He was afraid that many secretaries had been greatly discouraged by the apathy shown by the average member during the past year, but he saw no need for discouragement in a state of things which might well have been anticipated after the strenuous work of the previous years, especially seeing that many of our best workers had been perforce occupied in working the Local Medical and Panel Committees. Except in times of stress and excitement secretaries must resign themselves to the fact that the Association, like all other bodies of the kind, was normally carried on by a few enthusiasts. The problem was how to increase the number of steady workers. He suggested that Division meetings should be held at regular stated intervals, so that every member would know exactly when the meetings were to be held, and that the work of the Divisions should be spread out as much as possible. He was aware that secretaries generally were imbued with the wisdom of the adage, "If you want a thing done well, do it yourself," but this was a feeling to be resisted. Secretaries should insist on every member of the Executive doing a fair share of the work, and especially on each one being responsible for looking after the interests of the Association in his own particular area. One way in which members of all types could be interested was by getting different members to specialize on the different reports which were sent down from head quarters. Taking the recent annual report of the Council as an example, a member of a hospital staff might well have been asked to deal with those sections which recommend a change in the relations of hospital staffs to their governing bodies, and asked to introduce the subject to the Division meeting. This would have the double effect of interesting the member who was asked to undertake the task, and making the Division meeting more interesting. He urged that senior practitioners, members of hospital staffs and teaching institutions, should be pressed into the service, as although they were not directly interested in some of the subjects which came before the Divisions, they were often the ablest men in the district, and their very freedom from personal interest in matters under discussion might enable them to deal with certain subjects in a more effective manner. He pointed out how many of the best workers of the Association were not general practitioners but gave their services from love of the work and *esprit de corps*. He urged that secretaries should send reports of all their meetings for publication in the SUPPLEMENT, but that the reports should be condensed so as to give special prominence to general principles and items of local interest which might serve as a guide to other areas. Another advantage of reporting local meetings in the SUPPLEMENT was to induce members to read the SUPPLEMENT, and he pointed out what a great gain it would be to all of the

workers of the Association if members could be induced to do this. Probably half the work of the local secretaries might be obviated, and certainly half his correspondence at the head office, if members would read their SUPPLEMENTS. On the question of the finance of Divisions he dealt with the recent pronouncement of the Council in favour of the Branches making a definite grant to each of their Divisions, based on the experience of the work of those Divisions during the previous year. The Council was strongly of opinion that the Divisions should not be kept too much in leading strings, and that it was better that they should have some funds which they could call their own. It was quite easy for the Branches to regulate the amounts given by the needs of the Divisions, and thus to prevent anything like extravagance. He pointed out that there were still some Branches and Divisions which had not adopted rules or whose rules were hopelessly out of date, and he reminded the meeting that those Branches and Divisions which had not adopted the Model Ethical Rules would not be allowed to use the Warning Notice in the JOURNAL. He then proceeded to deal with the new policy as regards the Warning Notices, which will come into operation at the beginning of October next, and as to which secretaries might expect to be fully informed by circular. The new policy had been approved not only because of a desire to obviate certain legal difficulties, but because it was felt that the present system threw an unnecessary burden upon the honorary secretaries, which burden it was proposed to transfer to the head office. This would, however, mean that he and his colleagues at the head office would be more dependent than ever on the good will of the local secretaries for the information without which no notice could be inserted. In fact, the Council had made up its mind that before any notice of the kind could be inserted the fullest information must be in the hands of the head office. This would mean that sometimes, in cases of emergency, some one from the head office would have to go down to meet the Executive of the Division in order to collect information, and make sure that local professional opinion demanded the insertion of a notice. In this connexion he drew the attention of the meeting to the fact that the Council, in making an addition to the central staff, in appointing an Irish Medical Secretary, and in determining shortly to appoint a Scottish Medical Secretary, was largely guided by a desire to place more personal service at the disposal of the honorary secretaries. It was intended that in all cases where Divisions believed that the interests of the Association or the local profession would be advanced by personal help from the head quarters staff some one should be sent down to give this assistance. He knew that such assistance had often been of great service in the past, and he hoped that secretaries would make still fuller use of it in the future when the staff had been increased. He desired specially to bring before the Conference the risk of "short cuts" being taken either locally or centrally. Nearly everybody had a natural distaste for anything which looked like red tape, but it must be remembered that the business of a big Association like ours could not be conducted without a due regard for procedure. It was no use passing resolutions which were intended to be binding unless those it was intended to bind had ample opportunity of discussing the resolutions beforehand. He drew attention to the necessity of passing resolutions of this kind under Ethical Rule 2, which provided for ample notice and a sufficient majority before a resolution could be made binding. If a resolution laying down a policy as regards remuneration or other conditions was passed, either without notice or without sufficient notice they could not be surprised if some men declined to be bound by it. But if passed in accordance with Ethical Rule 2 it would be impossible for any member of the Division concerned, at any rate, to plead ignorance. The same thing applied to resolutions which were to come before the Representative Meeting, and he was sure that some of the resolutions which had been passed by that body had been carried without full consideration being given beforehand. As an example he mentioned the resolution fixing the rate of payment for referee work under the Insurance Act at 10s. 6d. It was evident that this resolution did not receive the attention it ought to have done in the Divisions when they instructed their Representatives how to vote at the annual meeting, because after that resolution was carried a considerable number of Divisions found great trouble in enforcing it, and many of them had never tried to do so. He hoped that secretaries, either personally or by getting the various members of their Executives to deal with different parts of the Council report and the agenda for the Representative Meeting, would insist upon the Divisions giving careful consideration to resolutions of this kind, so that when they came to be discussed in the Representative Meeting they might have more security than they had now for feeling that if passed they would not merely be pious resolutions. The result of merely pious resolutions was to make things extremely uncomfortable both for local secretaries and the head office, and to lower the Association as an organization in the eyes of the public and the profession. He then dealt with the procedure as regards resignations, and showed what steps were taken between the forwarding of the resignation by a member and the time when that resignation became a *fait accompli*—how within a week of the posting of the resignation secretaries of Divisions and Branches were notified of it and asked to use their influence to secure its withdrawal. A good many members were in this way prevailed on to withdraw their resignations, but he hoped that if those present had any suggestions to make for the improvement of the procedure they would not fail to state them. In acknowledging many acts of personal kindness and forbearance to himself and his colleagues on the part of the honorary secretaries, the Medical Secretary appealed not only for a continuance of this friendly attitude which was so greatly valued, but for free criticism and any suggestions which were calculated to make the central staff more useful to the honorary secretaries and through them to the members of the Association.

Mr. C. G. C. SCUDAMORE (Croydon) responded to the invitation of the Medical Secretary to secretaries of Divisions which had tried new methods of making their meetings more interesting by telling how at Croydon they had recently instituted a series of visits to local medical institutions which he believed had been greatly appreciated.

Dr. E. A. STARLING (Kent Branch) spoke of the necessity for keeping up the interest in the scientific work by means of clinical meetings in which the interests of the local hospital staffs could be enlisted. He believed more good would often be done by utilizing local consultants and specialists than by bringing down consultants from town.

Dr. BARR STEVENS (Renfrewshire and Buteshire) said his Division had recently paid a successful visit to some large works, and thought it had been useful in interesting a certain class of members to whom the ordinary meetings did not appeal. He asked whether the subscription could not be lowered for those members who for various reasons did not want to receive the JOURNAL.

Mr. JAMES GREEN (Southern Branch) gave some personal experiences of the extremely trivial reasons given by some members for resigning. He mentioned some criticisms he had heard of the JOURNAL—for example, that it was too bulky. Coming from an area in which there was a large number of service practitioners, he thought the present time was very opportune for urging them to join the Association, seeing that the Association was engaged on a campaign in favour of the improvement of the conditions of service of the Naval and Indian Medical Services. He laid a good deal of stress, based upon local experience, on the necessity for the head office being consulted at the very earliest stage of any ethical dispute.

Dr. L. A. PARRY (Brighton) mentioned some of their experiences in holding scientific meetings of the Division, and emphasized the need for interesting those members of the profession who could not be induced to participate in the medico-political work.

Dr. JOHN MILLS (Connaught Branch) asked how far it was expedient to help non-members of the Association who asked for advice or assistance. Personally, he had always looked upon the opportunity of giving such assistance as one of the best ways of advertising the Association. The raising of the subscription had been the means of them losing a good many members in Ireland, and he wished to have any suggestions as to how to prevent these resignations.

Dr. J. SINGLETON DARLING (Portadown and West Down) spoke of the complaints raised by some members who had

two or more Journals coming into their practices, and wondered whether some means could not be found to obviate the difficulty. His Division had found scientific meetings helpful.

Dr. James Melvin (Rochdale) remarked that his Division had on more than one occasion sent up resolutions to the Representative Meeting urging that there should be differentiation of subscription in certain cases, such as those alluded to by Dr. Darling, but the Representative Meeting had not accepted the suggestions.

Dr. Frank Fowler (Dorset and West Hants Branch) was of opinion that secretaries need not worry much about many of the resignations which had taken place. They came largely from men who had been rushed into the Association over the Insurance Act fight, but never took any real interest in the work of the Association, and who were probably as well outside.

Mr. C. Courtenay Lord (Rochester, Chatham, and Gillingham) dealt with the tendency of some members to look upon the Journal as the only thing they got for their subscription, whereas in his opinion it was only one of the advantages, and by no means the greatest. He thought that the resignations from Ireland were less pardonable than those from other parts of the kingdom, seeing that the Council had devoted a considerable sum resulting from the rise in subscription to providing Ireland with a separate office and an Irish Medical Secretary. He classified those who had left the Association recently and came to the conclusion that few of those who were really in earnest had resigned. He was not at all pessimistic about the future of the Association.

Drs. Eardley (Wakefield, Pontefract, and Castleford), J. A. Steven (Banff, Elgin, and Nairn), and J. A. Clarke (Argyllshire) raised certain points in connexion with Division organization, the latter dwelling chiefly on the great difficulty of getting meetings over such a widely scattered and thinly populated area as Argyllshire.

The Chairman dealt with several of the questions raised by different speakers, and especially emphasized the advisability of enlarging the size of executive committees of Divisions, so that every member who desired to take an active part in the work of the Division might have the opportunity of serving upon the executive; and also that the Division rules should exclude from re-election on the committee those members who had failed to attend one meeting during the year. He also spoke of the delay experienced by many of the Divisions in getting their annual grants. He dealt with the question of the procedure *re* resignations, and explained that the Metropolitan Counties Branch had put the duty of seeing what influence could be brought upon those intending to resign upon its Organization Committee. He was of opinion that it would be a useful thing if the head office took steps to ascertain and classify the reasons given for resignation.

The Medical Secretary, in reply, stated that the question of those members who for various reasons did not want their Journals had often been considered, and that on each occasion it had been decided to be impossible to allow such members to pay a reduced subscription. The Journal was the official means of communication between the Association and its members, and those who did not receive it would have a good excuse for pleading ignorance of the intentions and resolutions of the Association, an excuse which he thought it would be unwise to give them. In addition, the effect of such a policy on the circulation of the Journal, and through it on the income received from advertising, should be kept in mind. In reply to those who thought the Journal was too bulky, he would ask which part of should be reduced or eliminated, and he would not mind wagering that there would be almost as many opinions as there were persons present in that room. They must rely upon the Editor to do his best to gauge the desires of the members of the Association. He thought that Dr. Mills's attitude towards non-members was the correct one, though personally he was inclined to take a different line with those who had recently left the Association. These, he thought, might well have a polite intimation that the Association could not afford to spend time and trouble over those who did not think it worth while to remain inside its ranks. He was afraid there was no other means of preventing men from resigning, because they thought the subscription too high, other than by convincing them that it would not pay them to be outside the Association, and therefore all of them must try to make the Association more useful than ever it had been. In reply to the observations of the Chairman on the delay which some of the Divisions experienced in getting their grant, he pointed out that if a Branch sent in its annual report by the appointed date it could always rely upon getting its grant by about the middle of May. If it did so, there was nothing to prevent the Branch making its grants to the Divisions soon after this, and at the same time each year, so that the delay was really not the fault of the Council but of the Branch, either in not sending in its annual report at the proper time or in not distributing the money when received from head quarters as quickly as it might.

Mr. Guy Elliston, the Financial Secretary and Business Manager, dealt with several points which had been raised in the course of the discussion, bearing upon the make-up and circulation of the Journal and its Supplement. His clear explanation of certain technical points was evidently very acceptable to the Conference.

Provision of Bound Volumes of Supplement to Secretaries.

During discussion of this item the Chairman pointed out that his Division had sent up a proposal to rescind the resolution to abandon the supply of bound volumes to secretaries to the Representative Meeting at Brighton, but that it was not supported, and that if the custom, which was much to be desired, was to be resumed, Divisions must instruct their Representatives to vote for it, as the Council would most probably not reverse a decision of the Representative Meeting.

During the proceedings Dr. Eleanor Bond (Bournemouth) spoke of the inconvenience caused to secretaries by the withdrawal of the half-yearly bound volumes of the Supplement, which had for some years been forwarded to secretaries of Divisions and Branches. She said she did not think it right that secretaries should be expected to use their own copies of the Supplement for official purposes, and if they did, these copies were apt to get so worn that they were not suitable for binding. If a secretary was to do his work efficiently it was absolutely essential that he should have bound copies of the Supplement for reference. She moved that the Council be asked to consider whether it would not be possible to send as from January 1st, 1915, half-yearly bound volumes of the Supplements of the British Medical Journal to the honorary secretaries of Divisions and Branches. This was seconded by Dr. C. H. Mactier (South Staffs) and carried unanimously.

Introduction of New Central Officials.

The Medical Secretary took the opportunity of introducing to the meeting Dr. T. Hennessy, the newly appointed Irish Medical Secretary, and Mr. C. Courtenay Lord, who will take office as Assistant Medical Secretary on October 1st, 1914.

The meeting ended with cordial votes of thanks to the Chairman and Medical Secretary.

Annual Dinner of Secretaries.

The annual dinner of secretaries was held on the same evening at the Grand Hotel and was attended by over forty secretaries and also by the Chairman of Representative Meetings, Chairman of Council and the Solicitor of the Association. The chair was taken by Dr. A. Tennyson Smith—the Chairman of last year's Conference. The only toast beside that of the King was the health of the Chairman of Representative Meetings, and Dr. Tennyson Smith in proposing it explained that although it was against the precedent of the dinner to have any toasts he felt that those present would wish to offer Mr. Verrall their hearty congratulations on the great honour done to him by the Association in presenting him with the Gold Medal, an honour which those who had worked with Mr. Verrall in any capacity for the Association felt to be richly deserved. Mr. Verrall, in thanking those present, said that though he had been told there were no toasts at that dinner and had thus been taken quite by surprise, he greatly appreciated the compliment paid to him by that gathering, not only because they were fellow workers for the Association but because he had been for many years secretary of the old South-Eastern Branch.

OFFICIAL PUBLICATIONS.

THE following memorandum (Memo. 199/I.C.) was issued by the National Health Insurance Commission (England) on September 17th:

NATIONAL HEALTH INSURANCE.

Medical Benefit.

MEMORANDUM TO INSURANCE COMMITTEES ON THE SUPPLY OF DRUGS AND APPLIANCES.

1. The Commissioners have been giving close attention to the present cost of the supply of drugs and appliances as part of medical benefit; and in this connexion they have had occasion to consider very carefully the question whether the funds available for the purpose are being applied to the best advantage. As a result of such investigations as they have been in a position to make, and from reports which they have received from all quarters, the Commissioners are satisfied that a considerable portion of the charges upon the drug funds of Insurance Committees could have been avoided, without loss of efficiency and even with positive advantage to insured patients, by properly directed economy in prescribing.

2. This conclusion is based upon returns and statistical analyses too voluminous to be cited at length in the course of this Memorandum. Cases, however, will probably be within the knowledge of most Insurance Committees in which a medicine has been prescribed in such quantities or with such frequency as to make it practically certain that it has been either wasted or consumed by persons other than the patient for whom it was ordered. But such extreme and easily recognizable cases of excessive prescribing are less dangerous (because more easily detected) than the case of a general level or habit of prescribing, on the part either of individual practitioners or of the practitioners in particular districts, in excess of what may reasonably be regarded as necessary for the health of the patients attended. Such excess may take two main forms. Apart from the extreme cases referred to, a practitioner may as a matter of general practice prescribe medicines unnecessarily, in deference to the wishes of patients or for other reasons; or the excess may take the form of a habit of prescribing unnecessarily expensive (for example, proprietary) forms of the medicine required by the patient when other equally efficacious and less expensive forms are accessible. The term "excessive prescribing," therefore, as used in this Memorandum is intended to denote, whether in particular cases or as a settled practice, not only the giving of unnecessary prescriptions or the prescribing of unnecessarily lavish quantities, but also the prescribing of medicines in an unnecessarily costly form.

3. The statistical information before the Commissioners discloses differences in the cost of the prescribing, both as between individual practitioners on the same panel and as between different panel areas, of such magnitude that they cannot be satisfactorily explained either by a difference in the health average of the areas or the individual practitioners' lists, or by legitimate variations in the standards of prescribing observed by individual practitioners. This evidence can only point to one of two conclusions. Either the great majority of practitioners on the panel refrain from prescribing for their insured patients the medicines which they ought to have; or, if that hypothesis is rejected, a minority are prescribing on a scale or in a manner which is extravagant, judged by the standard of their colleagues. The Commissioners prefer the second hypothesis; and they are, moreover, confident that Committees may rely, in any efforts to place the matter on a more satisfactory basis, upon the support and co-operation of the medical profession itself, upon whom, under the present panel system, the control of extravagance necessarily devolves, and who, with the knowledge of the facts which is now available, are, it is believed, becoming more fully alive to their responsibilities in this connexion.

4. But in view both of the magnitude of the sums involved and of the continuous rise in the cost of the drug supply, the Commissioners cannot contemplate with equanimity the continuance of a system under which, through the absence of effective control, an unnecessary burden is cast upon insurance funds, and, through them, upon the funds of approved societies. The future will in this respect obviously, therefore, depend upon the extent to which the machinery of control established, or capable of being established, under the present system can be made operative. It may in any event be found necessary as a result of experience to modify and strengthen that machinery; but it will of course be realized that the effectiveness of the machinery, however it is strengthened, must depend upon its thorough application and utilization by the persons locally concerned. In the present Memorandum, therefore, the Commissioners desire to represent very strongly to Insurance Committees, and through them to the medical organizations whose advice and co-operation they enjoy, the imperative necessity for taking the fullest advantage of the present provisions of the Regulations; and they propose at the same time to indicate certain methods by which the best use can be made of those provisions, particularly as against the more dangerous forms of excessive prescribing, which, while less easy to detect, are, it is believed, responsible for the bulk of the excessive expenditure.

5. The Commissioners would urge upon Insurance Committees the need for action even where no financial stringency has arisen. It is observed that in many areas, according to the Commissioners' information, the parties concerned have refrained from considering the adoption of the necessary procedure on the ground that no actual deficit on their drug funds had arisen or was expected. This, however, is a mistaken view. It by no means follows that, because the drug funds of a given area are amply sufficient for the payment of chemists' accounts, there has been no excessive prescribing, inasmuch as a low average cost of drugs, etc., may be due to a comparatively low sickness incidence. Moreover, the considerable increase in the cost of the drug supply for the current year has already in many areas seriously encroached upon the margin previously thought to be available; and it is not only possible but inevitable that, if excessive prescribing is allowed to continue without any steps being taken for its repression, it will ultimately absorb any margin, however large, and produce a state of deficit. The drug accounts should accordingly be strictly scrutinized for excessive prescribing even where the drug funds are apparently ample; and extravagance, if detected in such cases, should be firmly repressed, both for the avoidance of a wasteful application of public moneys and in justice to the persons possessed of a residuary interest in any savings.

6. In conclusion of these introductory paragraphs the Commissioners take the opportunity of pointing out that the validity of the inferences drawn from the comparative statistics referred to is not, of course, affected by the questions which are understood to have been raised by the medical profession in some quarters as to the reasonableness of the prices contained in the drug tariffs, since these are practically the same in every area. But if it is the opinion of the practitioners in any area that increased facilities and opportunities for proper economy in prescribing could be secured by any revision or extension of the tariff at present in force, without prejudice to the treatment of insured persons or injustice to chemists, the Commissioners would regard it as of the greatest importance that the problem of economy should be attacked from this other aspect also, and they feel sure that Committees would welcome any practicable suggestions designed to this end.

Provisions of Current Regulations (Article 40).

7. Turning now to the procedure at present available for the repression of excessive prescribing, this is embodied, as Insurance Committees are aware, in Article 40 of the current Regulations (replacing Article 46 of last year's Regulations).

The effect of this article, and the precise relations which it establishes between the several parties concerned, do not in all cases appear to be fully apprehended. The article contemplates machinery under which any necessary duties of *investigation* are performed by the Panel Committee, the actual process of surcharging being performed by the Insurance Committee upon consideration of a report submitted by the Panel Committee as a result of their investigation. Further, while it is open to the Panel Committee to conduct an investigation at any time, it is *obligatory* upon them to investigate and report if representations are made to them by the Pharmaceutical Committee to the effect that excessive prescribing has taken place. Such representations must, of course, be reasoned representations, setting forth the *prima facie* case of the Pharmaceutical Committee for suggesting the existence of excessive prescribing, but it is no part of the duties of the Pharmaceutical Committee in this connexion to investigate, this duty being expressly reserved under the Regulation for the Panel Committee. Where, therefore, proper representations are made to the Panel Committee by the Pharmaceutical Committee, the former have under the Regulations no alternative but to investigate and to

report to the Insurance Committee, who are similarly under an obligation to give proper consideration to the report, and to make any appropriate surcharges.

8. It will be seen, therefore, that it rests with either the Panel Committee or the Pharmaceutical Committee to set the machinery in motion, the Panel Committee being entitled to investigate and report on their own initiative, while the Pharmaceutical Committee may require them to do so. The Insurance Committee have, under the Regulations, no formal right of initiative in the matter. Nevertheless, as the authority responsible for the disbursement of public money and for the standard of the medical service in the area, they will doubtless be interested in and favourably disposed towards any steps which may conduce to the repression of extravagance and the more efficient direction of methods of prescribing; and the Commissioners would urge upon Committees the importance of facilitating, so far as it is in their power to do so, the operation of the machinery in question by advising the other parties involved, where necessary, as to their respective powers and duties, and by removing any misconceptions or other obstacles which may militate against the utilization of the existing provisions to their fullest advantage. The matter is, of course, one of urgency, as the result of delay must be to intensify and perpetuate the influences leading to extravagance, and early action is, accordingly, likely to be doubly effective. The Commissioners have, therefore, to request that Committees will take the whole subject into their earnest consideration at a very early date, if this has not already been done, as a matter of considerable moment to the satisfactory administration of medical benefit in their respective areas.

Joint Administrative Arrangements for Checking and Scrutiny.

9. Whilst dealing with this subject, the Commissioners desire to advert to an administrative expedient which has been adopted in several areas with success, and which cannot fail to be of considerable assistance, namely, a conjoint arrangement between the Insurance, Panel, and Pharmaceutical Committees for the checking and statistical analysis of prescriptions and chemists' accounts. On the Insurance Committee, in the first place, devolves the duty of an arithmetical check of the chemists' accounts submitted, for the purpose of verifying the correctness of the charges made; although both the Panel and the Pharmaceutical Committee have the right to examine the accounts, and the Regulations contain special provisions as to the passing of the accounts where these rights are exercised. But further, where action under Article 40 is contemplated, some preliminary examination of the prescriptions on the part of the Pharmaceutical Committee will probably be necessary in order to support their representations, while as a result of those representations the Panel Committee are bound to accept the responsibility for a full investigation into the details of prescribing in order to make their report. Where, therefore, as in the case of action under Article 40, circumstances arise in which it would otherwise be necessary for the three separate Committees to examine and analyse the prescriptions, each in pursuance of its own statutory duty, overlapping and waste of money can be avoided by the simultaneous performance of the necessary checking and statistical analysis by a single staff under the joint control of the three Committees. Such joint arrangements have, where adopted, proved to be both efficient and economical: and the establishment of an analytical scrutiny as part of the normal continuous checking system has proved invaluable in practice, as enabling a steady and continuous watch to be kept over the current fluctuations in the cost and frequency of prescriptions, both in the case of individual practitioners and as regards the panel as a whole. The Commissioners are strongly inclined to the view that a continuous examination, throughout the year, of this character is essential to the promotion and maintenance of due economy in prescribing, and they recommend such arrangements to the favourable consideration of all parties concerned.

Issue of Circulars on the Subject of Prescribing.

10. It has come to the knowledge of the Commissioners that some Committees have proposed to issue circulars to doctors and chemists containing general prohibitions as to the prescribing of certain articles or preparations. While, of course, certain clear cases may arise in which the Committee might properly point out on a particular occasion that a given article is not allowable as part of medical benefit (for example, an appliance not included in the Schedule), it appears to the Commissioners that the issue by the Insurance Committee of such a warning on general and comprehensive lines would place the Committee in a position inconsistent in some respects with the proper discharge of their statutory duties. In the first place, the insured person is entitled under the National Insurance Act, 1911, to such proper and sufficient medicines and prescribed appliances as are ordered for him by the practitioner in attendance upon him under the Act: and any question which may arise as to what is proper and sufficient in the case of a given individual patient must be decided on the circumstances and requirements of his actual case. Hence any general prohibition on the part of the Insurance Committee may conceivably conflict in a particular instance with their duty to an insured person; and the issue of such prohibition is to a certain extent, therefore, inconsistent with their position as guardians of the rights of insured persons. To take another instance, an insured person is not, of course, entitled to what is in excess of sufficient for his individual treatment, and a doctor may therefore be surcharged who prescribes a medicine or preparation in an expensive form if it can be prescribed and dispensed at a lower cost with equal efficacy. But the prohibition of specific articles on this ground, though doubtless in many cases entirely justifiable, involves the exercise of a therapeutic judgement upon matters upon which the Insurance Committee are not in a position to decide.

11. Hence it appears that any circular of the nature which has been contemplated should rather be issued, with the assent of the Insurance Committee, by the Panel Committee, acting both in the capacity of expert advisers to their constituents as to methods of prescribing and as warning them of the policy in future to be adopted in the matter of the scrutiny and surcharge of excess. Such a circular might be issued by Panel Committees to doctors on the panel with considerable advantage in most areas, and it is suggested that the Insurance Committee should consult with the Panel Committee on the subject. The specific preparations or compounds as to which it is desired to caution panel practitioners will, of course, vary with the experience of the area and the views of the Panel Committee. For convenience, however, in the framing of such a circular, the Commissioners have outlined the following heads under which, it is believed, most of the articles or preparations as to which a caution is desirable may be classified, together with a note as to the form of warning which, in the Commissioners' opinion, is appropriate to each category.

HEADS OF CIRCULARS.

Foods, Toilet Preparations, Disinfectants.—Note: Insured persons are entitled as part of their medical benefit to proper and sufficient drugs, medicines and prescribed appliances, but not to any articles or preparations that do not fall within that description. Hence, foods, toilet preparations, disinfectants, etc., cannot be prescribed as such; and while a doubt may arise in connexion with any particular article in the following list, as to whether in an individual case it may not be prescribed as a medicine, the responsibility in any such case for showing that the prescription was allowable and ought not to be surcharged will rest with the doctor himself. [*Here will follow list.*]

Prescriptions which could be Otherwise Prescribed and Dispensed at a Lower Cost and with Equal Efficacy.—Note: A practitioner is not entitled to prescribe at the cost of the insurance funds medicines which exceed in cost what is proper and sufficient for his patients' treatment, and any prescription in the following list will be automatically reported for surcharge. Should any case arise in which, owing to any special circumstances, the more expensive preparation is, in the doctor's judgement, essential for the treatment of the case and no other prescription would be equally efficacious, it will devolve upon the doctor prescribing to show cause on these grounds why he should not be surcharged.* [*Here will follow list.*]

Appliances not Prescribed in the Second Schedule.—Note: Insured persons are not entitled to any medical or surgical appliances other than those prescribed in the Second Schedule to the Regulations. In the event of any unscheduled appliance being prescribed, or in any case of doubt, the chemist should refuse to dispense pending instructions from the Insurance Committee, and should immediately notify the doctor and report to the Insurance Committee.

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.
1914.

* In cases of this class no pressure should, of course, be put upon the chemists on the panel to dispense some other preparation than that prescribed, having regard to their obligations under the law. The responsibility in the matter of prescribing rests with the doctor, who should accordingly be warned as to the consequences of any disregard of his duties in this connexion.

PROVISION OF MEDICAL ATTENDANCE FOR DEPENDANTS OF MEN SERVING WITH THE COLOURS.

The publication of Mr. Pease's letter announcing that the offer made through the British Medical Association and the Pharmaceutical Society, expressing the general desires of doctors and pharmacists to co-operate in providing medical attendance without charge, and medicines and appliances at cost prices, had been accepted, and that a scheme had been drawn up for carrying it out, led to a number of appreciative comments in the daily press.

The *Daily Telegraph* wrote:

The appearance of Mr. Pease's letter, which we print to-day, makes the welcome announcement that free medical service is to be provided for those dependent upon soldiers and sailors serving with the colours. The patriotic generosity of the medical men and pharmacists throughout the country, which has enabled the Government to organize this service, entitles them to the grateful recognition of the nation. The scheme originated in an offer from these professions, and it is a peculiarly striking example of the spirit of patriotic helpfulness which inspires the whole nation, and makes us all prouder than ever of the name of Briton.

The *Daily News* wrote:

Mr. Pease's announcement is that arrangements have been made for providing the dependants of soldiers and sailors with free medical attendance, medicine, and appliances. The Prince of Wales's Fund will meet the cost of medicine and appliances, but the doctors and the chemists will volunteer their time and skill. This is a scheme which should be highly beneficial, and it reflects the utmost credit on the British Medical Association and the Pharmaceutical Society, who are largely responsible for its coming into being.

The *Daily Chronicle* wrote:

Through the liberality of the British Medical Association and the Pharmaceutical Society, the Government have framed a scheme for free medical attendance, with medicine and appliances, for the dependants of soldiers and sailors on active service. The scheme, which it is hoped will soon be in full operation, redounds to the honour of the medical profession. Both doctors and chemists are giving their services gratuitously. This admirable public spirit will be gratefully appreciated by the nation.

The *Evening Standard* wrote:

As an example of public spirit at a time of exceptional stress on the resources of many who can ill afford to battle with such adverse circumstances, the scheme made practicable by the generosity of the British Medical Association and the Pharmaceutical Society deserves the highest praise. Nor will the soldiers and sailors in the fighting line be slow to recognize with gratitude the benefits thus offered. Free medical attendance, with medicine and appliances for those left behind, will go far to ensure a clean bill of health, where in many instances it would otherwise have been difficult, if not impossible, of attainment. Not the least recommendation of the scheme is that its administration will guard against any attempted misuse of it.

The *Manchester Guardian* wrote:

The medical profession is meeting the national need in a way well worthy of its great traditions. It is not content to give its men to the army and the fleet in numbers which have more than met the demands even of this time. We give to-day particulars of the offer the British Medical Association, and also the Pharmaceutical Society, have made of free medical attendance, and medicines at cost price, for the dependants of men with the colours. The sacrifice which this will mean to doctors and chemists is a very considerable one. It is as though we all set out to do our day's work over again in leisure hours without reward. But the comfort which the news of it will bring to our soldiers and sailors and those they have left is a reward which other non-combatants may well envy. Every doctor and chemist must be proud and glad at this time to belong to professions which have the power to render such service, and which render it so readily.

Dundee.

The Subcommittee of the Local Medical Committee in charge of the Emergency Medical Service in Dundee reports that the service, instituted on August 17th, is working satisfactorily.

During the three weeks ending September 5th the average daily attendance at the consulting-rooms at the Royal Infirmary was 110. The number of patients taken charge of at their homes was 523, and 21 confinements were undertaken by the maternity department. These numbers included the insured and the non-insured patients of the doctors, and, while careful records were kept in all cases, no discrimination was exercised between the two classes. By the establishment of a fixed rota, it had been found possible to obtain continuity of attendance and treatment by the same practitioner.

The scheme provides that no sickness certificate will be signed unless the patient has been seen by the doctor who signs it. The doctors in attendance at the consulting rooms are the doctors on the Dundee panel, assisted by several of the senior practitioners of the city, who have very kindly offered their services.

Mr. Wedgwood Benn, M.P., Chairman of the Executive Committee of the National Relief Fund, gives notice that the dependants of men at the front needing help should apply to the local representative of the Soldiers' and Sailors' Families Association, or if its address is not known, to the mayor, or chairman of the urban council or chairman of the county council, as the case may be, who will either himself give them the necessary help or refer them to the nearest branch of the association. General inquiries should be addressed to the head office of the Soldiers' and Sailors' Families Association, 23, Queen Anne's Gate, London, S.W.

Effect of the War on Insurance Panels.

Under an instruction of the officers of the Association the Medical Secretary has addressed a letter to the Insurance Commissioners urging that some detailed statement should be made by them as to the effect of the calling away from their homes of insured persons who are serving with the colours on practitioners under agreement with Insurance Committees. A reply has been received, dated September 23rd, which states that the Commissioners recognize the desirability of issuing at an early date an authoritative statement upon the points referred to in the letter of the Association, and that they have given instructions for the preparation of a memorandum dealing comprehensively with the whole subject.

GENERAL MEDICAL COUNCIL.

EXECUTIVE COMMITTEE.

A meeting of the Executive Committee of the General Medical Council was held on September 15th, when Sir Donald MacAlister, President, was in the chair. The following members were present: Dr. Norman Moore, Sir Henry Morris, Mr. Tomes, Dr. Langley Browne, Mr. Hodsdon, Dr. Norman Walker, Sir John Moore, and Sir Charles Ball. Mr. N. C. King, the Registrar, was also present, although the Council was notified that as Mr. King had been called to serve as major in His Majesty's Territorial Force, he would be unable to give regular attendance at the office for the present. The Committee expressed its good wishes to Major King, and gave him leave of absence from September 15th. Mr. A. J. Cockington was appointed Acting-Registrar in his place.

Unqualified Locumtenents.

The President made a statement in regard to certain correspondence received by the Registrar respecting unqualified locumtenents and kindred matters, and read a letter sent to the practitioners concerned, which was published in the Journal of last week, page 522. The action of the President was approved.

Students and the War.

The President read correspondence with several of the licensing bodies in regard to the position of students absent on service during the war. The following answer, drafted by the President, was approved:

With regard to the courses of study and examinations prescribed for professional qualifications, it is the statutory duty of the General Medical Council to secure the maintenance of such a standard of proficiency as shall sufficiently guarantee the possession by candidates of the knowledge and skill requisite for the efficient practice of their profession.

To this end the Council has formulated, for the guidance of the licensing bodies, a series of recommendations respecting such courses. These recommendations represent in general terms the minimum curriculum which, in the Council's opinion, should be required by the licensing bodies, and the Council notes with satisfaction that the regulations of the several bodies give effect to them.

Cases may arise in which, during the present national emergency, the bodies deem it expedient to modify or suspend the application of their regulations to particular

candidates; but the Council expects that all such cases shall be duly recorded and reported to the Council in the usual way.

The Council feels sure that, in dealing with applications for modification or suspension of their regulations, the bodies concerned will recognize the importance, in the public interest, of maintaining unimpaired the present standard of knowledge and skill required of all who seek to be admitted to the status and privileges of registered practitioners; and will accordingly agree with the Council that it is desirable to secure, in every instance, that the requirements of the minimum curriculum are substantially fulfilled.

VISITATION AND INSPECTION OF EXAMINATIONS—REVISION OF REGISTER.

The Committee resolved to advise the Council that, in view of the present unusual conditions of national emergency, it would be inexpedient to proceed with the proposed inspection and visitation of qualifying examinations, and of examinations for diplomas in public health, during 1915, or to issue circulars to registered practitioners in connexion with the revision of the *Register* now in progress.

THE BRITISH PHARMACOPOEIA.

A report was received from Dr. Tirard, the medical editor of the *British Pharmacopoeia*, 1914, representing that grave inconvenience might result to the public services and to manufacturers if a new issue of the *British Pharmacopoeia* containing changes in the strength of various drugs—for instance, such as were used as anaesthetics and dressings—were published at the date originally appointed. The Executive Committee resolved that advance copies of the new *Pharmacopoeia* should be placed for the inspection of the public at the Registrars' offices in London, Edinburgh, and Dublin on October 1st, 1914, and that the statutory notices of publication should be inserted in the official *Gazettes* on December 31st, 1914. The Treasury has approved the recommendation of the Council that the price of the volume should be 10s. 6d.

MEMBERSHIP OF THE COUNCIL.

It was reported that Dr. Edward Magennis had been appointed the representative of the Apothecaries' Hall of Ireland for one year from August 1st, 1914. A vote of condolence with the family of the late Sir Christopher Nixon was adopted.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are made by the Admiralty: Fleet Surgeon C. STRICKLAND (retired) to R.M. Infirmary, Portsmouth, temporary, September 14th. Fleet Surgeon E. B. PICKTHORN (retired) to the *Victory*, additional for the *Kent*, and on commissioning, undated. Fleet Surgeon G. R. MACMAHON (retired) to the *Vivid*, additional for the *Donegal*, and on recommissioning, undated. Staff Surgeon E. COX, M.B., to the *Pembroke*, additional for disposal, September 18th. Staff Surgeon L. WARREN, M.B., to the *Pomone*, additional for Dartmouth Sick Quarters, temporary, September 14th. Surgeon V. L. MATTHEWS to the R.M.A. Division, Portsmouth, vice Eykyn, September 18th. Surgeon HILDRED B. CARLILL, M.D., to the *New Zealand*. Surgeon C. D. BELL, M.B., to the *Victory*, additional for the *Broke*, and on commissioning, undated. Temporary Surgeons G. HAMILTON, M.B., B. A. PLAYNE, M.B., and G. SPARROW, M.B., to the *Victory*, for R.N. Division, Walmer, September 11th; H. V. DEAKIN to the *Attentive*, vice Cox, September 18th; A. H. MOORE to the *Halcyon*, additional, September 19th; E. RAYNER, M.B., and C. H. S. TAYLOR, M.D., to the *Victory*, for R.N. Division, Walmer; F. B. EYKYN to the *Victory*, additional for R.M. Brigade, and E. M. MOLESWORTH, M.B., to the *Victory*, additional for R.N. Division at Crystal Palace, September 16th; J. T. E. EVANS to the *President*, additional for service at Hendon Air Station, September 17th; R. F. R. BURN to the *Victory*, additional for the *Kent*, and on commissioning; H. M. SCOTT to the *Victory*, additional for Portsmouth Yard, vice Pickthorn, undated; L. MANDEL, M.D., and R. K. SHAW, M.B., to the *Vivid*, additional for the *Donegal*, and on commissioning, undated; W. P. COWPER to the *Vivid*, additional for Devonport Yard, vice MacMahon, undated.

ROYAL NAVAL VOLUNTEER RESERVE.

ERNEST F. MURRAY, M.D., to be Surgeon, September 9th. T. B. DIXON to the *Victory*, additional for the *Kent*, and on commissioning, undated. Temporary commissions as Surgeons have been issued to WILLIAM A. SEWELL and ARTHUR H. CROOK.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

THE following have been granted the temporary rank of Lieutenant: P. NORTHCOTE, M.B., A. W. ADDINSELL, M.B., W. W. DEANS, W. B. BANNERMAN, W. E. M. ARMSTRONG, M.D., L. E. OWEN, D. J. THOMAS, M.D., W. KENNEDY-TAYLOR, HENRY R. KNOWLES, M.B., T. L. INGRAM, C. E. RECKITT, J. LAWRY, M.D., W. H. SWAFFIELD, M.D., F.R.C.S.E., JOHN E. L. KEYES, M.B., MAURICE NICOLL, M.B., VINCENT GLENDENNING, F.R.C.S., J. J. A. SHERRY, J.P., F. C. LINDSAY, M.B., F.R.C.S., G. E. NELIGAN, M.B., F.R.C.S., H. A. LAKE.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BELGRAVE HOSPITAL FOR SICK CHILDREN, Clapham Road, S.W.—(1) Assistant Physician; (2) House-Surgeon; (3) House-Physician. Salary for (2) and (3) at the rate of £75 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Honorarium at the rate of of 52 guineas per annum.

BIRMINGHAM CITY ASYLUM, Rubery Hill.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM FEVER HOSPITAL.—Assistant Medical Officer. Salary, £200 per annum.

BIRMINGHAM UNION.—(1) First, Second, and Fourth Assistant Medical Officers at the Dudley Road Infirmary; salary, £225, £180, and £160 per annum respectively. (2) Assistant Medical Officer at the Erdington Infirmary and Cottage Homes; salary, £220 per annum. (3) Assistant Medical Officer at the Selly Oak Infirmary; salary, £180 per annum.

BLACKBURN COUNTY BOROUGH.—Temporary Resident Medical Officer at the Infectious Diseases Hospital. Salary, £200 per annum.

BLACKPOOL: VICTORIA HOSPITAL.—House-Surgeon. Salary, £150 per annum.

BOOTLE HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer. Salary, £150 per annum.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRADFORD: ROYAL EYE AND EAR HOSPITAL.—House-Surgeon (non-resident). Salary, £200.

BRADFORD ROYAL INFIRMARY.—(1) Resident Surgical Officer; (2) Male House-Surgeon. Salary, £150 and £100 per annum respectively.

BRIDGE OF WEIR: CONSUMPTION SANATORIA OF SCOTLAND.—Lady Doctor as Resident Assistant. Salary, £75 per annum.

BRISTOL GENERAL HOSPITAL.—(1) First and Second House-Physicians; (2) House-Surgeon; (3) Casualty House-Surgeon. Salary at the rate of £120 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary, £135 per annum.

BURY ST. EDMUNDS: WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

CANNING TOWN WOMEN'S SETTLEMENT HOSPITAL.—Senior Resident Medical Officer (female). Salary, £120 per annum.

CARDIFF: CITY MENTAL HOSPITAL.—Second Assistant Medical Officer (male). Salary, £250 per annum, rising to £280.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

DERBY COUNTY ASYLUM, Mickleover.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

DERBY COUNTY EDUCATION COMMITTEE.—Temporary School Medical Officer. Salary, £300 per annum.

DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (female). Salary, £100 per annum.

DORSET COUNTY COUNCIL, Dorchester.—Temporary Assistant County Medical Officer of Health. Salary at the rate of £250 per annum.

DUNDEE ROYAL INFIRMARY.—Three Resident Medical Officers. Salary, £40 per annum.

DURHAM COUNTY COUNCIL.—(1) Assistant Tuberculosis Medical Officer. (2) Assistant School Medical Officer (female). Salary, £350 and £300 per annum, rising to £400 and £350 respectively.

EDMONTON UNION INFIRMARY.—Second Assistant Medical Officer. Salary, £140 per annum.

GLENELG PARISH COUNCIL.—Medical Officer for Southern Division. Salary, £160 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

HALIFAX ROYAL INFIRMARY.—(1) Second House-Surgeon; salary, £120 per annum. (2) Third House-Surgeon; salary, £100 per annum.

HAMPSHIRE COUNTY COUNCIL, Winchester.—Assistant County Medical Officers of Health. Salary, £300 per annum, rising to £400.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Assistant Casualty Medical Officer. Salary, £50 for six months, and £2 10s. washing allowance.

HULL ROYAL INFIRMARY.—(1) Senior House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively. (3) Honorary Surgeon.

HULL: VICTORIA HOSPITAL FOR SICK CHILDREN.—Lady House-Surgeon. Salary, £60 per annum.

ILFORD URBAN DISTRICT COUNCIL.—Medical Officer of Health, etc. Salary, £525 per annum, rising to £600.

JOHANNESBURG: SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH.—Superintendent of Routine Division. Salary, £700 per annum, rising to £750.

KENT COUNTY ASYLUM, Chartham.—Third Junior Assistant Medical Officer (male). Salary, £250 per annum.

KENT COUNTY ASYLUM, Maidstone.—Second Assistant Medical Officer (male). Salary, £280 per annum.

KING'S LYNN: WEST NORFOLK AND LYNN HOSPITAL.—House-Surgeon. Salary, £150 per annum.

LEEDS GENERAL INFIRMARY.—Assistant Clinical Pathologist. Salary, £150 per annum.

LEICESTER ROYAL INFIRMARY.—(1) Resident House-Surgeons; (2) Assistant House-Surgeons.

LEICESTERSHIRE AND RUTLAND MENTAL HOSPITAL, Narborough.—Junior Medical Officer (male). Salary, £200 per annum.

LIVERPOOL PARISH: BROWNLOW HILL INSTITUTE.—Oculist. Salary, £50 per annum.

LIVERPOOL ROYAL INFIRMARY.—(1) Three House-Physicians; (2) House-Surgeon; (3) House-Surgeon to special departments. Salary at the rate of £60 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL. — House-Surgeon. Salary, £120 per annum.

LUTON BOROUGH.—Acting Medical Officer of Health. Salary at the rate of £500 per annum.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

MANCHESTER CORPORATION. — Third and Fourth Medical Assistants at the Monsall Fever Hospital. Salary, £150 per annum each.

MANCHESTER: COUNTY ASYLUM, Prestwich.—Assistant Medical Officer. Salary, £250 per annum, rising to £300, and on promotion to £450.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—(1) House-Surgeon in Children's Department; (2) House-Surgeon for Obstetrical and Gynaecological Department. Honorarium at the rate of £70 per annum each.

MERTHYR TYDFIL COUNTY BOROUGH.—Assistant School Medical Officer. Salary, £300 per annum, rising to £400.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officers for the Infectious Hospitals service. Salary, £250 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Assistant House-Surgeon. Salary at the rate of £40 per annum.

MIDDLESBROUGH EDUCATION COMMITTEE.—School Dentist. Salary, £250 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon (male). Salary at the rate of £100 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Senior House-Physician. Salary, £50 per annum.

NEW ZEALAND: UNIVERSITY OF OTAGO.—Professor of Clinical Pathology. Salary, £600 per annum, rising to £800.

NEWPORT: ROYAL GWENT HOSPITAL. — Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORTHAMPTON COUNTY COUNCIL EDUCATION COMMITTEE.—Assistant School Medical Officer (temporary). Salary, £25 per month.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—(1) Physician; (2) Casualty House-Surgeon. Salary, £100 per annum each.

NOTTINGHAM CITY ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £250.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £180 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—(1) Assistant House-Physician; (2) Assistant House-Surgeon. Salary at the rate of £100 per annum each.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary at the rate of £80 per annum.

ROTHERHAM HOSPITAL. — Assistant House-Surgeon (male). Salary, £110 per annum.

ROYAL DENTAL HOSPITAL, Leicester Square, W.C.—House-Anaesthetist.

ROYAL EAR HOSPITAL, Dean Street, Soho, W. — Honorary Assistant Anaesthetist.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary, £100 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, ETC., City Road, E.C.—House-Surgeon. Salary, £100 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer (male). Salary at the rate of £100 per annum.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer; (2) Casualty House-Surgeon. Salary at the rate of £120 and £100 per annum respectively.

SALISBURY GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Anaesthetist. Honorarium, £15 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: CHILDREN'S HOSPITAL.—(1) House-Surgeon; (2) House-Surgeon at the East End Branch. Salary, £150 and £120 per annum respectively.

SHOREDITCH: PARISH OF ST. LEONARD.—Junior Assistant Medical Officer for the Infirmary. Salary, £150 per annum.

SOUTHAMPTON FREE EYE HOSPITAL. — House-Surgeon. Salary, £100 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £120 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SUNDERLAND: ROYAL INFIRMARY. — House-Physician (male). Salary, £120 per annum.

SURREY COUNTY ASYLUM, Netherne.—Assistant Medical Officer. Salary, £230 per annum, rising to £330.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £125 per annum.

TAUNTON AND SOMERSET HOSPITAL.—(1) Senior House-Surgeon; (2) Assistant House-Surgeon. Salary, £120 and £80 per annum respectively.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon (male). Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Junior House-Surgeon. Salary, £150 per annum.

WALSALL AND DISTRICT HOSPITAL.—Senior House-Surgeon. Salary, £150 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST BROMWICH UNION. — Medical Superintendent of the Walsall and West Bromwich School District. Salary, £800 per annum and £100 in lieu of house until residence is provided.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E. —(1) Senior House-Physician; (2) Junior House-Surgeon; (3) Junior House-Physician. Salary for (1), £120; and for (2) and (3), £100 per annum.

WEST HAM UNION INFIRMARY.—(1) Third Assistant Resident Medical Officer (male); salary, £180 per annum, increasing to £200. (2) Fourth Assistant Medical Officer (female); salary, £160 per annum, rising to £180.

WESTMINSTER UNION INFIRMARY.—Second and Third Assistant Medical Officers. Remuneration, £160 and £140 per annum, rising to £180 and £160 respectively.

WINSLEY SANATORIUM FOR CONSUMPTION, near Bath.—(1) Senior Resident Medical Officer; (2) Assistant Resident Medical Officer. Salary, £300 and £150 per annum respectively.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—(1) Pathologist; (2) Resident Medical Officer; (3) House-Surgeon. Salary for (1) £200, and for (2) and (3) £125 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Ardagh (Limerick); Patterdale (Westmorland).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

BARTLETT, C. E., M.R.C.S., L.R.C.P., District Medical Officer of the Chepstow Union.

BIDEN, W. M., M.B., Ch.B.Edin., District Medical Officer of the Stamford Union.

BOYD, William, M.D., M.R.C.P.E., Dipl. Psych., Professor of Pathology at Winnipeg University.

GREY, H. M., M.R.C.S., L.R.C.P., Assistant Medical Officer of the Camberwell Parish Children's Homes.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

MOORE.—September 22nd, at 56, St. Paul's Road, Clifton, Bristol, the wife of Clifford A. Moore, M.S., F.R.C.S., of a son.

MARRIAGE.

DUNN—ABEL.—In Glasgow, on the 16th inst., by the Rev. Thomas Whitelaw, D.D., Kilmarnock, John Shaw Dunn, M.A., M.D., youngest son of Hugh S. Dunn, Esq., J.P., Annanhill, Kilmarnock, to Williamina Abel, M.D., D.Sc., D.P.H., daughter of the Rev. R. H. Abel, late of Fettercairn and East London, South Africa.

DEATHS.

DINGLE.—At Oakville, Ontario, on September 17th, after operation for appendicitis, Harry Dingle, M.R.C.S., L.R.C.P.Lond., aged 42, late of Barmouth, North Wales, and son of the late J. W. Dingle, of North Darley, Callington, Cornwall.

FEATHERSTONE.—On September 21st, at the Golf House, Mitcham Road, Tooting, S.W., Joseph Arthur Featherstone, aged 48, the beloved husband of Helen Featherstone. Funeral at Mitcham Cemetery, on the 25th inst., starting at 2.30.

HOWSE.—On the 15th inst., at the Tower House, Cudham, Kent, Sir Henry Greenway Howse, M.S., D.Sc., F.R.C.S., Consulting Surgeon, Guy's Hospital, late President, Royal College of Surgeons, England, in his 73rd year. Interred at St. Luke's Cemetery, Bromley. Friends please accept this, the only intimation.

SARGENT.—On the 20th inst., at Southend, G. E. H. Sargent, L.M.S.S.A., of 300, Commercial Road, London, E., aged 56. Cornish papers please copy.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses are to be given next week at the following schools, colleges, and hospitals:

DUBLIN: ROTUNDA HOSPITAL.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, Chenies Street, W.C.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 3RD, 1914.

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Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

DORSET AND WEST HANTS BRANCH:
WEST DORSET DIVISION.

The War.—A meeting of the West Dorset Division was held on September 25th, when the following resolutions were passed:

1. That all practitioners should undertake to treat the patients and safeguard the interests of those who are serving with the forces.
2. That they should regard themselves as deputies for those on active service, the remuneration recommended by this Division being one-third of the accounts of private patients, and one-third of all appointments.
3. That after the return of a practitioner from service the deputy shall refuse, on any consideration except that of urgency, to treat any of the returned practitioner's patients whom he has seen as deputy for a period of twelve months.
4. That the practitioners in the district undertake the gratuitous treatment of the dependants of all non-commissioned officers and men called to the colours during the war if recommended by the distress committees.

It was decided to send the resolutions to all practitioners in the Division.

PERTH BRANCH.

A MEETING of the medical practitioners of the city and county, summoned by the Perth Branch, was held at Perth on September 25th. Dr. J. HUME was in the chair, and eleven members of the Association and other medical men were present.

Free Medical Attendance on Dependants of Men Serving with the Colours.—This scheme, as detailed in letters to the Secretary and to practitioners (SUPPLEMENT, September 19th), was generally approved of by the meeting. The Secretary was asked to write to the Secretary of the Local Relief Committee inquiring as to the appointment of a medical man as a member of the committee.

Fees for Ambulance Lectures.—The Secretary read correspondence with the Secretary of the St. Andrew's Ambulance Association, and after full discussion it was resolved by the meeting that the Branch sees no reason for departing from the original resolution to charge one guinea a lecture. The question of there being a charge for judging in ambulance competitions held by private bodies (not under the St. Andrew's Association) and any other ambulance examinations was raised, and it was resolved that a charge of not less than £1 1s., with expenses, be made.

Appointment of co-Secretary.—The matter of the appointment of a co-secretary was raised, but it was decided that the Branch had no power to make such an appointment save at the properly constituted annual meeting in June, in accordance with the model rules of organization.

SOUTH-EASTERN OF IRELAND BRANCH.

AT an ordinary meeting of the Branch at Waterford, on September 2nd, Dr. MACKESY was in the chair, and ten other members were present. The following resolution, proposed by Dr. JELLETT and seconded by Dr. MITCHELL, was carried by 10 votes to 1:

That the Secretary be instructed to apply to each member of the Branch for an early reply in writing to each of the two following questions:

(*a*) Are you now or have you been at any time discharging the duties of medical adviser (certifier) under the National Insurance Act, either permanently or temporarily?

(*b*) Are you now or have you been in the habit of issuing certificates under the above Act, either gratis or on payment of a fee?

The meeting then adjourned and the members dined together.

Association Notices.

SUGGESTED CHANGES OF BOUNDARIES.

PROPOSED AMALGAMATION OF DUNDEE AND FORFARSHIRE DIVISIONS.

NOTICE is hereby given to all concerned of proposals made by the Dundee and Forfarshire Divisions: (1) That the Dundee Division and the Forfarshire portion of the Forfarshire Division be amalgamated to form a Branch of one Division, to be known as the Dundee Branch; (2) That Bervie and district, at present contained within the area of the Forfarshire Division, be transferred to the Aberdeen Division and Branch.

Written notice of these proposals has been given to the Divisions and Branches concerned, and the matter will be determined in due course by or on behalf of the Council. Any member affected by either proposed change, and objecting thereto, is requested to notify the fact and his or her reason therefor to the Medical Secretary, 429, Strand, W.C., not later than November 4th, 1914.

BRANCH AND DIVISION MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH.—Drs. R. E. Crosse and N. Bishop Harman, Honorary Secretaries, give notice that the monthly meetings of the Branch Council will be discontinued until further notice.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.
PANEL COMMITTEE.

Ambulance for the Red Cross Society.

AT a meeting of the London Panel Committee on September 29th it was agreed to invite panel practitioners in the metropolis to forward contributions not exceeding £1 1s. towards the cost of a motor ambulance to be presented to the British Red Cross Society. The Chairman, Dr. H. J.

CARDALE, in making the proposal, suggested that as the panel practitioners were receiving this week the £90,000 due in respect of insured persons who did not choose a doctor in 1913 it was fitting that a thank-offering should be made and it could not take a better form at the present time.

The Local Medical and Panel Committee Federation.

The Committee considered the question of membership of the Local Medical and Panel Committee Federation (England) proposed to be formed under the aegis of the British Medical Association. The General Purposes Subcommittee raised objection to Rule 7 of the draft constitution, which provides that no step of general importance to the federation shall be taken by any federated committee without previous consultation with the executive committee. On the executive London would only have two representatives out of fifteen. The basis of £1 for every 20,000 insured persons as the subscription to the federation was also criticized, and the subcommittee recommended the Panel Committee not to accept membership of the federation. Dr. MAJOR GREENWOOD thought it would be premature to give a direct negative. The draft constitution had been referred to the local committees throughout the country and was in no sense a final document. The CHAIRMAN said the Committee was asked to give a definite answer. The questions of subscription and representation were subsidiary ones. London had so many special problems which arose nowhere else in the same form that it was undesirable to tie the Committee to the federation, on which it would only have a small representation. Objection was also taken to the fact that the federation was bound to the Insurance Act Committee of the British Medical Association. Dr. CUNNINGTON proposed that the qualifying phrase "as at present drafted" be added, and in that form the recommendation was carried.

Alleged Excessive Prescribing.

Discussion took place with regard to a list promulgated by the Insurance Committee and the Pharmaceutical Committee of various proprietary and other drugs and appliances which it was suggested should be definitely excluded from the scope of insurance prescribing. It was felt undesirable that the precedent should be established of an Insurance Committe defining what should or should not be prescribed by practitioners, and that the best way of controlling alleged extravagant or excessive prescribing would be to require practitioners to justify to the Panel Committee prescriptions to which objection was taken. Resolutions embodying this view were passed.

BUCKINGHAMSHIRE.

A MEETING of the Bucks Local Medical and Panel Committee was held at the Royal Bucks Hospital on September 25th, when thirteen members were present.

The New Panel Committee.—The new Panel Committee is composed of eighteen instead of twenty-four members, and it was decided to ask Dr. Selbourne Bailey (Bourne End) and Dr. Bell (High Wycombe) to join the Committee. Dr. J. C. Baker was re-elected Chairman; Dr. Dickson, Vice-Chairman; and Dr. Larking, Secretary and Treasurer.

Medical Service Subcommittee.—This subcommittee was filled by the election of Drs. Benson, Churchill, and Reynolds.

Finance Committee.—The Finance Committee, consisting of Drs. Baker, E. O. Turner, Henderson, Larking, Rose, and Deyns, was re-elected.

Resignation.—A letter was read from Dr. Deyns, in which he asked to be relieved from his offices as member of the Insurance Committee owing to the fact that he was on active service. It was resolved that Dr. E. O. Turner should be nominated to fill his place until his return.

Treatment of Unallocated Persons.—The agreement with the Insurance Commissioners, signed on behalf of the medical men by the Chairman and Secretary of this Committee, dealing with the treatment of persons who had not selected a doctor, was read and agreed to.

Finance.—The medical benefit account for 1913 was submitted by the Clerk to the Insurance Committee. There would have been a balance of over £500 had not this amount been paid by mistake to the doctors at the rate of 9s. per annum for unallotted persons instead of 7s. It had been found by the Commissioners, on totalling the medical lists sent in by Insurance Committees, that there was an excess of about 10 per cent. over the actual number of insured persons in the kingdom, and they had therefore deducted this amount proportionally from the money paid to Insurance Committees. This diminished amount more than equalized the amount of the "floating sixpence" fund, and therefore none of this was available. The balance sheet for the last year and three-quarters was submitted and adopted.

Prescribing.—A subcommittee, consisting of Drs. Selbourne Bailey, Harwood Yarred, Rose, and the Secretary, was appointed to meet the Pharmaceutical Subcommittee to consider and report on the question of overprescribing.

Proposed Federation of Panel and Local Medical Committees.—Drs. Reynolds and Larking were deputed to report on this scheme.

Panel Practitioners and the War.—It was resolved:

> That this Committee is of opinion that in the event of medical members on the panel who are called out to active service suffering serious pecuniary loss or expense, steps should be taken to meet these as far as possible from county or other funds.

Continuance of Local Medical Committee.—It was resolved to continue the Local Medical Committee.

Railway Fares of Members.—In reply to a letter from the Cumberland Committee complaining that the railway fares of members were not allowed to be paid out of the compulsory levy under Section 33 (2), the Secretary was instructed to suggest that the method of voluntary levy so successfully carried out in Buckinghamshire should be adopted. A grant of three guineas was made to the Clerk to the Insurance Committee for deducting the voluntary levy.

GLAMORGAN.

PANEL COMMITTEE.

A MEETING of the Glamorgan Panel Committee was held in the Glamorgan County Hall on September 23rd, when Dr. W. E. THOMAS was in the chair and nine other members were present, as well as the Secretary.

New Members.—The following were elected to fill the vacancies on the Panel Committee for their respective areas:

Aberdare: Dr. Thomas Finney, Cwmamman.
Swansea: Dr. John Owen, Cwmllynfell; Dr. M. W. Williams, Pentrepoeth.
Barry, Penarth, etc.: Dr. John Arthur, Llandaff; Dr. John H. Rees, Penarth.
Bridgend: Dr. D. J. Thomas, Nantymoel; Dr. J. B. McCutcheon, Blaengarw.
Neath: Dr. W. Bickerton Edwards, Seven Sisters; Dr. E. Vernon Pegge, Briton Ferry.
Port Talbot and Maesteg: Dr. R. T. Williams, Cwmavon; Dr. Walter Kirkby, Maesteg.
Llantrisant, etc: Dr W. Naunton Davies.

Honorarium to Secretary.—It was resolved that Dr. J. Shaw Lyttle should be paid an honorarium of fifty guineas for his services as returning officer and Secretary to the Committee.

ROXBURGHSHIRE.

LOCAL MEDICAL AND PANEL COMMITTEES.

MEETINGS of the Local Medical and Panel Committees were held at St. Boswells on September 15th, when Dr. CULLEN was in the chair.

Checking of Prescriptions.—The Panel Committee received a report, submitted by the Pharmaceutical Committee, on the checking of prescriptions for the quarter ending April 14th, 1914. The report expressed the opinion that on the whole the pricing had been done with remarkable accuracy.

Administration Expenses.—The Panel Committee having ascertained that the Pharmaceutical Committee adhered to its application for the portion of the grant to which it was entitled, the Clerk was instructed to write to the Insurance Committee that the Panel Committee agreed to the Pharmaceutical Committee obtaining its portion of the grant, and to sign a joint application to that effect along with the Secretary of the Pharmaceutical Committee, in compliance with the Act.

Payment of Midwifery Fees.—A practitioner having written that he had difficulty in recovering his midwifery fees from certain societies, and asking for the assistance of the Panel Committee, it was decided to send the applicant the form adopted by the Committee last year enabling the practitioner to obtain his fees direct from the society at the request of the patient.

Drug Fund.—It was decided to print and circulate a list of proprietary articles with their official equivalents, prepared by the Pharmaceutical Committee. It was decided to notify the panel practitioners that unless the name of the proprietary article prescribed was underlined the official equivalent, which was much cheaper, would be prescribed.

Medical Referees.—The following motion was adopted *nemine contradicente*:

> No panel practitioner will undertake to examine another panel practitioner's case without in the first place communicating with the panel practitioner on whose list the case in question may happen to be, and in no circumstances shall the panel practitioner act as referee except at the rates laid down by the Panel Committee, namely, 10s. 6d. for each case, with mileage in addition.

Inquiries.—The following motion was unanimously adopted:

> A panel practitioner desiring information with regard to any point on which he is doubtful, such as his conduct in a particular case or his power of charging for special services, etc., should in the first instance address his inquiry to the Clerk of the Panel Committee, who will either give the information required or, if necessary, make investigations from the appointed authorities, and report the result of such investigations to the practitioner at the earliest opportunity, all such inquiries to be reported to the Panel Committee at its first meeting, and all such inquiries to be referred by them to their Committee.

The Chairman explained that inquiries had been addressed by panel practitioners to the County Insurance Committee first. In some instances the inquiries were most absurd.

Medical Practitioners and the War.—The Local Medical Committee unanimously approved the recommendations of the British Medical Association with regard to the giving of medical attendance to the patients of medical practitioners called away in connexion with the war, and the provision of free medical attendance to dependants of men serving with the colours.

INSURANCE COMMITTEES.

LONDON.

Panel Practitioners and the War.

At the first meeting of the London Insurance Committee after the summer recess, which took place on September 24th, the Chairman, Mr. F. Coysh, alluded to the probable effects of the war upon the funds of approved societies and upon the sickness-rate, and congratulated the medical profession upon its action in undertaking the free treatment of dependants of insured persons called to the colours.

The Cost of Prescriptions.

The Drugs and Appliances Subcommittee presented a report, showing that 5,041,555 prescriptions were examined during 1913, and accounts passed amounting to £155,516, the average cost of the prescriptions being 7.4d. each. During 1914 the average cost had risen, being 9.6d. in May and June. The prescriptions of 240 individual practitioners appeared to require special examination; in 132 cases the average was between 9.7d. and 1s., and in a few cases an average of over 2s. was reached.

At the suggestion of medical members of the Committee, consideration of the report was postponed pending the receipt of the observations of the Panel Committee.

Relations with Pharmacists.

The Insurance Committee undertook to issue a pharmacopœia, to be prepared by representatives of the Insurance, Panel, and Pharmaceutical Committees, and also passed a resolution that the form "rep. mist." should not be used.

Complaint against a Practitioner.

The Committee decided to make representations to the Insurance Commissioners with a view to the removal of a practitioner's name from the panel in a case in which it was alleged improper inducements were offered to insured persons to persuade them to engage the practitioner's services instead of those of a midwife. The complaint was brought by the Panel Committee.

CORRESPONDENCE.

Proposed Federation for Panel and Local Medical Committees.

Dr. E. Rowland Fothergill (Hove) writes: A provisional committee was appointed at the Conference of Panel and Local Medical Committee representatives held in March, 1914, when the formation of a Federation was decided on:

> To prepare and submit to the Local Committees a memorandum embodying the name, constitution, objects, and powers of the new organization and the nature and method of its association with the British Medical Association.

The British Medical Association is in no way responsible for this proposal nor for the scheme that has been prepared and recently issued. The late Representative Meeting decided to refrain from consideration of the scheme, possibly because the whole proposal might abort, and in such case it would be a waste of time to have done so.

It is sincerely to be hoped that a very large majority of the profession will reply, through their Panel and Local Medical Committees, that in their opinion such a Federation as is now proposed would prove to be cumbersome, redundant, and therefore quite unnecessary.

The main proposals in the scheme are that the Federation shall deal with all subjects having reference to the National Insurance Acts, and shall represent *the whole profession* with reference to the same.

The reasons for opposing the formation of such a Federation are many, and include the following:

1. To all intents and purposes such a Federation means a new British Medical Association, but under another name. That is, the formation of a rival body.

2. The British Medical Association is now recognized by all departments in the State in the United Kingdom, and also in certain Dominions, as the mouthpiece of the profession.

3. The existence of two independent bodies authorized to deal with the same subject would lead to overlapping in work, confusion in policy, and undoubted consequent defeat for the profession in treating with public bodies.

4. The number of medical practitioners actively interested in medical politics is limited, all their spare time being required by the British Medical Association. Every one who is induced to transfer his activities to a new and rival body would be a direct loss to the Association.

5. The medical profession will not find sufficient money to make a success of two bodies with similar objects. It considers that when it pays £2 2s. a head to the Association it is paying quite enough.

6. The National Insurance Acts cannot be dealt with apart from other medico-political subjects, as if they existed in a water-tight compartment; as they are concerned with subjects constantly being considered, and at great expense, by the Ethical, Hospitals, Army and Navy, Public Health, and Medico-Political standing committees of the Association.

7. It is proposed, after the central committee of the Federation has obtained the final opinion of the profession on a subject by means of four Branch Federations (English, Scottish, Irish, and Welsh), each of which in turn has to consult its own group of Panel and Local Medical Committees—which will consult those of the profession they represent—that the British Medical Association shall voice this opinion to public bodies. What security is there that this opinion will agree with the opinion of the Representative Body? This procedure has been advanced as a means for arriving at prompt decisions and action in a crisis!

8. As both bodies will be consulting from time to time the same practitioners on exactly the same problems, although these practitioners may be differently grouped together, the profession will be expected to attend two meetings in order to express their ideas twice over. It is very difficult to get practitioners to attend one meeting. It would not be long before we heard "that they were sick of the whole subject," and that they were "fed up."

9. Those favouring a Federation considered it to be a strong card that funds can be formed from voluntary levies deducted from the accounts of panel practitioners. Such levies, obtained in exactly the same way, can be obtained by the Association.

10. Those urging the formation of a Federation state that in some way, but which they seem unable to define, it will be possible to secure more loyalty and co-ordination of purpose in the profession than the Association has succeeded in doing. They propose to make

silk purses out of sows' ears, and to produce blood out of stones.

It is to be hoped that the Panel and Local Medical Committees will see the absurdity of the whole proposal, and determine to solve the problem of co-ordination of themselves by and through the Association.

I would venture to suggest that the following resolutions offer a solution which these Committees might urge the Council to adopt.

(*a*) That the Insurance Acts Committee of the Association be a standing committee.

(*b*) That it consist of the *ex officio* members of the Association, the chairmen of the Hospital, Public Health, Medico-Political, and Organization Standing Committees, *together with twelve members to be nominated by the Panel Committees of the United Kingdom* (on a similar territorial basis as is adopted for the twelve members of Council in grouped areas), and elected by the Representative Body.

In this way we would have one body representing the profession; an opportunity offered for one policy; whilst the Panel Committees can influence that policy so far as the Insurance Acts are concerned.

Hospitals and Asylums.

EXPENDITURE OF LONDON HOSPITALS.

The statistical report[1] of King Edward's Hospital Fund for London on the ordinary expenditure of the institutions which supply it with copies of their accounts consists, like its ten predecessors, of some eighty or ninety pages of statistical tables. They supply an immense amount of information as to hospital expenditure on various items, and are made all the more useful to the institutions concerned by the fact that in the majority of tables the institutions are grouped under nine headings according to the character of the work they undertake. Taking the tables as a whole and comparing them with those of earlier years, they show that in six out of the nine classified groups the steady fall in expenditure which occurred between 1905 and 1910 has been replaced during the last couple of years by a considerable rise; the total excess in 1913 as compared with 1912 was some £27,000. In many individual instances this increase is no doubt due to a general rise in prices and the introduction of numbers of special and costly treatments; but that this is not always the case would appear to be proved by the fact that in the groups that show increases such income is not common to all members of the group. The hospitals whose accounts are analysed in the report number 106 and provide a total of 10,535 beds, of which 9,034.71 were daily occupied. Their new out-patients aggregated to 1,315,536, the patients attending a total of 4,368,092 times.

MATER MISERICORDIAE HOSPITAL, DUBLIN.

The report for the year 1913 states that there were 4,044 admissions, while the total attendances in the extern department, including dispensary patients, accidents, and electricity patients, numbered 29,714. The total number of cases radiographed in the electro-therapeutic department, which was built in 1906, apart from the main building, since its foundation up to December 31st, 1913, was 2,784. During the first year 241 examinations were made; the number for 1913 was 580. Six patients were examined who had accidentally swallowed artificial teeth. Carelessness and inexperience in the use of toy rifles and pistols by boys had caused many personal accidents. In one such case a bullet was localized in the posterior cranial fossa near the foramen magnum and successfully removed by operation. In one of the kidney cases radiographed a shadow simulating a stone was found. To this patient, however, contrary to the general rule, a purgative had not been administered on the night preceding the *x*-ray examination, and the shadows in the kidney region were produced by faecal matter. High-frequency currents proved most satisfactory in the treatment of chronic sciatica and lumbago; one case of hemicrania was also cured by this method. In the medical wards the total admissions for the year amounted to 1,330. There were 26 cases of diphtheria, 41 of scarlet fever, 29 of measles, 43 of enteric fever, 4 of typhus fever, 4 of tetanus, etc. The surgical report deals with a total of 2,227 operations, not including minor operations performed in the extern department. There was one case of excision of spleen, 168 cases of appendicectomy, 64 of gastro-enterostomy, 36 of cholecystotomy, 13 of ilio-sigmoidostomy, wiring and plating bones 50, on the Gasserian ganglion 3, thyroidectomy 50, raclage 50, etc. In the gynaecological, aural, and ophthalmic departments the operations performed numbered respectively 219, 587, and 142. The clinical teaching of the hospital is largely used by medical students of the Dublin schools, and there is a training school for nurses, under the charge of the Sisters of Mercy. The Mater Misericordiae Hospital is under the control of the Sisters of Mercy, but the poor of every denomination have always been admitted to the wards and their clergymen allowed free access to their co-religionists.

[1] Statistical Report of the Ordinary Expenditure of One Hundred and Six London Hospitals for the year 1913. London: Spottiswoode and Co. (1s.)

Vital Statistics.

ENGLISH URBAN MORTALITY IN THE SECOND QUARTER OF 1914.

[Specially Reported for the "British Medical Journal."]

In the accompanying table (p. 189) will be found summarized the vital statistics of ninety-seven of the largest English towns based upon the Registrar-General's weekly returns for the second quarter of the year. The 115,120 births registered in these towns during the quarter were equal to an annual rate of 25.5 per 1,000 of the population, estimated at 18,120,059 persons in the middle of the year. In London the birth-rate was equal to 25.2 per 1,000, while among the other large towns it ranged from 13.1 in Hastings, 14.1 in Southport, 14.2 in Bournemouth, 15.7 in Blackpool, 15.9 in Bath, 16.8 in Ilford, 17.0 in Cambridge, and 17.2 in Hornsey, to 33.1 in West Bromwich, 33.3 in Sunderland, 33.5 in Stoke-on-Trent and in St. Helens, 33.7 in Bootle, 34.2 in Rhondda, and 34.4 in Middlesbrough.

The 62,244 deaths in these towns during the quarter were equal to a rate of 13.8 per 1,000; in London the rate was 13.1 per 1,000, while among the other towns the lowest rates were 7.1 in Ilford, 8.6 in Ealing, 8.8 in Eastbourne, 8.9 in Enfield, 9.0 in Willesden and in East Ham, 9.1 in Edmonton, and 9.3 in Hornsey and in Southend-on-Sea; and the highest rates were 17.0 in Sunderland, 17.1 in Dudley and in Rochdale, 17.2 in Stockton-on-Tees, 17.4 in Stoke-on-Trent and in Manchester, 18.3 in Liverpool, 18.6 in Oldham, and 19.5 in Middlesbrough. The deaths included 1 from small-pox, 160 from enteric fever, 1,813 from measles, 389 from scarlet fever, 1,631 from whooping-cough, 587 from diphtheria, and 929 from diarrhoea and enteritis among children under 2 years of age. The fatal case of small-pox belonged to Dewsbury. The 160 deaths from enteric were equal to an annual rate of 0.04 per 1,000; in London the death-rate from this disease was 0.05 per 1,000, while among the other towns the rates ranged upwards to 0.10 in Norwich, 0.13 in Gateshead, 0.14 in Devonport, 0.15 in Grimsby and in Nottingham, 0.21 in Rochdale, and 0.30 in Wakefield. The 1,813 deaths from measles were equal to a rate of 0.40 per 1,000; in London the rate was 0.31 per 1,000, while among the other towns the rates ranged upwards to 0.95 in Burnley, 0.96 in Kingston-upon-Hull, 0.97 in Barnsley, 0.99 in Nottingham, 1.10 in Bootle, 1.23 in Warrington, 1.39 in Dudley, 1.42 in Stockton-on-Tees, 1.45 in Sheffield, and 1.49 in Rochdale. The 389 deaths from scarlet fever corresponded to a rate of 0.09 per 1,000: in London the death-rate from this disease was only 0.05 per 1,000, while among the other towns the highest rates were 0.20 in Liverpool, 0.21 in Ipswich, Smethwick and in Sheffield, 0.22 in Newport (Mon.), 0.23 in West Bromwich, 0.25 in Manchester, 0.29 in Middlesbrough, 0.38 in Salford, and 0.40 in Oldham. The 1,631 fatal cases of whooping-cough were equal to an annual rate of 0.36 per 1,000; in London the rate was 0.28 per 1,000, while among the other large towns it ranged upwards to 0.72 in Salford and in Rochdale, 0.73 in Manchester and in Barrow-in-Furness, 0.85 in Walsall, 0.86 in Sheffield, 0.89 in Middlesbrough, 1.05 in Swansea, and 1.12 in South Shields. The 587 deaths from diphtheria were equal to a rate of 0.13 per 1,000; in London the rate was equal to the average for all the towns, among which the highest rates recorded were 0.21 in Cambridge and in Walsall, 0.22 in Birmingham and in Newport (Mon.), 0.24 in Merthyr Tydfil, 0.26 in Sunderland, 0.28 in Great Yarmouth, 0.29 in York, and 0.30 in Stoke-on-Trent and in Bolton. The 929 deaths from diarrhoea and enteritis among children under 2 years of age were in the proportion of 8.07 to 1,000 of the births registered during the quarter; in London the proportion was 8.10 per 1,000, while among the other towns it ranged upwards to 15.01 in Bootle, 15.62 in Dudley, 14.27 in Burnley, 14.91 in Birkenhead, 20.65 in Dewsbury, 22.13 in Smethwick, and 23.04 in Middlesbrough.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 93 per 1,000; in London the rate of infant mortality was 79 per 1,000, while among the other large towns it ranged from 36 in Bath, 37 in Eastbourne, 41 in Hastings, 47 in Hornsey, 54 in Enfield, 55 in Edmonton and in Ilford, 57 in Exeter, and 59 in Swindon, to 122 in St. Helens, 124 in Burnley, 126 in Walsall and in Oldham, 128 in Blackpool, 130 in Stoke-on-Trent, 133 in Bradford, 138 in Rochdale, 139 in Barnsley, and 143 in Middlesbrough.

The causes of 456, or 0.7 per cent., of the deaths registered in the ninety-seven towns last quarter were not certified either by a registered medical practitioner or by a coroner. In 42 of the towns the causes of all the deaths were duly certified; among the other towns the highest proportions of uncertified deaths were 3.3 in Gillingham, 3.7 in Bootle and in Warrington, 3.9 in Gateshead, 4.1 in St. Helens, 4.6 in Southend-on-Sea, and 6.4 in Darlington.

HEALTH OF ENGLISH TOWNS.

In the ninety-seven largest English towns 8,597 births and 5,291 deaths were registered during the week ended Saturday, September 12th. The annual rate of mortality in these towns, which had been 12.3, 13.6, and 14.4 per 1,000 in the three preceding weeks, further rose to 15.2 per 1,000 in the week under notice. In London the rate was equal to 16.1, against 12.8, 13.6, and 15.4 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 3.7 in Bournemouth, 4.0 in Barrow-in-Furness, 4.4 in Ealing, 4.9 in Swindon, 5.1 in Exeter, 6.2 in Gloucester, and 6.3 in Ilford, to 23.4 in Wigan, 23.5 in Stoke-on-Trent and in Middlesbrough, 23.7 in Carlisle, 24.5 in Gateshead, and 25.5 in Stockton-on-Tees. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 446, 677, and 947 in the three preceding weeks, further rose to 1,172, and included 321 in London, 93 in Liverpool, 62 in Birmingham, 38 in Stoke-on-Trent, 35 in Sheffield, 33 in Leeds, and 32 in Manchester and in Hull. Measles caused a death-rate of 4.1 in Oldham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 45, or 0.9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner; of this number, 10 were recorded in Liverpool, 6 in Birmingham, and 2 each in London, Southend, Bootle, Blackpool, Sheffield, Sunderland, and Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,071, 3,216, and 3,318 at the end of the three preceding weeks, had further risen to 3,500 on Saturday, September 12th; 619 new cases were admitted during the week, against 414, 536, and 548 in the three preceding weeks.

In ninety-seven of the largest English towns 8,515 births and 5,259 deaths were registered during the week ended Saturday, September 19th. The annual rate of mortality in these towns, which had been 13.6, 14.4, and 15.2 per 1,000 in the three preceding weeks, fell to 15.1 per 1,000 in the week under notice. In London the death-rate was 15.6,

Analysis of the Vital Statistics of Ninety-seven of the Largest English Towns during the Second Quarter of 1914.

Towns.	Estimated Population middle of 1914.	Births.	Deaths.	Annual rate per 1,000 Living.		Deaths from							Deaths of Children under 1 year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
				Births.	Deaths.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Diphtheria.	Diarrhœa and Enteritis (under 2 years of age).		
97 Towns	18,120,059	115,130	62,244	25.5	13.8	160	1	1,813	389	1,631	587	920	93	0.7
London	4,516,612	28,378	14,711	25.2	13.1	32	—	346	69	310	143	230	79	0.0
Croydon	181,956	1,006	459	22.2	10.1	2	—	—	1	11	4	5	71	—
Wimbledon	59,598	260	147	17.5	9.9	—	—	—	1	3	3	2	62	—
Ealing	71,030	314	152	17.7	8.6	1	—	2	—	1	1	2	61	—
Acton	64,369	376	158	23.4	9.8	—	—	4	—	1	3	1	66	—
Willesden	167,922	1,046	377	25.0	9.0	—	—	—	—	9	1	6	65	—
Hornsey	88,953	381	207	17.2	9.3	—	—	1	—	1	1	1	47	—
Tottenham	149,495	989	379	26.5	10.2	—	—	3	2	6	6	5	61	—
Edmonton	71,024	477	161	26.9	9.1	—	—	—	1	5	3	1	55	—
Enfield	61,069	349	135	22.9	8.9	—	—	—	—	5	2	3	54	—
West Ham	296,570	2,230	987	30.2	13.3	3	—	41	1	36	8	15	78	0.2
East Ham	146,526	873	328	23.9	9.0	—	—	5	1	9	3	4	64	—
Leyton	133,719	722	321	21.7	9.6	2	—	12	—	11	4	3	76	—
Walthamstow	134,825	792	327	22.7	9.7	1	—	3	—	6	6	9	77	—
Ilford	91,041	381	161	16.8	7.1	—	—	1	—	—	—	—	55	—
Gillingham	55,559	313	150	22.6	10.8	—	—	1	—	5	2	4	105	3.3
Hastings	59,620	194	181	13.1	12.2	—	—	—	—	2	—	—	41	—
Eastbourne	55,662	245	122	17.5	8.8	—	—	—	—	1	1	1	37	—
Brighton	133,936	619	392	18.5	11.7	—	—	4	1	1	2	1	78	0.3
Portsmouth	245,827	1,443	714	23.6	11.6	5	—	15	1	20	12	7	78	1.3
Bournemouth	85,254	501	320	14.2	10.6	—	—	10	—	—	4	1	83	0.5
Southampton	123,948	729	405	23.6	13.0	—	—	—	—	4	5	2	70	—
Reading	90,083	459	220	20.4	9.8	—	—	1	—	1	1	—	61	1.8
Oxford	54,339	250	171	18.5	12.6	—	—	—	—	3	—	—	88	—
Northampton	91,123	460	268	20.2	11.8	—	—	4	—	4	4	4	65	0.7
Cambridge	57,676	244	169	17.0	11.8	1	—	—	—	—	3	—	70	1.2
Southend-on-Sea	83,908	367	195	17.5	9.3	—	—	—	—	4	2	1	71	4.6
Ipswich	76,472	483	265	25.3	13.9	—	—	—	4	5	1	1	72	—
Great Yarmouth	57,502	341	209	23.8	14.6	—	—	6	2	4	4	2	91	—
Norwich	124,107	666	361	21.5	11.7	3	—	2	2	3	2	3	77	—
Swindon	52,750	329	128	24.3	9.7	—	—	—	—	—	2	1	59	—
Exeter	60,788	285	206	18.7	13.6	1	—	—	—	7	—	—	57	0.5
Plymouth	113,559	677	447	23.9	15.8	2	—	—	—	16	5	2	92	—
Devonport	85,589	498	280	23.3	16.3	3	—	—	1	2	4	2	66	—
Bath	70,292	379	195	15.9	11.1	—	—	—	—	—	1	1	36	—
Bristol	363,312	2,034	1,168	22.3	12.2	4	—	37	5	12	5	19	82	—
Gloucester	50,759	291	151	23.0	11.9	1	—	—	—	1	1	2	82	2.0
Stoke-on-Trent	241,430	2,015	1,049	33.5	17.4	5	—	37	—	38	18	21	130	2.1
Wolverhampton	95,725	665	362	27.9	15.2	—	—	2	—	7	4	7	102	0.3
Walsall	94,093	687	364	28.9	15.5	1	—	5	1	20	5	8	126	—
West Bromwich	69,430	560	229	32.4	13.2	—	—	3	4	11	2	2	79	2.2
Dudley	51,895	367	221	28.4	17.1	—	—	18	—	—	1	5	114	2.7
Birmingham	868,430	5,975	3,046	27.6	14.1	6	—	93	30	115	47	64	99	2.5
Smethwick	76,314	497	241	26.1	12.7	—	—	15	4	5	3	11	115	—
Coventry	119,003	806	328	27.2	11.1	—	—	14	4	6	6	1	76	2.4
Leicester	232,664	1,297	783	22.4	13.6	—	—	38	—	25	3	13	101	0.8
Lincoln	60,243	351	191	23.4	12.9	—	—	—	—	1	1	4	97	1.0
Grimsby	78,667	546	262	27.8	13.4	3	—	—	—	8	—	3	97	1.1
Nottingham	266,918	1,587	961	23.8	14.3	1	—	66	3	13	9	8	109	0.4
Derby	126,389	782	375	24.8	11.9	—	—	15	1	11	3	8	79	—
Stockport	126,040	725	406	23.1	12.9	—	—	8	2	2	2	8	98	0.7
Birkenhead	137,710	1,006	427	29.4	12.4	—	—	—	2	9	6	15	79	—
Wallasey	87,175	460	249	21.2	11.5	—	—	3	—	7	2	4	78	—
Liverpool	767,992	5,837	3,512	30.5	18.3	8	—	152	38	85	26	73	118	2.1
Bootle	73,230	615	271	33.7	14.8	1	—	20	3	4	2	8	83	3.7
St. Helens	100,775	842	388	33.5	15.4	2	—	6	—	9	1	7	122	4.1
Southport	71,747	252	275	14.1	15.3	—	—	1	—	—	1	—	71	1.8
Wigan	91,491	669	325	29.3	14.2	2	—	8	—	2	2	7	100	—
Warrington	74,923	564	296	30.2	15.8	1	—	23	3	11	2	6	96	3.7
Bolton	185,247	1,044	587	22.6	12.7	2	—	1	1	16	14	10	80	0.2
Bury	59,213	304	253	20.6	17.2	—	—	1	1	6	1	1	102	2.6
Manchester	738,538	4,992	3,202	27.1	17.4	10	—	132	46	134	21	51	120	0.2
Salford	234,975	1,613	955	27.5	16.3	5	—	32	22	42	12	16	103	—
Oldham	151,044	867	699	23.0	18.6	3	—	30	15	23	5	7	126	—
Rochdale	94,320	450	405	19.1	17.1	5	—	35	1	17	2	5	138	1.5
Burnley	110,040	701	413	25.6	15.1	—	—	26	2	13	2	10	124	—
Blackburn	134,387	720	486	21.5	13.9	—	—	11	2	1	—	2	101	2.8
Preston	118,514	757	495	25.5	15.7	2	—	11	4	9	4	3	104	2.5
Blackpool	62,226	243	236	15.7	15.2	—	—	1	1	2	1	2	128	1.7
Barrow-in-Furness	65,921	539	230	32.8	14.0	1	—	—	2	12	—	—	109	2.6
Huddersfield	112,265	532	381	19.0	13.6	—	—	1	1	9	—	3	107	1.6
Halifax	100,373	458	382	18.3	15.3	2	—	4	1	5	4	3	116	—
Bradford	291,482	1,499	1,115	20.7	16.7	3	—	46	2	44	13	14	133	0.2
Leeds	459,260	2,695	1,617	23.5	14.1	6	—	50	7	38	12	21	97	0.1
Dewsbury	54,083	339	207	25.1	15.3	—	1	5	1	—	2	7	109	—
Wakefield	52,643	308	169	23.5	12.9	4	—	—	2	—	1	—	62	—
Barnsley	53,929	424	240	31.5	18.3	1	—	13	1	7	—	3	139	—
Sheffield	476,971	3,308	1,592	27.8	16.8	3	—	172	25	102	9	26	111	0.5
Rotherham	65,315	488	266	30.0	12.8	—	—	3	3	5	3	4	102	1.4
York	85,802	457	261	21.9	12.5	—	—	13	1	5	6	1	96	—
Hull	291,118	1,927	1,112	26.6	15.3	5	—	70	3	20	10	12	109	0.5
Middlesbrough	126,452	1,085	614	34.4	19.5	—	—	24	9	28	6	25	143	0.5
Darlington	59,500	409	265	27.6	18.7	—	—	3	2	9	2	—	88	6.4
Stockton-on-Tees	59,311	437	253	29.6	17.3	—	—	21	1	5	1	2	108	1.6
West Hartlepool	64,374	512	263	32.0	16.4	1	—	—	2	7	3	3	107	0.8
Sunderland	152,927	1,271	647	33.5	17.0	2	—	5	7	25	10	9	105	2.0
South Shields	111,357	904	467	32.5	16.8	2	—	11	5	31	3	5	112	1.9
Gateshead	119,362	977	487	32.8	16.4	4	—	1	5	20	2	9	106	3.9
Newcastle-on-Tyne	273,415	1,880	983	27.6	14.4	4	—	3	9	15	8	9	96	0.2
Tynemouth	61,408	438	229	18.6	15.0	—	—	2	—	2	2	2	87	1.5
Carlisle	52,813	334	195	25.4	14.8	—	—	—	2	4	2	3	93	1.5
Newport (Mon.)	89,404	594	286	26.6	12.8	—	—	9	5	13	5	2	108	0.3
Cardiff	188,495	1,225	619	26.1	13.2	1	—	6	5	29	9	7	90	—
Rhondda	166,365	1,420	456	34.2	11.0	1	—	17	2	2	6	12	82	—
Merthyr Tydfil	85,082	610	317	28.8	15.0	1	—	11	—	1	5	4	97	0.6
Aberdare	53,427	413	153	31.0	11.5	1	—	—	—	—	2	2	61	—
Swansea	121,665	847	428	27.9	14.1	—	—	19	2	32	4	10	104	0.7

against 13.6, 15.4, and 16.1 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 3.1 in Southend, 5.5 in Bournemouth, 6.2 in Leyton, 6.3 in Ilford, 6.7 in Oxford, 7.0 in Hornsey and in Hastings, and 8.1 in Walthamstow, to 24.2 in Barnsley, 24.5 in Great Yarmouth and in Sunderland, 25.2 in Middlesbrough, 26.6 in Gateshead, and 27.9 in Stoke-on-Trent. The deaths of children (under 2 years) from diarrhœa and enteritis, which had been 677, 947, and 1,172 in the three preceding weeks, further rose to 1,223, and included 325 in London, 94 in Liverpool, 57 in Birmingham, 54 in Stoke-on-Trent, 51 in Manchester, and 50 in Sunderland. Measles caused a death-rate of 3.5 in Oldham, and diphtheria of 1.2 in Middlesbrough. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal cases of small-pox was registered during the week. The causes of 43, or 0.8 per cent. of the total deaths, were not certified either by a medical practitioner or by a coroner after inquest; of this number, 12 were recorded in Birmingham, 7 in Liverpool, 6 in Gateshead, 3 in Bury, and 2 in West Bromwich, in St. Helens, and in Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Hospitals and the London Fever Hospital, which had been 3,216, 3,318, and 3,500 at the end of the three preceding weeks, had further increased to 3,669 on Saturday, September 19th; 551 new cases were admitted during the week, against 536, 548, and 619 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,145 births and 705 deaths were registered during the week ended Saturday, September 5th. The annual rate of mortality in these towns, which had been 13.8, 15.0, and 14.4 per 1,000 in the three preceding weeks, rose to 15.0 in the week under notice, and was 1.6 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 10.1 in Motherwell, 10.5 in Leith, and 10.8 in Hamilton to 18.1 in Glasgow, 18.8 in Paisley, and 18.9 in Ayr. The mortality from the principal infective diseases averaged 2.8 per 1,000, and was highest in Coatbridge and Greenock. The 365 deaths from all causes in Glasgow included 61 from infantile diarrhœal diseases, 13 from whooping-cough, 2 from measles, 2 from scarlet fever, and 1 from diphtheria. Three deaths from diphtheria were recorded in Aberdeen; from whooping-cough, 2 deaths in Greenock; and from infantile diarrhœa, 5 deaths in Edinburgh, in Dundee, and in Greenock, and 4 deaths in Coatbridge.

In the sixteen largest Scottish towns 1,048 births and 727 deaths were registered during the week ended Saturday, September 12th. The annual rate of mortality in these towns, which had been 15.0, 14.4, and 16.0 per 1,000 in the three preceding weeks, further rose to 16.5 in the week under notice, and was 1.3 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 9.4 in Falkirk, 11.0 in Ayr, and 12.3 in Perth to 19.9 in Edinburgh, 21.4 in Greenock, and 22.5 in Dundee. The mortality from the principal infective diseases averaged 3.1 per 1,000, and was highest in Paisley and Glasgow. The 554 deaths from all causes in Glasgow included 67 from infantile diarrhœal diseases, 13 from whooping-cough, 7 from scarlet fever, 3 from diphtheria, and 2 from enteric fever. Seven deaths from infantile diarrhœa were recorded in Dundee, 7 in Paisley, 6 in Edinburgh, and 4 in Greenock; and from scarlet fever 2 deaths in Leith.

In the sixteen largest Scottish towns 1,157 births and 699 deaths were registered during the week ended Saturday, September 19th. The annual rate of mortality in these towns, which had been 14.4, 16.0, and 16.5 per 1,000 in the three preceding weeks, fell to 15.9 in the week under notice, but was 0.8 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 7.6 in Motherwell, 9.4 in Ayr, and 10.2 in Kirkcaldy to 18.4 in Perth, 21.8 in Coatbridge, and 23.0 in Hamilton. The mortality from the principal infective diseases averaged 2.7 per 1,000, and was highest in Coatbridge and Hamilton. The 336 deaths from all causes in Glasgow included 54 from infantile diarrhœa, 6 from whooping-cough, 4 from scarlet fever, 2 from measles, and 2 from enteric fever. Two deaths from diphtheria were recorded in Edinburgh and 2 in Aberdeen, and from infantile diarrhœa 11 deaths in Dundee, 10 in Edinburgh, 4 in Greenock, and 4 in Hamilton.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, September 12th, 599 births and 394 deaths were registered in the twenty-seven principal urban districts of Ireland. These deaths represent a mortality of 17.0 per 1,000 of the aggregate population in the districts in question, or 1.8 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.9 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.1, in Dublin city 18.3, in Belfast 18.0, in Cork 17.7, in Londonderry 12.7, in Limerick 24.4, and in Waterford 22.8. The zymotic death-rate was 4.0.

During the week ending Saturday, September 19th, 556 births and 450 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 559 births and 394 deaths in the preceding period. These deaths represent a mortality of 19.2 per 1,000 of the aggregate population in the districts in question, as against 17.0 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.1 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 24.1 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 19.4 (as against an average of 17.8 for the previous four weeks), in Dublin city 20.8 (as against 19.0), in Belfast 17.6 (as against 18.7), in Cork 19.7 (as against 17.0), in Londonderry 14.0 (as against 11.4), in Limerick 17.6 (as against 19.3), and in Waterford 13.3 (as against 18.0). The zymotic death-rate was 4.4 as against 4.0 in the previous week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following announcements are notified by the Admiralty: Fleet Surgeon ARTHUR GASKELL to the *Victory*, additional for Naval Division, Deal, as P.M.O., September 22nd; Fleet Surgeon G. TREVOR COLLINGWOOD, M.V.O., to the Hospital Ship *Sudan*, vice Gaskell, September 22nd; Fleet Surgeon EDWARD H. MEADEN to the *Inflexible*, vice Collingwood, September 22nd; Staff Surgeon E. M. W. HEARN to the *Vivid*, additional, September 21st; Staff Surgeon A. K. SMITH-SHAND to Chatham Hospital, temporarily, vice Hearn, September 21st; Staff Surgeon J. R. MUIR to the *Tiger*, undated; Surgeon T. C. PATTERSON to the *Naiad*, vice Davidge, September 21st; Surgeon L. C. ROWAN-ROBINSON, M.B., to the *Victory*, additional, September 22nd; Temporary Surgeons JOHN BOSTOCK, M.B., to the *Vernon* (September 26th); H. R. PHILLIPS, M.D., to the *Sudan* (Hospital Ship D, vice Ronaldson; B. J. BREWITT, to the *Pembroke*, for Royal Naval Barracks, vice Muir; and T. BEATON, M.D., to the *Mars* (September 28th); JAMES M. G. SWAINSON has been placed on Emergency List as Surgeon, with seniority, November 8th, 1898; JAMES K. MURPHY, F.R.C.S., M.D., Surgeon, R.N.V.R., promoted to rank of Staff Surgeon, with R.N.V.R. seniority, September 25th, 1914.

ARMY MEDICAL SERVICE.

COLONEL GEORGE F. A. HARRIS, C.S.I., is appointed an Honorary Surgeon to the King, vice Surgeon-General A. M. Crofts, C.I.E., May 25th.

ROYAL ARMY MEDICAL CORPS.

Major JOHN D. ALEXANDER, M.D., to be Lieutenant-Colonel, August 31st.

The following have been granted the temporary rank of Lieutenant: GEORGE A. GATES, M.D., GWILYM JAMES, SAMUEL C. R. FLANMAN, JAMES M. RENTON, M.B., F.R.C.S.Edin., and ALBAN C. HANCOCK; FREDERICK S. BRERETON, late Captain, R.A.M.C., JOHN M. MORGAN, M.B., JAMES MCTURK, HERBERT F. WOOLLENDEN, M.D., F.R.C.S., JAMES KIRKER, JOHN S. LLOYD, M.B., WILLIAM N. KINGSBURY, GEORGE W. LLOYD, M.B., HERBERT J. RAWSON, ERNEST STRATFORD, RICHARD R. K. PATON, M.B., CLAUDE H. B. BOOTH, GEORGE E. BEAUMONT, M.B., PATRICK CAGNEY, M.B., JAMES D. G. STEWART, M.B., EDGAR F. EDMUNDS, M.B., STANLEY P. STOKER, M.B., HAROLD G. JANION, RUSSELL F. WILKINSON, OLIVER C. LINE, M.B., ERNEST E. HOLDEN, EUSTACE C. BLACK, M.B., WILLIAM GRIFFITH, M.B., CHARLES ST. A. VIVIAN, RICHARD F. BOLT, DANIEL S. COOPER, M.B., WILLIAM C. HORTON, M.B., F.R.C.S.Edin., CECIL M. JONES, M.B., RICHARD B. JOHNSON, ALFRED C. JEPSON, WILLIAM H. PARRY, M.B., HUGH PIERCE, M.D., JAMES H. PATERSON, M.B., and HENRY C. D. MILLER, M.B.; JAMES WILSON, M.B., F.R.C.S.Edin., Captain RYDER P. NASH, Second Eastern General Hospital, R.A.M.C. (T.F.), GEORGE V. BAKEWELL, M.B., and FREDERICK F. MIDDLEWEEK; LEWIS H. F. THATCHER, M.D., ISAAC B. D'OLIER, M.D., and OCTAVIUS DE B. MARSH, M.B.; PERCY GULLY and BARTHOLOMEW J. HACKETT, M.B.; JAMES G. B. COLEMAN, M.D., FRANK WHITBY, M.B., HENRY A. LUNN, FREDERICK B. MCCARTER, M.B., VALENTINE C. MARTYN, DAVID Y. BUCHANAN, M.B., EMANUEL P. SCOTT, EDWARD L. PUDDICOMBE, EDWARD HAMILTON, MURDOCH M. RODGER, M.D., JAMES R. GYLLENGRENTZ, GEORGE A. SPEAR, HENRY C. WOODYATT, WILLIAM AINSLIE, M.D., F.R.C.S.Edin., ALBERT TURNER, RALPH G. DAINTY, GIDEON WALKER, M.B., JOHN F. SMITH, M.B., WILLIAM MOODIE, M.D., THOMAS H. BODY, ANDREW CURRIE, M.B., ROBERT HANNAH, M.B., FREDERICK G. SHARPE, F.R.C.S., STANLEY RITSON, F.R.C.S., ALEXANDER LINDSAY, M.B., WILLIAM H. SUTCLIFFE, M.B., ROY W. RUSSELL-JONES, M.B., LESLIE H. SKENT, M.B., TREVOR H. WILKINS, ELVAN H. POWELL, M.B., BASIL E. MOSS, M.B., ALEXANDER L. AYMER, M.B., JOHN F. GILL, M.B., EDGAR ASHBY, ERNEST E. S. J. GALBRAITH, WILLIAM T. HESSELL, M.B., THOMAS H. PETTIT, M.B., JAMES B. ANDERSON, M.B., FREDERICK W. ROBINSON, M.D., F.R.C.S., ARTHUR THEODORE TODD, M.B., THOMAS E. ASHDOWN CARR, M.B., GEORGE S. SIMS, M.D., RUDOLPH G. ABERCROMBIE, M.D., CORNELIUS A. O'DRISCOLL, JOHN S. WILLIAMSON, HERMAN W. WEBB, M.B., F.R.C.S.Edin., SYDNEY H. HAY, M.B., ROBERT MARSHALL, M.B., ARTHUR A. STRATON, M.D., F.R.C.S.Edin., WILLIAM H. R. MCCARTER, M.B., CHARLES R. SMITH, SAMUEL G. DIXON, DAVID J. MULHOLLAND, M.D., ALEXANDER J. WILL, M.B., WILLIAM RANKIN, M.B., BASIL N. MURPHY, ALAN G. BODMAN, REGINALD B. HEYGATE, GEORGE F. HARDY, HUGH F. WARWICK, M.B., WILLIAM W. WALLER, M.B., REGINALD C. VERLEY, M.B., ALEXANDER M. ROSS, the HON. LENNOX H. LINDLEY, M.B., LIONEL T. WELLS, ERIC MARTYN-CLARK, CHRISTOPHER C. COURT, M.B., GEORGE D'R. CARR, ELSTON H. LAWSON, M.D., ELLIOTT T. GLENNY, M.B., JAMES L. WILSON, M.B., DANIEL T. H. CROLY, ERNEST R. G. GRENVILLE, CHARLES E. REDMAN, WILLIAM E. KYTE COLES, JOHN I. JOHNSON, ALEXANDER C. PALMER, M.B., F.R.C.S., ALAN H. BIRKS.

Lieutenant EDWARD M. THOMSON relinquishes his temporary commission.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT REGINALD FISHER to be Captain, September 27th.

The following cadets and ex-cadets of the Officers' Training Corps to be Lieutenants on probation: JOHN W. CANNON, M.B., CECIL L. GAUSSEN, M.B., THOMAS F. CORKILL, ARTHUR MCM. PATERSON, THOMAS H. S. BELL, N. A. MARTIN, R. G. BANNERMAN, M.B., EDMOND ROBINSON, F. G. LESCHER, ALAN F. GRIMBLY, WILLIAM F. WOOD, M.B., PETER F. WARD, WYNDHAM WILLIAMS, JOHN BRUMWELL, JOHN K. R. LANDELLS, ERIC W. WILLIAMS, WILLIAM J. ADIE, M.B., WALTER J. F. CRAIG, REGINALD O. EADES, IAN C. MACKAY, RUDOLPH A. PETERS, RICHARD A. AUSTIN, WILLIAM S. BIRCH, GEORGE STANTON, WILLIAM JOHNSON, M.D., ADIE E. H. REID, M.B., JOHN H. PENDERED, M.B., F.R.C.S., WILLIAM K. CAMPBELL, KENNETH D. MURCHISON, M.B., HUGH G. TRAYER, M.B., ALBERT W. D. MAGEE, EDWARD R. LOVELL, WILLIAM R. BLORE, M.B., JOSEPH B. WILLIAMSON, M.B., JOHN C. PYPER, M.B., JAMES LANIGAN, FRANCIS A. E. CREW, M.B., DAVID STEWART, ARTHUR L. SHEARWOOD, M.B., RALPH R. THOMPSON, SAMUEL W. M. JONES, JOSEPH H. BAYLEY, ERNEST M. COWELL, M.D., F.R.C.S., GEOFFREY N. SMYTH, REGINALD S. WOODS.

The following have been appointed Lieutenants on probation: HAROLD E. ANDREWS, August 8th; EDWARD B. MARSH, M.B., JAMES MCCUSKER, E. K. RYAN, M.B., W. Y. TOTHILL, H. NEHD, M.D., R. D. DAWSON, DUFFIELD BROWNSON, M.B., C. A. MCGUIRE, M.B., H. M. POPE, W. T. QUINLAN, H. W. EVANS, M.B., L. J. SHEIL, M.D., V. WILEY, M.D., C. ARMSTRONG, M.B., A. B. FOOTT, N. L. JOYNT, M.B., H. S. PEMBERTON, M.B., H. B. SHERLOCK, J. LE M. KNEEBONE, M.B., ALEXANDER J. EWING, M.B., HAROLD E. ROSE, RICHARD N. O. MOYNAN, M.B., EDWARD H. ROBERTS, M.B., MORGAN J. B. F. BURKE-KENNEDY, JOHN V. L. GRANT, M.B., THOMAS M. MILLER, GEORGE G. MARSHALL, M.B., MARK AVENT, M.B., LEONARD F. BROWNE, M.D., DOUGLAS G. EVANS, M.B., CHARLES C. ILES, M.D., FRANK GRIFFITH, M.B., ALFRED J. CLARK, M.D., GEOFFREY MARSHALL, M.B., BERNARD GRELLIER, CUTHBERT H. ATTENBOROUGH, M.B., HAROLD J. S. MORTON, REGINALD H. LEIGH, EDWARD S. WALLS, GEORGE M. CHAPMAN, M.B., ALFRED M. THOMSON, M.B., JAMES B. SCOTT, M.B., JOHN P. MITCHELL, M.D., RONALD G. J. MCENTIRE, M.B., EDWARD C. LINTON, JOHN P. DAVIES, M.B., DAVID W. JOHN, RICHARD A. STEWART, M.B., FREDERICK A. BEARN, M.B., JOHN W. CRAW, M.B., FRANCIS BALKWILL, EDMUND B. JONES, M.B., JAMES VALLANCE, M.B., JOSEPH A. L. WILSON, M.B., GEOFFREY W. WOOD, M.B., JOHN P. STALLARD, M.B., ERNEST TALBOT, M.B., TIMOTHY F. HEGARTY, M.B., GEORGE R. BRUCE, M.B., PATRICK MCDONNELL, M.B., BERNARD MURPHY, WILLIAM H. WOOD, M.B., PETER W. RANSOM, M.B., JOSEPH I. LAWSON, M.B.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL W. D. SUTHERLAND, M.D., on special serological duty at Calcutta, is appointed to be a Chemical Examiner to Government.

Colonel G. F. A. HARRIS, C.S.I., F.R.C.P., V.H.S., is appointed to be Surgeon-General with the Government of Bengal, with effect from April 1st, 1912.

Lieutenant-Colonel W. E. SCOTT-MONCRIEFF, M.B., has retired from July 29th.

Major J. W. LITTLE is posted as Agency Surgeon, Gilgit, with effect from July 20th, 1914.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

London Mounted Brigade Field Ambulance.—H. E. ROAF to be Lieutenant, September 19th.

First London General Hospital.—The date of promotion of Lieutenant-Colonel H. H. TOOTH, C.M.G., is August 22nd, and not as stated in the *Gazette* of September 1st.

Second London (City of London) General Hospital.—R. J. PROBYN-WILLIAMS, M.D., to be Captain, September 19th. W. G. HOWARTH to be Captain, September 26th.

Third London General Hospital.—D. EMBLETON to be Captain, September 23rd.

Fourth London General Hospital.—The date of appointment of Captain R. O. SIBLEY, M.D., is August 5th, and not as stated in the *London Gazette* of September 1st. Captain E. ROCK CARLING, M.B., F.R.C.S., and Captain WILLIAM TURNER, M.B., F.R.C.S., are restored to the establishment, September 5th. The following to be Captains: D. H. DE SOUZA, August 26th; A. J. JEX-BLAKE, M.B., F.R.C.P., August 27th; IVOR G. BACK, M.B., F.R.C.S., August 27th; C. H. S. FRANKAU, M.B., F.R.C.S., August 28th.

First Home Counties Field Ambulance.—Lieutenant THOMAS H. PEYTON to be Captain, September 3rd.

Third Home Counties Field Ambulance.—Captain S. A. COAD to be Major, September 19th.

Eastern Mounted Brigade Field Ambulance.—H. M. McC. COOMBS, M.B., to be Lieutenant, August 6th.

Third North Midland Field Ambulance.—The following Captains to be Majors, September 19th: A. E. HODDER, C. A. STIDSTON, M.D.

First South Midland Mounted Brigade Field Ambulance.—Captain T. H. FORREST, M.B., to be Major, September 19th.

Third South Midland Field Ambulance.—Captain J. S. MATHER to be Major, September 19th. Lieutenant G. S. WILLIAMSON to be Captain, September 23rd.

First East Anglian Field Ambulance.—Captains to be Majors, September 26th: GERALD M. HEATHERINGTON, OCTAVIUS R. ENNION.

First East Lancashire Field Ambulance.—Captain G. W. FITZGERALD, M.D., to be Major, September 19th; Lieutenant W. R. DOUGLAS, M.B., to be Captain, September 19th. The date of appointment of the following Lieutenants is as now shown, and not as stated in the *London Gazette* of August 21st: A. M. MACKAY, August 5th; J. MORLEY, August 5th; F. S. BEDALE, August 8th.

Second East Lancashire Field Ambulance.—The following Captains to be Majors, September 19th: G. ASHTON, M.D., H. W. PRITCHARD. The date of the appointment of the following Lieutenants is as now shown, and not as stated in the *London Gazette* of September 4th: G. B. JAMESON, August 12th; F. C. BENTZ, August 15th.

Third East Lancashire Field Ambulance.—Captain E. H. COX, M.B., to be Major, September 19th. Lieutenant J. K. LUND to be Captain, September 19th. The date of appointment of the following Lieutenants is as now shown, and not as stated in the *London Gazette* of August 21st: F. K. TOMLINSON, July 6th; J. C. JEFFERSON, August 4th; N. H. H. HASKINS, August 9th; O. H. BLACKLAY, M.D., September 1st.

First West Riding Field Ambulance.—Major A. D. SHARP to be Lieutenant-Colonel, August 31st.

Third West Riding Field Ambulance.—Major J. W. STOKES to be Lieutenant-Colonel, August 31st. W. B. ALLEN, M.B., and R. A. STARR, M.B., to be Lieutenants, August 8th.

Third Southern General Hospital.—Captain R. E. HUMPHRY is seconded, September 19th.

Fifth Southern General Hospital.—Announcement substituted for that which appeared in the *London Gazette* of September 4th: Major JOHN KYFFIN to be Lieutenant-Colonel, September 5th.

First Northern General Hospital.—Major T. GOWANS, M.B., to be Lieutenant-Colonel, August 6th; SYDNEY J. CLEGG, M.B., to be Captain, September 30th.

Fifth Northern General Hospital.—Major L. K. HARRISON, M.B., to be Lieutenant-Colonel, August 6th.

First Northumbrian Field Ambulance.—Captain J. M. GOVER to be Major, August 23rd.

Third Lowland Field Ambulance.—Announcement substituted for that which appeared in the *London Gazette* of August 28th: ARCHIBALD C. MCMASTER, M.B., to be Lieutenant, August 10th. Announcement substituted for that which appeared in the *London Gazette* of August 21st: JAMES A. HENDERSON, M.B., to be Lieutenant, August 10th.

First Welsh Field Ambulance.—Major J. HOWARD-JONES, M.B., from attached to units other than Medical Units, to be Major, August 5th, and Major EVELYN J. R. EVATT, M.B., from the unattached list to be Major, September 30th.

Sanitary Officers.—Captain J. M. HAMILL, from attached to units other than Medical Units, to be Sanitary Officer to the 2nd London Territorial Division, September 23rd.

Sanitary Services.—R. BRIERCLIFFE, M.B., to be Captain, and is appointed Sanitary Officer, East Lancashire Territorial Division, September 1st.

Attached to Units other than Medical Units.—Captain F. G. PROUDFOOT to be Major, August 12th. Surgeon-Lieutenant W. MARLEY-CASSE, from the Fifth (Cumberland) Battalion Border Regiment, to be Lieutenant, August 23rd; L. C. BRUCE, M.D., to be Lieutenant, September 19th; Major R. W. FORREST is seconded, August 30th; Captain W. H. GALLOWAY to be Major, July 26th; Captain G. W. SUTCLIFFE is restored to the establishment, September 23rd. The notice which appeared in the *London Gazette* of July 21st, announcing the resignation of Captain G. B. GILL, M.B., is cancelled. A. E. HINCKS to be Lieutenant, August 31st; E. BROMET to be Lieutenant, September 23rd; Captain JOHN B. MCBRIDE to be Major, September 26th; Lieutenant CHRISTOPHER F. MURPHY to be Captain, September 1st; Surgeon-Lieutenant-Colonel CHARLES DOWNING is seconded, September 30th; Surgeon-Captain HENRY J. TAYLOR to be Major, September 30th; Captain EDGAR V. PHILLIPS, from the 5th Northern General Hospital, to be Captain, August 6th; Surgeon-Captain JONAS W. ANDERSON, M.B., from 4th Battalion Royal Welsh Fusiliers, to be Captain, September 30th; Captain WINSTAN ST. A. ST. JOHN resigns his commission on account of ill health, September 30th; Lieutenant ERIC D. GAIRDNER, M.D., to be Captain, August 10th; Lieutenant HUGH L. MUNRO, M.D., to be Captain, August 28th; Lieutenant ERNEST W. REED, M.B., to be Captain, September 1st; Lieutenant ALEXANDER G. LOVETT-CAMPBELL, M.B., to be Captain, September 3rd; Lieutenant CHARLES DOUGLAS, M.B., to be Captain, September 8th; GEORGE B. FORGE to be Lieutenant, August 8th; JAMES Y. MOORE to be Lieutenant, September 3rd; Captain CHARLES J. MARTIN, M.B., to be Major, September 30th; Surgeon-Captain JOHN LIVINGSTONE, M.B., from the Westmorland and Cumberland Yeomanry, to be Captain, September 16th; FRANCIS H. SPRAGUE to be Lieutenant, September 30th. The announcement which appeared in the *Gazette* of September 11th, appointing ARTHUR H. SMITH (late Captain and Honorary Major 8th (Ardwick) Battalion Manchester Regiment) to be Captain is cancelled.

YEOMANRY.

Bedfordshire.—Surgeon-Captain HENRY SKELDING, M.B., to be Surgeon-Major, August 10th.

Oxfordshire.—Surgeon-Lieutenant ARCHIBALD H. HOGARTH to be Surgeon-Captain, August 12th.

ROYAL FIELD ARTILLERY.

First Welsh Howitzer Brigade.—Surgeon-Major A. DAVIES, M.B., resigns his commission on account of ill health, and is granted permission to retain his rank and wear the prescribed uniform of his rank, September 19th.

INFANTRY.

Fifth Battalion East Surrey Regiment.—Surgeon-Captain JOHN E. BATES, M.B., to be Surgeon-Major, September 19th.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application

VACANCIES.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £120 per annum.

BARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon. Salary, £160 per annum.

BELGRAVE HOSPITAL FOR SICK CHILDREN, Clapham Road, S.W.—Assistant Physician.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM UNION.—(1) Third and Fourth Assistant Medical Officers at the Dudley Road Infirmary; salary, £170 and £160 per annum respectively. (2) Assistant Medical Officer at the Selly Oak Infirmary; salary, £160 per annum.

BLACKBURN COUNTY BOROUGH.—Temporary Resident Medical Officer at the Infectious Diseases Hospital. Salary, £200 per annum.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRADFORD: ROYAL EYE AND EAR HOSPITAL.—House-Surgeon (non-resident). Salary, £200.

BRADFORD ROYAL INFIRMARY.—(1) Resident Medical Officer; (2) Male House-Surgeon. Salary, £150 and £100 per annum respectively.

BRENTFORD UNION.—First and Second Assistants to the Medical Superintendent of the Infirmary, etc. Salary, £225 and £200 per annum respectively.

BRISTOL CITY ASYLUM, Fishponds.—Second Assistant Medical Officer. Salary, £250 per annum, rising to £300.

BRISTOL GENERAL HOSPITAL.—(1) First and Second House-Physicians; (2) House-Surgeon; (3) Casualty House-Surgeon. Salary at the rate of £120 per annum.

BOOTLE HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer. Salary, £150 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary, £135 per annum.

BURY ST. EDMUNDS: WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

CAMBERWELL: PARISH OF ST. GILES.—(1) Assistant Medical Officer for the Infirmary; (2) Assistant and Junior Medical Officers for the Infirmary and Gordon Road Institution. Salary for (1) £190 per annum, increasing to £200, and for (2) at the rate of £200 and £180 per annum respectively.

CANCER HOSPITAL, Fulham Road, S.W.—Surgical Registrar. Honorarium, £100 per annum.

CAPETOWN CORPORATION.—Assistant Medical Officer of Health. Salary, £600 per annum.

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.—Bacteriologist. Salary, £200 per annum, rising to £250.

CARDIFF: CITY MENTAL HOSPITAL.—Second Assistant Medical Officer (male). Salary, £250 per annum, rising to £280.

CHELTENHAM GENERAL HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary, £100 per annum each.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

CONWAY AND PENMAENMAWR JOINT HOSPITAL BOARD.—Non-resident Medical Officer for Isolation Hospital. Salary, £55 per annum.

DEPTFORD BOROUGH.—Woman Sanitary Inspector and Health Visitor. Salary, £100 per annum, rising to £130.

DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (female). Salary, £100 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House-Physician. Salary, £75 per annum.

FLORENCE NIGHTINGALE HOSPITAL FOR GENTLEWOMEN, Lisson Grove, N.W.—Non-resident Medical Officer. Salary, £120 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

HALIFAX ROYAL INFIRMARY.—(1) Second House-Surgeon; salary, £120 per annum. (2) Third House-Surgeon; salary, £100 per annum.

HARTLEPOOLS HOSPITAL.—House-Surgeon. Salary, £125 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician. Honorarium, £5 5s. per month.

HULL ROYAL INFIRMARY.—(1) Senior House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively. (3) Honorary Surgeon.

KENT COUNTY ASYLUM, Chartham.—Third Junior Assistant Medical Officer (male). Salary, £250 per annum.

KING'S LYNN: WEST NORFOLK AND LYNN HOSPITAL.—House-Surgeon. Salary, £150 per annum.

LEICESTER ROYAL INFIRMARY.—(1) Resident House-Surgeons; (2) Assistant House-Surgeons.

LEICESTERSHIRE AND RUTLAND MENTAL HOSPITAL, Narborough.—Junior Medical Officer (male). Salary, £200 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary, £100 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary, £60 per annum each.

LONDON COUNTY ASYLUM, Claybury.—Fifth and Sixth Assistant Medical Officers. Salary, £200 per annum, rising to £220.

MANCHESTER CORPORATION.—(1) Assistant Tuberculosis Officer; salary, £350 per annum. (2) Third and Fourth Medical Assistants at the Monsall Fever Hospital. Salary, £150 per annum each.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon (male). Salary at the rate of £100 per annum.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—(1) Senior Medical Officer. (2) Junior Medical Officer. Salary, £160 and £80 per annum respectively.

NEWCASTLE-UPON-TYNE POOR LAW INSTITUTION.—Second Assistant Resident Medical Officer (female). Salary, £150 per annum, rising to £200.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NEW ZEALAND: UNIVERSITY OF OTAGO.—Professor of Clinical Pathology. Salary, £600 per annum, rising to £800.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—(1) Physician; (2) Casualty House-Surgeon. Salary, £100 per annum each, rising to £150.

NOTTINGHAM EDUCATION COMMITTEE.—Third Medical Inspector. Salary, £300 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—(1) Senior House-Physician; (2) Assistant House-Physician; (3) Assistant House-Surgeon. Salary for (1) £130 per annum, and for (2) and (3) £100 per annum each.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary at the rate of £80 per annum.

RAMSGATE GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £120 per annum.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—Resident House-Physician. Salary at the rate of £110 per annum.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon (male). Salary, £110 per annum.

ROYAL EAR HOSPITAL, Dean Street, Soho, W.—Honorary Assistant Anaesthetist.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) Male and Female House-Physicians and House-Surgeons. (2) Junior Obstetric Assistant.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary, £100 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £115 per annum.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer. (2) Casualty House-Surgeon. Salary at the rate of £120 and £100 per annum respectively.

SALISBURY GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Assistant Surgical Registrar.

SHEFFIELD: CHILDREN'S HOSPITAL.—(1) House-Surgeon. (2) House-Surgeon at the East End Hospital. Salary, £150 and £120 per annum respectively.

SHEFFIELD ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) Assistant House-Physician. Salary, £100 per annum each.

SHOREDITCH: PARISH OF ST. LEONARD.—Junior Assistant Medical Officer for the Infirmary. Salary, £150 per annum.

SOUTHAMPTON FREE EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—House-Surgeon (male). Salary, £120 per annum, rising £10 annually.

SUNDERLAND ROYAL INFIRMARY.—House-Physician (male). Salary, £120 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £125 per annum.

SWANSEA UNION INSTITUTION.—Resident Assistant Medical Officer. Salary, £295 per annum, rising £50 after five years' service, and £80 in lieu of house till accommodation be provided.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

VENTNOR: ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.—Assistant Resident Medical Officer. Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Junior House-Surgeon. Salary, £150 per annum.

WAKEFIELD: WEST RIDING ASYLUM.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £230, and upon promotion to £340.

WALSALL AND DISTRICT HOSPITAL.—Senior House-Surgeon. Salary, £150 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £120 per annum, rising to £140 after six months.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £100 per annum.

WEST BROMWICH UNION.—Medical Superintendent of the Walsall and West Bromwich School District. Salary, £800 per annum and £100 in lieu of house until residence is provided.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—(1) Senior House-Physician; (2) Junior House-Physician. Salary for (1) £120 and for (2) £100 per annum.

WEST HAM UNION INFIRMARY.—Third Assistant Resident Medical Officer (male); salary, £180 per annum, increasing to £200.

WEST HARTLEPOOL COUNTY BOROUGH.—Medical Officer of Health. Salary, £500 per annum.

WESTERN GENERAL DISPENSARY, Marylebone Road, N.W.—Honorary Surgical Accoucheur.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—(1) Pathologist; (2) Resident Medical Officer; (3) House-Surgeon. Salary for (1) £230 and for (2) and (3) £125 per annum.

YORK COUNTY HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary at the rate of £100 per annum each.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Alford (Aberdeen), Framlingham (Suffolk), Rathfriland (co. Down).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

DA CUNHA, F., M.R., Ch.B.Vict.Manch., Assistant Medical Officer of the South Manchester Township Workhouse.

HAMILTON, G., M.B., Ch.B.Edin., District Medical Officer of the Ashton-under-Lyne Union.

HUDSON, R., M.D.Durh., District Medical Officer of the Newport (Mon.) Union.

WADE, N. N., M.D.Edin., District Medical Officer of the Newport (Mon.) Union.

WALKER, John F., M.B.Lond., M.R.C.S.Eng., L.R.C.P.Lond., District Medical Officer and Public Vaccinator to the Rochford (Essex) Union, Western District.

WEBB, C. C., M.B., District Medical Officer of the Long Ashton Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Order or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

BROWN.—On September 25th, at The Uplands, Minchinhampton, Glos., the wife of Alfred Brown, M.D.Edin., of a daughter.

MARRIAGE.

GREENFIELD—STANSFIELD.—On September 26th, at All Saints Church, Reading, by the Rev. W. J. Holloway, M.A., Percy, son of J. H. Greenfield, of Carisbrooke, I.W., to Elsie, daughter of F. W. Stansfield, M.D., of Reading.

DEATHS.

BALLANTYNE.—On September 28th, at 19, Rothesay Terrace, Edinburgh, E. Rosa Mathew, daughter of the late George Mathew, Esq., Worsted Lodge, Cambridgeshire, and wife of J. W. Ballantyne, M.D., F.R.C.P.Edin.

MAY.—On September 23rd, at his residence, High Cross, Tottenham, Edward Hooper May, M.D., F.R.C.S.Eng., in his 83rd year.

MAYBURY.—On September 6th, suddenly, the result of an accident, Horace Mansell Maybury, M.D., of 27, Almeida Street, Islington, in his 67th year, third son of the late William Augustus Maybury, M.R.C.S., and Clara Maybury, of Cedar Lodge, Frimley, Surrey.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses are to be given next week at the following schools, colleges, and hospitals:

DUBLIN: ROTUNDA HOSPITAL.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 10TH, 1914.

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NATIONAL INSURANCE ACTS.

NEW DRAFT REGULATIONS.

(A) THE QUESTION OF OVER-PRESCRIBING.

SINCE the appearance of the leading article on the above subject in our issue of September 26th we have received some correspondence in which certain points of considerable importance are raised. With these we propose to deal in order not only to try to satisfy our correspondents, but also to emphasize the importance which we think the profession should attach to this subject.

One correspondent asks that it should be stated precisely how the opinion that 2s., or even 1s. 6d., per head per year was a sufficient figure for drugs and appliances was arrived at. He goes on to adduce his own experience, which is that of one having a panel of 1,200; about 70 per cent. of these consult him. His average prescription "works out at about 8d. and totals out per year at about 3s. 6d. per head; perhaps a little more." That is, his prescription rate per patient is a little over 5 and the rate per insured person is 3½. On reference to Appendix I of the important Memorandum of the Scottish Commission on the question (page 195) it will be found that throughout the whole of Scotland—and we do not know that the circumstances there differ materially from those of England and Wales—the average number of prescriptions per insured person during 1913 was 1.97 in the counties and 2.35 in the burghs, and that in only two of the latter was the number of prescriptions per insured person more than 3. We cannot believe that in the areas where the doctors contrived to limit their prescriptions (as they did for example in Edinburgh, Falkirk and Perth) to less than 2 per insured person per annum, the insured persons were less efficiently treated than in the areas where more drugs were given. This really answers the question as to how the opinion was reached that 2s. or even 1s. 6d. is sufficient to cover the average cost of drugs per insured person. The evidence furnished by the Scottish Commissioners' figures and by the statement of the English Commissioners that they are in possession of similar figures seems sufficiently decisive on this point. When we find, for example, that in 26 Scottish counties the expenditure on drugs per insured person for 1913 was 1s. 6d. or less, and none exceeded the 2s. limit; that in the 25 burghs the majority did not exceed 1s. 6d. and only two exceeded the 2s.; that in 37 English counties 16 out of 37 provided their drugs at 1s. 6d. or less, the impartial observer is driven to one of two conclusions: Either the doctors in all the areas below the 2s. rate (many of which had not, so far as can be ascertained, any lower sickness incidence than the more expensive areas) have deprived their patients of drugs or appliances which they ought to have had; or the doctors in the more expensive areas have prescribed with a freedom which seems to require explanation. It was with the hope that some explanation might be found in the special circumstances of some of the more expensive areas that we urged Panel Committees to make full use of their powers of inquiry into this subject. We prefer to accept the explanation of extravagant prescribing in the expensive areas because the alternative would cast a slur on a great body of the profession. After careful inquiries in many quarters we are unable to find the slightest grounds for believing that in those areas where the drugs and appliances have cost less than 2s. per head, the patients have been deprived of the remedies they have a right to expect.

But our belief that extravagance is at any rate one of the causes in the more expensive areas is borne out over and over again by the investigations of Panel Committees. Many appeals by these committees to their constituents have been published, in which the latter have been told that the committees have convinced themselves by inquiry that, among a small section of the panel, medicines and appliances have been ordered unnecessarily, or, more often, that medicines have been ordered in quite unnecessarily expensive forms. In a recent report of a Panel Committee in a large industrial area it is pointed out that unnecessary expense has been caused by (*a*) multiple prescriptions; (*b*) ordering malt and cod-liver oil in excessive quantities; (*c*) ordering medicines in small supplies with large doses; and (*d*) (and most important of all) ordering articles with proprietary names and fancy prices, when identically the same thing is available at probably less than half the price. These and similar statements are made by committees of medical practitioners—men who would, we may be sure, much rather find that the large cost of drugs and appliances was due to a really genuine need for them. When the reports of Panel Committees are compared with the statements made in the reports of the English and Scottish Commissions, one is bound to admit that there is need for the strictest inquiry and for the use of the disciplinary powers of the Panel Committees in some cases. Our correspondent suggests that as the demand for drugs and appliances "rests with the people," it might be arranged that patients could get a limited number of prescriptions in a year free, and after that pay for any others required. We demur entirely to the statement that the demand rests "with the people." The doctor has and must firmly retain the sole right of saying whether a patient needs medicines, and if so, which. It is because the demand for drugs is to such a great extent under the control of the doctor, that the responsibility for inquiry into demands on the fund exceeding the average is rightly imposed on the Panel Committees.

Another correspondent takes exception to the assumption in the article of September 26th that the existence of over-prescribing has been proved, and vigorously protests that practitioners who try not to differentiate in their prescribing between their panel and private patients are "unable to do the work within the allotted sum." We can only invite our correspondent to study the figures quoted above, and ask him what conclusion he arrives at as regards the thousands of practitioners in the kingdom who during 1913 treated their insured persons at less than 2s. a head. We are driven to the conclusion that, generally speaking, practitioners whose rate works out at more than 2s. per head would find on investigation that there were many ways in which, without any detriment to their patients, their drug bill could be cut down. The investigations made by Sir W. Plender and his staff of accountants into the practices—private, club, and hospital—in five selected towns seem to show that the cost of drugs and dressings supplied to all classes of patients was well under 1s. per head of the population. We do not desire to lay stress on this item because the conditions are now so much changed, but it is worth keeping in mind.

We submit that all the evidence goes to confirm the opinion of many expert pharmacists and a large number of general practitioners, together with the collective experience in many insurance areas—namely, that if prescribing were done by all practitioners on the panel in the

same way that it is by most, the average cost per insured person need not exceed 2s. per annum, while the patient would get all that was necessary.

We much regret that the correspondent last alluded to considers that our article of September 26th did not voice the feelings of the best kind of panel practitioners. As to that, we must venture to differ. We have much evidence of the distress which has been caused to responsible men who look after the interests of insurance practitioners in various areas, by the investigations of Panel Committees into this subject; and we hold the view very strongly that the Association is bound to use every means in its power to impress the importance of the subject on every panel practitioner.

To summarize the situation as it appears to us:

1. Experience seems to show that if properly used the drug fund of 2s. a head should cover all the legitimate needs of the insured patient.

2. In some areas the demands on the fund have exceeded this sum and the general tendency is a gradual rise in the demands on the fund.

3. Machinery is provided in the Regulations for dealing with such abuses as may be found, and the essential part of that machinery is in the hands of members of the profession, who may be trusted not to abuse it, the difficulty being to induce them to undertake a difficult and invidious task.

4. If, after that machinery is used fearlessly and thoroughly, it is proved that the increased demand on the drug fund is due to inadequate provision on the part of the Government the profession and the Association must agitate for more money.

5. If, on the other hand, it is proved to the satisfaction of the medical profession that the increased demand is due to extravagance, the fault should be placed on the right shoulders and the power of surcharge should be used.

The action outlined in 3 or 4 seems to be necessary in the ultimate interests of the profession, as that section of the community which demands a State whole-time service or the abolition of choice of doctor on the part of the patient has always insisted that the present method of employment of doctors and chemists is expensive and inefficient. To burk this question would be a very short-sighted policy, and if the demands on the Drug Fund continue to increase there seems to be a serious risk of radical changes in the Regulations which might prove very unpopular with the profession.

Once more we urge that every Panel Committee should deal with the subject in a thorough and systematic fashion.

(B) The Proposed Alterations in the Medical Agreement for 1915.

The Commissioners have issued to Insurance Committees a Memorandum (201/I.C.) in which they deal with proposals for alteration of the Regulations for 1915. In this Memorandum is embodied a model letter to doctors and chemists which, as it includes the gist of the Memorandum, is printed here, together with the suggested time-table, which is to govern the negotiations between doctors and chemists and the various Committees and Commissioners.

Model Letter for Issue by Insurance Committees to Doctors at the Appropriate Times (*see Time-table below*).

Sir,—I am directed by the Insurance Committee for the County of to inform you that the Insurance Commissioners have prepared draft regulations which will come into operation on January 1st, 1915, and will amend the existing Regulations for the administration of medical benefit. The material portion of the draft regulations is set out in Part I of the Appendix, which appears below.

In explanation I am to inform you that the preparation of revised Regulations to come into force on January 1st next had been engaging the careful attention of the Commissioners for some time prior to the outbreak of the present hostilities. In view, however, of the exceptional circumstances now prevailing (involving in many instances unusual demands on the time and attention of the members of the medical and pharmaceutical professions), it has been deemed advisable to postpone, until a more suitable time, any substantial revision of the Regulations. The amending Regulations have been prepared in order that the revision may not be postponed longer than is absolutely necessary, and also to afford an opportunity for dealing with unexpected problems which might conceivably arise consequent upon the abnormal conditions.

It should be pointed out that the amending Regulations in no way extend the powers of the Committee or the Commissioners as to the procedure for amending the terms of service, nor do they dispense with the requisite notices. They merely provide that in the event of the Commissioners fixing a date during the course of 1915 for the introduction of amendments in the terms of service such as would normally have been introduced at the end of the current year or are necessitated by unexpected problems arising from the abnormal conditions, that date shall to all intents and purposes conclude a "medical year"; and the whole series of notices prescribed by the current Regulations for the protection of practitioners will require to be given (reckoning backwards from the date fixed), thus preserving the right of the practitioner to terminate his agreement as from that date in the event of his being unwilling to continue to serve under the modified conditions. The Commissioners state that it is unlikely that any date would be fixed under the amending Regulations other than the first day of one of the "quarters" of the medical year, and that for general reasons it is highly improbable that any changes so arrived at will be arranged to take effect sooner than June 30th, 1915.

In accordance with the terms of Clause 1 of your agreement with the Committee the amending regulations will, as from the date on which they come into operation, be incorporated in and form part of that agreement.

I am further directed to give you notice on behalf of the Committee that it is proposed to alter the terms of the First Schedule to your agreement with the Committee in the manner set out in Part II of the Appendix below. The objects and effect of this alteration are as follows: Under the existing agreement the conditions of the grant which are set out in the First Schedule to the agreement provide that such certificates are to be furnished to an insured person as are required to be furnished in pursuance of the rules of the society of which he is a member or of the Insurance Committee, as the case may be. In view of the fact that the Commissioners propose to introduce a uniform scheme of certification, it is intended that the conditions of the grant for the year 1915 shall be altered so as to secure that as soon as the proposed procedure has been finally determined, the obligation laid on the practitioner will be to furnish certificates in conformity with that procedure and not, as heretofore, in accordance with the rules of the particular society or Committee.

If you desire your name to be removed from the medical list at the end of the current year, notice in writing to that effect must be given to the Committee by November 19th. Failing such notice you will be deemed, in accordance with Article 17 (2) of the Regulations, to have undertaken service during 1915, on the terms of your agreement as modified in the manner of which the Committee have given notice.

Appendix.

Part I.

By the National Health Insurance (Medical Benefit) Regulations, 1914, it is provided as follows:

The power conferred on the Committee by Article 16 of the principal Regulations of altering the terms of service of practitioners on the panel shall, as respects the year 1915, be deemed to include a power for the Committee to alter those terms as from such date in that year as the Commissioners may approve, upon giving notice of such alteration to those practitioners not later than eight weeks before that date, and accordingly the provisions of Article 16 and of paragraph (2) of Article 17 of those Regulations (which relates to the length of notice required to be given by the practitioner of his intention to withdraw from the panel) shall apply as though the date so approved were the commencement of a year.

Part II.

There shall be substituted in the First Schedule to your agreement with the Committee for the words from "that such certificates" in line 3 to "of calculating arrears" in line 10 the following words:

That certificates shall be furnished to every insured person, where he so desires and requests, in such form, on such occasions, and generally in such manner as the Commissioners may determine, for the purposes of any claim made by him for sickness or disablement benefit or for the purpose of determining or calculating the period during which sickness benefit is or would, but for any section of the principal Act disentitling him, have been payable, or of calculating arrears, and that unless and until the Commissioners so determine, such certificates shall be furnished for the purposes aforesaid as are required to be furnished in pursuance of the rules of the society of which the insured person is a member or of the Committee, as the case may be.

I am, Sir, your obedient Servant,

Clerk to the Insurance Committee.

TIME-TABLE.

17. It is considered by the Commissioners that the submission to them for approval of any proposed alterations, either as affecting the doctors or the chemists, cannot safely be postponed beyond October 19th, in view of the imperative necessity for the issue of the notices referred to by the prescribed dates. The Commissioners will require to be furnished, on the expiration of the periods respectively allowed to doctors and chemists for notifying their desire to discontinue service, with a report as to the extent to which (if at all) the strength of their panels are affected by resignations. The time-table will therefore be as follows:

DOCTORS AND CHEMISTS.

Conclusion of consultations and submission to Commissioners of proposed amendments both as regards doctors and chemists	*19th October.*

Doctors.

Issue of Notices, by registered post, to reach individual doctors not later than	*5th November.*
Expiration of period for resignation	*19th November.*
Report to Commissioners	*20th November.*

Chemists.

Issue of Notices, by registered post, to reach individual chemists not later than	*19th November.*
Expiration of period for resignation	*3rd December.*
Report to Commissioners	*4th December.*
Issue of new panel lists	*17th December.*

It will be noted that on account of abnormal conditions obtaining at present the Commissioners are virtually foregoing their right to make at the present time certain alterations in the regulations, and consequently in the agreements of doctors and chemists with committees. It is well known that if the war had not supervened important changes were in the air, and would no doubt before now have been submitted to the profession. As it is, the Commissioners reserve their right to make alterations in the Regulations before the usual time next year if this should be found necessary or desirable. Much will necessarily depend on the course of the war. If the Commissioners should, however, desire to bring new Regulations into force, say in March or April of next year instead of at the beginning of 1916, it will be necessary for them to give due notice to Local Medical and Panel Committees and individual doctors just as if the period were the normal time for alteration of the Regulations; but the memorandum indicates the improbability of any further alterations being suggested to take effect before June.

The only alteration in the agreement is that necessitated by the introduction, we presume at an early date, of the system of uniform certification, the need of which has been urged on the Commissioners by the Association, and also at conferences of the profession with the Commissioners. It must be clearly understood that if the proposed amendment to the agreement is accepted it binds the practitioner to give his certificates in the way laid down by the Commissioners when their uniform system is introduced, and practitioners should not forget that in securing the undoubted advantage of the one uniform form of certificate and avoiding the difficulties as regards signing certificates on one particular day in the week, they will be expected to give their certificates subject to those restrictions and safeguards which were outlined in the many conferences which have been held in different parts of the country between the Commissioners and members of Local Medical and Panel Committees. As the details of the new form of certification are not yet published the decision of the members of panels as to signing the altered agreement must be governed to a large extent by the indications of the intentions of the Commissioners given at these conferences.

EXPENDITURE ON MEDICINES AND APPLIANCES.

THE following Memorandum (587) regarding expenditure on medicines and appliances, founded on a special inquiry made by the Scottish Insurance Commission, was issued on October 5th:

MEMORANDUM.

I. *Variation in Rate of Expenditure as between Insurance Committees.*

At the close of the medical year ended January, 1914, it was observed by the Scottish Insurance Commission that the rate of expenditure in Scotland on drugs and appliances during the year had varied notably as between different Insurance Committees. The figures on which this observation was based were printed in tabular form in Appendix XXXIII, p. 540, to the Annual Report of the Commission for 1913-14. They are summarized in column 2 of Appendix I to this Memorandum.

For the thirty-one Scottish Counties the year's expenditure per insured person ran from 7½d. to 1s. 10¼d. Twenty-six counties were within the rate of 1s. 6d. per insured person per annum, the amount of the Drug Fund proper, while none exceeded the limit of 2s., the total of the Drug Fund together with the (so-called) floating sixpence.

For the twenty-five burghs, the range of cost was from 8¼d. upwards. The majority stood at less than 1s. 6d. Seven, however, had exceeded this figure, and had encroached upon, without consuming, the floating sixpence. Two burghs, as it appeared, had consumed the whole of the floating sixpence, and had passed the 2s. limit. Of these, however, it is possible that one, for reasons affecting its Index Register, had a lower drug bill than the records showed. The result of going beyond the 2s. mark is well known to be that the Committee concerned cannot meet the claims of its chemists without some discounting of bills.

II. *Upward Movement of Drug Fund Charges.*

The import of these facts was not diminished by a consideration of the expenditure of Committees on Drugs during the first quarter of 1913 as compared with the first quarter of 1914. The figures appear in Appendix II to this Memorandum.

Of the thirty-one County Committees all but four showed an increase in the first quarter of 1914. In two cases the rate of increase was over 100 per cent. In the remaining cases it ranged from 32 to 98 per cent. The average rate of increase for all counties was 52 per cent.

Of the twenty-five burghs all but one revealed an increase in the first quarter of 1914 as contrasted with the first quarter of 1913. In one case the rate of increase was 100 per cent. In the remaining cases it ranged from 9 to 95 per cent. The average rate of increase for all burghs was 46 per cent.

The difference on the average for counties and burghs together is equivalent to an increase as between the two quarters of 48 per cent. It reflects a well marked upward movement of charges upon Drug Funds under the Insurance Scheme.

III. *Special Enquiry.*

With the view of ascertaining the causes which underlay the varying experiences of Insurance areas, the Commission desired an Enquiry and Report to be made as to the prescribing and dispensing of medicines under the Insurance scheme. They obtained for these purposes the services of Mr. J. F. Tocher, D.Sc., F.I.C., Public Analyst and Lecturer on Statistics in the University of Aberdeen. It is the object of the Commission in this Memorandum to bring their Reporter's principal findings, together with their own views on the question of drug expenditure generally, to the knowledge of Committees.

IV. *Quality of Medicinal Treatment under National Insurance.*

A careful scrutiny was made by the Commission's Reporter of 156,424 prescriptions selected from Burgh and County areas, out of 3,018,598, the total Scottish prescriptions for the year, with respect to the character and quality of the drugs ordered for the insured.

It was found that insurance practitioners throughout Scotland had, as a rule, selected the most modern drugs and those of best repute, denying to their insured patients no medicines usually available in private practice.

V. *Variety of Drugs.*

An examination was made, with respect to drugs ordered, of a group of prescriptions for certain Scottish Burghs during a portion of the year.

It was found that in this group the drug most frequently ordered was Sodium Bicarbonate, which occurred 349 times out of a total of 8,940. Next in sequence came Sodium Salicylate and Glycerine, each of which appeared 327 times. They were succeeded by Tincture of Nux Vomica, 282 times, and Syrup of Orange, 262 times.

These were prescribed from 151 to 200 times—Infusion of Gentian, Compound Tincture of Camphor, Ipecacuanha Wine, Peppermint Water, Potassium Iodide, and Aromatic Spirit of Ammonia; and these from 101 to 150 times—Syrup of Tolu, Bismuth Carbonate, Potassium Bicarbonate, Extract of Malt with Cod Liver Oil, Quinine Hydrochloride, Chloroform Water, Phenacetin, Easton's Syrup, Ammonium Carbonate, Potassium Bromide, and Spirit of Nitrous Ether.

Of twenty-seven other drugs which were ordered, from 51 to 100 times the following were ordered from 85 to 100 times:—

Iron and Ammonium Citrate, Infusion of Senega, Spirit of Chloroform, Compound Syrup of Hypophosphites, and Compound Tincture of Cardamoms. Thirteen drugs were ordered from 41 to 50 times; 18 from 31 to 40 times; 29 from 21 to 30 times; 49 from 11 to 20 times; 86 from 2 to 10 times; and 54 once.

The total number of drugs which came under notice in course of the investigation of this group of prescriptions was 278.

VI. *Forms of Medicament.*

In order to determine the frequency with which various forms of medicament were ordered, an analysis was made of 54,834 prescriptions. It emerged that mixtures formed 56.17 per cent. of the total. Next in order came powders at 6.99 per cent.; then appliances at 5.90 per cent.; then liniments at 4.63 per cent., ointments at 4.33 per cent., and pills at 3.04 per cent. All other forms were less than 3 per cent. Gargles, Capsules, Cachets, Suppositories, Plasters, and Blisters were severally under 1 per cent.

VII. *Seasonal Influence.*

It is reasonable to expect that there should be a certain relation between the prevalence of sickness in an Insurance area at various seasons, as shown by the attendances and visits of doctors, and the cost incurred for drugs by the Insurance Committee during the corresponding periods. At the date of the Reporter's investigation, the medical records for three Scottish Insurance areas—two Counties and one Burgh—had been taken out. The numbers of visits and attendances for the year gradually rose in each case from a moderate figure in January, the month of the inception of Medical Benefit, to a high level in March, declining to a low figure in June and then gradually rising again to a high level in December. The number of prescriptions and the cost of drugs during the four quarters of the year in each area were in rough agreement with the number of attendances and visits.

Seasonal variation in the incidence of sickness, however, while it may explain the oscillation of the Drug Bill in any particular Insurance area, cannot account for the wide differences between the Drug Accounts of different Committees. Nor can these differences be wholly ascribed to local circumstances affecting the incidence of sickness in one area as compared with another. Any contention that the costly experience of a particular County or Burgh as contrasted with the majority of Scottish areas was in whole or in part the result of abnormally prevalent illness is probably in the meantime incapable of demonstration, owing to the disturbing effect of the differences in the methods of drug prescribing pursued in different areas.

VIII. *Prescription Frequency.*

Prescription frequency is one of the respects in which methods of prescribing reveal variety. A statement of the average number of prescriptions per insured person for the medical year ended January, 1914, in Scottish counties and burghs is shown in Column 3 of Appendix I to this Memorandum.

High prescription frequency, where it is known to exist in an area, might usefully form the subject of a conference between the Insurance and Panel Committees.

IX. *Price-Classes of Prescriptions.*

A similar difference was found to obtain as regards the price of prescriptions. An analysis was made by the Commission's Reporter of 520,630 scripts, representing approximately 650,700 prescriptions, for a period of six months in sixteen Scottish burghs. The prescriptions were divided into four classes. Class I included prescriptions whose price ranged from ½d. to 1s. inclusive; Class II from 1s. 0½d. to 2s.; Class III from 2s. 0½d. to 3s.; and Class IV from 3s. 0½d. upwards. It was found that in Price-Classes I and II, which contained over 96 per cent. of all prescriptions, the general experience of the sixteen burghs was in Class I, 80.5 per cent. of prescriptions, and in Class II, 16.2 per cent. In one of the burghs the experience was for Class I, 75.3 per cent., and for Class II, 21.0 per cent. In this burgh, therefore, there were written some 5 per cent. more prescriptions of the class costing from 1s. 0½d. to 2s., and some 5 per cent. less of the class costing from ½d. to 1s. There was a transference in the burgh as compared with the burghs generally from the lower priced class to the higher, without any indication that treatment in the burghs generally was to that extent inferior.

X. *Responsibility for Costly Prescribing.*

In several areas an investigation was made with the view of discovering whether high charges against the Drug Fund, in so far as due to prescribing customs, were the result of methods followed in the area by the practitioners as a whole, or were due to the procedure of a section of the profession, or of individual practitioners. The facts with regard to a particular burgh are here briefly summarized.

An examination was made of all prescriptions written by the burgh practitioners during the closing quarter of the medical year 1913-14 in order to determine the total charge per insured person on his list incurred by each practitioner, and the names of practitioners were then arranged in descending series according to the cost ascertained. The great majority of practitioners were found to be under 9d. per insured person for the quarter. A minority at the head of the list were over that figure.

There was nothing which seemed to indicate that this minority as a class were more assiduous in attendance on their patients than their more economical fellow-practitioners. An investigation was made of the number of visits and attendances given during the year, and the practitioners were again arranged in order, on this occasion according to the frequency of their visits and attendances expressed per insured person on their lists. In the resulting series a new set of names came to the surface. The costly prescribers were indifferently distributed over the remainder of the list.

The experience narrated would not appear to be peculiar to the burgh in question. In the view of the Commission's Reporter it is a minority of the medical profession in any area who run up a Drug Bill beyond the expected limits.

XI. *Excessive Quantities.*

The following are examples of methods of prescribing which have come under notice partly in course of the Enquiry, partly from other sources.

Six ounces of a syrup in teaspoonful doses were ordered by a practitioner. The amount was sufficient to last 12 days. The practitioner repeated the prescription five times running at intervals of 4 to 5 days.

A practitioner with a panel list somewhat over 1,000 ordered 100 lb. of malt extract in three months.

A practitioner ordered 2 lb. of compound lobelia powder at one time.

A practitioner ordered at one time 18 ounces of compound syrup of hypophosphites.

Twenty ounces of cod-liver oil were habitually ordered by a practitioner. The same practitioner frequently ordered forty ounces.

A practitioner frequently ordered at one time 4 lb. of petroleum emulsion. The same practitioner frequently ordered 6 ounces of glyco-heroin at one time.

One doctor gave five prescription orders in a month, the five bottles as prescribed containing more than two quarts of pure alcohol. The cost of the five forms was respectively £1 14s. 6d., 17s. 4d., 15s. 9d., 14s. 3d., and 14s. 3d., or in all, £4 16s. 1d.

A chemist by orders from one doctor supplied to eighty patients 76 lb. of cod-liver oil emulsion, and to forty patients 74 lb. of malt and cod-liver oil emulsion in one month.

As the legitimate claims upon the Drug Fund of a Committee may from time to time be high, owing to the price of certain indispensable remedies, it appears to the Commission to be matter for regret that any portion of the Fund should be consumed in defraying the cost of prescriptions which are excessive in quantity or which include preparations whose action, if any, is mainly nutritive. Waste, under such conditions, would appear to be almost inevitable and the risk of misappropiation great, as in a recent case where large quantities of cod liver oil, repeatedly prescribed for an insured person, were alleged to have been used on his whippets.

A method of dealing with the prescription of excessive quantities in an Insurance area is offered by Article 40 of the Medical Benefit Regulations, which runs as follows:

> Where it appears to the Panel Committee that by reason of the character or amount of the drugs or appliances ordered for insured persons by any practitioner or practitioners on the panel, the cost of the supply of those drugs and appliances is in excess of what may reasonably be necessary for the adequate treatment of those persons, the Panel Committee may, and if any representations to that effect are made to them by the Pharmaceutical Committee, shall, make an investigation into the circumstances of the case, whether in respect of the drugs and appliances ordered by an individual practitioner or generally as to the orders given for drugs and appliances by practitioners on the panel.
>
> The Panel Committee shall, after hearing the Pharmaceutical Committee and any practitioner concerned, make a report to the Committee, and if, after considering the report, the Committee are of opinion that an excessive demand upon the Drug Fund has arisen owing to orders given by a practitioner which are extravagant either in character or in quantity they may, if they think fit, make such deduction from the amount payable to that practitioner by the Committee as they think fit, and shall pay the amount so deducted to the credit of the Drug Fund: Provided that the practitioner shall be entitled to appeal to the Commissioners, whose decision shall be final.

XII. *Extravagant Prescribing.*

Insurance Committees are aware that certain drugs and medicinal substances are relatively cheap, while others are comparatively costly. Even of drugs which are in common and necessary use a number are somewhat expensive. Expense, however, by itself should never be a bar to the supply of a drug under National Insurance. The insured person, subject to the provisions of the Acts, is entitled to receive proper and sufficient medicines, but in order that he may do so restrictions must be imposed on improper or excessive prescribing. Preparations which are the same in substance may figure under different titles, varying in cost according to the proprietary or other names by which they are designated in prescriptions. In this connexion Circular 389 was issued by the Commission for the general guidance of Insurance Committees and others in endeavouring to arrive at a decision with regard to particular questions which might emerge, and in cases of reasonable doubt the Commission have been prepared to advise Committees, if requested to do so, without prejudice to their own position in determining matters formally submitted to them as a dispute.

If the Panel Committee in any Insurance area, acting as expert advisers on methods of prescribing, desire to inform the Insurance practitioners of the method which they as a Committee propose to adopt in the scrutiny of prescriptions, and if it be their considered opinion that certain preparations should not be supplied, or that certain others should only be prescribed in a particular form or under a particular name, they would in the view of the Commission be entitled to declare their method and express their opinion by means of a circular issued by them to practitioners on the panel. The specific compounds or preparations which the Panel Committee regard with disfavour will necessarily vary to some extent with local medical custom, and the views of the Panel Committee could not be held as binding on a particular doctor in the administration of a particular form of a remedy to a particular patient; but if the doctor, knowing the opinion of the Panel Committee to be opposed to the use of the particular form, and being advised of the method which they propose to adopt in scrutinizing prescriptions, elects to prescribe the remedy in the particular form, it would devolve upon him to justify his procedure and to show cause why he should not be surcharged.

Panel Committees in a number of Scottish areas have already taken useful action by circularizing their practitioners on these matters. In any area where the Panel Committee desire to take this course, the Insurance Committee should offer them every facility, by conference and otherwise, towards carrying out their design.

XIII. *Repeat Prescribing.*

In the course of an analysis, made by the Commission's Reporter, of 54,834 prescriptions it emerged that 66 per cent. were original prescriptions, while 34 per cent. were repeats. From these results it is estimated that during the medical year 1913-14, Insurance practitioners in Scotland wrote about a million repeat orders, valued at £30,000. There is a good deal to be said for the view that the ordering of repeats tends to careless or excessive prescribing. That risk may attach to the work of only a minority of practitioners, but unfortunately the majority may have to bear part of the resulting inconvenience. Repeat prescribing has the further disadvantage of limiting the insured person's choice of chemist. Several Scottish Insurance Committees, including some with large insured populations under their charge, have already declared against it. If any Committee after consideration were to resolve that repeat orders, bearing such words only as "Repeat," "Repeat Mixture," or their equivalents, and showing no prescription written out in due form, should not be paid for if dispensed by chemists, the Commission would raise no objection.

XIV. *Emergency Drugs and Appliances.*

In approving schemes of Committees for the issue to their practitioners of emergency drugs and appliances the Commission have required that the quantities ordered at one time should be restricted within definite limits. Their object in so determining has been to enable Committees to control the frequency and amount of such orders by reference to the number of insured persons on the panel lists of practitioners and other relevant circumstances.

Any Insurance Committee which has not yet submitted a scheme for approval by the Commission should now proceed to do so.

XV. *Unscheduled Appliances.*

The drug tariff under the Medical Benefit Regulations is the list of prices for drugs ordinarily supplied, and for prescribed appliances. There are ex-list drugs, not on the tariff, which may be ordered also, and the manner of calculating payment for these is provided for in the Regulations; but the only appliances which may be supplied are those named in the Second Schedule to the Regulations.

It has come under notice that in certain areas such appliances as douches, syringes, trusses, nebulizers, throat brushes, and jaconette have been ordered. Articles of this kind are not prescribed appliances; and if supplied should not be paid for by an Insurance Committee.

XVI. *Tuberculosis and the Drug Fund.*

Consideration of the prescriptions investigated in course of the inquiry indicated a certain amount of overlapping between Medical and Sanatorium Benefits. When substances commonly regarded as remedies for consumption figured in large quantities under the Drug Fund, the question emerged whether, owing to the failure of practitioners to write the appropriate index marks on prescription forms, the medicines of patients recommended for domiciliary treatment under Sanatorium Benefit were being improperly charged to the Drug Fund, or whether patients who were qualified for domiciliary treatment under Sanatorium Benefit were being retained for any reason under Medical Benefit. On either alternative the Drug Fund would be called upon to bear a burden from which it should be immune, and the general tendency to shortage would be accentuated.

The Commission are of opinion that procedure under this head is worthy of careful consideration by Committees.

XVII. *Temporary Residents.*

Similar precautions should be observed in the case of temporary residents receiving medical treatment within the area of a Committee. Care should be taken by practitioners to mark prescriptions for such persons in the manner directed by the Committee, in order that the cost may be duly charged against the Central Medical Benefit Fund.

The Commission recommend Committees to take steps with a view to protecting their Drug Funds against improper claims from this source.

XVIII. *Shortage of Drugs Owing to State of War.*

Reference may be made here to a serious question which has arisen since the close of the period covered by the Special Inquiry.

One consequence of the state of war now existing in Europe has been to produce in this country a shortage in the supply of certain drugs and prescribed appliances. In the case of some preparations it is probable that no further consignments can be obtained from Continental firms until the termination of hostilities; in the case of others it may be possible to procure quantities from sources not hitherto drawn upon. The duration of shortage will vary with different substances, to an extent which it is not possible at this juncture to foresee.

The question at issue with regard to the use of such articles is not wholly or mainly one of price. Nor is it one which solely affects the Insurance Medical Service. Apart from these considerations, it is essential at present that all existing stocks of remedies for disease should, as far as possible, be husbanded, by reserving drugs in which there is a shortage for cases to whose treatment they are indispensable, and endeavouring to provide for the needs of others by other remedies of similar action.

The whole position has been brought under the notice of practitioners by a statement recently issued from the Home Office: and the Commission are confident that the medical profession in the country will in this as in other matters prove equal to the exigencies of the time. They suggest that Insurance Committees for their part should, as far as possible, co-operate with Panel Committees in the adoption of any recommendations or other measures which may seem likely to prove of service.

XIX. *Conclusion.*

The Commission have no doubt that Insurance Committees will appreciate the necessity of taking appropriate steps to deal with the causes of wastage of Drug Funds which have been the subject of the foregoing comments.

The ordinary causes may be recapitulated as follows:

(1) High prescription frequency. (VIII.)
(2) Prescription of excessive quantities. (XI.)
(3) Extravagant prescribing. (XII.)
(4) Repeat prescribing. (XIII.)
(5) Excessive ordering of emergency drugs and appliances. (XIV.)
(6) Ordering of unscheduled appliances. (XV.)

(7) Confusion between medical and sanatorium benefit cases. (XVI.)
(8) Confusion between temporary residents and persons on panel lists. (XVII.)

The results of the existing state of war (XVIII) have not been included in the list. They are not ordinary causes and they stand in a class apart, but they impress with added force the need for a careful use of drugs.

It is not suggested that all the influences above enumerated are equally active in every insurance area. It is certain, however, that in many areas they are prevalent in varying degrees. A few Committees may appear to be exempt; yet it by no means follows from the fact that the funds of a Committee were sufficient last year for the payment of their chemists' accounts that excessive ordering did not take place. The economical prescribing of a majority of the profession in the area may have neutralized the influence of a costly minority. Further, the upward movement of Drug Fund charges in the country generally, as shown in Appendix II, suggests that precaution is called for. It appears to the Commission that the above list of causes, together with the recommendations made regarding them in the course of this Memorandum, might usefully engage the attention of all Committees, even of those whose recorded experience has not in the past been unfavourable.

The Commission are aware of the difficulty which has been felt by Committees in making a detailed scrutiny of prescriptions with a view to appropriate control. They recognize that an acquaintance with the facts is an essential preliminary to action, and they have now under consideration proposals whereby Committees may carry out a systematic check of prescriptions.

While, however, it is desirable that there should be a complete scrutiny of prescriptions in the manner above foreshadowed, it must nevertheless be kept in view that much may be done in the meantime towards the reduction of irregularities by the exercise of vigilance on the part of those concerned.

The procedure at present available for the repression of excessive or extravagant prescribing is embodied in Article 40 of the Medical Benefit Regulations, quoted under Section XI above. Under this Article duties of investigation are performed by the Panel Committee, and the actual process of surcharging, upon consideration of a report by the Panel Committee, is carried out by the Insurance Committee.

It is open to the Panel Committee to conduct an investigation at any time, as they may deem proper; but it is also obligatory upon them to investigate and report if representations are made to them by the Pharmaceutical Committee that excessive prescribing has taken place. In making representations the Pharmaceutical Committee should set forth their *prima facie* case; but the specific duty of investigation is not for them; it lies with the Panel Committee. Where, therefore, proper representations are made to the Panel Committee by the Pharmaceutical Committee, the Panel Committee, under the Regulations, are bound to investigate and to report to the Insurance Committee, who are similarly bound to consider the report and to make any surcharges which they may think appropriate.

While Insurance Committees will doubtless be prepared to assist, so far as it is in their power, the procedure above described, by conferring with the Panel and Pharmaceutical Committees, where necessary, as to their respective duties, and by seeking to remove any misunderstandings or other hindrances to full use of the formal provision, they would appear nevertheless, as authorities responsible for the disbursement of public money and for the standard of their own medical service, to have themselves a direct interest in accounts rendered against them, and so to be warranted, in the event of erroneous or excessive prescribing coming under their notice through another channel than that marked out by Regulation 40, in taking such steps as may be fair and reasonable to safeguard their Drug Fund.

It is probable that some of the facts disclosed by the Commission's Reporter as a result of his inquiry were known to individual members of Insurance Committees or of Panel and Pharmaceutical Committees in the areas concerned; and it cannot be supposed that these bodies, had they been informed of the facts by their members, would have failed to take suitable measures. There can be no doubt that in these cases intervention by Panel and Pharmaceutical Committees or by Insurance Committees would have led to salutary results. The intervention of Panel Committees would have been likely to be of special value in view of the opinion already referred to, that a minority of practitioners is in general responsible for excess prescribing. It therefore appears to the Commission that the appropriate Committees in Insurance areas should, wherever possible, proceed to take action now, and should not delay until such time as the system of checking mentioned above may become operative.

No system of check, however elaborate, can do more than disclose the facts. Responsibility for action, whether penal or otherwise, will continue to lie with Insurance Committees, who will act with the Pharmaceutical and Panel Committees where prescribed by the Medical Benefit Regulations.

APPENDIX I.

Scottish Insurance Committees.

Statement of Drug Accounts, January, 1913, to January, 1914.

1 Insurance Committee.	2 Average Cost of Drugs Prescribed per Insured Person.	3 Average Number of Prescriptions per Insured Person.	1 Insurance Committee.	2 Average Cost of Drugs Prescribed per Insured Person.	3 Average Number of Prescriptions per Insured Person.
Counties.	s. d.		Burghs.	s. d.	
Aberdeen ...	1 3½	1.93	Aberdeen ...	2 1½	3.13
Argyll	0 9½	1.22	Airdrie	1 4½	1.98
Ayr	1 1	2.41	Arbroath ...	1 9½	2.84
Banff	1 8½	2.27	Ayr	1 7½	2.49
Berwick	0 11½	1.34	Clydebank ...	1 3½	2.26
Bute	1 7½	2.17	Coatbridge ...	1 3¾	2.07
Caithness	1 7½	2.00	Dumbarton ...	0 11½	1.61
Clackmannan and Kinross	1 3	2.27	Dumfries and Maxwelltown	2 0½	2.78
Dumbarton ...	1 2	1.98	Dundee	1 9½	2.67
Dumfries	0 10½	1.57	Dunfermline ...	1 9¾	2.15
Elgin and Nairn ...	1 2½	1.95	Edinburgh ...	1 2½	1.67
Fife	1 8	2.41	Falkirk	1 0½	1.83
Forfar	1 1½	1.83	Glasgow ...	1 6½	2.44
Haddington ...	1 1½	1.79	Greenock ...	1 4½	2.25
Inverness	1 0½	1.29	Hamilton ...	1 4¼	2.39
Kincardine... ...	0 10½	1.52	Inverness ...	1 9½	2.30
Kirkcudbright ...	1 5½	1.81	Kilmarnock ...	0 8½	1.74
Lanark	1 5	2.57	Kirkcaldy ...	1 10½	3.59
Linlithgow... ...	0 11½	1.68	Leith ...	1 2	2.03
Midlothian	0 11½	1.51	Motherwell ...	1 5	2.65
Orkney	1 0½	1.81	Paisley	1 2	2.35
Peebles	1 4½	1.96	Perth	1 1	1.75
Perth...	1 1½	1.56	Rutherglen ...	1 5	2.22
Renfrew	1 1½	1.75	Stirling	1 4½	2.12
Ross and Cromarty	0 10½	1.04	Wishaw	1 4½	2.22
Roxburgh	1 4½	2.02			
Selkirk	0 11	1.67			
Stirling	1 1½	1.87			
Sutherland	0 7½	1.05			
Wigtown	1 3	1.60			
Zetland	1 10½	2.93			
All Counties ...	1 2½	1.97	All Burghs ...	1 5½	2.35

APPENDIX II.

Scottish Insurance Committees.

Percentage of Increase of Drug Accounts as rendered for the First Quarter of 1914 over First Quarter of 1913.

Counties.	Percentage of Increase.		Percentage of Increase.
Aberdeen ...	54	Kirkcudbright ...	56
Argyll	109	Lanark	91
Ayr	38	Linlithgow ...	40
Banff	52	Midlothian ...	72
Berwick	94	Orkney	32
Bute	98	Peebles	−41
Caithness ...	104	Perth	78
Clackmannan and Kinross ...	62	Renfrew	46
Dumbarton ...	−25	Ross and Cromarty	55
Dumfries ...	36	Roxburgh ...	69
Elgin and Nairn ...	73	Selkirk	33
Fife	58	Stirling	72
Forfar	37	Sutherland ...	82
Haddington ...	34	Wigtown... ...	54
Inverness ...	− 3	Zetland	− 0.75
Kincardine ...	62	Average for Counties	52

Burghs.			
Aberdeen ...	41	Greenock ...	51
Airdrie	41	Hamilton ...	30
Arbroath... ...	39	Inverness ...	−18
Ayr	37	Kilmarnock ...	46
Clydebank ...	43	Kirkcaldy ...	9
Coatbridge ...	100	Leith	65
Dumbarton ...	60	Motherwell ...	29
Dumfries and Maxwelltown ...	71	Paisley	26
Dundee	60	Perth	95
Dunfermline ...	79	Rutherglen ...	31
Edinburgh ...	69	Stirling	50
Falkirk	67	Wishaw	35
Glasgow	64	Average for Burghs	46

CORRESPONDENCE.

Proposed Federation for Panel and Local Medical Committees.

Dr. D. G. Thomson (Thorpe, Norwich) writes: I would strongly urge all Panel Committees to read and approve the outspoken but sound letter of Dr. Fothergill in the Supplement to Journal of October 3rd, p. 187. Surely the comprehension, time and money of all practitioners is already sufficiently taxed by the numerous committees —British Medical Association, Local Medical, Panel, etc.— without another organization being dangled before their weary contemplation. Any worker in the Association knows that within the Association is to be found all the necessary machinery for the protection and furthering of the interests of all kinds of practice. The Norfolk Panel Committee will have nothing to do with the proposed federation of Panel Committees, and I hope other Panel Committees will be of the same opinion.

Dr. H. C. Mactier (Wolverhampton) writes: The letter of Dr. Fothergill *re* the proposed federation of the Local Medical and Panel Committees in the Supplement of October 3rd has interested me much. The Wolverhampton Local Medical and Panel Committee at its last meeting on September 24th had the draft scheme before it, but decided to postpone consideration of it pending further information, since it appeared to them the cost of working such a comprehensive scheme would be prohibitive.

As an active member of the British Medical Association, I am convinced a new organization could not command the prestige of the older body; and the proposal that the British Medical Association should act as its subordinate and voice its opinions to the Government is to my mind so preposterous I believe it can only have emanated from that group in the profession who are, like my countrymen, "always agin the Government," no matter how it works for their benefit.

Should the proposed federation be floated I have no hesitation in predicting its failure, since it will be run by men whose views are at variance with those of their professional brethren, and who hope to coerce those brethren, as represented by the British Medical Association, into voicing the opinion of the minority.

Further, both the medical profession and the National Association of Insurance Committees have been for some time and now are in favour of co-ordination, preferably through a Ministry of Health, but this proposed scheme seems to me to make for disintegration, and for that reason would doubtless be welcomed by opponents of the profession, and our greatest asset in any future controversy would be lost.

Mr. W. J. Greer (Newport, Mon.) writes: The letter of Dr. E. R. Fothergill does, I venture to think, good service to the profession in calling attention to what appears to be a frequently recurring danger to the solidarity of the medical profession, namely, the formation of new associations, which to a casual observer have some attraction. Those of us who have worked for the British Medical Association know thoroughly how adaptable that machine is to all the needs of the profession; the real difficulty is to induce men to use our magnificent organization.

I sincerely trust that Panel and Local Medical Committees will give this point of view most serious consideration. I feel that to set up an association which would contain potentialities of rivalry and disunion in our Association would be disastrous. We have recently increased our subscription to 2 guineas, and it is only reasonable to expect that for this increase all the necessary work on behalf of panel practitioners and others can be well done. All matters which affect panel practitioners sooner or later affect other members of the profession, hence the extreme necessity of concentrating and co-ordinating all our efforts in perfecting the only strong and virile body which can represent the whole mass of the profession, that is, the British Medical Association.

Dr. James W. Smith (Ryton-on-Tyne) writes: I wish to oppose strongly the proposed federation for Panel and Local and Medical Committees as being detrimental to the interests of the British Medical Association.

*** Other letters on this subject have been received, but their publication is unavoidably postponed.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Dorset and West Hants Branch.—Dr. Frank Fowler, 29, Poole Road, and Mr. Percy A. Ross, Kensington, Boscombe Spa Road, Bournemouth, Honorary Secretaries, give notice that the autumn meeting of the Branch will be held at the Hôtel Mont Dore, Bournemouth, on Wednesday, October 21st, at 3 p.m., when Dr. Eleanor C. Bond, Vice-President, will open a discussion on uterine haemorrhages. Election of officers for 1915-16. The Bournemouth practitioners invite members to luncheon at 1.30 p.m., and will be pleased to see members and ladies at tea after the meeting.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application

VACANCIES.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Resident Medical Officer (male). Salary at the rate of £100 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM CITY ASYLUM, Rubery Hill.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM UNION.—(1) Third and Fourth Assistant Medical Officers at the Dudley Road Infirmary; salary, £180 and £160 per annum respectively. (2) Assistant Medical Officer at the Erdington Infirmary and Cottage Homes; salary, £200. (3) Assistant Medical Officer at the Selly Oak Infirmary; salary, £180.

BOLTON INFIRMARY AND DISPENSARY.—Second House-Surgeon. Salary, £120 per annum.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRISTOL CITY ASYLUM, Fishponds.—Second Assistant Medical Officer. Salary, £250 per annum, rising to £300.

BRISTOL GENERAL HOSPITAL.—(1) First and Second House-Physicians; (2) House-Surgeon; (3) Casualty House-Surgeon. Salary at the rate of £120 per annum.

BRISTOL ROYAL INFIRMARY.—(1) House-Surgeon. (2) House-Physician. Salary at the rate of not less than £100 per annum.

BURY ST. EDMUNDS: WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer. Salary, £160 per annum.

CAMBERWELL: PARISH OF ST. GILES.—Assistant Medical Officers for the Infirmary, etc. Salary, £190 and £200 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—Surgical Registrar. Honorarium, £100 per annum.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch.—Second Assistant Medical Officer (male). Salary, £280 per annum, rising to £300.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Senior House-Surgeon. Salary, £140 per annum.

CHICHESTER: ROYAL WEST SUSSEX HOSPITAL.—House-Surgeon (male). Salary, £110 per annum.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—House-Surgeon (male). Salary, £120 per annum

DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (female). Salary, £100 per annum.

DURHAM COUNTY HOSPITAL.—House-Surgeon. Salary, £150 per annum.

GREAT INDIAN PENINSULA RAILWAY.—Two Surgeons. Salary, Rs. 550 per mensem, rising to Rs. 650.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

HACKNEY UNION INFIRMARY.—Junior Assistant Medical Officer. Salary, £170 per annum

HALIFAX ROYAL INFIRMARY.—(1) Second House-Surgeon; salary, £120 per annum. (2) Third House-Surgeon; salary, £100 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician. Honorarium, £5 5s. per month.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House-Surgeon (male). Salary, £80 per annum.

HULL ROYAL INFIRMARY.—(1) Senior House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

KENT COUNTY ASYLUM, Chartham.—Third Junior Assistant Medical Officer (male). Salary, £250 per annum.

LEEDS PUBLIC DISPENSARY.—Resident Medical Officer. Salary, £130 per annum.

LEICESTERSHIRE AND RUTLAND MENTAL HOSPITAL, Narborough.—Junior Medical Officer (male). Salary, £200 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) House-Physician; (2) House-Surgeon. Salary, £60 per annum each.

LONDON THROAT HOSPITAL, Great Portland Street, W.—House-Surgeon (non-resident). Salary, £50 per annum.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

MANCHESTER CORPORATION.—First Medical Assistant at the Monsall Fever Hospital. Salary, £225 per annum.

MANCHESTER EDUCATION COMMITTEE.—Assistant School Medical Officer (female). Salary, £300 per annum, rising to £450.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MARGATE: ROYAL SEA-BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary, £150 per annum, rising to £200 after six months.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Temporary Assistant Surgeon.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL. — House-Surgeon. Salary, £120 per annum.

MIDDLESBROUGH; NORTH RIDING INFIRMARY.—Senior House-Surgeon (male). Salary, £100 per annum, rising to £120 after six months.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—(1) Resident Medical Officer; (2) Junior House-Surgeon. Salary, £150 and £85 per annum respectively.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth. — Locum-tenent Assistant Medical Officer (male).

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—(1) Senior Medical Officer; (2) Junior Medical Officer. Salary, £100 and £80 per annum respectively.

NEWCASTLE UPON-TYNE: NORTHUMBERLAND EDUCATION COMMITTEE. — Assistant School Medical Inspector (male). Salary, £300 per annum.

NEWPORT: ROYAL GWENT HOSPITAL. — Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NEW ZEALAND: UNIVERSITY OF OTAGO. — Professor of Clinical Pathology. Salary, £600 per annum, rising to £800.

NORTHAMPTON COUNTY ASYLUM, Berry Wood. — Junior Assistant Medical Officer. Salary, £200 per annum.

NOTTINGHAM EDUCATION COMMITTEE.—Third Medical Inspector. Salary, £300 per annum.

NOTTINGHAM: GENERAL HOSPITAL. — (1) Senior House-Physician; (2) Assistant House-Physician; (3) Assistant House-Surgeon. Salary for (1) £120 per annum, and for (2) and (3) £100 per annum each.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL. — House-Surgeon (male). Salary, £90 per annum.

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

RAMSGATE GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £120 per annum.

READING: BERKSHIRE EDUCATION COMMITTEE.—Assistant Medical Inspector of Schools. Salary, £3 0 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—(1) House-Surgeon; (2) House-Physician; (3) Second House-Surgeon. Salary, £100 per annum each.

ROTHERHAM HOSPITAL. — Assistant House-Surgeon (male). Salary, £110 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) Male and Female House-Physicians and House-Surgeons. (2) Junior Obstetric Assistant. (3) Two Acting Assistant Surgeons. (4) Assistant Anaesthetist; salary, £75 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £115 per annum.

ST. GEORGE'S HOSPITAL, S.W.—Two House-Surgeons.

ST. PANCRAS DISPENSARY, Oakley Square, N.W. — Resident Medical Officer. Salary, £105 per annum.

ST. PANCRAS PARISH.—Second Assistant Medical Superintendent of the South Infirmary, etc. Salary, £175 per annum.

SALFORD ROYAL HOSPITAL. — (1) Resident Surgical Officer; (2) Casualty House-Surgeon. Salary at the rate of £120 and £100 per annum respectively.

SALISBURY GENERAL INFIRMARY. — Assistant House-Surgeon. Salary, £75 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY. — Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: CHILDREN'S HOSPITAL. — (1) House-Surgeon; (2) House-Surgeon for East End Branch. Salary, £150 and £120 per annum respectively.

SHEFFIELD ROYAL INFIRMARY. — (1) Two House-Surgeons, (2) Assistant House-Physician. Salary, £100 per annum each.

SOUTHAMPTON FREE EYE HOSPITAL. — House-Surgeon. Salary, £100 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SOUTH SHIELDS UNION. — Assistant (male) Resident Medical Officer. Salary, £200 per annum, rising to £250.

STAFFORDSHIRE COUNTY MENTAL HOSPITAL, Cheddleton.—Assistant Medical Officer. Salary, £270 per annum.

SUNDERLAND: ROYAL INFIRMARY. — Junior House-Surgeon (male). Salary, £100 per annum.

SWANSEA UNION INSTITUTION.—Resident Assistant Medical Officer. Salary, £295 per annum, rising £50 after five years' service, and £80 in lieu of house till accommodation be provided.

TAUNTON AND SOMERSET HOSPITAL.—Senior and Assistant House-Surgeons. Salary, £120 and £80 per annum respectively.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon (male). Salary, £100 per annum.

VENTNOR: ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, etc.—Assistant Resident Medical Officer. Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL. — Junior House-Surgeon. Salary, £150 per annum.

WAKEFIELD: WEST RIDING ASYLUM. — Assistant Medical Officer (male). Salary, £200 per annum, rising to £250, and upon promotion to £240

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon and Anaesthetist. Salary, £110 per annum.

WANDSWORTH UNION INFIRMARY. -Second Assistant Medical Officer. Salary, £150 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E. —Senior House-Physician. Salary, £120 per annum.

WEST HAM UNION INFIRMARY. — Third Assistant Resident Medical Officer (male). Salary, £180 per annum, increasing to £200.

WESTMINSTER UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £160 and £140 per annum, rising to £180 and £160 respectively.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Senior House-Surgeon. Salary, £170 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL. — (1) Resident Medical Officer; (2) House-Surgeon; (3) Pathologist. Salary for (1) and (2) £125 per annum, and for (3) £200.

YORK COUNTY HOSPITAL. — (1) House-Physician. (2) House-Surgeon. Salary at the rate of £160 per annum each.

CERTIFYING FACTORY SURGEONS. The Chief Inspector of Factories announces the following vacant appointments: Rowland (Sussex), Stanford le-Hope (Essex).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

PRATT, E. F., M.B., B.S.Durh., Certifying Factory Surgeon for the East Newcastle District, co. Northumberland.

RIGBY, C. S. A., M.B., C.M.Aberd., District Medical Officer of the Preston Union.

RUXTON, W. L., M.B., C.M.Aberd., Certifying Factory Surgeon for the West Newcastle District, co. Northumberland.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Order or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

BALME.—On 2nd October, 1914, at Tsinanfu, Shantung, N. China, the wife of Harold Balme, F.R.C.S., of a daughter.

MARRIAGE.

RAMSBOTTOM—WILSON.—At All Saints Church, Lockerbie, on 3rd October, by the Rector, the Rev. J. G. Grieve, Henry George Ramsbottom, L.R.C.P.and S.Edin., Townhead House, Rochdale, son of J. G. Ramsbottom, of Mayfield, Whalley, Lancashire, to Marion Addie, only daughter of the late David Wilson and of Mrs. Wilson, Knockbeath, Lockerbie.

DEATHS.

BRANSON.—On October 5th, at Rotherwood, Avenue Road, Bournemouth, William Branson, M.B., M.R.C.S., late of Sheffield, aged 48 years. (No flowers.)

SHAW.—Harold Bailey Shaw, M.B., B.A., aged 55, Medical Superintendent of the Isle of Wight County Asylum (while on a visit to Bournemouth).

VASSIE.—At Crofton Hill, Lanark, on October 2nd, Mary Janet Spears, wife of Alex. H. Vassie, M.B., C.M., 98, Priory Road, London, N.W., only child of the late William Roy Spears, Solicitor and Town Clerk, Kirkcaldy. (No flowers.)

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—8 p.m., General Meeting; 8.30 p.m., Introductory Address by the President, Sir John Bland-Sutton, F.R.C.S.

WEDNESDAY.

HUNTERIAN SOCIETY, Hall of the Worshipful Company of Barbers, Monkwell Street, E.C.—9 p.m., Sir Dyce Duckworth on the Patient and the Disease.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne Street, Edgware Road, W.—8.15 p.m., Exhibition of Clinical Cases.

ROYAL SOCIETY OF MEDICINE:

SECTION OF DERMATOLOGY.—Cases:—Dr. J. H. Sequeira: (1) Sarcoids; (2) Myxo-sarcoma. Dr. H. C. Samuel: Xerodermia Pigmentosa in an Adult. Dr. S. E. Dore: Multiple Soft Fibromata. And other cases.

FRIDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C. — 5 p.m., Museum Demonstration, Professor Keith: Gunshot Injuries of the Head, Ancient and Modern.

ROYAL SOCIETY OF MEDICINE:

Occasional Lecture.—5 p.m., Professor Chunder Bose, D.Sc. (Calcutta University), will give a demonstration before the Fellows in the Robert Barnes Hall on the Modification of Response in Plants under the Action of Drugs.

SECTION OF ELECTRO-THERAPEUTICS. — 8.30 p.m., Discussion on the Localization of Foreign Bodies. To be opened by Sir James Mackenzie Davidson, M.B.; illustrated by means of skiagrams, etc.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses are to be given next week at the following schools, colleges, and hospitals:

MANCHESTER HOSPITALS' POST-GRADUATE CLINICS.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 17TH, 1914.

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FREE MEDICAL ATTENDANCE TO DEPENDANTS OF MEN SERVING WITH THE COLOURS.

THE following letter has been addressed to the chairmen of county councils, the lord mayors or mayors of boroughs, and the chairmen of urban district councils in England and Wales by the Secretary to the Government Committee for the Prevention and Relief of Distress. The letter and memorandum do not apply to Scotland and Ireland, where special arrangements are being made, but it is understood that the memorandum applying to Scotland is practically in the same terms as that printed below.

Local Government Board, Whitehall, S.W.,
10th October, 1914.

Sir,—I am directed by the Government Committee on the Prevention and Relief of Distress to inform you that a scheme has been devised for providing free medical attendance with medicine and appliances to dependants of soldiers and sailors serving with the colours. A memorandum explaining how the scheme is to be put into operation is enclosed.

As will be seen from the memorandum, the scheme originated in an offer of free voluntary assistance by the British Medical Association and the Pharmaceutical Society of Great Britain. In view of the generosity of the offer and in order to ensure the smooth working of the scheme, the Government Committee recommend that representatives of the doctors and chemists should be appointed to the local representative committee. The local secretary of the British Medical Association and the local secretary of the Pharmaceutical Society will be glad to suggest suitable names. The names and addresses of the local secretaries are given below.—I am, Sir, your obedient servant,

A. V. SYMONDS,
Secretary to the Government Committee.

Local Secretary, British Medical Association:

Local Secretary, Pharmaceutical Society:

The following circular (1 D.M.T.) has been issued to local representative committees in England and Wales:

GOVERNMENT COMMITTEE ON THE PREVENTION AND RELIEF OF DISTRESS.

Memorandum relating to the Provision of Free Medical Attendance and Medicine to Dependants of Men serving with the Colours.

It will probably be within the knowledge of the local representative committee that the British Medical Association and the Pharmaceutical Society of Great Britain recently addressed a joint letter to the Government, stating that, in view of the marked desire shown by doctors and pharmacists throughout the country to be of assistance in the present crisis, they felt justified in promising the co-operation of the medical and pharmaceutical professions in a scheme for the provision of medical attendance without charge, and medicine and appliances at cost price, to dependants of men serving with the colours, except those whose circumstances are such as to render them unsuitable recipients. The letter further offered the assistance of the Association and the Society in organizing the service.

This offer has been gratefully accepted, and the Government Committee on the Prevention and Relief of Distress have been in communication on the subject with the National Relief Fund Committee, who have undertaken to defray for the present, out of that fund, the cost price of the medicine and appliances supplied in connexion with the scheme.

A special committee (including representatives of the British Medical Association and the Pharmaceutical Society, with the Duke of Devonshire as chairman) have been constituted for the purpose of bringing the scheme into operation on a properly organized and comprehensive basis. The necessary arrangements having been made by this committee, the British Medical Association and Pharmaceutical Society communicated with the individual members of the medical and pharmaceutical professions, informing them of the detailed arrangements adopted and inviting their co-operation. To this appeal a generous response has been received from doctors and chemists in all parts of the country, intimating their willingness to give their services in accordance with the scheme, as set forth below.

The cordial co-operation of local representative committees in the scheme is accordingly invited.

The special committee charged with the duty of bringing the scheme into operation will be pleased to advise on any points of difficulty which may arise. Communications should be addressed to, "The Joint Secretaries, Naval and Military Dependants (Medical Treatment) Committee, Wellington House, Buckingham Gate, London, S.W." Postage need not be prepaid on communications so addressed.

10th October, 1914.

Arrangements for the Provision of Free Medical Attendance and Medicine to Dependants of Men serving with the Colours.

1. The person requiring medical assistance will apply to the local representative committee either direct or through the local branch of the Soldiers' and Sailors' Families Association. In areas where dependants are being dealt with by the local branch of the Soldiers' and Sailors' Families Association, applications made to the branch will be dealt with thereat, the branch being furnished for the purpose by the local representative committee with a supply of the medical book referred to below. Where local circumstances so require, arrangements can be made for local branches of the Soldiers' and Sailors' Families Association to apply direct, in the manner indicated in paragraph 17 below, for supplies of the medical book.

2. Upon being satisfied that the applicant is dependent upon a man serving with the colours, the committee or the local branch, as the case may be, will issue a medical book, unless they have reason to believe that, in any particular case, the means of the applicant are such that he or she should not receive free medical attendance. It will not be necessary to make the detailed inquiries which are required in the other cases which come before the committee or branch, but representations made by doctors or chemists or information in the possession of the committee will indicate in particular cases that, in view of the means of the applicant, he or she should not receive the benefit of the scheme. Medical books should not, of course, be issued to persons entitled to medical benefit under the National Insurance Act. In making arrangements for the issue of medical books the committee will doubtless recognize the necessity for providing special facilities in rural and distant parts of the area.

3. A specimen copy of the medical book is enclosed, and a supply is being forwarded to the local representative committee under separate cover.

4. It will be observed that the book is available for the dependant of the soldier or sailor to whom it is issued. In cases of emergency, however, a book may be used to obtain treatment for another member of the family dependent on the particular soldier or sailor, but application should be made as soon as possible in such cases for a separate book for that member.

5. Before issue each book should be completed by the insertion of the requisite particulars on the front page and in instruction 8 on page 3 (*see* paragraph 10 below). The address of the local representative committee or the local branch of the Soldiers' and Sailors' Families Association issuing the book may conveniently be inserted in the space provided on the front page by means of a rubber stamp.

6. The book will be accepted as evidence of bona fides by all doctors and chemists who have offered their services, and must be produced whenever medical attendance or medicine is required. It will be open to doctors or chemists to make representations to the committee where it would appear that the circumstances of a person applying for treatment or medicine with a medical book make it unnecessary for him or her to be admitted to the benefits of the scheme.

7. The patient is instructed to present the book to his or her usual doctor if that doctor's services are available under these arrangements, or, if not, to the nearest available doctor.

8. Any medicine or appliance required will be prescribed by the doctor on one of the prescription forms in the book. The book will be handed back to the patient, and it must then be taken to the patient's usual chemist if his services are available under these arrangements, or, if not, to the nearest available chemist. In rural areas where no chemist is available the medicine and appliances will be supplied by the doctor. The appliances which may be supplied under these arrangements are enumerated on page 4 of the medical book.

9. Prescriptions for the medicine or appliances supplied will be detached from the book, retained by the chemist (or doctor), and transmitted by him, not less frequently than once a month, to the Pharmaceutical Society of Great Britain, at 17, Bloomsbury Square, London, W.C., who will deal with them. Payment for medicine will be made direct to the individual chemist or doctor under arrangements conducted centrally.

10. A medical book is current for one month from the date of issue. Upon the expiration of that period the medical book should be renewed, if necessary, for a further period, either by an endorsement on the front page or by the issue of a new book, as the case may be, according to the number of unused prescription forms in the book. It is suggested that the old book should be endorsed if six or more prescriptions remain for use, and that a new book should only be issued if a less number is available.

11. In the event of the prescription forms being exhausted during the currency of the book, the doctor will sign in the space provided on the back page. As in these cases the patient will be actually under treatment, the committee or local branch, as the case may be, will doubtless arrange for a new book to be issued forthwith.

12. Whenever a new book is issued on the surrender of an old one the doctor's name on the latter should be inserted on the new book by the committee or the branch.

13. A list should be kept by the local representative committee of all books issued, together with the date of issue, for the purposes of a return which will be required to be furnished by the committee periodically. A form for use in connexion with this return will be issued later. Where medical books are issued by the local branch of the Soldiers' and Sailors' Families Association, the branch will furnish the local representative committee weekly with a list of the books issued by the branch.

14. A list of the doctors and chemists who have offered their services in the area of the local representative committee on the terms and conditions set forth herein will be forwarded to the committee within a few days. The committee is asked to consider at an early date the most convenient method of making the information available to persons to whom medical books may be issued. Copies of the list might with advantage be furnished to the offices of all subcommittees of the committee and to the local branch office of the Soldiers' and Sailors' Families Association. The question of any steps to be taken to give such further publicity to the list as may be necessary is one upon which the representatives of the doctors and chemists should be consulted. Care should be taken to indicate on page 3 of each medical book issued the place most convenient to the applicant where the list may be seen. Printed copies of the list will be supplied for distribution purposes on receipt of information as to the number required. (See paragraph 17 below.)

15. As indicated above, information regarding the detailed arrangements has already been furnished to the doctors and chemists concerned. It will not, therefore, be necessary for the committee to issue any circular to them on the subject. An announcement indicating the nature of the arrangements might, however, be inserted in the local press, and any other suitable steps should be taken to make them known to persons for whose benefit they have been devised.

16. A copy of this circular is being sent to the local branch of the Soldiers' and Sailors' Families Association.

17. Applications for copies of this circular, or for further supplies of the medical book, or other matter, should be made to "The Joint Secretaries, Naval and Military Dependants (Medical Treatment) Committee, Wellington House, Buckingham Gate, London, S.W." Medical books should be requisitioned at least ten days before the supply will actually be required.

18. In conclusion, the duties of the local representative committee in connexion with the scheme outlined above may be briefly summarized as follows:

(*a*) To arrange for the issue of medical books to suitable recipients; and

(*b*) To keep a list of persons to whom books have been issued.

The medical book contains prescription forms with duplicating paper and duplicating forms, and a set of rules which the patient must observe. The book is endorsed to the effect that it "will enable the undermentioned, being dependant on (name of soldier or sailor), who is serving with H.M. forces, to receive free medical attendance from Dr. ———— and free medicine for a period of one month up to and including ————." It is indicated that the medical attendance under these arrangements does not include attendance at confinement, and there is a note to the effect that in cases of emergency the book may be used to obtain treatment for another member of the family dependent on a soldier or sailor, but that application should immediately be made to the local committee for a separate book for that member.

INSURANCE ACT COMMITTEE.

The following letter has been addressed to the honorary secretaries of Panel Committees and Local Medical Committees and Divisions and Branches:

October 13th, 1914.

Dear Sir,—The Insurance Act Committee of the Association, at its meeting on Friday, October 9th, discussed several matters in connexion with the pending revision of Medical Benefit Regulations and the agreements between doctors and Insurance Committees, and instructed me to inform the secretaries of all Local Medical and Panel Committees of their views on the points dealt with in detail below.

Regulations and Agreements for 1915.

1. Local Medical and Panel Committees no doubt appreciate the fact that owing to the present unsettled state of the country the Commissioners are practically foregoing their right to make alterations in the Regulations until some more convenient time, and are taking power to reopen the question at any period next year, not waiting for the end of the insurance year if it should be found expedient to deal with the matter earlier. This seems to the Committee reasonable in the circumstances, especially as no alteration in either Regulations or Agreement can be made without the prescribed two months' notice being given.

2. The only point of importance which arises under the alteration of the Agreement is the power taken to require practitioners to give their certificates in future in a form prescribed by the Commissioners instead of, as at present, on forms prescribed by the various approved societies. This means that the various safeguards (which the Commissioners have informed conferences with the Panel Committees all over the country form a necessary part of the new system of uniform certification) will form part of the scheme, and practitioners in signing their agreements must be prepared for this. In view, however, of the persistent demand on the part of the profession for a uniform method of certification the Insurance Act Committee believes that the advantages of the scheme so far as it is known far outweigh any possible disadvantages to the profession. The Committee therefore does not think that the

proposed early introduction of the new scheme need prevent any practitioner from signing the agreement for 1915.

Arrangements re Drug Tariff for 1915.

3. The Committee has been in conference with representatives of the Pharmaceutical Society of Great Britain, and has arrived at certain provisional arrangements with that body which they believe will be welcomed by all insurance practitioners.

The Use of the Term "Aqua."

4. The representatives of the Pharmaceutical Society have agreed to urge the Pharmaceutical Committees throughout the country to agree to the insertion in the tariff of words which will provide that where the term "aqua" is used in an insurance prescription it will be taken as meaning ordinary water. There will thus be no need in future if this arrangement is carried out for the use of the word "font," to show that distilled water is not required. There will, of course, still be a price in the tariff for distilled water when it is specifically prescribed as "aqua destill.," and distilled water would necessarily be used where the use of ordinary water would lead to a dangerous incompatability.

Prices of Drugs Affected by the War.

5. At the Conference above mentioned the representatives of the Pharmaceutical Society raised the question of the pricing of a certain number of drugs, the prices of which have been affected by the war. It would be impossible at the present moment to fix prices for these drugs in any tariff, and pharmacists naturally desire to avoid the necessity for doing this periodically in each insurance area, as this would possibly result in different prices being fixed in different areas, and would in any case entail a needless multiplication of labour. The suggestion has been made by the Pharmaceutical Society and approved by the Insurance Act Committee, subject, of course, to the approval of the Panel Committees in the country, that in the forthcoming tariff all such items as are above referred to should be marked with an asterisk, and that the prices of these drugs should be settled each month centrally by conference between three representatives of the Pharmaceutical Society and three representatives of the British Medical Association, the latter representatives being, of course, practitioners who are members of Local Medical or Panel Committees, and fully conversant with the subject. The final decision as regards the prices of such articles rests with the Commissioners, but we have reason to believe that the Commissioners would be willing to accept the decision of the representatives of the two bodies above mentioned when they were agreed, and would settle the price or prices at issue when the two parties could not agree.

6. The above arrangement appears to the Insurance Act Committee to be a reasonable one and one which would save a great deal of trouble to both Panel and Pharmaceutical Committees. If your Committee agrees with the suggestion, it is hoped that you will inform the Insurance and Pharmaceutical Committees of your area to that effect. If this is done generally throughout the country and a considerable majority of the Insurance Committees agree to it, we have little doubt that the system will be adopted by the Commissioners for general use. It must be understood that the Pharmaceutical Society attaches a good deal of importance to this suggestion. If the Panel Committees do not fall in with this suggestion, it is probable that they may find considerable difficulties put in the way of settling the distilled water question, which we know has all along been a serious difficulty with the profession.

If the arrangements as regards the pricing of drugs receive general approval, the first meeting of the representatives of the Pharmaceutical Society and the British Medical Association will be held about December 15th.

7. It is suggested that the prices of the other items of the tariff remain for the present unaltered. The Association has for some time had under consideration the question of the general revision of the tariff, but this is not possible in the short time now at the disposal of the profession, and would doubtless be resisted by the pharmacists, pending the deliberations of the Departmental Committee, to which the whole matter has been referred for consideration and report.

Regulations regarding Supply of Drugs and Appliances.

8. The Committee has given a considerable amount of attention to the recent circular of the Insurance Commissioners (Memorandum 199 I.C.) dealing generally with the question of supply of drugs and appliances, and is of opinion that the principle of co-operation between Panel Committees, Pharmaceutical Committees, and Insurance Committees in the necessary checking and statistical analysis of prescriptions by a single staff under the joint control of three Committees is a sound one. The Committee would, however, urge Panel Committees to see that in any such arrangements their powers under Regulation 40 are not interfered with—that is to say, that care should be taken that a clear line of demarcation is drawn between the "necessary checking and statistical analysis" and the duties imposed on the Panel Committee of investigating into the circumstances of each case of alleged over-prescribing and making a report to the Insurance Committee.

9. As regards the cost of the triple arrangement suggested by the Insurance Commissioners and already adopted in some insurance areas, the Insurance Act Committee is of opinion that in view of the statutory duties of the various committees concerned a reasonable arrangement would be that the Insurance Committee should pay one-half and the Panel and Pharmaceutical Committees each a quarter of the total cost.

Repet Mixtures.

10. The Insurance Act Committee considered representations which have been made to it from various parts as regards the advisability of allowing the use of "Rept. Mist." and on this question consulted the representatives of the Pharmaceutical Society. The opinion of both bodies is that it is desirable that Panel and Pharmaceutical Committees in every area should come to an arrangement whereby the use of "Rept. Mist." should be limited to a period not exceeding one month, the date of the original prescription being stated on each repetition.

Conference between British Medical Association and Pharmaceutical Society.

11. It has been agreed that regular conferences be held from time to time between representatives of the British Medical Association and Pharmaceutical Society, and the latter body has asked that the questions of over-prescribing and the administrative expenses of Panel and Pharmaceutical Committees be placed on the agenda of the next conference.

Necessity of Keeping Full and Correct Records.

12. My Committee instructs me to ask the secretaries of Local Medical and Panel Committees to take the first opportunity of impressing once more on the practitioners on the panel how important it is that they should keep full and correct records of all their insurance work. In the early part of this year the Committee, believing that the question of the remuneration of practitioners acting on the panel might be raised by the Government during 1914, tried to collect a considerable body of figures on which they could rely. The Committee was surprised to find evidence of considerable laxity among practitioners in regard to this important question. It is probable that no attempt will be made for the present moment by the Government to revise the terms of remuneration under the Insurance Act, but the profession must be prepared to face this question when the time comes, and my Committee is convinced that it will not be possible to make out a satisfactory case unless all panel practitioners will take the trouble to keep a record of every item of work done. I trust you will urge this matter upon the attention of the panel practitioners in your area, so that when we next attempt to collect information we may get a much better result than we did last time.

Transfers at End of Insurance Year.

13. Last year many abuses in connexion with the transfer of patients at the end of the insurance year were brought to the notice of the Association and were submitted to the Commissioners and General Medical Council with results which were only partly satisfactory owing to the difficulty of substantiating all the evidence. The Commissioners, however, assured the Association that in their opinion the then newly established medical card system would abolish many of the abuses complained of. The Committee trusts that in every area, and especially those where combinations of workmen or approved societies exist, great care will be taken to ascertain whether any organized attempt is being made to transfer patients from the practices of individual doctors to those connected with the combinations above referred to, and I shall be glad to advise how to proceed in any case if the matter be brought to my notice before any local complaint is laid, and particularly before any legal advice has been taken. The Association will take all steps in its power to suppress attempts to organize wholesale transfers, and will be grateful to Local Medical or Panel Committees if they will at once bring any such cases to my notice.

Appointment of Local Medical and Panel Subcommittee.

14. The Insurance Act Committee has decided that it is desirable in the interests of practitioners who are in agreement with Insurance Committees to establish a strong Subcommittee with the above title and with the following reference:

To consider all subjects referred to it by the Insurance Acts Committee, and to take action when authorized; to keep in close touch with and assist in the co-ordination of all Local Medical and Panel Committees, advising them on all circulars, memorandums, and documents issued locally or centrally having reference to the medical service under the Insurance Acts; and generally to advise the Insurance Acts Committee.

The Subcommittee will consist of from 13 to 16 members, all of whom, with the exception of three who may be co-opted, must be members of Local Medical or Panel Committees. The composition of the Subcommittee is not yet settled, but it is hoped to announce it very shortly in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL. The Insurance Act Committee hopes that Local Medical and Panel Committees will make full use of this Subcommittee, and will be glad of any suggestions for making it helpful to those committees.

15. I shall be glad to hear at an early date from Secretaries of Local Medical and Panel Committees as to what their committees have done in regard to the suggestion made in paragraph 5 concerning the pricing of drugs affected by the war.

16. This letter is being sent to the Chairmen of Local Medical and Panel Committees in cases in which we have been informed that the secretaries are away on military duty and do not know who is acting as secretary. In some cases we have not been informed of the name of either Chairman or acting Secretary, and have been obliged to send the letter c/o the Clerk of the Insurance Committee. It will greatly facilitate our work and yours if notices as to any changes in the personnel of the officers of the committees are notified here promptly, and I should esteem such information as a great favour.

I am, yours faithfully,
ALFRED COX,
Medical Secretary.

To Honorary Secretaries of Panel Committees and Local Medical Committees and Divisions and Branches.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

PANEL COMMITTEE.

Alleged Excessive Prescribing.

A SPECIAL meeting of the London Panel Committee was held on October 13th to consider a proposal that the Pharmacy Subcommittee should be authorized to conduct inquiries in cases in which excessive or extravagant prescribing was alleged against practitioners. The Regulations merely stated that the Panel Committee shall hold inquiries, and in practice it would not be convenient for a body having so considerable a membership to do so.

Dr. R. V. DONNELLAN moved an amendment that the opinion of the Commissioners be obtained as to the legality of the Panel Committee deputing its duties. It was stated, however, that the Commissioners had already expressed the opinion that such a course was legal, and it was pointed out that in each case the findings of the Subcommittee would be reported to the Panel Committee, and each practitioner would have the right of appeal to the Commissioners.

Dr. HOGARTH declared that there could be no doubt that excessive prescribing had been going on. The following examples from prescriptions were given by the CHAIRMAN (Dr. H. J. Cardale): Ordering urotropin under that name; ordering 16 oz. cough mixtures, quinine and iron mixtures, and bismuth mixtures; 8 lb. of cod-liver oil within a week; the repetition of prescriptions at unduly short intervals, etc. The amendment was withdrawn, and the Committee authorized the Pharmacy Subcommittee to hear evidence and to report its findings.

The Question of "Rep. Mist."

An informal discussion took place in which a circular issued by the Insurance Committee deprecating the use in prescriptions of the form "Rep. mist." was criticized. It was objected that the Insurance Committee ignored the fact that the Panel and Pharmaceutical Committees had come to an agreement that the form "Rep. mist." should be permitted, provided that it was used only in the same calendar month as the original prescription and that the name and address of the patient appeared on each prescription form. It was reported that a letter of protest had been sent to the Insurance Committee.

Representation of the Local Medical Committee.

The CHAIRMAN stated that there had been considerable difficulty in finding members of the Local Medical Committee who were able to serve on the Panel Committee, in pursuance of a recent decision that representation should be given on the Panel Committee to the Local Medical Committee, Mr. W. McAdam Eccles and Dr. Burnhill had intimated that they could not act as co-opted members, and there was one other vacancy.

The Present to the Red Cross Society.

It was reported that an ambulance for presentation to the British Red Cross Society had been purchased for £550, and that £20 was still required to complete this sum.

LONDON MEDICAL COMMITTEE.

SIR,—I have resigned my seat on the London Medical Committee. In the present condition of the country I do not wish to enter into my reasons.—I am, etc.,

London, W., October 3rd. FRED. J. SMITH.

CORRESPONDENCE.

PROPOSED FEDERATION FOR PANEL AND LOCAL MEDICAL COMMITTEES.

DR. EDWIN A. STARLING (Tunbridge Wells) writes: I hope that every member of the British Medical Association, and especially every member of a Panel or Local Medical Committee, will read and ponder the statesmanlike letter from Dr. E. Rowland Fothergill in the issue of October 3rd, p. 187.

His ten points against the proposed Federation of Panel and Local Medical Committees, any one of which is a strong argument by itself, cover the whole ground. But I would specially enforce the first point—that this proposed federation would be in reality a rival association. Whatever the wishes and intentions of its founders may be, the natural development of the federation would inevitably make it such.

Is this the time—indeed, is there any time—when it is wise to set up another body likely to rival the Association? One strong body will do far more for the profession than two bodies, neither of which can speak for the majority of the profession.

The annual meeting of the Representative Body at Aberdeen was quite decided that by no side issue must there be weakening of the authority and influence of the Association.

I trust that all members of Panel and Local Medical Committees will thoroughly assimilate Dr. Fothergill's points, so that when the question of a federation is before them there will be no doubt about the majority by which they will reject it.

The suggestions (*a*) and (*b*) at the end of the letter appear to me not only a fair but a wise alternative. The panel practitioners will have a majority on the Insurance Acts Committee, they will represent all parts of the country, and will obtain strength and influence by the inclusion of the various officers of the Association named. We need one strong Association and no rivals.

Dr. W. B. CRAWFORD TREASURE (Honorary Secretary Cardiff Panel and Local Medical Committees) writes: I am glad to note that Dr. Fothergill has drawn attention to the danger of the proposed Federation of Local Medical and Panel Committees.

My committee was among the first to realize the peril, and we considered there was nothing which the federation could possibly do that the British Medical Association, with its accumulated experience and able officers, could not do better, and we decided not to identify ourselves with the new organization. Subsequent events have only tended to confirm and strengthen this impression. The multiplication of bodies professing to safeguard the interests of the profession can only have one tendency—to weaken the one existing Association which has stood

the storm and stress of the fiercest fight in which we have ever been engaged. I sincerely hope, therefore, committees will pause before joining an association which, however disinterested the aims of the promoters may be, is bound to damage the British Medical Association.

Dr. Francis J. Baildon (Southport) writes: I hope the proposed scheme for the amalgamation or fusion of the Local Medical and Panel Committees will not be accepted without very careful consideration—at any rate, for the purpose of representing the profession. So little importance is attached to the proceedings of these Committees that matters of vital interest to the profession might be rushed through without proper consideration and debate. I would strongly urge that all proposals of this nature should be debated and decided by the Representative Body. There can be no urgent need for immediate decision, and the creation of the proposed federation can only lead to confusion and disaster.

Dr. W. Johnson Smyth (Bournemouth) writes: It is to be sincerely hoped that those entrusted with the guidance of the Panel Committees may grasp at the suggestion made at the end of Dr. Fothergill's letter in the Journal of October 3rd, p. 188. The alliance suggested would ensure for the panel practitioners the commanding striking force of a world-wide and powerful Association. It would secure equal certainty that the war chest would be full for the next fight, yet the panel workers would essentially control all matters falling under the Insurance Act. An independent panel association cannot coexist as a flourishing body alongside of a progressive British Medical Association. One of these bodies is certain to find itself in "shallows and misfortunes." Before it is too late, let us remember, "United we stand."

Dr. Harding H. Tomkins (Representative South-West Essex Division) writes: The *raison d'être* of federation was rapidity of action, and other reasons were ability to bind all panel men together, there being funds available from which to deduct for every man on the panel.

Judged by the action from March till October it will be useless. My Committee has tried three times to go into the matter, but, failing any answer to questions, has been unable. The Commissioners refuse to allow the money to be deducted for a subscription; the draft rules of the Federation forbid individuals to join. Even a voluntary "levy" cannot be taken from the panel money in many areas, consequently I cannot personally see the slightest use in collecting thousands of pounds to waste over work which the British Medical Association has been steadily doing during the seven months in which the Federation has done nothing.

New Draft Regulations.

Dr. C. R. O. Garrard (Pendleton) writes: In your comment on the new draft Regulations (column 1, page 195, Supplement, October 10th) you say: "It will be noted that on account of abnormal conditions obtaining at present the Commissioners are virtually foregoing their right to make alterations in the Regulations, and consequently in the agreements of doctors and chemists with committees." So accepting in good faith the reason the Commissioners give in their Memorandum (Memo. 201/I.C.).

This explanation is given in paragraph 3 of the Memorandum and is as follows:

> 3. In the first place it was thought desirable, at a time when members of Insurance Committees and of the medical and pharmaceutical professions were preoccupied with special problems, local or national, or were voluntarily undertaking exceptional duties in the public interest or the service of their country, to avoid, so far as possible, imposing on them the additional task of consultation and negotiation which any substantial revision of the Regulations must necessarily involve. Further, in view of the number of panel practitioners who are at present abroad on active service, the Commissioners were disinclined to introduce changes with regard to which no notice of their intentions had been given to a section of the medical profession so specially entitled to consideration.

In the preceding paragraph of this Memorandum they say:

> The preparation of revised regulations, to come into force on January 1st next, had for some time prior to the outbreak of the present hostilities been engaging the careful attention of the Commissioners, etc.

From this it is clear that the Commissioners have already decided on the alterations in the agreements that they wish the profession to accept, and can publish them at once.

The practitioners on the panels are being asked to give the Commissioners a free hand to select any date they consider favourable for pressing these reforms upon them, and it is only common prudence for the Association to ask for some definite information as to the nature and scope of the desired changes; for either they are such as the profession would be disposed to agree to after friendly discussion, or they are not. In the unfortunate event of the second alternative being the true one, the date foreshadowed—"the close of the war"—would be of all times the one at which the profession would be least able to defend its own interests.

Now, when every available doctor is needed for military service, it would be impossible to force an unfair bargain upon the profession, but when the war is over and the medical labour market is flooded with some thousands released from the service (many of them of necessity in no position to refuse work on any terms), it might be almost hopeless to resist. If the Commissioners' proposals, when disclosed at the end of the war, are found to be such as they well know the profession will resent, adverse comment on the tactics employed to carry them is inevitable, and to prevent any such unfortunate misunderstanding in the future, it is desirable in the interests of all parties that they should be published immediately.

Dr. James Hamilton (Chelsea) writes: Boiled down, what do the rather diffuse memorandum of the Commissioners and your articles on extravagant and over-prescribing come to? Neither is very definite. The Lambeth Insurance Practitioners' Association is more definite, as it has gone out from them that doctors should only order ½-oz. doses—they do not say the number. Is it the policy of our Association that panel patients should be prescribed for differently from what was the rule when they were private patients? If so, I think it a very short-sighted policy. In this district the usual thing was to give surgery patients an 8-oz. bottle of medicine and 1-oz. doses, and these we still supply to private surgery patients. Why should we alter the old custom? If we do, the wives and family who are not insured will clamour for ½-oz. doses and double or treble quantity of medicine, and they will not pay any more. I can quite understand that men with big panels which they cannot properly attend to (as some with big panels have told me) can only see people once a week or fortnight instead of the usual two or three times a week, and so give 12 or 16-oz. bottles, with ½-oz. doses; but is this honest, or right, or fair to the patients? Consultants do not order, unless in very exceptional cases, such large quantities of medicine in private prescriptions. Up to the present I have given prescriptions for the same drugs and for the same quantities as formerly, and I contend I am by so doing upholding the status of the profession. Another matter. If such infrequent attendances only are entered on the record cards the payment will seem excessive for the work done. In a letter from the Medical Secretary a year ago he agreed with my contention, and stated he had pointed out the same to some panel men. You seem to imply that patients would not be any worse off if they got less medicine. From my personal experience this is an unmerited slur on the doctors. I hope you will reconsider your article, and drop out multiple prescriptions.

Association Notices.

CHANGES OF BOUNDARIES.

Formation of a Channel Islands Division.

The following change has been made in accordance with the Articles and By-laws, and takes effect as from the date of publication of this notice:

> That the existing Guernsey and Alderney and Jersey Divisions be amalgamated to form a new Division, to include Alderney, Guernsey, Jersey, and Sark, and to be known as the Channel Islands Division, the new Division to form part of the Southern Branch.

Representation in Representative Body.—Unaffected.

ELECTION OF MEMBERS OF COUNCIL, 1915-16, BY BRANCHES OUTSIDE THE UNITED KINGDOM.

Notice is hereby given that in accordance with By-law 49 nominations for candidates for election as members of Council by the grouped Branches outside the United Kingdom for a period not exceeding three years as prescribed by By-law 52 (2) must be forwarded in writing so as to reach me on or before February 15th, 1915.

Nomination papers may be signed by not less than three members of any Branch comprised in the group, and must be in the form prescribed below or in a form to the like effect.

Election will be by voting papers, which will contain the names of all duly nominated candidates, and will be issued from the head office in London to each member of every Branch comprised in the group.

By order of the Council,

Guy Elliston.

Financial Secretary and Business Manager.

429, Strand, London, W.C.,
October 17th, 1914.

NOMINATION FORM.
BY NOT LESS THAN THREE MEMBERS OF THE GROUPED BRANCHES.

We, the undersigned, hereby nominate

.....

of.....

.....

[*Full name and address must be given*]

as a candidate for election by the (*here state the names of the Branches in the group*) Branches as a member of the Council of the Association.

Names and addresses of nominators, and Branches to which they belong.

Signature and Address.	*Branch.*
.....	.....
.....	.....
.....	.....

Date....., 19...

This form should be forwarded to the Financial Secretary and Business Manager, 429, Strand, London, W.C., so as to be received not later than February 15th, 1915.

Not later than the second week in June, 1915, a notice of the result of the election will be published in the Journal.

N.B.—The foregoing notice is not intended to apply to the New Zealand Branch, or the New South Wales and Queensland grouped Branches, which have appointed their respective Members of Council for a period of three years under By-law 52 (2).

By-laws 49 and 52 (2) are as follows:

By-law 49.

Mode of Election by Groups not in the United Kingdom.

49. (1) The election of seven members of Council by the groups of Branches not in the United Kingdom shall be conducted in the manner prescribed by this By-law.

(2) All nominations of candidates shall be in writing sent to the Association so as to be received at the head office on or before such day, not being later than the 15th February in each year, as shall be specified for the purpose by a notice published in the Journal during the second or third week of October in the preceding year, and no nomination paper received after the day so specified shall be valid.

(3) The said notice shall prescribe a form in which the nominations are to be made, and the nominations shall be made in the form so prescribed, or in a form to the like effect. Nomination papers may be signed by not less than three members of any Branch comprised in the group.

(4) As soon as may be after the 15th day of February in each year:

(*a*) In the case of any group for which one candidate only has been duly nominated, there shall be published in the Journal a notice that such candidate has been elected as member for that group; and

(*b*) In the case of any group for which more candidates than one have been duly nominated, a voting paper shall be sent by post from the head office to each member of every Branch comprised in that group.

(5) Every voting paper shall contain a statement that the same must be returned to the Association so as to be received at the head office on or before a specified day (not being later than the succeeding 15th of May), and no voting paper received after the day so specified shall be counted.

(6) Not later than the second week in the succeeding month of June, a notice of the result of the elections shall be published in the Journal.

By-law 52 (2).

52. (2) Each member of Council elected by a Branch or Group not in the United Kingdom or elected to represent the Royal Navy Medical Service, the Army Medical Service, or the Indian Medical Service, shall hold office for such period not exceeding three years as the electing body may determine and at the expiration of such period shall be eligible for re-election provided that no such member shall be re-elected so as to make his period of continuous service as the Representative on the Council of one and the same Branch or Group exceed six years.

(3) Each of the terms of office mentioned in this By-law shall be calculated from the close of an Annual Representative Meeting.

GROUPING OF BRANCHES NOT IN THE UNITED KINGDOM FOR REPRESENTATION ON COUNCIL OF ASSOCIATION, 1915-16.

(Branches bracketed are grouped.)

	Member of Council to be elected.
South Australian	
Tasmania	1
Victoria	
Western Australian	
New South Wales	1
Queensland	
New Zealand	1
Barbados	
Bermuda	
British Guiana	
Halifax, Nova Scotia	
Jamaica	
Leeward Islands	1
Montreal	
St. John, New Brunswick	
Saskatchewan	
Toronto	
Trinidad and Tobago	
Assam	
Baluchistan	
Bombay	1
Burma	
Ceylon	
Punjab	
South Indian and Madras	
Hong Kong and China	1
Malaya	
Border, South Africa	
Cape of Good Hope (Eastern) ...	
Cape of Good Hope (Western) ...	
East Africa and Uganda	
Egyptian	
Gibraltar	
Griqualand West	1
Malta and Mediterranean	
Natal Coastal	
Natal Inland	
Orange Free State	
Pretoria	
Rhodesian	
Witwatersrand	

BRANCH AND DIVISION MEETINGS TO BE HELD.

Dorset and West Hants Branch.—Dr. Frank Fowler, 29, Poole Road, and Mr. Percy A. Ross, Kensington, Boscombe Spa Road, Bournemouth, Honorary Secretaries, give notice that the autumn meeting of the Branch will be held at the Hôtel Mont Dore, Bournemouth, on Wednesday, October 21st, at 3 p.m., when Dr. Eleanor C. Bond, Vice-President, will open a discussion on uterine haemorrhages. Election of officers for 1915-16. The Bournemouth practitioners invite members to luncheon at 1.30 p.m., and will be pleased to see members and ladies at tea after the meeting.

Metropolitan Counties Branch.—Dr. R. E. Crosse and Mr. N. Bishop Harman, Honorary Secretaries, give notice that a Council meeting will be held at 429, Strand, W.C., on Tuesday, November 10th, at 4 p.m.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following notifications are announced by the Admiralty: Fleet Surgeon P. M. May to the *Victory*, additional. Staff Surgeon A. F. Fleming to the *Victory*, for R.N. Division, Walmer; Staff Surgeon E. C. Sawdy to the *Vivid*, additional, for disposal. Surgeon Robert M. Riggall to the *Pembroke* for Royal Naval Barracks, vice Ward; Surgeon R. A. Rankine, M.B., to the *Cyclops*, additional; Surgeon K. H. Holt, M.B., to the *Victory*, additional. Temporary Surgeons F. W. Nunneley, M.B., to the *Dreadnought*; G. P. O'Donnell, M.B., to the *Vivid*, additional, for Devonport Dockyard, vice MacMahon;

ROBERT A. BROWN to the *Audacious*; G. W. C. HOLLIS to the *Excellent*, additional, for the *Sirius*, on commissioning; G. J. C. FAILL to the *Victory*, additional; A. R. MACMULLEN, J. ROTHWELL, M.B., H. L. G. FOXELL, P. B. KELLY, G. E. W. LACEY, M.B., A. A. BALLANCE, M.B., H. C. WALDO, M. ONSLOW-FORD, to the *Victory*, additional, for R.N. Division; H. G. BROWN to the *Victory*, for R.N. Division, Crystal Palace; L. R. WARBURTON to R.N. Division, Plymouth, vice Barrett; C. WARNER, M.B., to the *Devonshire*; H. WILES to the *Ganges* for Shotley Sick Quarters; R. W. MELLOR to *Victory*, for R.N. Division, Walmer; F. G. L. SCOTT to R.N. Division, Portsmouth, vice Fleming; T. S. BRADBURN to the *Cyclops*; R. C. J. MEYER to the *Hyacinth*, additional, for Marine Garrison, St. Helena.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon R. N. CRAIG (probationer) to the *Lucifer*; Surgeon S. R. PRALL (probationer) to the *Woolwich*, additional, for the *Badger*, vice C. E. Meryon; WILLIAM J. A. QUINE, M.B., appointed Surgeon, unattached. The following have been appointed Surgeon-Probationers for temporary service: S. R. PRALL, J. A. D. SKINNER, A. F. G. GUINNESS, J. M. HARRISON, E. D. BROSTER, R. N. CRAIG, M. H. K. KANE, A. G. LENNON-BROWNE, E. A. HOLMES, S. E. Y. ELLIOTT, H. G. STORMER, W. B. HEYWOOD-WADDINGTON, G. F. COBB, L. S. FRY, F. G. TURRDIE-LEWTAS, R. H. CLARKE, W. G. S. NEELY, C. Y. ROBERTS, S. J. L. LINDEMAN, G. E. HEATH, R. G. MORGAN, and H. W. MOLESWORTH. Temporary commissions as Surgeon have been issued to ARTHUR C. MCVITTIE and WILLIAM A. MALLAM.

ARMY MEDICAL SERVICE.

To be temporary Colonels, September 16th: Lieutenant-Colonel GEORGE H. MAKINS, C.B., Second London (City of London) General Hospital, R.A.M.C.(T.), and Lieutenant-Colonel Sir ANTHONY A. BOWLBY, C.M.G., First London (City of London) General Hospital, R.A.M.C.(T.).

Colonel RICHARD H. S. SAWYER, M.B., is retained on the active list under the provisions of Article 120, Royal Warrant for Pay and Promotion, 1913, October 9th.

ROYAL ARMY MEDICAL CORPS.

The following officers, Home Hospitals Reserve, to be temporary Captains: A. M. WOOD, M.D., A. G. PRICE, M.B., G. W. SIMLA PATERSON, M.B., J. G. MCCOLL, W. L. LYALL, M.B., A. T. CAMPBELL, M.B., W. W. FYFE, M.D., J. A. GRAY, M.B., R. J. JOHNSTON, M.B., G. MELVILLE, M.B., W. C. STEVENSON, M.D., C. T. W. HIRSCH, W. F. CROLL, M.B., J. M. YOUNG, M.B.

To be temporary Lieutenants: DAVID H. HADDEN, M.B., JOHN A. MACMAHON, M.B., DOUGLAS WARDLEWORTH, M.B., KENNETH C. MIDDLEMISS, M.B., CHARLES L. SPACKMAN, M.B., ROBERT W. L. TODD, M.B., MORTON PETO, M.B., WILLIAM BROWN, M.B., FRANCIS W. MILNE, CHARLES W. G. BRYAN, F.R.C.S., ALLAN N. MINNS, MAURICE FITZMAURICE-KELLY, F.R.C.S., JAMES L. R. PHILIP, M.B., FREDERICK B DREYER, M.B., CHARLES E. L. BURMAN, M.B., SYDNEY D. ROWLAND, LINDSAY C. SMITH, late Lieutenant 4th Battalion Suffolk Regiment, ARTHUR B. APPLETON, FRANCIS C. MACDONALD, M.D., DAVID THOMSON, M.B., ERIC F. W. MACKENZIE, M.B., THOMAS E. LAWSON, FRANK E. JOHNSON, WILLIAM MACEWEN, M.B., CHARLES G. L. WOLF, M.D., CLAYTON C. MORRELL, M.D., GEORGE C. ADENEY, M.B., F.R.C.S., JAMES BIGGAN, M.B., CUTHBERT SCALES, M.B., DAVID POTTINGER, M.B., JOHN R. P. ALLIN, LESLIE W. HOWLETT, M.B., WALLACE M. CONLEY, M.B., and DAVID HARDIE, M.B.

Supernumerary Captain ARTHUR IRVINE-FORTESCUE, M.B., from the seconded list, is restored to the establishment.

FREDERICK F. BOND, M.D., St. John Ambulance Brigade Bearer Companies, to be temporary Captain.

Major HARRY A. HINGE to be Lieutenant-Colonel.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

CAPTAIN GEORGE LANE to be Major.

The following Cadets and ex-Cadets of the Officers' Training Corps to be Lieutenants on probation: JOHN H. BEVERLAND, M.B., JOHN P. JACKSON, M.B., RAYMOND F. PINSON, CYRIL R. SANDIFORD, ERIC CATFORD, WILLIAM D. LODGE, CYRIL JACOBS, M.B., GORDON A. HODGSON, SAMUEL D. G. MCINTIRE, GERALD G. ALDERSON, M.B., F.R.C.S., PENSAM THORNTON, BRYAN M. TUKE, ALFRED P. SMITH, JAMES C. SPENCE, M.B., JOHN D. ALLAN, M.B., ARTHUR J. BEVERIDGE, GEORGE A. CLARK, CARL D. NEWMAN, NORMAN BRAITHWAITE, CHARLES F. HACKER, M.B., JAMES K. J. HAWORTH, M.D., LAURENCE H. W. IREDALE, M.B., FRANK M. ROBIE, CEDRIC O. SHACKLETON, M.B., GILBERT W. ROSE, WILLIAM D. ANDERTON, ROLAND H GRAHAM, CHARLES A. W. RAMSAY, GEORGE M. ROBERTS, JAMES MCKAY, JAMES Y. MOORE, WILLIAM B. CATHCART, HUGH G. CRAWFORD, WILLIAM B. POSTLETHWAITE, JAMES S. ROBINSON, JOHN E. FOLEY, ROBERT P. A. KIRKLAND, M.B., WILLIAM L. E. REYNOLDS, GRANTLY D. READ, ARTHUR F. I. PATTERSON, GERALD P. KIDD.

The following to be Lieutenants on probation: WILLIAM M. MACNAUGHT, M.B., ROBERT E. BELL, M.B., WILLIAM S. HAYDOCK, M.B., JAMES DAVIDSON, M.B., DONALD AUCUTT, KENNETH BIGGS, JOHN B. MINCH, M.B., HENRY A. HARBISON, M.B., FRANK R. KERR, M.B., CYRIL POPHAM, DAVID S. BADENOCH, M.B., BERTRAM SHIRES, M.B., ORIEL J. O'B. O'HANLON, M.B., F.R.C.S., ARCHIBALD WILSON, M.B., WILLIAM G. SHAKESPEARE, WILLIAM C. FLEISCHMANN, M.B., HUGO R. FRIEDLANDER, CASSIDY DE W. GIBB, JOHN P. LITT, M.D., JOHN PAULLEY, M.B., RICHARD P. BALLARD, M.B., WILLIAM W. SHORTEN, ALEXANDER L. ROBB, M.B., ROBERT HAY, M.B., JOHN COWAN, M.B., GRIFFITH L. JONES, WILLIAM H. CORNELIUS, FRANK SYKES, SAMUEL A. LANE, M.D., LESLIE H. W. WILLIAMS, JAMES MACALLAN, M.B., KINGSLEY W. LEWIS, CHARLES L. BALKWILL, WILLIAM H. SHEPHARD, HERBERT SMITH, ROBERT G. MARTYN, FREDERICK V. BEVAN-BROWN, CECIL J. ROGERSON, M.B., PATRICK J. CORCORAN, M.B., WILLIAM MCCOMBIE, M.B., NORMAN CAMERON, M.B., JOLN R. CALDWELL, M.B., CLAUDE J. D. MAY, WILLIAM J. S. INGRAM, M.B., ARMANDO D. CHILD, M.B., JEREMIAH J. MAGNER, M.B., HECTOR SMITH, M.B., JOHN A. RYLE, M.B., KINGSLEY L. O'SULLIVAN, THOMAS C. STOREY, M.B., WILLIAM A. MACLELLAN, M.B., GEORGE H. C. MOLD, M.B., JOHN F. HILL, M.B., GERALD C. DIXON, M.B., CHARLES F. BURTON, JOHN N. MCINTOSH, M.B., STUART D. ROBERTSON, M.B., RICHARD H. HODGES, THOMAS K. BONEY, M.D., GEORGE F. CLIFTON, ERNEST F. GUY, CHARLES H. G. PENNY, THOMAS W. MARTIN, M.B., JAMES E. BLACK, M.B., EDWIN C. W. STARLING, JOHN S. COCES, GERALD T. MULLALLY, M.B., F.R.C.S., ROBERT C. OZANNE, M.B.

The appointment of FRANCIS A. E. CREW to be Lieutenant, as notified in the *London Gazette* of September 25th, is cancelled.

Lieutenants confirmed in their rank: JOSEPH H. BAIRD CLIVE, A. WHITTINGHAM, JOHN ALSTON, GEORGE H. ROSSDALE, ROBERT TAYLOR.

Second Lieutenant PHILIP J. GAFFIKIN, M.B., from Princess Victoria's (Royal Irish Fusiliers) Special Reserve, to be Lieutenant.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

First South Midland Field Ambulance.—ROBERT W. AITKEN, M.B., to be Lieutenant.

First South-Western Mounted Brigade Field Ambulance.—Lieutenant W. C. HODGES is absorbed into the establishment.

Second Highland Field Ambulance.—HAWTREY W. BROWNE, M.B., to be Lieutenant; Lieutenant-Colonel FRANCIS KELLY, M.D., from the Highland Clearing Hospital to be Lieutenant-Colonel; Captain DAVID RORIE, M.D., from the Highland Clearing Hospital to be Captain; Lieutenants JAMES A. STEPHEN, M.B., ALEXANDER C. MALLACE, M.B., and GEORGE HENDERSON, from attached to units other than medical units, to be Lieutenants; Lieutenant CHARLES CAMERON, M.B., to be Captain.

First Northumbrian Field Ambulance.—Captain JAMES P. MILNE to be Major.

Third Northumbrian Field Ambulance.—Captains to be Majors: PERCY R. ASH and WILLIAM A. THOMPSON. To be Lieutenant: ARTHUR C. M. SAVAGE, M.B. Lieutenant GEORGE H. WATSON, from attached to units other than medical units, to be Lieutenant.

First Welsh Field Ambulance.—Lieutenant-Colonel JOHN W. DAVIES resigns his commission, and is granted permission to retain his rank and wear the prescribed uniform.

Second Welsh Field Ambulance.—Captain CHARLES R. WHITE, M.B., to be Major; Lieutenant ARTHUR C. DEVEREUX, M.B., to be Captain.

First Southern General Hospital.—LEONARD G. PARSONS to be Captain.

Welsh Border Mounted Brigade Field Ambulance.—JOHN B. YEOMAN, M.D., F.R.C.S., to be Captain.

Third Wessex Field Ambulance.—Lieutenants to be Captains, September 4th: AURELIUS V. MAYBURY, M.B., and EDGAR C. PLUMMER. Captain ROBERT HENRY, from attached to units other than medical units, to be Captain.

Second Eastern General Hospital.—Lieutenant HERBERT J. WALKER, F.R.C.S.E., to be Captain.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRKENHEAD UNION INFIRMARY.—Female Resident Assistant Medical Officer. Salary, £120 per annum.

BIRMINGHAM CITY ASYLUM, Rubery Hill.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM: YARDLEY ROAD SANATORIUM AND ANTI-TUBERCULOSIS CENTRE.—Third Assistant Medical Officer. Salary, £200 per annum.

BOLTON INFIRMARY AND DISPENSARY.—Second House-Surgeon. Salary, £120 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRISTOL ROYAL INFIRMARY.—(1) House-Surgeon. (2) House-Physician. Salary at the rate of not less than £100 per annum.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Assistant to the Medical Superintendent. Salary, £200 per annum.

CANNING TOWN WOMEN'S SETTLEMENT HOSPITAL.—Junior Resident Medical Officer (female). Honorarium, £30 per annum.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch. — Second Assistant Medical Officer (male). Salary, £280 per annum, rising to £300.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Dental Surgeon.

CHELSEA INFIRMARY, Cale Street, S.W. — Second Assistant Medical Officer. Salary, £160 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL. — Senior House-Surgeon. Salary, £140 per annum.

CHICHESTER: ROYAL WEST SUSSEX HOSPITAL. — House-Surgeon (male). Salary, £110 per annum.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—House-Surgeon (male). Salary, £120 per annum.

DUMFRIES: CRICHTON ROYAL.—Assistant Physician (temporary). Salary, 5 guineas a week.

DUNDEE ROYAL INFIRMARY.—Resident Medical Officer. Salary, £40 per annum.

DUNDEE: UNIVERSITY OF ST. ANDREWS MEDICAL SCHOOL.—Assistant in Pathological Department. Salary, £150 per annum.

DURHAM COUNTY HOSPITAL. — House-Surgeon. Salary, £150 per annum.

GLASGOW DISTRICT BOARD OF CONTROL. — Medical Superintendent for Certified Institution for Mental Defectives, Stoneyetts. Salary, £300 per annum, rising to £400.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL. — House-Surgeon. Salary, £100 per annum.

HERTS COUNTY ASYLUM, Hill End, St. Albans.—Second Assistant Medical Officer (male). Salary, £250 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician. Honorarium, £5 5s. per month.

HUDDERSFIELD ROYAL INFIRMARY. — Senior and Junior Assistant House-Surgeons (males). Salary, £80 per annum each.

HULL ROYAL INFIRMARY.—(1) Senior House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

KENT COUNTY ASYLUM, Chartham. — Third Junior Assistant Medical Officer (male). Salary, £250 per annum.

KING'S LYNN: WEST NORFOLK AND LYNN HOSPITAL.—House-Surgeon. Salary, £150 per annum.

LEEDS CITY: HOSPITALS FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Assistant Medical Officer. Salary at the rate of £150 per annum.

LEEDS GENERAL DISPENSARY. — Ophthalmic House-Surgeon. Salary, £50 per annum.

LEEDS PUBLIC DISPENSARY.—Resident Medical Officer. Salary, £130 per annum.

LEICESTER CORPORATION.—Resident Medical Officer at the Sanatorium and Isolation Hospital. Salary, £250 per annum.

LEICESTER ROYAL INFIRMARY. — (1) Two Resident Assistant House-Surgeons. (2) Two Dressers.

LINCOLN COUNTY HOSPITAL. — Junior Male House-Surgeon. Salary, £100 per annum.

MANCHESTER CORPORATION. — First Medical Assistant at the Monsall Fever Hospital. Salary, £225 per annum.

MANCHESTER: COUNTY ASYLUM, Prestwich.—Assistant Medical Officer. Salary, £250 per annum, increasing to £300, and upon promotion to £450.

MANCHESTER EDUCATION COMMITTEE. — Assistant School Medical Officer (female). Salary, £300 per annum, rising to £450.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER ROYAL INFIRMARY. — (1) Five Junior House-Surgeons. (2) Two Senior House-Surgeons. (3) Five House-Physicians. Salary for (2) and (3) at the rate of £40 per annum.

MANCHESTER: ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN. — (1) House-Surgeon for Children's Department. (2) House-Surgeon for Obstetrical and Gynaecological Departments. Honorarium at the rate of £70 per annum each.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Fitzroy Square, W.—House-Surgeon (non-resident). Salary, £150 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon (male). Salary, £100 per annum, rising to £120 after six months.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, ETC. — Assistant Physician.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—Senior and Junior Medical Officers. Salary, £100 and £80 per annum respectively.

NEWPORT: ROYAL GWENT HOSPITAL. — Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NEW ZEALAND: UNIVERSITY OF OTAGO. — Professor of Clinical Pathology. Salary, £600 per annum, rising to £800.

NORTHAMPTON COUNTY ASYLUM, Berry Wood. — Junior Assistant Medical Officer. Salary, £200 per annum.

NOTTINGHAM: GENERAL HOSPITAL. — (1) Senior House-Physician; (2) Assistant House-Physician; (3) Assistant House-Surgeon. Salary for (1) £120 per annum, and for (2) and (3) £100 per annum each. (Women eligible.)

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—(1) Resident Medical Officer. (2) Assistant Resident Medical Officer. Salary at the rate of £110 and £90 per annum respectively, and £10 on completion of six months' service.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL. — House-Surgeon (male). Salary at the rate of £90 per annum.

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

PUTNEY HOSPITAL, S.W.—Resident Medical Officer. Salary, £150 per annum.

READING: BERKSHIRE EDUCATION COMMITTEE. — Assistant Medical Inspector of Schools. Salary, £300 per annum.

ROTHERHAM HOSPITAL. — Assistant House-Surgeon (male). Salary, £125 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, W.C. — (1) Radiographer; honorarium, 25 guineas per annum. (2) House-Surgeon; salary, £50 per annum. (3) Assistant House-Surgeon (non-resident); salary, £20 for six months.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon (male). Salary, £115 per annum.

ST. PANCRAS DISPENSARY, Oakley Square, N.W.—(1) Resident Medical Officer Salary, £105 per annum. (2) Honorary Physician. (3) Ophthalmic Surgeon.

SALFORD ROYAL HOSPITAL. — (1) Resident Surgical Officer. (2) Casualty House-Surgeon. Salary, £120 and £100 per annum respectively.

SALISBURY GENERAL INFIRMARY. — Assistant House-Surgeon. Salary, £75 per annum.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD ROYAL INFIRMARY. — (1) Two House-Surgeons. (2) Assistant House-Physician. Salary, £100 per annum each.

SOUTHAMPTON FREE EYE HOSPITAL. — House-Surgeon. Salary, £100 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SOUTH SHIELDS COUNTY BOROUGH.—Assistant School Medical Officer and Assistant Medical Officer of Health (male). Salary, £300 per annum, increasing to £350.

SOUTH SHIELDS UNION. — Assistant (male) Resident Medical Officer. Salary, £200 per annum, rising to £250.

STAFFORDSHIRE COUNTY COUNCIL.—Junior Assistant Medical Officer at the Cheddleton Mental Hospital, Leek. Salary, £270 per annum.

STIRLING DISTRICT ASYLUM, Larbert, N.B.—Third Assistant Medical Officer (lady). Salary, £140 per annum.

STROUD GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SUNDERLAND: ROYAL INFIRMARY. — Junior House-Surgeon (male). Salary, £100 per annum.

SWANSEA UNION INSTITUTION. — Resident Assistant Medical Officer. Salary, £295 per annum, rising £50 after five years' service, and £80 in lieu of house till accommodation be provided.

TAUNTON AND SOMERSET HOSPITAL.—Senior and Assistant House-Surgeons. Salary, £120 and £80 per annum respectively.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon (male). Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL. — Junior House-Surgeon. Salary, £150 per annum.

WAKEFIELD CITY.—Temporary Medical Officer of Health. Salary, £250 per annum.

WAKEFIELD: WEST RIDING COUNTY COUNCIL. — School Medical Inspector. Salary, £350 per annum, rising to £400.

WALSALL AND DISTRICT HOSPITAL. — Junior House-Surgeon and Anaesthetist. Salary, £110 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £120 per annum, rising to £140 after six months.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E. —Senior House-Physician. Salary, £120 per annum.

WESTMINSTER UNION INFIRMARY, Fulham Road, S.W.—Second and Third Assistant Medical Officers. Salary, £160 and £140 per annum, rising to £180 and £160 respectively.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Senior House-Surgeon. Salary, £170 per annum.

WOLVERHAMPTON UNION.—Assistant Resident Medical Officer of Workhouse, etc. Salary, £250 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointment: Colchester (Essex).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

BEAUMONT, A. R., F.R.C.S.Edin., Certifying Factory Surgeon for the Uppingham District, co. Rutland.

JACKSON, C. E. S., M.B., B.S., F.R.C.S., District Medical Officer of the King's Lynn Union.

KILLEN, S. J., M.D.R.U.I., Certifying Factory Surgeon for the Carrickfergus District, co. Antrim.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

DICK.—On October 3rd, at 6, West Street, Scarborough, to Dr. and Mrs. J. R. Dick a son.

MARRIAGE.

BOWEN—CLARK.—On the 8th inst., at Christ Church, Harrogate, William Henry Bowen, M.S., F.R.C.S., Lensfield Road, Cambridge, to Kathleen Edith Clark, Park View, Harrogate.

DEATHS.

CRAMPTON.—On October 13th, at 30, Myddelton Square, London, E.C., Thomas Hobbs Crampton, L.R.C.S. and P.I., aged 57.

MILLS.—On the 9th inst., at Vine Cottage, Donaghmore, Newry, co. Down, Dr. Samuel Mills, B.A., for 31 years Medical Officer of the Donaghmore Dispensary District, in his 77th year.

RAYNER.—On October 11th, at Brighton, after a short illness, Herbert E. Rayner, F.R.C.S., late of Camberley.

DIARY FOR THE WEEK.

MONDAY.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W. —4 p.m., Harveian Oration, Sir R. Douglas Powell, Bart.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—5 p.m., Museum Demonstration, Mr. Shattock —Carcinoma.

TUESDAY.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.—4.30 p.m., Clinical Cases. 5 p.m., Resumed Discussion on Some Points in the Treatment of Syphilis.

WEDNESDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—5.30 p.m., Museum Demonstration, Mr. Colyer —Injuries to the Jaws and Teeth of Animals.

FRIDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C. — 5 p.m., Museum Demonstration, Professor Keith—Gunshot Injuries of the Limbs.

POST-GRADUATE COURSES AND LECTURES.

Post-Graduate Courses are to be given next week at the following schools, colleges, and hospitals:

MANCHESTER HOSPITALS' POST-GRADUATE CLINICS.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 24TH, 1914.

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British Medical Association.

INSURANCE ACTS COMMITTEE.

THE first meeting of the new Insurance Acts Committee was held at the office of the Association on Friday, October 9th. Mr. T. JENNER VERRALL, LL.D., Chairman of Representative Meetings, was in the chair, and the other members present were: *England and Wales*—Dr. E. R. Fothergill (Hove), Dr. Major Greenwood (London), Dr. W. Ainslie Hollis (Brighton), Dr. G. K. Smiley (Derby), Dr. W. B. Crawford Treasure (Cardiff), Mr. E. B. Turner (London). *Scotland*—Dr. John Adams (Glasgow), Dr. John Hunter (Edinburgh); *ex-officio*, Dr. Edwin Rayner (Stockport) (Treasurer).

Much of the business transacted by the Committee was reported in the letter addressed to the honorary secretaries of Panel Committees and Local Medical Committees and Divisions and Branches published in the SUPPLEMENT for last week, p. 202.

MEMBERSHIP OF THE COMMITTEE.

The Council was recommended, in accordance with the instructions of the Annual Representative Meeting, to appoint Mr. Herbert Jones and Dr. Major Greenwood, representing the Society of Medical Officers of Health and the Poor Law Medical Officers' Association of England and Wales respectively, and the nominee of the Associated Registered Women and the Northern Association of Registered Medical Women to be members of the Committee.

SUBCOMMITTEES.

Drug Tariff Subcommittee.

The Chairman, Dr. A. C. Farquharson (Durham), Dr. E. R. Fothergill (Hove), Dr. I. W. Johnson (Bury), Dr. A. E. Larking (Buckingham), Mr. E. L. Lilley (Leicester), Dr. B. A. Richmond (London), and Dr. Purves (Burnley) were appointed a Subcommittee to consider and report on all matters concerned with the Drug Tariff under the Insurance Act, and to arrange for conferences between representatives of the Association and the Pharmaceutical Society thereon.

Local Medical and Panel Subcommittee.

A Local Medical and Panel Subcommittee was appointed, consisting of members of the Association, all of whom, except as regards three members to be co-opted, must be members of either Local Medical or Panel Committees. The reference to the Subcommittee was to consider all subjects referred to it by the Insurance Acts Committee and to take action when authorized; to keep in close touch with and assist in the co-ordination of all Local Medical and Panel Committees, advising them on all circulars, memorandums, and documents issued locally or centrally, having reference to the medical service under the Insurance Acts; and generally to advise the Insurance Acts Committee.

The members appointed were as follows: The Chairman of the Insurance Acts Committee, Dr. John Adams (Glasgow), Dr. G. W. Eustace (Arundel), Dr. Major Greenwood (London), Mr. W. J. Greer (Newport), Mr. H. H. Tomkins (Essex), Dr. J. Hunter (Edinburgh), Dr. E. R. Fothergill (Hove), Mr. W. Doolin (Dublin), Mr. H. F. Devis (Bristol), Mr. P. Napier Jones (Crowthorne, Berks), Dr. B. A. Richmond (London), Dr. W. B. Crawford Treasure (Cardiff).

The Committee recommended the Council to authorize the Chairmen of the various Standing Committees of the Association to attend at meetings of and to assist the Local Medical and Panel Subcommittee of the Insurance Acts Committee, if and when, in the opinion of the Subcommittee, such attendance would prove useful.

DEPARTMENTAL COMMITTEE ON DRUG TARIFF.

The CHAIRMAN reported that the Council had appointed Dr. John Adams and Dr. R. W. Wallace Henry to represent the Association on the Departmental Committee appointed to consider and report what margin of profit (apart from discounting) is yielded by the present drug tariff: what revision, if any, of prices is required to place that tariff on a commercial basis, and whether any extension or rearrangement of the list of priced drugs and mixtures is desirable; to make such investigations as they may think necessary for this purpose, either generally or in particular areas, and to submit a tariff in accordance with their recommendations.

CENTRAL INSURANCE DEFENCE FUND.

The financial statement for the period from July 1st to September 30th was presented and passed.

Communications were received from two medical practitioners thanking the Committee for assistance granted from the fund. Three applications for grants were considered; in one instance a further loan of £50 was approved, the second was postponed for further inquiry, and the third was refused.

DEDUCTIONS FROM AMOUNTS DUE TO PANEL PRACTITIONERS.

The Local Medical and Panel Subcommittee was requested to consider and report on the question of deductions made by Insurance Committees from amounts due to panel practitioners in view of the alleged reduction in the number of insured persons on their lists.

LAY OFFICIALS OF APPROVED SOCIETIES AND INTERFERENCE WITH MEDICAL TREATMENT OF INSURED PERSONS.

The Committee had before it the reply of the Scottish Commissioners to a communication sent to them in the following circumstances:

An insured person (a blacksmith) sought the advice of his panel doctor on the 20th of the month with a poisoned and suppurating finger. The finger was incised, diseased tissue removed, and the finger dressed, the initial certificate being given to the patient. The case was seen and dressed on the 21st, 23rd, 25th, and 28th, and made rapid progress. On the 24th the patient saw an official of this approved society in reference to his sickness benefit, when, according to the patient's account, the official asked to see the finger, and on the removal of the dressing expressed the opinion that there was very little wrong with the finger, and that the patient was quite able to resume work. On the practitioner asking for an explanation the official admitted examining the finger, and stated that, finding the suppuration had ceased and that the slight wound resulting was nearly healed, he had expressed his opinion that the patient was able to resume work, basing that opinion on his long experience as a practical mechanic. The practitioner strongly objected to the examination of the finger by the official,

and asked for an apology for the unwarrantable interference, also for an undertaking that he would not in future take down or allow to be taken down the dressings of a wound under active medical treatment. Neither apology nor undertaking were forthcoming, and an inconclusive correspondence ensued during which the practitioner formulated the following statement to which he asked the adherence of the official:

> That no lay person is entitled to touch, examine, interfere with, or express any opinion on any wound or injury which is being actively attended to by a medical practitioner.

The case was then brought by the practitioner to the attention of the Insurance Acts Committee, which directed that the attention of the Joint Commission be drawn to the point, and also asked the representatives of the Association on the Advisory Committee to raise the matter at a meeting of that body which was then pending. At that meeting the matter was raised, and the representatives of some of the more important societies present expressed their astonishment at, and disagreement with, any such lay interference with medical treatment, and no defence of it was put forward by any one. The Commissioners were urged to impress on approved societies that the rules of these societies defining the nature of the proof required for the purposes of sickness or disablement benefit should make it clear that any investigation for the purpose of testing the validity of a medical certificate should be made by a medical practitioner *whenever such investigation involved questions of professional opinion.* The Joint Commission referred the Association to the National Commission in whose area the incident had occurred (Scotland). The facts were then placed before the Scottish Commission and it was now reported to the Committee that the secretary of that Commission had addressed a letter to the secretary of the approved society in question, which, after reciting the facts which the Association had brought to the knowledge of the Commission, went on to say, "I am accordingly directed to point out that a sick visitor or society official should not remove or ask a patient to remove a surgical dressing."

The Committee was of opinion that this went far to establish an important principle, to which the attention of the medical profession should be drawn.

Attendance on Insured Persons at Request of Police.

The Committee received the opinion of the Solicitor of the Association on the following questions raised by the Honorary Secretary of a Division:

> A medical practitioner called by the police to a street accident finds that the injured man is one of his insured patients. The police refuse to pay the doctor's charges.
>
> (*a*) Are the police within their right in so refusing? If so, why?
>
> (*b*) Do you consider the refusal of the police in any way connected with the fact that the injured man was a panel patient of the doctor called in?

The opinion of the Solicitor was as follows:

I take it that you wish me first to advise irrespective of any claim that may lie as against the police for services rendered at their request upon a person meeting with an accident in the street who is not an insured person, and with this presumption I deal with the points raised by you seriatim.

(*a*) Having regard to Clause 2 (ii) of the agreement between medical practitioners and the Insurance Committee for the county of London and Clause 4 (ii) of the First Schedule of the Medical Benefit Regulations at present in force, it seems to me clear that a panel practitioner could not possibly claim upon the police for any services rendered by him to any person who is upon his panel even though he were summoned by the police to attend such person in the event of his meeting with an accident in the street, any more than he could claim upon the employer of an insured person upon his panel who informed him that such insured person was in need of medical attendance by him.

Clause 2 (ii) of the agreement expressly provides that the practitioner shall not accept any fee in respect of treatment which he is required to give under the terms of his agreement except as provided in such agreement, and there is contained in such agreement no such provision for circumstances such as those set out in your letter. This is, of course, provided that the attendance is within the radius fixed for the particular locality under Clause 4 (ii) of the First Schedule of the Medical Benefit Regulations.

(*b*) It is exceedingly difficult for me to answer this question, as the answer would be determined by the particular circumstances governing each case, such as the inquiries made of the injured person, or failing that, the knowledge in the possession of the police constable who might summon the doctor.

There is, so far as I can gather, no fixed regulation or rule governing the actions of the police with regard to summoning medical men to attend in cases of street accidents, nor the power which may be given to them to pledge the Police Fund for liability to meet the fee of any medical man called in in any such circumstances, though in any case it would be well for the medical men if the case of accident, in the event of an insured person, were outside the radius prescribed by Clause 4 (ii), or if the case were not one of an insured person, to obtain from the police officer who has summoned him a note of his attendance, and a record of the fact that such attendance was made at the express request of the police officer.

I can well understand that an event of this sort might have been altogether outside the contemplation of medical practitioners when entering into their agreement with the Panel Committee and taking upon their list panel patients, but for all that I think, having regard to the terms of the agreement and the regulations, the attendance in question would come within the terms of the same.

(Signed) W. E. Hempson.

IRISH COMMITTEE.

A quarterly meeting of the Irish Committee was held at the Irish Offices, 16, South Frederick Street, Dublin, on October 7th, when Mr. R. J. Johnstone was in the chair, and the following were present: Dr. J. S. Darling, Dr. W. J. Story, Dr. J. M. Kenny, Professor H. Corby, Dr. John Mills, Dr. H. T. Warnock, Dr. D. Walshe, Dr. James Craig, Dr. J. G. Cooke, Dr. T. B. Costello, and Dr. T. Hennessy, Irish Medical Secretary.

Mr. R. J. Johnstone was re-elected Chairman, and Drs. Power, Warnock, and Mahon were co-opted members of the Committee.

Treatment of Dependants.—Dr. T. Hennessy was nominated as the Irish medical representative on the Duke of Devonshire's committee dealing with the medical treatment of dependants of soldiers and sailors.

Well-to-do Patients in Workhouses.—In accordance with a suggestion contained in a letter from Dr. Darling, he, with Dr. Walshe and the Irish Medical Secretary, were appointed a deputation to wait on the Irish Local Government Board in connexion with the admission of well-to-do patients to Irish workhouses and their free treatment in those institutions.

Salaries of Poor Law Medical Officers.—The same deputation was instructed, in accordance with the suggestion of Dr. P. Stephenson (Carrick-on-Suir), to represent to the Local Government Board the need for fixing graded scales of salaries for Poor Law medical officers in those unions which had not already done so. It was also resolved to communicate to the Honorary Secretaries of Branches and Divisions the suggestion that they should arrange for applications to be made by Poor Law medical officers for graded salaries in the outstanding unions.

Finance.—The audited quarterly statement and accounts were submitted to the committee and found correct. Drs. White, Darling, Craig, and Walshe were elected members of the Finance and Executive Committee, with Mr. R. J. Johnstone as Chairman.

Organization.—It was resolved to arrange for the attendance of the Irish Medical Secretary at meetings of Branches and Divisions for the present quarter.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Metropolitan Counties Branch.—Dr. R. E. Crosse and Mr. N. Bishop Harman, Honorary Secretaries, give notice that a Council meeting will be held at 429, Strand, W.C., on Tuesday, November 10th, at 4 p.m.

LOCAL MEDICAL AND PANEL COMMITTEES.

WEST SUFFOLK.

PANEL COMMITTEE.

THE first meeting of the Panel Committee, elected June, 1914, was held at Bury St. Edmunds, on September 29th. Dr. WILKIN was in the chair, and three other members were present. Dr. Batt was elected Secretary.

Payments.—Dr. WOOD stated that the Finance Subcommittee of the Insurance Committee had decided that payments should be made immediately on the expiration of each quarter.

Unallotted Funds for 1913.—It was reported that the total amount of unallotted fund for 1913 was £533 9s. 1d., to be distributed as set out in the Commissioners' letter to the Insurance Committee of June 20th, 1914. It was agreed that it would be impossible to hand over this sum to the Red Cross Society, as had been proposed at a general meeting of practitioners held in August, when the sum to be allotted was stated to amount only to about £200. It was further agreed to accept the amount of allocation indicated by the Commissioners.

Supply of Drugs.—The Secretary was instructed to inform the Insurance Committee that the Committee considered that it would be to the advantage of everybody concerned that the continuous checking and analyses of prescriptions suggested in paragraph 9 of Memo. 199 I.C. should be carried out.

Contracts for 1915.—The Committee approved of the Commissioners' decision not to alter the terms of the existing contracts at the end of this year, except in the two points indicated in Memo. 201 I.C.

Expenses for 1914.—It was decided that the expenses for 1914 would best be met by a voluntary deduction from each practitioner's quarterly cheque from the Insurance Committee. It was calculated that a sum of one farthing per insured person per annum would bring in approximately £30, which would be ample, the form of agreement to be signed by each practitioner printed in British Medical Association circular M. 12, dated June 20th, 1914, was adopted. The Secretary was instructed to ask the Insurance Committee to authorize the Clerk to make the necessary deductions upon the production of the agreements duly signed, the Committee being willing to offer him an honorarium for extra trouble involved. The Secretary was further instructed to issue the agreements to every practitioner on the panel as soon as necessary arrangements had been made with the Insurance Committee.

Payment for Temporary Residents.—The Commissioners' proposals *re* payment for temporary residents for 1913 and a payment of 75 per cent. on account of services for temporary residents during the current year were accepted. It was stated that £110 9s. 8d. was available for discharging the accounts for 1913.

Suspense Slips.—The Committee considered a letter from the Clerk to the Insurance Committee, dated September 29th, 1914. The Panel Committee agreed that it was desirable the suspense register should, so far as possible, be abolished, but entirely disapproved of the proposal to remove these persons from doctors' lists without further inquiry, and expressed the strong opinion that the fact that the Insurance Committee held no index slip for these persons and that no application had been made for medical cards was by no means conclusive evidence that they were not resident in the area. It was decided to ask the Insurance Committee to furnish a list of the names of persons in the suspense register of each of the following doctors: Barwell, Batt, Wilkin, and Wood, who undertook to make a thorough investigation with a view to ascertaining whether any of the persons in the list were still resident in their neighbourhood and to report to a future meeting of the Panel Committee.

LIVERPOOL.

PANEL COMMITTEE.

THE following is a list of the twenty-eight members of the committee:

North District.—Dr. Moyles, Dr. G. Oldershaw, Dr. W. H. Wright, Dr. Wild.

North Central District.—Dr. Miller Wilson, Dr. House, Dr. R. Paterson, Dr. Sheldon, Dr. Unsworth.

South District.—Dr. W. B. Bennett, Dr. Donnelly, Dr. Parkinson, Dr. Tinne.

East District.—Dr. Baxter, Dr. Dodd, Dr. Robertson Dunn, Dr. Richardson.

South Central District.—Dr. W. T. D. Allen, Dr. H. Jones, Dr. Hamilton Shaw, Dr. Stott.

Co-opted by the Elected Members.—Mr. F. C. Larkin, Dr. T. R. Bradshaw, Miss Ivens, M.S., Dr. T. Clarke, Dr. Given, Dr. F. H. Barendt, Dr. Scott Sugden.

At the first meeting of the complete Committee held at the Liverpool Medical Institution on September 29th, Mr. F. Charles Larkin was elected chairman, Dr. Richardson vice-chairman, Dr. Hamilton Shaw treasurer, and Dr. W. T. D. Allen honorary secretary. Drs. Richardson, Bennett, and Paterson were appointed representatives on the Medical Service Subcommittee of the Liverpool Insurance Committee.

NORTHAMPTONSHIRE.

PANEL COMMITTEE.

THE Panel Committee is constituted as follows:

Chairman.—Dr. Baxter (Wollaston).

Secretary.—Dr. Alfred Linnell (Paulerspury, Towcester).

Drs. Dryland (Kettering), Roughton (Kettering), *Tolputt (Kettering), More (Rothwell), Stone (Northampton), Beatty (Northampton), Darley (West Haddon), Churchouse (Long Buckby), *Greenfield (Rushden), Arthur (Wellingborough), Robb (Irthlingborough), Jeafferson (Blisworth), O'Rafferty (Daventry), Hope (Byfield).

Medical Service Subcommittee.—Drs. Baxter, Dryland, and Linnell.

Deaths and Suspensions.—A suggestion from the Clerk to the Insurance Committee that doctors should notify to him deaths, removals, or suspensions of panel patients as soon as they occur has been agreed to, and the Clerk was asked to circularize the doctors to that effect. The Committee agreed to continue the authorization of the practice of taking off deaths and suspensions and removal as from the date of notification.

Unallotted Persons.—The question of the treatment of unallotted persons was raised, and some dissatisfaction was expressed at the present methods of procedure and calculation for payment, but after discussion it was decided to continue on the old lines of attending any who might apply.

COUNTY OF DENBIGH.

THE following resolutions and recommendations have been adopted by the Panel and Pharmaceutical Committees acting jointly:

Prescribing and Dispensing.

That a suggestion should be made to the practitioners in the county that they should, as a general rule, prescribe 8-ounce mixtures with ½-ounce doses.

That "repeat" prescriptions may be written, subject to the following conditions:

(*a*) That no other item be prescribed on a form ordering any repeat.

(*b*) That the date of the original prescription be given on the form ordering any repeat.

(*c*) That no repeat may be ordered when the original prescription was given more than twenty-one days previously.

(*d*) That the practitioner shall supply a copy if requested by the chemist.

That this joint meeting of Panel and Pharmaceutical Committees recommends the Insurance Committee to allow extra dispensing fees for prescriptions dispensed by chemists outside their ordinary hours of business; such prescriptions to be marked "urgent."

That in future prescription forms be marked "Panel," "Sanatorium," "Temporary Resident," and that this be a recommendation to the Insurance Committee.

Stock Mixtures.

That this Committee is of opinion that the question of stock mixtures could best be dealt with by the individual practitioners and pharmacists in their several areas.

That no proprietary stock mixtures nor any formula bearing the name of any firm may be dispensed.

Cod-liver Oil and Extract of Malt with Oil.

That no quantity exceeding 1 lb. may be prescribed for any insured patient at one time, and that the container be labelled with directions to the patient as to the size and frequency of the dose to be taken.

Cod-Liver Oil and Petroleum Emulsions.

That a dispensing fee of 2d. for quantities up to 8 oz. or 3d. for quantities exceeding 8 oz. only be charged on cod-liver oil and petroleum emulsions except when prescribed "Recentis," in which case an extra emulsion fee of 2d. is to be added.

Homœopathic Remedies.

That only official tinctures and those contained in the *British Pharmaceutical Codex* shall be recognized in prescriptions

*Co-opted under Rule 29 of scheme.

for insured persons. This resolution is not intended to interfere with the prescribing of the homœopathic medicines of the British hospital pharmacopœia by homœopathic practitioners on the panel.

Linimentum Ovi.

That linimentum ovi be charged at the rate of 1d. per oz. together with the appropriate dispensing and emulsion fees.

Lozenges.

That when medicated lozenges are prescribed they should be charged for at a price based on the cost per pound, and not at the rate of, and bearing the dispensing fees applicable to tablets not included in the tariff.

Emergency Dressings and Bandages.

That the Insurance Committee be recommended to authorize each practitioner on the panel to obtain from persons, firms, and bodies corporate under agreement with the Insurance Committee for the supply of drugs and appliances in rotation, a small supply of dressings and bandages for use for insured persons in emergency and surgery cases only in each quarter; that if this quantity be found by any practitioner to be insufficient the practitioner shall make application to the Insurance Committee for authority to obtain a further supply, showing reasons why the quantity supplied has been found to be inadequate: Provided that if the Panel Committee consider that any practitioner has used a quantity in excess of that which might reasonably be necessary, they shall report to that effect to the Insurance Committee and the Insurance Committee shall surcharge the practitioner accordingly.

Excessive Prescribing.

That any cases of prescribing which might appear to the chemist to be excessive either as to the cost or the frequency of the supply of medicines should be brought to the notice of the Panel Committee, who would deal with the matter.

Prescribed Appliances.

That it be a recommendation from this Committee to the Insurance Committee that eye shades be included in the schedule of appliances which may be prescribed for insured persons.

DUMBARTONSHIRE.

INSTRUCTIONS AS TO PRESCRIBING OF MEDICINES, ETC.

THE following circular letter was issued to medical practitioners on the panel by the Dumbarton County Panel Committee last month:

DEAR SIR,—The Panel Committee has instructed us to bring to your notice the position in the county in regard to the Drug Fund and the consequent action which must be taken. For the first half of this "medical year" the chemists' accounts show an increase of about 35 per cent., and if the same rate of increase is maintained the Drug Fund will not suffice to meet all claims against it at the end of the year. The Drug Suspense Fund ("floating sixpence") will be absorbed sooner or later, and ultimately the chemists may not get full payment.

While to a certain extent insured persons are availing themselves more freely of the benefits of the Act, there is no evidence of any increase in the amount of sickness sufficient to account for the increased expenditure on drugs, but the Committee has reason to believe that it is largely due to lavish and wasteful methods of prescribing, to orders being given which are extravagant in character or quantity, to ordering proprietary articles for which there are satisfactory chemical equivalents or corresponding official preparations, and to ordering "appliances" which are excessive in quantity or not on the tariff.

The Committee is of opinion that considerable economy can be effected without interference with adequate treatment; accordingly practitioners are required to give particular attention to the following instructions:

Patients should be discouraged from thinking that there can be no treatment unless medicine is ordered.

The dose of a mixture should be 2 drachms or less; half-ounce doses involve too frequent "repeats" and consequent dispensing fees.

Patent medicines the composition of which is unknown must not be prescribed, and charges for these will not be passed.

Expensive proprietary articles must not be ordered when there are corresponding non-proprietary chemical equivalents or official preparations.

Excessively large quantities should not be ordered, as wastefulness is thereby encouraged.

Medicated wines, foods, and all preparations not strictly intended for medicinal use should not be prescribed.

Appliances not on the tariff must not be prescribed.

Finally, the Committee has to draw attention to the fact that where the orders given by any practitioner are found to be extravagant either in character or in quantity, and so to cause excessive demands on the Drug Fund, the excess may be deducted from the payments due to him.

Yours faithfully,

W. S. YOUNG, Chairman.

A. W. SUTHERLAND, Honorary Secretary.

A list of proprietary medicines and their chemical equivalents, and a list of proprietary preparations with official preparations of similar composition, is appended to the circular for the guidance of panel practitioners. In this connexion reference may be made to the second article, published last week, on the new *British Pharmacopœia*. When it comes into force on the first day of next year the problem will be materially simplified.

CORRESPONDENCE.

THE PROPOSED FEDERATION OF LOCAL MEDICAL AND PANEL COMMITTEES.

DR. ARTHUR E. LARKING (Honorary Secretary, Bucks Division, and Secretary of the Bucks Local Medical and Panel Committee) writes: The inherent fallacy in the arguments of Dr. Fothergill against the formation of the proposed Federation is that he assumes that the British Medical Association represents the whole profession. However much we may desire this, nobody knows better than he that such is not the case. Probably little more than half the panel practitioners, possibly even less, belong to the British Medical Association.

A large number of the members of the British Medical Association are not panel practitioners and take very little interest in the working of the Act and know nothing of its practical working. Many of the more active and influential members are actively hostile to it, and the Council has recently elected as assistant medical secretary one who is well known to hold extreme views on the Act. Is it at all likely that panel practitioners are going to entrust their interests entirely to the Association and its Representative Body?

The Conference of the Local Medical and Panel Committees has already decided by a large majority to work in conjunction and co-operation with the British Medical Association. What right has any one to assume that the Federation will be hostile to the British Medical Association? On the contrary, it will strengthen the Association. The object of those who are forming the Federation, and who will succeed in spite of absurd ideas of disruption, is to connect up and voice the views of panel practitioners and through the British Medical Association represent them to the proper authorities just in the same way as the views of those who form the Public Health, Ethical, Naval and Military, and other Committees of the British Medical Association voice the opinions of each of their particular section.

It is essential for the Local Medical and Panel Practitioners' Committees to hold conferences and be in communication with each other. These committees are composed of the men who are working the Act, and are brought into actual touch with difficulties, and who are the most competent to decide on the best policy of the profession with regard to the Act. It is quite hopeless to expect the Representative Meeting, already overloaded with other business, to give that special consideration to Insurance Act affairs in the time at its disposal.

Even with a subscription of 2 guineas a year the British Medical Association cannot afford to give proper attention to the Insurance Act in all its details. The Association does a tremendous amount now, but much more ought to be done. The more it gives to Insurance Act matters the more it neglects its scientific and educational work. The experience of the last years shows this. Moreover, it is not fair or just that men who do not belong to the British Medical Association should get the same advantages as the members.

The Federation will pay for the privilege of being connected up with the British Medical Association, and the subscriptions will come from the pockets of those who derive all the advantages, and one section of the profession—the willing few—will not have to pay whilst others escape. In addition to this, out of the levies raised by the various committees a Reserve Fund will be formed to protect the interests of panel practitioners—a result that would

never be attained by any special levy made by the British Medical Association, as past experience has clearly shown.

In my opinion the letter of Dr. Fothergill in the Supplement of October 3rd is wrong or misleading in every one of his ten paragraphs. It is also mischievous from the point of view of the unity of the profession, and conceived in a spirit full of pessimism and want of confidence in the commonsense of his professional brethren who are on the panels.

Dr. J. Wishart Kerr (Glasgow) writes: The proposed federation for Panel and Local Medical Committees is not just the simple thing it looks. It is nothing more or less than another of those attempts which are always being made to set up a rival body to the British Medical Association. It is to be hoped the good sense of the profession will give it its quietus.

New Draft Regulations.

Dr. Percy D. Pywell (Honorary Secretary, Borough of Lambeth Insurance Practitioners' Association, S.E.) writes: With regard to Dr. James Hamilton's criticism in the Supplement of October 17th, p. 205, of the advice of the Lambeth Insurance Practitioners' Association as to prescribing ½-oz. doses of medicine, it would appear on the face of it that Dr. Hamilton is not aware that it has always been usual to order ½-oz. doses for club or other contract patients. There has always been some difference between contract and private practice with respect to prescribing. Then a vast number of insured persons used formerly to go to hospitals and dispensaries, and invariably received four days' medicine at least. I would also mention that a large number of doctors give their private patients ½-oz. doses. The dispensary fee is a mighty factor. Last year the number of prescriptions reached at least 5½ millions, and supposing a quarter of that number was in 8-oz., 8-pts., or 6-oz. 6-pts., and for persons requiring three or four bottles of the same mixture, then there was an unnecessary call on the drug fund—in the case of 6-oz. mixtures to the extent of 2d. on every two mixtures, for one 6-oz. bottle in 12 doses only cost 2d. dispensing fee, just the same as one 6-oz. 6-pts.

The ordering of 1-oz. doses in cases such as influenza, bronchitis, anaemia, and numberless other illnesses requiring the same medication for some days, or even weeks, must obviously cause an undue call on the drug fund.

I beg to maintain that the Lambeth recommendation, without causing any harm to either doctor or patient, would be of the greatest service in keeping the cost of drugs, etc., well within the 2s. if it does not bring the amount down to 1s. 6d. Although the Act has been in force twenty-one months and the majority of Lambeth men have been ordering ½-oz. doses, no clamouring has been heard on the part of wives and children (or babies) for the same doses.

In conclusion, I need hardly mention that the honour and glory of the profession is as jealously guarded in Lambeth as in Chelsea, and that the prescribing in the former borough will not lose by comparison with even that of South-West London.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are announced by the Admiralty: Deputy Surgeon-General Octavius W. Andrews (ret.) to the *Revenge*, on commissioning; Fleet Surgeon George Hewlett, M.B. (ret.), to Portsmouth Dockyard, vice Andrews; Staff Surgeon John H. Lightfoot to the *Pembroke*, additional for the *Cornwallis*, on commissioning; Staff Surgeons A. F. Fleming, to the *Victory*, for R.N. Division, Walmer; E. C. Sawdy to the *Indus V*; P. T. Nicholls to the *Pembroke*, additional, for Isle of Grain Flying Station, temporarily; Staff Surgeon H. W. Nicholls to the *Speedwell*, vice Robinson; Temporary Surgeons R. W. Mellor, to *Victory*, for R.N. Division, Walmer; F. G. L. Scott to R.N. Division, Portsmouth, vice Fleming; T. S. Bradburn to the *Cyclops*; K. C. J. Meyer to the *Hyacinth*, additional, for Marine Garrison, St. Helena; H. C. Billings and W. M. Ash to the *Columbine*, additional, for Queensferry Sick Quarters; R. W. Townley and E. P. Fisher to the *Indus V*; C. J. C. Faill to R.M. Division at Portsmouth, vice Nicholls; H. G. McCaw to the *Revenge*, on commissioning; Frank P. Pocock to the *Colossus*; Archibald Todrick, M.B., to the *Collingwood*; William W. Rorke, M.B., to the *Hercules*; Alexander J. Macdiarmid to the *Vanguard*; Alfred D. E. Baylis, M.D., to the *Iron Duke*; John Rothwell, M.B., to the *Commonwealth*; George E. W. Lacey, M.B., to the *Dominion*; A. C. Morson, F.R.C.S., to the *Zealandia*; Henry C. Waldo to the *Lowestoft*; H. L. G. Foxwell to the *Cornwallis*, on commissioning; B. H. Pain and E. J. Parry to the *Vivid*, additional, for disposal; B. Malaher, to the *Wildfire*, additional, for disposal; A. B. Slater, M.D., H. Harvey, and N. F. Lloyd, M.B., to the *Pembroke*, additional, for Chatham Hospital; E. R. Bailey, W. D. Galloway, G. C. Fairchild, G. L. Harbe, M.B., and E. H. Hugo, M.B., to the *Vivid*, additional, for Plymouth Hospital; O. D. Brownfield to the *Victory*, additional, to Haslar Hospital.

Royal Naval Volunteer Reserve.

Leonard C. P. Irvine to the *Pembroke*, additional, for the *Cornwallis*, on commissioning.

ARMY MEDICAL SERVICE.

Royal Army Medical Corps.

Captain William B. Studdy, of the Australian Medical Unit, relinquishes his temporary commission.

Lieutenants confirmed in their rank: Ernest W. Wade, Bernard Woodhouse, William K. Morrison, Edgar Percival, Stanley J. Linzell, Lewis R. Shore.

To be temporary Lieutenants: Richard H. C. Gompertz, M.B., Arthur B. Le Mesurier, M.B., Geoffrey Hadfield, M.D., William A. Todd, M.B., John McFadden, M.B., Robert B. Blair, M.B., F.R.C.S., Philip J. Watkin, Matthew Murphy, Francis F. Muecke, M.B., F.R.C.S., John N. Clark, William H. Laslett, M.B., Jeffery W. Parker, Malcolm A. MacDonald, M.B., Arthur Owen Playford Reynolds, M.B., Arthur Ainslie Hudson, M.D., F.R.C.S.Edin., Edmund R. Dermer, Godfrey M. Huggins, F.R.C.S., Charles M. Kennedy, F.R.C.S., Charles D. Roberts, James H. Aikman, M.B., Delvine Bell, M.B., Edwin B. Barton, M.B., John S. Knox Boyd, M.B., Douglas M. Borland, M.B., Dudley T. Birt, M.B., Alan W. Gaye, M.B., William S. Garden, M.D., John H. C. Green, M.B., Aubrey Goodwin, M.B., Stanley Honeyman, M.B., Alfred E. Hallinan, M.B., Thomas H. Houston, M.B., Robert M. Hill, M.B., William J. Cardine, M.B., Courtnay C. Keates, James W. Littlejohn, M.D., David Matthew, M.B., William S. Martin, M.B., Daniel McVicker, M.B., Henry M. Mackenzie, M.B., Fred W. Mackenzie, M.B., John T. Morrison, M.B., F.R.C.S., Hugh L. Neil, M.B., Ralph S. Oldham, M.D., William B. U. Patterson, M.B., George Rankine, M.B., John S. Stewart, M.B., William R. Snodgrass, M.B., James J. Sinclair, M.B., Neil F. Sinclair, James Taylor, F.R.C.S.Edin., James H. Grove-White, M.D., and Donald Wainwright.

INDIAN MEDICAL SERVICE.

The provisional promotion of the undermentioned Captains has been confirmed: W. H. Hamilton, J. F. Boyd, P. S. Mills.

E. R. Armstrong, M.B., is provisionally promoted to the rank of Captain, with effect from July 29th.

The services of Major R. A. Needham, M.B., are placed temporarily at the disposal of His Excellency the Commander-in-Chief.

The following substantive changes are sanctioned among Agency Surgeons, with effect from May 25th, 1914: Lieutenant-Colonel T. W. Irvine to be confirmed as an Agency Surgeon, First Class, and Chief Medical Officer, North-West Frontier Province. Captain C. I. Brierley to be confirmed as an Agency Surgeon, Second Class. Captain J. B. D. Hunter is confirmed as an Agency Surgeon, Second Class, with effect from July 28th, 1914.

The undermentioned officers have been finally admitted to the service. Their commissions bear date January 31st, 1914: G. H. Mahony, M.B., B.Sc., G. Covell, M.B., W. R. Stewart, M.B., K. V. R. Rao, J. G. O. Moses, M.B., H. Chand, V. Mahadevan, A. C. L. O'S. Bilderbeck, M.B., J. W. van Reenen, M.B., B. F. Beatson, M. J. Roche, M.B., N. D. Puri, M.B., P. C. Roy, M.B., J. B. Vaidya, J. M. R. Hennessy, A. G. Cowper, W. M. Lupton, H. H. Brown, C. H. N. Baker.

The following promotions are made:—To be Surgeon-General: Colonel G. F. A. Harris, C.S.I., M.D., F.R.C.P., V.H.S., April 1st, 1912. To be Colonel: Lieutenant-Colonel F. J. Drury, M.B., April 1st, 1912. Lieutenants to be Captains (provisionally subject to passing the Departmental Examination at the earliest possible opportunity): E. R. Armstrong, M.B., July 29th, 1914; C. J. Stockler, M.B., July 29th, 1914.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Third Northern General Hospital.—John H. Cobb, M.B., to be Captain.

Sanitary Service.—Cuthbert B. Moss-Blundell, M.D., to be Captain.

Supernumerary for Service with the Officers' Training Corps.—Frederick J. Clemenson to be Lieutenant for service with the University of London Contingent, Senior Division, Officers' Training Corps.

First Highland Field Ambulance.—William H. E. Brand, F.R.C.S.Eng., to be Lieutenant; Captain John H. Stephen, M.B., and Captain Cuthbert D. S. Agassiz, M.B., from attached to units other than medical units to be Captains; Lieutenant James A. Morris, M.B., and James E. G. Thomson, M.B., from attached to units other than medical units, and Daniel M. Grant, M.B., James McConnachie, M.B., Charles A. Whyte, and George Davidson, M.D., to be Lieutenants.

Second Home Counties Field Ambulance.—Captain William H. Flint to be Major; Lieutenant Bernard B. Billings to be Captain.

Attached to Units other than Medical Units.—Frank R. Armitage, M.B., to be Lieutenant; Robert A. Kerr, M.B., to be Lieutenant; Lieutenant Dudley R. Harris, to be Captain; William L. Burgess, to be Lieutenant; Frederick A. W. Drinkwater, to be Captain; Frank W. Lawson, to be Lieutenant; Charles Butler to be Lieutenant; Francis R. Eddison to be Lieutenant; Robert E. T. Tatlow, M.D., to be Lieutenant; Captain John E. Molson, M.B., to be Major; Cresswell Burrows, M.D., to be Lieutenant; Humphry J. Wheeler, M.D. (late Surgeon-Captain, 1st Buckingham R.V.C.), to be Lieutenant; Lieutenant Lee D. B. Cogan to be Captain; Cecil A. Ensor to be Captain; Herbert Connop to be Lieutenant; Captain Francis W. Goodbody, M.D., from the 3rd London General Hospital, to be Captain; Major William K. Paull, from the Territorial Force Reserve, to be Major; Major Herman Stedman, F.R.C.S.Edin., resigns his commission, and is granted permission to retain his rank and wear the prescribed uniform; Captain Charles Arthur Morris, C.V.O., M.B., F.R.C.S., to be Major; Supply Captain Matthew B. Ray, M.D., is absorbed into the establishment; Lieutenant Alan C. Ransford to be Captain; Thomas V. Oldham, M.B., to be Lieutenant; James G. F. Hosken to be Lieutenant; Edward L. Martin, M.D., to be Lieutenant; the date of appointment of Lieutenant Leonard West, M.B., is August 5th, 1914 and not as stated in the *London Gazette* of August 25th, 1914; Lieutenant Angus McNab, M.B., to be Captain.

First Home Counties Field Ambulance.—Captain JOSEPH WARD to be Major; ARTHUR T. FULWASSER to be Captain; WILLIAM B. KEITH, M.B., to be Lieutenant.

Second London Sanitary Company.—Lieutenant PERCY N. CAVE to be Captain.

South Wales Mounted Brigade Field Ambulance.—To be Lieutenants: HERBERT M. PENTREATH, GUY S. THOMSON, ARCHIBALD J. CAMPBELL, and ERNEST L. SANDLAND, M.B.

Vital Statistics.

EPIDEMIC MORTALITY IN LONDON.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

THE accompanying diagram shows the prevalence of the principal epidemic diseases during the second quarter of the year. The fluctuations of each disease and its relative fatality compared with the average in the corresponding periods of recent years can thus be readily seen, except in the case of diarrhoea and enteritis among children under 2 years of age, for which the average mortality is not available.

Enteric Fever.—The fatal cases of enteric fever, which had been 28, 37, and 47 in the three preceding quarters, declined again last quarter to 32, but were 11 in excess of the corrected average number in the corresponding period of the five preceding years. This disease was proportionally most fatal last quarter in Fulham, St. Marylebone, Holborn, Lambeth, and Deptford. The Metropolitan Asylums Hospitals contained 40 enteric fever patients at the end of last quarter, against 56, 51, and 66 at the end of the three preceding quarters; 88 new cases were admitted during the quarter, against 148 and 147 in the two preceding quarters.

Small-pox.—No death from small-pox was registered last quarter in London, and no case of this disease was under treatment in any of the Metropolitan Asylums Hospitals.

Measles.—The deaths from measles, which had been 124, 52, and 148 in the three preceding quarters, rose again last quarter to 346, but were 266 below the corrected average number in the corresponding period of the five preceding years. The highest death-rates last quarter from this disease were recorded in Finsbury, Shoreditch, Stepney, Bermondsey, and Greenwich.

Scarlet Fever.—The fatal cases of scarlet fever, which had been 46, 49, and 66 in the three preceding quarters, further rose last quarter to 69, and were 11 in excess of the corrected average number. Among the several boroughs this disease was proportionally most fatal in Fulham, Finsbury, the City of London, Southwark, Deptford, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 2,552, 3,810, and 3,138, had further declined to 3,046 at the end of last quarter; 4,731 new cases were admitted during the quarter, against 4,203, 7,113, and 4,799 in the three preceding quarters.

Whooping-cough.—The deaths from whooping-cough, which had been 120, 116, and 281 in the three preceding quarters, further increased to 310 last quarter, but were 59 fewer than the corrected average number in the corresponding period of the five preceding years. The greatest proportional mortality from this disease was recorded in Finsbury, the City of London, Shoreditch, Bethnal Green, and Stepney.

Diphtheria.—The fatal cases of diphtheria, which had been 73, 138, and 161 in the three preceding quarters, declined again last quarter to 143, but were 35 in excess of the corrected average number. The highest death-rates from this disease occurred in Hackney, Stepney, Poplar, Deptford and Woolwich. There were 1,079 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last quarter, against 909, 1,099, and 1,307 at the end of the three preceding quarters; 1,673 new cases were admitted during the quarter, against 1,624, 2,281, and 2,069 in the three preceding quarters.

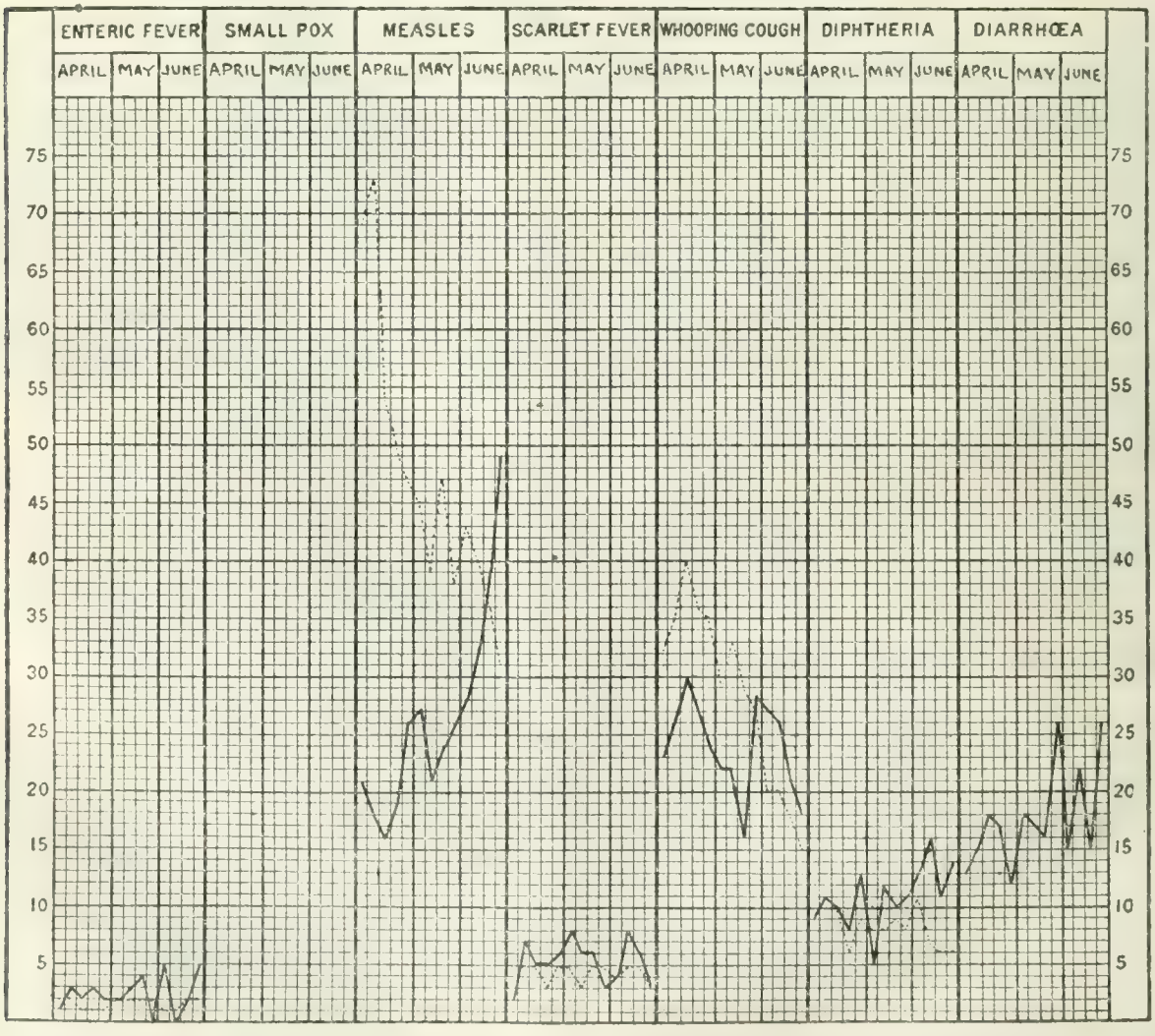
Diarrhoea.—The deaths under this heading are those attributed to diarrhoea and enteritis among children under two years of age; measured in proportion to the births registered during the quarter the mortality from this cause was greatest in Islington, Stoke Newington, Hackney, Shoreditch, Bethnal Green, Poplar and Bermondsey.

In conclusion it may be stated that the aggregate mortality last quarter from these epidemic diseases, excluding diarrhoea, was 22.9 per cent. below the average.

HEALTH OF ENGLISH TOWNS.

IN the ninety-seven largest English towns 9,246 births and 5,441 deaths were registered during the week ended Saturday, September 26th. The annual rate of mortality in these towns, which had been 14.4, 15.2, and 15.1 per 1,000 in the three preceding weeks, rose to 15.7 per 1,000 in the week under notice. In London the rate was equal to 15.5, against 15.4, 16.1, and 15.6 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 6.2 in Southend, 6.6 in Eastbourne, 6.7 in Bournemouth, 7.9 in Swindon, 8.1 in Ealing, and 8.4 in Wallasey to 22.0 in Preston, 22.7 in Middles-

DEATHS FROM EPIDEMIC DISEASES IN LONDON DURING THE SECOND QUARTER OF 1914.



NOTE.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding weeks of the five preceding years, 1909-13. Under the heading "Diarrhoea" are given the deaths from diarrhoea and enteritis among children under 2 years of age; the corrected average number of these deaths is not available.

brough, 22.9 in South Shields, 23.2 in Liverpool, 23.8 in St. Helens, 31.0 in Gateshead, and 34.8 in Wigan. The deaths of children (under 2 years) from diarrhœa and enteritis, which had been 947, 1,172, and 1,223 in the three preceding weeks, fell to 1,004, and included 245 in London, 106 in Liverpool, 47 in Birmingham, 46 in Manchester, 32 in Stoke-on-Trent, and 29 in Newcastle-on-Tyne. Measles caused a death-rate of 1.7 in Oldham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 44, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner; of this number 9 were recorded in Liverpool, 6 in Birmingham, 4 in Gateshead, 3 in London, and 3 in Newcastle-on-Tyne. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,318, 3,500, and 3,659 at the end of the three preceding weeks, had risen to 3,964 on Saturday, September 19th; 674 new cases were admitted during the week, against 548, 619, and 551 in the three preceding weeks.

In the ninety-seven largest English towns 8,659 births and 4,966 deaths were registered during the week ended Saturday, October 3rd. The annual rate of mortality in these towns, which had been 15.2, 15.1, and 15.7 per 1,000 in the three preceding weeks, fell to 14.3 per 1,000 in the week under notice. In London the death-rate was equal to 14.9, against 16.1, 15.6, and 15.5 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 3.0 in Dudley, 5.6 in Gillingham, 7.2 in Cambridge, 7.7 in Oxford, 8.2 in Hornsey, and 8.6 in Croydon to 21.2 in Tynemouth, 21.6 in Warrington, 21.8 in Great Yarmouth and in Wakefield, 22.0 in Stockton-on-Tees, and 22.3 in Birkenhead. Measles caused a death-rate of 1.6 in West Hartlepool and 1.9 in Birkenhead; diphtheria of 1.2 in Leyton, 1.3 in Stoke-on-Trent, and 1.6 in Middlesbrough; enteric fever of 1.4 in South Shields; and whooping-cough of 1.0 in Newcastle-on-Tyne. The death of children (under 2 years) from diarrhœa and enteritis, which had been 1,172, 1,223, and 1,004 in the three preceding weeks, further fell to 651, and included 183 in London, 60 in Liverpool, 26 in Stoke-on-Trent, 19 in Birmingham, 17 in Hull, and 15 in Sheffield. The mortality from scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 36, or 0.7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner; of this number, 4 were recorded in Birmingham; 4 in Liverpool, 3 in Rochdale, 3 in Gateshead, and 2 each in Nottingham, Bootle, St. Helens, and Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,500, 3,669, and 3,964 at the end of the the three preceding weeks, had further increased to 4,196 on Saturday, October 3rd; 640 new cases were admitted during the week, against 619, 551, and 674 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,124 births and 717 deaths were registered during the week ended Saturday, September 26th. The annual rate of mortality in these towns, which had been 16.0 16.5, and 15.9 per 1,000 in the three preceding weeks, rose to 16.3 in the week under notice, and was 0.6 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 7.3 in Kilmarnock, 12.5 in Falkirk, and 12.6 in Motherwell and in Ayr to 17.4 in Greenock, 17.7 in Glasgow, and 19.4 in Paisley. The mortality from the principal infective diseases averaged 2.9 per 1,000, and was highest in Motherwell and Greenock. The 356 deaths from all causes in Glasgow included 54 from infantile diarrhœa, 11 from whooping-cough, 5 from scarlet fever, 2 from diphtheria, 2 from enteric fever, and 1 from measles. Three deaths from scarlet fever and 5 from diphtheria were recorded in Aberdeen; 2 deaths from scarlet fever in Edinburgh; and from infantile diarrhœa 9 deaths in Edinburgh, 8 in Dundee, 5 in Greenock, and 3 in Motherwell.

In the sixteen largest Scottish towns 1,110 births and 687 deaths were registered during the week ended Saturday, October 3rd. The annual rate of mortality in these towns, which had been 16.5, 15.9, and 16.3 per 1,000 in the three preceding weeks, fell to 15.6 in the week under notice, but was 1.3 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 10.8 in Hamilton, 13.8 in Edinburgh and in Perth, and 14.0 in Kirkcaldy to 18.1 in Greenock, 18.2 in Coatbridge, and 19.8 in Dundee. The mortality from the principal infective diseases averaged 2.1 per 1,000, and was highest in Dundee and Aberdeen. The 312 deaths from all causes in Glasgow included 28 from infantile diarrhœa, 11 from whooping-cough, 3 from scarlet fever, 2 from enteric fever, 2 from diphtheria, and 1 from measles. Nine deaths from infantile diarrhœa were recorded in Edinburgh and 5 in Dundee; from scarlet fever 3 deaths in Aberdeen and 2 in Dundee; and from diphtheria, 4 deaths in Aberdeen.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 26th, 598 births and 443 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 556 births and 459 deaths in the preceding period. These deaths represent a mortality of 19.2 per 1,000 of the aggregate population in the districts in question, or the same as in the previous period. The mortality in these Irish areas was therefore 3.5 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.9 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.4 (as against an average of 18.5 for the previous four weeks), in Dublin city 20.5 (as against 20.1), in Belfast 22.1 (as against 18.7), in Cork 22.4 (as against 15.8), in Londonderry 22.8 (as against 12.4), in Limerick 23.0 (as against 20.3), and in Waterford 17.1 (or the same as the average four weeks). The zymotic death-rate was 4.2, as against 4.4 in the previous week.

During the week ending Saturday, October 3rd, 676 births and 461 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 598 births and 443 deaths in the preceding period. These deaths represent a mortality of 17.3 per 1,000 of the aggregate population in the districts in question, as against 19.2 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.0 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 29.2 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 19.1 (as against an average of 18.5 for the previous four weeks), in Dublin city 19.0 (as against 20.0), in Belfast 17.4 (as against 20.0), in Cork 14.3 (as against 17.9), in Londonderry 14.0 (as against 15.6), in Limerick 16.2 (as against 20.6), and in Waterford 17.1, or the same as in the previous period. The zymotic death-rate was 2.6, as against 4.2 in the previous week.

Vacancies and Appointments.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

AYR DISTRICT ASYLUM.—Assistant Physician. Salary, £200 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM CITY ASYLUM, Rubery Hill.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM UNION.—(1) Third and Fourth Assistant Medical Officers at Dudley Road Infirmary; (2) Assistant Medical Officer at Erdington Infirmary and Cottage Homes; (3) Assistant Medical Officer at Selly Oak Infirmary. Salary for (1) £170 and £160 respectively, (2) £200, and (3) £180 per annum.

BOOTLE CORPORATION.—Resident Medical Officer for Infectious Diseases Hospital. Salary, £250 per annum.

BURSLEM: HAYWOOD HOSPITAL.—Resident Medical Officer (female). Salary, £100 per annum.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Assistant to the Medical Superintendent. Salary, £200 per annum.

CAMBERWELL: PARISH OF ST. GILES.—Temporary Resident Medical Officer at the Constance Road Institution. Salary at the rate of £225 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Dental Surgeon.

CHELSEA INFIRMARY, Cale Street, S.W.—Second Assistant Medical Officer. Salary, £160 per annum.

CHESTER: CHESHIRE EDUCATION COMMITTEE.—Fourth Assistant to the Chief School Medical Officer. Salary, £350 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Senior House-Surgeon. Salary, £200 per annum.

CHICHESTER: ROYAL WEST SUSSEX HOSPITAL.—House-Surgeon (male). Salary, £110 per annum.

DERBYSHIRE COUNTY COUNCIL.—Resident Assistant for the County Sanatorium. Salary, £250 per annum.

DUNDEE: UNIVERSITY OF ST. ANDREWS MEDICAL SCHOOL.—Assistant in Pathological Department. Salary, £150 per annum.

DURHAM COUNTY COUNCIL.—Assistant School Medical Officer (woman). Salary, £300 per annum, rising to £350.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—(1) House-Physician; (2) House-Surgeon. Salary at the rate of £75 per annum each.

EXETER CITY ASYLUM.—Medical Superintendent. Salary, £500 per annum, rising to £600.

GATESHEAD ASYLUM.—Assistant Medical Officer. Salary, £220 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GREAT YARMOUTH COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary, £250 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HARROGATE INFIRMARY.—Resident House-Surgeon. Salary, £100 per annum.

HEREFORD COUNTY AND CITY ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

HUDDERSFIELD ROYAL INFIRMARY.—Senior and Junior Assistant House-Surgeons (males). Salary, £80 per annum each.

HULL ROYAL INFIRMARY.—(1) Honorary Assistant Medical Officer; (2) Senior House-Surgeon; (3) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

KENT COUNTY ASYLUM, Chartham.—Third Junior Assistant Medical Officer (male). Salary, £250 per annum.

KING'S LYNN: WEST NORFOLK AND LYNN HOSPITAL.—House-Surgeon. Salary, £150 per annum.

LEEDS: HOSPITAL FOR WOMEN AND CHILDREN.—Two House-Surgeons. Salary at the rate of £50 per annum.

LEICESTER ROYAL INFIRMARY.—(1) Two Resident Assistant House-Surgeons. (2) Two Dressers.

LONDON COUNTY ASYLUM, Claybury.—Fifth and Sixth Assistant Medical Officers. Salary, £200 per annum, rising to £220.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER TOWNSHIP.—Second and Junior Resident Assistant Medical Officers at the Institution, Crumpsall. Salary, £180 and £160 per annum respectively.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Fitzroy Square, W.—House-Surgeon (non-resident). Salary, £150 per annum.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL.—House-Surgeon. Salary, £120 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Junior House-Surgeon. Salary at the rate of £85 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, ETC.—Assistant Physician.

NEWCASTLE-UPON-TYNE AND NORTHUMBERLAND SANATORIUM FOR CONSUMPTIVES.—Resident Medical Officer (male). Salary, £350 per annum, rising to £400.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—Senior and Junior Medical Officers. Salary, £100 and £80 per annum respectively.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—(1) Four House-Physicians; (2) Four House-Surgeons; (3) Accident Room House-Surgeon; (4) House-Surgeons to the (*a*) Aural and Opnthalmic, (*b*) Skin and Gynaecological, (*c*) Out-patient Dressing Departments.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORTHAMPTON COUNTY ASYLUM, Berry Wood.—Junior Assistant Medical Officer. Salary, £200 per annum.

NORTHAMPTON GENERAL HOSPITAL.—Two House-Surgeons. Salary, £120 per annum.

NOTTINGHAM CHILDREN'S HOSPITAL.—Lady House-Surgeon. Salary at the rate of £130 per annum.

NOTTINGHAM GENERAL HOSPITAL.—(1) Senior House-Physician; (2) Assistant House-Physician; (3) Assistant House-Surgeon. Salary for (1) £120 per annum, and for (2) and (3) £100 per annum each. (Women eligible.)

OLDHAM ROYAL INFIRMARY.—Third House-Surgeon, Salary at the rate of £100 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—(1) Resident Medical Officer. (2) Assistant Resident Medical Officer. Salary at the rate of £110 and £90 per annum respectively, and £10 on completion of six months' service.

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

PUTNEY HOSPITAL, S.W.—Resident Medical Officer. Salary, £150 per annum.

ROYAL EYE HOSPITAL, Southwark.—Senior House-Surgeon.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon (male). Salary, £115 per annum.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—(1) Anaesthetist to the Institution and to the L.C.C. School Dental Clinic; (2) Honorary Gynaecologist; (3) Temporary Honorary Ophthalmic Surgeon; (4) Honorary Medical Radiographer.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer: (2) Casualty House-Surgeon. Salary, £120 and £100 per annum respectively.

SALISBURY GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SEAMEN'S HOSPITAL SOCIETY, DREADNOUGHT HOSPITAL.—(1) House-Surgeon; (2) Casualty Officer. Salary, £50 per annum each.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) Assistant House-Physician. Salary, £100 per annum each.

SOUTHAMPTON FREE EYE HOSPITAL.—House-Surgeon, Salary, £100 per annum.

SOUTH SHIELDS COUNTY BOROUGH.—Assistant School Medical Officer and Assistant Medical Officer of Health (male). Salary, £300 per annum, increasing to £350.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SOUTHWARK UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £170 and £160, rising to £180 and £170 per annum respectively.

STIRLING DISTRICT ASYLUM, Larbert, N.B.—Third Assistant Medical Officer (lady) Salary, £140 per annum.

STROUD GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SUNDERLAND: ROYAL INFIRMARY.—Junior House-Surgeon (male). Salary, £100 per annum

THROAT HOSPITAL, Golden Square, W.—(1) Honorary Anaesthetist; (2) Honorary Assistant Anaesthetist; (3) Resident House-Surgeon, salary, £75 per annum; (4) Honorary Surgical Registrar.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. (male). Salary, £100 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Junior House-Surgeon. Salary, £150 per annum.

WAKEFIELD: WEST RIDING ASYLUM.—(1) Assistant Medical Officer (male); (2) Junior Assistant Medical Officer (female). Salary £230 and £175 per annum, rising to £270 and £225, and on promotion to £340 and £275 respectively

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon and Anaesthetist. Salary, £110 per annum.

WALSALL COUNTY BOROUGH.—School Medical Inspector and Assistant Medical Officer of Health. Salary, £300 per annum.

WESTERN DISPENSARY, Rochester Row, S.W.—Resident Medical Officer. Salary, £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House-Physician. Salary, £120 per annum.

WESTMINSTER UNION INFIRMARY, Fulham Road, S.W.—Second and Third Assistant Medical Officers. Salary, £160 and £140 per annum, rising to £180 and £160 respectively.

WHITECHAPEL DISPENSARY FOR THE PREVENTION OF CONSUMPTION.—Temporary Medical Officer. Salary, £500 per annum.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Senior House-Surgeon. Salary, £170 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—(1) Pathologist; (2) Resident Medical Officer; (3) House-Surgeon. Salary for (1) £200, and for (2) and (3) £125 per annum.

WORCESTER: COUNTY AND CITY ASYLUM, Powick.—Junior Assistant Medical Officer. Salary, £200 per annum.

WORCESTERSHIRE ASYLUM, Bromsgrove.—(1) Deputy Medical Superintendent; (2) Second Assistant Medical Officer (males). Salary, £300 and £225 per annum, rising to £350 and £250 respectively.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Ballinamore (co. Leitrim), Woburn Sands (Beds.).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

LONNON, Frederick, M.R.C.S., L.R.C.P., L.D.S.Eng., Dental Surgeon to the L.C.C. School Treatment (Peckham) Centre, Old Kent Road, S.E.

MAGEE, J. A., L.R.C.P. and S.Irel., District Medical Officer of the Worksop Union.

RUDDOCK-WEST, T., M.B., B.S.Durh., D.P.H.Cantab., Assistant School Medical Officer and Assistant Medical Officer of Health to the City of Norwich.

COOK, H. G. G., M.D., F.R.C.S., Medical Referee under the Workmen's Compensation Act, 1906, for the County Court Circuit No. 24, and to be attached more particularly to the Cardiff and Barry County Courts, vice Dr. Vachell, deceased.

MCGRATH, P., L.R.C.P. and S.I., Certifying Factory Surgeon for the Ardagh District, co. Limerick.

WEBB, C. C., M.B., Certifying Factory Surgeon for the Yatton District, co. Somerset.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

WRAY.—On October 12th, at 41, Highgate Avenue, Fulwood, Preston, to Dr. and Mrs. G. G. Wray, a daughter.

MARRIAGES.

GIFFORD—AITCHISON.—At Burnham, Somerset, on October 14th, Dr. John Gifford, B.A., of Avalon, Ogmore Vale, Glam., to Catherine Aitchison, of St. Leonards, Burnham, Som.

HENRY—GERHARTZ.—On October 14th, at St. Patrick's Church, Bradford, McWilliams Henry, F.R.C.S.E., Argyle House, Halifax, only son of Dr. and Mrs. George McWilliams Henry, North Parade, Halifax, to Charlotte Marianne, elder daughter of the late F. Gerhartz, Esq. (Belgian Consul), and Mrs. Gerhartz, Clifton Mount, Bradford.

MACNABB—BYWATER.—On October 17th, at St. Cuthbert's Church, Edinburgh, H. H. MacNabb, M.D., of Manchester, to Annie Emily, second daughter of Mrs. Bywater, of Innescote, Roxburgh.

DEATHS.

MACQUIBBAN.—At 248, Union Street, Aberdeen, on October 16th, Isabella Monro, wife of Surgeon Lieutenant-Colonel C. M. Macquibban. No flowers. Funeral private.

WOOLLATT.—On August 27th, at Shiraz, Persia, accidentally drowned, Percy Christopher Parkes Woollatt (Sahib Kuchik), aged 6½ years, dearly beloved eldest son of Lilian and Percy Woollatt, M.D. Temporarily interred in Shiraz burial ground.

OUR BUD IN HEAVEN.

Just as it was opening in glory to the day,
Down came the Heavenly Father and took our bud away.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, Chandos Street, W.—8.30 p.m., Discussion: Operative Treatment of Tumours of the Caecum and Colon, especially in relation to Immediate Resection, Colostomy, combined with Secondary Resection and Short-circuiting, to be introduced by Mr. H. J. Waring, Mr. James Sherren, and Mr. E. M. Corner. There will also be an exhibition of specimens.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—5 p.m., Museum Demonstration. Mr. Shattock: Tuberculosis.

WEDNESDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—5.30 p.m., Museum Demonstration. Mr. Colyer: Dento-alveolar Abscess and Dental Cyst.

FRIDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—5 p.m., Museum Demonstration. Professor Keith: Gunshot Injuries of the Thorax and Abdomen.

ROYAL SOCIETY OF MEDICINE.—Occasional Lecture to Fellows, 5 p.m., in the Robert Barnes Hall. Professor J. C. Bose, C.S.I., C.I.E., D.Sc. (Calcutta University), will give a Demonstration on the Modification of Response in Plants under the Action of Drugs.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 31ST, 1914.

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Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

DORSET AND WEST HANTS BRANCH.

THE autumn meeting of the Branch was held at the Hotel Mont Dore, Bournemouth, on October 21st, when the President, Mr. H. H. DU BOULAY, was in the chair; thirty-six members signed the attendance register.

Extension of Branch.—The SECRETARY informed the meeting of the inclusion of Shaftesbury and Handley in the Branch area.

Election of Officers.—The following were elected officers for the year 1915–16:

President: Dr. C. D. Muspratt (Bournemouth).
Vice-Presidents: Dr. V. Milner, Mr. H. C. Unwin.
Honorary Secretaries: Dr. F. Fowler and Mr. P. A. Ross (re elected).

Uterine Haemorrhage.—Dr. ELEANOR BOND, Vice-President, read a paper on uterine haemorrhage, which was discussed by the PRESIDENT, Mr. MAHOMED, Dr. SABERTON, Dr. LYS, Dr. SIMMONS, Mr. RAMSAY, and Dr. MIDELTON. Dr. BOND replied, and on the motion of Dr. MOORHEAD a vote of thanks was accorded to her for her excellent paper.

Abdominal Cases.—Dr. NORMAN FLOWER read notes of two interesting abdominal cases.

Next Meeting.—On the motion of Dr. LYS, seconded by Dr. SIMMONS, it was agreed that the next meeting be held at Weymouth in May, 1915.

Luncheon.—The Bournemouth practitioners entertained the Branch to luncheon and tea.

GLASGOW AND WEST OF SCOTLAND BRANCH: DUMBARTONSHIRE DIVISION.

A SPECIAL meeting of the Division was held in Glasgow on October 3rd, under the chairmanship of Dr. GILMOUR, to consider the following resolution of the Clydebank Medical Committee:

> It having been suggested by the Clydebank Insurance Committee that the members of the local panel should give a temporary donation to the nursing association to provide after-treatment to tuberculous patients until such time as a tuberculosis officer and nurse are appointed, the granting or refusing of this request be referred by the local panel to the Dumbartonshire Division of the British Medical Association for its opinion.

On the motion of Dr. W. S. YOUNG, seconded by Dr. BLAKELEY, it was resolved by a large majority:

> That this Division of the British Medical Association considers that it is inexpedient for medical practitioners in the Division to give a donation to any nursing association to provide after-treatment for tuberculous patients.

SOUTH-EASTERN OF IRELAND BRANCH.

AT an ordinary meeting of this Branch, held in Kilkenny on October 14th, the President, Dr. O'CONNELL, occupied the chair, and sixteen other members were present.

Scheme of Free Medical Attendance for the Dependants of those Serving with the Colours.—A circular letter from the Medical Secretary, London (dated September 17th), also a letter from the Irish Medical Secretary (dated September 22nd), were read referring to the steps taken to inaugurate a system of free medical attendance for the necessitous dependants of men serving with the colours. The meeting unanimously decided to fall in with the scheme, and it was proposed by Dr. POWER, seconded by Dr. WALSHE, and passed unanimously:

> That, in view of the present national emergency, the South Eastern of Ireland Branch of the British Medical Association requests all medical practitioners to give free medical attendance to the dependants of soldiers and sailors on active service.

Medical Certificates under the Insurance Act.—On the motion of Dr. POWER, seconded by Dr. WALSHE, the following resolution was carried by 16 votes to 1:

> That no medical certificates be issued for sickness benefits to insured persons under the Insurance Act as applied to Ireland, and where sickness benefits have been denied to insured persons in consequence of their being unable to obtain medical certificates, particulars of such cases be furnished to the Irish Insurance Commissioners and to the Secretaries of the Irish Medical Committee, and that the medical attendant in each case be requested to use his best endeavours to give effect to above proposal, and any member violating this resolution should be reported to the Ethical Committee of this Branch.

Notices of Motion.—Notices of motion, in the name of Dr. Laffan, dealing with "undercutting of professional fees," "gratuitous professional services in hospitals, lecture rooms, and for first-aid services, etc.," and the "stampede of well-to-do patients for medical treatment to Dublin," were adjourned to the first meeting in the next session to afford sufficient time for their consideration.

Medical Adviser's Intrusion.—A letter was read from a member of the Branch narrating the history of one of his insured patients who was suffering from chronic pericarditis with tachycardia (auricular fibrillation) and dyspnoea, and who was certified as fit to work by a medical adviser employed by the Irish Insurance Commissioners to provide certificates free of cost to insured persons but without affording medical attendance. Some time afterwards, when the medical attendant visited this patient, he found him in great distress, with mitral bruit, swollen feet, and failing compensation.

Branch Council.—A special meeting of the Branch Council was subsequently held, when Dr. O'CONNELL occupied the chair, and ten other members were present.

Ethical Committee.—The following members were elected on the Ethical Committee: Drs. R. R. O'Brien, Power, Laffan, Charles Ryan, Morris, Mackesy, Morrissey, Jellett, D. Walshe, James, Shee, J. V. Ryan, President and Honorary Secretary (*ex officio*). Five members to form a quorum.

Dinner.—The meeting then adjourned and the members dined together.

WILTSHIRE BRANCH: TROWBRIDGE DIVISION.

THE final meeting of the Trowbridge Division as a unit of the Bath and Bristol Branch was held at the Town Hall, Trowbridge, on October 15th, when Dr. RUMBOLL was in the chair, and eight other members were present.

Dissolution of Division.—On the motion of Dr. TUBB-THOMAS, seconded by Dr. FERGUSON, it was resolved;

> That the Trowbridge Division of the Bath and Bristol Branch be and hereby is dissolved.

The first general meeting of the new Division as a unit of the Wiltshire Branch was held at the close of the meeting dissolving the old Division. Dr. Rumboll was appointed to the chair and Dr. Bond was elected secretary *pro tem.*

Election of Officers.—The officers elected at the annual meeting of the old Division on May 27th, 1914, were re-elected with the substitution of the name of Dr. Tubb-Thomas for that of Dr. Rattray as Representative on the Branch Council.

Rules.—The rules and Ethical Rules adopted by the old Division were readopted with the following alterations: Rule 1. Omit the words "and Somerset." Rule 2. For "Bath and Bristol" read "Wiltshire."

Swindon Division.—The Secretary was instructed to write to Dr. Dismorr (Wroughton) asking him to arrange a meeting in Swindon to inaugurate the Swindon Division.

Branch Meeting.—It was recommended that a Branch meeting be held in November.

Treatment of Dependants of Men Serving with the Colours.—A letter from the Secretary of the Wilts War Relief Committee was read, and Dr. Bond was elected representative of medical men on the Committee. The following recommendations were referred to the Committee:

1. That books to be given to dependants (of which a specimen was produced) be supplied to doctors for use in cases of emergency—to be taken by the patient to the office of the Relief Committee before being presented to the doctor a second time.
2. That patients be entitled to free choice of the doctor willing to serve.
3. That patients must attend during panel hours.

Medical Inspection of School Children.—Dr. Tubb-Thomas explained the scheme under which medical men were asked to carry out the work of medical inspection in certain areas of the county at a fee of 2s. per child examined. It was resolved that members be recommended to accept the terms offered.

Insurance Act Committee.—A communication from the Insurance Act Committee of the British Medical Association in connexion with the pending revision of Medical Benefit Regulations and the agreements between doctors and Insurance Committees (see Supplement, October 17th, p. 202) was received and approved.

IRISH MEDICAL COMMITTEE.

A meeting of the Irish Medical Committee was held at the Royal College of Surgeons on October 7th. In the absence of Dr. Macnamara, the Chairman, Mr. R. J. Johnstone, Vice-Chairman, presided. The other members present were:

Drs. R. Marley Blake, H. T. Warnock, E. Thompson, S. Gawn, T. Donnelly, W. W. Murphy, J. M. S. Kenny, J. W. Olpherts, D. Walshe, J. J. O'Connor, K. F. Lynn, W. J. O'Sullivan, J. J. O'Sullivan, J. S. Darling, W. A. Morton, A. A. McConnell, P. J. Hamilton, R. J. Rowlette, W. F. Delaney, A. MacBride, B. Costello, T. F. Higgins, B. C. Powell, D. Forde; Dr. M. R. J. Hayes, Medical Secretary, and Mr. C. H. Gick, Secretary, were also in attendance.

Representatives of Local Medical Committees on the Insurance Committee.—It was decided to protest against the failure of the Insurance Commissioners to carry out their promise of March 7th, 1913, to appoint the nominees of Local Medical Committees on the Insurance Committee, and Secretaries of Local Medical Committees in the various areas are requested to intimate at once cases where their nominees have not both been appointed.

Medical Secretaries.—Dr. Hayes, Acting Medical Secretary, stated that Dr. Hennessy was now in a position to take up the duties of Medical Secretary, and that communications should be addressed to him at 16, South Frederick Street, Dublin, or to the Joint Secretary, Mr. C. H. Gick, 58, Dame Street, Dublin.

First Aid Lectures.—After discussion, the meeting adopted a resolution approving of ambulance lectures being given.

Certification.—Dr. Hayes explained the present position of negotiations regarding certification, and after a lengthened discussion it was unanimously resolved:

That the Irish Medical Committee, representative of the profession, will not under the present conditions raise any objection to the medical men in the panel areas continuing for the present the existing arrangements with the Insurance Commissioners.

The meeting also adopted the following resolution, and decided to ask the honorary secretaries of the Local Medical Committees to carry it into effect:

That each Local Medical Committee be requested to ask the M.P.'s for their respective counties to receive a deputation with reference to the certification question.

Contributions from Local Medical Committees.—The following resolution was adopted:

That the Local Medical Committee be asked to pay 2s. 6d. per practitioner as affiliation fee to Central Body for administration purposes.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

Local Medical Committee.

A meeting of the Local Medical Committee for the County of London was held on October 21st, at the offices of the Metropolitan Asylums Board, Victoria Embankment, E.C. Dr. James Galloway, Chairman of the Committee, presided.

The principal business was the consideration of a report from a special subcommittee upon the constitution, powers, duties, and finance of the Committee, and the following recommendations were adopted:

(*a*) That the Local Medical Committee are of opinion that, in the interests of the profession and in view of the fact that the Committee have no statutory income, the personnel of the Local Medical and Panel Committees for the County of London should be identical; and that the Insurance Commissioners, the Insurance Committee, and the Panel Committee be so informed.

(*b*) That, until such time as it is possible to secure that the personnel of the Local Medical and Panel Committees is identical, the Local Medical Committee do offer advice on matters connected with the administration of the benefits of insured persons only when that advice is sought.

(*c*) That the Local Medical Committee do exercise their powers and duties in the closest co-operation with the Panel Committee.

(*d*) That an executive committee be appointed to consider and report, from time to time as may be required, upon all matters referred to the Local Medical Committee; and that the executive committee do consist of the chairman and secretary of the committee, together with ten other members to be appointed by the committee.

The executive committee appointed will consist of Dr. James Galloway (chairman), Dr. B. A. Richmond (secretary), together with Drs. J. A. Butler, H. J. Cardale, J. V. C. Denning, Mina Dobbie, W. McAdam Eccles, M. Greenwood, W. Kingdon, J. T. Richards, J. J. Scanlan, and A. G. Southcombe.

The Committee decided, under Article 50 of the Medical Benefit Regulations, that a practitioner was required by the terms of his agreement with the Committee to administer salvarsan injections to insured persons, but in response to an inquiry from the Insurance Committee whether treatment for nasal polypus was within the range of services which should be expected from such a practitioner, it decided to reply that the details were not sufficiently fully set forth to enable them to express an opinion.

With regard to the proposed federation of Local Medical and Panel Committees, the Committee resolved that it was unable to accept membership of the federation under its constitution as at present drafted.

Panel Committee.

A meeting of the London Panel Committee was held on October 27th.

Treatment of Dependants of Men with the Colours.

It was reported that 1,150 practitioners on the panel in London had intimated their willingness to undertake the medical treatment, free of charge during the war, of necessitous dependants of reservists and dependants of insured persons unemployed because of the war. Dr. Richmond, the secretary of the committee, remarked that as 70 practitioners had been called up for military duty, the proportion of practitioners on the panel who had responded to the committee's appeal was very satisfactory. The committee could congratulate itself on having gone so far as to undertake the free treatment of dependants of insured persons out of work through the war. With regard

to the Government scheme formulated at the instance of the British Medical Association and the Pharmaceutical Society, some practitioners on the panel in London objected to receiving notices from the British Medical Association, seeing that the Panel Committee had decided upon its line of action. But in order to avoid any jealousy or clashing he suggested that the names of panel practitioners willing to give free treatment be sent to the local relief committees in the various areas, and this was agreed to.

The Government and Pathological Laboratories.

The deputation appointed to wait upon the Local Government Board to express the views of panel practitioners with regard to the proposed establishment of pathological laboratories reported that it was very cordially received by Mr. Willis and Dr. Newsholme, but it was intimated that, owing to the war, the proposed grants-in-aid must be withheld for the present. The officials of the Board agreed with the views expressed by the deputation that the laboratories should be limited in number, so that they might be fully staffed with specialists and well equipped with modern scientific apparatus. The deputation urged the importance of the pathologist being in touch with individual practitioners, and it was understood that provision would be made for specimens to be taken, where necessary, by the pathologist himself. It appeared that the assistance of the laboratories—which would be established, where possible, in connexion with hospitals—would be available for both insured and uninsured persons.

Assignment of Unallotted Persons.

Some discussion took place with regard to the scheme for the assignment to practitioners of insured persons who have not chosen a doctor and the crediting of additional capitation fees in respect of such persons. The London Insurance Committee on October 22nd decided to incorporate in the draft scheme agreed upon with the Panel Committee a proviso that in calculating the additional capitation fees no account should be taken of removals or persons changing their doctor at the end of the medical year, so that further capitation fees should be restricted to those persons who had not previously made a selection. In view of the fact that a practitioner did not receive payment during a particular quarter in respect of persons transferred to him during that quarter, the Panel Service Subcommittee advised the Panel Committee not to acquiesce in the amendment.

Dr. R. V. Donnellan moved, and Dr. H. H. Mills seconded, an amendment that the suggestion of the Insurance Committee be accepted, and Dr. Cowie urged that the calculation of the unallotted funds must not be complicated by the introduction of persons who were in no sense unallotted. Dr. H. J. Cardale claimed that the scheme as originally approved by the Panel Committee did justice to small-list practitioners, and would be an inducement to doctors to go on the panel. If transfers were excluded and a doctor's old patient went back to him the doctor would receive no share of the unallotted funds. On a division the scheme, as amended by the Insurance Committee, was accepted by 41 votes to 8.

Excessive Prescribing.

The first cases came before the Committee in which allegations of excessive prescribing had been investigated and reported upon. Only one was dealt with by the meeting, and in this the Committee expressed the opinion that the cost of the drugs and appliances ordered was in excess of what was reasonably necessary. The practitioner had 1,341 persons on his list, and the cost of 465 prescription forms issued by him in a certain period averaged 2s. 1d., the average cost per insured person 3⅜d. Eighty per cent. exceeded 1s. in value. It was held that, apart from too frequent repetition of a medicine, the practitioner ordered larger quantities than were necessary. One patient received 10 lb. of cod-liver oil and malt in seven days, and another in six days received 180 doses of various mixtures. In defence the practitioner urged that he could not be held responsible if an insured person took medicine in larger quantities than was intended, or gave the medicine to other members of the family, and that a practitioner could not refuse to prescribe if the patient stated that the medicine had been consumed.

The Panel Committee was asked to state whether it would continue to contribute £800 a year for the statistical analysis of prescriptions. In reply to Dr. Butler, who deprecated the expense as unnecessary, Dr. Coode Adams remarked that the drain on the Drug Fund was becoming so severe that the very existence of the Insurance Act was endangered. The chemists were extremely dissatisfied, and in London threatened not to accept the agreements next year. If panel practitioners wished the Insurance Act to continue they must deal strictly with over-prescribing, and the expenditure on the examination of prescriptions was necessary to that end. Dr. Richards hoped that members had read the Scottish report in the British Medical Journal, from which it appeared that in Scotland only one or two cities exceeded the 2s., and in a large number the total was below 1s. 6d.; it was clear, therefore, that there was great scope for economy. Dr. Donnellan mentioned that in London the total drug fund for 1914 had been expended at the end of September. The Committee decided, with only two dissentients, to renew its contribution towards the examination of prescriptions.

SURREY.

Panel Committee.

The monthly meeting of the County of Surrey Panel Committee was held at Surbiton Cottage Hospital on October 16th. Dr. Wiggins (East Sheen), and Dr. Crichton (Redhill) were nominated to fill vacancies in the Barnes and Reigate areas respectively.

Medical Benefit Regulations.—It was decided to agree to the proposed alterations in the regulations of medical benefit for next year, and that the Panel Committee should join with the Insurance Committee and the Pharmaceutical Committee in paying the cost of checking prescriptions subject to the control being in the hands of the three committees jointly.

Temporary Residents.—Owing to the fact that the payment of services rendered to temporary residents is so long delayed after the close of the medical year, it was decided to ask the County Committee to pay an advance of 75 per cent. on the account on January 1st.

Expenses of Committee.—The Honorary Treasurer stated that out of 418 practitioners on the panel, 181 had sent an undertaking to allow a deduction to be made by the clerk of the Insurance Committee from money due to them, and 34 had sent a contribution towards the cost of the committee.

Prescribing: Drug Tariff.—A subcommittee was appointed to look into the matter of economy in prescribing, and to draw up a pharmacopoeia for the county. The only alteration made in the drug tariff was to leave the price of drugs affected by the war blank, the prices to be settled monthly by a central joint committee.

Medical Referees.—Complaints were received from two areas that a certain industrial company had been trying to get practitioners to undertake the duties of medical referee at a lower fee than half a guinea. All practitioners who may be approached on this matter are requested to at once bring it to the notice of the Medical Secretary of the British Medical Association.

GLOUCESTERSHIRE.

Panel Committee.

The first meeting of the new Panel Committee for Gloucestershire was held at the Royal Infirmary, Gloucester, on October 15th, when fourteen members were present. Dr. A. J. Campbell was re-elected Chairman. Drs. Bell, Turner, and Cox were elected for the vacancies for Gloucester, Tewkesbury, and Winchcombe respectively. Drs. W. R. Awdry (Berkeley), Hugh Powell (Cheltenham), and H. Cairns Terry (Gloucester) were co-opted.

Finance.—It was decided to obtain clerical assistance for the Secretary. The accounts were considered and adopted. As the collection of the voluntary rate caused considerable difficulty, it was recommended that the members be circularized to forward their subscriptions on receipt of their quarterly payments.

Economies in Drugs.—Drs. Buchanan and Perrott were appointed a committee to meet the Pharmaceutical Committee on the subject of economies in drugs.

Medical Referees.—It was unanimously agreed that for referee work a fee of 10s. 6d. be required for examination of a patient at the surgery, and 21s. for a visit at the

patient's house for the purpose of report, this being in accordance with the resolutions of the first Local Medical Committee.

Treatment of Dependants.—After a short discussion on the subject of the treatment of dependants of soldiers and sailors, it was resolved to adhere to the original resolution passed on August 22nd, that the Committee were prepared to consider such cases according to their merits.

CHESHIRE.

COUNTY LOCAL MEDICAL AND PANEL COMMITTEES.

THE Honorary Secretary, Dr. Picton, being away on service, the post is temporarily held by Dr. J. B. Hughes, 65, Roe Street, Macclesfield.

DRUG TARIFF.

THE following circular letter, 49 I.C., has been issued by the Insurance Commission (England):

National Health Insurance Commission (England),
19th October, 1914.

Sir,—I am directed by the National Health Insurance Commission (England) to state that they have received numerous inquiries with regard to certain proposals which, it is understood, have been put forward locally for the modification of the drug tariff as from the beginning of the ensuing medical year. In these circumstances the Commissioners have thought it desirable to communicate generally with the Insurance Committees on the subject, and they accordingly suggested to Committees on the 17th instant that they should postpone for the present the submission of their drug tariff proposals in order that they might have an opportunity of considering the contents of the present circular.

In the first place, it should be borne in mind that the special concessions announced in I.C.L. 102 are of a temporary nature only, and, as the Commissioners have stated in reply to inquiries, cannot in any event be expected to operate beyond December 31st next.

The proposals above referred to were concerned with the method to be adopted of pricing those drugs which are subject to fluctuation owing to the war; and, in the form in which they were in some cases propounded, were not such as the Commissioners could approve without modification. The Commissioners have had under their notice, however, a suggested tariff for 1915 (dated October 17th, 1914, in the bottom left hand corner), which, it is understood, is being issued by the Pharmaceutical Standing Committee on Insurance to Pharmaceutical Committees throughout England, and in which these proposals are definitely formulated. The Commissioners have considered this tariff, and they desire me to state that, if adopted by the Committee, it would meet with their approval subject to the insertion of a suitable provision dealing with the following point, and subject also to the consideration of any other modifications which in view of local circumstances the Committee may desire to submit. With regard, however, to the inclusion or exclusion of the "Notes for Dispensers" at the end of the tariff, and the provision for the payment of a copying fee, the Committee will presumably adopt the same course as they adopted, with the approval of the Commissioners, in connexion with the current year's tariff. The point above referred to, upon which the Commissioners will require the amendment of the printed tariff of October 17th, 1914, is as follows:

MIXTURES COMMONLY PRESCRIBED.

In a large number of areas, formularies, or lists of mixtures have already been compiled for the convenience of doctors in prescribing and of chemists in dispensing: while it is probable that a similar course will be followed elsewhere. Where owing to the adoption of such a formulary certain mixtures are regularly prescribed and are therefore dispensed in considerable quantities, the chemist, in lieu of dispensing each prescription separately, is enabled to obtain a supply of the mixture in bulk, provided that the mixture in question is of such a character as to be capable of being stocked without deterioration in quality.

The present scale of dispensing fees contained in the tariff makes no provision for any adjustment in price consequent upon the economies to the chemist which the above-mentioned practice renders possible. But it appears to the Commissioners that where a given mixture is stocked in bulk by the chemist and prescriptions for that mixture dispensed from his bulk supply, there is no justification for the prescription being priced in accordance with principles which have been adopted on the assumption that the separate ingredients of each prescription are specially compounded by the chemist on each occasion the medicine is dispensed.

In these circumstances the Commissioners are of opinion that where, owing to the adoption of a formulary, special economies in dispensing are rendered possible, the advantage of these economies should be shared by the Drug Fund of the Insurance Committee; and they accordingly consider that a provision should be inserted in the tariff to provide for a reduced dispensing fee in the case of mixtures (up to a maximum number) included in local formularies which can be obtained and stocked in bulk by the chemist without deterioration.

The following clause for insertion after the fourth line of print on page 14 of the tariff above mentioned has been prepared for the assistance of Committees in their consideration of this matter, and the Commissioners will require the insertion thereof or a clause to similar effect before giving their approval to the tariff:

> If a formulary or special pharmacopoeia is adopted locally for use in prescribing by practitioners on the panel, dispensing fees will be charged at half the rates set forth above in respect of such of the mixtures specified therein, not exceeding ten at any one time, as may from time to time be selected for the purpose by the Panel Committee, the reduced rates to take effect as regards any mixtures so selected one calendar month after notice of the intention to apply those rates thereto has been issued by the Insurance Committee to persons supplying drugs and appliances. Provided that the reduced rates will only apply to those mixtures which have been agreed by the Panel Committee and the Pharmaceutical Committee, or, failing agreement between them, adjudged by the Commissioners, to be capable of being stocked in bulk without deterioration. The application of the reduced rates to any particular mixture is liable to be terminated by the Panel Committee, with the consent of the Insurance Committee, on notice being issued by the Insurance Committee to persons supplying drugs and appliances, as from the date specified in such notice.

It will be seen that this provision obviates the necessity for inserting in the tariff any specific mixtures to which the reduced rates are to apply. It would be open to the Panel and Pharmaceutical Committees under this paragraph to prepare a list of such mixtures at any time, and to revise or add to the list (within the limits of the maximum number) in the light of actual experience.

SUBMISSION OF ARRANGEMENTS FOR APPROVAL.

These observations may make it necessary for the Committee to confer further with the Panel and Pharmaceutical Committees in their area. In these circumstances the Commissioners have decided to postpone the date for submission of the Committee's arrangements in regard to the drug tariff until *October 30th at latest.* Those arrangements should of course be submitted earlier, if possible; and in any event the arrangements as regards the doctors' agreements, in respect of which longer notice is necessary under the regulations, should on no account be delayed. If these have not already been submitted, this should at at once be done.—I am, Sir, your obedient servant,

JOHN ANDERSON.

OFFICIAL PUBLICATIONS.

ENGLAND.

INCAPACITY DUE TO PREGNANCY.

THE Commissioners have recently issued a circular to approved societies informing them that no distinction should be drawn as regards the payment of sickness or disablement benefit between incapacity due to pregnancy and incapacity due to other causes. Some approved societies have in the past followed a different practice, and the Commissioners therefore think it well to inform practitioners on the panel that where they are satisfied as to the incapacity for work of the patient a certificate should not be withheld on the ground that the incapacity is due to or accompanied by pregnancy.

A special grant has been provided in respect of the payment of claims for sickness benefit arising out of pregnancy. In these circumstances, it is essential from the point of view of societies who may claim a share of the grant that, where the incapacity for work is either directly or indirectly due to pregnancy, that fact should be clearly indicated on the certificate.

Any change in practice consequent upon the recent announcement to approved societies does not in any way affect the criterion of incapacity, on which alone the grant

of a certificate depends. In the case of women who are pregnant, as in all other cases, certificates should only be given where the doctor is satisfied that the insured person is rendered incapable of work.

CORRESPONDENCE.

New Draft Regulations.

Dr. James Hamilton (Chelsea, S.W.) writes: The letter of Dr. Percy D. Pywell necessitates my asking you to spare me a little of your valuable space.

I did not mention the advice given by the Lambeth Insurance Practitioners' Association by way of criticism. I gave it as an example of definiteness as to what was meant by over-prescribing in contradistinction to the Memorandum of the Insurance Commissioners, which was vague. The letter of Dr. Pywell states plainly the reason for prescribing a large number of doses to be to avoid paying the chemist a dispensing fee for customary quantities of medicine. He also states that there has always been some difference between contract and private practice with respect to prescribing and dose. I was not aware of it, but, if true, I do not think it fair to contract patients. My club experience was very limited. Insured persons were promised the same attendance under the panel as they formerly received when private patients, and it was the wish to ascertain whether it was the policy of the British Medical Association that they should be prescribed for as formerly that caused me to ask for information. I have no means of knowing of or making comparisons between the prescriptions of the two Boroughs of Lambeth and Chelsea, but it is satisfactory to hear that "the honour of the profession is so jealously guarded" in Lambeth and the prescribing of such a high order, yet I think I might hazard the criticism that Dr. Pywell was unfortunate in two of the diseases which he mentioned as requiring the same medication for days or weeks at a time. My experience is that there are no diseases in which more frequent changes of treatment are required than in influenza and acute bronchitis. I see by a report in one of your contemporaries it was stated at the last meeting of the Lambeth Association that no prescription should contain more than two drugs and that a prescriber's pharmacopœia should constantly be used. Comment on this method of guarding the pocket as well as the honour of the profession would only weaken it.

Proposed Federation for Panel and Local Medical Committees.

Dr. S. J. Ross (Bedford) writes: Let us remember, in considering this proposal, one indisputable fact—namely, that the British Medical Association has the machinery necessary for safeguarding the interests of the profession. Moreover, it has the power. It is recognized by the Government as the spokesman for the profession. Any new federation would weaken the Association. There would be introduced that unhealthy rivalry which ever exists between two bodies one of which is firmly rooted while the other is endeavouring to obtain a foothold—the art of playing to the gallery in order to obtain support. Unity is our goal, and this unity can best be attained by the loyal and whole-hearted support of every member of the profession given to the Association.

Circular on Supply of Drugs and Appliances.

Dr. C. R. Willans (Bournemouth) writes: It is very important that Panel Committees should take Circular 199 I.C., issued to Insurance Committees on the supply of drugs and appliances, into careful consideration. It will have far-reaching results, and if consented to by Panel Committees, will saddle those Committees for all time with very expensive and exacting duties.

The circular is too long to go through *in extenso*, but I should like to point out that it definitely puts the duty of investigating cases of excessive prescribing, etc., and the expenses thereby entailed on to the Panel Committees. It also puts the onus of circularizing the panel and, I think, also the pharmacists in cases of "general prohibitions as to the prescribing of certain articles and preparations" on to the Panel Committees, so that the Insurance Committee may be in a position to say to the insured person, "We should like you to have all these nice expensive drugs, but the Panel Committee will not allow it, because the doctors might lose their floating sixpence."

To sum up, Circular 199 I.C. puts the burthen of a lot of unpleasant work on to the shoulders of the doctors' representatives, and for it the panel doctors will have to pay.

I hope every Panel Committee in the country will give this circular very careful consideration before in any way subscribing to it.

Alleged Over-Prescribing.

Dr. D. N. Cooper (London) writes: Referring to the alleged over-prescribing stated at the meeting of the London Panel Committee, I have prescribed in 16 oz. quantity only during the holiday week. This serves the double purpose of relieving the chemist and the doctor on the holidays and enabling the patient to go away.

Errata.—In Dr. Percy D. Pywell's letter on the New Draft Regulations, in last week's Supplement (p. 213), there were two printer's errors. In line 13 of the letter, for "four" read "fourteen"; in line 15, for "dispensary" read "dispensing."

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Lancashire and Cheshire Branch: Chester Division.—Dr. C. Jephcott, Honorary Secretary, 12, Upper Northgate Street, Chester, gives notice that a meeting of the Division will be held in the Board room of the Chester Royal Infirmary, on November 10th, at 3.15 p.m., to adopt the model organization and ethical rules for the Division, to appoint a representative on the Chester Council of Social Welfare (this refers to the medical attendance on dependants), one or more representatives on a similar committee for the county; also for Sale, and any other borough that invites the British Medical Association to nominate one or more representatives.

Metropolitan Counties Branch.—Dr. R. E. Crosse and Mr. N. Bishop Harman, Honorary Secretaries, give notice that a Council meeting will be held at 429, Strand, W.C., on Tuesday, November 10th, at 4 p.m.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are announced by the Admiralty: Fleet Surgeon Oswald Rees to the *Pembroke*, additional, for disposal. Staff Surgeon Percival T. Nicholls and Staff Surgeon W. R. Harrison to the *Victory*, additional, for disposal. Late Surgeon G. A. Bradshaw has been placed on the Reserved List of Medical Officers. Temporary Surgeons W. H. Watson Cheyne to the *China* (Hospital Ship), vice Smith; W. M. Goldie, F.R.C.S., to the R.M. Infirmary, Deal, temporary; William R. E. Unthank, M.D., to the *Wildfire*, for R.N. Barracks and Sheerness Dockyard, vice McCowen.

Royal Naval Volunteer Reserve.

Surgeons (probationary) J. A. D. Skinner to the *Dido*, additional, for the *Leonides*, vice Briscoe; A. A. G. Guinness to the *Hecla*, additional, for the *Shark*. Temporary commission of Surgeon has been issued to J. Westwood.

ARMY MEDICAL SERVICE.

Colonel Michael W. Russell to be Deputy Director-General and to be temporary Surgeon-General, vice Surgeon-General W. G. Macpherson, C.M.G.

Royal Army Medical Corps.

Captain W. Holden to be Major.

Robert S. Rodger, late Captain, R.A.M.C., to temporary Captain.

Lieutenant T. O. Thompson is confirmed in his rank.

Temporary Lieutenant Bagot N. Blood relinquishes his commission.

To be temporary Lieutenants: Edward H. Roberts, M.B., Adrian Stokes, M.D., F.R.C.S.I., Wilfred T. Chaning-Pearce, M.B., John Hewat, M.B., Robert H. Spittal, M.B., Hubert W. Powell, Edward A. Walker, M.D., Thomas S. Wright, M.B., Ernest White, M.B., Edward C. Gimson, M.B., William E. Wallis, M.B., William W. Forbes, Robert Kennon, M.D., Francis E. Daunt, M.B., David J. S. Stephen, M.D., Philip A. Opie, M.B., Charles G. Timms, Guy A. C. Mitchell, M.B., Edgar Grey, M.B., John Fleming, M.B., Gordon S. Woodman, M.B., Charles H. Robson, M.B., John P. Davidson, M.B., William P. Hogg, M.B., Thomas Feehly, George Wilson, M.B., John Scott, M.B., James W. McLeod, M.B., Bryce McC. Smith, M.B., Lewis Anderson, M.B., Mark Bates, M.B., F.R.C.S., John Cattanach, M.B., Henry G. Bice, David R. E. Roberts, M.B., Victor G. O. Logan, M.B., Ernest N. Snowden, M.B., William P. H. Munden, M.D., James Fraser, M.B., Kenneth G. Fraser, John S. Levis, M.B., David R. Mitchell, M.B., Denis J. Stokes, M.B., Charles M. Smith, M.B., John H. V. Scott, M.B., Francis J. Wisely, M.B., Harold McAllum, M.B., John McL. Pinkerton, M.B., William C. Douglass, Patrick K. Murphy, M.B., Alan Wilson, M.B., Malcolm K. Acheson, M.D., Reginald W. Gemmell, M.B., Alexander Anderson, M.B., Carl K. G. Dick, William G. Gordon, M.B., John E. Stacey, M.B., John V. O. Andrew, John Spence, M.B., John P. Cahir, M.B., Ernest F. C. Dowding, Thomas P. Cole, M.B., John

PARKINSON, M.D., JOHN H. MCNICOL, M.B., REGINALD J. WOOSTER, WILLIAM MACKENZIE, M.B., CHARLES M. FOSTER, EDWARD W. ALMENT, CEDRIC R. TAYLOR, M.B., DOUGLAS W. HUNTER, M.B., JAMES S. SOMERVILLE, M.B., THOMAS P. LEWIS, CLAUDE G. DOUGLAS, M.D., JOHN W. FLOOD, RALPH F. EMINSON, M.B., WILLIAM E. HOPKINS, M.B., ROBERT B. WALLACE, M.B., WILLIAM B. WATSON, M.B., JOHN CAPELL, SPENCER JACKSON, M.B., JAMES A. GLOVER, M.D., NORBERT READER, M.B., STANLEY FENWICK, M.B., WILLIAM E. FEATHERSTONHAUGH, M.B., ARCHIE R. FRASER, M.B., WILFRID V. MACASKIE, M.B., JAMES G. COPLAND, M.B., JOHN M. FORSYTH, M.B., JAMES H. CONNOLLY, M.D., F.R.C.S., JOHN P. EGAN, GEORGE JACKSON, M.B., CHRISTOPHER ELLIOTT, ALEXANDER E. DRYNAN, M.B., HENRY D. H. WILLIS-RUND, ARCHIBALD S. K. ANDERSON, M.B., JAMES W. BROWN, DAVID S. HARVEY, M.B., EDWARD F. G. T. HEAP, GEORGE MILLAR, M.B., KENNETH W. MACKENZIE, M.B., FREDERICK W. MCMILLAN, M.B.

To be temporary Lieutenants while serving with the Welsh Hospital: FERGUS ARMSTRONG, M.D., F.R.C.S., THOMAS G. EVANS, M.D., BERNARD G. KLEIN, M.D., JOHN S. ROWLANDS, M.D.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANTS confirmed in their rank: FRANCIS R. H. MOLLAN and JAMES O'BRIEN.

Lieutenants to be Captains: PAUL B. ROTH, LAURENCE M. ROUTH, JAMES O. HAMILTON, CHARLES A. BIGNOLD, KEITH B. MACGLASHAN, JOHN ADAMS, LEONARD W. O. TAYLOR, JAMES B. WILLIAMSON, CLAUDE JOHNSON, GILBERT K. AUBREY, HENRY H. BROWN, JOHN FRASER.

Cadets of the Officers' Training Corps to be Lieutenants on probation: FREDERICK J. H. T. FRERE, M.B., RODERIC D. CAMERON.

To be Lieutenants on probation: COLIN GRANT, M.B., LIONEL A. LEWIS, M.B., NEALE L. LOCHRANE, M.B.

The appointment in the *London Gazette* of JOHN P. JACKSON to Lieutenant on probation, and EDWARD H. ROBERTS, M.B., to be Lieutenant, are cancelled.

Lieutenant PHILIP S. VICKERMAN is granted seniority as from April 6th, 1914.

To be Lieutenants on probation: WILLIAM S. WALLACE, ARTHUR S. SMALLEY.

INDIAN MEDICAL SERVICE.

THE services of Major H. G. STILES-WEBB are placed temporarily at the disposal of His Excellency the Commander-in-Chief, with effect from August 21st.

The following promotions are made:—Lieutenants to be Captains: J. SCOTT, M.B., G. S. BROCK, M.B., January 28th; K. I. SINGH, M.B., K. G. PANDALAI, M.B., C. A. WOOD, M.B., April 23rd.

The provisional promotion of Captain H. S. CORMACK, M.B., F.R.C.S.E., is cancelled.

Lieutenants to be Captains: P. S. CONNELLAN, J. A. SINTON, M.B., E. E. DOYLE, C. M. PLUMPTRE, A. W. DUNCAN, H. L. BARBER, M.D., E. A. PENNY, M.B.

Lieutenant-Colonel G. F. W. EWENS, Superintendent, Lunatic Asylum, Lahore, died at that station on September 9th.

The promotion of Major F. E. WILSON, M.B., is antedated from July 26th, 1914, to January 26th, 1914.

H. M. BROWN, M.B., is promoted to the rank of Major, with effect from March 1st, 1914.

Captain R. L. GAMLEN, M.B., has retired in consequence of ill health, August 28th.

The services of Captain W. E. BRIERLEY are replaced at the disposal of His Excellency the Commander-in-Chief, with effect from July 3rd.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

First London (City of London) General Hospital.—Lieutenant-Colonel Sir ANTHONY BOWLBY, C.M.G., to be seconded. ARNOLD W. STOTT to be Lieutenant.

Second London (City of London) General Hospital.—Lieutenant-Colonel G. H. MAKINS is seconded; Major CHARLES W. M. MOULLIN to be Lieutenant-Colonel. To be Lieutenants: CYRIL E. BETLEY, LEONARD MILTON, HERBERT SHARPE, HUBERT G. B. FRY.

Third London General Hospital.—To be Lieutenants: GEORGE H. D. WEBB, JOHN ST. A. TITMAS, HARRY A. LUCAS, EDWARD SMEED.

Fourth London General Hospital. Major STANLEY BOYD, M.B., F.R.C.S., to be Lieutenant-Colonel. To be Lieutenants: HENRY P. ASHE, LENNARD GAME, GEORGE W. SHORE, JOHN EVERIDGE.

First London (City of London) Field Ambulance.—To be Lieutenants: E. COPLANS, DAVID J. SCOTT, M.D.

Second London (City of London) Field Ambulance.—HUBERT C. PHILLIPS (late Captain R.A.M.C.Vol.) to be Captain; Honorary Lieutenant in the Army WILLIAM E. RIELLY, M.B., to be Captain; WILLIAM G. LLOYD, M.B., to be Lieutenant.

Third London (City of London) Field Ambulance.—MYER COPLANS, M.D., to be Captain. To be Lieutenants: STANLEY WYARD, M.D., CEDRIC R. TAYLOR, M.B.

Fourth London Field Ambulance.—JOHN MUIR, M.B. (late Captain, R.A.M.C., Territorial Force), to be Captain. To be Lieutenants: Lieutenant WILLIAM J. M. SLOWAN, M.D., from Second London Sanitary Company, R.A.M.C.; ARTHUR E. IRONSIDE, JOHN A. WATT, M.B.

Fifth London Field Ambulance.—To be Lieutenants: ALFRED H. BELL, JOHN MACMILLAN, HECTOR M. CALDER.

Sixth London Field Ambulance.—JOHN E. B. WELLS (late Surgeon-Captain, 1st Volunteer Battalion Bedfordshire Regiment) to be Major. To be Lieutenants: CHARLES R. WOODRUFF, JOHN F. W. WYER, WILFRED R. SADLER, WILLIAM SCARISBRICK, M.B., THOMAS MURRAY.

London Mounted Brigade Field Ambulance.—JAMES W. MCINTOSH, M.B. (late Lieutenant R.A.M.C. Territorial Force), to be Captain. To be Lieutenants: WILLIAM F. SMART, HAROLD E. GIBSON, M.B., DUNCAN F. MACRAE, M.B.

Second London Sanitary Company.—Captain CHARLES M. FEGEN, from the list of sanitary officers available on mobilization, to be Captain.

First East Anglian Field Ambulance.—FRANCIS WARD, M.D. (late Surgeon Captain First Volunteer Battalion, Suffolk Regiment), to be Captain. FREDERICK C. KEMPSON, M.B., to be Lieutenant.

Third East Anglian Field Ambulance.—LEONARD R. TOSSWILL (late Captain First Wessex Field Ambulance, R.A.M.C.) to be Lieutenant. Major JOSIAH OLDFIELD, M.D., to be Lieutenant-Colonel.

Eastern Mounted Brigade Field Ambulance.—JOHN M. O'MEARA to be Lieutenant. JOHN MCB. TAYLOR, M.B., to be Lieutenant.

First Eastern General Hospital.—CHARLES H. BUDD, M.B., to be Captain.

Third Eastern General Hospital.—Major JAMES A. ROOTH to be Lieutenant-Colonel. Lieutenant HUGH M. GALT, M.B., from attached to units other than medical units, to be Captain.

Second South Midland Field Ambulance.—ALBERT E. P. MCCONNELL, M.B., to be Lieutenant. (His appointment as Lieutenant, First South Midland Field Ambulance, announced in the *London Gazette* of September 4th, is cancelled.)

Second South Midland Mounted Brigade Field Ambulance.—Captain ALFRED W. MOORE, M.B., to be Major.

Third Wessex Field Ambulance.—Captain ELLIOTT B. BIRD, to be Major. JAMES KEARNEY to be Lieutenant.

Wessex Clearing Hospital.—Major CLARENCE I. ELLIS, M.D., to be Lieutenant-Colonel.

Fourth Southern General Hospital.—Captain G. J. ARNOLD, F.R.C.S., resigns his commission.

Fifth Southern General Hospital.—The announcement published in the *London Gazette* of August 21st notifying the resignations of Lieutenant-Colonel and Honorary Surgeon-Colonel G. SPARROW and Lieutenant J. R. S. ROBERTSON, M.B., is cancelled.

First South-Western Mounted Brigade Field Ambulance.—Major GEORGE R. SWINHOE, retired list, Territorial Force, to be Major.

Second South-Western Mounted Brigade Field Ambulance.—LOUIS J. E. MCHUGH, M.B., to be Lieutenant.

Second Western General Hospital.—Captain ALEXANDER WILSON, F.R.C.S., to be Major.

First West Riding Field Ambulance.—Captain ALEXANDER B. S. STEWART to be Major. Captain HARRY B. SPROAT, M.D., from attached to units other than medical units, to be Captain.

Second West Riding Field Ambulance.—Captain CHARLES W. EAMES, M.D., to be Major (temporary).

Third West Riding Field Ambulance.—Captains to be Majors: JAMES MACKINNON, ERNEST F. FINCH, CHARLES G. MURRAY. Lieutenant WILLIAM N. W. WEST-WATSON, M.D., from attached to units other than medical units, to be Lieutenant.

First West Lancashire Field Ambulance.—Captains to be Majors: CREIGHTON H. LINDSAY, M.D., and ADAM P. H. SIMPSON.

Second West Lancashire Field Ambulance.—Captain WILLIAM MACDONALD to be Major.

Third West Lancashire Field Ambulance.—Captains to be Majors: AUGUSTUS A. W. MERRICK, F.R.C.S.I., and RICHARD COFFEY. Captain ERNEST KNIGHT, M.B., from the Territorial Force Reserve, to be Captain.

First Northumbrian Field Ambulance.—ROGER ERRINGTON, M.B., to be Lieutenant, October 15th.

Second Northumbrian Field Ambulance.—VALENTINE H. WARDLE (late Cadet, Durham University Contingent, Senior Division, Officers' Training Corps) to be Lieutenant. Captain DUNCAN A. CAMERON, M.B., to be Lieutenant. Captain DUNCAN V. HAIG, M.D., to be Major. Captain DAVID L. FISHER, M.B., to be Major. ARTHUR L. BASTABLE, M.B., to be Lieutenant.

Third Highland Field Ambulance.—Captain ALEXANDER E. KIDD to be Major. To be Lieutenants: JOHN M. MILNE, JOHN STRATHEARN, M.B., GEORGE B. KILLOH, M.B.

Highland Clearing Hospital.—Lieutenant-Colonel ALEXANDER OGSTON, from the Second Highland Field Ambulance, to be Lieutenant-Colonel.

Third Welsh Field Ambulance.—WILLIAM J. RICHARDS, F.R.C.S., to be Lieutenant.

Welsh Border Mounted Brigade Field Ambulance.—Captain DOUGLAS C. L. ORTON to be Major.

Supernumerary for Service with Officers' Training Corps.—ANDREW D. CLINCH, M.D., to be Lieutenant, for service with the Dublin University Contingent, Senior Division, Officers' Training Corps.

Attached to Units other than Medical Units.—Captain HENRY A. RUDYARD to be Major; Captain THOMAS M. MORTON, from the Territorial Force Reserve, to be Captain; Lieutenant ARTHUR L. HERSER to be Captain; Lieutenant ARTHUR E. GLADSTONE to be Captain; HENRY N. BURROUGHES, M.B. (late Captain, First London, City of London, General Hospital, R.A.M.C.), to be Captain; HENRY W. LAING, M.D., to be Captain; Captain JOHN R. WILLIAMS, M.B., to be Major; Lieutenant NORMAN M. FERGUSSON, M.B., to be Captain; Lieutenant ROBERT W. SIMPSON, M.B., to be Captain. To be Lieutenants: JOHN F. WARD, M.B., JOHN J. SCANLAN (late Surgeon-Captain, 35th Imperial Yeomanry), ALEXANDER ANDERSON, M.B., REGINALD D. GAWN, M.B., JOHN A. PARSONS, M.D., DUGALD C. BREMNER, M.B., SIDNEY H. CLARKE, M.D., FRANK H. C. WATSON, M.B., GEORGE FINCH, HAROLD F. COMYN, M.B., ALFRED H. T. ANDREW, M.B., JOHN A. THOMSON, M.B., JOHN CLARKE.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN the ninety-seven largest English towns 8,544 births and 4,847 deaths were registered during the week ended Saturday, October 10th. The annual rate of mortality in these towns, which had been 15.1, 15.7, and 14.3 per 1,000 in the three preceding weeks, fell to 13.9 per 1,000 in the week under notice. In London the death-rate was equal to 13.8, against 15.6, 15.5, and 14.9 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 3.2 in Acton, 5.1 in Enfield, 6.2 in Gloucester, 7.8 in Lincoln, 8.0 in Ilford, and 8.2 in Smethwick, to 19.3 in Stockton-on-Tees, 19.4 in Liverpool, 19.9 in Great Yarmouth, 20.2 in Warrington, 20.5 in Gateshead, and 21.1 in Southport. Measles caused a death-rate of 1.9 in Birkenhead, scarlet fever of 2.1 in Warrington; and diphtheria of 1.4 in South Shields. The mortality from enteric fever and whooping-cough showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The deaths of children (under 2 years) from diarrhœa and enteritis, which had been 1,223, 1,004, and 651 in the three preceding weeks, further fell to 485, and included 123 in London, 49 in Liverpool, 32 in Birmingham, 20 in Manchester, and 19 in Sheffield. The deaths of 45, or 0.9 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner, of which 9 were recorded in Liverpool, 7 in Birmingham, 3 in St. Helens, and 2 each in London, Southend, Nottingham, Blackpool, Sunderland, and South Shields. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,669, 3,964, and 4,196 at the end of the three preceding weeks, had further risen to 4,363 on Saturday, October 10th; 670 new cases were admitted during the week, against 551, 674, and 640 in the three preceding weeks.

In the ninety-seven largest English towns 8,052 births and 4,653 deaths were registered during the week ended Saturday, October 17th. The annual rate of mortality in these towns, which had been 15.7, 14.3,

and 13.9 per 1,000 in the three preceding weeks, declined to 13.4 per 1,000 in the week under notice. In London the death-rate was equal to 13.9, against 15.5, 14.9, and 13.8 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 5.9 in Ealing, 6.2 in Southend, 6.3 in Ilford, 6.4 in Hornsey, 6.9 in Lincoln, 7.3 in Walthamstow and in Bolton, and 7.5 in Gillingham, to 18.2 in Liverpool and in Wigan, 18.4 in Barnsley, 19.2 in Rotherham, 19.7 in Gateshead, 20.6 in Middlesbrough, and 23.1 in Dewsbury. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 1,004, 651, and 485 in the three preceding weeks, further fell to 322, and included 91 in London, 32 in Liverpool, 19 in Birmingham, 14 in Manchester, and 7 in Middlesbrough. Measles caused a death-rate of 1.7 in Wigan and 2.3 in Birkenhead. The mortality for the remaining infective diseases showed no great excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 26, or 0.6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner, of which 5 were recorded in Birmingham, 3 in Gateshead, and 2 in Smethwick. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,964, 4,196, and 4,363 at the end of the three preceding weeks, had further risen to 4,473 on Saturday, October 17th; 650 new cases were admitted during the week, against 674, 640, and 670, in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,228 births and 698 deaths were registered during the week ended Saturday, October 10th. The annual rate of mortality in these towns, which had been 15.9, 16.3, and 15.6 per 1,000 in the three preceding weeks, rose to 15 9 and was 2.0 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 10 2 in Kirkcaldy, 10 3 in Kilmarnock, and 11.0 in Falkirk, to 18.6 in Aberdeen and 20.7 in Dundee and in Greenock The mortality from the principal infective diseases averaged 2.2 per 1,000, and was highest in Dundee and Clydebank. The 309 deaths from all causes in Glasgow included 26 from infantile diarrhoeal diseases, 6 from scarlet fever, 6 from whooping-cough, 5 from enteric fever, 3 from diphtheria, and 1 from measles. Ten deaths from infantile diarrhoea were recorded in Dundee, 4 in Edinburgh, 3 in Aberdeen, and 3 in Clydebank; from scarlet fever, 4 deaths in Aberdeen and 2 in Dundee; and from diphtheria, 4 deaths in Aberdeen, 3 in Edinburgh, and 2 in Paisley.

In the sixteen largest Scottish towns 1,128 births and 646 deaths were registered during the week ended Saturday, October 17th. The annual rate of mortality in these towns, which had been 16.3, 15.6, and 15.9 per 1,000 in the three preceding weeks, fell to 14.7 in the week under notice, but was 1.3 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 4.1 in Hamilton, 8.5 in Coatbridge, and 8.8 in Kilmarnock, to 16.9 in Edinburgh and in Dundee, and 18.7 in Greenock. The mortality from the principal infective diseases averaged 1.8 per 1,000, and was highest in Aberdeen and Paisley. The 308 deaths from all causes in Glasgow included 13 from infantile diarrhoea, 9 from scarlet fever, 8 from whooping-cough, 5 from diphtheria, 4 from enteric fever, and 1 from measles. Eight deaths from diphtheria, 2 from scarlet fever, 2 from enteric fever, and 3 from infantile diarrhoea were recorded in Edinburgh; 5 from diphtheria and 2 from scarlet fever in Aberdeen; 3 from scarlet fever and 3 from infantile diarrhoea in Paisley; and 3 from infantile diarrhoea in Dundee.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, October 10th, 630 births and 355 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 676 births and 401 deaths in the preceding period. These deaths represent a mortality of 15.4 per 1,000 of the aggregate population in the districts in question, as against 17.3 per 1,000 in the previous period. The mortality in these Irish areas was therefore 1.5 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 27.3 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.5 (as against an average of 18.5 for the previous four weeks), in Dublin city 19.1 (as against 19.6), in Belfast 14.5 (as against 19.3), in Cork 12.9 (as against 18.5), in Londonderry 12.7 (as against 15.9), in Limerick 21.7 (as against 20.3), and in Waterford 22.8 (as against 17.6). The zymotic death-rate was 2.6, or the same as in the previous week.

During the week ending Saturday, October 17th, 546 births and 375 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 630 births and 355 deaths in the preceding period. These deaths represent a mortality of 16.2 per 1,000 of the aggregate population in the districts in question, as against 15.4 per 1,000 in the previous period. The mortality in these Irish areas was therefore 2.8 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 23.6 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.0 (as against an average of 18.6 for the previous four weeks), in Dublin city 18.3 (as against 19.8), in Belfast 17.3 (as against 18.4), in Cork 19.0 (as against 17.5), in Londonderry 10.1 (as against 15.9), in Limerick 17.6 (as against 19.6), and in Waterford 17.1 (as against 17.6). The zymotic death-rate was 2.7, as against 2.6 in the previous week.

Vacancies and Appointments.

NOTICES REGARDING APPOINTMENTS.—Attention is called to a Notice (see Index to Advertisements—Important Notice re Appointments) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BETHNAL GREEN INFIRMARY.—Two Assistant Medical Officers. Salary, £200 per annum.

BIRMINGHAM CORPORATION.—Lady Medical Officer for Infant Consultation Work. Salary, £300 per annum.

BIRMINGHAM GENERAL HOSPITAL.—House-Surgeon to Special Department for Ear, Nose, Throat, and Skin. Salary, £50 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BOLTON INFIRMARY AND DISPENSARY.—Second House-Surgeon. Salary, £120 per annum.

BOOTLE CORPORATION.—Resident Medical Officer for Infectious Diseases Hospital. Salary, £250 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRENTWOOD ASYLUM.—Locumtenent Assistant Medical Officer. Salary, £5 5s. per week.

BURSLEM: HAYWOOD HOSPITAL.—Resident Medical Officer (female). Salary, £100 per annum.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer. Salary, £250 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—House-Surgeon. Salary at the rate of £80 per annum.

CHELSEA INFIRMARY, Cale Street, S.W.—Second Assistant Medical Officer. Salary, £160 per annum.

CHESTER: CHESHIRE EDUCATION COMMITTEE.—Fourth Assistant to the Chief School Medical Officer. Salary, £350 per annum.

CHICHESTER: ROYAL WEST SUSSEX HOSPITAL.—House-Surgeon (male). Salary, £110 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

DERBYSHIRE COUNTY COUNCIL.—Assistant Tuberculosis Medical Officer. Salary, £400 per annum.

DORCHESTER: DORSET COUNTY HOSPITAL.—House-Surgeon. Salary, £125 per annum.

DOUGLAS: NOBLE'S HOSPITAL.—Resident House-Surgeon. Salary, £150 per annum.

EXETER CITY ASYLUM.—Medical Superintendent. Salary, £500 per annum, rising to £600.

GLOUCESTER: GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary, £80 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £200 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HARROW-ON-THE-HILL URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £200 per annum.

HERTS COUNTY ASYLUM, Hill End.—Second Assistant Medical Officer (male). Salary, £250 per annum.

HUDDERSFIELD ROYAL INFIRMARY.—Senior and Junior Assistant House-Surgeons (male). Salary, £80 per annum.

HULL ROYAL INFIRMARY.—(1) Senior House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

IPSWICH: EAST SUFFOLK HOSPITAL.—Resident House-Physician.

KENT COUNTY ASYLUM, Chartham.—Third Junior Assistant Medical Officer (male). Salary, £250 per annum.

KILMARNOCK INFIRMARY.—Female House-Surgeon. Salary, £80 per annum.

KING'S LYNN: WEST NORFOLK AND LYNN HOSPITAL.—House-Surgeon. Salary, £150 per annum.

LEICESTERSHIRE EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary, £300 per annum.

LIVERPOOL PARISH.—Resident Assistant Medical Officer at the Brownlow Institution. Salary, £140 per annum, and £20 yearly for examining applicants for relief.

LIVERPOOL SAMARITAN HOSPITAL FOR WOMEN.—Two Clinical Assistants.

LONDON COUNTY COUNCIL.—Lecturers in First Aid, Home Nursing, Health and Infant Care. Salary, £1 1s. a lecture.

LONDON THROAT HOSPITAL, Great Portland Street, W.—House-Surgeon (non-resident). Salary, £50 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer. Salary at the rate of £100 per annum.

MANCHESTER COUNTY ASYLUM, Prestwich.—Assistant Medical Officer. Salary, £250 per annum, increasing to £300, and on promotion to £450.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER TOWNSHIP.—Second and Junior Resident Assistant Medical Officers at the Institution, Crumpsall. Salary, £180 and £160 per annum respectively.

NEWCASTLE-UPON-TYNE AND NORTHUMBERLAND SANATORIUM FOR CONSUMPTIVES.—Resident Medical Officer (male). Salary, £350 per annum, rising to £400.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—Senior and Junior Medical Officers. Salary at the rate of £100 and £80 per annum respectively.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORTHAMPTON GENERAL HOSPITAL.—Two House-Surgeons. Salary £120 per annum.

NOTTINGHAM CHILDREN'S HOSPITAL.—Lady House-Surgeon. Salary at the rate of £150 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—(1) Senior House-Physician; (2) Assistant House-Surgeon. Salary for (1) £120 per annum, and for (2) £100 per annum. (Women eligible.)

OLDHAM ROYAL INFIRMARY.—Third House-Surgeon. Salary at the rate of £100 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Resident and Assistant Resident Medical Officers. Salary, at the rate of £110 and £90 per annum respectively, and £10 on completion of six months' service.

PRESTON: COUNTY ASYLUM, Whittingham.—(1) Junior Assistant Medical Officer. (2) Assistant Medical Officer to act also as Pathologist. Salary, £250 per annum, rising to £300.

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

PUTNEY HOSPITAL, S.W.—Resident Medical Officer. Salary, £150 per annum.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—Resident House-Physician. Salary, £110 per annum.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION FOR IRELAND, Newcastle.—(1) Assistant Resident Medical Officer. Salary, £200 per annum. (2) Laboratory Assistant. Salary, £1 per week with cottage.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £115 per annum.

ST. PANCRAS PARISH.—(1) Senior Assistant Medical Superintendent at the South Infirmary, etc. Salary, £225 per annum. (2) Senior and Junior Assistant Medical Officers at the North Infirmary. Salary, £175 and £140 per annum respectively.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer. (2) Casualty House-Surgeon. Salary, £120 and £100 per annum respectively.

SALISBURY GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) Assistant House-Physician. Salary, £100 per annum each.

SOMERSET COUNTY COUNCIL.—Assistant School Medical Officer (temporary). Salary, £300 per annum.

SOUTHAMPTON FREE EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SOUTHWARK UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £170 and £160, rising to £180 and £170 per annum respectively.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—House-Surgeon (male). Salary, £120 per annum, rising £10 annually.

STROUD GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SUNDERLAND: ROYAL INFIRMARY.—Junior House-Surgeon. (male). Salary, £100 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Senior and Assistant House-Surgeons. Salary, £120 and £80 per annum respectively.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Junior House-Surgeon. Salary, £150 per annum.

WAKEFIELD: WEST RIDING ASYLUM.—(1) Assistant Medical Officers (male and female); (2) Locumtenent Assistant Medical Officer (male). Salary for (1) £230 and £235 per annum rising to £270 and £275 respectively, and the male officer on promotion to £340.

WALSALL AND DISTRICT HOSPITAL.—(1) Senior House-Surgeon. (2) Junior House Surgeon and Anaesthetist. Salary, £150 and £110 per annum respectively.

WALSALL COUNTY BOROUGH.—School Medical Inspector and Assistant Medical Officer of Health. Salary, £300 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House-Physician. Salary, £120 per annum.

WESTMINSTER HOSPITAL.—Ophthalmic Surgeon.

WESTMINSTER UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £160 and £140 per annum, rising to £180 and £160 respectively.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Senior House-Surgeon. Salary, £170 per annum.

WORCESTERSHIRE ASYLUM, Bromsgrove.—(1) Deputy Medical Superintendent; (2) Second Assistant Medical Officer (males). Salary, £300 and £225 per annum, rising to £350 and £250 respectively.

WORCESTER: COUNTY AND CITY ASYLUM, Powick.—Junior Assistant Medical Officer. Salary, £200 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointment: Battersea (London).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

BEAUMONT, A. R., F.R.C.S.Edin., M.R.C.S., L.R.C.P.Lond., District and Workhouse Medical Officer of the Uppingham Union.

COATES, W. H., M.R.C.S.Eng., L.S.A., Certifying Factory Surgeon for the Hucknall Torkard District, co. Nottingham.

FLETCHER, J., M.B., C.M., D.P.H.Glas., District Medical Officer of the Cockermouth Union.

GAY, S. B., L.R.C.P. and S.Edin., L.F.P.S.Glas., Certifying Factory Surgeon for the Shardlow District, co. Derby.

HAWKINS, Arthur, M.R.C.S., L.R.C.P.Lond., Assistant Physician to Nordrach-on-Dee Sanatorium, Banchory, Scotland.

JOHNSTONE, G. Gordon, M.B., B.C., Clinical Assistant in Ophthalmic Department to University College Hospital, W.C.

LAWRENCE, H. H., L.R.C.P. and S.Edin., Certifying Factory Surgeon for the Patterdale District, co. Westmorland.

MACNICOL, M., M.D.Glas., Certifying Factory Surgeon for the Leven District, co. Fife.

MARTIN, E. K., M.B., F.R.C.S., Junior Surgical Registrar to University College Hospital, W.C.

MOON, G. B., L.R.C.P. and S.Edin., L.F.P.S.Glasg., Second Assistant Medical Officer at the Surrey County Asylum, Netherne.

O'SULLIVAN, P. J., M.D., District Medical Officer of the Shoreditch Parish.

PARMITER, B. R., M.B., B.S.Lond., Second Assistant Medical Officer, Lewisham Union Infirmary.

READER, N. L. M., M.B., B.S.Lond., Assistant Medical Officer, Lambeth Parish Infirmary, etc.

REECE, L. N., M.R.C.S., L.R.C.P., Assistant Medical Officer, Camberwell Parish Infirmary and Gordon Road Workhouse.

SALISBURY, Walter, M.B., B.S.Lond., Resident Medical Officer, Queen Charlotte's Lying-in Hospital.

SMITH, W. Maule, M.D., M.R.C.P.Edin., Medical Superintendent, West Bromwich and Walsall Joint Unions.

TYRRELL, T. A. F., M.B., B.S.Lond., District Medical Officer of the Horncastle Union.

WALFORD, Harold R. S., M.R.C.S., L.R.C.P., Second Medical Officer, Kent County Asylum, Barming, Maidstone.

WALSH, Harold V., M.B., B.Ch.Belf. Univ., Assistant Resident Medical Officer, Queen Charlotte's Lying-in Hospital.

WILLIAMS, Jos. R., M.D.Edin., non-resident Medical Officer to the Conway and Penmaenmawr Joint Isolation Hospital.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—The following appointments have been made:

Acting Assistant Surgeons: Henry Blakeway, F.R.C.S.; Harold Gardiner, F.R.C.S.

Resident House-Physicians: Miss M. Lloyd, M.B., B.S.; Miss M. R. Paterson, M.R.C.S., L.R.C.P.

Resident House-Surgeons: Miss M. E. C. Pillman, M.R.C.S., L.R.C.P.; Miss E. M. Powell, M.R.C.S., L.R.C.P.

Senior Clinical Assistant Gynaecological Department: Miss A. Blair, M.B., B.S.

Clinical Assistant Skin Department: Mrs. Addison, M.B., B.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BOURHILL.—At Pretoria, on the 3rd inst, May F. W. Bourhill, M.B., Ch.B. (*née* Davidson), wife of Charles G. J. Bourhill, M.D., of a daughter.

LINDSAY.—On October 28th, at 35, Cotham Road, Bristol, to Dr. and Mrs. John Ker Lindsay, a daughter.

MARRIAGE.

CUMMING-BIDDULPH.—On the 10th instant, at Holy Trinity Church, Sliema, by the Rev. Canon H. Shaw, Major C. C. Cumming, R.A.M.C., to Muriel, youngest daughter of Deputy Surgeon-General Biddulph, R.N.

DEATHS.

MARSH.—On the 24th inst., at 49, Sackville Road, Hove, George Ryding Marsh, M.D.Lond., youngest son of the late Lory Marsh, M.D., aged 56 years.

SHINE.—On October 22nd, at Gallee More, Barnsley, John Power Shine, M.B., Ch.B., R.U.I., aged 45.

DIARY FOR THE WEEK.

MONDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration. Mr. Shattock: Specimens Illustrating Repair.

TUESDAY.

ROENTGEN SOCIETY, Institution of Electrical Engineers, Victoria Embankment, W.C., 8.15 p.m.—Agenda: Minutes of last meeting. Nominations. General Meeting. Presidential Address.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—Bradshaw Lecture: Dr. Nestor Tirard: Some Clinical Contributions to the Study of Glycosuria.

WEDNESDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF OPHTHALMOLOGY, 8 p.m.—(1) Cases and Specimens. (2) Papers: Mr. Holmes Spicer: Bubbles in the Anterior Chamber. Mr. H. B. Grimsdale: The Necessity of a Definition of Blindness.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, 4.15 p.m.—Clinical Meeting.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—FitzPatrick Lecture: Dr. C. A. Mercier: Leper Houses and Mediæval Hospitals.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF LARYNGOLOGY, 4 p.m.—Exhibition of Cases and Specimens.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 7TH, 1914.

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CONJOINT ARRANGEMENTS FOR DEALING WITH OVER-PRESCRIBING.

In a letter addressed to the Local Medical and Panel Committees on October 13th, the Insurance Act Committee of the British Medical Association expressed the opinion that the principle of co-operation between Panel, Pharmaceutical, and Insurance Committees, in the necessary checking and statistical analysis of prescriptions by means of a single staff under the joint control of the three committees was sound. A note of warning was given in that Panel Committees were urged to see that in any such arrangement their powers under Regulation 40 are not interfered with. This regulation embodies a principle on which members of the profession have rightly laid great emphasis—namely, that intraprofessional questions which affect the relations between members of the panel should be dealt with as far as possible by a professional body. It provides that where it appears to the Panel Committee that any practitioner or practitioners have been ordering drugs or appliances in excess of what may reasonably be considered necessary for the adequate treatment of their patients, an investigation into the subject may, and, if representations are made by the Pharmaceutical Committee shall, be made by the Panel Committee. The Panel Committee further is bound to hear the practitioner concerned in his defence, and it is only after a report by that Committee that the Insurance Committee is entitled to surcharge practitioners who, in its opinion, are guilty of prescribing which is extravagant either in character or in quantity.

The Local Medical and Panel Subcommittee of the Insurance Act Committee is devoting considerable attention to the various arrangements which have been suggested whereby the detailed work of examination and analysis of prescriptions may be carried out before the Pharmaceutical and Panel Committees commence their special work, and has already come to the conclusion that much overlapping may be saved by the triplicate arrangement already in operation in some areas, which has been recommended by both English and Scottish Commissioners, and is approved by the Insurance Act Committee. The Subcommittee hopes shortly to be in a position to advise Panel Committees more in detail on this subject. In the meantime, however, the Subcommittee is anxious to emphasize the danger which was indicated in the letter of the Insurance Act Committee, namely, that of the usurpation of the functions of the Pharmaceutical and Panel Committees, purely professional bodies, by a joint lay and medical committee. So long as the joint committee confines its attention to working out the statistical information without which the Pharmaceutical Committee and the Panel Committees cannot efficiently fulfil the duties imposed on them by the regulations, well and good, but in some of the arrangements which have been suggested in certain areas, there has been an indication of a desire on the part of joint committees not only to superintend the analysis of the prescriptions and provide statistical information for the Panel and Pharmaceutical Committees, but to deal with that information in such a way as practically to forestall the Pharmaceutical and Panel Committees in their work and prejudge the practitioners whose prescriptions may at first sight seem to suggest extravagance. This is a danger which should be carefully guarded against in every insurance area. When it comes to the final analysis of the prescriptions alleged to show extravagance it is certain that the duties are of the most delicate and difficult nature, and quite beyond the capacity of any lay body. We understand that the Local Medical and Panel Subcommittee intends to work out a triplicate arrangement on the lines of that suggested in Scotland, which will combine the advantage of the economies to be obtained by legitimate co-operation, with an avoidance of any entrenchment on the prerogative of the Panel Committee.

THE NEW DRUG TARIFF AND MEDICAL MEN WHO DISPENSE THEIR OWN MEDICINES.

Certain correspondents have raised the question whether medical men who dispense their own medicines in connexion with the Insurance Act should decline to sign their agreements for 1915 unless they receive an assurance that some special consideration will be given as regards the drugs which are temporarily greatly increased in price.

The Drug Tariff Subcommittee considered the matter at its meeting on October 29th, and decided to recommend the Insurance Acts Committee that if any special consideration in this matter were given to pharmacists during the war the same consideration should be claimed for doctors who dispense their own medicines. The Subcommittee is also recommending that a monthly record should be made in the Journal of the prices of those drugs which are specially affected, so that due discretion may be used in dispensing them.

LOCAL MEDICAL AND PANEL COMMITTEES.

EDINBURGH.

Panel Committee.

A meeting of the Burgh of Edinburgh Panel Committee was held on October 6th, when Dr. Dewar occupied the chair, and twelve members were present.

Treatment of Dependants.—The Secretary reported that, in response to the circular issued by the Committee on September 4th regarding free medical attendance on the necessitous dependants of soldiers, sailors, reservists, and territorials on active service during the continuance of the war, out of 118 practitioners on the Edinburgh panel 84 had indicated their willingness to act, 15 were on active service, and the remainder had either not replied, or indicated their unwillingness to co-operate.

Donation to the Royal Infirmary.—Intimation was made that of the balance in the Panel Fund for 1913, the sum of £104 14s. had been deducted from the respective shares of those panel practitioners who had agreed to it, for the purpose of making a donation to the Royal Infirmary, etc. (since this meeting was held, a further sum of £5 10s. has been received, making a total of £110 4s.).

Assignment of Insured Persons.—It was unanimously agreed that the parliamentary divisions of the city be taken as a basis for arranging the areas of the assignment scheme, Medical Benefit Regulations 21 (4).

Attendance on Dependants of Men with the Colours.—The Chairman drew attention to the particulars wherein the scheme of the Edinburgh and Leith Medical Emergency Committee differed from that of the Panel Committee, namely: (1) That attendance is to be given to those

persons who become unemployed indirectly on account of the war, as well as dependants of those on active service; (2) that no list of doctors willing to act is to be obtained. After discussion, it was agreed to intimate to the Medical Emergency Committee that the Panel Committee would attend the necessitous dependants of those men on active service and no others; and to ask their co-operation with the Panel Committee. It was further agreed to request the Soldiers' and Sailors' Families Association to ask the Medical Emergency Committee to supply a list of non-panel doctors willing to undertake the work.

Excessive Prescribing.—A letter was read from the Insurance Committee dealing with excessive prescribing. The Committee also had before it the Commissioners' Memorandum No. 587 regarding expenditure on medicines and appliances; a report on checking prescriptions from May 15th to June 14th, 1914, and a memorandum from the Insurance Committee showing the total number of panel patients on each doctor's list, together with the total value of prescriptions ordered by the doctor, and the average cost per form for the month May 15th to June 14th, 1914. After full consideration of the above it agreed to take immediate steps to acquaint those practitioners who are prescribing excessively of their position and the possible consequences. It was agreed to ask the Insurance Committee to institute a further analysis of the prescription forms for the months of October, 1914, and January or February, 1915.

Transfer of Patients.—A complaint was made to the Committee by one of the members to the effect that the Insurance Committee had transferred one of his insured patients from his list to that of another doctor in the Edinburgh area during the medical year without his knowledge or consent, contrary to Regulation XXVI, 6 and 7. The Committee unanimously reaffirmed the decision of July 8th last, when a similar complaint was preferred:

> That with reference to the transfer of insured persons from one doctor to another during the medical year within the Edinburgh insurance area, due regard being had to the mileage limit of certain doctors, Regulation XXVI, 6 and 7, should be strictly adhered to.

The Secretary was instructed to again write the Insurance Committee to this effect.

Temporary Treasurer.—As the Honorary Treasurer (Dr. Morrison McIntosh) is at present on active service, the Honorary Secretary (Dr. Craig) was appointed interim Treasurer during his absence.

New Draft Regulations.—An emergency meeting of the Committee was held on October 13th, when Dr. DEWAR occupied the chair, and ten members were present. The meeting was convened to consider the new Draft Regulations and the proposed alterations in the agreement between the Insurance Committee and insurance practitioners for 1915. After discussion these were unanimously approved. A meeting of the Local Medical Committee on the same date came to the same decision.

Treatment of Dependants.—The CHAIRMAN intimated that it had been suggested by the Medical Emergency Committee that the Panel Committee should withdraw the list of practitioners willing to attend necessitous dependants of men on service during the war. After consideration the Committee reaffirmed its decision to adhere to the resolutions of September 4th, and to carry on the work as therein suggested.

Arrears.—The Secretary was instructed to ascertain the Insurance Committee's intentions with regard to medical attendance on insured persons in arrears.

ROXBURGHSHIRE.

PANEL COMMITTEE.

A MEETING of the Panel Committee of Roxburghshire was held at St. Boswells on October 15th, when Dr. CULLEN was in the chair, and five other members were present in addition to the Clerk.

Syringing Ears.—It was reported that the Panel Committees of some other areas had expressed the opinion that "syringing ears" was a service which ought to be given by panel practitioners under the Act, and that accordingly the patient should not be charged a fee. The question of communicating the decisions of the Committee with regard to such points to all panel practitioners for their guidance was discussed, and the Clerk was instructed to submit a list of such decisions to the next meeting.

Domiciliary Treatment.—Correspondence was submitted from the Commissioners and from the Insurance Committee regarding the action of certain panel practitioners in ordering medical foods for patients not recommended for domiciliary treatment. It was pointed out that the prescriptions which were submitted did not contain anything that could be considered medical foods in the proper sense of the term, but that in one or two of the prescriptions the proprietary article was ordered when its official equivalent might have done as well, and expense would thus have been saved. It was also pointed out that no intimation was sent to the panel practitioner when his patient was declared "on" or "off" for domiciliary treatment, and that, in consequence, the practitioner might continue prescribing for the patient in respect of domiciliary treatment in ignorance of the fact that the patient was not entitled to such treatment. The Clerk was instructed to communicate with the Insurance Committee, drawing its attention to this fact, and to reply to the other points raised in the correspondence.

Incapacity Due to Pregnancy.—The memorandum issued by the Commissioners on the subject of incapacity due to pregnancy (SUPPLEMENT, October 31st, p. 220) was read and noted.

Checking of Prescriptions.—The Pharmaceutical Committee submitted a report on the checking of prescriptions for the quarter ending July, 1914. The Clerk was instructed to suggest to the Pharmaceutical Committee that some method of drawing attention to the position of certain chemists should be adopted.

Voluntary Levy for Administration Expenses.—A letter was submitted from the Insurance Committee intimating approval of the arrangement made by the Panel Committee in connexion with a voluntary levy for administration expenses, provided that the Clerk of the Insurance Committee was paid five guineas for his trouble in connexion with the matter. The opinion was expressed that a much smaller fee might meet the circumstances, and it was agreed to offer two guineas each time a requisition was made.

Remuneration.—The CLERK reported that, as a result of his investigations with regard to the payments owing to panel practitioners since the commencement of the Insurance Act, he had found that a considerable sum was being withheld by the Insurance Committee, and a letter on the subject was directed to be addressed to the Insurance Committee.

Condition of Medical Service for 1915.—The draft Regulations and Conditions of Medical Service for 1915, together with the Memorandum from the Commissioners, were considered, along with a communication from the British Medical Association on the subject. After considerable discussion it was unanimously agreed that the proposal to take power to alter the terms of service at any time during the year upon giving six weeks' notice to panel practitioners prior to the date of such alteration, should be resisted for the reason that only two weeks would thereby be given to practitioners to consider any proposed alterations, seeing that under Article 17 (2) of the present Regulations they had still to give four weeks' notice to the Insurance Committee as to giving their consent to any proposed alterations or not. It was felt that a reasonable time ought to be given for practitioners to consider any proposed alterations in their agreements. It was agreed to bring this matter especially before the Insurance Committee, and impress upon them the necessity of affording a more reasonable time. A conference with the Medical Benefit Subcommittee and the Pharmaceutical Committee was arranged to discuss the draft Regulations and Conditions of Medical Service for 1915.

Conference.

A conference of the Medical Benefit Subcommittee, the Panel Committee, and the Pharmaceutical Committee was held on October 23rd.

New Agreements.—With regard to the proposal to terminate agreements at any time during the year on six months' notice, which was not acceptable, it was suggested that the agreements should be left as they were, or three months' notice given of any proposed alterations.

Uniform Certificates.—The scheme for a uniform certificate to be prescribed by the Commissioners was approved, provided that the terms were satisfactory to the Panel Committee.

Prescribing.—It was decided that when *aqua* appeared on prescriptions ordinary tap water was intended, and not distilled water, which would only be dispensed when specifically prescribed.

Price of Drugs.—The meeting approved of the proposed arrangement to have the price of drugs settled each month by a conference between representatives of the Pharmaceutical Society and the British Medical Association.

Repeat Mixtures.—It was suggested that the words "Rep. Mist." be continued, especially in cases of epilepsy, and that arrangements be made whereby the use of the words should be limited to one month, the date of the original prescription being stated on each repetition.

DUMBARTONSHIRE.

Panel and Local Medical Committee.

Repeat Prescriptions.—At a meeting of this Committee in Glasgow on October 21st, when Dr. W. Semple Young was in the chair, it was resolved to request the Insurance Committee to adopt, as from January 1st, 1915, an arrangement by which a prescription may be repeated during the calendar month for which the original is dated without being rewritten in full. Representatives of the Pharmaceutical Committee were in attendance and agreed to support this request.

Expenses.—It was unanimously resolved to protest to the Commissioners, the Insurance Committee, and the British Medical Association against the refusal of the Insurance Commissioners to allow the travelling expenses of members attending committee meetings to be paid out of the funds available for administrative expenses.

New Agreements.—The proposals made in Memorandum 201, I.C. [Scotland] as to alterations in regulations and conditions of agreement for 1915 were considered, and it was decided to raise no objection.

Checking Prescriptions.—The proposal of the Commissioners to establish a central bureau to check prescriptions was unanimously welcomed and approved. It was resolved that the proportion of the cost to be borne by the Panel Committee should be not more than one quarter of the share of the expenses of the bureau allotted to this insurance area. [The scheme for a central bureau is set out in Circular 598. The bureau will check and price prescriptions, and will also make an analytical report showing, for example, the number of prescriptions written by each doctor per month, number of insured persons on his panel list, cost per prescription, cost per head of insured persons, number of prescriptions per head of insured persons. It will thus be possible without undue delay to detect and deal with "extravagant prescribing."]

PERTHSHIRE.

Local Medical and Panel Committees.

A meeting of the Local Medical and Panel Committees of Perth and Perthshire was held on October 23rd, when eighteen members were present.

New Agreements.—It was agreed to accept and sign the new agreements, and also to approve of the new system of uniform certificates.

Over-prescribing by Practitioners.—Dr. Trotter read a letter from the Secretary of the Pharmaceutical Committee of the county, calling attention to the growing tendency for the average price of the prescriptions to increase, and giving various data in proof of the fact. The cause assigned was that certain medical men had a large proportion of expensive proprietary articles in their prescriptions, examples being given. The meeting agreed to support the action of the Pharmaceutical Committee in surcharging chemists for supplying drugs and appliances outwith the tariff. With regard to the medical men involved, it was suggested a special meeting of the Panel Committee be held at an early date, at which those doctors will be expected to attend or lodge defences.

Repeat Prescriptions.—Dr. Trotter reported that he had arranged with the chemists that prescriptions bearing the words "Rep. Mist.," etc., would continue to be dispensed as formerly.

Checking Prescriptions.—The scheme, proposed for the checking of prescriptions by a central bureau, was not approved of, it being considered that it was too expensive, and that the work could be done more cheaply locally.

Recommendations by the British Medical Association.—The circular letter from Dr. Cox (Medical Secretary, British Medical Association) was intimated to the meeting by the Secretary, and various points in it were discussed. In a general way the recommendations were accepted by the meeting.

Attendance on Dependants of Men at the Front.—The Secretary intimated that the Executive Committee of the Soldiers' and Sailors' Families Association, Perth, had agreed that two medical men should be co-opted, their names to be chosen by the Branch Council—two for the burgh and two for the county.

GLAMORGAN.

Local Medical Committee.

A meeting of practitioners of the Glamorgan county area was held in the Old University Buildings, Cardiff, on October 20th, for the election of the Local Medical Committee, when it was agreed that the members of the Panel Committee should be the Local Medical Committee.

The following are the areas with their representatives:

Rhondda Valley.—Dr. W. E. Thomas (Ystrad Rhondda), Dr. Ed. Morgan, Dr. Alfred Jones (Tonypandy), Dr. D. N. Morgan (Gilfach Goch).

Aberdare and Mountain Ash.—Dr. Ieuan G. Thomas (Hirwain), Dr. A. T. Jones (Mountain Ash), Dr. A. J. Griffith (Abercynon).

Bridgend, Ogmore, etc.—Dr. D. J. Thomas (Nantymoel), Dr. C. B. Meller (Cowbridge), Dr. W. Edmund Thomas (Bridgend).

Neath.—Dr. W. B. Edwards (Seven Sisters).

Swansea.—Dr. A. Lloyd Jones (Mumbles), Dr. John Owen (Cwmllynfell), Dr. M. W. Williams (Pentrepoeth).

Barry, Penarth, and Llandaff.—Dr. P. J. O'Donnell (Barry), Dr. John H. Rees (Penarth), Dr. John Arthur (Llandaff).

Aber Valley and Gelligaer.—Dr. C. Reidy, Dr. B. H. E. McCrea (Bargoed), Dr. T. W. Thomas (Caerphilly).

Pontypridd, Llantrisant, etc.—Dr. Howard Davies, Dr. J. Morgan Rees, Dr. B. M. Lewis (Pontypridd), Dr. W. Naunton Davies (Llantrisant).

Port Talbot and Maesteg.—Dr. J. Arnallt Jones (Aberavon), Dr. Henry Davies (Abergwynfi), Dr. R. T. Williams (Cwmavon), Dr. Walter Kirkby (Maesteg).

GLOUCESTERSHIRE.

Panel Committee.

At the meeting of the committee on October 31st Dr. Johns (Cheltenham) and Dr. Carter (Westbury-on-Trym) were co-opted members.

New Agreements.—The committee decided to communicate direct with the Commissioners with reference to revision of agreement, the absence of a copy of the proposed agreement, and also the forms of certification being considered sufficient reasons to withhold promises to sign.

Examination of Prescriptions.—It was pointed out that the Commissioners were trying to make the Panel Committee closely investigate prescriptions, etc., for the county, a task which the Panel Committee considered impossible, its duties in that respect at present being sufficiently onerous. As the county expenditure with the chemists had been only 1s. 7d. per head, and as about 50 per cent. of the doctors dispensed, further investigation did not appear to be very necessary. Allusion was made to the fact that the last quarter's payments were not yet to hand, nor had any attempt been made to pay "surplus," temporary residents' fees, or mileage made.

LONDON.

We have received the following letter:

Sir,—There has come to hand this week, it would seem from Staple House, a print which apparently is the medium for circulating the well-considered and responsible advice of the London Panel Committee, passed for issue to the practitioners more than a month ago, on economy in prescribing. The sheet contains, in addition, various remarks and embellishments which place it in a class of literature probably never before distributed on this wise, but usually sold for a suitable coin. The preparation of these may well have led to delay. As no name is on the paper, except the printer's, I have no idea to whom we are indebted for the gift. But I desire to express regret and surprise, which I feel that many colleagues must share, at this method of communicating an important official message to those concerned.—Yours faithfully,

J. T. Richards,
Member of the Pharmacy Subcommittee.

October 31st.

INSURANCE NOTES.

Lambeth Insurance Practitioners' Association.

The annual meeting of the Lambeth Insurance Practitioners' Association was held on September 30th at the residence of Dr. Victor Partridge, Camberwell.

Dr. Lane was elected Chairman, three retiring members of the Committee—Dr. R. J. Farman, Dr. P. D. Pywell, and Dr. Taylor—were re-elected, and vacancies on the Committee were filled by the election of Dr. Wallace Smith, Dr. Dunn, and Dr. F. Norman. The Honorary Secretary, Dr. Pywell, presented a report showing that during the year much active work had been done in connexion with the medical aspects of insurance administration. The financial statement showed a balance in hand. It was decided that new members should be required to pay an entrance subscription of 10s. 6d. but that a levy of 5s. upon old members would suffice for immediate requirements.

A resolution of congratulation to Dr. C. Addison, M.P., on his appointment as Secretary to the Board of Education was passed.

Dr. R. J. FARMAN gave an address in which he dealt with the questions of excessive prescribing and gave some examples which had come to the notice of the Panel Committee. He believed there would be no question amongst the profession generally but that surcharges in some cases would be quite justifiable.

Dr. J. A. ANGUS discussed the political possibilities of the future in regard to the Insurance Act and urged that practitioners could do a great deal to educate their patients as to the national advantages of better provision for the medical attendance of the people. To prevent encroachments upon the rights of the profession by politicians, and interference with their means of livelihood, he advocated the adoption by practitioners on the panel of the principles of trade unionism.

SURCHARGES IN RESPECT OF PRESCRIPTIONS.

The Panel Committee has reported to the Northampton Borough Insurance Committee in respect of allegations by the Pharmaceutical Committee of over-prescribing. The Panel Committee stated that it was satisfied that during 1913 there had not been over-prescribing, but that instances had occurred during the first quarter of 1914. The Insurance Committee decided, subject to the approval of the Insurance Commissioners, to surcharge nine practitioners in amounts varying from 6s. 11d. to £75 10s. 3d., and totalling £197 15s. 6d.

MEDICAL BENEFIT SURPLUS FUNDS.

The Council of the National Medical Union has lodged with the Insurance Commissioners a protest against the allotment of the £90,000 medical benefit surplus. This surplus had, it was contended, accrued because nearly a quarter of a million insured persons would not elect a panel doctor to attend them during illness, and because the authorities entrusted with the fulfilment of the Insurance Act did not distribute these insured persons severally amongst the panel doctors, and thus disregarded Section 15 (2) (*d*) of the Act, which provides for such system as will secure "the distribution amongst, and, so far as practicable, under arrangements made by, the several practitioners whose names are on the lists, of the insured persons who after due notice have failed to make any selection, or who have been refused by the practitioner whom they have selected." It was urged also that according to Section 14 (1) of the Act, it was provided that medical benefit shall be in all cases administered by and through the Insurance Committees and not by the Commissioners.

SOUTH TIPPERARY MEDICAL COMMITTEE.

At the request of Dr. McEniry, Ballymacarberry, a meeting of the Local Medical Committee (of which he is a member) was convened at Clonmel, on October 9th, to consider what attitude he should adopt in connexion with the offer made him of £200 a year and expenses for undertaking medical certification for the Dungarvan and Lismore areas of co. Waterford under the Insurance Act. Dr. McEniry stated the facts and informed the meeting that his ambition was to assist the profession in coming to a settlement fair to all its members and beneficial to the insured persons. He put aside the personal advantage, and said, "Whatever decision you arrive at will have my loyal support." A discussion followed, after which Dr. McEniry deprecated injustice to the poor, the ratepayers, and the doctors, and therefore refused to accept the appointment.

CORRESPONDENCE.

AFTER THE WAR.

DR. GEOFFREY PRICE, M.R.C.S., L.R.C.P. (Kineton, Warwick), writes: There is a feeling within me that, ever since Mr. Lloyd George gave way on the question of the 9s. capitation fee, he has been insidiously trying to get his own back.

For instance, the temporary resident scheme was foisted on us; also, in a certain county, a ridiculously inadequate capitation fee has been substituted for the fees on account of emergency drugs and dressings, the Clerk to the Insurance Committee now acts as Secretary to the Panel Committee, and the details accompanying the remittance of fees are too meagre to enable one to check any discrepancies.

At the present moment, when a great many panel doctors, *in esse* and *in posse*, are at the front, the Insurance Commissioners are proceeding cautiously, since they could hardly hope to provide adequate medical attendance if they provoked even a small number of doctors to "down stethoscopes." But, at the termination of the war, when many ex-naval and military surgeons will be seeking civil occupation, I anticipate that the Commissioners will seek to wrest further advantages from us, trusting to find substitutes for any recalcitrants. We should prepare for such a move:

1. By forming a fund for wounded ex-service men, their widows and orphans.
2. By installing ex-service men as locumtenents while we take a long vacation (thus lessening unemployment).
3. By appointing a solicitor or chartered accountant to each Panel Committee to look after our interests and warn us of dangers ahead.
4. By more united action.
5. By endeavouring to obtain more adequate medical representation on county Insurance Committees and in the Insurance Commission.

Meetings of Branches and Divisions.

LANCASHIRE AND CHESHIRE BRANCH:

BOLTON DIVISION.

Presentation to Secretary.

AT a meeting of the practitioners of Bolton and district held on October 23rd, the Secretary, Dr. Thomas O'Neill, was presented with an antique grandmother clock bearing the following inscription:

Presented to Dr. Thomas O'Neill by the Medical Practitioners of Bolton and District as a token of appreciation of the valuable services rendered by him during the passing of the National Insurance Act.

Association Notices.

CHANGES OF BOUNDARIES.

FORMATION OF A HYDERABAD AND CENTRAL PROVINCES BRANCH.

THE following change has been made in accordance with the regulations of the Association, and takes effect as from the date of publication of this notice:

> That a new Branch of the Association be formed, to be known as the Hyderabad and Central Provinces Branch, and that the Branch area consist of (1) the Nizam's Dominions; (2) the Central Provinces and Berar.

Representation in Representative Body.—Under the general principle adopted by the Council with regard to representation in the Representative Body for Branches outside the United Kingdom, the new Branch will be entitled to separate representation for 1915–16, to return one Representative.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH: CHESTER DIVISION.—Dr. C. Jephcott, Honorary Secretary, 12, Upper Northgate Street, Chester, gives notice that a meeting of the Division will be held in the Board room of the Chester Royal Infirmary, on November 10th, at 8.15 p.m., to adopt the model organization

and ethical rules for the Division, to appoint a representative on the Chester Council of Social Welfare (this refers to the medical attendance on dependants), one or more representatives on a similar committee for the county; also for Sale, and any other borough that invites the British Medical Association to nominate one or more representatives.

METROPOLITAN COUNTIES BRANCH.—Dr. R. E. Crosse and Mr. N. Bishop Harman, Honorary Secretaries, give notice that a Council meeting will be held at 429, Strand, W.C., on Tuesday, November 10th, at 4 p.m.

SOUTHERN BRANCH: SOUTHAMPTON DIVISION.—Dr. W. A. Simpson, Honorary Secretary, 3, Waterloo Road, Southampton, gives notice that a special general meeting of the Division will be held at the Royal South Hants and Southampton Hospital, on Wednesday, November 11th, at 3 o'clock. Business: The adoption of certain resolutions; the adoption of the new rules of the Division: attendance on patients of doctors on war service; free attendance on dependants of men serving with the colours.

MIDLAND BRANCH: HOLLAND DIVISION.—Dr. R. Tuxford, Honorary Secretary, 12, Wide Bargate, Boston, gives notice that a meeting of the Holland Division will be held at the White Hart Hotel, Boston, on Friday, November 13th, at 3.45 p.m., when the following resolution will be proposed: "That no medical practitioner within the area of the Division should accept a fee of less than 10s. 6d. per case for acting as medical referee to any insurance company under the National Health Insurance Act."

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: HEREFORD DIVISION.—Dr. F. H. Thompson, Chairman (Hereford), gives notice that a meeting of this Division will be held on Monday, November 9th, at 3 p.m., in the Board Room of the Hereford General Hospital. Agenda: To elect a temporary Secretary during the absence of Dr. Ainslie at the war. Any other business.

IRELAND.

Poor Law Medical Service.

THE Local Government Board (Ireland), in reply to a request from the Irish Committee of the British Medical Association to meet a deputation from their body, has forwarded the following important letter to the Irish Medical Secretary:

Local Government Board, Dublin,
28th October, 1914.

Sir,—I am directed by the Local Government Board for Ireland to acknowledge the receipt of your letter of the 21st instant, requesting them to receive a deputation from the Irish Branch of the British Medical Association in regard to the following questions:

No. 1.—The admission of well-to-do patients to workhouse hospitals.

No. 2.—The adoption of graded scales of salaries for Poor Law medical officers, and

No. 3.—The action of certain boards of guardians in making it a condition of appointment of dispensary medical officers that they shall attend private patients at certain fixed fees.

With reference to No. 1, the Local Government Board desire me in the first place to point out that workhouse hospitals are not general hospitals open to all classes of the community, but are primarily hospitals for the use of the destitute poor, though "poor persons" and members of the constabulary force are declared to be admissible thereto, but there can be no "private patients" in such institutions.

The Board would further point out that medical officers have no direct power, by order or otherwise, to admit any person to the workhouse hospitals, but they think that the relieving officer or master would incur a serious responsibility in refusing to admit an urgent case on the recommendation of a medical practitioner.

The medical officers are bound, at their fixed salaries, to afford their professional attendance to all the patients, and cannot demand or accept fees from such patients, or any class of them, for services rendered to them whilst under treatment in the union hospitals.

No. 2.—The Local Government Board received a communication, dated the 10th instant, from the Irish Medical Association requesting them to receive a deputation from that body on this subject, and replied on the 13th instant that, whilst they were in sympathy with the desire to see graded scales of salaries in all unions in Ireland, they considered that the present time would not be opportune for pressing the matter on boards of guardians, and for that reason they saw no useful purpose in receiving the deputation.

No. 3.—The Board observed from the Minutes of Proceedings of the Board of Guardians of Trim Union on the 3rd inst. that it was proposed to make it a condition of appointment to a then vacant dispensary medical officership in the Union, that the medical officer should attend small farmers with valuations under £25 at 5s. a visit; and, in accordance with their usual practice, the Local Government Board addressed a communication to the guardians on the 9th inst., informing them that the stipulation would be *ultra vires*, and should be withdrawn, and the guardians acted upon this recommendation.

The Board trust that the above statement of their views on the points raised in your communication will be satisfactory and answer the purposes of the Irish Branch of the British Medical Association, and that a deputation, as proposed, is not necessary in the circumstances.—I am, Sir, your obedient Servant,

J. E. DEVLIN,
Assistant Secretary.

Dr. T. Hennessy, Secretary,
Irish Branch, British Medical Association.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Fleet Surgeon K. H. JONES to the *Pembroke*, additional, for disposal. Staff Surgeon J. H. MCDOWALL, M.B., to the *Vivid*, additional, for War College, Devonport; Staff Surgeon E. M. W. HEARN, M.D., to the *Vivid*, additional, for the *Reliance*. Surgeon F. J. BURKE, M.B., to the *Victory*, additional for disposal. Temporary Surgeons: E. M. THOMPSON to the *Vivid*, additional, for War College, Devonport; J. C. BAGGS and H. T. DEPREE, to the *Vivid*, additional, for Plymouth Hospital; J. D. CLARKE, B. FLACK, and K. WOLFERSTAN to the *Pembroke*, additional, for disposal; G. E. SCOTT, to the *Wildfire*, additional, for disposal; J. A. WATSON, H. HENSTED, and P. W. CARRUTHERS, to the *Victory*, additional, for Haslar Hospital; R. N. MCKINSTRY, to the *Victory*, additional, for disposal; H. M. SCOTT to the *Revenge*. Surgeons for temporary service: DOUGLAS K. ADAMS, JOHN W. ADAMS, M.B., ALFRED F. ADAMSON, M.B., HENRY G. ANDERSON, CHARLES W. ARCHER, WALTER M. ASH, CLAUD H. B. AVARNE, ALARIC BALLANCE, EDWIN R. BAILEY, RICHARD A. BARLOW, JOHN R. BARROW-CLOUGH, ALFRED D. E. BAYLISS, M.D., HUGH W. BAYLY, THOMAS BEATON, M.D., WALTER G. BIGGAR, HENRY C. BILLINGS, THOMAS C. BLACKWELL, FREDERICK C. BLAKISTON, JOHN BOSTOCK, EDGAR J. BOYD, THOMAS S. BRADBURN, ROBERT W. BRANDER, BERTRAM J. BREWITT, RALPH C. BRISCOE, RALPH ST. L. BROCKMAN, DAVID P. BROWN, HORACE G. BROWN, ROBERT A. BROWN, OWEN D. BROWNFIELD, JAMES W. K. BRUCE, ROGER BUDDLE, RONALD E. R. BURN, EDWARD S. CALTHROP, M.B., ROBERT E. CAMERON, RICHARD S. CAREY, HILDRED B. CARLILL, M.A., M.B., EDGAR G. CARPENTER, GEOFFRY W. CARTE, CLIFFORD C. CHANCE, FREDERICK E. CHAPMAN, WILLIAM H. W. CHEYNE, WILLIAM G. CLARK, FREDERICK W. T. CLEMENS, HARRY CLOUGH, GEORGE COCHRANE, M.B., JOHN R. COLLIE, WILLIAM P. COWPER, THOMAS M'C. CREIGHTON, THOMAS H. CRESSWELL, WILLIAM L. CRIPPS, M.B., F.R.C.S.Ed., FREDERICK H. L. CUNNINGHAM, HECTOR W. DAVIES, HOWARD V. DEAKIN, HENRY L. D'OLIER DUCKWORTH, EDGAR L. ELLIOTT, CARLTON A. ELLIS, FREDERICK C. ENDEAN, ABEL EVANS, ARTHUR G. EVANS, JULIAN T. E. EVANS, FREDERICK B. EYRYN, M.B., CHARLES J. CAMPBELL FAILL, GEORGE C. FAIRCHILD, EDWARD G. FISHER, B.A., EDWARD L. FISHER, F.R.C.S., M.B., RICHARD A. W. FORD, WALTER E. FOX, HUMPHRY L. G. FOXELL, R. S. FRENCH, B.A., M.B., HENRY E. K. FRETZ, WILLIAM D. GALLOWAY, FRANK R. GILHESPY, CHARLES H. GIMLETTE, ROBERT L. GLASS, WALTER L. M. GOLDIE, ALEXANDER E. GOW, ARTHUR C. V. GREEN, PETER M. GRUNDY, M.B., GEORGE HAMILTON, M.B., SYDNEY L. HARKE, M.B., ARTHUR H. HARKNESS, MAURICE H. DE J. HARPER, CHARLES EDWARD SMITH HARRIS, ARTHUR HARRY HARTY, HAROLD HARVEY, WILLIAM HASSARD, MALCOLM B. HAY, CHARLES B. HEALD, ASHLEY E. HERMAN, ROLAND A. HOBBS, WILLIAM H. S. HODGE, GERALD W. C. HOLLEST, EDWARD H. HUGO, M.B., FREDERICK J. HUMPHREYS, WILLIAM IBBOTSON, WILLIAM J. JAGO, WALTER F. JONES, PERCIVAL M. KEANE, PETER B. KELLY, REGINALD H. KNOWLES, M.D., ALBERT E. F. KYNASTON, GEORGE E. W. LACEY, JOHN LAMBERT, FREDERICK G. LLOYD, NIGEL F. LLOYD, M.B., GERALD R. LYNCH, M.B., RONALD G. LYSTER, HUGH J. MCCAW, M.B., WILLIAM A. MCKERROW, ARNOLD MCMILLAN, ARTHUR J. MCNAIR, JOHN S. D. MACCORMACK, ALEXANDER J. MACDIARMID, ALFRED R. MACMULLEN, BRUCE MALAHER, LEOPOLD MANDEL, M.D., HAROLD C. MANN, CHARLES A. MARRETT, GERALD N. MARTIN, LIONEL A. MARTIN, CHARLES A. MASSON, M.B., EDWIN MAYNARD, CYRIL F. MAYNE, WILLIAM MEIKLE, ROBERT W. MELLER, THOMAS R. G. MELROSE, EDWARD R. A. MEREWETHER, M.B., REINHARD C. J. MEYER, ERIC M. MOLESWORTH, RICHARD J. MONAHAN, ALAN H. MOORE, ARCHIBALD A. MORISON, ALBERT C. MORSON, GAVIN D. MUIR, M.B., F.R.C.S.Ed., DONALD J. MUNRO, M.B., JOHN H. NEWMARCH, THOMAS NORMAN, FRANCIS W. NUNNELEY, CHARLES O'BRIEN, GERALD P. O'DONNELL, MAX ONSLOW-FORD, ROBERT S. OVERTON, HARRY G. PARKER, M.B., BASIL H. PAIN, EVAN PARRY, ERIC PEARCE-GOULD, ALFRED L. PEARCE-GOULD, HUGH R. PHILLIPS, M.D., DUDLEY D. PINNOCK, BASIL A. PLAYNE, FRANK P. POCOCK, WILLIAM A. POCOCK, MARTIN O. RAVEN, EDWARD RAYNER, STANLEY RIVERS, STANLEY ROBERTSON, WILLIAM W. ROBEE, DOUGLAS ROSS, JAMES E. R. ROSS, JAMES N. MCB. ROSS, HAROLD T. ROSSITER, JOHN ROTHWELL, ARCHIBALD C. ROXBURGH, ARTHUR N. RUSHWORTH, ARCHIBALD MCK. RUSSELL, JAMES A. RUSSELL-CARGILL, ALEXANDER E. SAUNDERSON, EDWARD G. SCHLESINGER, ALEXANDER SCOTT, FREDERICK G. L. SCOTT, HAROLD M. SCOTT, CHARLES F. SCHULER, HENRY W. SCOTT, HERBERT E. SCOWCROFT, ARCHIBALD C. SHAW, REGINALD K. SHAW, M.B., CHARLES W. SHEPHERD, ALFRED G. SIMMINS, ALAN B. SLATER, M.D., REGINALD E. SMITH, M.B., F.R.C.S.Ed., GEORGE J. C. SMITH, GEOFFREY SPARROW, JOHN SPENCER DANIELL, GERALD N. STATHERS, M.B., GEORGE F. STEBBING, THOMAS L. G. STEWART, ALAN L. SUTCLIFFE, CHARLES L. SUTHERLAND, HALLIDAY G. SUTHERLAND, G. CHARLES H. S. TAYLOR, M.D., EDMUND F. THOMAS, EDWARD M. THOMSON, HAROLD E. THORN, ARCHIBALD TODRICK, REGINALD W. TOWNLEY, F.R.C.S., WILLIAM R. E. UNTHANK, M.D., WALTER P. VICARY, ARNOLD VINEY, MICHAEL

VLASTO, HENRY C. WALDO, GODFREY A. WALKER, JOHN C. WALKER' LLEWELLYN R. WARBURTON, JOHN G. WARDROP, CUTHBERT WARNER JOHN N. WATSON, WALTER G. WATSON, JAMES C. WATT, SYDNEY WELHAM, HUGH WETHERLEE, HENRY WILKS, NORMAN V. WILLIAMS, FRANCIS S. WILLIAMS, FREDERICK V. WILLIAMSON, ALEXANDER F. R. WOLLASTON, THOMAS WYNDHAM.

ROYAL NAVAL VOLUNTEER RESERVE.

Staff Surgeon W. K. WILLS, M.B., to the *Vivid*, additional, for Royal Naval Barracks, vice Caldwell.

Surgeon W. J. A. QUINE, M.B., to the *Vivid*, additional, for disposal, vice McDowall.

ARMY MEDICAL SERVICE.

THE following to be temporary Colonels: Lieutenant-Colonel Sir WILMOT P. HERRINGHAM, Kt., M.D., First London (City of London) General Hospital, R.A.M.C.T.F.; Sir ALMROTH E. WRIGHT, M.D., F.R.C.S.I., F.R.S.; Captain FREDERIC F. BURGHARD, M.D., F.R.C.S., Fourth London General Hospital, R.A.M.C.T.F.; Major Sir JOHN R. BRADFORD, K.C.M.G., F.R.S., M.D., Third London General Hospital, R.A.M.C.T.F.

ROYAL ARMY MEDICAL CORPS.

WILLIE N. BARRON, M.V.O., to be temporary Lieutenant-Colonel.

Lieutenant-Colonel ROBERT CALDWELL is retained on the active list under the provisions of Article 120, Royal Warrant for Pay and Promotion, 1913, and to be supernumerary.

The following Captains to be Majors: JOHN G. BELL, M.B., FREDERICK W. W. DAWSON, M.B., JOSEPH E. H. GATT, M.D., THOMAS S. COATES, M.B., JAMES C. G. CARMICHEAL, M.B., ROLAND H. BRIDGES, JAMES A. W. WEBSTER, FRANCIS C. LAMBERT, REGINALD C. WILMOT, HARRY B. KELLY, M.B., EDWARD M. PENNEFATHER, BENJAMIN H. V. DUNBAR, M.D., DAVID AHERN, DONALD G. CARMICHAEL, M.B., JOHN M. M. CRAWFORD, THOMAS E. HARTY, JOHN H. DUGUID, M.B., BURNET G. PATCH, GEOFFREY W. G. HUGHES.

The following to be temporary Lieutenants: JOHN HENDERSON, M.B., LAWRENCE F. HEMMANS, M.B., F.R.C.S.Edin., WILLIAM BAGSTER, M.B., TREMLETT B. BATCHELOR, NOEL A. COWARD, M.D., LIONEL P. COSTABADIE, JOHN DAVIDSON, M.B., RANALD M. HANDFIELD-JONES, JOHN G. INGOUVILLE, MICHAEL J. MULLIGAN, M.B., MICHAEL MURPHY, M.B., GEORGE W. MILNE, M.D., HUMPHREY NEAME, F.R.C.S., VIVIAN M. RICH, M.B., EDWARD L. N. RHODES, GEORGE THOM, JOHN TICHBORNE, M.D., GEORGE W. WILL, M.B., TREVOR O. WILLIAMS, M.B., ADAM GRAY, M.D., WILLIAM G. LIDDERDALE, M.B., FRANK A. GRANGE, M.B., JOHN D. LITHGOW, M.B., JAMES A. SMITH, M.B., MALCOLM W. SHUTTE, JOHN W. DEW, M.B., JOHN H. D. ACLAND, HENRY A. EHRLICH, ALEXANDER FLEMING, M.B., F.R.C.S., ROBERT C. IRVINE, M.B.

CHARLES E. L. BURMAN, M.B., relinquishes his temporary commission.

The notification regarding the appointment of Lieutenant RICHARD F. FAGAN, which appeared in the *London Gazette* of August 24th, is cancelled.

Divisional Field Ambulance, Three Field Ambulances (Nine Sections).—The appointment of the following Lieutenants has been approved: W. R. M'KENZIE, A. J. BEST, W. K. CALDWELL, S. PINION, H. G. WILSON.

INDIAN MEDICAL SERVICE.

MAJOR J. W. D. MEGAW, M.B., is appointed to be Professor of Pathology at King George's Medical College, Lucknow, with effect from October 1st, 1914.

Major N. E. H. SCOTT, Residency Surgeon, Baghdad, is appointed to hold charge temporarily of the current duties of the office of Political Resident in Turkish Arabia and His Britannic Majesty's Consul-General, Baghdad, in addition to his own duties, with effect from June 25th, 1914.

Major G. D. FRANKLIN is posted as Agency Surgeon, Southern States of Central India, with effect from September 5th, 1914.

Lieutenant-Colonel J. N. MACLEOD, C.I.E., was posted temporarily as Agency Surgeon, Bundelkhand, with effect from September 11th, 1914.

Lieutenant-Colonel P. B. HAIG was posted temporarily as Agency Surgeon, Bhopal, with effect from September 15th, 1914.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Fifth London Field Ambulance.—MAURICE U. WILSON to be Lieutenant.

Second North Midland Field Ambulance.—ROBERT B. M. YATES, M.B., late Cadet, Sedbergh School Contingent, Junior Division, Officers' Training Corps, to be Lieutenant.

Home Counties Clearing Hospital.—Major JAMES S. WARRACK, M.D., to be Lieutenant-Colonel.

Eastern Mounted Brigade Field Ambulance.—Lieutenant CLAUDIUS G. K. SHARP, M.B., to be Captain.

London Mounted Brigade Field Ambulance.—THOMAS H. CHITTENDEN, M.D., to be Major.

Scottish Horse Mounted Brigade Field Ambulance.—Major SAMUEL M. SLOAN, M.B., from attached to units other than medical units to be Lieutenant-Colonel; HUGH RICHARDSON, M.D., late Captain R.A.M.C.T., to be Major. To be Captains: HENRY WADE, M.B., F.R.C.S.E., late Captain, unattached list for the Territorial Force; Captain GEORGE B. BUCHANAN, M.B., from the Fourth Scottish General Hospital; WILLIAM BROWN, M.B., from the First Scottish General Hospital; RAYMOND VEREL, M.B., F.R.C.S.E.

Second South Midland Mounted Brigade Field Ambulance.—HUMPHREY F. HUMPHREYS, M.B., to be Lieutenant.

Third Lowland Field Ambulance.—To be Lieutenants: ARTHUR W. SUTHERLAND, M.B., GEORGE B. EADIE, M.D., PERCIVAL J. MOIR, M.B.

Third West Riding Field Ambulance.—DONALD S. TWIGG to be Lieutenant.

Third Welsh Field Ambulance.—WILLIAM RUTHERFORD, M.B., to be Lieutenant.

First Wessex Field Ambulance.—Captains THOMAS DUNCAN, M.B., and GEORGE P. D. HAWKER, M.D., to be Majors. Lieutenant WILLIAM H. E. STEWART from attached to units other than medical units to be Captain.

Second Wessex Field Ambulance.—Captains F. C. WHITMORE and THOMAS P. PUDDICOMBE to be Majors.

Third Wessex Field Ambulance.—Major ALEXANDER MILNE-THOMSON, M.B., to be Lieutenant-Colonel; Captain EDMUND ALDERSON, M.D., to be Major; CHARLES B. STEWART, M.B., to be Lieutenant.

First London General Hospital.—Captains WILLIAM B. AINGER, F.R.C.S., HERBERT D. CLEMENTI-SMITH, M.B., GEORGE H. L. WHALE, to be seconded.

First Southern General Hospital.—FRANK D. MARSH, late Cadet, Cambridge University Contingent, Senior Division, Officers' Training Corps, to be Captain, whose services will be available on mobilization.

Attached to Units other than Medical Units.—Lieutenant JAMES L. JOYCE, F.R.C.S., to be Captain; Lieutenant JAMES MCHOUL, M.B., to be Captain; WILFRED E. ALDERSON, M.D. (late Captain, Royal Army Medical Corps, Territorial Force), to be Captain; Captain WILLIAM T. RITCHIE, M.D., from the Second Scottish General Hospital, to be Captain; ROBERT MCADOO, M.B., to be Lieutenant; SYDNEY J. CLEGG, M.B., to be Lieutenant; GEORGE H. H. MANFIELD, to be Lieutenant; JOHN G. MORGAN (late Lieutenant Second Welsh Brigade, R.F.A.), to be Lieutenant; Lieutenant ALEXANDER D. KENNEDY, M.D., to be Captain; Lieutenant F. V. DENNE to be Captain; Captain GEORGE POTTS, F.R.C.S., from the First Home Counties Field Ambulance, to be Captain; HERBERT E. MURRAY, M.B., to be Lieutenant; NORMAN MACLAREN, F.R.C.S. (late Lieutenant Fourth Cumberland and Westmorland) Battalion Border Regiment) to be Lieutenant; ARTHUR C. WATKIN, late Second Lieutenant Fourth Battalion King's (Shropshire Light Infantry), to be Lieutenant; STEPHEN O. DOLAN, to be Lieutenant; FRANK B. FLETCHER, M.B., to be Lieutenant; ARTHUR E. BULLOCK, M.B., to be Lieutenant.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT ROBERT S. YOUNG, M.B., from the First East Lancashire Field Ambulance, to be Lieutenant.

COLONIAL MEDICAL SERVICES.

THE following changes are notified by the Colonial Office:

WEST AFRICAN MEDICAL STAFF.

New Appointments.—The following gentlemen have been selected for appointment to the Staff: J. J. Baeza, M.B., Ch.B.Glas., Gold Coast; N. S. Deane, L.R.C.P. and S.Irel., Sierra Leone; J. C. Watt, M.B., Ch.B.Glasg., Sierra Leone; J. T. Watt, M.B., Ch.B.Aberd., Nigeria.

Transfers.—J. H. Collier, M.D., C.M.Aberd., L.R.C.S. and P., L.M. Edin., L.F.P.S Glasg, Senior Medical Officer (Grade III), Nigeria, has been transferred to the Gold Coast; N. A. D. Sharp, M.R.C.S.Eng., L.R.C.P.Lond., Medical Officer, Gold Coast, has been transferred to Nigeria; A. F. Kennedy, M.B., B.Ch., B.A.O.Irel., Medical Officer, Gambia, has been transferred to Nigeria; R. W. Orpen, L.R.C.P. and S., D.P.H.Irel., Medical Officer, Sierra Leone, has been transferred to the Gambia.

Promotions.—W. H. G. H. Best, L.R.C.P. and S.Irel., Major, R.A.M.C. (Special Reserve), Senior Medical Officer (Grade II), Nigeria, to be a Principal Medical Officer in Nigeria.

Resignation.—H. McC. Hänschell, M.R.C.S.Eng., L.R.C.P.Lond., D.T.M. Liverpool, D.T.M. and H.Camb.

Retirement.—J. R. P. Allin, L.R.C.P. and S., L.M.Irel., D.T.M. Liverpool, retires with a gratuity.

Deaths.—T. P. Fraser, M.B., Ch.B.Aberd., D.P.H.Camb. (killed in action); J. A. Harley, M.B., Ch.B.Edin.

OTHER COLONIES AND PROTECTORATES.

J. R. Dodd (Colonel R.A.M.C.) has been selected for appointment as Medical Officer in Charge of Ankylostomiasis work in Trinidad. C. G. H. Campbell, M.R.C.S.Eng., L.R.C.P.Lond., has been selected for appointment as Assistant Medical Officer for Ankylostomiasis work in Trinidad. A. Kidd, M.B., B.Ch., B.A.O., Dub., has been selected for appointment as House-Surgeon of the Victoria Hospital and Bacteriologist, St. Lucia. R. S. Taylor, M.R.C.S.Eng., L.R.C.P.Lond., M.B., B.C.Camb., has been selected for appointment as a temporary Medical Officer, Uganda. N. Crichlow, M.B., Ch.B.Glas., has been selected for appointment as a Medical Officer in the Solomon Islands Protectorate. W. M. W. Shepherd, M.B., Ch.B.Edin., has been selected for appointment as a Medical Officer in Zanzibar.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN the ninety-seven largest English towns 8,377 births and 4,788 deaths were registered during the week ended Saturday, October 24th. The annual rate of mortality in these towns, which had declined from 14.3 to 13.4 per 1,000 in the three preceding weeks, rose to 13.8 per 1,000 in the week under notice. In London the death-rate was equal to 14.7, against 14.9, 13.8, and 13.9 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 3.5 in Wimbledon, 4.9 in Acton, 5.9 in Ealing, 6.1 in Bournemouth, 6.4 in Hornsey, and 6.8 in Southend, to 17.0 in Sunderland, 17.2 in Great Yarmouth, 19.7 in Exeter, 20.0 in Huddersfield, 21.1 in Liverpool, and 22.3 in Birkenhead. Measles caused a death-rate of 2.3 in Birkenhead and in Wigan and 2.4 in Oldham, and diphtheria of 1.6 in Middlesbrough. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 651, 485, and 322 in the three preceding weeks, further fell to 269, of which 76 were registered in London, 32 in Liverpool, 17 in Birmingham, 9 in Sheffield, 8 in Manchester, and 7 in Nottingham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small pox was registered during the week. The causes of 48, or 1.0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner; of this number, 13 were recorded in Birmingham, 10 in Liverpool, and 2 each in Stoke-on-Trent, Preston, Barrow-in-Furness, Darlington, and Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 4,196, 4,363, and 4,473 at the end of the three preceding weeks, had further risen to 4,617 on Saturday, October 24th; 657 new cases were admitted during the week, against 640, 670, and 650 in the three preceding weeks.

In the ninety-seven largest English towns 8,529 births and 4,702 deaths were registered during the week ended Saturday, October 31st. The annual rate of mortality in these towns, which had been 13.9, 13.4, and 13.8 per 1,000 in the three preceding weeks, fell to 13.5 per 1,000 in the week under notice. In London the death-rate was equal to 14.1, against 13.8, 13.9, and 14.7 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 4.7 in Hornsey, 5.1 in Exeter, 5.3 in Darlington, 5.7 in Ilford, 6.3 in Cambridge, and 7.3 in Ealing, to 18.5 in Stockton-on-Tees, 20.4 in Liverpool, 20.5 in Gateshead, 20.8 in Newcastle-on-Tyne, 22.3 in Middlesbrough, and 24.7 in Bury. Measles caused a death-rate of 1.7 in Wigan and in Newcastle-on-Tyne, 1.8 in Liverpool, 2.0 in Wakefield, and 2.3 in Birkenhead. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 485,

322, and 269 in the three preceding weeks, fell further to 204, and included 44 in London, 19 in Liverpool, 14 in Birmingham, 11 in Manchester, and 10 in Newcastle-on-Tyne. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 29, or 0.6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner; of this number 9 were recorded in Birmingham, 6 in Liverpool, and 4 in Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 4,363, 4,473, and 4,617 at the end of the three preceding weeks, had further risen to 4,683 on Saturday, October 31st; 598 new cases were admitted during the week, against 670, 650, and 657 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,213 births and 659 deaths were registered during the week ended Saturday, October 24th. The annual rate of mortality in these towns, which had been 15.6, 15.9, and 14.7 per 1,000 in the three preceding weeks, rose to 15.0 in the week under notice, and was 1.2 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 1.2 in Clydebank, 7.9 in Ayr, and 11.3 in Motherwell, to 19.6 in Aberdeen, 20.6 in Kilmarnock, and 22.8 in Kirkcaldy. The mortality from the principal infective diseases averaged 1.8 per 1,000, and was highest in Aberdeen and Motherwell. The 303 deaths from all causes in Glasgow included 16 from infantile diarrhoea, 8 from scarlet fever, 7 from whooping-cough, 4 from diphtheria, and 3 from enteric fever. Five deaths from diphtheria were recorded in Edinburgh, 7 in Aberdeen, and 2 in Kirkcaldy; from scarlet fever 6 deaths in Aberdeen; and from infantile diarrhoea 5 deaths in Motherwell and 3 in Dundee.

In the sixteen largest Scottish towns 1,127 births and 640 deaths were registered during the week ended Saturday, October 31st. The annual rate of mortality in these towns, which had been 15.9, 14.7, and 15.0 per 1,000 in the three preceding weeks, fell to 14.6 in the week under notice, but was 1.1 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 6.8 in Hamilton and 7.5 in Motherwell and in Kirkcaldy, to 15.0 in Leith, 15.7 in Aberdeen, and 16.5 in Glasgow. The mortality from the principal infective diseases averaged 1.8 per 1,000, and was highest in Clydebank and Aberdeen. The 332 deaths from all causes in Glasgow included 14 from infantile diarrhoeal diseases, 9 from whooping-cough, 7 from scarlet fever, 4 from diphtheria, 3 from enteric fever, and 2 from measles. Six deaths from diphtheria were recorded in Edinburgh; 5 deaths from infantile diarrhoea, 3 from scarlet fever, and 3 from diphtheria in Aberdeen; 2 deaths from whooping-cough in Paisley; and 2 from scarlet fever in Leith.

HEALTH OF IRISH TOWNS.

During the week ending October 24th 575 births and 365 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 546 births and 375 deaths in the preceding period. These deaths represent a mortality of 15.8 per 1,000 of the aggregate population in the districts in question, as against 16.2 per 1,000 in the previous period. The mortality in these Irish areas was therefore 2.0 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 24.9 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 15.3 (as against an average of 18.0 for the previous four weeks), in Dublin city 15.8 (as against 19.2), in Belfast 16.9 (as against 17.8), in Cork 17.0 (as against 17.1), in Londonderry 8.9 (as against 14.9), in Limerick 20.3 (as against 19.6), and in Waterford 22.8 (as against 18.5). The zymotic death-rate was 1.9, as against 2.7 in the previous week.

During the week ending Saturday, October 31st, 592 births and 352 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 575 births and 365 deaths in the preceding period. These deaths represent a mortality of 15.2 per 1,000 of the aggregate population in the districts in question, as against 15.8 per 1,000 in the previous period. The mortality in these Irish areas was therefore 1.5 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.6 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 14.4 (as against an average of 17.2 for the previous four weeks), in Dublin city 15.3 (as against 18.0), in Belfast 14.0 (as against 16.5), in Cork 21.8 (as against 15.8), in Londonderry 11.4 (or the same as in the previous period), in Limerick 21.7 (as against 18.9), and in Waterford 22.8 (as against 19.9). The zymotic death-rate was 2.2, as against 1.9 in the previous week.

Hospitals and Asylums.

EARLSWOOD ASYLUM.

The annual report for 1913 (which, it is interesting to note, is printed by the patients at the asylum) draws attention to the removal of the London offices of the asylum to 14 and 16, Ludgate Hill, E.C. The financial statement unfortunately shows a deficit of £1,629 on the year's working, due to a falling off in annual subscriptions and a large expenditure necessitated for special repairs. There are outstanding loans, obtained in the main to defray the costs of reconstruction of the building, which amount to £6,500; and it is to be regretted that an institution which has done so much for the mentally deficient class should not be better supported. About £16,150—more than half of the year's ordinary income—is derived from payments for patients, and about £7,000 from subscriptions and donations, not including legacies.

From the report of Dr. Charles Caldecott, the medical superintendent, we learn that during the year 1912 60 fresh cases were admitted, 31 were discharged "relieved," and 32 had died. The aggregate number of patients on December 31st, 1912, was 496 (339 males, 157 females), and the average number resident during the year, 493. The percentage death-rate (calculated on the latter figure) was 6.49, the number of deaths having been 32, the largest number recorded during the last 16 years. No explanation of this exceptional mortality is given in the report, but we notice that 9 are deaths of inmates aged 45 and upwards, one patient having attained the advanced age of 84. Amongst the assigned causes of death we notice pulmonary tuberculosis in 10 cases, and general tuberculosis in 2, pneumonia in 9, and scarlatina in 2. An epidemic of the last named disease is recorded extending to 24 cases, but attended with "no unpleasant complications or sequelae" beyond 3 cases subsequently developing tuberculous disease; 55 patients had 3,566 fits during the year, and 2 deaths are attributed to epilepsy. Reports of the schoolmaster and head governess are appended, and set forth the methods of scholastic instruction adopted; but perhaps the most successful and satisfactory part of the training is that given in the workshops and on the land, which moreover seem to furnish a fair profit.

It is to be hoped that under the Mental Deficiency Act the resources and experience of Earlswood may be still further utilized.

ADELAIDE HOSPITAL, DUBLIN.

At the twenty-sixth annual meeting of the supporters of the Adelaide Hospital the Chairman said that the hospital spent each year from £2,000 to £2,500 more than its ordinary income, and that to make up for this deficiency it was necessary to fall back upon bequests. If the committee had not done this during the past years, it was safe to say that there would be no such thing as the Adelaide Hospital—certainly not as it now existed. The report stated that the total number of patients admitted during the year was 1,374—an increase of 80 over the previous year. An extension is being built with a sum of money left to the hospital, and it will, when completed, contain, on the ground floor—(1) increased accommodation for out-patients; (2) extra consulting rooms for doctors and surgeons; (3) an improved *x*-ray department. The medical and surgical staff attach great importance to this latter addition. The other floors will provide—(1) further accommodation in the Alexandra Home; (2) new rooms for the matron and sisters; and (3) new sleeping accommodation for an increased number of nurses. The attendances of out-patients in the dispensary during the year were 34,612. It is intended to equip the *x*-ray department as completely as possible, and it is estimated that at least £500 will be needed for this purpose.

Vacancies and Appointments.

NOTICES REGARDING APPOINTMENTS.—Attention is called to a Notice (see Index to Advertisements—Important Notice re Appointments) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

ALTON: LORD MAYOR TRELOAR'S CRIPPLES HOSPITAL AND COLLEGE.—Two Assistant Medical Officers (ladies). Salary at the rate of £120 and £100 per annum respectively.

BIRMINGHAM CORPORATION.—(1) Assistant Resident Medical Officer. (2) Lady Medical Officer for Infant Consultation Work. Salary, £200 and £300 per annum respectively.

BIRMINGHAM: GENERAL HOSPITAL.—House-Governor and Secretary. Salary, £500 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM UNION.—(1) Third and Fourth Medical Officers at Dudley Road Infirmary. (2) Assistant Medical Officer at the Erdington Infirmary and Cottage Homes. (3) Assistant Medical Officer at the Selly Oak Infirmary. Salary for (1) £170 and £160 respectively, for (2) £200, and (3) £180 per annum.

BOARD OF CONTROL, MENTAL DEFICIENCY ACT.—Assistant Medical Officer at the State Institution for Mental Defectives near Liverpool. Salary not less than £300 per annum, rising to £400.

BOLTON INFIRMARY AND DISPENSARY.—Second House-Surgeon. Salary, £120 per annum.

BRADFORD EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £350 per annum, rising to £400.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer for the St. Luke's Hospital and Union House. Salary, £150 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

CHELSEA INFIRMARY, Cale Street, S.W.—Second Assistant Medical Officer. Salary, £160 per annum.

CHESHIRE COUNTY ASYLUM, Parkside, Macclesfield.—Locumtenent. Salary, £5 5s. a week.

CHESTER COUNTY, PARKSIDE ASYLUM, Macclesfield.—Medical Superintendent. Salary, £650 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

DERBY BOROUGH ISOLATION HOSPITAL AND SANATORIUM.—Resident Medical Officer. Salary, £200 per annum.

DERBYSHIRE COUNTY COUNCIL.—Assistant Tuberculosis Medical Officer. Salary, £400 per annum.

EDMONTON INFIRMARY.—Second Assistant Medical Officer. Salary, £160 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary, £80 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £140 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HALIFAX UNION.—Resident Medical Officer for the Poor-Law Hospital. Salary, £120 per annum and £20 for dispensing medicines.

HANTS COUNTY ASYLUM.—Third Assistant Medical Officer (male). Salary, £250 per annum.

HEREFORD COUNTY AND CITY ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

HERTS COUNTY ASYLUM, Hill End.—Second Assistant Medical Officer (male). Salary, £250 per annum.

HUDDERSFIELD ROYAL INFIRMARY.—Senior and Junior Assistant House-Surgeons (males). Salary, £80 per annum each.

HULL ROYAL INFIRMARY.—(1) Senior House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £100 per annum respectively.

KENT COUNTY ASYLUM, Chartham.—Third Junior Assistant Medical Officer (male). Salary, £250 per annum.

KENT COUNTY ASYLUM, Maidstone.—Male Junior Assistant Medical Officer. Salary, £250 per annum.

LEEDS HOSPITALS FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Assistant Medical Officer. Salary at the rate of £150 per annum.

LEICESTERSHIRE EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary, £300 per annum.

LINCOLN CITY.—Assistant Medical Officer of Health. Salary, £250 per annum.

LIVERPOOL UNIVERSITY.—Assistant Lecturer and Demonstrator in Anatomy. Salary, £175 per annum.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.—Assistant Physician.

LONDON UNIVERSITY.—(1) University Chair of Anatomy at King's College. (2) University Chair of Physiology at the London Hospital Medical College. Salary, £600 per annum each.

MANCHESTER CHILDREN'S HOSPITAL.—Resident Medical Officer. Salary at the rate of £100 per annum.

MANCHESTER CORPORATION.—Assistant Tuberculosis Officer. Salary, £350 per annum.

MANCHESTER COUNTY ASYLUM, Prestwich.—Assistant Medical Officer. Salary, £250 per annum, increasing to £300, and on promotion to £450.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer at the Crossley Sanatorium. Salary, £100 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL.—House-Surgeon. Salary, £120 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, ETC., Northwood.—House-Physician. Salary, £100 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Honorary Assistant Physician.

NEWCASTLE-UPON-TYNE AND NORTHUMBERLAND SANATORIUM FOR CONSUMPTIVES.—Resident Medical Officer (male). Salary, £350 per annum, rising to £400.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NOTTINGHAM CHILDREN'S HOSPITAL.—Lady House-Surgeon. Salary at the rate of £130 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon (male). Salary, £250 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—(1) Senior House-Physician; (2) Assistant House-Surgeon. Salary for (1) £120 per annum, and for (2) £100 per annum. (Women eligible.)

OCHIL HILLS SANATORIUM, Milnathort.—Junior Resident Physician. Salary, £200 per annum, rising to £250.

OLDHAM ROYAL INFIRMARY.—Third House-Surgeon. Salary at the rate of £100 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—(1) Junior Assistant Medical Officer. (2) Assistant Medical Officer to act also as Pathologist. Salary, £250 per annum, rising to £300.

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon (male). Salary, £115 per annum.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer. (2) Casualty House-Surgeon. Salary, £120 and £100 per annum respectively.

SALFORD UNION INFIRMARY.—Resident Assistant Medical Officer (male). Salary, £150 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD CITY HOSPITALS.—Assistant Medical Officer. Salary, £180 per annum, rising to £200.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) Assistant House-Physician. Salary, £100 per annum each.

SOMERSET COUNTY COUNCIL.—Assistant School Medical Officer (temporary). Salary, £300 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STIRLING DISTRICT ASYLUM, Larbert.—Third Assistant Medical Officer (lady). Salary, £140 per annum.

STOKE-ON-TRENT INFECTIOUS DISEASES HOSPITAL.—Resident Assistant Medical Officer (lady). Salary, £150 per annum.

SUNDERLAND: ROYAL INFIRMARY.—Junior House-Surgeon (male). Salary, £100 per annum.

WALSALL AND DISTRICT HOSPITAL.—(1) Senior House-Surgeon. (2) Junior House-Surgeon and Anaesthetist. Salary, £150 and £110 per annum respectively.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House-Physician. Salary, £120 per annum.

WESTMINSTER UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £160 and £140 per annum, increasing to £180 and £160 respectively.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Senior House-Surgeon. Salary, £170 per annum.

WOMEN'S HOSPITAL FOR CHILDREN, Harrow Road, W.—Assistant Surgeon.

WORCESTER: COUNTY AND CITY ASYLUM, Powick.—Junior Assistant Medical Officer. Salary, £200 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Bridge of Allan (Stirlingshire), Hounslow (Middlesex).

MEDICAL REFEREES.—The Home Secretary announces the vacancy of Medical Referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of Forfar. Applications to the Private Secretary, Scottish Office, by November 25th.

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

CASSELS, William, M.B., C.M.Glas., Medical Officer (part time) of H.M. Prison, Birmingham.

EWART, George A., F.R.C.S., Assistant Surgeon to St. George's Hospital, S.W.

FEDDEN, W. Fedde, F.R.C.S., Surgeon to St. George's Hospital, S.W.

GAY, S. B., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District and Workhouse Medical Officer of the Shardlow Union.

HENRY (MACENRI), John P., M.A., M.D., B.Ch., Professor of Ophthalmology and Otology in University College, Galway.

HICHENS, W., M.R.C.S., L.R.C.P., Medical Officer of the Redruth Union Workhouse.

STEPHEN, J. W., M.B., Ch.B.Aberd., Certifying Factory Surgeon for the Beith District, co. Ayr.

THOMSON, H. J., M.B., Ch.B.Aberd., Certifying Factory Surgeon for the Alford District, co. Aberdeen.

WALKER, L. C., B.A.Camb., M.R.C.S., L.R.C.P., District Medical Officer of the Malton (Out-relief) Union.

YULE, Robert M., M.D., Medical Referee under the Workmen's Compensation Act for the Sheriffdom of Caithness, Orkney and Shetland; and to be attached more particularly to the Shetland District, vice Dr. J. F. Robertson, deceased.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

DEATHS.

GEOGHEGAN.—At Grand Turk, Turk's Island, British West Indies, on October 25th, Basil Robert Alexander Colvin, aged 9 months, son of Joseph Geoghegan, M.B., Ch.B.Edin.

KER.—On the 3rd inst., at Tintern, Balham Hill, Hugh Richard Ker, F.R.C.S.Edin., L.R.C.P.Edin., M.R.C.S.Lond., aged 68.

MUIR.—On October 22nd, at Broadstairs, Robert Douglas Muir, M.D., M.R.C.S., L.R.C.P., of The Limes, New Cross Road, S.E., eldest son of the late George W. Muir, R.N., Paymaster, H.M.S. *Asia* (Legion of Honour, Crimea).

DIARY FOR THE WEEK.

TUESDAY.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—Second FitzPatrick Lecture: Dr. C. A. Mercier: Leper Houses and Mediaeval Hospitals.

WEDNESDAY.

HUNTERIAN SOCIETY, Barbers' Hall, Monkwell Street, E.C., 9 p.m.—Papers: Dr. Alexander Morison: Pernicious Anaemia. Dr. A. White Robertson: The Toxaemias of General Practice.

ROYAL SOCIETY OF MEDICINE:

SECTION OF SURGERY: SUBSECTION OF PROCTOLOGY, 5.30 p.m.—(1) Cases and Specimens. (2) Paper: Mr. P. Lockhart Mummery: Injuries to the bowel from shell and bullet wounds.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

CLINICAL SECTION, 8 p.m.—(1) Clinical cases. (2) Paper: Mr. W. G. Spencer: Case of retroperitoneal prolapse of the spleen into the left loin.

POST-GRADUATE COURSES AND LECTURES.

Post-graduate Courses are to be given next week at the following schools, colleges, and hospitals:

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 14TH, 1914.

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LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

PANEL COMMITTEE.

Alleged Excessive Prescribing.

A SPECIAL meeting of the London Panel Committee was held on November 10th, when the recommendations of the Pharmacy Subcommittee were approved in a number of cases in which the Pharmaceutical Committee alleged that excessive prescribing had occurred. The Subcommittee found that in 17 cases the cost of drugs ordered had been excessive, in 9 it had not been in excess, in 7 cases the period under review was not long enough for a decision to be given, and in 5 cases no investigation could take place because the practitioners were absent on military duty. It was stated that two hundred other cases had been remitted by the Pharmaceutical Committee.

Relations with Tuberculosis Dispensaries.

It was reported that the Local Government Board had received a deputation from the Panel Committee on the subject of the relation of practitioners to the medical officers of tuberculosis dispensaries, and had expressed agreement with the principle that insured persons should not be treated at dispensaries without the knowledge of the practitioner responsible for their treatment. On this a discussion took place in which the importance of the retention by the general practitioner of a share in tuberculosis treatment was emphasized.

Breaches of Medical Etiquette.

In view of irregularities which took place in the transfer of insured persons at the end of the medical year 1913, the Panel Service Subcommittee advised the Panel Committee to report to the proper authority any case in which a practitioner exhibited publicly notices regarding the date of revision, printed or circulated transfer forms, canvassed in any manner whatsoever for patients or secured the transfer to his list of large numbers of insured persons on the lists of practitioners absent on military duty. The Panel Committee instructed the Subcommittee to investigate any such cases.

Reduction of Lists owing to the War.

A report by the Panel Service Subcommittee suggested that, although exact figures were not yet available, the number of insured persons in London serving with the forces, and therefore disentitled for the time being to medical benefit, might amount to 250,000. The necessary adjustments of lists would inflict loss on a number of practitioners, but the Subcommittee observed that the rights of individual practitioners would not permit an arrangement whereby the depleted medical benefit fund should be distributed on the basis of the numbers on lists before the war.

BEDFORDSHIRE.

PANEL COMMITTEE.

A MEETING of the Bedfordshire Panel Committee was held at the County Hospital, Bedford, on October 20th, when Dr. WAUGH was in the chair, and seventeen other members were present, as well as Drs. Winckworth and Holmes, who attended as members of the Medical Committee.

Assignment Subcommittee.—The following were elected members of the Assignment Subcommittee, and the names were directed to be notified to the clerk of the Insurance Committee:

Bedford Area.—Drs. Parbury and A. F. Goldsmith.
Biggleswade Area.—Drs. Milburn and Dixon.
Leighton Buzzard Area.—Drs. Waugh and Wagstaff.
Ampthill Area.—Drs. K. Roberts and Street.
Luton Area.—Drs. Bone and Rose.

Secretaryship.—Drs. Rose, Bone, and Stanbury Phillips were appointed a subcommittee to make inquiries with a view to appointing a paid secretary, preferably a solicitor, if the cost would not be prohibitive, since the secretary had reported that he was unable to fulfil the duties owing to his having joined the Royal Army Medical Corps, and the uncertainty of his movements. It was further arranged that the present secretary should continue the work for the time being.

Honorarium to Returning Officer.—On the motion of Dr. BUTTERS, seconded by Dr. POLLARD, a fee of one guinea was granted to Mr. Carter for his services as returning officer.

Prescribing.—Drs. Pollard, Bone, and Butters were appointed a subcommittee without executive powers to confer with a subcommittee of the Pharmaceutical Committee with regard to the cost of prescribing and of the expenses of the Pharmaceutical Committee. A communication having been read from the clerk to the Insurance Committee *re* Memorandum 199/I.C. on the scheme for the checking and the scrutiny of prescriptions, the Committee expressed the following opinions, which were ordered to be communicated to the clerk of the Insurance Committee.

1. An investigation into the cost of prescribing is desirable.
2. A suitable method would be the appointment of a clerk to serve under the three committees concerned—Insurance Committee, Pharmaceutical Committee, and Panel Committee.
3. No part of the cost should be borne by the "Practitioners' Fund" (that is, the money definitely promised for medical services and not subject to deduction).
4. A suitable arrangement for the cost of checking prescriptions would be that half should be paid by the Insurance

Committee and that the other half should be paid from the funds available to pay the cost of drugs supplied by chemists.

New Regulations.—The Committee considered Memo. 201/I.C., in which the Insurance Commissioners suggested certain alterations in the regulations for the coming year: (1) The introduction of a uniform system of certification; (2) that alteration in the regulations may be made during the insurance year on giving two months' notice. The latter provision was said to be intended to avoid making more alterations than could be helped during the war. The Committee agreed to the suggestions in the Memorandum.

Voluntary List.—The Secretary was instructed to ask the clerk to the Insurance Committee for the promised list of those who were paying towards the voluntary levy towards the expenses of the Committee.

WEST SUFFOLK.

Panel Committee.

A meeting of the West Suffolk Panel Committee was held at Bury St. Edmunds on November 3rd, when Dr. Wilkin, temporary Chairman, presided, and ten other members were present.

Election of Chairman.—On the motion of Dr. Wood, seconded by Dr. Maund, Dr. Wilkin was appointed Chairman of both the Panel and Local Medical Committee. A vote of thanks was accorded to Dr. Wood for his services as Chairman of the Committees since their inauguration.

Medical Benefit Subcommittee.—The following representatives were appointed: Local Medical Committee, Dr. Batt; Panel Committee, Drs. Wilkin and Wood.

Unallotted Funds.—The matter of unallotted funds having been referred back by the Medical Benefit Subcommittee in order that the Panel Committee might state definitely that they accepted the method of division of the funds submitted by the Medical Subcommittee as well as the Commissioners' suggestion, the Secretary was instructed to notify the Clerk that the Panel Committee approved of the method.

Memorandum 199/I.C. Joint Committee.—Drs. Batt and Wood were appointed representatives of the Panel Committee on the Joint Committee consisting of two members each from the Medical Benefit, Pharmaceutical, and Panel Committees to consider paragraph 9 of the Memorandum.

Expenses.—The Medical Benefit Subcommittee intimated its approval of the proposal to meet the expenses of a voluntary levy, and authorized their clerk to make the necessary deductions upon the production of the agreements duly signed and provided that no expense was incurred by the office in making the deductions.

Suspense Slips.—After hearing statements by certain members with regard to the number of insured persons on their lists and on the index registers, it was unanimously resolved:

> That, as there is general dissatisfaction among the practitioners on the panel in West Suffolk in regard to the manner in which payments have been made, the issue of medical cards, and the number of suspense slips held by the Insurance Committee, the Commissioners be asked to hold an independent inquiry into the matter at the earliest possible moment.

A special subcommittee consisting of Drs. Barwell, Batt, Wilkin, Wisdom and Wood was appointed to deal with the matter on behalf of the Panel Committee with instructions to refer to the full Committee when necessary. The secretary was instructed to inform the Medical Benefit Subcommittee of the action of the Panel Committee.

Consideration of Circular Letter from Insurance Act Committee of the British Medical Association.

Drug Tariff.—The Committee approved the proposal to establish a joint committee of representatives of the Pharmaceutical Society and the British Medical Association to settle the prices of drugs affected by the war, and noted the suggestion that the expenses of the joint committee proposed to be set up to check the supply of drugs and appliances should be paid one-half by the Insurance Committee and one-quarter each by the Panel and Pharmaceutical Committees.

Circular 49/I.C. was considered and approved.

Records.—It was decided to remind practitioners of the necessity of keeping records up to date.

Local Medical and Panel Subcommittee.—Approval was expressed of the action of the Insurance Act Committee in this matter.

Proposed Federation of Local Medical and Panel Committees.

A letter from the Provisional Committee of the proposed federation dated July, 1914, having been considered, it was decided to reply that in the opinion of the Panel Committee the special subcommittee appointed by the British Medical Association was quite adequate to perform the work, and that it was not in favour of the establishment of the proposed federation.

PERTH.

A special meeting of the Panel Committee of the county of Perth was held at Perth on November 6th.

Extravagant Prescribing.—Dr. Lyell, in the absence of Dr. Trotter, stated that as previously arranged a meeting had been held to consider the report of the Pharmaceutical Committee with reference to extravagant prescribing, and that after full consideration of the statements made by the practitioners concerned, it was resolved:

> That no practitioner be surcharged for any proprietary medicine ordered previous to July 11th, the date of the warning circular sent out by the Panel and Pharmaceutical Committees giving instructions as to prescribing and dispensing of medicines, etc.

Instructions for Prescribing.—A suggestion by Dr. Stuart that the instructions for prescribing should be issued in a handy and wear-proof booklet was favourably considered.

Dispensing by Practitioners.—The question of dispensing by doctors in certain districts having been raised by the Pharamaceutical Committee it was decided to advise the medical men concerned to appoint a deputation to attend the next meeting of the County Insurance Committee.

ROXBURGHSHIRE.

A meeting of the Panel Committee of Roxburghshire was held at St. Boswells on November 6th, when Dr. Cullen was in the chair.

Checking Prescriptions.—Memorandum No. 598 issued by the Commissioners containing particulars as to the scheme for the proposed central bureau for checking prescriptions, etc., was discussed. Mr. Cairns, who attended to represent the Pharmaceutical Committee, explained that the Pharmaceutical Society for the area had resolved by three to two to approve of this scheme. All the chemists in Roxburghshire had been consulted; six were in favour and four against the proposed bureau. In reply to a question, Mr. Cairns said that the present cost of checking and tabulating the prescriptions incurred by his committee was £12 per annum, which sum was charged to administration expenses. For £2 or £3 more, any further information that might be required by the Insurance Committee could be furnished. After fully considering the matter, the committee expressed the opinion that the system in force in the area was working eminently satisfactory, and it was decided not to approve of the scheme.

Mileage Fund.—The committee agreed to the distribution of the mileage fund for 1914, amounting to £870, on the same basis as last year. It was decided that a sum of £48 available from the grant for 1913 should be distributed among practitioners who did not participate in the sum allocated by the Commissioners in July last.

Agreements for 1915.—A letter was submitted from the Commissioners intimating that they could not agree to the proposals made by the committee to either allow the agreements to remain as they were for next year or that three months' notice should be given of any proposed alterations. The Commissioners also declined to give any information at the present juncture as to the nature of the alterations proposed to be introduced into the agreements for 1915 as indicated. The Clerk was instructed to point out that the proposals made by the committee were considered to be fair and reasonable, and to mention that the English Commissioners proposed to give eight weeks' notice of any alterations as compared with six weeks in Scotland.

[In the report of the conference published last week, p. 226, on the seventh line from the bottom, second column, the word "months" should read "weeks."]

MANCHESTER PANEL COMMITTEE.

The vast amount of work done by the Manchester panel doctors for the insured is shown in a way that cannot be questioned in the official annual statement for the year 1913, just issued by the Manchester Medical Committee, and signed by the honorary treasurer. In October, 1912, the number of insured persons in the area was put down at 254,034. Since then there has been a gradual but steady increase, until in October of this year the number was given as 299,865. Of these, 187,086 are men, and 112,779 women—that is to say, about 11 out of every 30 insured persons are women workers, and this proportion may reasonably be assumed to have existed throughout the year 1913. It is doubtful whether any other town of the size of Manchester can show any larger proportion of women insured, and beyond all doubt this explains to a very great extent the enormous amount of work required from the panel doctors, and the very heavy demands that have been made on the drug funds.

The work done by the panel doctors is summarized as follows: Attendances, 1,333,275; visits, 270,516; special visits at request of patient during day, 7,789; special visits at request of patient during night, 2,790; operations, 1,426; anaesthetics, 192; fractures, dislocations, etc., 202. According to the scale in use the doctors are credited with 2s. for each ordinary attendance, 2s. 6d. for each ordinary visit, and special fees for operations, fractures, etc., and on this scale the total amount due to the doctors was £154,919. The amount available to meet this was only £86,101—that is, about 55.5 per cent. of the amount credited. This is about 11s. 1½d. in the £; or, roughly, it may be put down that the doctors have received 1s. 1½d. per ordinary attendance and 1s. 4¾d. per visit. No one who knows anything about medical practice in Manchester can doubt for a moment that this is very greatly below the average fees received from working-class private patients.

It has been urged repeatedly that the system of medical attendance in Manchester encourages doctors to put in as many attendances and visits as possible, as payment is according to the work done. Prima facie such an assumption might seem reasonable, but there is another side of the matter which is only properly realized by the doctors themselves. They have known from the beginning that they could not possibly be paid in full for their work, and would only receive a little over 11s. in the £ on their bills. It is quite possible that a few "sixpenny doctors" would be fairly well satisfied with that, which would materially increase their former incomes; but the great majority felt that they were doing work at a much cheaper rate than they had ever done it before, and the apparent temptation to increase the number of their attendances has not appealed to them. They have attended because they were, in fact, bound to attend by the condition of their patients. Moreover, they knew quite well that it was no use sending in a bill for every attendance actually given, as by the arrangement made by the Panel Committee only a certain average number of attendances per patient per month would be allowed to count, any excess being simply crossed out of their accounts before they were allowed to rank for the dividend. On this account there cannot be the least doubt that a considerable number of the doctors have not entered up on their day-sheets every attendance actually rendered. This, of course, cannot be defended for a moment, though there is only too much reason for believing that in this respect the Manchester doctors are only like the panel doctors in some other parts of the country. Indeed, they have not sufficiently kept in mind the fact that by carelessness in not entering up every single attendance given they are furnishing a weighty argument, which will be used to the utmost against them if there is any attempt in the future to reduce the amount available for medical benefit. There is little doubt that the number of visits and attendances actually rendered by the Manchester panel doctors is really considerably higher than the number entered by them on their day-sheets and recorded in the above figures. In any case it is certain that the insured are not being neglected so far as the number of attendances and visits is concerned.

The total chemists' bills for the year amounted to £45,248, towards which there was available £25,345, which is equivalent to about 60 per cent. The total number of prescriptions given by the panel doctors was 1,268,330, which averages 2.49 per patient actually treated per month, and the average cost per prescription was 7.98d., so that each patient on the monthly day-sheets cost 19.83d. It has not been found possible as yet to state the actual number of separate insured persons that have received treatment, as names that occur on successive monthly record sheets are counted as if they were separate insured persons, though many of them may have had several months' attendance. It is to be noted that during the present year there has been a distinct lowering of the average cost per prescription which in June last was only 6.3d. as compared with 7.98d. in the year 1913. The number of prescriptions per patient per month has also fallen from 2.49 in 1913, to 2.12 in June last. Thus the monthly cost for drugs and appliances per patient was only 13.37d. in June, as compared with 19.83d. for the year 1913. It is thus practically certain that the chemists will receive a much higher dividend in the present year than in 1913, but even at the present rate of cost, the 2s. per insured person will hardly be found sufficient to pay the chemists' bills in full.

So far as the insured are concerned there is no hiding the fact that there is a distinct danger that in the present anxiety to lessen the drug bill, the number of prescriptions and the cost per prescription may be reduced further than the interest of the patients really requires. The sickness incidence in Manchester is undoubtedly higher than in a great part of the rest of the country. This is partly accounted for by the relatively higher proportion of women workers and partly by the general condition of labour in the Manchester district. It thus seems to be established that the sum of 2s. for drugs and appliances, which may be adequate taking the country as a whole, is not sufficient in an industrial centre like Manchester with a large proportion of women workers. On the whole it may be said that of the three parties to medical benefit in Manchester, namely, the insured, the doctors and the chemists, the insured are the only party that are getting in full their just dues, but this is partly at the expense of the doctors and the chemists.

CORRESPONDENCE.

The London Panel Committee's Inquisition into Panel Doctors' Prescribing.

Dr. Henry Bazett (Paddington) writes: I have received a notice from the Secretary of the London Panel Committee that they are, at the request of the Pharmaceutical Committee, making "investigations in respect of the drugs and appliances ordered by sixty-five practitioners during the period 12th to 30th April, 1914." I am then informed that, while for this period, "the average cost of the prescriptions issued by all the practitioners on the panel was 9.7 pence," in my "individual case the average cost per prescription was nearly 1s. 1d."!

I should like to dilate on the futility of an inquiry of this sort, in which no account is taken of the length of the period for which medicine is supplied by each prescription, as a number of weekly prescriptions costing, say, an average of 2s., are a less demand on the Drug Fund than a correspondingly larger number of two-day prescriptions covering the same period, and costing an average of 9d. I should also like to know whether several prescriptions on one form, such as I am habitually writing, are counted as one or as many. In either case, by rewriting the prescriptions on new but more forms, and breaking them up, it would be perfectly easy, without at all altering the total amounts prescribed, to reduce one's "average"—calculated in this absurd way—to almost any figure one wished.

But I am writing on a far more important matter, which deeply concerns the other sixty-four practitioners alluded to. The Panel and Pharmaceutical Committees claim, in this notice, that they are carrying out the provisions of Article 40 of the Regulations of 1913. Now this article only empowers an "investigation . . . where it appears to the Panel Committee . . . that the cost of the supply of . . . the drugs or appliances ordered for insured persons . . . is in excess of what may reasonably be necessary for the adequate treatment of those persons." That is to say, it authorizes an investigation into prescriptions written for insured persons to be made while those persons are taking those prescriptions. It cannot therefore apply to

an inquiry into a number of prescriptions six months or more after the persons prescribed for have ceased to be under that treatment. Even if the wording of the article were not plain (which it is), common sense—which does not appear to be a strong point of the committees concerned—should show the impossibility of determining "what may reasonably be necessary for the adequate treatment" of any one except when that person's ailment, symptoms, and idiosyncrasies (which, *pace* these Pharmaceutical and Panel Committees, even panel patients are human enough to have) can be actually examined and reported upon.

Another important point is that the Panel Committee is only empowered to "make a report to the (Insurance) Committee," on which alone the latter can act, "after hearing any practitioner concerned." Now, no practitioner can be "heard" unless he voluntarily goes to the inquiry and, when there, speaks. The Act and Regulations give the Panel Committee no power to compel him either to attend or to speak if he does attend, and get no power to do anything without "hearing" him.

I therefore advise my sixty-four brethren to reply, as I have done, that the "investigation" authorized by Article 40 is one to be undertaken during the treatment of the persons concerned, that this inquiry is therefore illegal, and that they must decline to give the Panel Committee the assistance of their presence, and will hold them legally responsible for any consequences that may ensue from their continuing to so conduct it.

For my part I welcome the "unsolicited testimonial" thus given me to the thoroughness of my treatment of my insured patients, for whom I, at all events, practically never order anything not in the *British Pharmacopoeia*.

PANEL PRACTITIONERS WITH SMALL LISTS.

Dr. M. A. CURRY, D.P.H. (Kensington, W.) writes: Your readers will, perhaps, be interested to learn that at last an action has been commenced in the High Court regarding the allocation money.

I understand that most of the money has been disbursed according to the Commissioners' decision, and in proportion to the amount standing to the credit of each doctor as capitation fees for 1913. The method of distribution, to say the least of it, is unfair and unsound in principle, and I still say contrary to the resolution passed by the London Insurance Committee. According to this some will have a total income of from £100 to £200 for the year, less than many individuals in humbler positions of life. I, personally, have not received a penny either in capitation fees or allocation money, and up to now they have declined to pay me. Thus I have been penalized, persecuted, and robbed for taking up the cudgels against the powers that be in this struggle for justice for the profession. I worked for 1913 and part of this year. I warn all those affected—that is, the small list men—against signing the last issued circular requesting them "to return it," etc., which would exonerate the London Insurance Committee from all responsibility, likewise interdicting or foregoing any claim for further allocation money that they may have against the London Insurance Committee as a *sine qua non* for payment of their cheques. It is for the Insurance Committee to find the money either by deductions from the big list men or wherever it has been wrongly placed, spent, or otherwise. It is not for me to decide for them. No intimidation or futile threats or advice from any quarter insidiously sent by the defendants will hinder my attempts to obtain justice and good law. In conclusion, I appeal to all those interested in the big battle for justice to lend me all their support, as the whole of our future depends on it and even of those of our sons who may happen to enter into the profession, and therefore the far-reaching consequences to us are colossal.

AFTER THE WAR.

Dr. R. J. LEEPER, L.R.C.S.I. (Bamber Bridge), writes: In reference to Dr. Price's letter, we are showing the same apathy that England showed over the present war. Owing to a blunder of the Government actuary, panel doctors' accounts have been discounted, and next year they are to be further discounted, to make good the chemists' claims. But we as a profession take everything lying down. I agree with Dr. Price, Mr. Lloyd George will have his own back again with a vengeance.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

SOUTHERN BRANCH.—Dr. James Green, Honorary Secretary and Treasurer (Brandon House, Mile End, Landport, Portsmouth), gives notice that the half-yearly general meeting of the Southern Branch will be held at the Royal Hotel, Above Bar, Southampton, on Wednesday, November 25th, at 3 p.m. After the transaction of the ordinary business of the Branch, papers will be read and cases and specimens shown. Members desirous of showing specimens or cases of clinical interest or of reading papers will oblige by sending in their names, with the title or description of their contributions to the Honorary Secretary at their earliest convenience.

STAFFORDSHIRE BRANCH.—Dr. Harold Hartley, Honorary General Secretary (Basford, Stoke-on-Trent), gives notice that the first general meeting of the session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 19th, when the President, Dr. John Russell, will take the chair at 3.45 p.m. Business: Correspondence. Exhibition of living cases. Papers: (1) The Consequences of Neglected Adenoids, by G. A. Carter; (2) Spastic Constipation, by Edgar Somerville; (3) The Effect of Military Training on Lead Workers, by Frank Shufflebotham. Exhibition of pathological specimens, etc. Dinner at 6.30 p.m., charge 5s.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE ANNUAL REPORT.

THE annual report of the Council for the year 1914, which will be presented to the meeting of Fellows and Members at the Royal College of Surgeons, Lincoln's Inn Fields, on Thursday, November 19th, at 3 p.m., deals with the following among other matters:

Record of the Year's Work.

At the last annual meeting resolutions were carried favouring (1) the admission of Members to direct representation on the Council, (2) the inclusion in the annual report of a complete balance sheet, and (3) the discussion of the administration of the College finances as carried out by the Council, with a view to the remedy of the same by the annual meeting, or, if the meeting has no power, that steps should be taken to secure for it the proper authority. With regard to the first and second resolutions, the Council decided to take no action, and as regards the third the Council remains of opinion that the satisfactory financial position of the College is sufficiently evident to any Fellow or Member who studies the published accounts. At a meeting of the Council in March a motion favouring direct representation of Members on the Council was negatived by a large majority after prolonged discussion.

Medical Officers of Health.

In February the Council was asked to take part in a deputation to the Government on the position of medical officers of health as regards security of tenure and superannuation; this proposal was declined, but the President and Vice-Presidents had a conference with representative medical officers of health, and the Council subsequently addressed a letter to the President of the Local Government Board dwelling on the justice of the claims, and expressing the hope that the Government would favourably consider the representations made to it.

National Insurance.

The College submitted a protest to the National Insurance Commission (England) against the recognition, according to the terms of one of the Commission's regulations, by the National Insurance Joint Committee and the Insurance Commissioners of practitioners other than those who are duly qualified.

Royal Commission on Venereal Diseases.

At the request of the Council, Mr. F. Richardson Cross gave evidence before the Royal Commission on Venereal Diseases, regarding the effects of syphilis upon the eyes, Mr. D'Arcy Power upon the general effects of syphilis, and Mr. Shattock on the remote pathological effects of syphilis, the Wassermann test as applied to the diagnosis of the later effects of syphilis, and the latent distribution of syphilis.

Committee on Factory Lighting.

Mr. F. Richardson Cross had also given evidence before the Committee on Factory Lighting, as requested by the Council, and had been able to lay before the Committee answers to a letter circulated by him among members of the Ophthalmological Society bearing on the questions under consideration.

Central Midwives Board.

In his report Mr. Golding-Bird, who had been reappointed a member of the Central Midwives Board, pointed out that the great increase in number of midwives—37,019 as against 35,210 last year—was worthy of note; 2,109 had passed the examination, the total being 1,813 a year ago; 76 midwives had resigned, 70 were struck off the roll, with regard to 10 the Board had adjourned its decision, 9 had been censured, and 4 cautioned.

Examinations for Licence in Dental Surgery.

It has been decided to hold examinations for the licence three times instead of twice yearly.

Diploma of Tropical Medicine and Hygiene.

This examination will in future be divided into two parts, the first comprising pathology and haematology, bacteriology, general parasitology and protozoology; the second helminthology, protozoology and zoology and entomology in their relations to clinical medicine.

Prizes.

The Jacksonian Prize for the year 1913 has been awarded to Mr. John Howell Evans, M.A., M.Ch.Oxon., F.R.C.S., for his essay on malformations of the small intestine, and the Sir Gilbert Blane Medal to Surgeon Gilbert Francis Lyons, R.N.

Gift of Clock.

A clock for the Common Room has been presented by Mrs. Mary Fifield King, of Milton, Massachusetts, in memory of her father, the late William Cranch Bond Fifield, M.R.C.S., of Boston, U.S.A. Dr. Fifield, who was born at Weymouth, Massachusetts, was a graduate of Phillips Exeter Academy and of the Harvard Medical College, and became a member of the Royal College of Surgeons of England on May 29th, 1854. He was on the staff of the Boston City Hospital for fifteen years, and was on the consulting staff at the time of his death in 1896.

Finance.

The gross income of the college, not including trust funds, amounts to £26,833, an increase of £819 on the amount for 1913; the expenditure in respect of revenue amounts to £21,425, being £336 less than in the previous year.

Examinations and Diplomas.

Of 251 candidates who presented themselves for the first examination for the Fellowship, 84 passed and 167 were referred, whilst out of 143 candidates who submitted themselves to the Final Examination 70 passed, 69 were referred for six months and 4 for one year. The total number of candidates at the Anatomy and Physiology Examination held by the Conjoint Board was 324; of these, 192 passed. In the Final Examination 674 candidates were examined in medicine, with 232 rejections; 675 in surgery, with 235 rejections; and 545 in midwifery, with 178 rejections. For the diploma in public health, 68 candidates appeared at the first part of the examination, 14 being referred; and 61 at the second part, with 9 rejections. In the two parts of the examination for the diploma in tropical medicine, there were 7 candidates for the first, 3 being referred, and 4 for the second, all satisfying the examiners; 152 candidates presented themselves for the general surgery examination for the licence in dental surgery, 56 being referred, and 169 for the dental surgery examination, 59 being referred.

The contents of the *Calendar* and of the annual report on the museum have already been noticed.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are announced by the Admiralty: Fleet Surgeon Edward C. Ward, to the *Victory*, additional, vice May. Staff Surgeon P. T. Nicholls, to the *Vivid*, vice Cooper. The following Acting Surgeons have been confirmed in the rank of Surgeon: Arthur E. Panter, Henry B. Parker, Julian L. Priston, Richard F. Quinton, Mark J. Aitken, M.B., Joseph A. Maxwell, M.B., Maurice S. Moore, M.D., William G. Thwaytes, M.B., Clarence E. Greeson, M.D., William F. Beattie, M.B., Herbert W. Fitzroy-Williams, M.B., Francis E. Fitzmaurice, Timothy J. O'Riordan, M.B., James C. Kelly, M.D., James M. Horan, Gilbert M. Graham, M.B., Frank C. Hunot. Temporary Surgeons: Harold G. Chaplin and Frederick L. Duckworth, to the *Victory*, additional, for disposal; Basil A. Playne, to be lent to the *Pembroke*, temporary; Frank W. Lawson, S. D. Kilner, and William G. Robertson, M.D., to the *Pembroke*, additional, for disposal; Cecil W. Greenhill, M.B., John D. J. Bruce, and W. C. P. White, M.B., to the *Victory*, for Haslar Hospital; Thomas S. Harrison and Edwin L. Sturdee, to the *Pembroke*, additional, for Chatham Hospital; Gomer Williams, M.B., to the *Vivid*, for Plymouth Hospital; William J. McCracken, Hugh K. Shaw, John C. Hill, to the *Victory*, for Royal Naval Division; William J. Greehy, to the *Vivid*, additional; S. D. Kilner, to *Empress*; G. D. Muir, to the *Pekin*; W. J. Jago, to the *Pembroke*, additional.

Royal Naval Volunteer Reserve.

Surgeon Charles S. Brewer to the *Eagle*. Surgeon D. J. Forbes to the *Victory*, additional, for Portsmouth Dockyard. Surgeons (probationers) A. G. Bec to the *Hecla*, additional for the *Garland*, vice Scott; E. D. Broster to the *Dido*, additional, for the *Lysander*, vice Bull.

ARMY MEDICAL SERVICE.

Supernumerary Surgeon-General Sir David Bruce, C.B., F.R.S., is restored to the establishment.

Lieutenant-Colonel R. R. Sleman, M.D., First London (City of London) Field Ambulance, T.F., is granted the local rank of Colonel whilst serving at Malta.

Royal Army Medical Corps.

Major James G. McNaught, M.D., to be Lieutenant-Colonel, vice R. Caldwell, supernumerary.

Alexander G. Paterson, M.D., is granted the honorary rank of Major.

Supernumerary Major Sir Edward S. Worthington, M.V.O., is restored to the establishment.

Lieutenant James R. Hill, M.B., to be Captain.

The following have been granted temporarily the honorary rank of Lieutenant-Colonel: Major H. R. Kenwood, M.B., R.A.M.C.T., John Robertson, M.D.; Lieutenant Donald Armour, F.R.C.S., R.A.M.C. Special Reserve: William N. Barron, M.V.O.; Lieutenant Arthur S. Woodware, M.D.; Lieutenant James R. Hill, M.B., from the Reserve of Officers, to be Lieutenant.

The following have been granted temporary rank as indicated whilst serving with the Red Cross Hospital, Netley:—*Majors:* C. H. Miller, C. Wallace. *Captains:* C. Christopherson, J. L. Dickie, M.B., J. A. Hayward, M.D., C. Hitch, H. L. Tidy, M.D., A. C. Hudson. *Lieutenants:* W. A. Anderson, M. S. Ester, J. G. Ferguson, M.D., C. Gibson, M.B., J. D. Lyle, M.B., J. F. Mackay, M.D., L. E. C. Norbury, C. Pearson, M.D.

Joseph Dalrymple to be temporary Captain.

The following have been appointed temporary Lieutenants: Claude G. Colyer, Horace C. Colyer, Stanley A. Ridett, Charles Weller, Frederick W. Brodrick, George G. Timpson, William P. Morgan, M.B., Douglas G. Cheyne, M.D., Francis F. Brown, M.B., Thomas W. R. Strode, James A. Torrens, M.B., Thomas A. Peel, M.B., Edgar A. Pearson, M.B., William J. Nisbet, M.B., Michael J. Murray, M.B., Newton Matthews, M.B., Ernest W. Adcock, M.B., Magnus R. Mackay, M.B., John E. Cox, Herbert T. Retallack-Moloney, Arthur F. Palmer, Percy J. Chissell, Cecil H. Treadgold, M.D., Claude Kingston, Daniel Boylan, M.B., William H. Brown, M.D., Joseph H. Campain, M.B., Gerald Cock, Victor L. Conolly, M.B., David H. Collingham, Walter J. Ignatius Dwyer, Sydney H. Gibson, John C. B. Grant, M.B., F.R.C.S.Edin., Alexander K. Hamilton, M.B., James G. Higgins, Douglas F. Kennard, Charles J. Kelly, Thomas J. Latham, Charles G. H. Moore, M.B., Albert G. Miller, M.B., Albert J. McC. C. Morrison, M.B., Alexander T. McWhirter, M.B., Frederick G. Norbury, John W. O'Farrell, Patrick J. O'Reilly, John A. Pringle, M.D., Edmund G. C. Price, M.B., David W. Reid, M.B., Thomas T. Rankin, M.D., Percy C. Raiment, John T. W. Stewart, M.B., Alexander Stephen, M.B., Garnet W. Twigg, M.D., Ronald J. T. Thornhill, M.B., Charles H. Thompson, Henry A. Treadgold, M.D., George H. Urquhart, F.R.C.S.Edin., Alfred W. Weston, M.B., William M. Will, M.B., John J. Walsh, Richard Williams, William S. Milne, M.B.

The first Christian name of Lieutenant Daniel J. Mulholland, M.D., is as now described, and not as stated in the *London Gazette* of September 29th.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenants to be Captains: John H. Bell, John P. Charnock, Harold F. Vallacott, John J. McI. Shaw.

The following Lieutenants have been confirmed in their rank: Alexander K. Robb, Thomas Clifford Owen, Maurice A. O'Callaghan, William Fotheringham, Archibald W. Russell, George A. Bridge, Archibald J. Gilchrist, Eric K. Ryan, John W. Cannon, Charles A. McGuire, Herbert M. Pope, William T. Quinlan, Edward B. Marsh, James McCusker, Leonard J. Sheil, Wm. F. Wood, A. E. H. Reid, Verner Wiley.

Cadets and ex-Cadets of the Officers' Training Corps to be Lieutenants on probation: Harold A. Crouch, Francis A. Roddy, M.B., Charles A. Mason, M.B.

To be Lieutenants on probation: Donald C. Scott, Wilfrid B. Wood, M.D., Herbert S. Milne, M.D., John S. Pooley, Quentin V. B. Wallace, M.D., Gilbert A. Harvey, M.B., William H. Nicholls, Henry Alcock, John Kennedy, Thomas F. Kennedy.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel R. C. Macwatt, an agency surgeon of the second class, is appointed to officiate as an agency surgeon of the first class and as civil surgeon, Ajmere, and Chief Medical Officer in Rajputana, with effect from September 21st, 1914.

Major F. D. S. Fayrer is posted as Residency Surgeon, Gwalior, with effect from September 14th.

Major C. B. McConaghy is posted as Civil Surgeon, Dera Ismail Khan, with effect from September 12th.

Captain H. W. Acton is placed on special duty under the orders of the Director-General, Indian Medical Service.

The following have been admitted Lieutenants: J. W. Pigeon, M.L. Treston, P. Vieyra, M.B., B. M. Mitra, P. Savage, T. B. Paul, A. Chand, M.B., R. Lee, M.B., N. S. Jatar, T. S. Sastry, Jamaluddin, M.B., F. B. Chenoy, S. B. Venugopal, C. de C. Martin, M.B., J. H. Smith, M.B.

Lieutenant-Colonel C. Duer, M.B., F.R.C.S., has been permitted to retire, with effect from November 28th, 1915.

The following promotions are made, September 1st:—Captains to be Majors: A. T. Pridham, M.B., J. O'Leary, M.B., G. A. Jolly, M.B., F.R.C.S.E., A. K. Lauddie, M.B., C. L. Dunn, W. H. Odlum, R. D. Saigol, F.R.C.S.E., C. E. Bulteel, J. L. Lunham, M.B., F.R.C.S.I., F. C. Rogers, C. A. F. Hingston.

Captain R. L. Gamlen, M.D., has been permitted to retire, with effect from August 28th, 1914.

TERRITORIAL FORCE.

Army Medical Services.

Major Gerald C. Taylor, from the list of officers, Sanitary Service, to be Deputy Assistant Director of Medical Services, Second Mounted Division, Central Force.

Royal Army Medical Corps.

Lowland Mounted Brigade Field Ambulance.—Andrew M. Young, M.B., to be Lieutenant.

South Wales Mounted Brigade Field Ambulance.—Martin Scales to be Lieutenant.

Yorkshire Mounted Brigade Field Ambulance.—Arthur M. Deane, M.B., late Lieutenant Second West Riding Brigade R.F.A., to be Lieutenant.

Second London (City of London) Field Ambulance.—Major William V. Sinclair (formerly R.A.M.C. Special Reserve) to be Major; Ernest U. Bartholomew (late Captain Special Reserve) to be Major.

Third London (City of London) Field Ambulance.—James L. O. Tilley to be Lieutenant.

Sixth London Field Ambulance.—Captain John W. Bird, from Territorial Force Reserve, to be Captain.

First North Midland Field Ambulance.—Captain G. W. Dawson, M.B., to be Major (temporary); Geoffrey Holmes, M.B., to be Lieutenant.

Second West Riding Field Ambulance.—FRANCIS W. BEGG, M.B., to be Lieutenant.

First East Anglian Field Ambulance.—HARRY WHITAKER, M.B., and ALFRED E. DELGADO to be Lieutenants.

Third East Anglian Field Ambulance.—GEORGE H. HARPER-SMITH, WILLIAM T. CRAWFORD, M.B., to be Lieutenants.

Second Highland Field Ambulance.—GEORGE S. MELVIN, M.B., to be Lieutenant.

Second Home Counties Field Ambulance.—JAMES W. CAVINS, M.D., to be Lieutenant.

First West Lancashire Field Ambulance.—WILLIAM E. GRAHAM, M.B., to be Lieutenant. Lieutenant HAROLD SEDDON, M.B., from attached to units other than medical units, to be Lieutenant.

First London (City of London) Field Ambulance.—Captain CHARLES S. BREBNER, M.D., to be Major (temporary).

Second South Midland Mounted Brigade Field Ambulance.—GEORGE A. AUDEN, M.D., to be Lieutenant.

South Eastern Mounted Brigade Field Ambulance.—Captain FREDERICK B. TREVES, M.B., to be Major.

First Home Counties Field Ambulance.—ARTHUR MAUDE to be Lieutenant, JOHN S. HUDSON, M.D., to be Captain (temporary).

First Wessex Field Ambulance.—Lieutenant ALFRED J. H. ILES from the Wessex Clearing Hospital to be Lieutenant.

Third Southern General Hospital.—Captain HENRY M. CLARKE, M.B., is seconded.

Third Highland Field Ambulance.—To be Lieutenants: FREDERICK C. CHANDLER, M.B., GEORGE McL. LEVACK, M.B.

Fourth London Field Ambulance.—LIONEL G. PEARSON, M.B., to be Lieutenant.

Second South Midland Field Ambulance. — Lieutenant-Colonel SEYMOUR G. BARLING, M.B., F.R.C.S., from the South Midland Clearing Hospital, to be Lieutenant-Colonel; Captain ALFRED A. HINGSTON, M.B., from attached to units other than medical units, to be Major.

Third Welsh Field Ambulance. — Lieutenant-Colonel ARTHUR L. JONES resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform.

Third Wessex Field Ambulance.—CHARLES H. MASKEW, M.B., to be Lieutenant.

First London (City of London) Sanitary Company. — Captain JOSEPH GROUNDS to be Major (temporary); Lieutenant EVELYN C. SPRAWSON and Lieutenant ARTHUR T. PITTS to be Captains temporary).

Third Northern General Hospital.—Captain GEORGE H. POOLEY, F.R.C.S., to be Major.

Second London Sanitary Company.—ARTHUR G. ATKINSON, M.B., to be Lieutenant.

Sanitary Officers.—WILLIAM McC. WANKLYN to be Captain.

Attached to Units other than Medical Units.—Lieutenant-Colonel and Honorary Surgeon-Colonel CHARLES H. GWYNN, M.D., resigns his commission and is granted permission to retain his rank and wear the prescribed uniform. Captains JOHN LIVINGSTONE, M.B., FREDERICK N. GRINLING, WILLIAM F. McA. RAWLINGS, M.B., and WILLIAM S. GRIFFITH, M.B., to be Majors. Lieutenants JAMES L. BROWNRIDGE and ALEXANDER P. WATSON, M.B., to be Captains. Captain WILLIAM A. MALCOLM, M.B., to be Major. *To be Lieutenants:* GEORGE S. GLASS, M.B., WILLIAM DALE (late Lance-Corporal, London University Contingent, Senior Division, Officers' Training Corps), ROBERT U. MOFFAT, C.M.G., M.D., ARCHIBALD OLIVER, M.D., ARTHUR SCOTT TURNER (late Lieutenant, Second Volunteer Battalion, East Surrey Regiment), ROBERT G. McD. LADELL, M.B., Cadet ARTHUR H. PEMBERTON (from the London University Contingent, Senior Division, Officers' Training Corps).

Vital Statistics.

VITAL STATISTICS OF LONDON DURING THE THIRD QUARTER OF 1914.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

In the accompanying table will be found summarized the vital statistics of the City of London and of the metropolitan boroughs based upon the Registrar-General's returns for the third quarter of the year. The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided. The 27,990 births registered in the quarter under notice were equal to an annual rate of 25.0 per 1,000 of the population, estimated at 4,516,612 persons in the middle of the year: in the corresponding quarters of the three preceding years the birth-rates were 24.9, 24.6, and 24.7 per 1,000 respectively. The lowest birth-rates last quarter were 11.6 in the City of Westminster, 14.8 in Holborn, 15.2 in Hampstead, 17.1 in Kensington, and 19.0 in Paddington; among the highest rates were 30.1 in Poplar, 30.2 in Bermondsey, 30.4 in Stepney, 32.4 in Shoreditch, and 39.8 in Finsbury.

During last quarter the deaths of 14,992 London residents were registered, equal to an annual rate of 13.3 per 1,000; in the corresponding quarters of the three preceding years the rates were 15 5, 11.5, and 11.8 per 1,000. The death-rates last quarter ranged from 7.7 in the Hampstead, 9.4 in Lewisham, 9.9 in Wandsworth, 10.1 in the City of London, and 10.7 in the City of Westminster, to 17.2 in Southwark, 17.9 in Poplar and in Bermondsey, 19.1 in Finsbury, and 21.1 in Shoreditch.

The 14,992 deaths from all causes included 36 from enteric fever, 412 from measles, 73 from scarlet fever, 206 from whooping-cough, 138 from diphtheria, and 1,944 from diarrhoea and enteritis among children under 2 years af age. Enteric fever was proportionally most fatal in Chelsea, the City of Westminster, Bethnal Green, and Battersea; measles in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey; scarlet fever in Fulham, Chelsea, St. Marylebone, Stepney, Bermondsey, Camberwell, and Greenwich; whooping-cough in Paddington, Finsbury, Shoreditch, Bethnal Green, Southwark, and Camberwell; and diphtheria in St. Pancras, Bethnal Green, Stepney, Poplar, Southwark, Lambeth, Deptford, and Greenwich. The mortality from diarrhoea and enteritis among children under 2 years of age in proportion to the births registered during the quarter was greatest in Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Deptford.

The deaths from phthisis among London residents last quarter numbered 1,381, and were equal to a rate of 1.23 per 1,000, against 1.20, 1.18, and 1 07 in the corresponding quarters of the three preceding years. The death-rates from this disease last quarter ranged from 0.42 in Hampstead, 0.60 in Lewisham, 0.75 in Wandsworth, 0.87 in Kensington, and 0.88 in Paddington, to 1.57 inBethnal Green, 1.62 in Shoreditch, 1.65 in Bermondsey, 1.74 in St. Pancras, 1.78 in Finsbury and in Stepney, and 2.27 in Holborn.

Infant mortality, measured by the proportion of deaths under 1 year of age to registered births, was equal to 127 per 1,000 last quarter, against 203, 81, and 105 in the corresponding quarters of the three preceding years. Among the lowest rates recorded last quarter were 25 in the City of London, 82 in Chelsea, 84 in Woolwich, 89 in

Analysis of the Vital Statistics of the Metropolitan Boroughs and of the City of London after Distribution of Death occurring in Public Institutions during the Third Quarter of 1914.

Boroughs.	Estimated Population middle of 1914.	Births.	Deaths.	Annual Rate per 1,000 Living.		Deaths from								Deaths of Children Under 1 Year of Age to 1,000 Registered Births.
				Births.	Deaths.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Diphtheria.	Diarrhoea and Enteritis (Under 2 Years).	Phthisis.	
COUNTY OF LONDON	4,516,612	27,990	14,992	25.0	13.3	36	—	412	73	206	138	1,944	1,381	127
Paddington	142,055	674	388	19.0	11.0	1	—	2	1	11	2	43	31	128
Kensington	170,817	727	496	17.1	11.6	—	—	6	4	2	3	35	37	103
Hammersmith	124,750	729	381	23.4	12.3	—	—	6	1	6	1	45	41	115
Fulham	158,349	1,031	486	26.0	12.3	1	—	8	6	6	3	78	46	131
Chelsea	63,791	329	180	20.7	11.3	1	—	1	2	1	2	12	17	82
City of Westminster ...	152,346	441	165	11.6	10.7	3	—	2	2	5	4	13	46	91
*St. Marylebone	112,892	906	334	32.2	11.9	—	—	2	5	3	4	26	25	62
Hampstead	86,731	329	167	15.2	7.7	—	—	2	—	—	2	7	9	103
St. Pancras	212,497	1,271	744	24.0	14.0	1	—	11	5	3	8	74	92	105
Islington	324,764	1,965	1,131	24.3	14.0	3	—	40	3	17	9	142	99	144
Stoke Newington ...	50,454	249	143	19.8	11.4	—	—	1	—	2	1	10	12	92
*Hackney	223,724	1,401	668	25.1	12.0	3	—	12	2	11	8	67	61	99
*Holborn	45,861	169	178	14.8	15.6	—	—	5	1	1	—	12	26	130
*Finsbury	83,212	826	396	39.8	19.1	—	—	31	—	13	—	55	37	128
City of London	17,129	121	43	28.3	10.1	—	—	—	—	—	—	—	4	25
Shoreditch	108,869	879	573	32.4	21.1	1	—	57	—	18	1	96	44	203
Bethnal Green	127,662	912	493	28.7	15.5	3	—	24	1	8	6	99	50	168
*Stepney	273,265	2,073	1,112	30.4	16.3	3	—	56	8	15	17	184	121	154
Poplar	160,222	1,203	717	30.1	17.9	2	—	27	3	9	6	125	58	172
Southwark	186,941	1,353	802	29.3	17.2	1	—	32	3	12	7	138	69	169
Bermondsey	124,213	934	554	30.2	17.9	—	—	22	3	1	3	99	51	171
*Lambeth	296,724	2,051	994	27.7	13.4	3	—	3	4	11	19	138	104	116
Battersea	167,338	1,059	502	25.4	12.0	3	—	16	2	8	6	81	39	115
Wandsworth	338,998	1,728	837	20.4	9.9	2	—	3	1	17	6	93	63	111
Camberwell	262,020	1,642	782	25.1	12.0	1	—	14	7	19	5	95	77	119
Deptford	109,182	786	370	28.9	13.6	1	—	9	1	1	4	69	32	134
Greenwich	96,037	670	335	25.1	14.0	1	—	11	3	1	5	44	31	130
Lewisham	172,433	853	403	19.8	9.4	1	—	3	3	2	2	41	26	89
Woolwich	122,836	749	378	24.5	12.3	1	—	6	2	3	4	23	33	84

* No correction is made for births in lying-in institutions; the boroughs principally affected are marked thus (*).

Lewisham, 91 in the City of Westminster, and 92 in Stoke Newington; the highest rates were 154 in Stepney, 168 in Bethnal Green, 169 in Southwark, 171 in Bermondsey, 172 in Poplar, and 205 in Shoreditch.

HEALTH OF ENGLISH TOWNS.

In the ninety-seven largest English towns 8,457 births and 4,664 deaths were registered during the week ended Saturday, November 7th. The annual rate of mortality in these towns, which had been 13.4, 13.8, and 13.5 per 1,000 in the three preceding weeks, fell to 13.4 per 1,000 in the week under notice. In London the death-rate was equal to 13.9, against 13.9, 14.7, and 14.1 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 4.4 in Southend, 5.1 in Gloucester, 5.6 in Eastbourne, 5.7 in East Ham, 6.0 in Exeter, and 6.2 in York, to 18.8 in Wigan, 18.9 in Salford, 20.1 in Gateshead, 20.2 in Merthyr Tydfil, 21.1 in Liverpool, and 23.1 in Dudley. Measles caused a death-rate of 1.2 in Liverpool and in Leeds, 1.3 in Preston, 1.4 in Plymouth, 1.7 in Oldham, 2.0 in Wakefield, 2.7 in Grimsby, 3.2 in Newcastle-on-Tyne, and 3.4 in Wigan; and diphtheria of 1.2 in Walthamstowand in Middlesbrough, 1.5 in Edmonton, and 5.0 in Wakefield. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 322, 269, and 204 in the three preceding weeks, fell to 169, of which 49 were registered in London, 16 in Liverpool, 11 in Birmingham, and 10 in Manchester. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 28, or 0.6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner, and included 9 in Liverpool, 5 in Birmingeam, 2 in Preston, and 2 in Tynemouth. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 4,473, 4,617, and 4,683, at the end of the three preceding weeks, had further risen to 4,769 on Saturday, November 7th; 690 new cases were admitted during the week, against 650, 657, and 598 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,140 births and 696 deaths were registered during the week ended Saturday, November 7th. The annual rate of mortality in these towns, which had been 14.7, 15.0, and 14.6 per 1,000 in the three preceding weeks, rose to 15.8 in the week under notice, and was 2.4 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 8.1 in Hamilton, 10.1 in Motherwell, and 11.7 in Clydebank to 18.7 in Greenock, 19.0 in Leith, and 20.0 in Aberdeen. The mortality from the principal infective diseases averaged 1.8 per 1,000, and was highest in Kirkcaldy and Aberdeen. The 327 deaths from all causes in Glasgow included 13 from infantile diarrhoea, 9 from whooping-cough, 7 from scarlet fever, 5 from measles, and 4 from diphtheria. Two deaths from diphtheria were recorded in Edinburgh; 7 from scarlet fever, 7 from diphtheria, and 3 from infantile diarrhoea in Aberdeen; and 3 from infantile diarrhoea in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, November 7th, 597 births and 420 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 592 births and 352 deaths in the preceding period. These deaths represent a mortality of 18.2 per 1,000 of the aggregate population in the districts in question, as against 15.2 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.8 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.8 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.0 (as against an average of 16.0 for the previous four weeks), in Dublin city 19.3 (as against 17.1), in Belfast 19.2 (as against 15.7), in Cork 19.7 (as against 17.7), in Londonderry 14.0 (as against 10.8), in Limerick 17.6 (as against 20.3), and in Waterford 36.1 (as against 21.4). The zymotic death-rate was 2.2, or the same as in the previous week.

Hospitals and Asylums.

ROYAL CITY OF DUBLIN HOSPITAL.

The annual report of the Royal City of Dublin Hospital recently published states that 1,536 patients were admitted; in the out-patient department 2,171 emergency and accident cases were treated, and there were 27,774 attendances at the dispensaries. The income for the year, exclusive of legacies, was £5,305, and the expenditure £7,760. The result is that the bank overdraft on December 31st, 1913, was £6,281. The hospital was founded eighty-two years ago, and was then quite small; it has been rebuilt and enlarged since, till it is now a thoroughly equipped modern hospital with 124 beds; there is a special fever wing, and special wards for gynaecological, throat, ear, nose, and eye cases. For many years, also, the hospital has had two Finsen light lamps in constant use. There has been a substantial decrease in the amount of legacies received, and the subscription list has also shown a falling off. It is feared that many of the usual supporters of the hospital have refrained from subscribing in the belief that the Insurance Act affords some set-off as against the expense of dealing with sickness in hospitals. This, the report states, is by no means the case, as many instances could be adduced showing that, although persons treated in the hospitals may have been insured under the Act, the hospital, which affords them gratuitous treatment, has not been in any way compensated by means of sickness benefit. So far as the directors are aware, none of the approved societies have as yet made any payments to the hospital. They fear, therefore, that unless the public comes forward to support the institution, some compulsory reduction in the number of beds will have to be made.

BOOTHAM PARK, YORK.

The annual report for the year 1913 of Dr. G. R. Jeffrey, the Medical Superintendent of this hospital for the insane, shows that on January 1st, 1913, there were 114 certified patients and 3 voluntary boarders in the hospital, and on the last day of the year 129 certified patients and 4 voluntary boarders. The total number of cases under treatment during the year was 160 certified patients and 15 voluntary boarders, whilst the average daily number on the registers was 123. During the year 46 certified patients and 12 voluntary boarders were admitted. Of the certified direct admissions in 13 the attacks were first attacks within three, and in 6 more within twelve months of admission; in 11 not-first attacks within twelve months, and in only 3 were the attacks of more than twelve months' duration on admission. There were no congenital cases. The direct admissions, 33 in number, were classified into: Recent mania 11, recurrent 2; recent melancholia 7, recurrent 1; delusional insanity, 5; confusional insanity and dementia praecox, 3 each; and general paralysis, 1. As to causation, alcohol was assigned in 7, syphilis in 1, and other toxins in 4; nervous diseases in 2, other bodily affections in 7, critical periods in 10, bodily trauma in 3, and mental stress in 21. An insane heredity was ascertained in 11, and an alcoholic heredity in 1. During the year 15 were discharged as recovered, giving a recovery-rate, calculated on the direct admissions, of 45.4 per cent.—a satisfactory recovery-rate having regard to the class of admissions; 1 was relieved, and 10 not improved. During the year 5 died, giving a death-rate on the average number resident of 4.06 per cent. All deaths were due to natural causes, and do not call for special remark. The general health was very good throughout the year and no zymotic disease occurred.

Vacancies and Appointments.

NOTICES REGARDING APPOINTMENTS.—Attention is called to a Notice (see Index to Advertisements—Important Notice re Appointments) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

ALTON: LORD MAYOR TRELOAR'S CRIPPLES HOSPITAL AND COLLEGE.—Two Assistant Medical Officers (ladies). Salary at the rate of £120 and £100 per annum respectively.

BELFAST COUNTY BOROUGH.—Resident Medical Superintendent at the Municipal Sanatorium, Whiteabbey. Salary, £500 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM CORPORATION.—(1) Medical Superintendent for West Heath Sanatorium and Hospital; (2) Assistant Medical Officer of Health: (3) Third Assistant Medical Officer at the Yardley Road Sanatorium, etc.; (4) Assistant Resident Medical Officer at the City Hospital. Salary for (1) and (2) £300, and for (3) and (4) £200 per annum.

BIRMINGHAM: FIRST SOUTHERN GENERAL HOSPITAL.—Resident Medical Officers.

BIRMINGHAM GENERAL HOSPITAL.—House-Surgeon to Special Department (Ear, Nose, Throat, and Skin). Salary, £50 per annum.

BOARD OF CONTROL, MENTAL DEFICIENCY ACT.—Assistant Medical Officer at the State Institution for Mental Defectives near Liverpool. Salary not less than £300 per annum, rising to £400.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRISTOL GENERAL HOSPITAL.—Obstetric Officer and House-Surgeon to Special Departments. Salary, £120 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary, £135 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

CHELSEA INFIRMARY, Cale Street, S.W.—Second Assistant Medical Officer. Salary, £180 per annum.

CHESTER: COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Second House-Surgeon. Salary, £150 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

DERBY BOROUGH ISOLATION HOSPITAL AND SANATORIUM.—Resident Medical Officer. Salary, £200 per annum.

DUDLEY: GUEST HOSPITAL.—Senior Resident Medical Officer. Salary, £120 per annum.

GATESHEAD ASYLUM.—Assistant Medical Officer. Salary, £220 per annum.

GLAMORGAN COUNTY COUNCIL.—Medical Inspector of School Children. Salary, £300 per annum, increasing to £350.

GLOUCESTERHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary, £80 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Anaesthetist. Honorarium, 12 guineas per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £200 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HALIFAX UNION.—Resident Medical Officer for the Poor-Law Hospital. Salary, £120 per annum and £20 for dispensing medicines.

HANTS COUNTY ASYLUM, Fareham.—Third Assistant Medical Officer (male). Salary, £250 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House-Physician. Honorarium, 30 guineas for six months.

HUDDERSFIELD ROYAL INFIRMARY.—Senior and Junior Assistant House-Surgeons (males). Salary, £80 per annum each.

HULL: ROYAL INFIRMARY.—Senior and Assistant House-Surgeons. Salary, £150 and and £100 per annum respectively.

KENT COUNTY ASYLUM, Maidstone.—Junior Assistant Medical Officer (lady). Salary, £250 per annum.

LEEDS EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £500 per annum.

LIVERPOOL UNIVERSITY.—Assistant Lecturer and Demonstrator in Anatomy. Salary, £175 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead, Road, N.W.—Assistant Resident Medical Officer. Salary, £120 per annum.

LONDON UNIVERSITY.—University Chair of Physiology at the London Hospital Medical College. Salary, £600 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House-Surgeon. Salary, £150 per annum.

LURGAN UNION.—Female Resident Medical Officer for the Workhouse and Fever Hospital. Salary, £80 per annum.

MACCLESFIELD GENERAL INFIRMARY.—House-Surgeon. Salary, £150 per annum.

MANCHESTER CORPORATION.—Assistant Tuberculosis Officer. Salary, £350 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer at the Crossley Sanatorium. Salary, £100 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER: SOUTH TOWNSHIP.—Medical Officer of the Institution, Hospitals, etc. Salary, £700 per annum.

MANCHESTER: VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham.—Resident Medical Officer. Salary, £80 per annum.

MIDDLESBROUGH EDUCATION COMMITTEE.—School Dentist. Salary, £250 per annum.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL.—House-Surgeon. Salary, £120 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, ETC., Northwood.—House-Physician. Salary, £100 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—(1) Honorary Assistant Physician; (2) Resident Medical Officer. Salary at the rate of £80 per annum.

NEW HOSPITAL FOR WOMEN, Euston Road, N.W.—(1) House-Physician: (2) Two House-Surgeons; (3) Obstetric Assistant; (4) Assistant Pathologist; (5) Resident Medical Officer for House of Recovery, New Barnet. Salary for (4) and (5) £50 and £60 per annum respectively.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORTHAMPTON COUNTY BOROUGH.—Clinical Tuberculosis Officer (temporary). Salary, £350 per annum.

NOTTINGHAM CHILDREN'S HOSPITAL.—Lady House-Surgeon. Salary at the rate of £130 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon (male). Salary, £250 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—(1) Senior House-Physician; (2) Assistant House-Surgeon. Salary for (1) £120 per annum, and for (2) £100 per annum. (Women eligible.)

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

PRESTWICH UNION.—Second Assistant Resident Medical Officer for the Infirmary. Salary, £140 per annum.

RICHMOND: ROYAL HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum for first month, rising to £150.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—(1) Member of Court of Examiners. (2) Examiner in Physiology for the Second Examination of the Conjoint Examining Board.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Two Refraction Assistants. Salary at the rate of £50 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ST. PANCRAS INFIRMARY.—Senior Assistant Medical Superintendent, etc. Salary, £225 per annum.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer. (2) Casualty House-Surgeon. Salary, £120 and £100 per annum respectively.

SALFORD UNION INFIRMARY.—Resident Assistant Medical Officer (male). Salary, £150 per annum.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) Assistant House-Physician. Salary, £100 per annum each.

SHOREDITCH: PARISH OF ST. LEONARD.—Junior Assistant Medical Officer at the Infirmary. Salary, £150 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STIRLING DISTRICT ASYLUM, Larbert.—Third Assistant Medical Officer (lady). Salary, £140 per annum.

STOKE-ON-TRENT INFECTIOUS DISEASES HOSPITAL.—Resident Assistant Medical Officer (lady). Salary, £150 per annum.

SUNDERLAND: ROYAL INFIRMARY.—Junior House-Surgeon (male). Salary, £100 per annum.

SWANSEA UNION.—Resident Assistant Medical Officer. Salary, £295 per annum, rising £50 after three years' service.

TAUNTON AND SOMERSET HOSPITAL.—Senior and Assistant House-Surgeons. Salary, £120 and £80 per annum respectively.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Physician. Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Surgeon. Honorarium, £40 for six months.

WALSALL AND DISTRICT HOSPITAL.—(1) Senior House-Surgeon. (2) Junior House-Surgeon and Anaesthetist. Salary, £150 and £110 per annum respectively.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House-Physician. Salary, £120 per annum.

WESTMINSTER UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £160 and £140 per annum, increasing to £180 and £160 respectively.

WEST RIDING OF YORKSHIRE.—Assistant Medical Officer at the Storthes Hall Asylum, Kirkburton. Salary, £230 per annum, rising to £270.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary, £150 per annum.

WOMEN'S HOSPITAL FOR CHILDREN, Harrow Road, W.—Assistant Surgeon.

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

BARBER, A., B.C.Camb., District Medical Officer of the Bishop Stortford Union.

ESCHWEGE, F. S., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Rowfont District, co. Sussex.

JONES, G. J., M.B., B.Ch., R.U.I., Certifying Factory Surgeon for the Rathfriland District, co. Down.

MILLIGAN, Henry Joseph, M.B., Ch.B.Glasg., D.P.H.Cantab., Tuberculosis Officer and Deputy Medical Officer of Health to the Borough of Bootle.

RECKITT, E. B., M.D., District Medical Officer of the Bishop Stortford Union.

SYLVESTER, H. M., M.R.C.S., L.R.C.P., District Medical Officer of the Blything Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

ALLOTT.—On November 5th, at Hillersdon, Nenthead, Cumberland, to Dr. and Mrs. H. Cyril W. Allott, a son.

MACKINNON.—On October 26th, at Nairobi, British East Africa, the wife of Murdoch Mackinnon, M.D., D.P.H., of a daughter. (By cable—delayed.)

DEATH.

WENHAM.—On the 4th inst., at Peking, of pneumonia, Herbert Victor Wenham, F.R.C.S., second son of Arthur and Frances Wenham, of 11, Beauchamp Avenue, Leamington.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W., 8.30 p.m.—Discussion: Surgical Experiences of the Present War, to be opened by Sir Watson Cheyne, Bart., F.R.C.S.

TUESDAY.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital for Diseases of the Skin, Leicester Square, W.C.—4.15 p.m., Tea. 4.30 p.m., Exhibition of Pathological Specimens and Clinical Cases; Cases for Consultation. 5.15 p.m., Resumed Discussion on Syphilis.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.—Exhibition of Specimens. President's Address. Andrew Balfour, C.M.G., M.D.: Medico-Legal Experiences in the Sudan.

WEDNESDAY.

ROYAL SOCIETY OF MEDICINE:
SECTION OF THE HISTORY OF MEDICINE, 5 p.m.—Papers: Dr. Raymond Crawfurd: Oliver Goldsmith and Medicine. Mr. Macleod Yearsley: Autograph of Joseph Ignace Guillotin, with note on his death.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:
SECTION OF DERMATOLOGY, 5 p.m.—Exhibition of Cases.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:
SECTION OF OTOLOGY, 5 p.m.—Cases and Specimens.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W., 8.30 p.m.—Paper: Enteric in War, with Means for its Prevention, by Sir William Osler, Bart., M.D.

POST-GRADUATE COURSES AND LECTURES.

Post-graduate Courses are to be given next week at the following schools, colleges, and hospitals:

DUBLIN: ROTUNDA HOSPITAL.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 21ST, 1914.

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Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

EAST ANGLIAN BRANCH:

South Essex Division.

THE annual general meeting of the Division was held at the Victoria Hospital, Southend-on-Sea, on October 27th, when several matters of local interest were discussed.

Election of Officers.—The following officers were appointed for the ensuing year:

Chairman: Dr. Watson.
Vice-Chairman: Dr. V. Hodgson.
Honorary Secretaries: Drs. Walker and Maxwell.
Representative: Dr. Walker or Dr. Maxwell.
Executive Committee: Drs. Blake, Wragg, Adams, Bridger, Forsyth, Baldwin, Poole, Lloyd, and Simpson.

Votes of Thanks.—Votes of thanks were passed to the retiring Chairman (Dr. Hodgson) and the Honorary Secretaries.

METROPOLITAN COUNTIES BRANCH:

Lambeth Division.

THE Executive Committee of the Division unanimously adopted the following resolution at its meeting on November 17th:

> That a letter be written to Dr. Cox requesting him to report to the General Medical Council all practitioners exhibiting cards in their windows canvassing for patients under the National Insurance Act.

Wandsworth Division.

AT a meeting of the Executive Committee on November 16th, the Secretary, Dr. G. Pollock, was directed, in reply to an inquiry from the local Belgian Refugee Committee, to state that there was no doubt that medical practitioners would be willing when asked to attend refugees, and to point out that wherever possible doctors should be expected to give prescriptions only, and not free drugs in addition to free attendance.

MIDLAND BRANCH:

Holland Division.

A MEETING of the Holland Division was held at Boston on November 13th, when Dr. PILCHER was in the chair, and eight other members were present.

Medical Referees.—It was proposed by Dr. TUXFORD and seconded by Dr. RENDALL:

> That no practitioner within the area of the Division should accept a fee of less than 10s. 6d. per case for acting as medical referee to any insurance company under the National Health Insurance Act.

Considerable discussion took place, and ultimately an amendment, proposed by Dr. WITHAM and seconded by Dr. WHITE, "That no fee less than 7s. 6d. per case be accepted," was carried, it being understood that it was merely an expression of opinion.

WILTSHIRE BRANCH:

Swindon Division.

THE inaugural meeting of the Swindon Division was held on November 10th. Owing to the war and other causes, the attendance was small, but Dr. Tubb-Thomas and Dr. Bond (Trowbridge) attended to give assistance.

Formation of Division.—It was decided that the Swindon Division should be formed in accordance with the area of the county mapped out by the Council of the Association.

Election of Officers.—The following officers were elected:

Chairman.—Dr. Powell (Highworth).
Secretary.—Dr. Dismorr (Wroughton).
Representatives on Branch Council.—The Chairman, the Secretary, and Dr. Heaton (Malmesbury).
Executive Committee.—Drs. Powell, Heaton, and Dismorr, with power to add to their number.

Rules.—The model organization and the new ethical rules were adopted.

Annual Meeting.—It was arranged to hold the annual meeting of the Division in June.

Election of Representative.—It was decided to combine with the Trowbridge Division for the purpose of electing a Representative.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

SOUTHERN BRANCH.—Dr. James Green, Honorary Secretary and Treasurer (Brandon House, Mile End, Landport, Portsmouth), gives notice that the half-yearly general meeting of the Southern Branch will be held at the Royal Hotel, Above Bar, Southampton, on Wednesday, November 25th, at 3 p.m. After the transaction of the ordinary business of the Branch, papers will be read and cases and specimens shown. Members desirous of showing specimens or cases of clinical interest or of reading papers will oblige by sending in their names, with the title or description of their contributions, to the Honorary Secretary at their earliest convenience.

SOUTH MIDLAND BRANCH: NORTHAMPTONSHIRE DIVISION.—Dr. P. S. Hichens, Honorary Secretary, 47, Sheep Street, Northampton, gives notice that a meeting of the Division will be held in the Board Room of the Northampton General Hospital on Tuesday, December 1st, at 3 o'clock, when there will be a discussion on certain questions which have arisen out of the working of the Insurance Act.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

THE following volumes were added to the Library during April, May, and June, 1914:

Presented by the Authors.

Burkholder, J.: Anatomy of the Brain.	1912
Mott, F. W.: Archives of Neurology, vols. v and vi.	1912–14
Owen, Edmund: Appendicitis.	1914
Peachey, G. C.: History of St. George's Hospital, Part I.	1910
Pearson, S. V.: State Provision of Sanatoriums.	1914
Saundby, R.: Treatment of Diseases of the Digestive System (second edition).	1914
Taylor, G. C.: Statistical Ready Reckoner.	1914
Ward, Gordon: Bedside Haematology.	1914

Presented by Dr. O. Beddard, London.

Li Documenti chimici in cui si vedono li miracoli di questa grand' arte.	n.d.
Pitt, R.: The Craft and Frauds of Physic Exposed.	1703

Presented by Dr. S. H. Bown, Kensington.

Transactions of the Seventeenth International Congress of Medicine, 1913.

General Volume and Dermatology Section.	1914

Presented by W. McAdam Eccles, Esq., F.R.C.S.Eng.

Transactions of the Seventeenth International Congress of Medicine, London, 1913.

Subsection 7A, Part II, Orthopaedics.	1914

Presented by Dr. Lennox-Gordon, Capetown.

Watkins-Pitchford: Industrial Diseases of South Africa.	1914

Presented by Dr. J. B. Hurry, Reading.

Transactions of the Seventeenth International Congress of Medicine, 1913

General Volume and History of Medicine Section.	1914

Presented by the Medical Officer of the Local Government Board.

Report by Dr. Arnold: On Diphtheria at Dorchester.	1913
Report by Dr. Farrar: Sanitary Administration of Wigton.	1913
Report by Dr. Gordon: On Mumps and Parotitis.	1914
Report by Dr. Manby: On Enteric at Kenilworth.	1914
Report by Dr. Mivart: Sanitary Administration, Dartmouth.	1914

(To be continued.)

INSURED PERSONS IN MILITARY EMPLOY.

THE Clerk to the Dundee Burgh Insurance Committee has received the following letter, dated November 11th, from the Scottish Insurance Commission:

Sir,—I have to refer to your letter of 5th instant, in which you inquire whether an insured person who is on the panel of a doctor in your area and who has joined the Territorial Forces, but is at present located in Dundee either at his own house or in barracks, is entitled to be treated by his panel doctor and to receive medicines at the expense of the drug fund. In reply I have to state that the matter of soldiers, reservists, and Territorials returning from the front or from their training centres, as the case may be, wounded or sick, is at present before the Commission, who are in correspondence on the subject with the Scottish Head Quarters Command and also with the Joint Committee, with the view to the issue of a circular on questions of difficulty arising out of the present situation.

Generally, however, it may be said that in terms of the National Insurance (Army and Navy) Act, 1914, of September 18th last, members of the Territorial Forces came on embodiment under the provisions of Section 46 of the National Insurance Act, 1911, and remain, until discharge, members of the Navy and Army Fund, and as such entitled only to maternity benefit. If, therefore, a man applies to his panel doctor for treatment or to his society for any benefit other than the maternity benefit, it would be proper that he should be asked to produce his discharge certificate as evidence that he is no longer on the establishment and in receipt of army pay.

Instances, however, may arise in the case of recruits who have joined the Territorial Forces since the date of embodiment and have not been "finally accepted" in the sense of Section 22 of the Act of 1913. In such cases it would be necessary to apply to the regimental authorities in order to learn what the position in regard to such persons is.

As indicated above, the matter is engaging the attention of the Commissioners, who hope to be able to circulate a statement on the subject at an early date.—I am, Sir, your obedient servant,

JOHN JEFFREY, Secretary.

David Duncan, Esq.

LOCAL MEDICAL AND PANEL COMMITTEES.

BUCKINGHAM.

LOCAL MEDICAL AND PANEL COMMITTEE.

A MEETING of the Local Medical and Panel Committee was held at the Royal Bucks Hospital on October 29th. Dr. BAKER was in the chair, and thirteen other members were present. The minutes of the last meeting were read and confirmed.

Prescribing.—It was decided to adopt and act upon the report of the subcommittee appointed to meet and discuss with the chemists how to deal with extravagant prescribing.

Pharmacopoeia.—The advisability of adopting a special pharmacopoeia was discussed, but it was thought that in a county like Bucks the best plan was for the medical men in each locality to give their special formulae to the chemists and thus obviate the necessity of writing every prescription in full.

Drug Tariff.—The suggested drug tariff for 1915 was presented and adopted after a letter had been read from the British Medical Association stating that they advised it.

Agreements.—Memo. 201/I.C., dealing with the agreements for 1915, was considered, and it was decided to agree to it.

Annual Report.—The annual report was read and adopted after emendation.

MEETING OF PRACTITIONERS.

The annual general meeting of Bucks practitioners took place subsequently, when Dr. BAKER was voted to the chair. About twenty-five members of the profession were present.

Annual Report.—The annual report and financial statement was adopted.

Rept. Mist.—A discussion took place on the use of the term "Rept. Mist."; some were in favour of it and others against. Chemists were unanimously against its use even if paid a fee for copying. Some members of the Panel Committee who had inspected prescriptions gave instances of extraordinary prescribing. Dr. LINNELL, the Secretary of the Northampton Committee, stated that in their area the term "Rept. Mist." was not allowed, and there were no stock mixtures; it had been decided to have the prescriptions examined, as, while some practitioners cost on an average 3d., others cost 2s., and that grave irregularities occurred. It had been decided to surcharge certain practitioners. He thought that an investigation ought to be made to ascertain the average length of time patients remained on the list of each practitioner. It would then be found whether certain doctors were more lenient than others. The cost of examining the prescriptions should be paid by the three committees, the Insurance Committee paying half and the two others a quarter each. It was suggested that those practitioners who used the term "Rept. Mist." should pay the cost and not those who did not.

Federation of Local Medical and Panel Committees.—After a discussion, in which Drs. Reynolds, Larking, Rose, Churchill, Baker, and Linnell took part, it was decided to join the proposed Federation of Local Medical and Panel Committees.

Certificates.—It was pointed out that a medical man should never sign a certificate and date it back or forward. He should date it on the day he signs it and cross out the word "to-day," if on the form. He should put the date when he saw the patient and write underneath, "Signed on ——." Certificates should not be signed for patients who were in a hospital, special provision being made for those cases.

CARDIFF.

Panel Committee.

Six meetings of the Panel Committee have been held since the beginning of June, and have been mainly concerned with the drug fund and the excessive cost of prescriptions issued by panel practitioners. In consequence of a report received in June from the Pharmaceutical Committee alleging excessive prescribing in the Cardiff area, a conference was held between the Panel and Pharmaceutical Committees, when it was reported that the drug fund for 1914 would not exceed £6,000, and that of that sum £2,400 had already been expended. It was also stated that the individual scrips ranged from 5¾d. to 1s. 6¾d., while many prescriptions had exceeded 2s. 6d., some costing over 5s. A subcommittee was appointed to investigate the whole question, and in consequence of its recommendations a communication was sent to each of the practitioners whose prescriptions had been questioned, warning him of the high cost of his prescriptions, and pointing out in detail the items which had contributed to make them expensive.

In consequence of the chemists' representations it had been decided to appoint a whole-time officer at £150 a year to check the prescriptions, the salary being divided equally among the Insurance, Panel, and Pharmaceutical Committees. This officer subsequently presented reports giving information with regard to the number on each panel, the total number of prescriptions issued, the ratio to number on the panel, the total cost and average price.

Further representations were subsequently received from the chemists that the general average was too high, and as the result of a report presented after another conference between the chemists and the subcommittee it was decided to issue a general circular to all practitioners on the panel regarding the matter, and impressing upon them their liability to be surcharged. A general meeting of the panel practitioners was held on October 13th, when the members were explicitly warned of their danger and the necessary steps to be adopted. In consequence of instructions, the Secretary has sent out a circular explanatory of the present situation, and indicating what could be done to improve the position during the remainder of 1914.

The Pharmacopoeia Subcommittee has, in co-operation with the chemists, prepared a new pharmacopoeia, containing a considerable number of formulae, which, while being efficient, are not expensive. This is now awaiting confirmation by the Insurance Committee. Subsequently the chemists forwarded a statement showing the actual figures of last year's working with their comments: these figures showed some remarkable disclosures. No report has yet been made by the Panel Committee to the Insurance Committee, as it was deemed advisable to wait until the complete figures for 1914 had been received.

MONMOUTHSHIRE.

A meeting of the Monmouthshire Panel Committee was held at Newport on November 13th, when Dr. J. W. Mulligan presided.

Delay in Payment.—In view of the fact that the Insurance Committee had not sent out the cheques for the October quarter until the end of that month, the Secretary was instructed to write to the Clerk asking that the cheques be paid when due.

Mileage.—A letter from the Secretary of the Welsh Insurance Commissioners relating to mileage was referred to the Rural Practitioners' Subcommittee.

Cost of Medicines and Appliances.—A letter was read from the Secretary of the Monmouthshire Pharmaceutical Committee calling the attention of the Panel Committee to the enormous increase of the cost of medicines and appliances prescribed for insured persons, and asking the Committee to take the matter into consideration. The Secretary explained that on receipt of the Memorandum 199 I.C. issued by the Welsh Commissioners a subcommittee, consisting of Drs. W. D. Steel, H. T. Evans, R. J. S. Verity and the Secretary, had been appointed, and had held several meetings. The subcommittee now reported that it had examined several thousand prescriptions issued by ten practitioners on the panel, and were unanimously of opinion that there had been excessive prescribing both in number and quality. The figures given in reference to some of the practitioners were somewhat startling; and on the motion of Dr. J. D. O'Sullivan, seconded by Dr. J. O'Keefe, it was unanimously resolved that a circular should be issued to panel practitioners calling their attention to the matter, and pointing out that the Panel Committee, in cases in which over-prescribing had been proved to its satisfaction, would recommend the practitioners concerned to the Insurance Committee for surcharge. The Secretary was instructed to call a meeting of the panel practitioners, to be held at St. James's Hall, Pontypool, on November 26th, at 3.30 p.m., to consider the whole matter.

Expenses of Pharmaceutical Committee.—The Pharmaceutical Committee made another request for the Panel Committee's approval of a grant of £10 towards its administrative expenses, and the Secretary explained that the Panel Committee had already decided that the money would have to come out of the panel doctors' remuneration, and that it thought that the Pharmaceutical Committee should pay its own expenses out of its own funds. The Panel Committee considered that no good reasons had been brought forward to justify reversing its decision. On the motion of Dr. Verity, seconded by Dr. O'Keefe, it was resolved:

> That inasmuch as the Panel Committee has no funds at its disposal, it cannot accede to the Pharmaceutical Committee's request of its approval of a grant to it of £10 for administrative expenses.

Panel Practitioners on Active Service.—The Committee expressed general approval of the suggestion contained in a letter from the Secretary of the Welsh Insurance Commissioners proposing that, in order to keep intact the practices of doctors engaged in war duties, no panel practitioner should accept transfer of insured persons on such doctors' lists.

EDINBURGH.

Panel Committee.

The Burgh of Edinburgh Panel Committee met on October 27th, when Dr. Dewar was in the chair.

Donation to Edinburgh Royal Infirmary.—A letter was received from the treasurer of the infirmary acknowledging a donation of £104 12s. from a large number of insurance practitioners, and conveying the satisfaction of the managers to the practitioners, who had thus recognized the work done by the institution on behalf of insured patients.

Free Medical Attendance on Service Dependants.—It was reported that at its meeting on October 1st the Burgh Insurance Committee decided to record its hearty appreciation of the prompt and generous action taken by the Panel Committee to secure that necessitous dependants of men on active service should have free medical attendance at their homes.

Examination and Analysis of Prescription Forms.—It was agreed to take no further action meantime as to the proposed examination of certain prescription forms, in view of the early establishment of a central bureau for checking prescription forms. The Insurance Commissioners' scheme for the systematic checking of prescriptions and chemists' accounts (Memorandum 598) was discussed, and it was resolved:

> That the Panel Committee approve generally of Memo. No. 598, and note that on page 8, paragraph 3, the expenses appear to have been provided for by Parliament.

Transfer of Patients during the Medical Year.—In connexion with the complaint preferred at the preceding meeting regarding transfer of patients in the Edinburgh area during the medical year, a satisfactory reply was read from the Insurance Committee promising that in future no transfer to another doctor would be allowed except by mutual consent.

Disablement Certificates.—A letter was read from the Insurance Commissioners intimating that an official

announcement would shortly be made with regard to disablement certificates.

Soldiers' and Sailors' Families Association.—It was agreed to ask that panel practitioners should be given representation on the committees of the Soldiers' and Sailors' Families Association.

Medical Attendance on Insured Persons in Arrears.—A letter was read from the Insurance Committee stating that on intimation of such cases being made by the approved societies to the Committee, the relative index slips would be withdrawn from the Committee's register, and the doctor on whose lists the patients' names appeared would be notified of the suspension.

Incapacity due to Pregnancy.—The Insurance Commissioners' Memo. 204 I.C. (Scotland), on incapacity due to pregnancy (SUPPLEMENT, October 31st, p. 221), was approved.

Interference with Doctors' Treatment.—The CHAIRMAN intimated that, after long negotiations, the Scottish Commissioners, on representations made by the British Medical Association, had ruled that under the Act "a sick visitor or society official should not remove or ask a patient to remove a surgical dressing."

Position of Medical Referee.—A communication was read from the Medical Secretary of the British Medical Association pointing out that the action of medical referees was governed by the rules approved by the Annual Representative Meeting, 1911, as modified by the 1912 meeting. In accordance with these rules, the medical referee should give the medical attendant notice of the date, time, and purpose of any visit he proposed to make, and in the event of any of the exceptions provided for in the rules it was the duty of the medical referee to inform the medical attendant (if any) of the fact of his visit.

INSURANCE COMMITTEES.

IRELAND.

COUNTY CLARE.

AT the last meeting of the Insurance Committee for the County of Clare a letter was read from the Insurance Commissioners intimating the appointment of Dr. Cornelius Martin as medical certifier in respect of insured persons resident in the rural districts of Ennis, Tulla, Scariff, and Limerick No. 2, and in the urban district of Ennis. A lengthy discussion took place, and on the motion of Lady INCHIQUIN, seconded by Mrs. BULGER, it was resolved:

> That we disagree with the Insurance Commissioners in appointing Dr. Martin for the certification of tuberculosis patients, to the exclusion of the local medical profession. We do so on two grounds—namely:
>
> (1) We believe that the local profession would have more readily brought under their notice early tuberculosis cases than would Dr. Martin.
>
> (2) The doctors of the county have hitherto assisted the County Insurance Committee in the working of the tuberculosis portion of the Insurance Act, and we consider it unbecoming and ungrateful to now dispense with their services.

CORRESPONDENCE.

CENTRAL BUREAU FOR CHECKING PRESCRIPTIONS.

DR. MICHAEL DEWAR (Edinburgh) writes: As we are all aware, the Scottish Commissioners propose to establish a Central Bureau for Scotland for the purpose of checking prescription forms. In their Memo. 598, p. 5, paragraph 25, the Commissioners, acting on a suggestion made at a recent conference of Insurance Committees of Scotland, propose that the expenses of the bureau should be borne by Insurance, Panel, and Pharmaceutical Committees. They say

> that they have not yet been able to obtain information as to the attitude of panel practitioners towards the matter, but they have been informed that at a recent meeting of panel chemists (Scotland) the proposal to establish a Central Bureau for the pricing and scrutiny of prescriptions was favourably received, and that a recommendation will be made to Pharmaceutical Committees that they should contribute out of the sums available for their administrative expenses under Section 33 (2) of the 1913 Act, a sum not exceeding one-third of the expenses of such a bureau, payable by each Insurance Committee, provided that panel chemists are directly represented on the Committee of Management of the Bureau.

Further, in their circular (Memo., Appendix I) issued to Insurance Committees on September 22nd, 1914, they point out

> that the financial situation has now been relieved. Parliament has voted a special grant in aid of the expenses of administration of medical benefit for the present year. The special expense was mainly due to the issue of medical cards. Parliament has also sanctioned an alteration in the basis of distribution of the grant in aid of the administration of medical benefit—the flat rate of 1½d. per insured person having been found to be inappropriate. . . . By these measures the Commissioners hope that it will now be possible to secure to every Insurance Committee a sufficient income to enable them in a satisfactory manner to carry on their duties, including the establishment of a system of checking chemists' accounts.

At a meeting of the Edinburgh Insurance Committee on November 12th, the following recommendation was submitted by the Medical Benefits Subcommittee:

> That the general principle of a centralized scheme for checking be approved by the Insurance Committee, on the express condition that the Local Panel and Pharmaceutical Committees each bear one-third of the relative cost of the scheme.

This was met by an amendment that the words from "on" to the end of the sentence be deleted. On a division, the recommendation was carried by 18 to 6. From the point of view of the medical members of the Committee, there is no question of any opposition whatever to the establishment of a central bureau, but they are of opinion that as the checking of prescriptions is part of the administration of medical benefit, and as the Insurance Committee is entirely responsible for its administration, the expense should be borne by that Committee itself. This is an evident attempt on the part of the Commissioners and Insurance Committees to transfer part of their administrative obligations to other shoulders, whenever they find themselves in a financial difficulty, and when once a precedent is established, it will be an easy matter to repeat the dose whenever it is thought expedient, on the ground of any slight interest which the doctors and chemists may have in the question involved. By such methods the process of whittling down the doctors' remuneration may go on indefinitely. It may not mean much each time, but if repeated too often, it will aggregate a considerable sum by and by. I may point out in passing that while the Edinburgh Pharmaceutical Committee took advantage of Section 33 (2) to meet its expenses, the Panel Committee, like many others, could not see its way to do so owing to the intolerable restrictions which the Commissioners placed on its disbursements. A levy was made on insurance practitioners in the area, which was heartily responded to. It will be seen, therefore, that neither Panel nor Pharmaceutical Committees have any funds except what comes out of their own pockets; and, incidentally, if the drug bill should exceed 1s. 6d., the whole of the expenses of both Committees will automatically come out of the doctors' pockets.

The present system of checking accounts by the Edinburgh Insurance Committees, which has been in force for some time, has been perfectly satisfactory, and has been carried out at a very small cost compared with the proportion which would have to be paid under the bureau system.

I submit two questions for elucidation:

1. Is the checking of prescription forms a part of the administration of medical benefit or not?

2. If so, can the Commissioners compel the panel doctors to pay a share of the Insurance Committee's administrative expenses?

ALLEGED OVER-PRESCRIBING.

DR. F. E. H. DAUNT (Clapham Road, S.W.), in a letter on this subject, writes: We had a meeting lately of the Lambeth Panel Committee at which I was present. The meeting was summoned "urgently to address itself to the excessive drug bill." Sixty-five doctors out of about fifteen hundred were indicted for over-prescribing and were threatened to be surcharged. The question I ask is this, and it ought to be answered without any beating about the bush: Suppose these sixty-five doctors were not only surcharged but absolutely paid for every prescription they wrote, including dispensing fees, would then the drugs, etc., ordered by the remaining fourteen hundred

old whose prescriptions were passed still keep the drug bill under the estimate?

Of course not. We are up against an impossible proposition. Look at our extraordinary price list. Another business will afford an example. I go into a grocer's shop and ask for half a pound of "two-shilling" tea, and put down my shilling. Oh, no; it is two shillings a pound "or any lesser quantity." Well, I have my remedy, but what is the remedy for a man who only wants fifteen minims of dilute sulphuric acid and has to pay for an ounce?

The point is simply this, that an official pharmacopoeia compiled from the various London hospitals should be issued and priced by the 8-oz. or 10-oz. mixture as the case may be. We would then get the official price for the article supplied.

THE LONDON PANEL COMMITTEE'S INQUISITION INTO PANEL DOCTORS' PRESCRIBING.

Dr. JOHN W. TAYLOR (Bristol) writes: The fact of Dr. Bazett's average cost of prescriptions being nearly 1s. 1d. is by no means a testimonial of thoroughness of treatment of insured patients. It must be decidedly unpleasant to have treatment in any way called in question, but there is a fair amount of extravagant prescribing under the Act which requires to be curtailed.

A weekly prescription costing on an average 2s., and a two days' prescription 9d., unless in the case of severe surgical cases requiring medicines and dressings, should rarely, if ever, occur. We in Bristol have an excellent little pharmacopoeia, beyond the limits of which it is seldom necessary to wander. The utility of elaborate prescribing is always questionable, and it often shows a lamentable ignorance of elementary chemistry, to say nothing of therapeutics.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements are notified by the Admiralty: Fleet Surgeon J. W. W. STANTON is placed on the retired list. Staff Surgeon G. L. BUCKERIDGE, M.B., to the *Halcyon*, vice Mills. *Temporary Surgeons*: E. F. FISHER, M.B., to the *Colleen*, additional, for Haulbowline Hospital Yard, vice Buckeridge; E. I. PARRY to the *Indus*, vice Fisher; C. W. SHEPHERD, to the *Pembroke*, additional; R. E. SMITH, to the *Carmania*, vice Maynard; E. MAYNARD, to the Gibraltar Hospital, temporary, vice Smith; J. N. WATSON, to the *Vernon*, vice Turner; C. E. MAYNE, to the *Victory*, for R.N. Division; G. C. FAIRCHILD, to the *Wildfire*, for Barracks and yard, vice Unthank; W. D. GALLOWAY, to the *Cornwallis*, vice Foxell; J. A. WATSON, to the *Pembroke*, additional, for R.N. Air Service; M. ONSLOW-FORD, A. E. GOW, R. H. KNOWLES, T. L. G. STEWART, E. L. STURDEE, W. R. E. UNTHANK, H. L. G. FOXELL, and A. BALLANCE, to the *Victory*, additional, for R.N. Division; J. H. BENNETT, C. W. WHELLER-BENNETT, M. NEILSON, A. G. SWORN, to the *Victory*, for Haslar Hospital, additional; G. M. FRASER, to the *Victory*, additional, for disposal; A. H. WEAR, E. A. LINELL, D. A. HENDERSON, to the *Pembroke*, additional, for disposal; Acting Surgeon THOMAS HILL, to the *Pembroke*, additional for disposal.

ROYAL NAVAL VOLUNTEER RESERVE.

Staff Surgeons promoted to the rank of Fleet Surgeon: JOHN BOYAN, WILLIAM H. DAW, HUGH L. NORRIS, ADRIEN A. FORRESTER, M.B., JOHN STODDART, M.B., JOHN A. FORREST, M.B., WARREN G. WESTCOTT, FRANCIS J. L. P. MCKENNA, M.B., FAIRMAN R. MANN, WILLIAM W. KEIR, M.B., EDWARD C. SAWDY, PERCY H. BANNISTER, M.B., RICHARD S. OSBORNE, EDWARD O. B. CARBERY, M.B., JOHN K. RAYMOND, M.B., HENRY RULE GARDNER, M.B.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL HERBERT E. CREE is retained on the active list and to be supernumerary.

Major ROBERT J. BLACKHAM, C.I.E., is seconded for service under the Government of India.

GEORGE S. BUCHANAN, M.B., is granted temporarily the honorary rank of Lieutenant-Colonel.

To be temporary Captains: EDWARD K. MARTIN, F.R.C.S., ALFRED E. JOHNSON, M.B., F.R.C.S., ROBERT DAVIES-COLLEY, F.R.C.S. Temporary Lieutenant F. S BRERETON, late Captain R.A.M.C., to be temporary Captain.

To be temporary Lieutenants: GEORGE L. GRANT, TREVOR R. SNELLING, RICHARD CHARLES, F.R.C.S.I., HENRY C. C. RENNIE, M.B., CHARLES J. EDGAR, M.D., ARTHUR DE W. SNOWDEN, M.D., ROLAND R. WETTENHALL, M.B., MICHAEL J. KELLY, ARTHUR S. BLACKWELL, M.D., F.R.C.S., EVAN W. GRIFFITH, ARTHUR G. LEITCH, DAVID N. KNOX, M.B., WILLIAM W. MACKARELL, M.D., JOHN B ORR, M.B., JAMES G. DUNCANSON, M.B., MAURICE P. SCANLON, M.B., ERNEST A. FOZER, M.B., ROBERT W. MICHELL, M.D., F.R.C.S., CHARLES MCM. WILSON, M.D., JOHN MACINNES, M.B., WARREN MEADE, THOMAS H. AGNEW, MARTIN W. LITTLEWOOD, M.B., DAVID W. WOODRUFF, ROBERT L. BROWN, JOHN B. WOOD, M.B., OCTAVIUS S. MAUNSELL, JAMES W. RICHARDSON, F.R.C.S.Edin., WILLIAM N ALEXANDER, ARCHIBALD F. WRIGHT, M.B., HORACE A. CUTLER, M.B., ARTHUR G. WILKINSON, M.B., HUGH Y. RIDDELL, M.B., EDWARD F. PALGRAVE, RICHARD P. ROSSER, M.B., CHARLES E. H. SMITH, DAVID J. M. LEGGE, F.R.C.S. Edin., WILLIAM R. A. COATES, REGINALD J. ROGERS, F.R.C.S.Edin., HERBERT I. HATCH, M.B., STEPHEN B. WALSH, M.D., JAMES K. CLARKE, M.B., GEORGE E. VILVANDRE, PETER DRUMMOND, M.B., DAVID J. EVANS, M.B., WILLIAM A. I. DUNLOP, M.B., CHARLES I. GRAHAM, M.B., CHARLES D. PYE-SMITH, M.B., F.R.C.S., HAROLD MOWATT, M.D., WILLIAM A. HISLOP, M.B., JOHN N. GLAISTER, JOHN ALEXANDER, M.B., FRANCIS K. KERR, M.B., ALEXANDER G. GILCHRIST, M.B., THOMAS B. JOHNSTONE, CHARLES M. BERNAYS, CHARLES A. FLINTOFF, RALPH S. RENTON, M.D., LAWSON CAIRNE, M.D., RICHARD B. LLEWELLYN, M.B., EDWARD D. PARSONS, ROBERT CROTHERS, F.R.C.S.Edin., ARNOLD LEEMING, M.B., PETER H. ROBERTSON, M.B., PERCY G. LOCK, LAWRENCE W. POLE, M.B., WILLIAM TREGANZA, ROBERT THOMSON, M.B.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

THE appointment of Lieutenant RICHARD B. BUCHANAN, published in the *London Gazette* of October 20th, is cancelled.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

First Home Counties Field Ambulance.—To be Lieutenants: JAMES O. E. TURLE, CHARLES H. GREGORY, M.D.

Second Home Counties Field Ambulance.—FRANK SCROGGIE, M.B., to be Lieutenant.

First London (City of London) Field Ambulance.—ARCHIBALD LEITCH, M.B., to be Lieutenant.

Third London (City of London) Field Ambulance.—KENNETH V. SMITH to be Lieutenant.

Fourth London Field Ambulance.—GEORGE E. NASH to be Captain. The announcement of the transfer of Lieutenant WILLIAM J. SLOWAN, M.D., which appeared in the *London Gazette* of October 26th, is cancelled.

Fifth London Field Ambulance.—To be Captains: SYDNEY CLARK, CHARLES E. WHITEHEAD.

Sixth London Field Ambulance.—FRANCIS ROWLAND to be Captain.

First North Midland Field Ambulance.—To be Lieutenants: RONALD B. BERRY, M.B., MATTHEW T. ASCOUGH, JOHN W. THOMSON, M.B.

Second North Midland Field Ambulance.—Captain RICHARD M. WEST, M.D., to be Major.

Third North Midland Field Ambulance.—WILFRID A. L. JACKSON, M.B., and CHARLES C. GRUMMITT to be Lieutenants.

First London (City of London) General Hospital.—To be Captains: THOMAS J. HORDER, CONRAD M. H. HOWELL.

Third London General Hospital.—ROBERT R. CRUISE to be Captain.

Fourth London General Hospital.—The appointment of LEONARD GAME announced in the *London Gazette* is cancelled.

First Welsh Field Ambulance.—Major EVELYN J. R. EVATT, M.B., to be Lieutenant Colonel, temporary.

Third Welsh Field Ambulance.—Major ANDREW R. WILSON, M.D., from attached to units other than medical units, to be Lieutenant-Colonel.

Second East Anglian Field Ambulance.—JAMES SIMPSON, M.B., to be Lieutenant.

Second Lowland Field Ambulance.—JAMES W. BURTON, M.B., to be Lieutenant.

Second Northern General Hospital.—DOUGLAS SEATON, M.B., to be Captain.

Third Northern General Hospital.—FRANK A. HEPWORTH, F.R.C.S., to be Captain; his services will be available on mobilization.

Second Scottish General Hospital.—Captain DAVID J. GRAHAM, M.D., to be Major.

Fourth Scottish General Hospital.—JAMES R. RIDDELL to be Captain. The announcement of the appointment as Captain of William H. Brown, published in the *London Gazette* of September 4th, is cancelled.

Second West Riding Field Ambulance.—CHARLES N. SMITH, M.B., to be Lieutenant.

First London (City of London) Sanitary Company.—MARTIN E. PRIEST to be Lieutenant.

Second London Sanitary Company.—JAMES CLAYTON to be Lieutenant.

Notts and Derby Mounted Brigade Field Ambulance.—Major ALEXANDER R. TWEEDIE, F.R.C.S., to be Lieutenant-Colonel; Captain WALTER H. FISHER, M.D., to be Major; DOUGLAS J. MARR, M.B., to be Lieutenant.

First South-Western Mounted Brigade Field Ambulance.—Major THOMAS H. HAYDEN, M.B., to be Lieutenant-Colonel; Captain ALEXANDER W. FRENCH to be Major.

First Southern General Hospital.—Major JAMES T. J. MORRISON, F.R.C.S., is seconded.

Eastern Mounted Brigade Field Ambulance.—BASIL FAWSSETT to Lieutenant.

First East Anglian Field Ambulance.—JAMES L. M. SYMNS to be Lieutenant.

Second East Lancashire Field Ambulance.—Captain ALEXANDER CALLAM is restored to the establishment.

Attached to Units other than Medical Units.—Lieutenant-Colonel JOHN M. CADELL, M.B., retired pay (late I.M.S.), to be Major. Captain H. D. DAVIS is seconded. HENRY W. WILLIAMS, M.D., late Captain R.A.M.C.(T.), to be Captain. Lieutenant ROBERT N. WALLACE, M.B., to be Captain. Lieutenant GEORGE D. COLLEN, M.D., to be Captain. To be Lieutenants: WILLIAM H. MORRISON, M.B., JOHN L. GREEN, HERBERT ROBERTSON, M.B., PHILIP H. G. GOSSE, GEORGE J. WILSON, M.B., HENRY E. FOX, M.B.

Vital Statistics.

ENGLISH URBAN MORTALITY IN THE THIRD QUARTER OF 1914.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

IN the accompanying table will be found summarized the vital statistics of ninety-seven of the largest English towns, based upon the Registrar-General's weekly returns for the third quarter of the year. The 115,121 births registered in these towns during the quarter under notice corresponded to an annual rate of 25.5 per 1,000 of the population, estimated at 18,120,059 persons in the middle of the year. In London the birth-rate last quarter was 24.9 per 1,000, while among the other towns it ranged from 13.2 in Bournemouth, 15.3 in Eastbourne, 15.5 in Hastings and in Southport, 15.9 in Ilford and in Bath, 16.2 in Oxford, and 16.4 in Blackpool, to 32.0 in Gateshead, 32.1 in West Bromwich, 32.7 in Rhondda, 32.8 in Stoke-on-Trent, 33.2 in Middlesbrough, 33.6 in Sunderland, and 34.1 in St Helens.

The 59,620 deaths registered in these towns were equal to a rate of 13.2 per 1,000: in London the death-rate was 13.3 per 1,000, while among the other towns the lowest rates were 7.2 in Bournemouth, 7.4 in

Analysis of the Vital Statistics of Ninety-seven of the Largest English Towns during the Third Quarter of 1914.

Towns.	Population estimated to the middle of Year 1914.	Births.	Deaths.	Annual rate per 1,000.		Deaths from Principal Infectious Diseases.							Deaths under 1 year per 1,000 Births.	Uncertified Deaths per Cent. of Total.
				Births.	Deaths.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Diphtheria.	Diarrhœa and Enteritis (under 2 years.)		
97 Large Towns	18,120,059	115,121	59,620	25.5	13.2	191	1	1,171	315	784	559	7,575	128	0.8
London	4,516,612	27,990	14,992	24.9	13.3	36	—	412	73	206	138	1,944	127	0.1
Croydon	181,956	1,050	412	23.1	9.1	2	—	1	1	8	1	38	79	—
Wimbledon	59,598	276	134	18.6	9.0	—	—	1	—	—	1	16	199	—
Ealing	71,030	319	131	18.0	7.4	—	—	—	—	1	—	5	53	0.8
Acton	64,369	385	161	24.0	10.0	—	—	5	—	2	1	23	125	—
Willesden	167,922	1,063	410	25.4	9.8	1	—	2	1	10	3	58	108	0.5
Hornsey	88,953	382	172	17.2	7.8	—	—	—	—	3	1	13	63	—
Tottenham	149,495	964	369	25.9	9.9	1	—	5	3	3	4	38	93	—
Edmonton	71,024	474	182	26.8	10.3	1	—	2	—	3	2	40	127	—
Enfield	61,069	337	144	22.1	9.5	—	—	—	1	1	1	20	98	—
West Ham	296,570	2,232	1,015	30.2	13.7	3	—	24	4	10	10	176	125	0.1
East Ham	146,526	866	327	23.7	9.0	1	—	4	1	1	7	32	82	—
Leyton	133,719	722	313	21.7	9.4	—	—	3	2	2	11	38	91	—
Walthamstow	134,825	706	320	23.7	9.5	1	—	4	2	2	9	27	63	—
Ilford	91,041	361	167	15.9	7.4	—	—	1	—	1	1	9	61	—
Gillingham	55,559	320	119	23.1	8.6	1	—	—	—	—	4	5	53	1.7
Hastings	59,620	230	158	15.5	10.6	—	—	—	—	—	—	6	65	0.6
Eastbourne	55,662	215	112	15.3	8.1	—	—	—	1	1	—	6	52	0.9
Brighton	133,936	584	377	17.5	11.3	—	—	1	1	1	5	22	92	—
Portsmouth	245,827	1,554	649	25.4	10.6	16	—	2	1	7	15	48	79	0.2
Bournemouth	85,254	280	153	13.2	7.2	—	—	—	—	2	3	2	39	—
Southampton	123,948	751	385	24.3	12.4	1	—	—	—	—	6	38	120	—
Reading	90,083	440	197	19.6	8.8	1	—	—	—	1	1	7	73	2.0
Oxford	54,339	219	120	16.2	8.9	—	—	—	—	2	—	5	68	—
Northampton	91,123	499	256	22.0	11.3	—	—	—	—	1	4	21	84	0.4
Cambridge	57,676	277	168	19.3	11.7	1	—	—	—	2	4	6	79	—
Southend-on-Sea	83,908	386	156	17.5	7.5	1	—	—	—	3	—	4	60	4.5
Ipswich	76,472	468	213	24.5	11.2	—	—	—	1	9	2	11	103	—
Great Yarmouth	57,503	320	199	23.0	13.9	1	—	—	—	1	5	20	136	—
Norwich	124,107	654	400	21.1	12.9	—	—	1	3	5	5	47	119	0.3
Swindon	52,750	265	112	20.2	8.5	—	—	—	—	—	1	6	79	—
Exeter	60,788	332	121	21.9	8.0	—	—	—	—	3	—	8	60	—
Plymouth	113,559	688	383	24.3	13.7	1	—	1	—	7	4	42	138	—
Devonport	85,589	568	183	26.6	8.9	4	—	—	—	—	4	17	77	—
Bath	70,292	279	159	15.9	9.1	2	—	1	—	1	1	1	43	—
Bristol	363,312	1,985	975	21.9	10.8	1	—	2	2	5	7	68	97	—
Gloucester	50,759	281	151	22.2	11.9	1	—	—	—	1	1	5	103	2.0
Stoke-on-Trent	241,430	1,975	1,066	32.8	17.7	2	—	7	—	10	27	225	186	1.5
Wolverhampton	95,725	674	335	28.2	14.0	1	—	—	1	2	4	50	125	—
Walsall	94,093	716	331	30.5	14.1	—	—	3	1	5	—	57	145	0.3
West Bromwich	69,450	555	241	32.1	13.9	—	—	—	4	4	2	34	115	4.6
Dudley	51,895	382	143	29.5	11.1	—	—	—	—	—	1	13	115	1.4
Birmingham	868,430	6,065	2,783	28.0	12.9	2	—	44	23	14	51	384	126	3.6
Smethwick	76,314	504	192	26.5	10.1	1	—	1	4	1	4	20	73	1.0
Coventry	119,003	856	287	28.9	9.7	—	—	1	—	2	2	22	86	4.2
Leicester	232,664	1,268	627	21.9	10.8	3	—	6	—	6	2	69	117	0.6
Lincoln	60,243	354	171	23.6	11.4	—	—	1	—	—	1	12	82	1.2
Grimsby	78,667	556	261	28.3	13.3	—	—	1	—	5	1	57	187	1.1
Nottingham	266,918	1,649	894	24.8	13.4	2	—	4	4	16	7	122	153	0.6
Derby	126,389	768	350	24.4	11.1	—	—	3	—	4	3	22	95	—
Stockport	126,040	665	344	21.2	10.9	2	—	2	—	1	1	33	126	0.3
Birkenhead	137,710	964	484	28.1	14.1	1	—	12	1	15	3	81	135	0.4
Wallasey	87,175	457	226	21.0	10.4	—	—	2	1	6	2	14	105	—
Liverpool	767,992	5,817	3,654	30.4	19.1	13	—	145	22	60	21	614	171	2.1
Bootle	73,230	551	342	30.2	18.7	—	—	10	—	4	1	66	183	4.4
St. Helens	100,775	856	391	34.1	15.6	2	—	9	2	—	3	60	143	2.8
Southport	71,747	278	184	15.5	10.3	—	—	—	—	2	—	2	97	3.8
Wigan	91,491	691	404	30.3	17.7	4	—	10	—	1	—	50	190	—
Warrington	74,923	591	291	31.6	15.6	—	—	1	9	9	2	41	127	2.1
Bolton	185,247	1,075	736	23.3	15.9	3	—	21	—	8	7	129	168	0.1
Bury	59,213	283	185	19.2	12.5	—	—	1	2	1	—	19	113	2.2
Manchester	738,538	4,861	2,682	26.4	14.6	6	—	51	36	44	11	280	129	0.2
Salford	234,975	1,652	835	28.2	14.3	4	—	9	14	13	9	92	130	—
Oldham	151,044	905	581	24.0	15.5	—	—	93	7	11	6	31	129	—
Rochdale	94,320	504	290	21.4	12.3	—	1	11	1	5	3	10	89	1.7
Burnley	110,040	635	314	23.1	11.4	1	—	1	1	13	3	33	121	—
Blackburn	134,387	728	399	21.7	11.9	3	—	1	1	3	2	23	100	1.0
Preston	118,514	742	470	25.1	15.9	3	—	10	7	11	2	69	199	1.9
Blackpool	62,236	254	195	16.4	12.4	2	—	—	—	3	—	4	87	4.7
Barrow-in-Furness	65,921	471	189	28.7	11.5	2	—	—	—	5	—	7	96	2.1
Huddersfield	112,265	537	355	19.2	12.7	3	—	5	1	4	1	7	95	0.8
Halifax	100,373	463	317	18.5	12.7	1	—	2	—	1	3	9	76	0.9
Bradford	291,482	1,498	956	20.6	13.2	4	—	3	—	14	—	45	115	0.2
Leeds	459,260	2,782	1,715	24.3	15.0	3	—	96	5	35	13	211	166	0.1
Dewsbury	54,083	305	185	22.6	13.7	—	—	—	—	4	3	18	148	—
Wakefield	52,643	314	188	23.9	14.3	2	—	—	—	3	1	25	162	0.5
Barnsley	53,929	390	231	29.0	17.2	1	—	2	—	9	1	40	200	0.4
Sheffield	476,971	3,316	1,716	27.9	14.4	1	—	59	16	9	16	299	151	0.8
Rotherham	65,313	518	225	31.8	13.8	1	—	9	4	4	—	25	116	1.8
York	83,802	509	270	24.4	12.9	4	—	6	—	5	1	31	122	—
Hull	291,118	2,143	1,060	29.5	14.6	15	—	3	1	8	12	202	148	0.6
Middlesbrough	126,452	1,047	587	33.2	18.6	2	—	2	5	4	17	85	169	0.5
Darlington	59,500	413	171	27.8	11.5	—	—	—	1	3	4	21	104	4.1
Stockton-on-Tees	59,311	466	252	31.5	17.0	—	—	—	2	5	3	35	148	—
West Hartlepool	64,374	451	208	28.1	13.0	—	—	6	1	2	—	23	100	0.5
Sunderland	152,927	1,281	668	33.6	17.5	2	—	7	7	12	5	148	173	1.3
South Shields	111,357	885	457	31.9	16.5	5	—	5	3	3	4	83	152	3.7
Gateshead	119,362	952	555	32.0	18.6	1	—	7	4	8	—	124	196	6.7
Newcastle-on-Tyne	273,415	1,985	1,005	29.1	14.7	2	—	10	10	22	6	163	137	0.8
Tynemouth	61,408	470	248	30.7	16.2	3	—	1	—	—	2	37	166	4.4
Carlisle	52,813	395	193	23.2	14.7	—	—	—	4	1	1	15	154	3.1
Newport (Mon.)	89,404	561	246	25.2	11.0	—	—	6	4	3	4	25	119	—
Cardiff	188,495	1,276	536	27.2	11.4	3	—	2	4	16	8	65	115	—
Rhondda	166,365	1,357	558	32.7	13.5	1	—	6	2	11	4	104	165	0.2
Merthyr Tydfil	85,082	571	275	27.1	13.0	1	—	1	—	5	6	31	124	—
Aberdare	53,427	418	163	31.4	12.2	—	—	—	—	1	1	16	117	0.6
Swansea	121,665	802	398	26.4	13.1	2	—	2	3	5	—	32	116	0.5

Ealing and in Ilford, 7.5 in Southend, 7.8 in Hornsey, 8.0 in Exeter, and 8.1 in Eastbourne, and the highest rates were 17.2 in Barnsley, 17.5 in Sunderland, 17.7 in Stoke-on-Trent and in Wigan, 18.6 in Middlesbrough and in Gateshead, 18.7 in Bootle, and 19.1 in Liverpool.

The deaths from all causes included 1 from small-pox, 191 from enteric fever, 1,171 from measles, 315 from scarlet fever, 784 from whooping-cough, 559 from diphtheria, and 7,575 from diarrhoea and enteritis among children under two years of age. The fatal case of small-pox belonged to Rochdale. The 191 deaths from enteric fever were equal to an annual rate of 0.04 per 1,000; in London the death-rate from this disease was 0.03, while among the other towns it ranged upwards to 0.15 in Wakefield, 0.18 in Wigan and in South Shields, 0.19 in Devonport and in York, 0.20 in Tynemouth, 0.21 in Hull, and 0.25 in Portsmouth. The 1,171 fatal cases of measles corresponded to a rate of 0.26 per 1,000; in London the rate was 0.37 per 1,000, and among the other towns it reached 0.44 per 1,000 in Wigan, 0.45 in Bolton, 0.47 in Rochdale, 0.50 in Sheffield 0.55 in Rotherham and in Bootle, 0.76 in Liverpool, 0.84 in Leeds, and 2.47 in Oldham. The 315 deaths from scarlet fever were equal to an annual rate of 0.07 per 1,000; in London the death-rate from this disease was 0.06 per 1,000, and among the other large towns it ranged upwards to 0.20 in Manchester, 0.21 in Smethwick, 0.23 in West Bromwich, 0.24 in Salford and in Preston, 0.25 in Rotherham, 0.30 in Carlisle, and 0.48 in Warrington. The 784 fatal cases of whooping-cough corresponded to an annual rate of 0.17 per 1,000; in London the rate was 0.18 per 1,000, while among the other large towns the highest rates were 0.37 in Preston, 0.44 in Birkenhead, 0.47 in Ipswich and in Burnley, 0.48 in Warrington, and 0.67 in Barnsley. The 559 deaths from diphtheria were equal to an annual rate of 0.12 per 1,000; in London the rate corresponded to the average for all the large towns, among which the rates ranged upwards to 0.27 in Walthamstow and in Darlington, 0.28 in Cambridge and in Merthyr Tydfil, 0.29 in Gillingham, 0.33 in Leyton, 0.35 in Great Yarmouth, 0.45 in Stoke-on-Trent, and 0.54 in Middlesbrough. The fatal cases of diarrhoea and enteritis among children under 2 years of age numbered 7,575, and were in the proportion of 65.80 to 1,000 of the births registered during the quarter; the highest proportions recorded were 102.52 in Grimsby, 102.56 in Barnsley, 105.55 in Liverpool, 113.92 in Stoke-on-Trent, 115.53 in Sunderland, 119.78 in Bootle, 120.00 in Bolton, and 130.25 in Wigan and in Gateshead.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 128 per 1,000; in London the proportion was 127 per 1,000, while it ranged, among the other towns, from 39 in Bournemouth, 45 in Bath, 52 in Eastbourne, 53 in Ealing and in Gillingham, and 60 in Southend and in Exeter, to 169 in Middlesbrough, 171 in Liverpool, 175 in Sunderland, 183 in Bootle, 186 in Stoke-on-Trent, 187 in Grimsby, 190 in Wigan, 196 in Gateshead, 199 in Preston, and 200 in Barnsley.

The causes of 499, or 0.8 per cent., of the deaths registered in the ninety-seven towns last quarter were not certified, either by a registered medical practitioner or by a coroner. In thirty-seven of the towns the causes of all the deaths were duly certified; among the other towns the highest proportions of uncertified deaths recorded were 3.8 per cent. in Southport, 4.1 in Darlington, 4.2 in Coventry, 4.4 in Bootle and in Tynemouth, 4.5 in Southend, 4.6 in West Bromwich, 4.7 in Blackpool, and 6.7 in Gateshead.

HEALTH OF ENGLISH TOWNS.

In ninety-seven of the largest English towns 8,085 births and 4,517 deaths were registered during the week ended Saturday, November 14th. The annual rate of mortality in these towns, which had been 13.8, 13.5, and 13.4 per 1,000 in the three preceding weeks, further declined to 13.0 per 1,000 in the week under notice. In London the death-rate was equal to 13.3, against 14.7, 14.1, and 13.9 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 2.7 in Great Yarmouth, 3.0 in Carlisle, 5.2 in Wimbledon, 6.6 in Gillingham and in Eastbourne, 6.7 in Devonport, and 6.8 in Smethwick and in York, to 17.1 in Wigan, 17.6 in Blackpool, 17.8 in Merthyr Tydfil, 18.6 in Huddersfield, 22.3 in Newcastle-on-Tyne, and 22.5 in Liverpool. Measles caused a death-rate of 1.4 in Plymouth and in Oldham, 1.5 in Edmonton, 1.9 in Huddersfield, 2.0 in Grimsby and in Wakefield, 2.2 in Gateshead, 3.4 in Wigan, and 4.6 in Newcastleon-Tyne; and from diphtheria, 1.6 in Middlesbrough. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 269, 204, and 169 in the three preceding weeks, further fell to 131, of which 36 occurred in London, 13 in Liverpool, 11 in Manchester, and 5 in Birmingham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns and no fatal case of small-pox was registered during the week. The causes of 36, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner, and included 7 in Birmingham, 7 in Liverpool, 4 in Stoke-on-Trent, and 3 in London. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 4,617, 4,683, and 4,769 at the end of the three preceding weeks, further rose to 4,976 on Saturday, November 14th; 751 new cases were admitted during the week, against 657, 598, and 690 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns, 1,071 births and 668 deaths were registered during the week ended Saturday, November 14th. The annual rate of mortality in these towns, which had been 15.0, 14.6, and 15.8 per 1,000 in the preceding weeks, fell to 15.2 in the week under notice, but was 2.2 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 5.6 in Motherwell, 6.5 in Ayr, and 8.8 in Kilmarnock, to 18.6 in Dundee, 18.7 in Greenock, and 18.9 in Hamilton. The mortality from the principal epidemic diseases averaged 1.1 per 1,000, and was highest in Greenock and Coatbridge. The 308 deaths from all causes in Glasgow included 7 from infantile diarrhoea, 6 from whooping-cough, 5 from scarlet fever, 3 from diphtheria, 2 from measles, and 1 from enteric fever. Four deaths from infantile diarrhoea were recorded in Edinburgh, 2 in Dundee, 2 in Paisley, and 2 in Coatbridge; 2 deaths from scarlet fever in Aberdeen; and 2 from diphtheria and 1 from typhus in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, November 14th, 514 births and 408 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 597 births and 420 deaths in the preceding period. These deaths represent a mortality of 17.7 per 1,000 of the aggregate population in the districts in question, as against 18.2 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.7 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 22.2 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.1 (as against an average of 16.2 for the previous four weeks), in Dublin city 19.1 (as against 17.2), in Belfast 16.6 (as against 16.8), in Cork 15.6 (as against 19.4), in Londonderry 20.3 (as against 11.1), in Limerick 16.2 (as against 19.3), and in Waterford 26.6 (as against 24.7). The zymotic death-rate was 1.8 as against 2.2 in the previous week.

Vacancies and Appointments.

NOTICES REGARDING APPOINTMENTS.—Attention is called to a Notice (see Index to Advertisements—Important Notice re Appointments) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

ABERDARE URBAN DISTRICT COUNCIL.—Assistant School Medical Officer. Salary, £300 per annum.

BARNET: CLARE HALL SANATORIUM, South Mimms.—Assistant Resident Medical Officer. Salary, £120 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—House-Surgeon (male). Salary, £150 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRKENHEAD UNION INFIRMARY.—Female Resident Assistant Medical Officer. Salary, £150 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM CITY.—(1) Medical Superintendent for West Heath Sanatorium and Hospital. (2) Assistant Medical Officer of Health. (3) Temporary Assistant School Medical Officer. Salary, £300 per annum each.

BIRMINGHAM CORPORATION.—First and Third Assistant Medical Officers at the Yardley Road Sanatorium, etc. Salary, £250 and £200 per annum respectively.

BIRMINGHAM EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary at the rate of £300 per annum.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer for St. Luke's Hospital and Union House. Salary, £150 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary £100 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House-Surgeon (male). Salary, £80.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

CARLISLE: CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £220.

CHELSEA INFIRMARY, Cale Street, S.W.—Second Assistant Medical Officer. Salary, £180 per annum.

CHESTER: COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Second House-Surgeon. Salary, £150 per annum.

CHICHESTER: ROYAL WEST SUSSEX HOSPITAL.—House-Surgeon (male). Salary, £110 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

DERBY COUNTY BOROUGH.—Resident Medical Officer at the Isolation Hospital and Sanatorium. Salary, £200 per annum.

DEWSBURY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £300 per annum, rising to £350.

DUDLEY: GUEST HOSPITAL.—Senior Resident Medical Officer. Salary, £120 per annum.

DURHAM COUNTY COUNCIL.—Assistant School Medical Officer. Salary, £300 per annum, rising to £350.

GLASGOW ROYAL MATERNITY AND WOMEN'S HOSPITAL.—(1) Two Outdoor House-Surgeons; (2) Outdoor House Surgeon at West End Branch.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary, £80 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £200 per annum.

HACKNEY UNION INFIRMARY.—Junior Assistant Medical Officer. Salary, £200 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HAMPSHIRE COUNTY COUNCIL.—Clinical Tuberculosis Officer. Salary, £500 per annum.

HANTS COUNTY ASYLUM.—Third Assistant Medical Officer (male). Salary, £250 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House-Physician. Honorarium, 30 guineas for six months.

HUDDERSFIELD ROYAL INFIRMARY.—Senior and Junior Assistant House-Surgeons (male). Salary, £80 per annum each.

KEIGHLEY BOROUGH.—Assistant School Medical Officer and Assistant Medical Officer of Health. Salary, £300 per annum.

KENT COUNTY ASYLUM, Maidstone.—Junior Assistant Medical Officer (lady). Salary, £250 per annum.

LEEDS HOSPITALS FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Assistant Medical Officer. Salary at the rate of £150 per annum.

LEEDS PUBLIC DISPENSARY.—Resident Medical Officer. Salary, £130 per annum.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House-Surgeon. Salary, £125 per annum.

LIVERPOOL PARISH.—Resident Assistant Medical Officer for the Brownlow Hill Institution. Salary, £200 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Assistant Resident Medical Officer (female). Salary, £120 per annum.

LONDON UNIVERSITY. — University Chair of Physiology at the London Hospital Medical College. Salary, £600 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL. — House-Surgeon. Salary, £150 per annum.

LURGAN UNION.—Female Resident Medical Officer for the Workhouse and Fever Hospital. Salary, £80 per annum.

MACCLESFIELD GENERAL INFIRMARY. — House-Surgeon. Salary, £150 per annum.

MANCHESTER CORPORATION.—Assistant Tuberculosis Officer. Salary, £350 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £130 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER TOWNSHIP.—Junior Resident Assistant Medical Officer at the Institution, Crumpsall. Salary, £160 per annum.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Fitzroy Square, W.—House-Surgeon (non resident). Salary up to £150 per annum.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL. — House-Surgeon. Salary, £150 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon. Salary at the rate of £120 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Senior House-Surgeon. Salary at the rate of £100 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Resident Medical Officer. Salary at the rate of £80 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Senior and Junior House-Physicians. Salary, £50 per annum each.

NEWCASTLE-UPON TYNE PARISH. — Female Second Assistant Resident Medical Officer for the Poor Law Institution. Salary, £150 per annum, rising to £200.

NEWPORT: ROYAL GWENT HOSPITAL. — Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORTHUMBERLAND LOCAL EDUCATION AUTHORITY. — Assistant School Medical Inspector. Salary, £300 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—Senior House-Physician. Salary, £100 per annum. (Women eligible.)

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

ROCHDALE INFIRMARY AND DISPENSARY. — Junior House-Surgeon (male). Salary, £110 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Two Refraction Assistants. Salary at the rate of £50 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—Clinical Assistants.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer. (2) Casualty House-Surgeon. Salary, £120 and £100 per annum respectively.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £150 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY. — Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD ROYAL HOSPITAL. — Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD: SOUTH YORKSHIRE ASYLUM, Wadsley.—Fourth Assistant Medical Officer (male). Salary, £200 per annum, increasing £10 annually for three years.

SHETLAND COUNTY.—School and County Medical Officer, etc. Salary, £500 per annum, and £100 travelling expenses.

SOUTH SHIELDS COUNTY BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer (male). Salary, £300 per annum, rising to £350.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STAFFORDSHIRE COUNTY COUNCIL.—Senior Assistant Medical Officer at the Mental Hospital, Cheddleton. Salary, £320.

STOKE-ON-TRENT INFECTIOUS DISEASES HOSPITAL.—Resident Assistant Medical Officer (lady). Salary, £150 per annum.

SWANSEA UNION.—Resident Assistant Medical Officer. Salary, £295 per annum, rising £50 after three years' service.

TAUNTON AND SOMERSET HOSPITAL.—Senior and Assistant House-Surgeons. Salary, £120 and £80 per annum respectively.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon (male). Salary, £100 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Physician. Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Surgeon. Honorarium, £40 for six months.

WAKEFIELD: WEST RIDING ASYLUM.—Locumtenent Assistant Medical Officer.

WALSALL AND DISTRICT HOSPITAL. — Junior House-Surgeon and Anaesthetist. Salary, £110 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £200 per annum.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.—(1) Anaesthetist. (2) Clinical Assistants to Out-patients.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E. — Senior House-Physician. Salary, £120 per annum.

WESTMINSTER HOSPITAL, S.W.—Surgical Registrar. Honorarium, £50 per annum.

WESTMINSTER UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £160 and £140 per annum, increasing to £180 and £160 respectively.

WEST RIDING OF YORKSHIRE.—Assistant Medical Officer at the Storthes Hall Asylum, Kirkburton. Salary, £230 per annum, rising to £270.

WHITECHAPEL UNION INFIRMARY.—First Assistant Resident Medical Officer (male). Salary, £160 per annum, rising to £180.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £170 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at the rate of £125 per annum.

WORCESTER: COUNTY AND CITY ASYLUM, Powick.—Junior Assistant Medical Officer. Salary, £225.

WORCESTER GENERAL INFIRMARY. — Resident Medical Officer. Salary, £150 per annum.

WORKSOP VICTORIA HOSPITAL AND DISPENSARY.—Medical Officer and House-Surgeon. Salary, £150 per annum.

YORK COUNTY HOSPITAL.—House-Physician. Salary, £100 per annum.

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

ROUSE, T., M.D., N.U.I., Certifying Factory Surgeon for the Sligo District, co. Sligo.

WALKER, A. N., M.D.Camb., Consulting Oculist, Brownlow Hill Workhouse of the Liverpool Parish.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

TAYLER.—On November 13th, at 13, Higher Broadway, Exmouth, the wife of Herbert Paget Tayler, of a daughter.

MARRIAGE.

BROWN—SIMPSON.—On November 13th, at Adelaide, South Australia, Gilbert Brown, M.B., Ch.B., of Snowtown, South Australia, to Marie Simpson, M.B., B.S., D.P.H., of Nottingham, England.

DEATHS.

DOWDING.—On November 15th, at Gloucester, while on a visit to his son-in-law, Minor Canon Rowlands, Alexander W. W. Dowding, late of Algeciras, aged 62 years.

HYDE.—On November 8th, at Croyde, North Devon, George Edwin Hyde, M.R.C.S., L.R.C.P.Lond., of Bassett Heath, Southampton (late of Worcester), aged 79.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W., 8.30 p.m.—Resumed discussion on Surgical Experiences of the Present War. Speakers: Mr. D'Arcy Power, Mr. Charters Symonds, Mr. R. P. Rowlands, Dr. Embleton, Dr Ironside Bruce.

ROYAL SOCIETY OF MEDICINE:

SECTION OF ODONTOLOGY, 8 p.m.—Paper: Dr. H. Lambert Lack: The Influence of Nasal Obstruction on Abnormalities of the Jaws. Members of the Section of Laryngology are invited to attend.

WEDNESDAY.

HUNTERIAN SOCIETY.—Clinical afternoon at the London Hospital. Dr. Sequeira will give a demonstration of skin diseases. Tea at 4 p.m.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Tichborne Street, Edgware Road, W., 8.30 p.m.—Discussion on the Drug Habit and its Treatment by Modern Methods, to be opened by Dr. Crichton Miller, Dr. T. B. Hyslop, and Dr. Clayo Shaw.

ROYAL SOCIETY OF MEDICINE:

SECTION OF BALNEOLOGY AND CLIMATOLOGY, 5.30 p.m.—Dr. Sunderland: Old London Spas, Baths, and Wells.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION FOR THE STUDY OF DISEASE IN CHILDREN, 4.30 p.m.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE, 8.30 p.m.—Papers: Dr. W. G. Armstrong (Senior Medical Officer of Public Health, New South Wales): The Recent Epidemic of Small-pox in New South Wales: Its Diagnosis and Prevention. Dr. J. Burton Cleland and Dr. E. W. Ferguson (State Microbiological Laboratory, Department of Public Health, New South Wales): The Nature of the Recent Small-pox Epidemic in Australia. Members desiring advance proofs should communicate with Dr. G. S. Buchanan, Local Government Board.

POST-GRADUATE COURSES AND LECTURES.

Post-graduate Courses are to be given next week at the following schools, colleges, and hospitals:

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 28TH, 1914.

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GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1914.

Tuesday, November 24th, 1914.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

THE one-hundredth session of the General Council of Medical Education and Registration began at the offices of the Council, 299, Oxford Street, on Tuesday, November 24th, 1914, at 2 p.m.

NEW MEMBER.

Dr. E. MAGENNIS, introduced by Sir LAMBERT ORMSBY, took his seat as Representative of the Apothecaries' Hall of Ireland for one year from August 1st, 1914.

PRESIDENT'S ADDRESS.

The PRESIDENT then delivered his address.

GENTLEMEN,—We begin to-day the hundredth session of the Council. In ordinary times the President might be tempted to improve the occasion by offering you his reflections on the Council's past history. But these are not ordinary times. New history is in the making, day by day, for the British Empire and for the world. The Council is called upon to take an active part in meeting the national emergencies that have arisen, and will arise, in connexion with the civil and military medical services of the country. Its members and officers are preoccupied with the urgent duties of the present hour. They have neither leisure nor inclination to indulge in retrospect. I content myself therefore with the remark that the Council, during the fifty-six years of its existence, has steadily advanced in usefulness and influence. It has successfully endeavoured, within the narrow limits of its statutory powers, to improve medical education and discipline. It possesses to an increasing extent the confidence of the administrative and professional authorities of the nation. All over the Empire bodies of similar constitution and powers have by degrees been constituted, for the promotion in the several dominions of the same purposes; and the methods of these bodies follow closely the model which the Council has evolved, and which it has proved, in the course of its long experience, to be effective.

Before I pass to matters that must forthwith occupy our attention, I have once again to record with regret the loss of a valued colleague by death. The Right Hon. Sir Christopher Nixon, who was to the last earnestly interested in the Council and its work, passed away in July of this year. Dr. Adye-Curran, who had represented the Apothecaries' Hall of Ireland since 1905, completed his last term of service on August 1st. His place is taken by Dr. E. Magennis, Governor of the Hall, to whom on your behalf I have just now offered a welcome.

The war has deprived us of the able assistance at this session of our General Registrar, Mr. N. C. King. He has long been an officer in the Territorial Force. When the London Rifle Brigade, in which he now holds the rank of Major, volunteered for foreign service, he felt it his duty to respond to his country's call, and he is now with his regiment at the front. An expression of our sincere good wishes for his safety and success, and of sympathy with his young wife in her natural anxiety, has been conveyed to Major King by direction of the Executive Committee. Mr. Cockington has been appointed Acting-Registrar in the meantime. Thanks to his devotion and that of his colleagues in the office, the current work has been carried out to the complete satisfaction of the President and Treasurers.

Two meetings of the Executive Committee have been held to deal with this and other emergencies created by the national situation. It is proper that I should make public reference to some of these.

The British Pharmacopœia, 1914.

The steps necessary for the official publication of the *British Pharmacopœia, 1914*, were entrusted to the Executive Committee at your last session. The work was completed in July, and was ready for issue in October; under normal conditions it would have been duly published early in that month. After the outbreak of war, it was considered inopportune to order publication without giving longer notice than was originally deemed sufficient. It was accordingly arranged that for three months advance copies should be made freely accessible for reference by persons interested, and the date of publication was postponed to the last day of the year of issue. The postponement has given the editors time to re-examine minutely the typography of these advance copies, and they have prepared a short list of *corrigenda*, to be made in the text as published.

Inspection and Visitation of Examinations.

The Executive Committee had also to consider whether the inspection and visitation of qualifying examinations and of examinations for Diplomas in Public Health, which were provisionally arranged for the year 1915, should in

the altered circumstances be proceeded with. It was known that some of the licensing bodies were about to hold special examinations to meet the case of candidates who had completed the curriculum and were desirous of offering themselves without delay for military service. It was foreseen that, during the next year, occasion would arise for holding such examinations at other than the usual times. It was accordingly decided to represent to the Council the expediency of deferring the proposed inspection for the present, with a view to its resumption when normal arrangements are re-established.

Medical Students and the War.

Communications were received from several professional authorities inquiring as to the propriety of modifying or suspending some of the existing regulations in the case of students whose regular course of study for a medical qualification might be interrupted by reason of military service. The Executive Committee thought it right to intimate, by means of a circular addressed to all the licensing bodies, the answer it gave in the name of the Council to the general question thus raised. In view of its importance to the public and to the profession, I think it well to repeat here the words of the answer:

With regard to the courses of study and examination prescribed for professional qualifications, it is the statutory duty of the General Medical Council to secure the maintenance of such a standard of proficiency as shall sufficiently guarantee the possession by candidates of the knowledge and skill requisite for the efficient practice of their profession.

To this end the Council has formulated, for the guidance of the licensing bodies, a series of recommendations respecting such courses of study and examination. These recommendations represent in general terms the minimum curriculum which, in the Council's opinion, should be required by the licensing bodies; and the Council notes with satisfaction that the regulations of the several bodies give effect to them.

Cases may arise in which, during the present national emergency, the bodies deem it expedient to modify or suspend the application of their regulations to particular candidates; but the Council expects that all such cases shall be duly recorded and reported to the Council in the usual way.

The Council feels sure that, in dealing with applications for modification or suspension of their regulations, the bodies concerned will recognize the importance, in the public interest, of maintaining unimpaired the present standard of knowledge and skill required of all who seek to be admitted to the status and privileges of registered practitioners; and will accordingly agree with the Council that it is desirable to secure, in every instance, that the requirements of the minimum curriculum are substantially fulfilled.

We have reason to believe that this statement has commended itself to the authorities concerned, and to the profession at large. Multitudes of our medical brethren have nobly offered themselves for service with our troops at home and abroad. Many have already laid down their lives in the performance of that humane duty. The toll of war is not yet complete. We must face the certainty that ere long the ranks of our profession will be sadly depleted. Ample reserves are necessary to supply the places of those who fall on the field of honour. These reserves will be constituted by those whom we are now admitting to the status and privileges of registered practitioners. We shall best honour the memory of the fallen, and most surely safeguard the welfare of our forces and our people, if we do all in our power to secure that the men who enter the profession now are as fully and efficiently trained as their predecessors for the service they will soon be called to render. The need for efficient physicians and surgeons, in the field and at home, is not less urgent than the need for efficient soldiers and sailors. I have felt it my duty to press this consideration upon senior students who, though they have nearly completed their curriculum, are ready to forego the prospect of early qualification and to enrol themselves straightway in the combatant forces.

Possible Shortage of Practitioners.

It is currently reported that, owing to the war, the number of students, of all years, enrolled for the present *annus medicus* is much below the average. If this be true, the risk of a serious shortage in the future supply of qualified practitioners would appear to be imminent. The data in the possession of the Council do not enable me to furnish an answer to the inquiries that have reached me from various public authorities who are interested in the subject. I have therefore thought it desirable to procure, so far as I could do so on my own responsibility, materials for a trustworthy estimate of the aggregate numbers likely to be ready for qualification in the next two or three years. The statistics, if I succeed in procuring them, may prove of value from more than one point of view.

An inevitable dislocation of civil practice, both under the National Insurance Act and in general, arose in August and September from the mobilization of practitioners, who were attached as surgeons to military hospitals and to Territorial and other service units. We have gratifying evidence that, throughout the country, the fraternal spirit shown by their colleagues did much to diminish the resulting difficulties experienced by such practitioners in providing for the care of their patients. In most localities a temporary working arrangement has been made, by which the needs of the civil community will be met for the present. Plans have moreover been devised, in consultation with the National Insurance and the military authorities, which may, it is hoped, have the effect of removing certain defects in existing arrangements that actual experience has made manifest. The Executive Committee has had submitted to it various proposals bearing on these subjects, and so far as they lay within its province it has offered advice upon them.

Canada.

The magnificent rally of the Overseas Dominions to the defence of the Empire has cheered but not surprised us at home. Their troops, fully equipped for service in Europe, are accompanied by a number of able and efficient surgeons. In virtue of the reciprocal relations which the Council has succeeded in establishing throughout the greater part of the Empire, the majority of these surgeons are qualified for immediate registration at home, and are thus eligible for commissions in the Army Medical Service. Unfortunately some of the provinces of Canada have so far omitted to entertain the overtures for reciprocity which this country has made. The result is that certain of the surgeons, fully qualified under the provincial law, find themselves debarred from acquiring what may be described as an imperial status in the British *Register*. The remedy lies solely with the provincial authorities. I am not without hope that the representations which have been addressed to these authorities, in the interest of the imperial services, will induce them to consider afresh the question of reciprocity with this country. The war has made it clear that account must now be taken of its imperial as well as its local aspects of reciprocity.

India.

In India the legislation for the regulation of medical practice, of which I spoke last May, has now been extended to Madras. Communications from other parts of India, bearing on the same subject, have been under the consideration of the Executive Committee, and have been promptly dealt with. Negotiations with the India Office and the Government of India, which were entered into at the instance of the Examination Committee, in relation to Indian students of medicine and to members of the Subordinate Medical Services, are still proceeding.

Legislation.

The necessary preoccupation of Parliament with measures of emergency has prevented progress with the Midwives (Scotland) Bill, and with the bill introduced on behalf of the Privy Council Office for improving the procedure in elections of Direct Representatives to the Medical Council. The Highlands and Islands (Medical Service) Board, which includes three members of the Council, has been endeavouring to carry forward its statutory work under the difficulties incident to the present situation. It has framed regulations for the service, which have to be submitted for approval to the Treasury and the Secretary for Scotland. The draft was courteously communicated to the Executive Committee, and after examination was found to contain no proposals to which the Council could object. We have learnt also that the National Insurance Commissioners have taken up the question of sickness and disability certification, with a view to such modifications of the existing practice as will

remove the professional objections urged against it by the Insurance Act Committee on your behalf. In this connexion it is satisfactory to observe that the action taken by the Council to impress on practitioners their special responsibility in relation to certificates, and to methods of procuring patients, has had a wholesome effect. The complaint of laxity in these respects, which were not infrequent at the beginning of this year, have now practically ceased.

Select Committee on Patent Medicines.

On August 4th, when war was declared, the House of Commons ordered to be printed the Report of the Select Committee on Patent Medicines. The findings and recommendations of the Committee deserve the Council's most careful attention. They testify in vigorous terms, more vigorous, perhaps, than we should care to use ourselves, to the existence of a "grave and widespread public evil," and of an "intolerable state of things," for which new legislation, "rather than merely the amendment of existing laws, is urgently needed in the public interest." The Council, at the instance of its Unqualified Practice Committee, to which this report has been referred, has more than once expressed similar conclusions; but hitherto without practical result so far as the Legislature is concerned. It is earnestly to be desired that, even in days like these, when the conservation of the public safety is the paramount objective of the Government, some earnest thought should also be given to the conservation of the public health, which is preyed upon by insidious and unscrupulous mercenaries.

The Board of Education and Unregistered Dentists.

The report of a Departmental Committee of the Board of Education, appointed to consider the "practice of the Board with regard to the acceptance of certificates from unregistered practitioners in dentistry," which was issued in July, may be taken as an indication that the State authorities recognize some at least of the dangers of *laisser faire* in the matter of unqualified practice. After stating that, "whatever may have been the intentions of Parliament in passing the Dentists Act of 1878, the position now is that no person may describe himself as a dentist or have his name inscribed in the *Dentists' Register* who has not obtained the qualifications required by the body entrusted by the State with the charge of the *Register*," the Departmental Committee adds: "It would very ill become the Board of Education to adopt a lower standard of general or special education than the minimum prescribed by the State." And the Committee's unanimous recommendation is to this effect—that the Board should not agree to the request that the certificates of unregistered practitioners "should be accepted equally with those of registered dentists."

The recent changes in the regulations for death certification, issued by authority of the Registrar-General, mark a similar advance in the official position. We have reason to regret that progress is still so slow. But we have reason also to persevere in our efforts to accelerate it. *E pur se muove.*

EXECUTIVE COMMITTEE.

The report of the Executive Committee on matters delegated to it by the Council at its previous meeting was received and the recommendations contained therein agreed to. An abstract of the minutes of the meeting of the Executive Committee was published in the SUPPLEMENT of September 26th, p. 182, and the subjects were discussed by the President in the address printed above.

THE "MEDICAL REGISTER."

The Council acceded to the request of Mr. Robert Ramsay, M.B., Ch.B.Glasg., F.R.C.S.Edin. (Glasgow), for the removal of his name from the *Medical Register* on the ground of his having ceased to practise.

The oral report of the Executive Committee in regard to applications for restoration of names to the *Medical Register* having been considered *in camera*, the PRESIDENT announced that the Registrar had been directed to restore to the *Medical Register* the name of Walter Randall Knightley.

UNIVERSITY OF ALLAHABAD.

On the recommendation of the Executive Committee, it was resolved:

That any person who holds the degrees of M.B., B.S. of the University of Allahabad shall be entitled to be registered in the *Colonial List* of the *Medical Register*, provided he satisfies the Registrar of the General Medical Council regarding the other particulars set forth in Part II of the Medical Act, 1886.

The Council went into *camera* and adjourned at 4 p.m. in order to enable certain committees to meet for the completion of their reports.

MEDICAL TREATMENT OF INSURED PERSONS CALLED UP FOR SERVICE WITH HIS MAJESTY'S FORCES.

THE following Memorandum (210/I.C.) has been issued this week to Insurance Committees by the Insurance Commission (England):

1. The Insurance Commissioners have been asked for information as to the medical treatment during the war of insured persons who belong to the Naval or Army Reserve, or to the Territorial Forces, or have enlisted in the New Army.

2. It may be stated generally that such persons are regarded as serving sailors or soldiers from the moment at which they are called up, or enlisted, and accepted for service until disembodiment or discharge. During this period they are not entitled to medical or sanatorium benefits under the National Insurance Acts, and accordingly, no liability for their treatment rests on the panel practitioners by whom they have been accepted.

3. The position of such persons is not affected by the fact that they may be permitted temporarily to continue to reside at home, even though they may be concurrently engaged in civil employment.

An insured person who has been sent home owing to illness, or in consequence of having been wounded, must also be regarded as a serving sailor or soldier until the date o ihis discharge.

4. A member of the Naval or Army Reserve, Territorial Force, or New Army, who, while not entitled to treatment under the National Insurance Acts, applies for treatment to a practitioner on the panel or to an Insurance Committee, should be dealt with as follows:

(1) A member of the Naval Reserves should be referred to the Naval Surgeon and Agent, if there is one in the district, and in the absence of a Naval Surgeon and Agent should be directed to make his own arrangements with a qualified civil practitioner for treatment. In the former case the Surgeon and Agent will receive his fees from the Admiralty; in the latter the patient will be responsible for settling the doctor's charges, but will be eligible to receive Sick Allowance under the King's Regulations and Admiralty Instructions on making application for the same through his Commanding Officer.

(2) A member of the Army Reserve, Territorial Force or New Army on furlough should be referred to the Officer Commanding the nearest military station, who in every case will communicate with the Assistant Director of medical services of the area in which the soldier is temporarily residing. In case of emergency, or when a soldier unfit to travel resides at a distance from a military hospital, the soldier may apply to a civil practitioner to whom he will show his furlough paper, and who will be allowed to charge for attendance at the rate laid down under Army Regulations (A.F. O 1667), provided that the soldier immediately reports to the Officer Commanding the nearest military station, as directed above.

5. Upon discharge, or, in the case of a member of the Reserve or Territorial Forces, upon the demobilization or disembodiment of these Forces, the insured person will again become entitled to medical benefit under the National Insurance Acts (unless otherwise disentitled); and he will then be entitled to make a selection of the method by which he desires to obtain treatment as though he had newly entered into insurance.

In such cases where an insured person on return from service takes up a new residence, the arrangements which are already in existence for "removals" and "temporary residents" will apply.

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.,
November, 1914.

INSURANCE ACT COMMITTEE.

A MEETING of the Insurance Act Committee was held at the office of the Association on Thursday, November 12th. Mr. T. JENNER VERRALL, LL.D., Chairman of Representative Meetings, was in the chair, and the other members present were: *England and Wales*—Dr. E. R. Fothergill (Hove), Dr. Major Greenwood (London), Dr. R. Harding (Radnor), Dr. W. A. Hollis (Brighton), Dr. T. W. Johnson (Bury), Dr. G. K. Smiley (Derby), Mr. D. F. Todd (Sunderland), Mr. E. B. Turner (London), Dr. W. B. C. Treasure (Cardiff); *Scotland*—Dr. John Adams (Glasgow), Dr. John Hunter (Edinburgh); *Ireland*: Dr. J. S. Darling (Lurgan); *ex officio*, Dr. E. Rayner (Stockport) (Treasurer).

CHAIRMAN.

Dr. J. A. Macdonald was appointed Chairman of the Committee for the ensuing year.

DRUGS AND THE WAR.

It was decided to make representations to the Insurance Commissioners that the equivalent of any special concessions referred to in Memo. I.C.L./102 allowed to chemists owing to the high price of drugs on account of the war should be extended to medical practitioners who dispense drugs for insured patients.

CONFERENCE ON DRUG PRICES.

It was resolved that the representatives of the Association at the conference on drug pricing with the representatives of the Pharmaceutical Society should be medical practitioners. It was also decided that the Drug Tariff Subcommittee should be authorized to avail itself of the services of a technical adviser. It was further resolved that in the event of any of the practitioners appointed to represent the Association at the conference not being members of the Drug Tariff Subcommittee the Subcommittee should have power to co-opt such practitioners, and Mr. E. B. Turner was appointed a member of the Subcommittee.

OVERLAPPING IN REFERENCES OF INSURANCE ACT AND SCOTTISH COMMITTEES.

The Local Medical and Panel Subcommittee was authorized to invite three members of the Scottish Committee to confer in London with it as regards the relation of the Scottish Committee under its reference in the by-laws to the Insurance Act Committee, and, if considered necessary, to appoint three members of the Association to attend and confer in Scotland with the Scottish Committee on the subject.

THE FORTHCOMING SCHEME OF UNIFORM CERTIFICATION.

The following reply has been received to the communication addressed to the Chairman of the English Commission concerning the notice to be given to medical practitioners of any alterations in the certification arrangements about to be put into operation.

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.
November 24th, 1914.

Sir,—The Insurance Commissioners understand from a recent inquiry received from you that there is some uncertainty in the minds of medical practitioners as to the procedure which would be followed should it be found desirable hereafter to modify the new arrangements for uniform certification under the Insurance Acts which are about to be introduced. They understand that, in particular, practitioners wish to have some assurance that modifications of their obligations in this respect would not be made by the Commissioners without reasonable notice and opportunity for discussion.

For technical reasons, into which it is unnecessary to enter for the purpose of the present letter, the rules governing the practitioners' procedure in the matter of certification will not be embodied in formal regulations; but the Commissioners apprehend that it would meet the wishes of practitioners if they could be assured of receiving such notice of any changes in this matter as it would be necessary to give before making any change in regulations.

They accordingly direct me to convey their formal assurance that should it be contemplated hereafter to make any changes, in substance, in the obligations of medical practitioners as to certification the profession may rely on receiving at least as liberal notice and as good an opportunity for discussion and criticism as if the changes were to be made by way of amendment of regulations.

As the British Medical Association are aware, the new arrangements to be brought into force on January 1st have been discussed in great detail not only with the Advisory Committees but also with representative members of the profession throughout the country, and have commanded their general assent.—I am, Sir, your obedient servant,

(Signed) JOHN ANDERSON.

The Secretary,
British Medical Association,
429, Strand, W.C.

NON-PANEL PRACTITIONERS' CERTIFICATES AND APPROVED SOCIETIES.

With reference to the refusal of a branch of an approved society to accept a certificate of a panel practitioner as to which representations had been made on behalf of the Committee, it was reported that the society had now given instructions to its branch secretaries to accept medical certificates from practitioners whether on the panel or not.

OVER-PRESCRIBING.

The Committee expressed the opinion that in all cases where inquiries by panel committees into charges against medical practitioners for alleged over-prescribing were determined in favour of the practitioner the name of the practitioner concerned should not appear in the report of the panel committee to the Insurance Committee.

It was decided to intimate this opinion to the various bodies of Commissioners.

CIRCULAR LETTER TO LOCAL MEDICAL AND PANEL COMMITTEES.

The Committee considered an important letter which had been prepared by the Local Medical and Panel Subcommittee for circulation to the Committees concerned and expressed approval of it.

CENTRAL INSURANCE DEFENCE FUND.

The Committee considered an application for a grant from the fund and made a grant of £100 partly as a gift and partly as a loan.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

PANEL COMMITTEE.

Stock Mixtures and the Drug Tariff.

THE London Panel Committee on November 24th agreed, in consideration of the chemists accepting the inclusion of stock mixtures (to be dispensed at a reduced fee) in the new drug tariff, not to decide upon the stock mixtures during the life of the present Committee. The Chairman (Dr. H. J. CARDALE) explained that the alternative was reversion to the old tariff, with all its anomalies, and the loss by practitioners of the value of an agreement as to distilled water, by which a saving of £15,000 a year would be effected.

Relations with Chemists.

It was decided to ask the Insurance Committee to call a conference on the question of emergency dispensing by practitioners, the desire of the Panel Committee being to secure that the system of rendering and paying accounts in such cases should be simplified. It was also decided to call the attention of the Commissioners to the fact that no machinery exists under the Medical Benefit Regulations for dealing with a complaint by a practitioner against a chemist.

BOLTON.

LOCAL MEDICAL AND PANEL COMMITTEE.

A MEETING of the Bolton Local Medical and Panel Committee was held at the Central Hall on November 20th. In the absence of the Chairman (Sir Thomas Fliteroft), the chair was taken by Dr. MOTHERSOLE.

Co-ordination of Work of Local Medical and Panel Committees.—The letter "M. 2" from the Local Medical and Panel Subcommittee of the British Medical Association

was read and approved. The schedule of questions was answered as far as possible, and the Secretary was instructed to forward to the Medical Secretary of the Association a copy of the agenda and minutes of every committee meeting.

Drug Tariff.—The SECRETARY reported that a conference was held on November 10th between the representatives of the Panel, Pharmaceutical, and Insurance Committees with reference to the tariff of drugs, appliances, and dispensing charges. The representatives of the Panel Committee were of opinion that the dispensing fees were excessive, and examples were mentioned. With regard to notes for dispensers, it was decided that they should not be embodied in the tariff, but should be for the guidance only of dispensers. The conference agreed that a list of the charges allowed by the Insurance Committee for certain of the *British Pharmacopœia Codex* formulae should be printed at the end of the tariff. The report of the conference was received by the Committee, and with reference to the clause in the Memorandum 49/I.C., it was, on the motion of Dr. ROLLAND, seconded by Dr. JOHNSTONE, resolved:

> That a Subcommittee of the Panel Committee be instructed to compile a list of twenty stock mixtures, from which the practitioners of this area may select ten to form a special pharmacopœia, to be adopted locally according to the terms of the clause.

SOUTHPORT.

LOCAL MEDICAL AND PANEL COMMITTEES.

A MEETING of the Local Medical and Panel Committees was held on November 19th.

Co-ordination of Work.—The SECRETARY read Circular M.2 from the British Medical Association concerning the measures the Association was taking to co-ordinate the work of the Local Medical and Panel Committees. It pointed out the necessity for such co-ordination, and invited the Committees to take advantage of the measures proposed by keeping the Central Body informed of the details of the work done and by submitting matters of difficulty for advice. It was resolved:

> That this Committee cordially approves of the suggestions and agrees to the secretary forwarding the agenda and minutes of the meetings to the Medical Secretary of the British Medical Association.

The Secretary was instructed as to the replies to be made to the schedule of questions M.3 in relation to the above, and was empowered to employ any clerical assistance he might require on account of the extra work involved.

NEWPORT.

PANEL COMMITTEE.

A MEETING of the Newport Panel Committee was held on October 30th, when Mr. GREER was in the chair.

Co-operation with British Medical Association.—Communications from the Insurance Act Committee of the British Medical Association were read, and it was agreed that copies of the minutes and agenda of the Committee be sent to the head office of the British Medical Association.

New Drug Tariff.—Communications were received from the Insurance Committee relative to Circular 94/I.C. On the question of stock mixtures dealt with in this circular, it was resolved to take no action, as the Committee had decided not to adopt a formulary.

Local Medical Committee.—A letter was received from the Welsh Insurance Commission approving the Local Medical Committee to July, 1916.

FIFE.

PANEL COMMITTEE.

A MEETING of the Fife County Panel Committee was held at Kirkcaldy on November 10th, when Dr. ORR was in the chair.

Agreements.—The meeting having considered the revision of the terms and conditions of medical service for 1915, decided to agree to the same owing to the abnormal conditions prevailing due to the war.

Checking Prescriptions.—A circular received from the Insurance Commissioners anent the systematic checking of prescriptions and chemists' accounts was considered. After considerable discussion, the meeting unanimously decided in favour of the establishment of a central bureau on the lines laid down in the circular, but objected most emphatically to any encroachment upon the Panel Fund to pay for the cost of such bureau. It was considered that the Commissioners should arrange for the payment by a special grant.

Index Register.—Correspondence with the Commissioners as to the unsatisfactory state of the index register and the medical benefit fund for the county was read. It was unanimously agreed to recommend to the Insurance Committee that a medical card should be refused to every applicant for whom no index slip was forthcoming.

Honorarium to Honorary Secretary.—The Committee unanimously decided to vote an honorarium of £15 to the Honorary Secretary.

GALWAY.

LOCAL MEDICAL COMMITTEE.

A MEETING of the County Galway Local Medical Committee was held on November 3rd, when Dr. MCDONNELL (Letterfrack) was in the chair.

Vote of Condolence.—Dr. CROWLEY proposed, Dr. MCDONNELL seconded, and it was passed in silence:

> That the County Galway Medical Committee has heard with the greatest regret that Captain Kinkead, R.A.M.C., the gallant son of our President, Dr. R. J. Kinkead, has been killed in action in France, and desires to convey its deepest sympathy to Dr. and Mrs. Kinkead in their affliction.

Election of Officers.—The following officers were elected:

President.—Dr. R. J. Kinkead.
Honorary Secretary.—Dr. John Mills.
Representatives on Irish Medical Committee.—Dr. T. B. Costello (County Galway), Dr. J. P. McEnri (Galway City).
County Insurance Subcommittee.—Dr. T. B. Costello (Tuam) and Dr. Geraghty (Loughrea).

Refusal of Recognition.—The refusal of the Irish Insurance Commissioners to recognize the County Galway Local Medical Committee under Section 62 of the Act of 1911 was considered, and it was unanimously resolved:

> That the Irish Medical Committee be requested to bring at once under the notice of the Chancellor of the Exchequer the action of the National Health Insurance Commission in refusing to recognize the County Galway Local Medical Committee, and that this meeting is of opinion that the attitude of the present members of the Irish Insurance Commission is so unreasonably hostile and bitter to the Irish medical profession that it threatens the collapse of the Act in Ireland.

The following were appointed to interview the members of Parliament for the County Galway: J. J. McDonnell, W. A. Sandys, T. B. Costello, D. Crowley, A. C. Callaghan, T. T. Collins, J. F. Ryan, T. J. Rossiter, J. Geraghty.

Medical Certificates for Insured Persons.—It was unanimously resolved:

> That the Committee reiterates its strong opposition to any scheme for certification of insured persons other than by the medical attendant, and objects to the appointment of part or whole-time medical certifiers.

Medical Attendance on Dependants.—The Committee unanimously approved of the scheme of free medical attendance for the dependants of those serving with the colours.

INSURANCE COMMITTEES.

LONDON.

Drug Fund Deficiency.

IT was reported to the London Insurance Committee on November 26th that the amount available in the drug fund for the medical year 1914 would be limited to about 75 per cent. of the total amount of the accounts. For the year 1913 the drug fund was insufficient to make the claims fully, the sum paid to persons supplying drugs and appliances, namely, £147,785, representing about 5 per cent. less than the total of the accounts. The chemists' accounts for August, 1914, amounted to £12,509.

Change of Doctor by Insured Persons.

The Committee has issued a public announcement that insured persons desiring to change their doctor for the medical year 1915 must give notice to the Committee before December 1st.

CORRESPONDENCE.

INSURED PERSONS IN MILITARY EMPLOY.

DR. S. K. VINES (Brierley Hill, Staffs) writes: With reference to the letter of the Scottish Insurance Commission, quoted under the above heading in your issue of November 21st, the enclosed may be of general interest. It will be noted that the English Commissioners simply wash their hands of the matter.

May I be allowed to congratulate the Clerk to the Dundee Burgh Insurance Committee on having extracted an answer from his Commission in six days! This probably constitutes a record.

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.,
November 13th, 1914.

Sir,—In reply to your letter of the 1st instant, I am directed by the National Health Insurance Commission (England) to state that insured persons embodied for service in the army and navy are not entitled to medical benefit under the National Insurance Acts, and that any question arising as to the medical treatment of such persons should be addressed to the military or naval authorities.—I am, Sir, your obedient servant,

S. P. VIVIAN.

Dr. S. K. Vines,
24, Dudley Road, Brierley Hill, Staffs.

INSURANCE ACT IN PARLIAMENT.

MEDICAL CERTIFICATION IN IRELAND.

MR. GINNELL asked the Chancellor of the Exchequer why cases of alleged malingering under the National Insurance Act were not dealt with in accordance with the statutory provisions for that purpose; whether the general inquiry into alleged malingering was conducted in secret in Great Britain as in Ireland; whether there was any substantial difference in the findings in the two countries; on what law or findings the difference of treatment was based instead of making the system of medical referees and the amount of remuneration for certification uniform; and would he state the scale of remuneration for certification in Great Britain and in Ireland respectively.—Dr. Addison said: The report of the Departmental Committee on Sickness Benefit Claims in England has been laid before the House. No similar inquiry has been held in Ireland, and the absence of medical benefit in Ireland renders it impossible to compare the systems of certification in Great Britain and in Ireland. I may point out, however, that the agreements entered into by doctors on the panel in Great Britain do not provide for specific payments for certification as distinct from other duties required by the agreements. Mr. Ginnell: Will the hon. gentleman say whether any inquiry has been held in Ireland into malingering? Dr. Addison: I said that a similar kind of inquiry has not been held. Mr. Ginnell: What kind of inquiry has been held? Dr. Addison: An inquiry has been held in Ireland for the information of the department.

SANATORIUM BENEFIT IN IRELAND.

In reply to Mr. Kelly, Mr. T. W. Russell said that the amount of money at present earmarked for county Donegal from the Sanatorium Grant on a population basis was £4,606, and up to the present the only liabilities, so far as the Local Government Board was aware, were for twenty beds at Peamount Sanatorium. The Board, therefore, saw no reason to doubt that the council would have an ample margin for the completion of the moderate building scheme at Letterkenny before the council at present.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: TOWER HAMLETS DIVISION.—Dr. W. H. F. Oxley, Honorary Secretary (119, East India Road, E.) gives notice that a meeting of the Division will be held at the Public Health Offices, White Horse Street, Stepney, on Tuesday, December 1st, at 4 p.m. Mr. J. E. R. McDonagh, F.R.C.S., will give a clinical demonstration on the Modern Diagnosis and Treatment of Syphilis, illustrated by microscopical specimens and the injection of patients. Note.—The London Local Medical Committee has decided that the administration of salvarsan falls within the duties of panel practitioners.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—Dr. Arthur E. Larking, Honorary Secretary (Buckingham), gives notice that a meeting of the Division will be held at the Red Lion Hotel, High Wycombe, on Tuesday, December 8th, at 2.15 p.m., preceded by lunch at 1.30 (charge 2s. 6d.). There will be a paper on a medical or surgical subject, and discussions on the following will take place:—(1) Private Clubs: Are they necessary, and how should they be managed? Introduced by Dr. Stolterforth. (2) Voluntary Aid Detachments and the relation of Private Practitioners to them. Introduced by Dr. Baker. (3) Dr. Bradbrooke will give a summary of the last Annual Representative Meeting. (4) The Relation of the Association to the Local Medical and Panel Committees. Members are invited to attend, and also to bring one or more medical friends with them. Dr. Larking would be glad to hear from members wishing to bring any matter forward for discussion, and the names of those who will attend the luncheon. Tea will be provided.

SOUTH MIDLAND BRANCH: NORTHAMPTONSHIRE DIVISION.—Dr. P. S. Hichens, Honorary Secretary, 47, Sheep Street, Northampton, gives notice that a meeting of the Division will be held in the Board Room of the Northampton General Hospital on Tuesday, December 1st, at 3 o'clock, when there will be a discussion on certain questions which have arisen out of the working of the Insurance Act.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following announcements are notified by the Admiralty: Deputy Inspector-General ROBERT F. BOWIE to the *Orion*, vice Burns. Fleet Surgeon M. H. KNAPP to the *Pembroke*, additional for disposal. Staff Surgeon G. D. BATEMAN to the *Victory*, additional for the *Carolina*. Surgeons to be Staff Surgeons: W. H. HASTINGS, S. F. DUDLEY, WM. W. D. CHILCOTT, CYRIL V. GRIFFITHS, and G. P. ADSHEAD. Surgeon C. W. F. GREENHILL to the *Columbine*, additional for Queensferry Sick Quarters, vice Bateman. Surgeon P. B. WALLIS to the *Pembroke*, additional for disposal. Surgeons appointed to be Staff Surgeons: THOMAS CREASER, M.D., HARRY M. LANGDALE. Temporary Surgeons: JOHN P. WALKER to the *Ganges* for Shotley Sick Quarters, vice Stewart. M. H. DE J. HARPER to the *Pembroke* for duty in connexion with transport of wounded, vice Rowle. J. PRATT to the *Victory* for Royal Naval Division at Crystal Palace. D. K. ADAMS to the *Vivid*, additional for disposal. ROLF CREASY to the *Victory*, additional for Royal Naval Division.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon THOMAS TURNER to the *Duncan*, vice Watson. Surgeon E. F. MURRAY, M.D., to the *Victory*, additional for the *Carolina*.

The following have entered as temporary surgeon probationers: C. N. RATCLIFFE, A. G. BRETT, P. R. RIGGALL, A. F. WYATT, E. A. HARDY, D. B. S. JONES, E. A. FIDDIAN, S. R. JOHNSTON, P. E. F. FROSSARD, G. N. TOULMIN, B. H. FIDCOCK, H. W. EDDISON, C. J. C. COOKE, E. A. CLEGG, G. R. SHARP, G. BLURTON, R. S. CALDWELL, T. W. DRUMMOND, A. J. MUIRHEAD, E. J. COOMBE, A. G. MCKEE, D. H. FERRIS, G. S. BARNETT, E. W. DRURY, T. J. SUMNER, G. E. MULLINS, E. A. LEAK, D. HEARD, R. T. STONEY, T. J. LANE, W. P. ELFORD, N. R. WALLACE, J. BROOKS.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

WILLIAM A. CHAPPLE, M.D., to be temporary Major.

Supernumerary Captain GEORGE A. D. HARVEY is restored to the establishment.

PERCY SARGENT, M.B., F.R.C.S., to be temporary Captain.

To be temporary Lieutenants: JOHN C. ANDERSON, M.D., LOUIS CASSIDY, M.B., DANIEL MCKELVEY, M.B., HARRY V. WHITE, S. JACOB, WILLIAM FULTON NEIL, M.B., GERALD W. MAW, ARTHUR R. MUIR, WILLIAM B. CLARK, M.B., THOMAS S. G. MARTIN, GEORGE H. A. CORBET, M.B., ALEXANDER HUNTER, M.B., CECIL POWELL, M.B., ROBERT H. COOPER, SAMUEL MCM. MCLAY, M.B., S. RANKEN DOUGLAS, SYDNEY A. TUCKER, M.B., JULIUS M. BERNSTEIN, M.B., MILLAIS CULPIN, M.B., F.R.C.S., JOHN T. MCCULLAGH, M.B., ALEXANDER J. COUPER, M.B., GEORGE W. CLARK, M.B., HENRY M. MOIR, M.B., EVAN P. EVANS, M.D., COURTENAY YORKE, M.D., F.R.C.S., LAURENCE T. DEAN, M.B., HENRY V. SWINDALE, JOHN STEVENSON, M.B., REGINALD J. HEARN, HERBERT S. FORSDIKE, M.D., ERNEST S. HAWTHORNE, F.R.C.S.I., ALEXANDER K. FORBES, M.B., IDWAL J. WILLIAMS, M.D., ALBERT L. WALKER, M.B., F.R.C.S., HENRY R. S. VAN RYCKE DE GROOT, GEORGE F. PETRIE, M.D., HERBERT G. M. HENRY, M.D., FREDERICK E. WYNNE, M.B., GODFREY W. MITCHELL, THOMAS M. NEWTON, M.B., LAWRENCE CROMBIE, M.B., SIDNEY J. CULLUM, M.D., JOE D. YULE, M.B., JOHN H. DANCY, ROBERT C. ROBERTSON, M.B., ALBERT E. COTTERILL, ALFRED H. JAMES, CHARLES W. SMITH, M.B., F.R.C.S. Edin., ROBERT CRAIG, M.B., JOHN L. MENZIES, M.B., HERBERT M. COCKROFT, ANDREW GILMOUR, M.D., JAMES MCMANUS, BRUCE A. WEST, M.D., ALEXANDER W. YOUNG, M.D., F.R.C.S.Edin.

The following Lieutenants have relinquished their temporary commissions: JOHN M. RENTON, M.B., ROBERT S. BERRY.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

To be Lieutenants on probation: JOHN R. N. WARBURTON, WILLIAM C. HARTGILL, MATHEW MCKNIGHT, JOHN S. SLOPER, HUGH A. FAWCETT, ARTHUR L. ANTHONY, JOHN DEIGHTON, CROMWELL GAMBLE, WILLIAM K. RUSSELL, JOHN H. SEWART, CHARLES G. WADDINGTON, GEORGE W. WATSON, COLIN WILSON, WILLIAM A. YOUNG, HENRY S. A. ALEXANDER, JAMES R. C. MCINTOSH, HARRY N. STAFFORD, WILFRID W. PHILLIPS.

Lieutenant RICHARD G. WADDY, M.B., from King Edward's Horse (King's Oversea Dominion Regiment), to be Lieutenant.

INDIAN MEDICAL SERVICE.

THE services of Captain H. A. H. ROBSON, M.B., are placed temporarily at the disposal of the Government of the Punjab, with effect from September 23rd, 1914.

Major C. B. McConaghy is posted as Agency Surgeon, Bhopal, with effect from September 26th, 1914.

Major F. E. Wilson is posted as Medical Officer, Mewar Bhil Corps, with effect from September 30th.

Major J. H. Hugo, D.S.O., is posted as Residency Surgeon in Kashmir, with effect from September 26th.

On recall from leave Major S. P. James, Assistant Director-General, Indian Medical Service (Sanitary), is placed on special duty under the Director-General, Indian Medical Service, with effect from October 5th.

Captain J. B. D. Hunter is posted as Agency Surgeon, Baghelkhand, with effect from October 3rd.

Major W. Lethbridge is posted as Agency Surgeon, Eastern Rajputana States, with effect from September 26th.

Captain H. W. Acton is appointed to act as Health Officer, Simla.

The promotion of Major J. L. Lunham, M.B., F.R.C.S.I., is antedated from September 1st, 1914, to March 1st, 1914.

Lieutenant-Colonel J. G. Hulbert, M.B., has been permitted to retire with effect from July 27th.

TERRITORIAL FORCE.

Royal Army Medical Corps.

First London (City of London) Field Ambulance.—R. W. A. Salmond, M.D., to be Lieutenant.

London Mounted Brigade Field Ambulance.—Lieutenant-Colonel (Hon. Major in the Army) Edmond J. Lawless to be Lieutenant-Colonel.

First London (City of London) General Hospital.—Philip Hamill, M.D., to be Captain; Captain Robert J. W. Oswald to be Major.

Second London (City of London) General Hospital.—To be Captains: Gordon W. Goodhart, M.B., Archibald D. Reid.

Third London (City of London) Field Ambulance.—Robert Carswell, M.B., to be Lieutenant; Thomas J. T. McHattie, M.D., to be Captain.

Fourth London Field Ambulance.—Lieutenant Alfred J. Williamson, M.B., to be Captain; Captain Thomas B. Layton, M.D., from the unattached list for the Territorial Force, to be Captain (temporary); Alfred R. Spencer, M.D., to be Lieutenant.

Third London General Hospital.—Lieutenant-Colonel Sir Rickman J. Godlee, Bart., resigns his commission; Major Bilton Pollard, M.D., F.R.C.S., resigns his commission on account of ill-health; Major Sir Alfred Pearce Gould, M.B., F.R.C.S., to be Lieutenant-Colonel; Captain James E. Lane, F.R.C.S., to be Major (to remain seconded); Captain Arthur F. Voelcker, M.B., to be Major; Captain Sir John Bland-Sutton, F.R.C.S., to be Major.

Sixth London Field Ambulance.—Captain Norman C. Rutherford, M.B., from the unattached list for the Territorial Force, to be Major (temporary).

Second London Sanitary Company.—Lieutenant William J. M. Slowan, M.D., to be Captain (temporary).

First East Anglian Field Ambulance.—Lieutenant Robert Ellis, M.B., from attached to other than medical units, to be Lieutenant.

Second East Anglian Field Ambulance.—Herbert V. Capon, late Lieutenant, Second East Anglian R.F.A., to be Lieutenant.

Third East Anglian Field Ambulance. Raymond H. Swindells, M.B., to be Lieutenant; Montague A. Cholmeley, late Lieutenant R.A.M.C. (Militia), to be Lieutenant.

North Midland Clearing Hospital.—To be Lieutenants: Montague Dixon, M.D., William T. Wood, David D. McNeill, Vincent A. P. Costobadie, F.R.C.S.Edin., George W. M. Andrew, James H. Thomas, M.B.

First North Midland Field Ambulance.—Hugh A. Macmillan, M.B., to be Lieutenant; Thomas S. Eliott, to be Lieutenant.

Second North Midland Field Ambulance.—Bertram S. Wills, F.R.C.S., to be Lieutenant.

First Northumbrian Field Ambulance.—Hubert Shield, M.B., to be Lieutenant.

First West Riding Field Ambulance.—Lieutenant Basil Hughes, M.B., F.R.C.S., from attached to units other than medical units, to be Lieutenant.

Third Lowland Field Ambulance.—Captain Henry A. Leebody, M.B., to be Major (temporary). To be Lieutenants: Rankine G. Walker, M.B., Arthur J. G. Hunter, M.D., James R. Menzies, M.B. Training Corps: William H. Armistead, M.D., Archibald M. Stewart, M.B.

First Welsh Field Ambulance.—William G. Helsby to be Lieutenant.

South Wales Mounted Brigade Field Ambulance.—Major Herbert Jones, from the list of officers whose services are available on mobilization, Sanitary Service, to be Major.

Third Highland Field Ambulance.—John G. Anderson to be Lieutenant.

Second Western General Hospital.—To be Lieutenants: Charles H. Crawshaw, Edward S. Brentnall, M.B., Frank G. Wrigley, M.D.

Sanitary Service.—Alexander G. R. Foulerton, F.R.C.S., to be Captain on the list of officers available on mobilization.

Attached to Units other than Medical Units.—Captain Richard Brodie to be Major; Lieutenant David Dickie, M.B., F.R.C.S. Edin., to be Captain. To be Lieutenants: Charles D. Law, Charles M. Mitchell, Archibald Hamilton, M.B., William Love, George L. K. Pringle, M.D., Arthur E. Ridsdale, late Second Lieutenant Sussex Imperial Yeomanry; Joseph S. Townley, late Second Lieutenant, Brecknockshire Battalion South Wales Borderers; George D. Thomson, Percival T. Rutherford, late Second Lieutenant, Fourth London Howitzer Brigade, R.F.A.; Lieutenant E. Coplans, from the First London (City of London) Field Ambulance; Arthur J. Friedlander, Gordon Whitehead, M.B., James S. Clarke, M.B.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-seven of the largest English towns 8,097 births and 4,966 deaths were registered during the week ended Saturday, November 21st. The annual rate of mortality in these towns, which had been 13.5, 13.4, and 13.0 per 1,000 in the three preceding weeks, rose to 14.3 per 1,000 in the week under notice. In London the death-rate was equal to 14.6, against 14.1, 13.9, and 13.3 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 5.8 in Leyton and in Oxford, 5.9 in Hornsey, 6.7 in Bath, 6.9 in Swindon, 7.5 in Eastbourne, and 7.9 in Devonport, to 20.3 in Barnsley, 20.9 in Great Yarmouth, 21.0 in Middlesbrough, 21.2 in Grimsby, 22.3 in Birkenhead, 22.4 in Rotherham, and 23.1 in Newcastle-on-Tyne. Measles caused a death-rate of 1.6 in Salford, 1.8 in Plymouth, 1.9 in Birkenhead, 2.4 in Rotherham, 2.6 in Gateshead, 2.8 in Wigan, 3.0 in Wakefield, and 3.4 in Newcastle-on-Tyne. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 204, 169, and 131 in the three preceding weeks, rose to 138, and included 34 in London, 9 in Liverpool, 8 in Birmingham, 7 in Nottingham, and 6 each in Manchester, Sheffield, and Newcastle-on-Tyne. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 57, or 1.1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner; of these, 11 were recorded in Birmingham, 9 in Liverpool, 3 in Hull, and 2 each in Southend-on-Sea, Bootle, Bradford, Sheffield, Darlington, and Sunderland. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 4,683, 4,769, and 4,976 at the end of the three preceding weeks, further rose to 5,005 on Saturday, November 21st; 627 new cases were admitted during the week, against 598, 690, and 751 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,099 births and 730 deaths were registered during the week ended Saturday, November 21st. The annual rate of mortality in these towns, which had been 14.6, 15.8, and 15.2 per 1,000 in the three preceding weeks, rose to 16.6 in the week under notice, and was 2.3 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 7.0 in Clydebank, 7.6 in Kirkcaldy, and 8.8 in Kilmarnock, to 18.8 in Falkirk, 22.5 in Dundee, and 25.5 in Leith. The mortality from the principal infective diseases averaged 1.6 per 1,000, and was highest in Aberdeen and Dundee. The 334 deaths from all causes in Glasgow included 9 from whooping-cough, 9 from diphtheria, 8 from scarlet fever, 6 from infantile diarrhoea, 2 from enteric fever, and 1 from measles. Three deaths from scarlet fever were recorded in Aberdeen, 2 in Dundee, and 2 in Paisley; 4 deaths from diphtheria in Edinburgh and 2 in Aberdeen; and from infantile diarrhoea 4 deaths in Dundee and 3 in Edinburgh.

Vacancies and Appointments.

NOTICES REGARDING APPOINTMENTS.—Attention is called to a Notice (see Index to Advertisements—Important Notice re Appointments) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

ABERDARE URBAN DISTRICT COUNCIL.—Assistant School Medical Officer. Salary, £300 per annum.

BARNSLEY: BECKETT HOSPITAL AND DISPENSARY.—Second House-Surgeon. Salary, £100 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—House-Surgeon (male). Salary, £150 per annum.

BECKENHAM URBAN DISTRICT COUNCIL.—Temporary Medical Officer of Health and School Medical Officer. Salary at the rate of £425 per annum and £75 extra if appointed Tuberculosis Officer to Beckenham Dispensary.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—House-Surgeon. Honorarium at the rate of £100 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum, and £5 laundry allowance.

BIRMINGHAM CORPORATION.—First Assistant Medical Officer at the Yardley Road Sanatorium, etc. Salary, £250 per annum.

BLACKBURN UNION.—Resident Medical Officer for the Workhouse, etc. Salary, £150 per annum.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer for St. Luke's Hospital and Union House. Salary, £150 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary, £125 per annum.

BRIGHTON BOROUGH ISOLATION HOSPITAL.—Junior Resident Medical Officer. Salary, £100 per annum, rising to £150.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House-Surgeon (male). Salary, £80.

BRISTOL GENERAL HOSPITAL.—Resident Obstetric Officer. Salary at the rate of £120 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—(1) Resident Surgical Officer. (2) House-Surgeon. Salary at the rate of £160 and £100 per annum respectively.

CARLISLE: CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £220.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

DEWSBURY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £300 per annum, rising to £350.

DUDLEY: GUEST HOSPITAL.—Senior Resident Medical Officer. Salary, £120 per annum.

ESSEX EDUCATION COMMITTEE, Chelmsford.—Medical Inspector. Salary, £300 per annum, rising to £400.

FIFE DISTRICT ASYLUM.—Assistant Medical Officer. Salary, £140 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeon. Salary, £80 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £200 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HALIFAX UNION.—Resident Medical Officer for the Poor Law Hospital. Salary, £140 per annum.

HAMPSHIRE COUNTY COUNCIL.—Clinical Tuberculosis Officer. Salary, £500 per annum.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—Resident House-Physician. Salary, £100 per annum.

KEIGHLEY BOROUGH.—Assistant School Medical Officer and Assistant Medical Officer of Health. Salary, £300 per annum.

KENT COUNTY ASYLUM, Maidstone.—Junior Assistant Medical Officer (lady). Salary, £250 per annum.

LEEDS GENERAL INFIRMARY.—Resident Casualty Officer. Salary, £125 per annum.

LEICESTER ROYAL INFIRMARY.—Two Resident Assistant House-Surgeons. Salary, £80 per annum.

MANCHESTER COUNTY ASYLUM, Prestwich.—Assistant Medical Officer. Salary, £250 per annum, increasing to £300.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER TOWNSHIP.—Assistant Medical Officer at the Institution, Crumpsall.—Salary, £180 per annum.

MERSTHAM: NETHERNE ASYLUM.—Medical Superintendent. Salary, £800 per annum, rising to £1,000.

METROPOLITAN EAR, THROAT, AND NOSE HOSPITAL, Fitzroy Square, W.—House-Surgeon (non-resident). Salary up to £150 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Senior House-Surgeon. Salary at the rate of £100 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Senior and Junior House-Physicians. Salary, £50 per annum each.

NEWCASTLE-UPON-TYNE CITY HOSPITAL FOR INFECTIOUS DISEASES.—Male Resident Medical Assistant. Salary, £200 per annum.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NOTTINGHAM: GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum. (Women eligible.)

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House-Surgeon (male). Salary, £110 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) Acting Assistant Physician. (2) Assistants to the Pathologist. Salary, £150 and £50 per annum respectively.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

ST. MARYLEBONE INFIRMARY, Notting Hill, W.—(1) Temporary First Assistant Medical Officer. (2) Third Assistant Medical Officer. Salary at the rate of £225 and £180 per annum respectively.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer. (2) Casualty House-Surgeon. Salary, £120 and £100 per annum respectively.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £150 per annum.

SCULCOATES UNION.—Resident Assistant Medical Officer (female) at the Workhouse Infirmary. Salary, £200 per annum.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD ROYAL INFIRMARY.—Male House-Surgeon. Salary, £100 per annum.

SHEFFIELD: SOUTH YORKSHIRE ASYLUM, Wadsley.—Fourth Assistant Medical Officer (male). Salary, £250 per annum, rising to £300.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STOKE-ON-TRENT EDUCATION COMMITTEE.—Lady School Medical Inspector. Salary, £300 per annum.

STOKE-ON-TRENT INFECTIOUS DISEASES HOSPITAL.—Resident Assistant Medical Officer (lady). Salary, £150 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WAKEFIELD: WEST RIDING ASYLUM.—Locumtenent Assistant Medical Officer.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon and Anaesthetist. Salary, £110 per annum.

WALTHAMSTOW URBAN DISTRICT COUNCIL.—Resident Medical Officer at the Hospital for Infectious Diseases, Chingford. Salary, £200 per annum, rising to £250.

WARRINGTON INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £200 per annum.

WESTMINSTER UNION.—Second and Third Assistant Medical Officers for the Infirmary. Salary, £160 and £140 per annum, rising to £180 and £160 respectively.

WEST RIDING OF YORKSHIRE: CARDIGAN SANATORIUM, near Wakefield.—Assistant Medical Officer (non-resident). Salary, £250 per annum.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £170 per annum.

WORCESTER: COUNTY AND CITY ASYLUM, Powick.—Junior Assistant Medical Officer. Salary, £225 per annum.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary, £150 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—(1) Resident Medical Officer. (2) House-Surgeon. Salary at the rate of £125 per annum each.

WORKSOP VICTORIA HOSPITAL AND DISPENSARY.—Medical Officer and House-Surgeon. Salary, £150 per annum.

YORK COUNTY HOSPITAL.—House-Physician (male). Salary, £150 per annum.

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

PHILIP, Wilfrid Paton, M.B., Ch.B.Aberd., Resident Medical Officer, Corporation Hospital, and Assistant Tuberculosis Officer to the Borough of Bootle.

TAYLOR, John Maxwell, M.A., M.B., Ch.B.Aberd., D.P.H., Assistant Medical Officer of Health and Medical Inspector of Scholars to the Borough of Bootle.

ST. THOMAS'S HOSPITAL.—The following appointments have been made:—

Senior Obstetric House-Physician: H. P. Dawson, B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.

Junior Obstetric House-Physician: W. Burt, M.R.C.S., L.R.C.P.

Casualty Assistants: G. Cranstoun, B.A.Oxon., M.R.C.S., L.R.C.P.; J. E. Suadge, B.A.Cantab., M.R.C.S., L.R.C.P.

Clinical Assistants: Throat Department, W. H. C. Romanis, B.A.Cantab., M.R.C.S., L.R.C.P. Children's Surgical, G. A. G. Bouser, B.A.Cantab., M.R.C.S., L.R.C.P.; P. Sai, M.R.C.S., L.R.C.P. Ear Department, W. H. C. Romanis, B.A.Cantab., M.R.C.S., L.R.C.P. Neurological Department, C. L. Gimblett, B.A.Cantab., M.R.C.S., L.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

FITZWILLIAMS.—On November 21st, at 31, Grosvenor Street, W., the wife of D. C. L. Fitzwilliams, F.R.C.S., Captain R.A.M.C.(T.), of a son.

MARRIAGE.

THOMSON—WHITTAKER.—On November 25th, at All Saints' Church, Blackpool, by the Rev. A. W. R. Little, M.A., David A. Thomson, M.A., M.B., B.S., son of the late David Thomson, Glasgow, to Eleanor, daughter of the late Lawson Whittaker, J.P., and Mrs. Whittaker, Merlwood, Blackpool.

DEATHS.

CAZENOVE.—On November 18th, William Reginald Cazenove, M.R.C.S., L.R.C.P., of West Norwood Lodge, Knight's Hill, London, aged 40.

MUSGROVE.—On November 23rd (very suddenly), at Penarth, Charles David Musgrove, M.D.Edin., aged 49 years.

STOCKWELL.—On November 20th, Frederick Stockwell, M.D.Lond., at Bruton, Somerset, aged 76 years.

DIARY FOR THE WEEK.

TUESDAY.

ROYAL SOCIETY OF MEDICINE.—Occasional Lecture in the Robert Barnes Hall, 5 p.m. Dr. D. Barty King: Some Recent Experiences of Germany in War Time (during detention in Germany) and their Lessons, illustrated by lantern slides.

SECTION OF PATHOLOGY, Pathological Department, St. Bartholomew's Hospital, E.C., 8.30 p.m.—Dr. Lazarus-Barlow: The Effect of Radium on Different Types of Cells. Mr. S. G. Shattock and Dr. L. S. Dudgeon: Cytocides. Mr. R. Mackenzie Wallis: The Polarimetric Method for Estimating Protective Ferments in the Blood.

WEDNESDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF OPHTHALMOLOGY, 8 p.m.—Discussion on the Necessity for an Exact Definition of Blindness, to be opened by Mr. Harold B. Grimsdale. Clinical cases will be shown.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, 4.15 p.m.—Clinical Meeting.

ROYAL SOCIETY OF MEDICINE:

SECTION OF OBSTETRICS AND GYNAECOLOGY, 8 p.m.—(1) Specimens and Cases. (2) Short Communications:—Dr. Thomas G. Stevens: Two Cases of Hysterectomy for Placenta Praevia, with specimens. Dr. C. Hubert-Roberts and Dr. Edward Smeed: Case of Placenta Praevia with unusual sequelae. Dr. Herbert Spencer: Case of Extensive Cancer of the Cervix, with Pyosalpinx, well seven years after Wertheim's hysterectomy.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF LARYNGOLOGY, 4 p.m.—Cases and Specimens.

POST-GRADUATE COURSES AND LECTURES.

Post-graduate Courses are to be given next week at the following schools, colleges, and hospitals:

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, Bloomsbury, W.C.

[Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.]

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 5TH, 1914.

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GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1914.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

MEDICAL DISCIPLINARY CASES.

THE Council on November 25th considered the following cases in which judgement had been suspended at the summer session. Mr. Bodkin attended as Legal Assessor and Mr. Harper as Solicitor to the Council.

Irregularity in Issue of Sickness Certificate.

The first case was that of Dr. William Blaikie Mason[1] who had been called to answer the charge of signing an untrue, misleading, or improper certificate that one Patrick Matthews of Southsea was suffering from gastric colic and was unable to follow his occupation, whereas he (Dr. Mason) had neither seen nor examined the said Patrick Matthews.

Mr. HARPER stated that he had communicated with the Admiralty and had been informed that no further cases of irregular certificates had been brought to knowledge. The Admiralty therefore offered no further evidence.

Dr. MASON read to the Council statutory declarations from many prominent citizens, and also many doctors of Southsea testifying to the rectitude of his conduct as a professional man. He trusted the Council would take a lenient view of the case; he had done wrong, but it should not occur again.

Strangers and parties were directed to withdraw. On readmission, the PRESIDENT announced the Council's judgement as follows:

Mr. William Blaikie Mason, I have to inform you that the Council does not see fit to direct the Acting Registrar to erase from the *Medical Register* the name of William Blaikie Mason.

Irregular Death Certificate.

The next case was that of Dr. Alexander Girvan of Palace Street, Buckingham Gate, S.W.,[2] who had been called upon to answer the charge of being convicted at the Westminster Police Court of unlawfully and wilfully making a false declaration under and for the purpose of a certain Act relating to the registration of deaths, and fined £10 and £10 costs.

Mr. HARPER, on behalf of the Council, offered no further evidence.

Mr. WICKHAM read testimonials from several medical men, including Mr. Charles Stonham and Dr. Salusbury Trevor, as to the excellence of Dr. Girvan's character.

Strangers and parties withdrew. On readmission, the PRESIDENT announced the decision of the Council as follows:

Mr. Girvan, I have to inform you that the Council has considered once more the conviction which has been proved against you; that the Council takes a very grave view of the misdemeanour of which you have been convicted, but in view of the certificates of character which have been put in on your behalf, the Council has not seen fit to direct the Acting Registrar to erase your name from the *Medical Register*.

Medical Aid Association: Alleged Canvassing.

The case against Haripado Chatterjee, L.R.C.P. and S. Edin., L.R.F.P.S.Glas. of South Moor, Stanley, co. Durham,[3] was that he had accepted a post of medical officer of the South Moor Medical Association, which canvassed members of the Miners' Union in the South Moor District to become members thereof, and who, on joining, would become the patients of the medical officer thereof.

The PRESIDENT pointed out that the complainants being the British Medical Association, members of Council who were also members of the Association could take no part in the proceedings.

Mr. Hempson (solicitor) represented the British Medical Association; Dr. Chatterjee appeared in person.

Mr. HEMPSON in reply to the PRESIDENT, said he had no additional facts to bring before the Council, neither did he doubt the accuracy of the further evidence Dr. Chatterjee had put in, nor desired to challenge it in any way.

Dr. CHATTERJEE put in a statutory declaration by himself in which he stated that immediately after the decision of the Council in May last he gave notice to the South Moor Medical Association terminating his engagement as medical officer to the association, and his connexion with it had ceased. He much regretted having made the speech complained of, but he did it without appreciating its effect, and assured the Council there would be no cause for similar complaint in the future. He also put in two statutory declarations by Dr. Charles and Dr. Johnson respectively, testifying that they had had opportunities of observing Dr. Chatterjee's professional conduct since May last and it had in every respect been satisfactory.

By the PRESIDENT: He had no means of knowing the methods since pursued by the South Moor Medical Association.

[1] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, June 6th, p. 414.
[2] Ibid., p. 414.
[3] Ibid, p. 409.

Strangers and parties were directed to withdraw. On readmission, the PRESIDENT announced the decision of the Council as follows:

Mr. Chatterjee, the Council has carefully considered the evidence which you have given on your own behalf, and brought from two registered practitioners, and, being satisfied that as you severed your connexion with the South Moor Medical Association without delay, you could not bring the other evidence which you were required to furnish, as to the methods by which this association is now conducted, the Council has not seen fit to direct the Acting Registrar to erase your name from the *Medical Register*.

Conviction for Drunkenness.

The case of Caspar Denis Downing, L.A.H.Dub.,[4] on charges of being found guilty at certain police-courts of disorderly conduct while drunk, was considered.

Mr. Harper appeared in support of the charge; Mr. Caspar Denis Downing did not appear, and was not represented.

Mr. HARPER reminded the Council that in May last Mr. Downing did not appear, but wrote saying he could not deny the charges of drunkenness, and pleaded for leniency on the ground that on the occasion of the first offence he had just returned from the West Coast of Africa, where he had contracted malarial fever, and on the other occasions he was labouring under great domestic trouble. He expressed his regret for having committed the offence, and also said he was not aware that the form of offence was punishable by removal of the name from the *Register*. Mr. Harper informed the Council that Mr. Downing was again convicted on September 9th, 1914, for drunkenness, at the Court of Summary Jurisdiction, Dale Street, Liverpool, and fined 10s. and 3s. 6d. costs, or, alternatively, 14 days' imprisonment. He put in a certificate copy of the conviction. Mr. Downing was communicated with in regard to this conviction, and on October 21st he replied, admitting the fact, but stating it took place owing to depression due to the recent death of his mother; and pointing out that he had never been convicted of drunkenness while on duty. He further telegraphed from Liverpool on November 24th: "Regret unable to attend Council meeting to-morrow."

Strangers and the parties were directed to withdraw. On readmission, the PRESIDENT announced the decision of the Council as follows:

I have to announce that Caspar Denis Downing having been proved to have been convicted of the misdemeanours alleged against him in the notice, the Council has directed the Acting Registrar to erase from the *Medical Register* the name of Caspar Denis Downing.

Irregular Certificates.

The Council considered the following cases:

(1) James Shirran Abernethy Walker, registered as of 416, Oldham Road, Manchester, M.B., C.M. 1887, M.D. 1898, Univ. Aberd., who had been summoned to appear before the Council on the following charge:

That being a registered medical practitioner you gave under the National Insurance Acts, 1911 to 1913, four certificates dated July 19th and August 7th, 18th, and 25th, 1913, respectively, certifying that you had on those days respectively seen one Henrietta Horridge, and that she was suffering from chest affection and was thereby still totally incapable of work, whereas you had not on any of those days either seen or examined the said Henrietta Horridge. And that you authorized John Watt, a registered medical practitioner, to furnish similar certificates on your behalf in respect of the said Henrietta Horridge which were dated respectively July 28th and August 5th, 1913, whereas neither you nor the said John Watt had either examined or seen her on either of those days.

All of which certificates were untrue, misleading or improper. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the Manchester Insurance Committee.

(2) John Watt, registered as of 416, Oldham Road, Newton Heath, Manchester, M.B., C.M. 1892, Univ. Glasg., who had been summoned to appear before the Council on the following charge:

That being a registered medical practitioner you gave under the National Insurance Acts, 1911 to 1913, two certificates dated July 28th and August 5th, 1913, respectively, certifying that you had on those days respectively seen one Henrietta Horridge, and that she was suffering from chest affection and was thereby still totally incapable of work, whereas you had not on either of those days seen or examined the said Henrietta Horridge both of which certificates were untrue, misleading, or improper. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The Council's attention was called to this case by the Manchester Insurance Committee.

Mr. Clayton appeared for the Manchester Insurance Committee; Mr. Wedderburn, solicitor, appeared for Dr. Walker and Dr. Watt.

In reply to the PRESIDENT, Mr. WEDDERBURN stated that it would be convenient to take the two cases together, as they arose out of the same set of facts.

Mr. CLAYTON said the case was brought forward because it was considered that the facts, which he understood were admitted, required some explanation, and the Manchester Insurance Committee did not care to take steps which would have meant the deletion of Dr. Walker's name from the *Medical Register*. He was not concerned so much with regard to Dr. Watt, as the latter was not acting under the Insurance Committee. Dr. Walker was, and in that capacity attended Miss Henrietta Horridge, since deceased, for a considerable time prior to the date of the certificates complained of. On July 10th, 1913, sanatorium treatment was accorded to Miss Horridge, and she entered the Baguley Sanatorium, where she remained until October 25th, which covered the period mentioned in the certificates referred to in the Notice of Inquiry. It would not be alleged that Dr. Walker saw her during that period to ascertain whether she was incapable of following any employment. Under the National Insurance Act, the money which otherwise would be paid to an insured person's dependants (and Miss Horridge had none) during the time she was in the sanatorium, should have been paid not to her but to the Manchester Insurance Committee. Upon these facts coming to the knowledge of the Medical Subcommittee, it was considered desirable to bring the matter before this Council to get a pronouncement not only with regard to the facts of this case, but in the interests of other medical men and the profession generally. The Manchester Insurance Committee had no desire to press the matter unduly, because at the time these events occurred the regulations with regard to the giving of certificates by medical men were not as well known, nor in so well-defined a form as they have since become. It was now one of the regulations of the Insurance Commissioners that a doctor giving such a certificate must see the patient on the day, and only give it for the day on which he actually saw the patient; and that was what the complainants thought was being carried out in this case. He formally put in the six certificates in question, four being in the handwriting of Dr. Walker and two in the handwriting of Dr. Watt.

In reply to the PRESIDENT, Mr. WEDDERBURN admitted the signatures to the certificate and also the correspondence with the Manchester Insurance Committee. Dr. WALKER, examined by Mr. WEDDERBURN, said he had practised at Newton Heath, Manchester, for over twenty-two years and Dr. Watt had been his assistant for seven or eight years. He had a large industrial practice and acted for a number of societies. He had attended Miss Horridge's family for about fourteen years. Before the National Insurance Act came into force he had been in the habit of giving certificates of incapacity to members of different societies which, whether initial certificates or continuing certificates, simply certified the illness and the date of the certificate. He had a printed form of certificate of incapacity which he still used with regard to patients who were not members of a society. After the Insurance Act came into force a form of initial certificate was issued by the Insurance Commissioners which stated that the doctor had seen the patient on the day on which the certificate was granted, but many approved societies under the Act continued to use a different form for the continuing certificate. That simply had a column for the doctor's signature and in signing it he regarded it as sufficient if, as far as a medical man could be, he was certain that on the date it was granted the patient was unfit for work. He then identified seven different forms of continuing certificates issued by approved societies for which he acted which had been in force since the date of the Insurance Act, in none of which the date of examination appeared. The continuing certificate was always brought by the patient, who obtained it from the society. He regarded the

[4] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, June 6th, p. 415.

essential part of a certificate to be the certification that the person was not doing any work, and the cause. The mind of a doctor would be more concerned with the filling in of the blanks than with the printed matter on the certificate. With regard to Miss Horridge, who was a member of the National Amalgamated Approved Society, which had a very large membership in Manchester, Dr. Walker was called in to attend her in April, 1913. She was suffering from pulmonary tuberculosis. An initial certificate was granted on the form required by the Insurance Commissioners. Dr. Walker saw Miss Horridge regularly until she went into the sanatorium, granting each week a continuing certificate of incapacity. She never did become fit to follow her occupation again. The first continuation certificate granted after she was sent to the sanatorium was the one mentioned in the charge, July 19th. Mrs. Horridge brought him the certificate, and he said he did not think he could sign it as Miss Horridge was not then under his treatment. Mrs. Horridge said it would be all right because the insurance agent told her to take the certificate to Dr. Walker. He signed the certificate, there being no doubt about the incapacity of the girl for work; that was the only thing which was in his, the witness's, mind. He did not suppose he read the printed words on the certificate. If he had been asked to write the whole of the certificate, he would have thought before doing so; but, at the same time, he had sufficient knowledge of Mrs. Horridge to know that she was not trying to do anything fraudulent. He (Dr. Walker) knew nothing at all as to the law that people getting sanatorium treatment were not entitled to sickness benefit.

In answer to the PRESIDENT, he said that he knew the certificate was for the purpose of getting sickness benefit, and, in answer to Mr. WEDDERBURN, that he did not know that the girl was not entitled to it. He had no recollection of the other certificates, though he did not doubt they were granted in the same way.

In answer to the LEGAL ASSESSOR he said that the certificates were all granted at the request of the mother, and in reply to the PRESIDENT said that he recognized now that he made a mistake in not being more careful in attending to the form of the certificate.

Further, in answer to Mr. WEDDERBURN, he said he felt the charge against him very keenly and was very sorry he made the mistake.

Dr. WATT, in answer to Mr. WEDDERBURN, said he had been assistant to Dr. Walker for eight years. He confirmed the evidence as to the nature of the practice and the different forms of certificates that had been in use. He recollected granting one certificate, which he admitted having signed. He also recognized the necessity for more care, the matter having been brought to his notice. He would not now grant a certificate without seeing the patient on the day it was granted, and very much regretted having made the mistake.

On Mrs. Horridge being called Mr. CLAYTON admitted that Mrs. Horridge got the certificates from the insurance agent, took them to the doctors and told them she was requested to get them signed. Admittedly, she had no knowledge that she was not entitled to payment under the Act. No allegation was made that any portion of the money went to Dr. Walker or Dr. Watt.

Mr. SMITH, a member of the Insurance Committee, said, in answer to Mr. WEDDERBURN, that he did not know Dr. Walker before the occurrence in question. He had since inquired into Dr. Walker's practice, and found he was one of the hardest working doctors in Manchester, and that he attended well to his insurance patients. As a member of the committee, and as manager of a large society, he had been aware of the great confusion with regard to certificates.

Mr. WEDDERBURN said the charge made was one of having issued certain certificates, that issue being admitted. No point was made of the fact that the person certified as being unfit was not unfit, but that on none of the dates on the certificates did the medical men see the patients. All along it had been conceded that Miss Horridge was during the period covered by the certificates in a state of incapacity for work. It was also conceded that that knowledge was personal knowledge on the part of Dr. Walker and Dr. Watt. The complainants admitted that, although an irregularity had been committed, they did not regard it as a serious case; the Manchester Insurance Committee did not desire that any punishment should be inflicted which would have the effect of depriving the doctors of their professional status, or depriving the Manchester Insurance Committee of one of its hardest working doctors. He (Mr. Wedderburn) thought the committee would regret anything being done which would impair the usefulness of Dr. Walker as a medical man For a quarter of a century he had carried on a large industrial practice in Manchester, and this involved the granting of certificates almost daily. They were of two kinds: first, there was the primary certificate, which was necessary to entitle the member to benefit, and secondly, a continuing certificate given each week during the illness. Previous to the Insurance Act, in the case of all the societies Dr. Walker represented the initial and continuing certificates were practically in the same form, the medical man certifying that at the date of the certificate he was satisfied that the person in question was suffering from a particular ailment which unfitted him for work. The certificates were always printed, and what the doctor naturally applied his mind to were the blanks which he had to fill in from his personal knowledge. When the Act came into force there was introduced by the Insurance Commissioners a new form of certificate, so far as regarded the primary certificate. That contained the words "I have this day examined" so and so. Continuing certificates, in the case of the majority of the approved societies, continued to be in the same form as those which Dr. Walker and Dr. Watt had been in the habit of granting before the Act came into force. With regard to Miss Horridge, the two practitioners had been attending her more or less regularly, granting weekly certificates, no doubt in the same terms as those brought by Mrs. Horridge. Dr. Walker was aware that Miss Horridge ultimately went into a sanatorium, but unfortunately did not know the law that a patient who was getting sanatorium treatment was not entitled to sickness benefit. It had to be admitted that the doctors had acted irregularly, but he (Mr. Wedderburn) submitted it was not gross irregularity, and did not deserve the epithet of infamous professional misconduct. In all the circumstances he submitted that the bringing of Dr. Walker and Dr. Watt before the Council, and the laying of the facts before it, should be regarded as a sufficient punishment. Both were wiser men in the matter of attending to the form of the certificate, and he appealed earnestly to the Council to send them away not sadder men, but happier than they were at that moment.

Strangers and parties withdrew. On readmission, the PRESIDENT announced the decision of the Council as follows:

Dr. Walker and Dr. Watt, I have to inform you that the Council have carefully considered the matters brought to their notice during this inquiry and have decided that the facts alleged against you in the notice of inquiry have been proved to the satisfaction of the Council. The Council take a very grave view of any laxity on the part of medical men with respect to the giving of certificates, which is a responsibility honourably imposed upon them by the State. But they have taken account of the explanations of your conduct in this matter that you have offered and of the assurances with regard to the care you will exercise in this respect in the future; and they have taken those explanations and assurances as given by you in good faith. They have accordingly not seen fit to direct the Registrar to remove your names from the *Medical Register*.

DENTAL DISCIPLINARY CASES.

The Council at its summer session considered a report by the Dental Committee on the allegation made against Valleck Cartwright Mallan[5] of advertising, but the further consideration was deferred till the present session.

Mr. Hart, instructed by Messrs. Bowman and Curtis-Hayward, appeared for the British Dental Association; Mr. Mallan appeared in person. The REGISTRAR read a further report on the case, dated November 23rd, 1914, from the Dental Committee.

Mr. MALLAN considered he had faithfully and thoroughly carried out his undertaking. There was nothing in the Dentists Act prohibiting a dentist showing his handiwork in his window. He referred to a resolution of the Council dated May 20th, 1894, which had stated that the issue of advertisements of an objectionable character, especially such as claimed superiority over other practitioners or depreciation of them, might easily be carried so far as to constitute infamous or disgraceful conduct in a professional respect. Mr. Mallan contended that that referred

[5] SUPPLEMENT, Jun 6th, p. 415.

to the distribution of circulars having in them claims of superiority over other practitioners. It had become recognized in London that practitioners were permitted to make a window display. He regretted giving out circulars, and had stopped doing so, that being the offence with regard to which he gave his undertaking.

Mr. HART suggested that the undertaking as given, and as the Council took it, had not been fulfilled.

Strangers and parties were directed to withdraw. On readmission, the PRESIDENT announced the judgement of the Council as follows:

Mr. Mallan, I have to call your particular attention to what I am going to say to you now. The charge made against you included the following statement:—

> "That being a registered dentist you have extensively advertised your practice:
>
> "... (c) by means of various conspicuous notices on the outside and inside of your premises at 106, Edgware Road, W., where you carry on your profession, of a shop window on the ground floor thereof filled with shelves of false teeth, and notices advertising your practice. ..."

The Council are not entirely satisfied that you fully understood the undertaking which you gave to them to be an undertaking to discontinue advertising by the particular means set forth in this paragraph of the charge. The Council recognize that you have carried out an undertaking to discontinue advertising by the other means specified in the charge. The Council desire me to impress upon you that the means of advertising specified in paragraph (c) of the charge are no less objectionable than the others, and fall within the resolution of May 28th, 1894, of which you are aware.

They propose to give you a further opportunity of discontinuing the objectionable forms of advertising which you have continued to adopt, and for this purpose postpone their judgement in your case until May next.

A copy of this pronouncement will be sent to you in due course.

Mr. MALLAN: I thank you for the courtesy you have shown me. May I now tender my resignation from off the *Register?*

The PRESIDENT directed Mr. Mallan's attention to Standing Orders with which he would have to comply to procure erasure from the *Dentists Register*.

The Council then considered the case of Cartwright Davis, with regard to whom the Dental Committee had made the following report, dated November 23rd, 1914:

The *Dentists Register* contains the following entry:

Name.	Address.	Date of Registration.	Description and Date of Qualification.
Cartwright Davis	81, Knightsbridge, London, S.W.	1878 Dec. 31	In practice on July 22nd, 1878

Information having reached the British Dental Association early in the present year that the person practising as above was neither Cartwright Davis nor a dentist, the association, with the assistance of the officials of the Council, made careful and thorough inquiry, and ascertained the following facts:

Cartwright Davis was a name under which a Mr. Mallan practised dentistry, and in 1878 registered under the Dentists Act. Some years ago he took as an assistant one John Edwin Sutton, who, however, never qualified as a dentist or registered. On the death of Mallan his widow carried on the practice through Sutton, who married her daughter, and since 1903 Sutton had regularly signed the returns to the Registrar of the Council in the name of Cartwright Davis, thereby maintaining that name upon the *Register*, and himself practising as a dentist under that name.

The British Dental Association prosecuted Sutton under the Perjury Act, 1911, and pressed for his committal for trial at the Central Criminal Court. He was tried on July 21st, 1914, at the Central Criminal Court before the Common Serjeant, and pleaded guilty to the charge of unlawfully procuring himself to be registered in the name of Cartwright Davis on the Register of persons qualified to practise as dentists. The Common Serjeant bound Sutton over in a recognizance of £20 to come up for judgement if called upon, but seeing that this was the first case brought forward under the new Act he did not impose any other penalty.

The facts as above stated have been formally brought to the attention of the Council by the British Dental Association, and the Committee is advised that as Sutton, by pleading guilty, admitted the facts, it is not necessary, in dealing with the question of the removal or the name of Cartwright Davis from the *Dentists Register*, to hold a formal inquiry and require further proof of the facts. The Committee therefore, being satisfied that the facts are as above stated, report them to the Council.

By Section 13 of the Dentists Act the Council shall cause to be erased from the *Dentists Register* any entry which has been inaccurately or fraudulently made.

Strangers were directed to withdraw. On readmission, the PRESIDENT announced the judgment of the Council as follows:

I have to announce that the Council, having considered the report from the Dental Committee, have directed the Acting Registrar to erase from the *Dentists Register* the entry containing the name Cartwright Davis with the appended address, 81, Knightsbridge, London, S.W., which they are satisfied has been incorrectly or fraudulently made.

DENTAL BUSINESS.

British Columbia.

The Dental Education and Examination Committee in its report stated that it had received a copy of an amending Act of the Province of British Columbia, dated March 4th, 1914. The Act instituted qualifying examinations, and a Dental Council, which, for disciplinary purposes, was empowered to associate with it a County Court judge, and might subpoena witnesses and call for documents. It provided also for the payment of witnesses so called. There was an appeal from its decisions to the Supreme Court, and a further appeal to the Appeal Court. Unqualified practice was prohibited by the Act, and practice was defined as the receipt of payment in any form for professional services. The unqualified employees of a registered dentist were brought within its scope, the employer being also concomitantly liable. Registered medical practitioners were exempted from the operation of the Act. The Committee noted with satisfaction that the prohibitory sections were directed against the act of practice and did not merely prohibit the improper assumption of title.

Hong Kong.

The Hong Kong Ordinance, 1914, which had been communicated by the Colonial Secretary, established a Register and an Advisory Dental Board. It did not establish any form of diploma, but left large discretion to the Governor in Council in the recognition of grounds of admission to the Register, such as long practice in the colony, or other grounds deemed sufficient. Practice, or the offer to practice, or the wrongful assumption of titles, were prohibited under penalty. Unsuccessful attempts at legislation were made in 1905, the difficulty being the small number of practitioners holding any qualification and the large number of Chinese practitioners. In a reasoned report upon the measure by the local Attorney-General the opinion was expressed that it was the best compromise attainable in the circumstances obtaining in the colony.

The Supply of Dentists.

On the motion for the approval of the report of the Committee, made by Mr. TOMES, and seconded by Dr. KNOX,

Dr. NEWSHOLME moved as an addendum:

> That in view of the large amount of practice in dentistry by unqualified persons, and of the fact that the number of dentists on the *Dental Register* has not increased since the *Register* was formed, the several licensing bodies be asked to make suggestions as to any modifications in the tables of the curriculum or curtailments which in their opinion would be practicable without lowering the standard of dental practice.

In 1879, the first year in which it was opened, the *Dentists Register* contained 5,289 names; in 1914 it contained only 5,275. After making allowance for the fact that at the beginning a large number of dentists who were already in practice were admitted, it could not be regarded as satisfactory that during thirty-four years there should not have been any increase in the number of qualified dentists in this country. During the last thirty years the population of the United Kingdom had increased by 13 per cent., and the population of England and Wales by nearly 30 per cent. During the period from 1889 to 1912 the number of medical men on the *Register* had increased by 46 per cent., and yet during that period there had been no increase in the number of qualified dentists. It could not be said that the demand for dentists had decreased; it had increased, on the contrary. It was notorious that the number of unqualified unregistered dentists in this country considerably exceeded the number of qualified; that was a very serious matter both from a dental and public health point of view; it was necessary, therefore, that the matter should be looked into with the view of ascertaining whether some improvement might not be secured. He was not certain that a modification of

the curriculum would necessarily bring that about, but that aspect might be considered, and the resolution, if adopted, would lead to expressions of opinion being received from the various licensing bodies on that point. He was well aware that his proposal was contrary to the opinion of the General Medical Council formally expressed as far back as March 26th, 1879, which involved a minimum curriculum of four years, a standard which he suggested was too high. The Council might ascertain definitely from the licensing bodies whether, in their opinion, the four years' curriculum was needed, and, if not, what modification should be made to remedy the evil.

Mr. VERRALL seconded. This matter had been discussed in the Representative Meeting of the British Medical Association, of which he was chairman. The members felt very strongly on the question of the shortage of dentists. He would be glad to support any step designed to discover a remedy.

Dr. MACKAY looked on the motion as exceedingly grave. The Council, he thought, was not in a position at the present moment to come to a decision. The proposal should be remitted to the Dental Education Committee for its consideration and report, and as he understood from Mr. Verrall's speech that other bodies were considering the matter, public opinion should be educated on the subject.

The PRESIDENT suggested that it was conceivable that curtailments of the curriculum might be introduced lowering the standard, which was a point of principle on which the Council had to make up its mind after discussion. Therefore he thought the proper course to adopt would be that suggested by Dr. Mackay.

Mr. TOMES remarked that in whatever way the resolution was dealt with, his committee would accept the principle of it. He took the opportunity of pointing out that the number of duly qualified men coming on the *Dentists Register* holding the diploma had largely increased since 1878, and that they had now risen to a little over 68 per cent. of the whole number. He admitted that the increase in numbers had not been such as might have been expected, but he doubted whether the severity of the curriculum very largely affected the question. What did more largely affect the question was the weakness of the legislation.

Dr. NORMAN MOORE thought the question really urgent. The practice of dentistry had enormously increased in a great variety of ways.

Dr. CATON agreed that the matter was very urgent and of extreme public importance, more especially when the large increase in unregistered dentists was noted. He thought it would be necessary to lower the standard as a temporary measure, and to take steps to secure a reversal of the disastrous decision given by the House of Lords a short time ago.

Dr. MACDONALD observed that Dr. Newsholme at the last meeting of the Council suggested that the standard should be reduced for the purpose of getting more men to enter, and this resolution seemed to be a step in the same direction. He hoped the Council would not adopt any course such as that. He agreed with Dr. Mackay that the matter should be referred to the Dental Education Committee in order that no suggestion of a reduction of the standard of efficiency should come from the Council.

Dr. NEWSHOLME had no wish to reduce the standard of efficiency. He merely made certain suggestions, and wished for further information before forming any opinion upon the matter.

Dr. MACDONALD, at the suggestion of the PRESIDENT, moved that the motion be remitted to the Dental Education Committee for consideration and report on the questions therein raised, the Committee to have power, if it thought fit, to communicate with the licensing bodies on the subject.

Mr. HODSDON seconded.

Dr. NEWSHOLME accepted the suggested amendment, which was then put and carried.

APOTHECARIES' HALL OF IRELAND.

Sir CHARLES BALL, Chairman, presented a report from the Examination Committee on the examinations held in the Apothecaries' Hall of Ireland, 1913–14, embodying a report by Dr. J. Magee Finny and remarks by the Apothecaries' Hall. The Examination Committee, whose report was dated November 24th, 1914, made the following recommendations:

Recommendations.

That the General Council take into consideration the question of representing to His Majesty's Most Honourable Privy Council that the course of study and examinations, to be gone through in order to obtain the qualification of Licentiate of the Apothecaries' Hall of Ireland, are not such as to secure the possession by persons obtaining that qualification of the requisite knowledge and skill for the efficient practice of their profession.

That the Irish Branch Council be authorized to appoint for a period of one year a deputy to attend and be present on behalf of the General Council at the professional examinations held by the Apothecaries' Hall, for the purposes set forth in Section 18 of the Medical Act, 1858; that the deputy so appointed present to the Council a report on the general character of such examinations; and that he be paid a salary of £50 for the year.

Sir Charles Ball, in dealing with the first recommendation, said that did not bind the Council to any opinion on the matter, but the Examination Committee thought that it was the duty of the Council to discuss the question. A great deal had been said with reference to the question of individual bias and so on, but the Examination Committee, which contained a large number of members who did not come from Ireland, had, without the slightest dissent, agreed to the recommendation. The Council was charged officially with the duty of maintaining a proper course of examination and education before persons could be admitted to the *Register*. Section 19 of the Medical Act provided that if the Council neglected that duty the Privy Council could take it up.

Mr. VERRALL, as one not a member of the Examination Committee, desired to associate himself with the Chairman of the Committee in the resolution brought forward. The production of Dr. Finny's report, which seemed very fair and full, certainly to his mind established a case for taking the matter into consideration. The mere fact that the Council thought it necessary and wise that such a supervision of the examinations as Dr. Finny carried out should take place, indicated that it was not quite satisfied that there was not room and necessity for an inquiry into this particular examination. Whatever else the report proved, it certainly proved that the Council would only do its duty if it took the matter into consideration.

Dr. MAGENNIS, as the Representative of the Apothecaries' Hall, said that the report by the Examination Committee had fallen upon him like a bomb. He had been perfectly bona fide in giving notice of a motion to the effect that the time had come when any exceptional treatment of the Apothecaries' Hall of Dublin as regards inspection of its examinations and reports upon them should cease. The grounds for giving that notice were the reports of the examiners and the inspectors appointed by the Council, and the fact that a report was given by a gentleman appointed and paid by the Council. He thought it would have been more courteous if the Council had appointed some other person than a member of a rival licensing body; but he took the report to be honest, painstaking, and conscientious report, and such a report as one would expect from the high professional status of Dr. Finny. Statements were to be found in the minutes of the Council, containing reports by examiners, to the effect that the examinations by the Apothecaries' Hall might be considered thoroughly adequate, and not inferior in any way to the examinations held by other licensing bodies. That was a sample of the sort of thing that had been said within the last few years. With regard to Dr. Finny's report, he challenged any licensing body to produce a more favourable report than that, conducted in such a manner as it had been conducted, with regard to the Apothecaries' Hall of Ireland. Every sentence of the report almost was in praise of it. He would content himself with reading the final paragraphs of Dr. Finny's report:

I was present at and attended four final examinations in medicine and midwifery—namely, July and October, 1913, January and May, 1914, and a special examination in medicine alone on March 31st, 1914.

I was favourably impressed with the practical character of these examinations, the patient and painstaking conduct of the examiners, and the facilities afforded for clinical work in the wards of a general hospital and, in the case of midwifery, in

those of a special hospital. There was generally an ample supply of material and apparatus.

I extend this commendation to the subjects of medical jurisprudence and hygiene, and also to that of pathology, now that it was given a special place to itself in 1914. Previous to this change it was open to grave objections.

I notice, however, that there is no examination in mental disease, although evidence in clinical instruction in mental diseases is laid down in the regulations (p. 6).

He did not see, in face of that report alone, how the Examination Committee could ask the Council to pass such a recommendation as Sir Charles Ball had read. The Apothecaries' Hall was not in the least afraid to meet the Privy Council on the matter. He did not think it was at all opportune for the Privy Council in such a grave time as this to be occupied with a matter which, perhaps, was of minor importance, and he believed that the Hall was at least entitled to consideration, which he was sure it would receive at the hands of the Council, and that the recommendation would not be passed.

Dr. Mackay thought the report of the Examination Committee called for the most serious consideration of every member of Council. It was their absolute duty to take up the matter. He hoped that the Council would vote for the recommendation and that the consideration of the report would be taken up at some future time, say the next session. The Council would then have time to consider the report of the committee and of the special inspector, and perhaps the objections which some members had consistently taken to the examination in question might by that time be removed.

Sir Charles Ball, in reply, reminded the Council that one of the objections taken on previous occasions as to the assistant examiners, whose reports had been dealt with by Dr. Magennis, was that, though nominally appointed by the Council, these examiners were invariably the representatives suggested by the Apothecaries' Hall. He entirely appreciated Dr. Mackay's remarks, and, while hoping the Council would express an opinion on the facts brought forward in the report, he would support any application for the postponing a report to the Privy Council. A further report should have been before the Council as to recent examinations, a report by the assistant examiners in surgery, and a return by the Apothecaries' Hall on the table approved by the Council. A comparison of that table with the reports of the examiners revealed most extraordinary inconsistencies. He asked for the authority of the Council to enable the Examination Committee to transmit the report of the examiners and the tables to the Apothecaries' Hall asking for its observations thereon, in order that the Committee might report at a future meeting of the Council, which might then have an explanation of some very remarkable features in the tables.

The first recommendation was put and carried.

Sir Charles Ball then moved the second recommendation. The Examination Committee, he said, was quite convinced that it was absolutely necessary that the examinations should continue to be carefully watched.

The recommendation having been seconded, Dr. Magennis moved as an amendment:

> That the time has come when any exceptional treatment of the Apothecaries' Hall of Dublin as regards inspection of its examinations and reports upon them should cease.

He did so, not only on the strength of the reports of the assistant examiners, but of the exceptional manner of appointing them. If the recommendation was postponed for twelve months he, as representing the Apothecaries' Hall, would pledge his word that no act would be done which would not be entirely approved by the Council.

The amendment was not seconded.

The recommendation, on being put to the Council, was carried.

On the motion of Sir Charles Ball, seconded by Dr. Saundby, it was agreed to instruct the Examination Committee to forward the reports of the assistant examiners and the tables to the Apothecaries' Hall for any explanation it might wish to make.

On the motion of Sir Charles Ball the further consideration of the report was deferred until the next session.

It was also agreed to authorize the Examination Committee to communicate with the Apothecaries' Hall for an explanation of certain tables.

The Royal Institute of Public Health.

A report presented by the Public Health Committee was approved. The report was to the effect that Rule 3 [or] (2) (i) of the rules for Diplomas in Public Health did not admit of the inclusion of the Royal Institute of Public Health as a department of public health as a recognized medical school, and that no addition of words without a complete alteration of the rule could effect such admission.

Students' Registration Committee.

The report of the Students' Registration Committee was received, entered on the minutes, and approved. It recommended:

1. That satisfactory evidence as to visitation having been received, Cranleigh School, Exeter School, Highgate School, King's College School, Wimbledon, and the Municipal Secondary School, Ipswich, be added to the list of recognized institutions approved by the Council.
2. That the Municipal Technical School, Blackburn, and the Technical Institute, Ipswich, be added to the list of recognized institutions approved by the Council.

Select Committee on Patent Medicines.

Dr. Langley Browne, the Chairman of the Unqualified Practice Prevention Committee, presented a report of the Committee on the report of the Select Committee on Patent Medicines. The report, after setting out the recommendations of the Select Committee for the amendment and better administration of the law on the subject, advised the Council to convey to the Lord President of the Privy Council an expression of its complete approval of the recommendations of the Select Committee, and to recommend to the Government through the Lord President the necessity for the creation of a Ministry of Public Health in pursuance of the recommendations of the Select Committee.

Elections to Committees.

The following were elected the representatives of the Irish Branch Council on the Committees indicated:

Penal Cases Committee: Dr. Little.
Education Committee: Sir Lambert Ormsby.
Public Health Committee: Dr. Magennis.

Votes of Thanks.

At the conclusion of the business for the session on November 26th a vote of thanks was unanimously accorded to the President for his conduct in the chair.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the Journal.*]*

WILTSHIRE BRANCH.

The inaugural meeting of the Wiltshire Branch was held at the Trowbridge Town Hall on November 25th, when fourteen members were present. Dr. Rumboll was elected to the chair.

Rules.—The model rules and ethical rules were adopted.

Election of Officers.—The following officers were elected:

President: Dr. Tubb-Thomas.
President-elect: Dr. Kemp.
Vice-Presidents: Dr. Stratton, Dr. Haydon.
Honorary Secretary: Dr. Bond.

Representation on Representative Body.—It was resolved to recommend that there should be two Representatives for the Branch—one for the Salisbury Division, and one for the Trowbridge and Swindon Divisions combined.

Annual Meeting.—An invitation from the Salisbury Division to hold the next annual meeting in Salisbury was accepted.

Grant for 1914–15.—It was resolved that a grant of 4s. per member should be applied for.

Meetings.—Dr. Flemming proposed that a meeting of the Branch be held during the winter, to which members of the R.A.M.C. stationed in the county should be invited, and at which a member of the R.A.M.C. should be asked

to read a paper to open a discussion, and that they should be entertained to luncheon or dinner. The meeting agreed to the proposal, which was referred to the Branch Council.

Association Notices.

CHANGES OF BOUNDARIES.

AMALGAMATION OF DUNDEE AND FORFARSHIRE DIVISIONS. THE following changes have been made in accordance with the regulations of the Association, and take effect as from the date of publication of this notice:

(*a*) That the Dundee Division and the Forfarshire portion of the Forfarshire Division be amalgamated to form a Branch of one Division, to be known as the Dundee Branch;

(*b*) That Bervie and district, at present contained within the area of the Forfarshire Division, be transferred to the Aberdeen Division and Branch.

Representation in Representative Body.—The Forfarshire and Dundee Divisions being at present grouped to form one constituency in the Representative Body, no change will be involved.

BRANCH AND DIVISION MEETINGS TO BE HELD.

NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.—Drs. H. R. Griffith (Portmadoc) and E. Lewys-Lloyd (Towyn) give notice that a special meeting of the Division will be held at the Cors-y-gedol Hotel, Barmouth, on Thursday, December 10th, at 1.30 p.m. Luncheon at 1 p.m. All members of the Division are requested to make every effort to attend this meeting. Agenda: Correspondence; to appoint Chairman for 1914-1915, Vice-Chairman, Secretary, Representatives on Branch Council, and members of the Executive Committee of the Division; and any other business. Members desiring lunch are requested to communicate with Dr. Lewys-Lloyd, Towyn, by Tuesday, December 8th.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—Dr. Arthur E. Larking, Honorary Secretary (Buckingham), gives notice that a meeting of the Division will be held at the Red Lion Hotel, High Wycombe, on Tuesday, December 8th, at 2.15 p.m., preceded by lunch at 1.30 (charge 2s. 6d.). There will be a paper on a medical or surgical subject, and discussions on the following will take place:—(1) Private Clubs: Are they necessary, and how should they be managed? Introduced by Dr. Stolterforth. (2) Voluntary Aid Detachments and the relation of Private Practitioners to them. Introduced by Dr. Baker. (3) Dr. Bradbrooke will give a summary of the last Annual Representative Meeting. (4) The Relation of the Association to the Local Medical and Panel Committees. Members are invited to attend, and also to bring one or more medical friends with them. Dr. Larking would be glad to hear from members wishing to bring any matter forward for discussion, and the names of those who will attend the luncheon. Tea will be provided.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

BOOKS NEEDED TO COMPLETE SERIES.

THE Librarian will be glad to receive any of the following volumes, which are needed to complete series in the Library:

American Association of Genito-Urinary Surgeons. Transactions. 1906.
American Climatological Transactions. Vols. 1, 4, 5, 6.
American Dermatological Association Transactions. Vols. 5, 7, 8, 11, and 29.
American Journal of the Medical Sciences. New series, vols. 4, 5, 1842–3; vols. 14, 15, 1847–8; vols. 18–30, 1850; vol. 33, 1857; vol. 46, 1864–5; vol. 59; or any parts of these vols.
American Journal of Ophthalmology. Vols. 1–9.
American Laryngological Association. Transactions. Vols. 1–6, 8–9.
American Medical Association. Transactions, 2, 4, 6, 7, 11, 12, 14, 15, 16, 19, 20, 22, 31, after vol. 33, and the *Journal*, up to 1903 inclusive.
American Medico-Psychological Association. Transactions. Vol. 13, 1906.
American Otological Society. Transactions. Vol. 3, part 2, 1883.
American Public Health Association. Transactions. Any vols.
Watt. Bibliographia Britannica, 4 vols., 1824.
Yearbook of Pharmacy, 1912.

LOCAL MEDICAL AND PANEL COMMITTEES.

LIVERPOOL.

PANEL COMMITTEE.

A MEETING of the Liverpool Panel Committee was held at the Liverpool Medical Institution on November 17th, when Mr. F. CHARLES LARKIN was in the chair, and twenty other members were present.

Expenses of Pharmaceutical Committee.—A letter was read from the Secretary of the Liverpool Pharmaceutical Committee regarding estimate of expenses of that Committee, and explaining some items about which the Panel Committee had inquired. It was resolved that the estimate of the Pharmaceutical Committee be approved.

Advertising on Bottle Labels.—A communication was read from the Secretary of the Pharmaceutical Committee regarding alleged advertising on labels of bottles supplied to insured persons, and alleged dispensing of smaller quantities than prescribed. It was resolved:

That the Secretary of the Panel Committee obtain particulars of these practices and forward the same to the Pharmaceutical Committee.

Repetitions and Duplicate Prescriptions.—A letter was read from the Insurance Commissioners in reply to a communication addressed to them by the Secretary of the Committee on November 5th. The reply stated that the Commissioners were communicating with the Liverpool Insurance Committee on the matter of "Rept. Mist.," and duplicate prescriptions.

Medical Attendance on Hospital Staffs.—A letter was read from the Administrative Officer of the Liverpool Insurance Committee, stating that the Medical Benefit Subcommittee would be glad to consider any suggestions of the Panel Committee regarding arrangements for attendance on hospital staffs. A reply was directed to be forwarded stating that in the view of the Committee employees of hospitals and kindred institutions should have full liberty to choose their doctor from the whole panel, in the same manner as other insured persons. It was resolved:

That the Chairman and Secretary report the views of the Panel Committee to the Administrative Officer.

Allocation.—The circular letter sent by the Administrative Officer to the Liverpool panel practitioners regarding allocation was read and it was resolved:

That the Secretary offer to assist the Administrative Officer in any difficulties he may have with practitioners in this matter.

Checking Prescriptions.—It was resolved:

That the appointment of representatives on the Joint Committee to be formed for the purpose of making arrangements in regard to the checking of prescriptions be deferred until the terms of agreement constituting the Committee are settled.

Co-ordination of Work of Local Medical and Panel Committees.—A letter was read from the British Medical Association regarding the work of the Local Medical and Panel Subcommittee of the Insurance Act Committee, together with a series of questions to which the Secretary was instructed to reply. It was further resolved:

That the Secretary keep in close touch with the above Subcommittee, forwarding such agenda, minutes, and circulars as he may consider advisable.

Stock Mixtures.—Letters from the Administrative Officer and Secretary of the Pharmaceutical Committee having been read, it was resolved:

That the Administrative Officer be asked if the views expressed in his letter are those of the Liverpool Insurance Committee, as it is understood that this question has not yet been considered by that body.

That the Panel Committee is strongly of opinion that the suggestion of the Circular 49 I.C. should be carried out.

BATH.

A MEETING of the Panel Committee was held on December 1st at the Royal United Hospital, Bath.

Checking Prescriptions.—On the motion of Dr. MARSH, seconded by Dr. DUNN, it was resolved:

That the Bath Insurance Committee be informed that the Panel Committee is willing to adopt the suggestion of the

Insurance Commissioners that the cost of checking prescriptions should be borne equally by the Insurance Panel and Pharmaceutical Committees, but is not willing to accept the suggestion of the Bath Insurance Committee that the whole cost of the checking should come out of the medical benefit and drug funds.

GLAMORGAN.

Panel Committee.

A meeting of the Glamorgan Panel Committee was held in the County Hall, Cardiff, on November 24th. Dr. J. Morgan Rees was in the chair.

Excessive Prescribing.—A long discussion took place on cases of alleged excessive prescribing as to which the Pharmaceutical Committee asked the Panel Committee to take action under Regulation 40. It was agreed to ask two of the doctors concerned for a report on the cases.

Drug Tariff.—The Panel Committee discussed with the Pharmaceutical Commitee the tariff for next year, the basis for surcharging, and the mode of checking, since the present system of checking in London had not been found satisfactory. It was decided to recommend that the checking should be done by the county of Glamorgan or by a central bureau in Wales, the former method being considered preferable.

Transference of Patients.—A circular was read from the Welsh Insurance Commissioners in regard to insured persons on the lists of practitioners serving with His Majesty's Forces who may wish to transfer to another practitioner. It was unanimously agreed to send a letter to each practitioner in accordance with the recommendations of this circular.

ROXBURGHSHIRE.

A meeting of the Panel Committee of Roxburghshire was held at St. Boswells on November 24th. Dr. Samuel Davidson (Kelso) was appointed interim chairman during the absence of Dr. Cullen at the war.

Checking of Prescriptions.—Dr. Carlyle Johnstone reported that the proposed bureau for checking prescriptions was discussed at a recent meeting of the Insurance Committee, when it was decided by a large majority to approve of the scheme.

Agreements.—Dr. Carlyle Johnstone intimated that at a meeting of the Medical Benefit Subcommittee sympathy was expressed with the position taken up by the Panel Committee in objecting to the proposal made by the Commissioners to give only six weeks' notice of any alterations in the agreements for next year.

Treatment of Tuberculosis.—Dr. Carlyle Johnstone also informed the committee that the subject of prescribing for patients suffering from tuberculosis had been discussed at the recent meeting of the Insurance Committee in connexion with the complaint made by the Commissioners regarding the alleged prescribing of medical foods for patients not recommended for domiciliary treatment. Dr. Johnstone said the Commissioners had stated, in reply to an inquiry, that the medicines which might properly be prescribed for insured persons suffering from tuberculosis who were not recommended by the committee for sanatorium benefit were those referred to in Section 8 (1) (*a*) of the National Insurance Act, 1911.

Mileage Grants.—A letter was read from the County Insurance Committee intimating that of the £870 assigned to the Roxburgh County Insurance Committee out of the mileage grant for 1914 an order for £652 had been received, and the scheme of distribution was approved. In view of the Panel Committee having taken the distribution of the mileage into its own hands with the consent of the Insurance Committee, the clerk was instructed to open a bank account, and distribute the sums due to each panel practitioner by cheque.

Local Medical and Panel Subcommittee of the British Medical Association.—A circular was submitted from the British Medical Association, intimating the appointment of a Local Medical and Panel Subcommittee to keep in close touch with, and assist in the co-ordination of, all Local Medical and Panel Committees. The Committee welcomed the appointment of the Subcommittee, and considered that if it carried out the scope of work outlined in the circular, it would be of inestimable assistance to Local Medical and Panel Committees throughout the kingdom.

THE MODEL AGREEMENT BETWEEN PANEL PRACTITIONERS AND INSURANCE COMMITTEES.

The Insurance Commissioners have issued the revised model agreement between panel practitioners and Insurance Committees (Form Med. 29, revised, January, 1915). Taken as a whole, there is but little practical difference between this and the form now in operation, except in the following particulars. The first alteration occurs in Sect. 2 (2), which has been considerably shortened. That subsection commences by stating that the practitioner shall not accept from his panel patients any fee, except as provided in the agreement, but this was followed in the full form of 1914 by a proviso that nothing in the agreement should prohibit the practitioner receiving any agreed fees from patients who, though living at a considerable distance, voluntarily agreed with that particular practitioner to attend them, in spite of the fact that another panel practitioner might have been obtained who lived much nearer to the insured person. This proviso was omitted in several areas even in the year 1914, and its final disappearance from the model for 1915 can hardly prevent any such private arrangements, which are purely voluntary on the part of the insured.

In Section 7 the provision of the 1914 agreement that certificates shall be written in ink and signed in ink by the practitioner in his own handwriting has now finally disappeared. It has been mostly quite inoperative, and its disappearance will make no difference in actual practice.

In the old agreement a practitioner desiring to withdraw from the panel had to give four weeks' notice before the beginning of the succeeding year, but, in accordance with the alteration in Regulation 17 (2) made at the beginning of 1914, six weeks' notice will in future have to be given.

With regard to certificates, an important alteration occurs in the first schedule of the agreement. In the form for 1914 it was provided that such certificates had to be given as are required by the society of which the patient is a member. This particular provision is now altered to read as follows: "That certificates shall be furnished to every insured person where he so desires and requests in such form, on such occasions, and generally in such manner as the Commissioners may determine for the purposes of any claim . . . and that unless and until the Commissioners so determine, such certificates shall be furnished for the purposes aforesaid as are required to be furnished in pursuance of the rules of the society of which the insured person is a member, or of the Committee, as the case may be, etc." It is understood that the object of this alteration is to allow the Commissioners to introduce a uniform system of certificates which may be binding on all the societies and committees, instead of the multitudinous variety of forms now in use, some of which may be good, though others entail an unnecessary amount of trouble to practitioners. The sooner such a uniformity is introduced by the Commissioners the better.

In the second schedule only Section 3 now remains, the first two sections of the 1914 form, which occurred in many areas, being omitted as being practically redundant. In other respects than those mentioned above, the 1915 agreement remains practically the same as that of the present year.

THE DRUG FUND IN SOUTH WALES.

Glamorganshire.

At a meeting of the Glamorgan Insurance Committee it was reported that the total sum available in respect of the drug fund at 1s. 6d. per insured person, and the drug suspense fund at 6d. per insured person, was £22,800, from which certain deductions, including £3,878 to doctors for dispensing, had to be made, leaving the amount of £16,420 available for the payment of chemists' accounts. As against this the chemists' accounts up to October 11th totalled £18,526, and it was estimated that by the end of the year they will amount to £24,252, showing a deficit on the year's working of £8,032. The average cost of the prescriptions dispensed to October 11th was 9.68d., as compared with 7.80d. for the corresponding period of last

year. Examination of the prescriptions dispensed by some chemists in the two districts where the average cost was highest last year showed that the average cost of the prescriptions by the doctors concerned varied from 9.84d. to 1s. 3.77d. per prescription. The accountant made the following observations on his report:

The cost of drugs, etc., supplied to insured persons in receipt of domiciliary treatment of tuberculosis is payable out of the sanatorium fund by the Welsh National Memorial Association if the insured persons have been recommended to them by the committee for treatment. There is not the slightest doubt that a considerable amount has been charged against the drug fund during the year for extracts of malt, hypophosphites, cod-liver oil, emulsions, etc., which is a proper charge against the sanatorium fund, and the committee should consider the desirability of transferring an amount from the sanatorium fund to cover these charges. The supply of dressings in bulk to doctors since July last has been a very heavy drain upon the drug fund, and it seems to me that the committee should place a limit on the quantities to be obtained by doctors, based on the number of insured persons on their respective registers.

The Committee had before it a resolution passed at a meeting of panel chemists expressing regret that the Pharmaceutical Committee had not been in possession of the necessary information at an earlier date.

Dr. W. E. THOMAS said that in Glamorgan a mining community had to be dealt with, amongst whom sickness was far above the average and the number of accidents enormous. The chairman observed that this was the root of the mischief, but a member of the Committee expressed the opinion that there was over-prescribing.

The CHAIRMAN of the Finance Committee moved that the Committee should co-operate with the Panel Committee and Pharmaceutical Committee in order to secure as much money as possible for the chemists under Section 40, which provided that doctors could be surcharged when there had been over-prescribing. The deficiency, however, he said, could not be made up in that way, and he proposed that the Commissioners should be approached in reference to the matter. The motion was seconded by Dr. W. E. THOMAS and passed. It was also agreed to appoint three members respectively of the Insurance Committee, the Finance Committee, the Medical Benefit Committee, and the Pharmaceutical Committee to make immediate investigation and report to a special meeting of the Insurance Committee.

MONMOUTHSHIRE.

A DULY-CONVENED meeting of Monmouthshire panel practitioners was held at St. James's Hall, Pontypool, on November 26th. Dr. J. W. MULLIGAN was in the chair and there was a fair attendance. Dr. E. Ryan acted as Secretary.

Drug Fund.—The CHAIRMAN explained that the meeting was called to consider the serious condition in which the Drug Fund for the county stood; there would, he said, probably be a very large deficiency at the end of the year. The SECRETARY gave official figures by which it was seen that some doctors had spent more than the 2s. in the first quarter of the year. One had spent 2s. 9d. per insured person for that quarter. A long discussion ensued, and the general feeling was that there had been excessive prescribing. Eventually the following resolutions were adopted:

1. That at the end of the year, if it be found that the 2s. per insured person be insufficient to pay the chemist's accounts, the deficiency shall be surcharged on those panel practitioners who have exceeded the 2s. limit in proportion to such excess.
2. That after this year the Monmouthshire Panel Committee shall recommend for surcharge all panel practitioners who exceed the sum provided by law for the payment of chemist's accounts.
3. That practitioners, the cost of whose prescriptions have exceeded the 2s. limit, shall not receive any of the Floating Sixpence Fund, and other practitioners shall be paid from that fund in proportion to the charges their prescriptions have made upon it.

INSURANCE ACT: IRELAND.

OUTWORKERS.

THE report of the Committee appointed to consider and advise in regard to the application of the National Insurance Act to outworkers in Ireland was issued as a White Paper last week. On a first consideration of the problem submitted to the Committee, it appeared desirable to recommend the inclusion within the scope of the National Insurance Act of all outworkers in Ireland, under conditions similar to those which apply to the outworkers in England, Wales and Scotland. There is, however, a grave consideration which militates strongly against the immediate adoption of a scheme for the insurance of all outworkers—namely, the fact that the Act, as applied to Ireland, makes no provision for medical benefit. The report of the Committee appointed to consider the extension of medical benefit to Ireland recommends the exclusion from any such extension of wide areas, including most of the districts in which the peasant outworkers reside. If, therefore, this proposal is carried into effect, these rural outworkers, for probably a very considerable time, will be almost wholly excluded from participating in medical benefits. The Committee considers that some amendment of the Act will, in the course of time, be found desirable to meet the necessities of such workers, but holds that at the present time the conditions appertaining to the Irish peasant outworkers excluded by reason of Section 81 (4) of the National Insurance Act are such that no practicable scheme can be suggested which would enable them to benefit adequately from inclusion under the Act. The Committee accordingly recommends that no change should at present be made in the application of the Act to outworkers in Ireland, those mainly dependent on their outwork remaining insurable, and the rest continuing to be regarded as outside the scope of the Act.

INSURANCE ACT IN PARLIAMENT.

Panel Chemists (London).

MR. TOUCHE asked why a deduction of 40 per cent. has been made by the Insurance Committee for London from the accounts of panel chemists for the month of August.—Dr. Addison said that the question was founded on a misapprehension. Any such monthly payments as those referred to were advances only on account of the total remuneration due to each chemist in respect of the whole year. The rate of which these advances were made was a matter for agreement between the Insurance Committee and the committee representing the panel chemists, and did not necessarily bear any relation to the actual remuneration payable.

Stock Mixtures.

Mr. Keir Hardie asked whether a protest had been received from the Merthyr Tydvil Borough Insurance Committee against having the new model, or stock medicine, clause of the Insurance Commissioners forced upon them; whether this proposal was a return to the discarded Poor Law system; and what action it was proposed to take to safeguard the rights of local Insurance Committees in this matter.—Dr. Addison said that the reply to the first part of the question was in the affirmative. The provision referred to, however, which merely related to the pricing of certain mixtures, in no way affected the standard of quality either of the medical treatment or of the drugs required to be supplied, which continued to be subject to the same conditions and safeguards as hitherto. There was no ground for the apprehensions expressed in the question.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty: Fleet Surgeons OSWALD REES to the *Powerful*, temporary, vice Boyan; WALTER H. O. GAESE to the *Pembroke*, additional for disposal; FREDERICK F. MAHON to the *Vivid*, additional for disposal; MONTAGUE H. KNATT to the *Blake*, vice Robertson; ERNEST C. LOMAS, M.B., F.R.C.S., D.S.O., to hospital ship *Garth Castle*. Surgeons: J. L. CHRISTIAN to the R.M. Artillery, vice Matthews; MAURICE S. MOORE, M.D., to R.M. Division, Plymouth, vice JOY MARK J. ATTEEN to the R.M. Division, Chatham, vice Cheesman; WILLIAM H. MURRAY to the *Wildfire*, for Barracks and Yard, Sheerness, vice Ormesby; JOSEPH A. MAXWELL, M.B., to the *Impregnable*, vice Vickery; H. B. PARKER, M.B., additional for Chatham Hospital, vice Creaser. Temporary Surgeons: A. F. BARRETT, G. F. JONES, M.B., C. H. BROWNE, G. W. KING to the *Pembroke*, additional for Chatham Hospital; CHARLES A. ANDERSON to the *Victory*, additional for R.N. Division; FREDERICK C. S. BROOME, MALCOLM B. HAY, and GODFREY H. LATHAM to the *Victory*, for disposal; HENRY HENSTED, M.D., and PETER W. CARRUTHERS, M.B., to the *Hyacinth*, additional for Cape Hospital, additional for disposal; JAMES W. K. BRUCE to the *Pembroke*, for

disposal; ROGER BUDDLE, M.D., to the *Actaeon*, vice LaNau; J. T. J. BRUCE to the *Magnificent*, vice Macpherson; EDWIN B. BAILEY to the *Vernon*, additional for R.N. Air Service; ALFRED R. MACMULLIN to the *Pembroke III.* for R.N. Air Service; THOMAS H. CRESSWELL to hospital ship *Garth Castle*; C. W. WHEELER-BENNET to the hospital ship *Garth Castle*; THOMAS S. HARRISON to the *Victory*, additional for Portland Hospital, vice Briscoe. Appointed temporary Surgeons: CHARLES S. ARCHER, HERBERT R. BASTARD, ARTHUR L. DYKES, JAMES A. MCVAE, WILLIAM L. ANDERSON, M.B., HERBERT DANYERS.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Probationers: ERIC A. FIDDIAN to the *Blake*, additional for the *Nereide*: ALFRED F. WYATT to the *Blake*, additional for the *Fury*; PHILIP E. F. FROSSARD to the *Blake*, additional for the *Redpole*; GILBERT BLURTON to the *Hecla*, for the *Cockatrice*; HERBERT W. EDDISON to the *Hecla*, additional for the *Acasta*; CYRIL J. C. COOKE to the *Hecla*, additional for the *Ambuscade*; STEWART N. TOULMIN to the *Blake*, additional for the *Ruby*; CECIL N. RATCLIFFE to the *Blake*, additional for the *Acorn*; PAUL R. RIGGALL to the *Blake*, additional for the *Brisk*; ARTHUR G. BRETT to the *Blake*, additional for the *Alarm*; STEWART R. JOHNSTON to the *Blake*, additional for the *Nymphe*; A. J MUIRHEAD to the *Hecla*, additional for the *Midge*: Surgeons HERBERT L. MURRAY, ALFRED E. W. HIRD, and LIONEL S. ASHCROFT, M.B., to the hospital ship, *Garth Castle*.

MILES PRIOR, M.B., to be Surgeon for temporary service.

ARMY MEDICAL SERVICE.

LIEUTENANT-COLONEL ALFRED P. BLENKINSOPP to be Assistant Director-General.

Captain Sir BERTRAND E. DAWSON, K.C.V.O., M.D., 2nd London General Hospital, Territorial Force, to be temporary Colonel.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel CHARLES H. BURTCHALL, M.B., is restored to the establishment.

The following are granted temporary rank as indicated whilst serving with the Allied Forces Base Hospital: To be Majors: ARTHUR G. WHITEHORNE-COLE, BERNARD HUDSON, M.D., PHILIP M. HEATH, F.R.C.S. To be Captains: NORMAN DUGGAN, M.B., F.R.C.S., SIDNEY R. RADLEY, M.B., F.R.C.S., ERNEST D. ROBERTS. To be Lieutenants: DOUGLAS E. DERRY, M.B., OSWALD T. DINNICK, M.D., WILLIAM M. S. ROBINSON, F.R.C.S.E., ROBERT H. LISCOMBE.

To be temporary Lieutenants: SAMUEL E. PICKIN, M.B., ROBERT S. TAGGART, M.B., JOSEPH G. JOHNSTON, M.B., JOHN H. O'NEILL, ANDREW R. HAMILTON, M.B., HERBERT EMERSON, M.B., ERNEST F. W. BUCKELL, RICHARD O. H. JONES, RICHARD L. BARWICK, JOHN I. RUSSELL, M.B., HAROLD T. MANT, M.B., F.R.C.S., GEORGE E MILES, JAMES B. MITTON, M.B., JAMES P. O'FLYNN, M.B., WILLIAM ELWOOD, M.B., KENNETH J. YEO, ARTHUR N. HOOPER, WALTER H. KIEP, M.B., FREDERICK CARSON, M.B., ALEXANDER JOHN KENDREW, M.B., D'ARCY R. W. COWAN, M.B., CHARLES F. CONSTANT, HORACE P. W. WHITE, M.B., GEORGE D. YATES, M.B., FRANCIS J. MORRIS, PHILIP L. DAVIES, M.B., ROBERT C. MACLACHLAN, M.B., ARTHUR E. MOORE, M.D., ALBERT E. M. WOOLF, M.B., F.R.C.S., ATHELSTANE NOBBS, M.D., MAURICE C. TURIANSKY, M.B., JOHN B. FISHER, M.B., WALLIS C. P. BREMNER, M.B., ARCHIBALD L. MCLEAN, M.D., ANDREW B. RAFFLE, M.D., HENRY CATLING, THOMAS F. MURPHY, CECIL CLARKE, M.D., PETERSWALD PATTISON, M.B., JOHN I. SHEPHERD, M.D.

Lieutenants ROBERT D. M. MACPHERSON, M.B., and JOHN B. MOOR, M.D., have resigned their temporary commissions.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

London Mounted Brigade Field Ambulance.—To be Lieutenants: FREDERICK P. RANKIN, M.B., THOMAS W. S. PATERSON, EDWARD B. HARTNELL.

First London (City of London) Sanitary Company.—To be Lieutenants: JOHN H. BALDWIN, EVELYN A. COOPER.

Second London Sanitary Company.—ASHLEY G. G. THOMPSON, M.B., to be Lieutenant.

Fifth London Field Ambulance.—Captain ROBERT CORFE, M.B., to be Major.

Third London (City of London) Field Ambulance.—The appointments of JAMES L. O. TAYLOR and CEDRIC R. TAYLOR, M.B., to lieutenancies, which appeared in the *London Gazette* of November 3rd and October 23rd respectively, are cancelled

Fourth London General Hospital.—CHARLES E. H. MILNER to be Lieutenant.

First Home Counties Field Ambulance.—HUGH S. PALMER, M.B., to be Lieutenant.

Second Wessex Field Ambulance.—JOHN P. MILTON to be Lieutenant.

First East Anglian Field Ambulance.—Captain LEE D B. COGAN, from attached to other than medical units, to be Captain.

Second East Anglian Field Ambulance.—Captain ALISTER C. YOUNG, from the First East Anglian Field Ambulance, to be Captain.

First Eastern General Hospital.—Major HENRY E. RODERICK, M.D., from the Unattached List for the Territorial Force, to be Major.

First South Midland Field Ambulance.—Captain HANS F. W. BORDDICKER, M.B., to be Major.

Third South Midland Field Ambulance.—Captains THOMAS A. GREEN, M.D., and PERCY MOXEY have been appointed Majors, temporary. RICHARD I. DACRE to be Lieutenant.

First North Midland Field Ambulance.—FRANCIS G. BENNETT to be Lieutenant.

Second North Midland Field Ambulance.—THOMAS GRAHAM, M.B., to be Lieutenant

Third North Midland Field Ambulance.—To be Lieutenants: Cadet STANLEY S. B. HARRISON, from the London University Contingent, Senior Division, Officers' Training Corps; HAROLD D. LANE, JOHN G. J. GREEN.

First West Riding Field Ambulance.—To be Lieutenants: FREDERICK J. STANSFIELD, JAMES C. METCALFE, M.B., FRANK WIGLESWORTH, M.B.

Third West Riding Field Ambulance.—CHARLES W. SMITH, M.B., to be Lieutenant

West Riding Clearing Hospital.—To be Lieutenants: FREDERICK P. GIBSON, M.B., HUBERT T. BATES, M.B., JEFFERY W. MALIM, M.B., GEORGE P. P. CLAPHAM.

Yorkshire Mounted Brigade Field Ambulance.—WILLIAM H. N. WHITE, M.B., to be Lieutenant.

Second East Lancashire Field Ambulance.—To be Lieutenants: WILLIAM TURNER, ALEXANDER M. GIBSON, M.B.

Third Northumbrian Field Ambulance.—Captain OSWALD L. APPLETON to be Major, temporary.

Third Lowland Field Ambulance.—CLIFFORD H. KER-SMITH, M.B., late Cadet, Edinburgh University Contingent, Senior Division, Officers' Training Corps, to be Lieutenant.

First Lowland Field Ambulance.—Lieutenant-Colonel WILLIAM F. SOMERVILLE, M.D., retired list (late of this unit), to be Lieutenant-Colonel.

Second Welsh Field Ambulance.—Captain HENRY T. SAMUEL to be Major.

Second Western General Hospital.—JAMES B. MACALPINE, M.B., F.R.C.S., to be Captain; MANFRED MORITZ, M.B., to be Lieutenant.

Sanitary Service.—Captain HARRY HUNTER resigns his commission.

Attached to Units other than Medical Units.—Surgeon-Captain ABRAHAM THOMAS, M.B., from the 2nd Welsh Brigade R.F.A. to be Major; Captain CHARLES H. R. PENTREATH, M.B., New Zealand Medical Corps, to be Captain (temporary); Lieutenant STANLEY L. BRIMBLECOMBE to be Captain; Surgeon-Captain JAMES WILSON, M.D., F.R.C.S., from the Pembroke (Castlemartin) Yeomanry, to be Major; Lieutenant HAROLD W. READ to be Captain. To be Lieutenants: PATRICK BLACK, HARRY G. BUTTERFIELD, M.B., ALEXANDER AMBROSE, M.B., ERNEST B. KEEN, late Lieutenant 13th (County of London) Princess Louise's Kensington Battalion London Regiment, GEORGE CANDLER, Lieutenant HAROLD K. GRIFFITH, M.B., F.R.C.S., from the Unattached List for the Territorial Force, ANDREW F. GRANGER, M.B., KENNETH MACKINNON, M.B. (late Lieutenant R.A.M.C.T.).

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel JAMES C. RENTON M.D., from the Fourth Scottish General Hospital, to be Lieutenant-Colonel.

Captain WILLIAM A. HOOTON, from the Second Western General Hospital, to be Captain.

Vital Statistics.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

THE Registrar-General has just issued his returns relating to the births and deaths in the third quarter of the year, and the marriages registered during the three months ending June last. The marriage-rate during that period was equal to 17.4 per 1,000 annually of the population, and was 1.2 per 1,000 above the mean rate in the corresponding period of the ten preceding years.

The 226,998 births registered in England and Wales last quarter were equal to an annual rate of 24.1 per 1,000 of the population, estimated at 37,302,983 persons in the middle of the year; this rate is 1.8 per 1,000 below the average for the ten preceding third quarters. The birth-rates in the several counties last quarter ranged from 16.7 in Sussex, 16.8 in Rutlandshire, 17.4 in Cardiganshire, 17.9 in Carnarvonshire, and 18.0 in Dorsetshire and in Somersetshire, to 28.3 in Northumberland, 29.0 in Staffordshire, 29.6 in Glamorganshire, 30.1 in Monmouthshire, and 31.8 in Durham. In ninety-seven of the largest towns the birth-rate averaged 25.5 per 1,000, and ranged from 13.2 in Bournemouth, 15.3 in Eastbourne, 15.5 in Hastings and in Southport, and 15.9 in Ilford and in Bath, to 32.7 in Rhondda, 32.8 in Stoke-on-Trent, 33.2 in Middlesbrough, 33.6 in Sunderland, and 34.1 in St. Helens; in London the birth-rate was 24.9 per 1,000.

The excess of births over deaths last quarter was 111,445, against 81,557, 117,552, and 111,976 respectively in the corresponding quarter of the preceding years. From a return issued by the Board of Trade it appears that the passenger movement between the United Kingdom and places outside Europe resulted in a net balance outward of 27,314 British and of 30,619 alien passengers; the movement between the United Kingdom and the Continent of Europe resulted in an inward balance of 76,715 passengers; thus there was a net balance inward of 18,782 persons.

The 115,553 deaths registered in England and Wales during the quarter under notice were equal to an annual rate of 12.3 per 1,000; in the corresponding quarters of the ten preceding years the rate was 13.2 per 1,000. The death-rates in the several counties last quarter ranged from 8.2 in Rutlandshire, 8.8 in Dorsetshire, 8.9 in Middlesex, 9.1 in Surrey, 9.4 in Wiltshire, and 9.5 in Buckinghamshire, to 13.6 in the East Riding of Yorkshire, 13.7 in the West Riding, 14.2 in the North Riding, 14.6 in Northumberland, 14.7 in Lancashire, and 15.9 in Durham. In ninety-seven of the largest towns the death-rate averaged 13.2 per 1,000, and ranged from 7.2 in Bournemouth, 7.4 in Ealing and in Ilford, 7.5 in Southend, and 7.8 in Hornsey, to 17.7 in Stoke-on-Trent and in Wigan, 18.6 in Middlesbrough and in Gateshead, 18.7 in Bootle, and 19.1 in Liverpool; the death-rate in London was 13.3 per 1,000.

The 115,553 deaths from all causes last quarter included 412 which were attributed to enteric fever, 1,694 to measles, 567 to scarlet fever, 1,623 to whooping-cough, 1,058 to diphtheria, 11,181 to diarrhœa and enteritis among children under 2 years of age, and 1 to small-pox. The mortality from enteric fever was rather more than half the average, while that from measles, scarlet fever, whooping-cough, and diphtheria was only slightly below the average.

The rate of infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 112 per 1,000, which was 22 per 1,000 less than the average in the ten preceding third quarters. Among the several counties the rates of infant mortality ranged from 46 in Dorsetshire, 51 in Oxfordshire and in Westmorland, 54 in Wiltshire, 55 in Somersetshire, and 56 in Buckinghamshire and in Radnorshire, to 130 in the East Riding of Yorkshire, 135 in the North Riding, 136 in Lancashire, 137 in the West Riding, 143 in Northumberland, and 172 in Durham. In the ninety-seven large towns the rate of infant mortality averaged 128 per 1,000, and ranged from 39 in Bournemouth, 43 in Bath, 52 in Eastbourne, and 53 in Ealing and in Gillingham, to 190 in Wigan, 196 in Gateshead, 199 in Preston, and 200 in Barnsley; in London the rate of infant mortality was 127 per 1,000.

The death-rate among persons aged 1 to 65 years of age was equal to 6.8 per 1,000 of the population at this group of ages; in the ninety-seven large towns the death-rate at these ages averaged 7.5 per 1,000, and ranged from 3.9 in Ealing, 4.0 in Ilford, Eastbourne, and Bournemouth, and 4.2 in Hornsey, to 10.0 in Sunderland, 10.3 in Oldham, 10.9 in Bootle, 11.1 in Middlesbrough, and 11.8 in Liverpool.

Among persons aged 65 years and upwards the death-rate was 63.8 per 1,000; the rate in the ninety-seven large towns averaged 65.9 per 1,000, and ranged from 34.6 in Exeter, 40.8 in Bournemouth, 45.6 in

Southend, 46.9 in Devonport and 47.5 in Swindon, to 93.3 in Bolton, 94.0 in Stockton-on-Tees, 95.8 in St. Helens, 96.9 in Huddersfield, and 102.4 in Warrington.

The mean temperature of the air last quarter was above the average in all parts of the country, the rainfall was below the average, and bright sunshine was more prevalent than in the corresponding quarter of either of the two preceding years.

HEALTH OF ENGLISH TOWNS.

In ninety-seven of the largest English towns 7,943 births and 5,760 deaths were registered during the week ended Saturday, November 28th. The annual rate of mortality in these towns, which had been 13.4, 13.0, and 14.3 per 1,000 in the three preceding weeks, further rose to 16.6 per 1,000 in the week under notice. In London the death-rate was equal to 16.4, against 13.9, 13.3, and 14.6 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 5.2 in Ilford, 7.5 in Reading, 8.5 in Enfield, 8.7 in Lincoln, 8.8 in Hornsey, and 8.9 in Ipswich, to 22.9 in Barrow, 23.2 in Rhondda, 23.3 in Newcastle-on-Tyne, 23.6 in Liverpool, 24.8 in Plymouth, and 25.5 in Rotherham. Measles caused a death-rate of 1.2 in Liverpool, 1.3 in Preston and in Rhondda, 1.4 in Plymouth, 2.1 in Oldham, 2.4 in Wallasey, 4.0 in Wigan, and 5.1 in Newcastle-on-Tyne. The deaths of children (under 2 years) from diarrhoea and enteritis, which had been 169, 131, and 138 in the three preceding weeks, fell to 102, and included 28 in London, 8 in Birmingham, 8 in Manchester, and 7 in Liverpool. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 54, or 0.9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner; of this number, 13 were recorded in Birmingham, 10 in Liverpool, 5 in Bootle, 3 in St. Helens, and 3 in Blackburn. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 4,769, 4,976, and 5,005 at the end of the three preceding weeks, further rose to 5,035 on Saturday, November 28th; 623 new cases were admitted during the week, against 690, 751, and 627 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,093 births and 808 deaths were registered during the week ended Saturday, November 28th. The annual rate of mortality in these towns, which had been 15.8, 15.2, and 16.6 per 1,000 in the three preceding weeks, rose to 18.4 in the week under notice, and was 1.8 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 7.6 in Kirkcaldy, 8.8 in Motherwell, and 13.5 in Edinburgh, to 21.5 in Perth, 24.3 in Hamilton, and 24.9 in Dundee. The mortality from the principal infective diseases averaged 1.9 per 1,000, and was highest in Dundee and Aberdeen. The 397 deaths from all causes in Glasgow included 22 from whooping-cough, 13 from scarlet fever, 6 from infantile diarrhoea, 3 from diphtheria, 1 from measles, and 1 from enteric fever. Six deaths from diphtheria were recorded in Edinburgh, and 2 in Aberdeen; 2 deaths from measles in Dundee, and 2 in Aberdeen; and 6 deaths from scarlet fever in Aberdeen, and 3 in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, November 21st, 580 births and 423 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 514 births and 408 deaths in the preceding period. These deaths represent a mortality of 18.3 per 1,000 of the aggregate population in the districts in question, as against 17.7 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.0 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.1 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.8 (as against an average of 16.5 for the previous four weeks), in Dublin city 20.2 (as against 17.4), in Belfast 19.1 (as against 16.7), in Cork 27.9 (as against 18.5), in Londonderry 15.2 (as against 13.7), in Limerick 6.8 (as against 18.9), and in Waterford 32.3 (as against 27.1). The zymotic death-rate was 2.0, as against 1.8 in the previous week.

During the week ending Saturday, November 28th, 594 births and 449 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 580 births and 423 deaths in the preceding period. These deaths represent a mortality of 19.4 per 1,000 of the aggregate population in the districts in question, as against 18.3 per 1,000 in the previous period. The mortality in these Irish areas was therefore 2.8 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.7 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.9 (as against an average of 17.3 for the previous four weeks), in Dublin city 19.8 (as against 18.5), in Belfast 20.8 (as against 17.2), in Cork 19.7 (as against 21.2), in Londonderry 15.2 (or the same as in the previous period), in Limerick 19.0 (as against 15.6), and in Waterford 20.9 (as against 29.4). The zymotic death-rate was 1.8, as against 2.0 in the previous week.

Hospitals and Asylums.

ENNISCORTHY ASYLUM.

The Resident Medical Superintendent of the Enniscorthy Asylum (Dr. Thomas Draper), in his report for 1913, notes a reduction of eight patients at the close of the year as compared with the number in residence at its commencement, and also a reduction of 2.5 in the daily average. Only twice within the last fifteen years has the daily average shown a decrease, and then only of one, there having been a steady increase in numbers in all the other years, that for 1911 and 1912 having been twelve and nine respectively. Comparing the last three five-year periods, it is found that during the first of these the average increase was 10.2, in the second 8.6, and in the last 5.7. There has therefore been a marked reduction in the rate of increase, whilst last year the reduction was not merely relative but absolute. Such facts encouraged the hope that the asylum might be within measurable distance of being in a position to report a cessation of increase, possibly even a decrease, in the number of insane under detention.

Vacancies and Appointments.

NOTICES REGARDING APPOINTMENTS.—Attention is called to a Notice (see Index to Advertisements—Important Notice re Appointments) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BARNSLEY: BECKETT HOSPITAL AND DISPENSARY.—Second House-Surgeon. Salary, £100 per annum.

BARNSLEY COUNTY BOROUGH.—Resident Tuberculosis Officer. Salary, £300 per annum.

BARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—House-Surgeon (male). Salary, £150 per annum.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—House-Surgeon. Honorarium at the rate of £100 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM GENERAL DISPENSARY. — Resident Medical Officer. Salary, £240 per annum.

BIRMINGHAM: ROYAL ORTHOPAEDIC AND SPINAL HOSPITAL.—Two Clinical Assistants. Honorarium, £25.

BIRMINGHAM UNION.—(1) Second, Third, and Fourth Assistant Medical Officers at the Dudley Road Infirmary; salary, £210, £170, and £160 respectively. (2) Assistant Medical Officer at the Erdington Infirmary and Cottage Homes; salary, £200. (3) Assistant Medical Officer at the Selly Oak Infirmary; salary, £180 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRIDGWATER HOSPITAL. — House-Surgeon. Salary, £125 per annum.

BRISTOL GENERAL HOSPITAL. — Resident Obstetric Officer. Salary at the rate of £120 per annum.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Medical Superintendent. Salary, £200 per annum.

CAMBERWELL: PARISH OF ST. GILES. — Assistant Medical Officer for the Infirmary. Salary, £190 per annum, rising to £200.

CARDIFF: KING EDWARD VII HOSPITAL. — House-Surgeon. Salary at the rate of £100 per annum.

CARDIFF: KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION.—Assistant Resident Medical Officers at Sanatoriums. Salary, £150 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

DEVON COUNTY COUNCIL.—Temporary Resident Junior Medical Officer at the County Sanatorium. Salary at the rate of £250 per annum.

DUDLEY: GUEST HOSPITAL.—Senior Resident Medical Officer. Salary, £120 per annum.

DUMFRIES: CRICHTON ROYAL INSTITUTION. — Temporary Assistant Physician (male). Salary, 5 guineas a week.

DURHAM: SHERBURN HOSPITAL.—Medical Officer. Salary, £300 per annum.

ESSEX EDUCATION COMMITTEE, Chelmsford.—Medical Inspector. Salary, £300 per annum, rising to £400.

GENERAL LYING-IN HOSPITAL, York Road, S.E.—Resident Medical Officer. Salary, £50 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary, £80 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Resident Medical Officer. Salary, £120 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £200 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HALIFAX UNION.—Resident Medical Officer for the Poor Law Hospital. Salary, £140 per annum.

KENT AND CANTERBURY HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £90 per annum respectively.

KENT COUNTY ASYLUM, Maidstone.—Male Junior Assistant Medical Officer. Salary, £250 per annum.

KING EDWARD VII MEMORIAL SANATORIUM, Shirlett, near Much Wenlock.—Resident Medical Superintendent. Salary, £300 per annum.

LEEDS GENERAL INFIRMARY.—Resident Casualty Officer. Salary, £125 per annum.

LEICESTER ROYAL INFIRMARY.—Two Resident Assistant House-Surgeons. Salary at the rate of £100 per annum.

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITAL.—Locumtenent Resident Medical Officer. Remuneration, 5 guineas a week.

LIVERPOOL ROYAL SOUTHERN HOSPITAL.—House-Surgeon. Salary, £60 per annum.

LONDON COUNTY ASYLUM, Horton.—Junior Assistant (Sixth) Medical Officer. Salary, £200 per annum, rising to £220.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.—Assistant Physician.

MANCHESTER: ANCOATS HOSPITAL.—Resident House-Physician. Salary, £80 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER: ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—(1) Resident Surgical Officer; (2) House-Surgeon. Salary at the rate of £90 and £70 per annum respectively.

MANCHESTER TOWNSHIP.—Assistant Medical Officer at the Institution, Crumpsall.—Salary, £180 per annum.

MANCHESTER: VICTORIA MEMORIAL JEWISH HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum.

NEWCASTLE-UPON TYNE CITY HOSPITAL FOR INFECTIOUS DISEASES.—Male Resident Medical Assistant. Salary, £200 per annum.

NEWCASTLE-UPON-TYNE AND NORTHUMBERLAND SANATORIUM FOR CONSUMPTIVES, Barrasford.—Resident Medical Officer (male). Salary, £350 per annum, rising to £400.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORTHAMPTON GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

NORWICH CITY.—Resident Medical Officer to the Isolation Hospital and Assistant to M.O.H. Salary at the rate of £240 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon (male). Salary, £250 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum. (Women eligible.)

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Surgeon (male). Salary, £130 per annum.

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

RHONDDA URBAN DISTRICT COUNCIL.—Temporary Assistant Medical Officer of Health and School Medical Officer. Salary, £300 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House-Surgeon (male). Salary, £110 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Junior Resident Medical Officer. Salary at the rate of £70 per annum.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer; (2) Casualty House-Surgeon. Salary at the rate of £120 and £100 per annum respectively.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £150 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £300 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD ROYAL INFIRMARY.—Male House-Surgeon. Salary, £100 per annum.

SHETLAND: PARISH OF NORTHMAVINE.—Medical Officer. Salary, under Poor Law, £50 per annum; Lunacy Acts, £10.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £250 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SOUTH SHIELDS UNION.—Assistant Medical Officer (male), non-resident, at the Harton Poor Law Institution. Salary, £200 per annum, rising to £250.

STOKE-ON-TRENT: INFECTIOUS DISEASES HOSPITAL.—Resident Assistant Medical Officer (lady). Salary, £150 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—(1) House-Physician; (2) House-Surgeon. Salary, £120 per annum, rising £10 annually.

SUNDERLAND ROYAL INFIRMARY.—Senior Resident Medical Officer. Salary, £150 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Senior House-Surgeon. Salary, £160 per annum.

WAKEFIELD: WEST RIDING ASYLUM.—(1) Assistant Medical Officer; salary, £250 per annum. (2) Locumtenent Assistant Medical Officer.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon and Anaesthetist. Salary, £110 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £200 per annum.

WARWICKSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary, £300 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £120 per annum respectively.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.—(1) Honorary Anaesthetist. (2) Resident House-Physician. Salary, £100 per annum.

WEST RIDING OF YORK: STORTHES HALL ASYLUM, Kirkburton.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £170 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—(1) Resident Medical Officer; (2) House-Surgeon. Salary at the rate of £125 per annum each.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary, £150 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Penarth (Glamorganshire), Wymondham (Norfolk).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

AUDEN, Francis Thomas, M.D.Edin., District Commissioner and Government Medical Officer, Caicos Island, British West Indies.

BLEASDALE, R., M.B., Ch.B.Vict., Visiting Physician and Surgeon to the Ashton-under-Lyne Union Hospital and Workhouse.

DOLAN, C., L.R.C.P. and S.Edin., Certifying Factory Surgeon for the Ballinamore District, co. Leitrim.

FARQUHAR, George G., M.B., Ch.B.Aberd., F.R.C.S.Eng., Honorary Surgeon to Darlington Hospital.

FELL, A. N., M.D.Edin., Certifying Factory Surgeon for the Colchester District, co. Essex.

FERGUSON, J. J. H., M.B.Edin., Medical Superintendent to the Fife and Kinross Asylum, Cupar, Fife.

JESSEL, George, M.B., B.Ch.Oxon., Acting Medical Officer of Health of Wigan, vice Dr. Wynne, on military service.

LANGDALE-KELHAM, R. D., House-Physician to University College Hospital.

OATIS Geoffrey E., M.D., B.S.Lond., M.R.C.P.Lond., D.P.H Camb., Medical Officer of Health, School Medical Officer, and Medical Superintendent of the Isolation Hospital, Urban District of Ilford.

PAYNE, Miss H. N., M.D., Medical Officer to the Children's Homes of the Hampstead Parish.

RAW, Stanley, M.D., B.S.Durh., F.R.C.S.Edin., Honorary Surgeon to the Sunderland Royal Infirmary, vice G. B. Morgan, L.R.C.S.Ire., J.P., resigned.

SANSOM, E. A. L., M.R.C.S., L.R.C.P., House-Surgeon to University College Hospital.

TINDAL-ATKINSON, W. P., M.R.C.S., L.R.C.P., Radiographer to the Royal Westminster Ophthalmic Hospital, vice Dr. G. A. Simmons.

WALKER, John F., M.B.Lond., M.R.C.S., L.R.C.P., Temporary Tuberculosis Officer to the County Borough of Southend-on-Sea.

WELSH, W. H., M.D., Certifying Factory Surgeon for the Bridge of Allan District, co. Stirling.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

DARKE.—On December 1st, at The Hollies, Harpenden, the wife of Sydney J. Darke, M.B., B.S., of 3, Pownall Gardens, Hounslow, a son.

ROSE.—On November 24th, at Ladye Margaret Cottage, Russell Road, Hall Green, the wife of F. G. Rose, B.A., B.C.Cantab., etc., of a daughter.

DEATHS.

ALEXANDER.—At his residence, at 38, Glenloch Road, Haverstock Hill, N.W., of Robert Reid Alexander, M.D.Aberd., late Medical Superintendent of the London County Asylum, Harwell, on November 14th.

BARENDT.—November 26th, at 65, Rodney Street, Liverpool W., after a short illness, aged nearly 1 year, Peter Julian, the dearly-loved fifth son of Dr. and Mrs. Frank H. Barendt.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W., 8.30 p.m.—Discussion on Tetanus, with special reference to (*a*) Prophylaxis, (*b*) the Serum Treatment of Established Tetanus-Dosage, and Method of Administration. To be opened by Major D. Embleton, M.B., R.A.M.C.(T.)

WEDNESDAY.

HUNTERIAN SOCIETY.—Clinical and Pathological Evening at the Barbers' Hall, Monkwell Street, E.C., 9 p.m. In addition to Cases and Specimens skiagrams of war wounds will be shown.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION FOR THE STUDY OF DISEASE IN CHILDREN, 4.30 p.m.—Specimens and Cases.

CLINICAL SECTION, 8 p.m.—(1) Clinical Cases:—Dr. Alexander Morison: Case of Precordial Thoracostomy for Heart Disease. (2) Paper:—Dr. A. F. Hertz and Mr. C. H. Fagge: Case of Spontaneous Gastro-enterostomy with Subsequent Perforation, and Recovery after Operation.

POST-GRADUATE COURSES AND LECTURES.

Post-graduate Courses are to be given next week at the following schools, colleges, and hospitals:

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.

[*Further particulars can be obtained on application to the Deans of the several institutions, or in some instances from our advertisement columns.*]

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 12TH, 1914.

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British Medical Association

ANNUAL AND SPECIAL REPRESENTATIVE MEETINGS, JULY, 1914.

SYNOPSIS OF PROCEEDINGS.

[NOTE.—It is particularly requested that Members of the Association will preserve this Synopsis for reference.]

Composition and General Proceedings.

ONE HUNDRED AND SEVENTY-TWO Constituencies entitled to appoint Representatives made returns out of a possible 228. Of the fifty-six Constituencies making no return forty were Constituencies outside the United Kingdom, eleven in England, three in Ireland, and two in Scotland. One hundred and seventy-eight Representatives attended, a decrease of five on last year's attendance at Brighton.

Of sixty-seven members of the Council (including in this number the 1913–14 Council and members of the 1914–15 Council elected at the time of the Meeting) thirty-nine were present, fifteen of them as Representatives.

The Meeting sat on Friday, July 24th, from 10 a.m. to 6.30 p.m., on Saturday from 9.30 a.m. to 6.30 p.m., on Monday from 10 a.m. to 6.30 p.m., and on Tuesday from 9.30 a.m. to 5 p.m.

A Representatives' dinner, organized by the local Entertainments Committee, was held at the Grand Hotel on Friday, July 24th, under the presidency of Dr. T. Jenner Verrall, LL.D. It was well attended, and was successful from every point of view.

Arrangement of Decisions of Meeting.

Mere expressions of approval of reports are not noted in this synopsis, but other decisions of the meeting are classified under the various departments of the Association's work into which they naturally fall, as:

1. Declarations of policy of the Association.
2. Instructions to the Council to take action.
3. References to the Council for consideration and report.

The concluding section of the synopsis contains decisions which affected the internal business of the Meeting itself.

FINANCE.

Reference to Council for Consideration.

Salaries of Clerical Staff.

(Minute 40.)

That the question of the salaries of the Clerical Staff be referred to the Council for favourable consideration.

ORGANIZATION.

(See also under Intended Alterations of Articles and Alterations of By-laws (page 270).)

Declaration of Policy.

Question of making Insurance Act Committee a Standing Committee.

(Minute 63.)

That the addition to the Schedule to the By-laws of a provision setting up a Standing Insurance Act Committee of the Association be left over until the Annual Representative Meeting, 1915.

Instructions to Council.

Grouping of Branches in United Kingdom for 1915–16.

(Minute 82.)

That the Branches in the United Kingdom be grouped for election of Members of Council, 1915–16, in the same way as for 1914–15, the new Kent, Surrey, and Sussex Branches taking the place of the South-Eastern Branch, now discontinued.

Grouping of Branches outside United Kingdom for 1915–16.

(Minute 193.)

That the Branches outside the United Kingdom be grouped for the election of seven Members of Council for the year 1915–16 in the same way as for the year 1914–15, except that Ceylon be grouped with the Indian Branches instead of with Hong Kong and China and Malaya, and that the new Orange Free State, Natal Coastal, Natal Inland, Pretoria and Witwatersrand Branches be incorporated in the group containing the other African Branches.

Grouping of Constituencies in United Kingdom for 1915–16.

(Minute 91.)

That the grouping of constituencies for election of twelve Members of Council, 1915–16, be similar to that for 1914–15, discretion being, however, left to the Council to make any modifications in the grouping rendered neces-

sary or desirable owing to numerical changes or formation of new Divisions or constituencies or modification of those bodies as at present existing.

References to Council for Consideration.

Question of Association Becoming also a Federation for Other Medical Bodies.

(Minute 81.)

That it be referred to the Council to consider what alterations and additions to the Articles and By-laws and in the organization of the British Medical Association in the United Kingdom would be necessary to allow of it becoming also a Federation for other medical bodies formed to safeguard the interests of one or more sections of the medical profession, while allowing all such bodies to continue their separate existence, and to issue a report on the whole matter to the Representative Body.

Assistance to Non-Members in Medico-Political Matters.

(Minute 89.)

That it be referred to the Council to consider and report on what terms and conditions, if any, the assistance, if asked for, of the British Medical Association in medico-political subjects shall be placed at the disposal of any registered medical practitioner who has resigned his membership or has never become a member.

INTENDED ALTERATIONS OF ARTICLES.

Declaration of Policy.

Article 4, as to Eligibility for Membership.

(Minute 68.)

That steps be taken for amendment of Article 4 to read as follows (words proposed to be inserted are shown in italics):

Eligibility.

4. Any Medical Practitioner registered in the United Kingdom under the Medical Acts, *and any Medical Practitioner who does not reside within the area of any Branch of the Association and who though not so registered is possessed of any of the qualifications described in Schedule (A) of the Medical Act, 1858*, and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualification as shall, subject to the By-laws, be prescribed by the Rules of the said Branch, shall be eligible as an ordinary Member of the Association. Subject as aforesaid the mode and conditions of election to membership shall from time to time be determined by or in accordance with the By-laws.

Instructions to Council.

Article 3, as to Existing and Future Members.

(Minute 75.)

That steps be taken for the deletion of (obsolete) Article 3 as to existing and future Members of the Association.

Article 9, as to Duration of Membership.

(Minute 76.)

That steps be taken for the deletion of the obsolete words:

"Whether an existing Member or a future Member," in the first and second lines of Article 9, as to duration of membership.

Articles 43 and 44, as to "By-laws" and "Saving for Existing Constitution," respectively.

(Minute 77.)

That steps be taken for the deletion of (obsolete) Articles 43 and 44 as to "By-laws," and "Saving for Existing Constitution," respectively.

Verbal Amendments of Articles.

(Minute 78.)

That steps be taken to make the following verbal amendments in the Articles:

(*a*) *Article 12.*—For present heading "Divisions or Branches" *read* "Divisions and Branches."

(*b*) *Article 28, as to Procedure at General Meetings.*—For "provision as to Referendum hereafter contained" *read* "provisions as to Referendum hereinafter contained."

General Meetings to give Effect to Foregoing Alterations of Articles.

(Minute 69.)

That it be left to the Council to call the two necessary meetings of the Association to carry into effect such resolutions of this Representative Meeting as necessitate alterations of Articles of the Association, at a convenient time.

Referendum and Postal Vote.

(Minute 48.)

Draft new Articles and By-laws submitted by the Council to give effect to the resolutions of the Annual Representative Meeting, 1913, as to referendum and postal vote, were considered, but on being put to the vote did not receive the requisite two-thirds majority.

ALTERATIONS OF BY-LAWS.

Declarations of Policy.

Possible Insurance Members of Branch Councils and of Division Executive Committees.

(Minutes 45-7.)

That the following paragraphs be incorporated in By-laws 16 and 18 (now 19), as to composition of Branch Councils and Division Executive Committees, respectively, to be paragraphs 16 (*d*) and 18 (*d*):

16 (*d*). Such Members (if any) of any Local Medical Committee formed under the National Insurance Act, 1911, and such Medical Members (if any) of any Insurance Committee constituted under that Act, being (in either case) ordinary Members of the Association resident within the area of the Branch as the Branch may appoint, or the Branch Council may co-opt, to be Members of the Branch Council.

18 (*d*) (now 19 (*d*)). Such Members (if any) of any Local Medical Committee formed under the National Insurance Act, 1911, and such Medical Members (if any) of any Insurance Committee constituted under that Act, being (in either case) ordinary Members of the Association resident within the area of the Division as the Division may appoint, or the Executive Committee may co-opt, to be Members of the Executive Committee.

Exemption of Channel Islands and Isle of Man Members, and Members who are Newly Qualified Practitioners, from the Two Guinea Subscription.

(Minutes 51-3.)

That By-law 11, as to subscriptions, be amended to read as follows (new wording is shown in italics):

Subscriptions.

Amount.

11.—(1) On and after the 1st of January, *1915*, and except *as hereinafter provided*, the Annual Subscription to the Association shall be:

(*a*) For a Member resident in any part of the *United Kingdom*, Two Guineas.

(*b*) For a Member resident elsewhere, Twenty-five Shillings.

Provided as follows:

(*c*) *In the case of a Member resident in the United Kingdom and admitted before the expiration of two years from the date of his registration under the Medical Acts, the Annual Subscription shall be Twenty-five Shillings until the 31st of December next occurring after the expiration of the period of four years from the date of such registration.*

(*d*) A Member admitted on or after the 1st of July in any year shall pay half *his* current subscription for that year.

(2) For the purposes of this By-law a Member shall be deemed to reside in that place in which his ordinary place of abode is situate at the time at which according to the Regulations his subscription is considered due.

Composition of Branch Councils.

(Minute 55.)

That By-law 16 (*e*), which reads as follows:

(*e*) In the case of a Branch comprising more Divisions than one, Members elected by such Divisions in such manner that the number to be elected by each Division shall be as nearly as possible proportionate to the membership of such Division,

be amended to read as follows:

(*e*) Such other Members as the Branch may by its Rules decide.

Co-ordination of Policy of Divisions in Branch.

(Minute 56.)

That the following new By-law 16*x* be adopted:

16*x* (now 17). It shall be the duty of every Branch Council to advise the Divisions forming the Branch in matters of policy affecting the medical profession, with a view to promoting a common policy throughout those Divisions. The Branch Council shall report to the Representative Body or to the Council upon the questions dealt with by such advice in all cases in which such a report is considered by the Branch Council to be necessary or desirable or is requested by the Representative Body or by the Council.

Relations between Divisions and Branches.

(Minute 57.)

That the following new By-law 18*x* be adopted:

18*x* (now 20). The Executive Committee of every Division shall, as soon as may be, notify to the Council of the Branch comprising that Division each decision of the Division or of the Executive Committee relating to or affecting the organization or policy of the Branch or of any Division comprised in the Branch.

Subdivisions: Joint Committees of Divisions.

(Minute 58.)

That the following new By-law 18*y* be adopted:

18*y* (now 21). (1) Any Division by resolution from time to time may divide the local area of the Division into Subdivisions, and may appoint local bodies consisting of Members of the Division, for the exercise within such Subdivisions of any powers or functions of the Division which in the opinion of the Division can and ought to be exercised by such local bodies, and may specify the powers and duties of such local bodies and provide for their constitution and term of office.

(2) Any Division may concur with any other Division or Divisions in appointing a Joint Committee for any purpose in which those Divisions are jointly interested, and in conferring with or without conditions or restrictions on any such Joint Committee any powers which each appointing Division might exercise if the purpose related exclusively to the area of such appointing Division, and in providing for the constitution and term of office of such Joint Committee.

(3) Meetings of the Members of more Divisions than one shall be convened (if the Divisions are comprised in a single Branch by the Secretary of that Branch, and if the Divisions are comprised in more Branches than one by the Secretaries of those Branches jointly) upon the requisition of any of those Divisions for the purpose of discussing matters in which those Divisions are jointly interested, and appointing any such Joint Committees as aforesaid.

Representatives.

(Minute 59.)

That By-law 33 (now 36) be amended to read as follows (words inserted are shown in italics):

Term of Office: *Resignation.*

33. (*1*) Every Representative of a Constituency shall come into office at the commencement of the Annual Representative Meeting next succeeding the date of his election, and shall (*unless he shall die or resign*) continue in office until the commencement of the Annual Representative Meeting in the following year, and shall be re-eligible.

(*2*) *Any Representative of a Constituency may resign his office by notice in writing to the Secretary of the Division or of one of the Divisions forming the Constituency.*

(*3*) *A Constituency may, by a resolution passed by a majority of not less than two-thirds of the Members present and voting at a meeting of the Constituency specially convened for the purpose, request any Representative of that Constituency to resign his office. Any such meeting shall be convened (in the manner provided by the last preceding By-law) upon a request in writing signed by not less than 10 members of the Constituency and delivered to the Secretary of the Division or of one of the Divisions forming the Constituency. A copy of any resolution passed at such meeting shall be sent as soon as may be by the convener of the meeting to the Representative in question.*

(*4*) *A casual vacancy caused by the death or resignation of a Representative shall be filled as soon as may be by an election to be conducted in accordance with the provisions of the last preceding By-law.*

Change in Nature of Representative Body.

(Minutes 61-2.)

That By-law 32 (3) (now 35 (3)) be amended by inserting in the seventh line, before the word "instructing," the words "passing resolutions and."

Election of Representatives.

32. (3) Where the election is by voting papers, a Meeting of the Members of the Constituency (convened as aforesaid) shall be held after the election, and not less than twenty-one days before the date of the Annual Representative Meeting, for the purpose of considering the Agenda of that Representative Meeting, and instructing the Representative or Representatives thereon, and if such Meeting of the Members of the Constituency shall not be held, no Representative of the Constituency shall be entitled to attend the Representative Meeting.

That for existing By-law 39 (4) (now 42 (4)) as to voting in Representative Meetings, there be substituted the following revised wording:

39 (4). In speaking and voting upon any matter, the Representative or Representatives of any Constituency shall have regard and so far as may be conform to the preponderance of opinion of the members of that constituency so far as such opinion is known to him or them.

A Standing Welsh Committee.

(Minutes 64-5.)

That the following be added to the Schedule to the By-laws as to Standing Committees:

Name of Committee.	*Additional Members ex officio.*	*Otherwise appointed.*	*Duties, Powers, etc.*
Welsh	The Secretaries of the North Wales and the South Wales and Monmouthshire Branches. All the Members of the Council who represent Branches in Wales or Monmouthshire.	1 Member appointed by the North Wales Branch, 2 Members appointed by the South Wales and Monmouthshire Branch, 1 Member appointed by the Members of the Shropshire and Mid Wales Branch resident in Wales.	To consider all matters specially concerning Wales or Monmouthshire. It shall have an Honorary Secretary resident in Wales or Monmouthshire and shall meet at such place and time as the Committee may itself direct.

That, consequentially, the heading of column 5 of the Schedule to the By-laws be altered throughout to read, for "Appointed by other bodies," "Otherwise appointed."

Division Officers and Executive Committees.

(Minute 70.)

That the following new paragraph, to be paragraph (*c*), be incorporated in By-law 18 (now 19), as to composition of Division Executive Committees:

"(*c*) Such Officers of the Division as the Division shall by its Rules declare to be Members *ex officio* of the Executive Committee."

Branch Officers and Branch Councils.

(Minute 71.)

That By-law 16 (*c*) (now 17 (*c*)) be amended by inserting after the word "shall" the words "by its Rules," the paragraph, as amended, to read as follows (words proposed to be added are shown in italics):—

"(*c*) Such Officers of the Branch as the Branch shall *by its Rules* declare to be members *ex officio* of the Branch Council."

Business of Annual Representative Meeting.

(Minute 72.)

That By-law 37, (now 40), as to business of Annual Representative Meeting, be amended to read, in the last line, for "three months," "two months."

[Late By-law 37:

Business of Annual Representative Meeting.

37. The business of the Annual Representative Meeting shall be to elect a Representative of a Constituency as the Chairman of Representative Meetings, and also a Representative of a Constituency as Deputy-Chairman; to elect a President of the Association; to elect twelve Members of the Council, and such other Officers and such Members of Committees as by the Regulations or By-laws may be required to be so elected; to consider the election of Honorary Members when recommended by the Council; to appoint a place at which the next Annual Representative Meeting shall be held; to consider the Annual Financial Statement and Balance Sheet presented by the Council; to consider Reports of the Council, Reports of Committees instructed to report to such Meeting, and Reports of Branches and motions relating to the adoption of such Reports in whole or in part; to make new By-laws, and alter and repeal By-laws, and to consider any Resolution relating to the honour and interests of the medical profession or of the Association which shall have been adopted by any Division or Branch; provided that any such Resolution proposing material alteration of the Constitution or Policy of the Association shall have been submitted through the JOURNAL for the consideration of all the Divisions not less than three months previously.]

Casual Vacancies on Committees.

(Minutes 73-4.)

That the following new By-law be adopted, to follow immediately after existing By-law 67:

67a (now 71). Each Standing Committee shall have power to fill any casual vacancy arising amongst its appointed Members.

That the last clause of By-law 68 (now 72) be amended to read, for the words "and that Committee shall fill the vacancy so created": "and a casual vacancy shall thereupon arise."

[Late By-law 68:

68. If any appointed Member of a Standing Committee shall be absent from three successive Meetings of that Committee (except in case of illness or for some reason approved by the Chairman of that Committee) he shall be deemed to have resigned his membership of that Committee, and that Committee shall fill the vacancy so created.]

Scottish Committee.

(Minutes 195 of Annual Representative Meeting and 3 of Special Representative Meeting respectively.)

That the following words be added to the definition of the duties and powers of the Scottish Committee, contained in the Schedule to the By-laws:

"The Committee shall have power to add to its number not more than four Members specially qualified to assist in the business of the Committee."

That existing By-law 67 (now 70), which reads as follows:

67. Each Standing Committee shall appoint from its own number a member of Council as Chairman,

be amended to read as follows:

67. Each Standing Committee except the Scottish Committee shall appoint from its own number a member of Council as Chairman. The Scottish Committee shall appoint from its own number a Deputy-Chairman, as well as a Chairman, and either the Chairman or the Deputy-Chairman or the Honorary Secretary of that Committee shall be appointed from amongst Members of Council.

JOURNAL.

Reference to Council for Consideration.

Salaries of Staff of Association.

(Minute 104.)

That the following motion be referred to the Council for consideration and report:

That in the opinion of this Meeting the whole-time staff of the Association should receive an inclusive salary, which should include all contributions to the JOURNAL.

SCIENCE.

Declaration of Policy.

The Petition of Sir Ronald Ross.

(Minutes 108-9.)

That in the opinion of the Representative Body of the British Medical Association the petition of Sir Ronald Ross, K.C.B., F.R.S., to the House of Commons for remuneration for his services to the Empire in having discovered how malarial fever can be prevented, should be granted.

That a copy of the foregoing Resolution be forwarded to the Chancellor of the Exchequer.

Reference to Council for Consideration.

Middlemore Prize in Ophthalmology.

(Minute 103.)

That the question be considered as to the desirability of stating, in future advertisements inviting competition for the Middlemore Prize, that it will not be awarded in the event of none of the essays being of sufficient merit.

MEDICAL ETHICS.

Declarations of Policy.

Position of Medical Practitioners in connexion with Publications to the Public on Medical Subjects.

(Minute 114.)

That every medical practitioner who contributes to or in any way assists in the preparation of any publication on medical subjects intended for the use of the public must hold himself responsible for any undue or improper advertising that may take place in connexion with such publication, and also for the scope and distribution of the work.

Warning Notices.

(Minutes 116-18.)

That the Representative Body rescinds all its previous decisions relating to the Warning Notice, and empowers the Council to approve and adopt Regulations which in the opinion of the Council are appropriate relative to the insertion in the BRITISH MEDICAL JOURNAL of Notices regarding Appointments, and that the control of these Notices be in future left entirely in the hands of the Council.

Reference to Council for Consideration.

Possible Libel Actions.

(Minute 113.)

That it be referred to the Council to consider and report as to what steps can be taken to avoid incurring any financial loss for any libel action which may be brought against the Association owing to the conduct of any member, Division, or Branch acting in opposition to the advice and instructions of the Council.

MEDICO-POLITICAL.

Declarations of Policy.

State Registration of Nurses.

(Minutes 123-4.)

That the Representative Body reaffirm its opinion that the State registration of nurses is desirable.

That it be an instruction to Council to take afresh such steps as it considers desirable in order to obtain:

1. Unanimity amongst the various interests concerned as to the essentials of a Nurses' Registration Bill.

2. Satisfactory evidence that there is a large body of professional opinion in support of these essentials.

3. The support of the Government for legislation next session on the lines of these essentials.

Payment of Medical Practitioners called in on Advice of Midwives.

(Minutes 125-32.)

That the Representative Body express the following opinions:

(*a*) That midwives could depend upon the assistance of the medical profession being forthcoming whenever required, provided the profession were assured of adequate provision being made for (i.) free choice of doctor by patient, and (ii.) payment of the medical practitioner called in.

(*b*) That payment of the medical practitioner so selected should be assured to him by a public authority such as the County or County Borough Councils in England and Wales.

(*c*) That the following should be the minimum scale of fees for the payment of medical practitioners called in on the advice of midwives, but power should be obtained to pay special fees in special cases:

	£	s.	d.
Attendance at cases of operative assistance and subsequent necessary visits during the first ten days	2	2	0
Attendance at cases without operative assistance and subsequent necessary visits during the first ten days ...	1	1	0
Assistance for administration of an anaesthetic	1	1	0
Visit (including any necessary prescription):			
Day (8 a.m. to 8 p.m.)	0	3	6
Night (8 p.m. to 8 a.m.)	0	7	6

NOTE.—The above fees apply to visits within two miles of the doctor's house; if beyond that distance an additional mileage fee of not less than 1s. per mile (outwards), or in outlying and sparsely populated districts such sum as is suitable to local circumstances and the local customs of the profession should be paid.

Question of Establishment of Dental Clinics.

(Minute 133.)

That the Representative Body approve the principle of the establishment of Dental Clinics, inasmuch as such Clinics are calculated to diminish the amount of unqualified dental practice now in existence.

MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

Rescission of Previous Decisions.

(Minute 173.)

That the Representative Body rescind all previous decisions having reference to any question of the medical inspection and treatment of school children.

Memorandum on Policy of Association as to Medical Inspection and Treatment of School Children.

(Minutes 174-299.)

That the Memorandum submitted by the Council be approved, as amended, as the minimum policy of the Association in the matter of medical inspection and treatment of school children (for the Memorandum as thus approved see Appendix I, page 277).

Local Schemes as to Medical Inspection and Treatment of School Children.

(Minute 177.)

That the full support of the Association be given to any scheme which is approved, as superior to the Memorandum, by a Division in the area of which it is to be operative, provided the scheme has also been approved by the Council.

Treatment at Voluntary Hospitals of School Children found defective on Medical Inspection.

(Minutes 300-3.)

That the Representative Body approve, as amended, the Memorandum submitted by the Council on the treatment at voluntary hospitals of school children found to be defective on medical inspection. (For the Memorandum as thus approved see Appendix II, page 279.)

REMUNERATION OF WHOLE-TIME HEALTH AND SCHOOL OFFICERS.

(Minute 294.)

That in the opinion of the Representative Body no whole-time medical officer of health nor school medical officer should accept any wholly new appointment involving fresh duties unless adequate remuneration is added to that previously received by him.

SECURITY OF TENURE AND SUPERANNUATION FOR SCHOOL MEDICAL OFFICERS.

(Minute 295.)

Certain proposed riders on the subject of superannuation and security of tenure for whole-time medical officers whose duties include school work were withdrawn, on the understanding that if a Bill to secure superannuation and security of tenure of office for medical officers were introduced into Parliament those principles would be pressed for.

Medical Certificates.

(Minute 304.)

That the following Report be adopted by the Representative Body:

(*a*) Under the present state of the law medical practitioners are afforded reasonable immunity from any pecuniary risk consequent upon the giving of medical certificates in connexion with any Act of Parliament, provided that in doing so they act in good faith and with reasonable care. No action which could be taken by the Association would be likely to provide absolute immunity from legal action.

(*b*) Medical practitioners can secure themselves from costs incurred in any legal action consequent upon the giving of medical certificates in conformity with any Act of Parliament, by insuring with one of the Medical Protection Societies, which precaution is strongly urged upon all practitioners.

(*c*) As a result of the action of the Association there has been secured to medical practitioners giving medical certificates under the National Insurance Acts, what amounts to practically absolute immunity from legal risk, owing to the wording of the model form of certificate issued by the Insurance Commissioners. This form makes it clear that the certificate is given to the insured person, and that therefore the divulgence of any information contained therein can only be due to the action of the insured.

(*d*) The precedent set by the wording of the model form of certificate issued by the Insurance Commissioners should, whenever possible, be followed by medical practitioners in the case of certificates required of them under any other Act of Parliament.

Fees for Medical Certificates under Mental Deficiency Acts.

(Minute 313.)

That the fee for medical certificates under the Mental Deficiency Acts, signed by the "usual medical attendant," should not be less than £1 1s.

Fees Paid for Examination of Emigrants.

(Minute 308.)

That para. 105 of the Annual Report of Council be modified so as to express approval of the fees now offered for these examinations, namely, 5s. for adults and 3s. for each child.

Fees for Medical Examinations for Life Insurance.

(Minutes 310-11.)

That fees for life insurance examinations should be based on the amount of evidence required in confirmation of the examiner's professional opinion of the life.

That the following proposed rider be referred to the Council with foregoing resolution (Minute 310):

Rider proposed by Worcester.

That the question of fees for medical examinations and reports for life insurance be considered by the Annual Representative Meeting, 1914, with a view to the Council approaching the insurance companies in order to obtain the adoption of a universal rate all over the country.

Instructions to Council.

Insufficiently Trained Nurses.

(Minute 125.)

That this Meeting views with concern the increasing number of insufficiently trained nurses, and instructs the Council to call upon the Government and the other authorities concerned to take steps to remedy this evil.

Practice of Dentistry by Unqualified Persons.

(Minute 134.)

That this Representative Meeting, being alarmed at the continued rapid increase in unqualified persons practising "dentistry," to the very great damage of the public health, and considering that from the standpoint of the general health the profession should endeavour to safeguard the nation from these dangers, instructs the Council to confer with the British Dental Association as to the best means of combating this particular evil.

References to Council for Consideration.

Treatment of School Children by Private Practitioners: Question of Branch "Organization Committees, Medical Treatment of School Children."

(Minute 289.)

Certain motions by the Bromley Division relative to the machinery for dealing locally with the question of Medical Treatment of School Children were referred to the Council.

Payment of Ship Surgeons for Attendance on First and Second Class Passengers.

(Minute 312.)

That the following recommendation (I) of Council, together with certain proposed amendments, be referred back to the Council for reconsideration and report:

I. (i.) That fees for medical and surgical attendance should be payable by first and second class passengers in all cases of illness and injury except those due to the voyage.

(ii.) That in those cases where the ship surgeon is at liberty to charge a fee, the minimum fee shall be 5s. and 2s. 6d. per attendance in the case of first and second class passengers respectively.

(iii.) That accounts for any such fees should not be subject to any preliminary scrutiny by the commander, but it is clearly understood that any passenger questioning the legitimacy of any charge may make representations accordingly to the commander.

NATIONAL INSURANCE.

Declarations of Policy.

Model Scheme for Treatment of Tuberculosis.

(Minutes 185–203.)

The Model Scheme for Treatment of Tuberculosis submitted by the Council was adopted, after amendment in certain respects. (For the scheme as thus approved see Appendix III, page 279.)

Circulation of Tuberculosis Scheme.

(Minute 209.)

That the Model Scheme for the Treatment of Tuberculosis, as approved by the Representative Body, be circulated to Municipal Councils, Insurance Committees, and other bodies whom it may concern, with a view to obtaining their co operation.

Domiciliary Treatment of Tuberculous Persons.

(Minutes 211–12.)

That this Representative Meeting, while recognizing that there is a place for the co-operation of sanatoriums and hospitals in the treatment of tuberculosis, is strongly of opinion that the domiciliary treatment of tuberculous persons ought to be entrusted to the fullest possible extent to practitioners engaged in general practice.

Appointment of and Reference to Insurance Act Committee.

(Minutes 218–25.)

That the Representative Body appoint an Insurance Act Committee for the session 1914–15.

That the Insurance Act Committee consist of the four *ex officio* members; two members to be elected by the Council; twelve members to be elected on a territorial basis by the grouped Representatives; and one representative of each of the following organizations, to be elected by the Council on the nomination of those bodies respectively, such nominees to be also members of the British Medical Association:

(*a*) The Association of Registered Medical Women together with the Northern Association of Registered Medical Women;

(*b*) the Society of Medical Officers of Health;

(*c*) the Poor Law Medical Officers' Association of England and Wales.

That the reference to the Insurance Act Committee read as follows:

To deal with all matters arising under the National Insurance Acts, to watch the interests of the profession in relation to the National Insurance Acts, and report to the Council.

Voluntary Hospitals and Treatment of Cases in Receipt of Maternity Benefit.

(Minutes 227–30.)

1. That as it is necessary for the training in midwifery of medical students and pupil midwives that there should be an adequate supply of clinical material available for that purpose, no parturient woman should be refused treatment in the obstetric department of a voluntary hospital or similar institution* on the ground that she is eligible for a maternity benefit.

2. That women entitled to a maternity benefit under the National Insurance Acts should not be regarded as eligible for free treatment except on the recommendation of a medical practitioner.

3. That all women receiving treatment through the obstetric department of a voluntary hospital or similar institution who are entitled to a maternity benefit shall be required to pay such sum to the hospital or institution as shall be determined upon by the governing body.

4. That from each such sum an amount, to be agreed upon between the governing body and medical staff, shall be placed to a special fund, which shall belong to the medical staff.

Medical Aid Institutions.

(Minute 243.)

That this Representative Body protests strongly against the immunity from control by the Local Insurance Committee enjoyed by Medical Aid Institutes, and calls on the Council to take action with a view to having this amended, as being unfair both to ordinary medical practitioners on the panel and to those insured persons who are members of such institutes.

Fees of Medical Referees under National Insurance Act.

(Minute 250.)

That half-a-guinea be the minimum fee for examination and report as referee under the National Insurance Act, and that mileage be charged extra at the rate of not less than one shilling a mile or part of a mile beyond one mile.

Certification.

(Minute 253.)

That this Meeting requests the Insurance Act Commissioners to issue simple and explicit regulations *re* certification, printed on cards which can (at the option of practitioners on the panel) be exhibited in the waiting rooms of doctors for the information of their patients, and that the same regulations be printed on the cover of the certificate books.

Returned Medical Cards.

(Minutes 254–8.)

That it is no part of the duty of a panel practitioner to correct and keep up to date the list of addresses of insured persons.

That a medical practitioner should be entitled to charge private fees to those insured persons demanding treatment

* By "similar institution" is meant "places of study admitting medical students and recognized by universities and examining bodies whose diplomas are accepted by the General Medical Council, or admitting pupil midwives and recognized by the Central Midwives Board."

of him but who fail to produce their medical cards, in view of the instruction of the various Insurance Commissioners to Insurance Committees that when the medical card system is in full operation a practitioner would be entitled, on giving treatment, to require insured persons on his list to present their medical cards should such a course appear necessary.

Consultants Employed for Purposes of Insurance Act.

(Minute 259.)

That the policy of the Association should be opposed (with some possible special exceptions) to whole-time consultative appointments in connexion with the Insurance Acts, and that it should be in support of the performance of such duties being open, under conditions of free choice and adequate remuneration, to all registered medical practitioners qualified to perform them.

Provision for Institutional Treatment.

(Minute 262.)

That in order to carry out the promise made in the National Health Insurance Act, 1911, that insured persons should have "adequate medical treatment," it is the duty of the Government to make provision for the necessary institutional treatment.

Treatment by Staffs of Voluntary Hospitals.

(Minute 263.)

That the staffs of voluntary hospitals receiving persons for whose treatment a payment is made by or on behalf of the State cannot be expected to treat such persons as charitable cases.

Clinical Arrangements under Insurance Acts.

(Minutes 264-7.)

That in any future developments of the medical service under the Insurance Acts, the clinical arrangements should not be placed under the Public Health Authority, but either (i) under a new Clinical Authority, composed of representatives of the Insurance, Public Health, and Education Local Authorities, with representatives of the Local Medical and Panel Committees and of the local hospitals, or (ii) under the Insurance Committee, strengthened for this purpose by the addition of representatives of the above-named bodies.

Clinical Laboratories.

(Minute 268.)

That the proposed clinical laboratories should be linked up as far as possible with the local hospitals and the nearest university laboratories.

Proposed Nursing Service.

(Minutes 269-70.)

That the Representative Body welcomes the proposal of the Government to establish a nursing service to be utilized for the whole working-class population, and is of opinion that when established it should be under the control of the proposed new Joint Clinical Authority, or, failing that, of the Insurance Committee, strengthened as suggested in Minute 267, para. (ii).

That a copy of foregoing Minute 269 be sent to the proper authority, together with a copy of the resolution of the Meeting as to registration of nurses.

Medical Referees.

(Minute 271.)

That the medical referees under the Insurance Acts should be the advisers on all medical questions to the Clinical Authority referred to in Minute 267.

Consultants and Specialists.

(Minute 272.)

That the consultants and specialists who are to be placed at the disposal of the referees should not be whole-time officers.

Treatment Centres.

(Minute 273.)

That the Representative Body welcomes the proposal to institute treatment centres or clinics in connexion with the medical service under the Insurance Acts, and is of opinion that they should be under the control of the Clinical Authority referred to in Minute 267.

Representations to Government on Above Proposals.

(Minute 275.)

That the decisions of the Representative Body arising out of the Report of the Future Developments of the Insurance Acts Committee upon the matters referred to in the Budget Speech of the Chancellor of the Exchequer be forwarded immediately to the proper authority as the opinion of the medical profession thereon.

Central Insurance Defence Fund.

(Minute 246.)

That no further calls be made on the guarantors to the Central Insurance Defence Fund.

Instructions to Council.

Form of Report on Tuberculous Cases Receiving Domiciliary Treatment.

(Minute 210.)

That the Council be instructed to consider the present form of report on tuberculous cases receiving domiciliary treatment, and, if thought desirable, to make representations to the Local Government Board as to its improvement and simplification.

Proposed Federation of Local Medical and Panel Committees.

(Minutes 214-17.)

That the Council be instructed to submit to the Divisions a memorandum on the constitution of the proposed Federation of Local Medical and Panel Committees after that constitution has been approved by the constituent bodies, calling a Special Representative Meeting, if necessary, after the replies of the Divisions have been received.

That the Honorary Secretaries of Divisions be informed of the foregoing resolution, and of the intention of the Council to issue a memorandum to the Divisions.

Central Insurance Defence Fund.

(Minute 247.)

That it be an instruction to the Council to consider and report with recommendations, after consulting the contributors to the Central Insurance Defence Fund, what steps, if any, should be taken in order to transfer the contributions to a Trust Fund, or otherwise to deal with the same.

Prescribing and Chemists' Accounts.

(Minute 252.)

That this Meeting instructs the Council to urge upon all Panel Committees the necessity of availing themselves of their right, under the Regulations, to make a careful investigation of chemists' accounts, and to make a full report to the Insurance Committee of all cases of complaints made by the Pharmaceutical Committees respecting excessive and extravagant prescribing.

Future Developments of Insurance Acts Committee.

(Minute 276.)

That the Council be instructed to reappoint the Future Developments of Insurance Acts Committee.

Future Developments of the Insurance Acts.

(Minute 277.)

That in order that the full medical view of the causes of the excessive claims for sickness benefit and medical benefit revealed by the experience of the National Insurance Act should be stated and the suggestions of the medical profession for checking abuse of sickness and medical benefits should be offered, ample evidence should be collected and considered.

That it be an instruction to the Council to obtain this evidence from the Divisions and from medical practitioners and report thereon.

References to Council for Consideration.

Voluntary Hospitals to which Medical Schools are attached and Teaching of Tuberculosis Work.

(Minute 213.)

That the following motion by St. Pancras and Islington be referred to the Council for consideration and report:

> That the voluntary hospitals to which medical schools are attached should have the opportunity of

having all clinical material they need for teaching purposes.

Composition of Insurance Act Committee.

(Minute 223.)

That the following motion be referred to the Council for consideration, and, if thought desirable, for report in the Memorandum to be issued in reference to the relation of the Association to the proposed Federation:

That the Insurance Act Committee consist of the *ex officio* members, the Chairmen of the Hospitals, Medico-Political, Organization, and Public Health Standing Committees, together with twelve members to be nominated by the Panel Committees of the United Kingdom on a similar territorial basis as adopted under By-law 43 (*c*) (present By-law 46 (*c*)) for the election of twelve Members of Council, and elected by the Representative Body.

SPECIAL FUND.

Declarations of Policy.

Inauguration of Special Fund.

(Minutes 137-40.)

That immediate steps be taken to inaugurate a Fund.

Objects of Special Fund.

(Minutes 141-7.)

That the fundamental objects of the Fund shall be the protection of the interests of the medical profession in the United Kingdom and the formation of a reserve.

Collection and Administration of Special Fund.

(Minutes 149-62.)

That the collection and administration of the Special Fund shall be placed in the hands of a trust, or an association, or other form of organization, not being a registered trade union.

(See further, below, under Minutes 165–6.)

Provisional Committee to Establish the Trust Fund.

(Minute 163.)

That this Representative Meeting do elect six of its number not Members of the Council who, together with six Members of the Council elected by the Council, shall form a Provisional Committee to establish the Trust Fund, and shall hold office either until the Fund is completely inaugurated or until the next Annual Representative Meeting, whichever shall first occur.

References to Council for Consideration.

Collection and Administration of Special Fund.

(Minutes 165-6.)

That Recommendation C of Council, amended to read as follows (Special Report as to Proposed Special Fund, Supplement, May 2nd, p. 320), be referred to the Special Committee appointed under Minute 163:

That the Fund shall be collected and administered by a body separate from the British Medical Association, but composed exclusively of members of the British Medical Association.

That the following motions be referred to the Special Committee appointed under foregoing Minute 163:

That the Fund shall be collected locally through grouped areas and administered centrally by a Committee.

Amendment proposed by Brighton:

(i.) That local funds be inaugurated in areas consisting of one or more Divisions if the medical practitioners resident in such area so desire.

(ii.) That the collection and administration of such local fund be placed in the hands of a trade union or trust, as the local medical profession may decide.

(iii.) That contributions be required to be made to the Central Fund from each such local fund, and also by practitioners who have not subscribed locally.

That the organization of the Association and its Journal shall be used for the promotion of the Fund.

HOSPITALS.

References to Council for Consideration.

Medical Aid Institutions.

(Minute 320.)

The following three motions were referred to the Council for consideration:

Amendment proposed by Worcester.

That in order to check the extension of Medical Aid Institutions and to assist the profession in combating them where established, the Association endeavour to enlist the support of the staffs of voluntary hospitals not only in refusing professional recognition to the medical officers of these institutions, but also by refusing treatment to patients sent by them to hospitals, except in cases of grave urgency.

The foregoing resolution shall not apply to those institutions where the Medical Officer of the Institution has retained his post with the consent of the local profession.

Rider proposed by Worcester.

(*a*) That in future the consent of the Association be asked before a medical officer of these institutions be allowed to retain his post.

(*b*) That previous exemption should justify an exemption by the Council.

(*c*) That exemption should be granted if the institution should come to be carried on in accordance with the wishes of the Council of the Association.

Rider proposed by Brighton.

That it be an instruction to the Council to take or to support any action such as will tend to ensure that medical institutes shall:

(*a*) Pay their medical officers at a rate not less than that provided under the National Insurance Act.

(*b*) Provide adequate medical attendance for all their members.

NAVAL AND MILITARY.

Declaration of Policy.

Election of Service Members of Council.

(Minute 321.)

That the officers elected at the Annual Representative Meeting, 1914, to represent on the Council the Royal Navy Medical Service, the Army Medical Service, and the Indian Medical Service be appointed to serve for a period of three years in each case.

SCOTLAND.

Instruction to Council.

Scottish Office of Association.

(Minute 282.)

That the Scottish Office and whole staff should be located in Edinburgh.

BRANCHES OUTSIDE UNITED KINGDOM.

Instruction to Council.

South African Medical Congress.

(Minute 198.)

That the Council of the Association send a representative to attend a South African Medical Congress.

STANDING ORDERS.

Agenda Committee.

(Minutes 9 and 10.)

Standing Orders 1 and 11 were amended to provide for receipt of the reports of the Agenda Committee in the case of Annual and Special Representative Meetings respectively.

Minutes.

(Minute 11.)

Standing Order 18 was amended by inclusion of the following paragraph:

18 (*b*). As soon as may be after each Representative Meeting, Annual or Special, the corrected Daily Minutes of the Meeting shall be collected into a

volume. A copy of the completed Minutes thus prepared shall as soon as practicable be forwarded to (*a*) each Member of the Representative Body, and (*b*) each Honorary Secretary of a Division or Branch who is not a Member of the Representative Body.

Election of Members of Council.

(Minutes 12-14.)

Standing Orders 36-7 were amended to enable the election of members of Council by the Representative Body to be made earlier.

Returns of Attendances.

(Minutes 15-16.)

Standing Order 39 was amended to provide that in future the returns of attendances up to three weeks before the commencement of the Annual Meeting be prepared by the Financial Secretary and Business Manager instead of by the Election Returns Committee of the Representative Body, and to provide also that the return shall in future include the attendances of Representatives as well as attendances at Council and Committee meetings.

Election of Service Members of Council.

(Minute 17.)

Standing Order 49 was amended to read as follows:—

49. *Election of Service Members of Council.*—The election of Members to represent the Royal Navy Medical Service, the Army Medical Service, and the Indian Medical Service on the Council shall be conducted as follows:

At the commencement of the afternoon session of the first day of the A.R.M. the names of the candidates nominated by the Council to represent the respective Services shall be submitted to the A.R.M. by the Chairman for election, in such way as the Chairman may think fit. The result shall in each case be declared by him as soon as possible.

Except where otherwise decided by the Representative Body in respect of any specific appointment, the members representing the respective Services on the Council shall hold office for a period of three years.

ELECTIONS.

(a) Officers.

Dr. T. Jenner Verrall, LL.D. (Bath), was re-elected Chairman, and Mr. E. B. Turner (Kensington) Deputy-Chairman of Representative Meetings, 1914–15.

Sir T. Clifford Allbutt, K.C.B., LL.D., was elected President-elect of the Association for the year 1914–15.

Dr. W. Ainslie Hollis (Brighton), President of the Association for 1913–14, and Dr. W. T. Hayward, M.R.C.S., LL.D., Chairman of the Australian Federal Committee, were elected Vice-Presidents of the Association.

(b) Council and Committees.

A list of the Council, indicating those members elected by the Branches, by the Representatives, and by the Representative Body respectively, was published in the SUPPLEMENTS of June 20th (page 463), and August 1st (pages 111 and 118). A list of the members of the Committees appeared in the SUPPLEMENT of August 15th (page 146).

MISCELLANEOUS.

Place and Time of Annual Representative Meeting, 1915.

(Minute 32.)

It was decided to hold the Annual Representative Meeting, 1915, at Cambridge, from July 2nd to 10th.

Votes of Condolence.

Votes of condolence were directed to be sent to the relatives (1) of the late Dr. B. H. Mumby, Chairman of the Public Health Committee of the Association, and (2) of the late Dr. J. H. Keay, of Greenwich.

Votes of Sympathy and Congratulation.

The Meeting passed a vote of sympathy with the President on his recent serious illness, and expressed the hope that he would soon be completely restored to health.

The Treasurer was warmly congratulated on his recovery from his recent serious illness.

Votes of Thanks.

The thanks of the Meeting were voted to the Senate of the University of Aberdeen and to the local Committee for the arrangements made for the comfort and entertainment of the members of the Representative Body.

The Meeting also expressed its cordial appreciation of the manner in which the Chairman had conducted the business of the Meeting.

APPENDIX I.

MEMORANDUM, AS APPROVED BY THE ANNUAL REPRESENTATIVE MEETING, 1914, ON THE POLICY OF THE BRITISH MEDICAL ASSOCIATION WITH REGARD TO MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

(NOTE: *Pending consideration by the Medico-Political Committee and Council of the amendments made by the Annual Representative Meeting in the following Memorandum, including consideration of the question of any consequential amendments necessitated by these amendments or by other resolutions of the Meeting, the following print of the Memorandum, in which the amendments made by the Meeting have been incorporated, must be regarded as provisional only.*)

I.—INSPECTION.

(a) CONDITIONS OF EMPLOYMENT.

1. A whole-time Medical Officer of Health who is also School Medical Officer should not as a general rule undertake any of the actual work of Inspection of School Children. Exception may be made in the case of the smaller Education Authorities.

2. The titles of Assistant Medical Officer of Health and Assistant School Medical Officer should not be combined merely for the sake of allowing the holder of these offices to base a claim for an appointment elsewhere as Medical Officer of Health.

Where the title of Assistant Medical Officer of Health is assumed, it is very important that the public health duties of the Officer should be commensurate with the title.

3. Officers in the School Medical Service should have reasonable security of tenure of office, and their appointments should only be terminable with the consent of the Board of Education. They should also be admitted to participation in a Government Superannuation Scheme.

(b) METHODS OF REMUNERATION.

4. Officers of the School Medical Service should be remunerated by a fixed salary, or in the case of part-time officers by payment in proportion to the time they devote to the work. In sparsely populated districts special systems of capitation payment, such as are at present in operation, may be adequate.

(c) AMOUNT OF REMUNERATION.

Part-time School Medical Officers.

5. The remuneration for a part-time School Medical Officer should be at the rate of £50 per school year for attendance on half a school day per week, half a school day being defined to be two and a half hours.

Whole-time School Medical Officers.

6. Practitioners who enter the School Medical Service as whole-time officers are, by reason of longer and special education, justified in expecting a higher rate of remuneration than they would receive in ordinary clinical positions. The minimum whole-time salary should therefore commence at £300 per annum for Assistant School Medical Officers, and it is desirable that such salary should be subject to an annual increment. The minimum salary for a senior responsible whole-time School Medical Officer should be £500 per annum, and should be proportionately greater in the case of large towns or county areas. Such salary should also rise by suitable annual increments. These salaries are net salaries, exclusive of travelling expenses, clerical assistance, postage, etc.

Salaries of Women School Medical Officers.

7. The salaries paid to medical women should not be less than those paid to medical men in respect of the same work.

II.—TREATMENT.

8. Treatment by an education authority should be confined to necessitous children, that is, to those children whose parents cannot afford to pay privately for the treatment recommended as a result of inspection. Parents should always in the first place be recommended to seek treatment for their children from their family doctor.

9. The support of the Association should be given to the schemes by which medical treatment, and the treatment of refractions, should be carried out by local private practitioners (for reasons in favour of the employment of private practitioners, *see* Sub-Appendix A). In these areas the duties of the School Medical Officers and their assistants should consist of inspection and the important work of "following up."

TREATMENT BY PRIVATE PRACTITIONERS.

10. Where treatment by private practitioners is adopted this should be done by means of a "School Centre" (*see* Model Scheme—Sub-Appendix B), or in sparsely populated districts by the "recognition" of places (for example, a room in the school buildings) where the local practitioner or practitioners could carry out the necessary treatment.

The term "private practitioner" includes both specialists and general practitioners.

11. Where practitioners in any area are desirous of carrying out treatment of school children who have been found on examination to be defective, they should through the Division make representations to the Local Education Authority and place before that body a scheme.

12. The duty of the Division should be to place before the Local Education Authority a simple scheme and to present reasons why in its opinion such a scheme would be in the best interests of the public.

13. If the Local Education Authority is not convinced of the superiority of such a scheme it is not part of the policy of the Association to resist the adoption of some other scheme on the ground that it involves the employment of whole or part-time officers for the purpose of treating necessitous children.

A scheme for treatment might be a combination of treatment by whole-time and private practitioners.

14. Divisions desirous of placing a scheme of treatment by local practitioners before the Local Education Authority will have the full support of the Association, but for purposes of co-ordination such Schemes should be submitted to the Central Office of the Association, prior to being forwarded to the Education Authority.

15. The responsibility of the Local Education Authority for seeing that treatment is secured is recognised. If treatment is carried out by a private practitioner the School Medical Officer acting as the agent of the Local Education Authority is fulfilling his duty in "following up" the case to see if treatment has been obtained. Should the school medical officer not be satisfied with the result of treatment said to have been given, he should offer the private practitioner, if any, an opportunity of consultation on the case.

DENTAL INSPECTION AND TREATMENT.

16. The inspection and treatment of the teeth of school children should be carried out by qualified dentists in Treatment Centres (for an outline Model Scheme for treatment by medical practitioners and dentists, *see* Sub-Appendix B).

TREATMENT BY MEDICAL CHARITIES.

17. (i.) No case should in the first instance be referred to a voluntary (charitable) institution for treatment.

(ii.) The Education Authority shall be required to pay for all children of their schools receiving treatment at a voluntary hospital, such sum as shall be arranged with the Governing Body.

(iii.) From such sum an amount agreed upon by the Governing Body and the Medical Board shall be placed to a special fund which shall belong to the medical staff.

18. The medical staffs of voluntary hospitals should do all in their power to prevent the reference in the first instance to those hospitals of school children who have been found on examination to be defective, except under the conditions mentioned in the preceding paragraph.

TREATMENT BY PROVIDENT DISPENSARIES.

19. There is no objection to treatment by Provident Dispensaries, by Public Medical Services, or other contract medical practice organisations, provided that the remuneration of the practitioners is adequate for the work done and that effect is given to the principle of free choice of doctor by the parents of the patient, with a corresponding right on the part of the doctor to refuse any patient.

TREATMENT BY POOR LAW.

20. Any scheme for the provision for the treatment by the Poor Law of school children found upon inspection to be defective should be opposed.

REMUNERATION.

(a) *Of Private Practitioners.*

21. Remuneration of appointments under any scheme in which private practitioners are appointed should be made on a scale agreed upon between the medical profession as represented by the local Branch or Division of the British Medical Association and the Local Education Authority, and should be based on terms laid down in paragraph 5 where the circumstances permit of such an arrangement being made.

(b) *Of Whole-time Medical Officers.*

22. Where whole-time Medical Officers are engaged in the treatment of school children, their salaries should not be less than those paid to School Medical Officers and Assistant School Medical Officers engaged in inspection.

III.—DUTIES OF NURSE.

INSPECTION AND TREATMENT.

23. The School Nurse should always act under the instructions and supervision of a registered medical practitioner.

SUB-APPENDIX A.

REASONS IN FAVOUR OF THE EMPLOYMENT OF PRIVATE PRACTITIONERS AS COMPARED WITH WHOLE-TIME SCHOOL MEDICAL OFFICERS IN THE TREATMENT OF SCHOOL CHILDREN.

1. The medical treatment of school children is a great national undertaking, the ultimate success of which largely depends upon the number of persons who are interested. From this point of view it is better that as many as possible of the medical profession should have personal contact with the work, rather than that familiarity with it should be confined to a small class of public officials.

2. Medical practitioners who are engaged in private practice enjoy the benefit of a wider experience of the treatment of disease in general than those whose work is confined to the treatment (or the treatment and inspection) of school children.

3. Treatment and recurrent supervision of the school children by such practitioners supplemented by the "following up" work of the School Medical Officer in the opinion of the Association alone gives security that the medical needs of the children will be adequately met.

4. The treatment of diseases of children gives those who carry it out opportunities of obtaining valuable experience. If the work is done by private practitioners who are engaged, apart from their school work, in treating members of the general public, the general public derives great benefit from the profession generally receiving this additional experience.

5. The employment of private practitioners gives the Education Authority a much wider field of choice than if the work is carried out by whole-time officers, and by the employment of part-time officers the authority would be able to adjust the appointment of persons of special skill to its requirements in each direction.

SUB-APPENDIX B.

OUTLINE MODEL SCHEME FOR TREATMENT CENTRE.

I.—PRECAUTIONS TAKEN BY THE LOCAL AUTHORITY TO ENSURE THAT ONLY THOSE CHILDREN SHALL BE TREATED AT THE CENTRE FOR WHOSE TREATMENT ADEQUATE PROVISION CANNOT OTHERWISE BE MADE.

1. Formation by Education Committee of a Committee called the "Medical Treatment Committee."

2. The chief duty of this Committee would be to determine, from information obtained by its Officers, whether any child applying for treatment is necessitous, and, if so, to sign a voucher for treatment. Due regard would be paid to the amount of income of the parent, to the existing facilities for obtaining the special treatment, and to its cost; and the Committee would decide whether the treatment was to be free, or what part, if any, of the charge for any operative treatment to be provided shall be paid by the parent. In default of payment in a case in which the parent was required to contribute, the amount would be recovered summarily as a civil debt.

3. The parents or guardians of all children requiring treatment should in the first place be informed that it is their duty to have the child treated by a doctor of their own choosing, and if he considers the child suitable for treatment at the Centre he would sign a voucher to that effect. The voucher would be endorsed by the Medical Treatment Committee before treatment is given.

4. The parents or guardians of those children who have no medical attendant would be advised to apply direct to the Medical Treatment Committee for a voucher. If a child whose parents or guardians are apparently in a position to afford to pay private fees is presented for treatment, the practitioner concerned should have the right to refer the case to the Medical Treatment Committee for further investigation.

5. In the case of any child sent from school to the School Medical Officer and diagnosed as suffering from a contagious

skin disease, the head teacher would sign a voucher for treatment if the child were known to be necessitous; this would warrant treatment until the next meeting of the Medical Treatment Committee. Any further treatment should only be obtained if the Medical Treatment Committee countersigned the voucher.

II.—METHOD TO BE ADOPTED TO SECURE ADEQUATE TREATMENT OF DEFECTS DISCOVERED ON INSPECTION.

Management of Centre.

6. The Treatment Centre should be managed by a Committee of.....persons to be appointed by the Education Authority as follows:—

.....Members of the Education Committee who shall also be members of the Medical Treatment Committee.

.....Members nominated by the.....Division of the British Medical Association.

.....Members nominated by the.....Division of the British Dental Association.

Note.—The numbers would be so arranged as to place the Education Committee members in a majority.

Supervision of Centre.

7. The carrying out of the practical side of the Centre should be under the supervision of the Senior School Medical Officer, and the whole of the work of the Treatment Centre Committee would be subject to the approval of the Education Authority.

Staff of the Centre.

8. The staff of the Centre should be appointed by the Education Authority on the nomination of the Treatment Centre Committee, and would consist of duly qualified and registered practitioners for each of the medical, surgical, and dental departments it was decided to establish.

9. The members of the staff should hold office for..... years and should at the expiration of that time be eligible for re-election by the Education Committee on the recommendation of the Treatment Centre Committee.

Payment of Staff.

10. Each member of the staff should be remunerated at the rate of not less than £50 per school year for each half-day's attendance per week. In rural districts the profession should receive remuneration for the treatment of the following diseases, on a scale to be settled locally:

(a) Refraction.

(b) Nasal obstruction, adenoids, tonsils and suppurating ears.

(c) Ringworm.

Arrangements as regards Accommodation, etc.

11. All necessary accommodation with suitable lighting and heating should be provided by the Education Authority.

12. All drugs and apparatus required by the staff should be provided by the Local Education Authority.

Provision of Nurses.

13. The Education Committee should provide a nurse or nurses for the assistance of the staff.

Clerical Assistance, Stationery, etc.

14. The Education Committee should provide all necessary stationery, and the services of a clerk, when official returns are required to be made.

Opportunities for Inspection of Centre.

15. The Centre would be open at any time to the medical officers of the Board of Education or of the Local Education Authority; to any of the medical or dental members of the Treatment Centre Committee of the Centre; and, when no medical treatment is actually taking place, to the lay members of the Committee.

APPENDIX II.

MEMORANDUM, AS APPROVED BY THE ANNUAL REPRESENTATIVE MEETING, 1914, ON TREATMENT AT VOLUNTARY HOSPITALS OF SCHOOL CHILDREN FOUND DEFECTIVE ON MEDICAL INSPECTION.

(NOTE: *Pending consideration by the Medico-Political Committee and Council of the following Memorandum as amended by the Annual Representative Meeting, including consideration of the question of any consequential amendments thereof necessitated by these amendments or by other resolutions of the Meeting, the following print of the Memorandum, in which the amendments made by the Meeting have been incorporated, must be regarded as provisional only.*)

1. The results of the medical inspection of elementary school children have shown that very large numbers are suffering from disease and defective conditions urgently calling for treatment.

2. At present provision is not made by Education Authorities to meet this national evil, except in a fragmentary and unorganised manner.

3. In spite of the establishment in certain places of School Clinics or Treatment Centres, many children receive no treatment at all, a few are taken by their parents to voluntary hospitals; and in a very few instances the Education Authority has entered into a restricted arrangement with such institutions.

4. The Association has for six years formulated and published the principles on which, in its opinion, the medical treatment of school children as a national measure of public health should be based.

5. These principles are as follows:

(1) That all treatment must be adequately remunerated by the State;

(2) That no case should be referred in the first instance to a voluntary (charitable) institution for treatment;

(3) That treatment should be carried out, if possible, in a Treatment Centre or School Clinic, staffed by the local medical practitioners, or at a recognised surgery, and under special conditions.

6. The enquiry initiated by the Association during the latter part of 1913, in accordance with the resolution of the Annual Representative Meeting, 1913, shows that though unofficially some cases have drifted to voluntary hospitals, in only a few areas (probably not more than 12-15) have the Education Authorities attempted officially to provide treatment for the children at charitable institutions.

7. The question is therefore one on which the opinion of the Association must be again stated. To secure a comprehensive settlement it is needful that every Division should (as soon as possible) put before the Local Education Authority of the district the scheme of the British Medical Association. Such a scheme has been authorised by the Association (*see* Appendix I., Sub-Appendix B, page 278), and is capable of providing for all such medical treatment as can be furnished without the child becoming an in-patient of an institution. Thus treatment centres or clinics should, wherever possible, be started to treat defective school children in place of sending them to the voluntary hospitals.

8. The provision of hospital or institutional treatment is a further matter which should be dealt with as follows:—

I. The co-operation with the Association of the members of the Medical Staffs of the hospitals must be first obtained in support of the principles laid down by the Association.

II. The Local Education Authority must then be invited to provide such hospital treatment by either

(a) paying the hospital authorities for accommodation and the medical officers for treatment supplied;

or

(b) itself providing hospital accommodation and obtaining the services of private practitioners for treatment of the children.

APPENDIX III.

MODEL SCHEME, AS APPOVED BY THE ANNUAL REPRESENTATIVE MEETING, 1914, FOR THE TREATMENT OF TUBERCULOSIS.

STAFF.

Chief Tuberculosis Officers.

1. The chief tuberculosis officer should be a whole-time officer, and should receive not less than £500 per annum, or £400 if resident, exclusive of office, clerical and travelling expenses.

Assistant Tuberculosis Officers.

2. The assistant tuberculosis officers, where such are needed, should be whole-time officers at a salary of not less than £350 per annum, or £250 if resident, but tuberculosis officers whose duty, whatever their designation, includes the charge of the clinical arrangements concerning tuberculosis cases, and whose relation as regards such cases to the local profession will be that of consultant, should receive not less than £500 per annum, these salaries to be exclusive of office, clerical and travelling expenses.

Consultants.

3. The need for expert medical opinion cannot be met by the appointment of an assistant tuberculosis officer, acting under the administrative control of the medical officer of health, as an officer who could be secured at the salary of an assistant would not have the necessary experience to enable him to act as consultant to the district. When a medical practitioner is called in to act as a consultant, his services should be paid for at the local recognised rate for consultation fees.

Medical Officer of Health as Tuberculosis Officer.

4. The medical officer of health, in his capacity as administrative tuberculosis officer, should have an increase in his

salary corresponding to the increase in his duties. He should not act as clinical tuberculosis officer unless it can be shown:—

(1) that he has ample time for clinical work;

(2) that he fulfils the conditions as to clinical experience laid down by the Interim Report of the Departmental Committee on Tuberculosis (Astor Committee, pars. 27 and 28.):—

"*Whilst not desiring to lay down any hard-and-fast conditions, the Committee are of opinion that preference should be given to registered medical practitioners of suitable qualifications and experience, and not less than twenty-five years of age, who have held house appointments for at least six months in a general hospital, in addition to a similar period of attendance at a special institution for the treatment of tuberculosis. They should also be competent to supervise such laboratory work as may be necessary.*"

"*He should be of suitable age and attainment and enough of an expert on the subject of tuberculosis to command general confidence.*"

Procedure in providing Treatment.

5. For the efficient working of any tuberculosis scheme, it is recommended that any person applying to a tuberculosis officer or authority for any benefit under the scheme should present a statement of his case signed by a medical practitioner.

Domiciliary Treatment.

6. The medical practitioner should confer with the consulting officer at such times and in such circumstances as may be arranged between them in regard to patients under the care of the medical practitioner. (L.G.B. Order, 26th July, 1912, Article II. (6)).

7. The medical practitioner should prepare and transmit to the consulting officer at such times as may be arranged between them, not being less often than once in three months, a report in regard to each patient, giving particulars as to:—

(a) the progress of the patient;

(b) whether the conditions under which the patient is living and receiving the treatment are satisfactory;

(c) the behaviour of the patient in carrying out instructions given to him; and

(d) whether in the opinion of the medical practitioner any form of institutional treatment has become desirable. (L.G.B. Order, 26th July, 1912, Article II. (5)).

8. The medical practitioner should from time to time inform the Medical Officer of Health of the Sanitary District in which the patient resides of any circumstances known to the medical practitioner which may affect adversely the sanitary conditions under which the patient is living, and in respect to which action by the medical officer of health or of the Sanitary Authority would, in the opinion of the medical practitioner, be necessary or desirable. (L.G.B. Order, 26th July, 1912, Article II. (7)).

Remuneration of Profession.

9. Where the local profession of any Insurance area decide that they shall be paid by a capitation fee for the domiciliary treatment of tuberculosis cases of *insured persons* such fee should be not less than 6d., and should be for domiciliary treatment only.

10. Where the local profession of any Insurance area decide that they shall be paid upon a scale of fees for the domiciliary treatment of tuberculosis cases either of insured or uninsured persons, the following should be the minimum scale of fees:—

Scale of Minimum Fees.

	s.	d.
(a) For full medical report (including consultation at the surgery, or visit if within two miles of the doctor's house; if beyond that distance a mileage fee of not less than 1s. per mile (outwards) or in outlying and sparsely populated districts such sum as is suitable to local circumstances and the local customs of the profession)	5	0
(b) Extra for first visit with consulting tuberculosis officer	2	6
(c) Continuous record	5	0
(d) Quarterly reports	5	0
(e) Consultation at doctor's residence or surgery	2	6
(f) Visit at patient's home	2	6
(g) Night visit—that is, visit paid between 8 p.m. and 8 a.m. in response to call within these hours	5	0
(h) Special visit—that is, visit paid in response to call sent after 10 a.m and before 8 p.m.	3	6
(i.) Injection of vaccines (vaccines to be provided by Local Authority)	2	6

Note.—Mileage in (a) will apply to (f), (g), and (h).

Dispensary Treatment, whether attached to an Institution or not.

11. The attendance and treatment of cases of tuberculosis in tuberculosis dispensaries should be carried on in accordance with the following principles:—

A.—General principles, applicable to *all* tuberculosis dispensaries, whether voluntary or otherwise:—

(i.) That the services of all medical practitioners connected with the dispensary should be paid for;

(ii.) that, if possible, no patient should be treated at the dispensary except on the recommendation of a medical practitioner;

(iii.) that it is essential that every tuberculous patient should have his own medical attendant to carry out any necessary domiciliary treatment;

(iv.) that in order to keep the medical practitioner in touch with the work of detection and prevention of tuberculosis it is recommended that he should co-operate with the medical officer of health or tuberculosis officer in all inspection work (including the examination of "contacts" and "suspects");

(v.) that the medical officer in charge of the dispensary should not be engaged in private practice.

B.—Special principles, applicable to tuberculosis dispensaries established in connection with a voluntary institution:—

(i.) that the dispensary should be co-ordinated with the institution but carried on as a separate department.

(ii.) that the accounts of the institution should be kept so as to show the receipts and the approximate expenditure of the dispensary.

12. All attempts to make tuberculosis dispensaries into institutions merely for the application of some form of special treatment should be rigidly discouraged.

Treatment as In-patients in Voluntary Medical Institutions.

13. A voluntary institution providing beds for the treatment of cases of tuberculosis, if the institution accepts payment, should be carried on in accordance with the following principles:—

(i.) that the organisation may run concurrently with that of the institution;

(ii.) that the accounts should be kept so as to show the approximate aggregate cost of the treatment of such patients, including the cost of medical attendance and treatment;

(iii.) that the services of all members either of the resident or honorary medical staff concerned with the treatment of such patients shall be paid for.

14. When a patient is discharged from an institution it is imperative for the continuity of treatment that his usual medical attendant should be advised of the patient's discharge and be supplied with a report and temperature chart covering the period of the patient's residence in the institution.

Method of Payment of Members of Honorary Medical Staffs of Voluntary Tuberculosis Dispensaries and Voluntary Medical Institutions.

15. From all moneys received by the Governing Body of a voluntary tuberculosis dispensary or voluntary medical institution in respect of the Tuberculosis Medical Service, a proportion to be agreed upon between the Governing Body and the medical staff should be placed to a special Fund which shall belong to the medical staff.

Mode of Disposal of Special Fund.

16. Honorary Medical Staffs may find the following suggestions valuable in connection with the disposal of the moneys in the special Fund, and accordingly the Association suggests to the Hospital Staffs concerned that one or more of the following methods of distribution of any moneys in the special Fund may be found suitable:—

(i.) The distribution to the members of honorary medical staffs for their own personal disposal;

(ii.) for the assistance of members of the medical staff in connection with research work;

(iii.) for the purchase of instruments, books, etc., for the use of the medical staff or for lending to other members of the profession;

(iv.) for the initiation or development of post-graduate teaching in the institution;

(v.) the institution of a local medical benevolent fund, administered by the members of the honorary medical staff, for dealing with necessitous cases (*e.g.*, widows and children of former colleagues);

(vi.) grants to any recognised medical benevolent fund or institution; or
(vii.) otherwise as the majority of the medical staff may decide.

TREATMENT OF PERSONS NOT INSURED UNDER THE NATIONAL INSURANCE ACT.

17. The terms and conditions for treatment of uninsured persons, when such is undertaken by the local authority, should be the same, *mutatis mutandis*, as those for treatment of insured persons, except that for domiciliary attendance the terms, where a contract is desired, shall be not less than £1 per month.

IRELAND.

18. Until Medical Benefit is extended to Ireland, payment for domiciliary attendance reports, certificates, and other services should be on a scale of fees for work done.

19. It is hoped that this extension and the treatment of all forms of tuberculosis will be introduced at an early date, in which case it is urged that the arrangements should be similar to those prevailing in England.

BRITISH MEDICAL ASSOCIATION IN IRELAND.

THE Irish Committee of the British Medical Association has issued a circular letter signed by Mr. R. J. Johnstone, F.R.C.S., Chairman, and Dr. Henry Mills, late Honorary Secretary, in the following terms:

British Medical Association in Ireland.

The British Medical Association has made an advance that has not attracted sufficient attention from the practitioners in this country. It has now put its Irish work on a footing that enables it to deal with the local matters promptly and efficiently, by establishing a properly equipped office in Dublin, under the control of Dr. Thomas Hennessy as secretary. It has done this on a scale so liberal that the expenses will demand an outlay considerably in excess of the subscriptions received from Ireland.

All who know Dr. Hennessy are aware that we have in him a man who has always been a champion of the interests of our profession, and of those of the Poor Law service in particular. He now, in his new office, will be able to put his knowledge of our needs and his abilities as adviser and advocate at the disposal of our Branches, Divisions, and individual members in a way that must give fresh vigour to our efforts, and a hitherto unattained measure of cohesion and co-ordination to our organization.

The flexible constitution of the British Medical Association enables us to have practical autonomy in all Irish matters which are under the control of the very representative Irish Committee, to which everything bearing on our interests is referred by the Council, while we have at our back the resources and prestige of a great and powerful body, as well as the services of the most influential medical journal in the world.

The apathy which keeps so many from joining with their fellows in an organization that enables its elected representatives to speak authoritatively in their names gravely imperils the issue of the fight for our most cherished interests, and we appeal to you to set an example by becoming a member of the Asociation from the new year, and help us to start 1915 with renewed energy in the cause of our profession.

On behalf of the Irish Committee,

R. J. JOHNSTONE, F.R.C.S.,
Chairman.
JOHN MILLS, M.B.,
Late Hon. Secretary.

Irish Office of the British Medical Association,
16, South Frederick Street, Dublin.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH.—Dr. R. E. Crosse and Mr. N. Bishop Harman, Honorary Secretaries, give notice that a Council meeting will be held at 429, Strand, W.C., on Tuesday, January 12th, 1915, at 4 p.m.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—Dr. Arthur T. Todd-White, Honorary Secretary, gives notice that a meeting of the Division will be held in the Wesleyan Church School-room, High Road, Leyton, on Thursday, December 17th, at 4 p.m. Dr. J. H. Dauber, Surgeon to the Hospital for Women, Soho Square, will read a paper on some common complaints of women as observed in a gynaecological clinique.

Meetings of Branches and Divisions.

SOUTH MIDLAND BRANCH:

NORTHAMPTONSHIRE DIVISION.

A MEETING of the Division was held at the Northampton General Hospital on December 1st. In the absence of Colonel Bull, K.H.S., Mr. N. B. ODGERS presided, and seventeen other members were present.

The late Dr. John Terry.—On the proposition of the CHAIRMAN, seconded by Dr. HICHENS, a vote of condolence to Mrs. Terry on the sudden death of her husband Dr. John Terry, of Braunston, was passed.

Insurance Act.—Dr. LINNELL in an address on the working of the Insurance Act began by reading a letter from Dr. Smartt on the incompleteness of the payments made by the Insurance Committee. Dr. Linnell, however, did not think there was much cause for complaint. Mr. YORK GROVES, Clerk to the Northants Insurance Committee, attended and made a long and clear statement on the matter. He pointed out that absolute accuracy was impossible owing to the fact that at any given time a number of patients owing to death and emigration were merely paper patients. Hence, an average must be struck, and the Commissioners found that they had to deduct 5 per cent. for these unavoidable mistakes. Hence, a doctor with 1,000 panel patients only got paid for 950. The Commissioners now advised that only 90 per cent. of the money available should be paid. He contended that members of the medical profession had got all the money due to them from patients' payments, though they appeared not to have got it. Questions were asked and the matter briefly discussed by Dr. CHURCHOUSE, TOLPUTT, ROUGHTON, DRYLAND, BAXTER, and other members.

Belgian Medical Refugees.—Dr. HICHENS read a letter from the Medical Secretary of the Association appealing for subscriptions to help the Belgian doctors and chemists. On the motion of Dr. LINNELL, seconded by Dr. ROBB, it was decided that the profession be circularized and asked to give 10s. a head to the fund.

Annual Representative Meeting.—Dr. ROUGHTON, Deputy Representative, gave a brief report of the Annual Meeting, drawing special attention to the fact that the formation of a trade-union was negatived as not protecting the Association funds any better than is at present the case.

Votes of Thanks.—On the motion of Mr. ODGERS, seconded by Dr. DRYLAND, a vote of thanks was accorded to Dr. Roughton, and the meeting closed with a vote of thanks to Mr. Odgers for taking the chair.

MEDICAL TREATMENT OF PERSONS CALLED UP FOR SERVICE WITH HIS MAJESTY'S FORCES.

MEMORANDUM I.C./210 of the Insurance Commissioners on Medical Treatment of Persons called up for Service with His Majesty's Forces, was published in the JOURNAL of November 28th (p. 251), but was received too late for us to make any comment on it. It is to be hoped that every general practitioner has read it carefully, for it answers many of the questions which, to judge by the correspondence received at the head office, have been puzzling those from whose practices men have gone to serve under the colours.

Its contents may be briefly summarized as follows:

(*a*) The navy and army authorities become responsible for the medical treatment of all men who are called up or enlist, from the moment at which they are called up or enlist until the moment they are discharged. During this period no liability rests on their panel practitioners, whether the men are allowed to remain temporarily at home or not, even though they may be engaged in civil employment.

(*b*) An insured person who has been sent home owing to illness of any kind is still under the charge of the naval and military authorities until he is discharged.

(*c*) If a member of the Navy, Army, Territorial, or Reserve Forces applies for treatment, he should be dealt with as follows:

1. A member of the Naval Reserves should be referred to the naval surgeon and agent, if there is one in the district, and in the absence of a naval surgeon and

agent should be directed to make his own directions with a qualified civil practitioner for treatment. In the former case the surgeon and agent will receive his fees from the Admiralty; in the latter the patient will be responsible for settling the doctor's charges, but will be eligible to receive sick allowance under the King's Regulations and Admiralty Instructions on making application for the same through his commanding officer.

2. A member of the Army Reserve, Territorial Force or New Army on furlough should be referred to the Officer Commanding the nearest military station, who in every case will communicate with the Assistant Director of medical services of the area in which the soldier is temporarily residing. In case of emergency, or when a soldier unfit to travel resides at a distance from a military hospital, the soldier may apply to a civil practitioner to whom he will show his furlough paper, and who will be allowed to charge for attendance at the rate laid down under Army Regulations (A.F. O. 1667), provided that the soldier immediately reports to the Officer Commanding the nearest military station, as directed above.

(*d*) Upon discharge from the service an insured person becomes again entitled to medical benefit under the Insurance Acts, and will be entitled to make a fresh choice of the method by which he desires to obtain treatment, just as if he had freshly entered into insurance.

The memorandum, which refers primarily to the case of insured persons belonging to the Navy or Army Reserve or to the Territorial Forces, or who have enlisted in the New Army, incidentally raises the general question of the treatment by civilian practitioners of persons, insured or uninsured, coming under these categories.

Arising out of paragraph 4 of the Memorandum it may be of assistance to civilian practitioners who may be asked by the men to attend them to have the following information, embodying what are understood to be the latest Regulations of the Navy and Army bearing upon the question of the remuneration of civilian practitioners attending sailors and soldiers respectively.

It is to be hoped that panel practitioners will take due note of this and will decline to attend these persons except at the expense of those authorities who are now responsible for them. Their names having been removed from the lists of panel practitioners, no moneys will be received on their behalf from the Insurance Committees, and there is no reason whatever why they should be attended gratuitously, seeing that from the moment of their entrance into one of the services the authorities undertake full responsibility for them.

It will be noted that in the case of the sailor the patient is responsible for his own bill, and after compliance with certain regulations he can obtain an allowance towards this from the naval authorities. As regards the soldier, he must first apply to the nearest military station, but when this is impracticable he must call in a civilian practitioner, who is entitled to charge him on the scale appended. It is very important to note that the practitioner must insist on the production of the soldier's furlough paper. Without this the doctor has no guarantee that the man has ever been formally accepted, or has not been discharged.

I. Navy Regulations.

Regulation 880 of the "King's Regulations and Admiralty Instructions" is as follows:

880. *Medical Attendance on Leave.*

4. If the patient is unfit to travel and his residence is not near a ship or coastguard station, the captain of the ship to which he belongs is to require him to furnish a certificate from a duly qualified medical practitioner specifying the nature of the illness, and stating explicitly that the man is unfit to travel. A similar certificate is to be furnished weekly until the man is fit to travel (not necessarily fit for duty) or is removed to a naval hospital or invalided. Upon receipt of the certificates the man may be granted, with Admiralty approval, a sick allowance of 2s. a day, for a period not exceeding one or other of the periods specified in clauses 5 and 6. This allowance is to cover board, lodging, and medical attendance, and it is to be distinctly understood that the Admiralty will not pay the bills of any private practitioner whom the patient or his relations may have called in. The allowance is not to be paid without previous reference to the Accountant-General of the Navy, but the captain, if he thinks fit (particularly in cases of prolonged sickness), may apply for authority to pay the allowance weekly from the ship, such allowance being granted for the purpose of ensuring that the patient is properly cared for, with a view to his speedy cure and return to his ship. The medical certificates should accompany all applications for payment of the allowance.

5. A continuous service man or boy, or a marine borne on the books of one of His Majesty's ships, may be granted the allowance either until pronounced fit for return to his ship or for removal to hospital, or until he is invalided; provided that in no case is payment made for more than 91 days without the express sanction of the Admiralty.

6. A non-continuous service man will not be granted the allowance for more than 30 days, except when specially authorized by the Admiralty.

7. If the officer receiving the report of illness should not be the captain of the ship to which the man or boy belongs, he is to keep such captain fully informed of any action that may be taken in the case, and of the patient's progress and ultimate recovery or otherwise.

8. A special report on the illness of any man or boy sick on shore is to be made by the medical officer of the ship, through his commanding officer, to the Medical Director-General as soon as the man or boy completes the period of sickness for which full pay is allowed under Article 1425, or earlier if the sickness is of such a nature that it is improbable that the patient will again be fit for general service. The Medical Director-General will arrange, if desirable, that a survey shall be held on the man or boy at his own home by a naval or private practitioner, so that, when necessary, the patient may be invalided without delay.

In accordance with paragraph 4 above, the following appears in the "Instructions for the Guidance of Men while on Leave," printed on the back of the leave ticket used in the Navy:

The Admiralty will in no case pay the bills of private medical practitioners called in either by yourself or by your friends; but an allowance to cover board, lodging, and medical attendance may be granted if applied for through the captain of your ship.

II. Army Regulations.

The following are the relevant regulations:

A soldier on furlough who requires medical aid should apply to the O.C. the nearest military station. When this is impracticable, he may apply to a civilian practitioner, show him his furlough paper, and he will be allowed to charge for attendance at the rate laid down on A.F. O 1667.

The following instructions must be conformed to in the case of any claim made by a civilian medical practitioner for medical attendance and medicines furnished to soldiers in cases in which the public is liable:

Scale of Charges: Visit and Medicine.

	Under 1 mile.	Over 1 Mile but under 2 Miles.	Over 2 but under 3 Miles.	Over 3 but under 4 Miles.	Over 4 but under 5 Miles.	Greater Distances.
	s. d.	s. d.	s. d.	s. d.	s. d.	
Day	2 6	3 0	4 0	5 0	6 0	An addition of 1s. for each mile over five.
Night, 10 p.m. to 7 a.m.	3 6	4 6	6 6	8 6	10 6	An addition of 2s. for each mile over five.

Secondly, charges for surgical appliances, when necessary, will be allowed according to circumstances.

Thirdly, minor surgical operations (including revaccination), each case, 2s. 6d.

Fourthly, for other operations, and for special cases, remuneration will be allowed according to circumstances and nature of case.

Memorandum.

1. On the face of the bill must be stated nature of the the case, the dates of visits, and whether medicine was supplied.

2. No bill can be approved unless made out in strict conformity with these instructions.

INSURANCE ACT.

Memorandums by the Commissioners.

Aged and Disabled Members of Societies.

In Memorandum 205/A.S. the National Health Insurance Commissioners (England) set forth the conditions on which will be paid to approved societies the Exchequer grant of 2s. 6d. towards the cost of medical attendance and treatment of (1) insured members of societies aged 65 and upwards on July 15th, 1912, and (2) aged and disabled members of societies not qualified to become insured persons. It is explained that the grant will be paid for each of these two classes in quarterly instalments at the rate of 7½d. for the first three quarters of the year, but as

the fourth quarter has several days short, owing to the year beginning on January 15th, 1913, and ending on January 11th, 1914, the fourth quarter will only be reckoned as $\frac{5}{365}$ths of 7½d. Thus the total for the past year will not be the full 2s. 6d., but this will probably be put right in succeeding years. The Memorandum is principally of use to approved societies and fully explains how secretaries of societies must make application for the grant, which will not be paid to the branches of societies, but only to the central executives. The provisions now made in accordance with the Amendment Act, 1913, go some way towards alleviating the hardship which was indirectly inflicted by the principal Act on the aged and disabled uninsured members of societies.

Exempt Persons' Benefits.

The Commissioners have also issued Regulations (*Statutory Rules and Orders*, No. 1631, price 1d.) dealing with the benefit of exempt persons under Section (4) of the National Insurance Act, 1911, as amended by Section 9 of the Amending Act. It will be remembered that under Section 9 of the Amending Act the contributions paid by employers on behalf of persons who hold exemption certificates under Section 2 of the principal Act are to be devoted to providing for such persons medical and sanatorium benefits and the costs of administration of these benefits, and the Regulations in question deal with the administration in these cases. In the definition of the term "exempt persons" it is stated that it "includes a person who attains the age of 70 on or after the 12th day of January, 1914, and who, immediately before attaining that age, was an exempt person." This means a rather unexpected addition to the number of persons over 70 years of age who will be entitled to medical attendance and treatment by the panel doctors, and it would appear to be somewhat straining the provisions of the Amending Act at the expense of the panel doctors. This is hardly mitigated, so far as the doctors are concerned, by the provision in Section 6 that "an exempt person in respect of whom less than twenty-seven contributions have been paid shall not be entitled to the benefits, or either of them, after attaining the age of 70," seeing that if twenty-seven or more contributions have been paid these persons shall, on attaining the age of 70, be entitled to the benefits during the remainder of their life. It is further provided that at least twenty weekly contributions must first have been paid on their behalf before exempt persons become entitled to the two benefits, and the right may be suspended if less than thirteen contributions are paid for them in any one "benefit period," there being two such periods in each year, one from April 1st to September 30th, and the other from October 1st to March 31st. There are, however, a number of somewhat elaborate administrative methods set out in Section 5 by which deficiencies in contributions in any "benefit period" may be made up from previous balances of contributions, and in Section 14 provision is made to prevent any hardship in the case of soldiers, sailors, and police constables, who might lose their right to the benefits through serving during the war in the army, navy, or police forces. The contributions paid in respect of exempt persons are to be carried by the Commissioners to the credit of a fund to be called "The Exempt Persons' Fund," and from it will be paid 1s. 3d. per head for sanatorium benefit, not more than 4½d. for the General Medical Benefit Administration Fund, and also "to the General Medical Benefit Fund such sum as is payable in that year out of the Deposit Contributors' Fund in respect of the medical benefit of a deposit contributor entitled to medical benefit multiplied by the number of exempt persons entitled to the benefits," the number of exempt persons entitled to the benefits being determined in such manner as the Commissioners think fit.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

SIR BERKELEY G. A. MOYNIHAN, M.B., F.R.C.S., to be temporary Colonel.

ROYAL ARMY MEDICAL CORPS.

GUY N. STEPHEN is granted temporarily the honorary rank of Major.

JOHN H. EDWARDS to be temporary Major.

Honorary Captain JOHN GREEN is granted the honorary rank of Captain.

Lieutenants confirmed in their rank: ALAN C. PERRY, HARRY EVANS, BASIL W. BROWN, ARTHUR P. KENNEDY, CLAUD A. SLAUGHTER, STANLEY W. HOYLAND, JOSEPH H. BAIRD, THOMAS O. GRAHAM, OWEN HAIRSINE, RAYMOND J. CLANSEN, GEORGE A. COLE, RICHARD O'KELLY, CLIVE A. WHITTINGHAM, ALBERT F. L. SHIELDS, FREDERICK MCKIBBIN, THOMAS M. DAVIE, CAMPBELL M. CORMACK, JOHN G. RONALDSON, HUBERT C. G. PEDLER, ROBERT L. HORTON, JOHN ALSTON, CHARLES R. MCINTOSH, JOHN CAMERON, JAMES C. BRASH, FRANCIS G. MACNAUGHTON, WILLIAM N. CHESNEY, WILLIAM WALKER, DAVID M. MARR, JOHN M ORME, JOHN A. O'DRISCOLL, IVAN M. PIRRIE, EDGAR S. ROWBOTHAM, JOHN F. W. SANDISON, IDRIS D. EVANS, PATRICK WALSH, THOMAS W. CLARKE, JOHN CULLENAN, FRANCIS D. ANNESLEY, IAN D. SUTTIE, HENRY C. BAZETT, GEORGE PERKINS, CYRIL J. A. GRIFFIN, FRANK COOK, FRANCIS H. GUPPY, ROBERT ELLIS, FRANCIS G. A. SMYTH, CLIFFORD W. SPARKS, HARRY E. CRESWELL, RICHARD A. PRESTON, ARTHUR B. PRESTON, ALBERT G. W. COMPTON, CHARLES H. THOMAS, WILLIAM C. MACKIE, CHARLES D. M. BUCKLEY, FRANK P. FREEMAN, HENRY S. BAKER, FRANK CROSSIE, FRANCIS A. BELAM, AUSTIN SMITH, ERNEST A. DYSON, HAMILTON B. GOULDING, WILLIAM E. TYNDALL, WALTER V. TOTHILL, HARRY NIELD, CYRIL ARMSTRONG, NORMAN L. JOYNT, HUGH S. PEMBERTON, PETER F. WARD, WILLIAM J. ADIE, WILLIAM S. BIRCH, ALEXANDER J. EWING, HAROLD E. ROSE, RICHARD N. O. MOYNAM, MORGAN J. B. F. BURKE-KENNEDY, JOHN V. L GRANT, GEORGE G. MARSHALL, LEONARD F. BROWNE, CUTHBERT H. ATTENBOROUGH, HAROLD J. S. MORTON, REGINALD H. LEIGH, GEORGE M. CHAPMAN, JAMES B. SCOTT, JOHN P. DAVIES, DAVID W. JOHN, JOSEPH B. WILLIAMSON, JOHN C. PYPER, GEOFFREY W. WOOD, TIMOTHY F. HEGARTY, BERNARD MURPHY, WILLIAM H. WOOD, HENRY A. HARBISON, CYRIL POPHAM, ROBERT HAY, CLAUDE J. D. MAY, CHARLES F. HACKER, JAMES K. J. HAWORTH, LAURENCE H. W. IREDALE, CEDRIC O. SHACKLETON, THOMAS C. STOREY, GEORGE H. C. MOLD, JOHN N. MCINTOSH, JOHN H. OWEN, ALEXANDER B. FOOT, JAMES LANIGAN, JEREMIAH J. MAGNER, GERALD C. DIXON, CHARLES F. BURTON, LIONEL A. LEWIS, JOHN P. STALLARD, PATRICK J. CORCORAN, and WALTER A. ELLIOTT.

To be temporary Lieutenants: CHARLES H. FENNELL, M.D., GEORGE J. WILSON, M.B., ALFRED ERNEST SALKELD, HORACE S. BERRY, GEORGE L. ATKINSON, LIONEL C. FERGUSON, ALEXANDER G. HIGGINS, ARTHUR G. M. MIDDLETON, CHARLES J. SINGER, M.D., DONALD CLARK, M.B., HENRY W. TEAGUE, M.B., JAMES MATHESON, M.B., EDWARD H. H. GRANGER, FRED. A. R. HACKER.

To be Lieutenants on probation: JAMES B. FOTHERINGHAM, CECIL S. STADDON, ROBERT I. SULLIVAN, JOHAN F. VAN DER WESTHUYZEN, ANDREW R. ROSS, CLAUDE H. FISCHEL, FREDERICK M. LIPSCOMB, HARRY P. RUDOLF, ROBERT W. S. MURRAY, WILLIAM H. ELLIOTT, CLIFFORD T. VAN DER VYVER, ALLAN B. HAWKINS.

Vacancies and Appointments.

NOTICES REGARDING APPOINTMENTS.—Attention is called to a Notice (see Index to Advertisements—Important Notice re Appointments) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BARNSLEY: BECKETT HOSPITAL AND DISPENSARY.—Second House-Surgeon. Salary, £100 per annum.

BARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—House-Surgeon (male). Salary, £150 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM GENERAL DISPENSARY. — Resident Medical Officer. Salary, £240 per annum.

BIRMINGHAM: LITTLE BROMWICH FEVER HOSPITAL.—Assistant Resident Medical Officer. Salary, £200 per annum.

BIRMINGHAM UNION.—(1) Second, Third, and Fourth Assistant Medical Officers at Dudley Road Infirmary; salary, £210, £170, and £160 per annum respectively. (2) Assistant Medical Officer at the Selly Oak Infirmary; salary, £180 per annum.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer for the St. Luke's Hospital and Union House. Salary, £150 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Medical Superintendent. Salary, £200 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeons. Salary at the rate of £100 per annum.

CARDIFF: KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION.—Assistant Resident Medical Officers at Sanatoriums. Salary, £150 per annum.

CHELSEA INFIRMARY, Cale Street, S.W.—Second Assistant Medical Officer. Salary, £180 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—(1) Physician to Out-patients. (2) House-Physician. Salary at the rate of £75 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £100 per annum.

DURHAM; SHERBURN HOSPITAL.—Medical Officer. Salary, £300 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Ten Qualified Clinical Assistants in the Outpatients' Departments.

FALKLAND ISLANDS.—Assistant Colonial Surgeon. Salary, £400 per annum.

FIFE DISTRICT ASYLUM. — Senior Assistant Medical Officer. Salary, £170 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary, £80 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Resident Medical Officer. Salary, £120 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £200 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HALIFAX UNION POOR LAW HOSPITAL.—Resident Medical Officer. Salary, £140 per annum.

INDIA: JHARIA BOARD OF HEALTH.—Chief Sanitary Officer for the Jharia Mining Settlement. Salary, Rs.1,200, rising to Rs.1,500 a month.

KENSINGTON AND FULHAM GENERAL HOSPITAL, Earl's Court, S.W.—Dental Surgeon.

KENT AND CANTERBURY HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £90 per annum respectively.

KENT COUNTY ASYLUM, Maidstone.—Male Junior Assistant Medical Officer. Salary, £250 per annum.

KING EDWARD VII MEMORIAL SANATORIUM, Shirlett, near Much Wenlock.—Resident Medical Superintendent. Salary, £300 per annum.

LEEDS PUBLIC DISPENSARY.—Resident Medical Officer. Salary, £130 per annum.

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITAL.—Locumtenent Resident Medical Officer. Remuneration, 5 guineas a week.

LIVERPOOL PARISH.—Resident Assistant Medical Officer for the Brownlow Hill Institution. Salary, £200 per annum.

LIVERPOOL ROYAL SOUTHERN HOSPITAL.—House-Surgeon. Salary, £60 per annum.

LONDON HOSPITAL, E.—Surgeon.

LONDON LOCK HOSPITAL, Harrow Road, W.—House-Surgeon at the Female Hospital. Salary, £130 per annum.

MANCHESTER: ANCOATS HOSPITAL.—(1) Resident Medical Officer; (2) Resident House-Physician. Salary, £130 and £80 per annum respectively.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, rising to £200.

MIDLOTHIAN SECONDARY EDUCATION COMMITTEE.—School Medical Officer (temporary). Salary at the rate of £300 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Senior House-Surgeon. Salary at the rate of £100 per annum.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Anaesthetist.

NEW HOSPITAL FOR WOMEN, Euston Road, N.W.—Assistant Obstetrician.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at the rate of £100 per annum, rising to £150.

NORTHAMPTON GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

NORTHAMPTONSHIRE COUNTY COUNCIL EDUCATION COMMITTEE.—Assistant School Medical Officer (temporary). Salary, £25 per month.

NOTTINGHAM: GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum. (Women eligible.)

NOTTS COUNTY COUNCIL.—Resident Medical Officer at the Ransom Sanatorium. Salary, £200 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Resident Medical Officer. Salary, £90 per annum.

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—District Resident Medical Officer. Salary at the rate of £60 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary at the rate of £80 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House-Surgeon (male). Salary, £110 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—House-Physician. Salary at the rate of £75 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Clinical and Chief Clinical Assistants.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Resident Medical Officer for duration of the war. Salary at the rate of £150 per annum.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer; (2) Casualty House-Surgeon. (Males.) Salary, £120 and £100 per annum respectively.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £150 per annum.

SALISBURY INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

SCULCOATES UNION.—Resident Assistant Medical Officer at Workhouse Infirmary. Salary, £200 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD ROYAL INFIRMARY.—Male House-Surgeon. Salary, £100 per annum.

SHETLAND: PARISH OF NORTHMAVINE.—Medical Officer. Salary, under Poor Law, £50 per annum; Lunacy Acts, £10.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £250 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

SUNDERLAND ROYAL INFIRMARY.—Senior Resident Medical Officer. Salary, £150 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

TRINIDAD: LUNATIC ASYLUM.—Assistant Medical Superintendent. Salary, £250 per annum, with £80 ration allowance and £50 quinquennial increments.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Senior House-Surgeon. Salary, £160 per annum.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon and Anaesthetist. Salary, £110 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £200 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £120 per annum respectively.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.—(1) Honorary Anaesthetist. (2) Resident House-Physician. Salary, £100 per annum.

WEST HAM COUNTY BOROUGH.—Assistant School Medical Officer. Salary, £300 per annum.

WEST HAM UNION.—(1) Second Assistant (Resident Male) Medical Officer at the Infirmary; (2) Deputy Medical Officer at the Sick Home. Salary, £250 per annum each.

WESTMINSTER HOSPITAL, S.W.—House-Surgeon.

WESTMINSTER UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £160 and £140, rising to £180 and £160 respectively.

WEST RIDING COUNTY COUNCIL, Wakefield.—Temporary School Medical Inspector. Salary, £325 per annum.

WEST RIDING OF YORKSHIRE.—(1) Assistant Medical Officer at the Storthes Hall Asylum; salary, £250 per annum, rising to £300; (2) Assistant Medical Officer at the Scalebor Park Asylum; salary, £250 per annum, or Locumtenent for the winter months, salary £5 5s. per week.

WILTS COUNTY COUNCIL.—Temporary Assistant School Medical Inspector. Salary, £300 per annum.

YORK COUNTY HOSPITAL.—House-Physician (male). Salary, £150 per annum.

YORK: NORTH RIDING ASYLUM, Clifton.—Locumtenent Medical Officer. Salary, £250 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Crowle (Lincoln), Shildon (Durham), Tobermory (Argyle).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

CHRISTIAN, L. de B., M.B., C.M.Edin., Certifying Factory Surgeon for the Hounslow District, co. Middlesex.

DAVIES, T. J., M.R.C.S., L.R.C.P., District Medical Officer of the Pontypridd Union.

HELSBY, H. R., F.R.C.S.Edin., L.R.C.P., District Medical Officer of the Pontypridd Union.

PHILLIPS, G. C. J., M.D., District Medical Officer of the Ampthill Union.

VERRALL, P. J., M.B., B.C.Cantab., F.R.C.S., Medical Officer to Epsom College.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

MARRIAGE.

KEYWORTH-PARSONS.—At St. Thomas' Cathedral, Bombay, on October 23rd, William David Keyworth, B.A., M.B., B.C.Cantab., M.R.C.P.Lond., Captain, I.M.S., to Mary Louisa, eldest daughter of John Parsons, Esq., of Richmond, Surrey.

DEATHS.

MORETON.—On the 5th inst., at Earlscroft, Tarvin, Chester, James Earl Moreton, F.R.C.S., aged 83.

TAYLOR.—On December 2nd, at 180, Kennington Park Road, Herbert Taylor, M.B.Lond., aged 64.

DIARY FOR THE WEEK.

TUESDAY.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital for Diseases of the Skin, 49, Leicester Square, W.C., 4.30 p.m.—Pathological Specimens, Clinical Cases, and Cases for Consultation. 5.15 p.m.—Paper by Dr. E. G. Reeve: Intensive Nascent Iodine and the Treatment of Tuberculosis.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Bradshaw Lecture, by Sir Frederic Eve: Acute Haemorrhagic Pancreatitis, with remarks on the Etiology of Chronic Pancreatitis.

WEDNESDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF THE HISTORY OF MEDICINE, 5 p.m.—Papers:—Dr. George Peachey: A Seventeenth Century Medical Superstition. Mr. C. J. S. Thompson: The Apothecary in England from the Fourteenth to the Sixteenth Century.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF DERMATOLOGY, 4.30 p.m.—Exhibition of Cases.

FRIDAY.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street W., 8.30 p.m.—Tropical Problems in the New World by Dr. Andrew Balfour, C.M.G., illustrated by lantern slides.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 19TH, 1914.

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Meetings of Branches and Divisions.

SOUTHERN BRANCH.

THE autumn general (and clinical) meeting of the Southern Branch was held at Southampton on November 25th. The President, Mr. G. H. COWEN, F.R.C.S., was in the chair, and about thirty other members were present.

Transfer of Division.—The Council reported that the Salisbury Division having been incorporated in the Wiltshire Branch, a loss of over forty members had been sustained by the Southern Branch. The Council had availed itself of its powers to elect associate members and had honoured Messrs. Luckham, Straton, Willcox, Gordon, March, and Dr. Kempe in this way. The Council's action was heartily endorsed by the meeting.

Epsom College.—The HONORARY TREASURER announced that the sum of £7 2s. 6d. collected at the luncheon at the annual meeting had been sent to Epsom College. The Branch President and Secretary were directed to distribute the votes accruing.

Finance.—The meeting adopted the recommendation of the Council as to the changes necessary in the disposal of the deposit account consequent on the separation of the Salisbury Division, and Mr. C. P. Childe was elected as trustee thereof in conjunction with Dr. R. Robertson.

Medical Officers of Reserve Units.—A letter was read from Colonel Mackay appealing for thirty-one medical officers to complete the medical establishments of the Reserve Units.

Medical Attendance on Dependants.—The subject of the medical attendance on the dependants of the men on active service was raised by Dr. ROBERTS (Ventnor), and after discussion was referred to the Council for consideration and report.

Clinical Meeting.

The following papers were read:—(1) Mr. C. P. CHILDE (Southsea): Abdominal hysterectomy for carcinoma of the cervix uteri by the method of clamp and cautery. (2) Dr. W. P. PURVIS (Southampton): The treatment of gunshot wounds. Dr. J. T. LEON (Southsea) showed a specimen of lympho-sarcoma of chest, and read a note on mediastinal growths. Considerable discussion ensued, and a paper by Dr. C. F. Routh (Southsea) on *Bacillis coli* infection of the urinary tract, and a demonstration by Dr. N. E. Aldridge (Southampton), had to be postponed owing to the lateness of the hour.

SUSSEX BRANCH:

CHICHESTER AND WORTHING, AND HORSHAM DIVISIONS

THE following resolutions were passed at a combined meeting of the Chichester and Worthing, and Horsham Divisions, held at the Hospital, Worthing, on December 7th:

1. That this meeting cannot approve of the scale of fees proposed for treatment of school children in the hospitals of West Sussex.
2. That all members of the profession be urged that whenever they may be called to attend the patients of a doctor who is temporarily absent on service with His Majesty's Forces, they should make it a point of honour to impress upon the patients that they will treat them for their absent friend and will hand them over to his care again on his return home.
3. That no medical man shall consent to act as medical referee under the Insurance Act for a fee less than 10s. 6d., with mileage at the rate of not less than 1s. a mile or part of a mile beyond one mile, and that such a referee should not act without previous communication with the doctor in charge of the case.
4. *Re* fees for attendance upon police constables and prisoners: Resolved that the fees for visits to constables and prisoners should remain at 5s. as heretofore and that double fees be charged for attendance between 8 p.m. and 8 a.m.
5. That all medical practitioners in the Division should be invited to contribute to the fund providing aid for Belgian doctors and pharmacists. Subscriptions should be sent to the Honorary Secretary of the Division.
6. That the attention be called of such medical men as have undertaken the treatment of dependants on those serving with the colours to the fact that such treatment need not be given without the production of a voucher from the local relief committee. Such voucher should be a guarantee that the person cannot afford to pay for medical treatment.

ULSTER BRANCH:

BELFAST DIVISION.

THE winter meeting of the Belfast Division was held in the Medical Institute, Belfast, on December 10th, under the presidency of Dr. GEORGE ST. GEORGE, Chairman of the Division. There was a large and representative attendance.

Chairman's Address.—The CHAIRMAN delivered an address on medical work in the early Seventies in a county infirmary, for which the meeting accorded him a hearty vote of thanks.

Heart Muscle.—Dr. J. E. MCILWAINE read a paper entitled "The clinical estimation of the heart muscle," which had involved much research work on his part.

Insurance Act.—A hearty welcome was accorded to the Irish Medical Secretary of the British Medical Association, Dr. T. HENNESSY (Dublin), who gave the latest information as regards the position of the Irish medical profession under the Insurance Act. In moving a vote of thanks to Dr. Hennessy, Dr. R. J. JOHNSTONE voiced the feeling of all present by remarking that the Association was very fortunate in securing the services of Dr. Hennessy as Irish Medical Secretary.

Association Notices.

CHANGES OF BOUNDARIES.

DISCONTINUANCE OF EAST ANGLIAN BRANCH: FORMATION OF ESSEX, NORFOLK, AND SUFFOLK BRANCHES.

THE following changes have been made in accordance with the Articles and By-laws, and take effect as from the date of publication of this notice:

That the East Anglian Branch be discontinued and the following new Branches be formed in substitution therefor:

Branch.	*Area.*
1. Essex.	That portion of Essex contained in the existing East Anglian Branch.
2. Norfolk.	Norfolk.
3. Suffolk.	Suffolk,

the Divisions of the new Branches to be those of the East Anglian Branch contained in the respective counties.

Representation in Representative Body.—For 1914–15 the whole area is represented as determined by the Council (SUPPLEMENT, June 27th, 1914) on the basis of the 1914 Annual List.

As regards representation in the Representative Body, 1915–16, the following are the arrangements proposed:

1. *Divisions of Essex Branch.*—As for 1914–15.

2. *Divisions of Norfolk Branch.*—To form three constituencies, as follows:

(*a*) East Norfolk with Great Yarmouth.
(*b*) Norwich.
(*c*) West Norfolk.

3. *Divisions of Suffolk Branch.*—To form two constituencies, as follows:

(*a*) North Suffolk with South Suffolk.
(*b*) West Suffolk.

BRANCH AND DIVISION MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH.—Dr. R. E. Crosse and Mr. N. Bishop Harman, Honorary Secretaries, give notice that a Council meeting will be held at 429, Strand, W.C., on Tuesday, January 12th, 1915, at 4 p.m.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

PANEL COMMITTEE.

A MEETING of the London Panel Committee was held on December 15th, Dr. H. J. CARDALE presiding.

Representation of Non-panel Interests.

The General Purposes Subcommittee reported further as to carrying into effect the opinion expressed both by the Local Medical and the Panel Committees that, in the interests of the profession, the personnel of the two committees should be identical. It was pointed out that Model Scheme A issued by the Commissioners provided that "the Local Medical Committee shall consist of the members for the time being of the Panel Committee," and the Subcommittee understood that the Commissioners would probably approve a scheme for London on this basis provided that the rule as to co-option was altered to permit of a number of the fifteen co-opted members being representative of non-panel interests. The Subcommittee suggested a conference between representatives of the two committees, and proposed as a basis of discussion that Rule 29, which provides that a woman practitioner shall be elected to the Committee by women practitioners on the panel, and that not more than fourteen other practitioners may be co-opted, should be altered as follows:

1. The Committee shall forthwith appoint twelve other duly qualified medical practitioners to be members of the Committee, nominated as follows:

(i) Three representatives of the medical staffs of hospitals.
(ii) Two representatives of medical officers of health.
(iii) Three representatives of non-panel practitioners resident north of the Thames.
(iv) Three representatives of non-panel practitioners resident south of the Thames.
(v) One representative of women practitioners on the panel.

2. The Committee may within three months after its constitution appoint in addition to be members of the Committee any other duly qualified medical practitioners to a number not exceeding three.

The General Purposes Subcommittee urged that such an arrangement would be advantageous, and would tend towards unity in the profession in London. Decisions upon matters devolving only upon the Panel Committee would be conveyed as decisions of the Panel Committee and the views of the dual committee upon matters, such as the range of medical services, which devolved only upon the Local Medical Committee, would be regarded as the views of that Committee. Further, members of the Panel Committee would have an opportunity of deciding such important questions as the range of medical services, and of dealing with those ethical duties which at present devolved only on the Local Medical Committee. In view of the fact that 62 of the 77 members of the Committee, if the proposed modifications were adopted, would be elected by the panel practitioners, the Subcommittee did not think that any serious objections to the proposal would be raised.

The Committee discussed the draft scheme of representation of non-panel interests in some detail. It was agreed, on the suggestion of the CHAIRMAN, to omit from Clause (1) the words "nominated as follows," in order to leave outside bodies entirely free as to the method of choosing their representatives. Subclause (i), as to representation of staffs of hospitals, was agreed. Dr. MAJOR GREENWOOD, on Subclause (ii), proposed that the representation be shared between a medical officer of health and a Poor Law medical officer. Dr. H. H. MILLS suggested as an alternative that the number of non-panel representatives south of the Thames might be reduced by one and the vacant seat allotted to a Poor Law medical officer. Dr. HOGARTH replied that there were quite as many non-panel practitioners south of the Thames as in the north, if Harley Street were excluded. Dr. CLAUDE TAYLOR urged that on the reconstituted committee two medical officers of health would not be too many. Subclause (ii) was then carried as proposed, with the addition that one medical officer of health should represent the north and one the south side of the Thames.

Subclauses (iii) and (iv) were approved. Subclause (v), as to representation of women practitioners, was also agreed. In Clause (2) of the draft scheme of representation an amendment to reduce the number of additional co-opted members to two was lost, and the whole scheme as amended was then adopted.

Relations with the British Medical Association.

The General Purposes Subcommittee reported that it had given careful consideration to a circular letter from the British Medical Association (Local Medical and Panel Subcommittee) suggesting that it would assist the Association in voicing centrally the views of practitioners on the panel if Local Medical and Panel Committees furnished the Association with full information as to their doings, consulted the Association in their difficulties, and authorized it to act on their behalf in matters affecting the whole profession. In particular the Association desired to know whether the Panel Committee would allow its secretary "to enter into steady and close relationship with the central office of the Association." The Subcommittee recommended that the agenda and minutes of meetings of the Committee be sent to the Association, with copies of circulars issued to practitioners on the panel; that replies be made to questions accompanying the Medical Secretary's letter, and that the Secretary be authorized to enter into steady and close relationship with the central office of the Association.

Dr. COWIE moved an amendment that everything be deleted from the recommendation, save the instruction to forward copies of the agenda, minutes, and circulars, and that the Association be asked to send to the Panel Committee copies of the proceedings of the Insurance Act Committee and of circulars issued with reference to the medical service under the Insurance Act. He said the recommendation involved a grave question of policy. While recognizing the expediency and importance of having every assistance in solving the knotty problems arising under the Act, and of having the profession co-ordinated, he felt that the Panel Committee must be exceedingly careful not to compromise its independence.

Dr. R. J. FARMAN seconded the amendment. He was not opposed to the recommendation, but he believed the

Insurance Act Committee of the Association could give the Panel Committee information which would be of great assistance. An interchange of documents would lead to a close relationship.

Dr. Major GREENWOOD, in supporting the Subcommittee's proposal, said that the British Medical Association, which had within its ranks many thousands of panel practitioners, wished to bring into line not only the London Panel Committee, but all panel committees.

Dr. J. A. ANGUS objected to the Association claiming the right to determine all matters affecting the profession, when none of the 8,000 panel practitioners who were not members of the Association could sit upon the Central Committee, although the Insurance Act Committee contained doctors who were not panel practitioners.

Dr. BATTEN had no fear that the Panel Committee would be subordinated to the Association. It was the Committee's duty to lead the way in healing the divisions of the past; the cleavage took place as it were by accident owing to the haste with which the Insurance Act was rushed through. In helping the Association panel practitioners would gain a preponderating influence in its counsels.

Dr. HOGARTH said he would like to join in the healing of old sores, but he did not like being forced to join the British Medical Association.

The Chairman (Dr. CARDALE) quoted a passage from the Medical Secretary's letter to the effect that there was no desire on the part of the Association to interfere with the autonomy of Committees as to purely local matters. He would not remain in the chair if he thought any outside body was going to interfere with the special duties of the Panel Committee.

Dr. ATTERIDGE supported the amendment on the ground that a close relationship should be left to grow and not be forced.

The SECRETARY (Dr. B. A. Richmond), in reply to a question, said that at a recent date nearly 100 out of 124 Local Medical and Panel Committees in England had replied to the Association that they were willing to co-operate.

Dr. CUNNINGTON asked whether, now that the Association offered to help Panel Committees, it was wise to stand aside? They all wanted the Association to get back to a strong position, so that it could fight again, for there was a big battle ahead.

Dr. LAURISTON E. SHAW thought the recommendation was right. The financial basis of the Insurance Act would come up for reconsideration as soon as the war was over. The Association was the only body which could fight for the profession in the whole of the United Kingdom.

The amendment was lost by 23 votes to 11.

Dr. J. A. ANGUS then moved to add the following words to the Subcommittee's recommendation:

> Provided that this Committee is allowed to nominate its own representatives to serve on the proposed central council, and that no panel practitioner be debarred from serving on such council by reason of his not being a member of the British Medical Association.

He thought that the Association should not refuse to allow one or more of the 8,000 non-members among panel practitioners to participate in its counsels.

Dr. BATTEN did not think the Association could add non-members to its Committees without infringement of the Articles of Association, and Dr. GREENWOOD emphasized the same point.

Dr. DENNING thought it unreasonable to ask that practitioners should be admitted to the full privileges of the Association without paying the subscription. Old members of the Association felt sore on that point when they thought of the large sums of money supplied to fight the battles of the profession when non-members of the Association were making no contribution.

The amendment was lost, only three voting in its favour, and the recommendation of the Subcommittee that close co-operation be sought with the British Medical Association was then carried.

Treatment of Soldiers and Sailors.

In regard to Circular 210/I.C. as to arrangements for the medical treatment of insured persons who have joined the forces, Dr. BATTEN mentioned that he frequently received applications for treatment from such persons. They assured him that they had no army medical officer and could get no treatment. He had either to send them to a hospital or treat them at his own expense.

The CHAIRMAN said that as soon as a man joined the colours he ceased to derive any benefit from the Drug Fund, and the practitioner had no right to give him any treatment at the expense of that fund. He hoped that most practitioners would give free treatment in cases in which the circumstances seemed to warrant that course.

It was mentioned that a document issued to soldiers on furlough stated that they could go to any medical practitioner if in need of treatment and the doctor could claim a fee from the War Office by applying for the appropriate form.

Treatment of Tuberculosis.

The Panel Service Subcommittee invited the Committee to pass a series of resolutions calling upon the Local Government Board to secure that a scheme for dispensary treatment of tuberculosis was prepared in every borough of London where arrangements had not yet been made, and expressing the opinion that a consulting officer should be an expert in tuberculosis and experienced in clinical work, and that a medical officer of health not so qualified should not act in that capacity; also that where a dispensary scheme had not been approved, the medical adviser to the Insurance Committee should act as consulting officer in relation to domiciliary treatment.

Dr. LAURISTON SHAW moved an amendment that the reference to medical officers of health should read: "And that a medical officer of health should not in any circumstances act in this capacity." The Panel Committee had asked the Local Government Board to make it clear that the officer should act as a consulting officer, and should not interfere with the work of the panel practitioner; but it was equally important that the medical officer of health, whose function was the care of the health of the community, should not infringe the duties of the private practitioner towards the individual.

The amendment was approved and the recommendations as altered were agreed to.

Ethics of Panel Lists.

The Insurance Committee asked if the Panel Committee would concur in a proposal that a practitioner should not be permitted to have his name included in a borough panel for an area beyond two miles radius from his residence. The Subcommittee thought that no alteration should be made in the present practice. In the discussion, it was urged that doctors frequently visited patients who had removed to distant boroughs, and put their names on the local list in order to treat insured persons in the same households, and that when living on the borders of three boroughs it was necessary for a doctor to be on the list for each. Eventually the opinion expressed by the Subcommittee was endorsed.

Alleged Excessive Prescribing.

The Pharmacy Subcommittee reported that among 20 further cases in which excessive prescribing was alleged, it found in 9 cases that the drugs ordered were not in excess of what was reasonable, and in 11 cases that the period under review was insufficient for a decision. Some discussion took place, and ultimately 1 case was referred back, while with regard to the others the findings of the Subcommittee were endorsed.

In view of the surcharging of practitioners by the Insurance Committee in respect of excessive prescribing, in amounts of from £10 downwards, and in one case of £38, the Pharmacy Subcommittee, feeling that in some cases the amount of the surcharge might be excessive, had asked the Insurance Committee to confer as to the principles on which surcharges would be made.

It was stated that during May last 420,790 prescriptions were issued at a total cost of £16,944 18s. 8d., and at an average cost of 9.6d. a prescription form. In 202 cases in which the average cost was over 1s. a prescription the Pharmaceutical Committee had asked for an investigation.

BIRMINGHAM.

PANEL COMMITTEE.

A MEETING of the Committee was held on December 1st.

Excessive Prescribing.—It was stated that as a result of the inquiry by the Committee into the matter of excessive prescribing several panel practitioners had been recom-

mended to the Insurance Committee for surcharge for the year 1913. In coming to this conclusion the Committee had taken into consideration the size of the list, the nature of the locality, as well as inexperience in the working of the Insurance Act. It was decided to issue a circular letter to every practitioner on the panel drawing attention to the fact that any practitioner in whose case the cost per insured person on his list exceeded 2s. for the year will be liable to surcharge.

Co-ordination of Work of Local Medical and Panel Committees.—The Secretary was instructed to send a reply to the schedule of questions (M.3) to the Medical Secretary of the British Medical Association.

LIVERPOOL.

Panel Committee.

A meeting of the Liverpool Panel Committee was held at the Medical Institution on December 1st, when Mr. F. Charles Larkin was in the chair.

Seaman's National Insurance Society.—Drs. Wild, Oldershaw, and Sheldon were appointed a subcommittee to further consider the arrangements of the Seaman's National Insurance Society and report to the next meeting.

Medical Treatment of Persons called up for Military Service.—The circular from the Commissioners in reference to the medical treatment of insured persons called up for service with His Majesty's Forces (Supplement, December 12th, p. 281) was read. It was resolved:

> That it will be helpful if the Liverpool Insurance Committee can circularize panel practitioners informing them of the names and addresses of the various persons in this locality to whom soldiers and sailors should be referred in accordance with Memo. 210/I.C.

Doctors' Lists.—A circular issued by the Lancashire Insurance Committee as to quarterly statements of the number of patients on each doctor's list was read, and it was resolved:

> That a letter be addressed to the Liverpool Insurance Committee enclosing documents and urging the advisability of similar procedure being adopted in this city.

Patients of Practitioners on Active Service.—The committee having considered the question of protecting, as far as possible, those panel practitioners who are serving with His Majesty's Forces, resolved:

> That a circular letter be sent to all panel practitioners urging upon them the advisability of declining to accept transfers from the lists of those practitioners who are on service with His Majesty's Forces.

Vote of Condolence.—A vote of condolence was directed to be sent to Dr. Barendt and family sympathizing with their recent loss.

NEWPORT.

Panel Committee.

At a meeting of the Newport Panel Committee, held on November 5th, with Dr. Basset in the chair, it was unanimously resolved:

> That the Newport Panel and Local Medical Committee accepts the figures of the Clerk to the Insurance Committee, showing the aggregate amounts credited to each practitioner on the panel and the aggregate amounts credited to all practitioners on the panel for 1913, and requests that the Medical Surplus Benefit Fund be distributed, and that each panel doctor be paid in the same proportion credited to him as the amount in the Panel Fund available for the purpose bears to the aggregate amount so credited to all practitioners in accordance with Article 40 (1) and (3) of the National Health Insurance (Administration of Medical Benefit Regulations) 1912.

The Secretary reported that the medical profession had been accorded three representatives on the Relief Executive Committee. Drs. S. Hamilton, J. Hurley, and Rees Morgan were appointed to represent the Newport doctors.

EDINBURGH.

Panel Committee.

The Burgh of Edinburgh Panel Committee met on November 24th, when Dr. Dewar occupied the chair, and thirteen members were present.

Attendance on Service Dependants.

The Chairman intimated that Dr. Addison's Committee had now issued a circular for Edinburgh and Leith, in which it was stated that the work was to be carried out by the Soldiers' and Sailors' Families Association, and that there was to be no list. Dependants who require free attendance must apply to the Soldiers' and Sailors Families Association for a book of vouchers, which would be taken as a guarantee of their necessitous circumstances.

Transfers during the Medical Year.

Reference was made to the laxity with which transfers were still being negotiated, and the Secretary was instructed to write to the Clerk to the Insurance Committee on the matter.

Central Bureau for Checking Prescriptions.

It was reported that the Commissioners had resolved, after a conference with the Insurance Committees, to establish a central bureau for checking prescriptions. The Insurance Committee resolved, by a majority of 20 to 6, to support the proposal, on the express condition that the Panel and Pharmaceutical Committees should pay one-third each of the expenses. A letter was read from the Clerk to the Scottish Committee of the British Medical Association, recommending Local Medical and Panel Committees to approve of the institution of the Central Bureau, and that the Panel and Pharmaceutical Committees should each pay one-fourth of the expenses. The Secretary was instructed to inform the Scottish Committee that it was *ultra vires* of the Committee to make such a recommendation without consulting the insurance practitioners of Scotland. As it was the opinion of this Committee that this formed a part of the administration of medical benefits, and as the Memo. No. 598 stated that by a parliamentary grant each Committee would be provided with sufficient funds to carry out its work, the Committee did not see its way to agree to the conditions mentioned. For the purpose of eliciting the opinion of insurance practitioners in Edinburgh on the question it was resolved to call a meeting of practitioners at an early date.

Alleged Excessive Prescribing.

The Committee had before it the reports of the checker on excessive prescribing, from July 12th to September 11th, 1914, and returned negative answers to the questions: (1) Has a patient a right to request that only part of a prescription ordered for him or her be supplied? (2) Should a chemist, to avoid possible waste, comply with such a request? To a further question with regard to a prescription evidently intended for a hair stimulant the following motion was adopted:

> That the Committee objects to the ordering of toilet requisites, but agrees that such a prescription might be required in pathological conditions. In such cases it would be advisable that the chemist should communicate with the doctor before dispensing them.

A certain number of forms showing (1) excessive prescribing; (2) the use of proprietary medicines; and (3) the carelessness in taking notice of the number of days during which the medicine should last, were examined. After consideration the Secretary was instructed to write to the doctors concerned.

WEST LOTHIAN.

Panel Committee.

A meeting of the West Lothian Panel Committee was held on December 1st, when, in the absence of Dr. Keay, Dr. Simpson was elected Chairman.

Certification.—Memo. 607 of the Insurance Commissioners, dealing with certification, was approved.

Chemists' Accounts.—Drs. Scott, Dickson, and the Honorary Secretary were appointed to act on the Joint Committee for the purpose of checking chemists' accounts.

Co-ordination of Work of Local Medical and Panel Committee.—Circular letter M. 2 of the British Medical Association was read and met with the approval of the Committee. The Secretary was instructed to send reports of meetings, etc., to the Association.

RENFREW.

A meeting of the Renfrew County Panel Committee was held at Paisley on November 25th, when Dr. Corbett, Chairman, presided.

Checking Prescriptions.—The Secretary intimated that at the last meeting of the Insurance Committee it was unanimously agreed to support the establishment of a central bureau for the systematic checking of prescriptions

and chemists' accounts. The medical members of the Insurance Committee supported the decision of the Panel Committee at its last meeting that the cost should be met, one-half by the Insurance Committee and one-quarter each by the Panel and Pharmaceutical Committees. It was, however, decided by a majority that the Insurance Committee, Panel Committee, and Pharmaceutical Committees should each pay one-third.

Dispensing in Rural Areas.—A letter was read stating the Pharmaceutical Committee desired that the wording of the general resolution regarding dispensing in rural areas, agreed upon at a joint meeting of representatives of the Insurance Committee, the Panel Committee, and the Pharmaceutical Committee in Paisley, January 7th, 1914, and adopted by the Insurance Committee on January 9th, should be altered to read as follows:

> Practitioners shall be allowed to dispense in rural areas provided no panel chemist has a place of business in the same village or town as that in which the doctor's residence is situated.

The Panel Committee adhered to the original resolution, but expressed its willingness to consider on its merits any case which the Pharmaceutical Committee might bring forward, in which the spirit or the letter of the resolution had not been observed.

Co-ordination of Work of Local Medical and Panel Committee.—Circular letters M.2 and M.3 from the British Medical Association were read and approved. It was agreed to print the minutes and circulate a copy to the Medical Secretary of the British Medical Association and to each of the members of committee about a week before the next meeting.

FREE MEDICAL ATTENDANCE TO DEPENDANTS OF MEN SERVING WITH THE COLOURS.

In connexion with the Government scheme for the free medical attendance to dependants of men serving with the colours, as published in the SUPPLEMENT of October 17th, the following resolutions were adopted by the Kent Branch Council at its meeting on December 4th.

> That medical practitioners in the county of Kent are prepared to provide, free of charge, attendance and prescriptions for the necessitous dependants of those called to serve in His Majesty's Forces, provided that such cases be investigated and recommended to them by a properly constituted Local Relief Committee.
>
> That the decision as to which cases are "necessitous" shall rest finally with the Committee.
>
> That in districts not already possessing a Relief Committee, there shall be appointed for each parish or group of parishes, a Relief Committee, for the administration of medical relief, on which at least one medical practitioner shall serve as a member. (This is intended to refer specially to rural areas.)
>
> That medical practitioners be co-opted upon all committees and subcommittees of the Soldiers' and Sailors' Families Association dealing with medical relief.
>
> That "vice-presidents" of the Soldiers' and Sailors' Families Association in any area may issue "books" to any urgent cases, subject to the medical practitioner chosen by the dependant having the right to refer any case back (through any medical member of the committee) for further consideration by the committee or subcommittee.

CORRESPONDENCE.

NEW INSURANCE CERTIFICATE.

DR. J. POLLOCK (Tiverton, N. Devon) writes: I am afraid the new insurance certificate will not receive the welcome you expect from practitioners. It is far too inelastic, at least for country work, and will entail many more journeys on the medical men and ever so many more on the insured.

1. If a patient comes for medicine, say on Thursday, and wishes to start work on Monday, why should I not date the certificate Saturday? He does not want to come up again, and I don't want to see him again.

2. Suppose you see a man in the country on Friday. On Tuesday (market day) the wife comes in, says her husband started work Monday, would I sign him off for Saturday? I am not going to run off miles to look for a man who may be miles away when you get there, and the man will not want to tramp in three or four miles on Saturday.

3. They come in late from the country for a bottle of medicine. Would I come out to see the man? Work made up for that day; when I see him next day, why not antedate his certificate and save the man a day's pay?

4. Again, I am not going out three or four miles to see old varicose ulcers, etc., once a week.

The whole thing is just an attempt to please the societies at the expense of the doctors and to draw the red tape a bit tighter. We waste quite enough time every year filling up record cards without writing out certificates every week with patient's name, illness, and remarks. The certificates as used by Foresters and Druids which one initials once a week are much the best. I have no more time to dilate on the subject, but the whole Act is simply a bad copy of the one "Made in Germany" and all that that means.

*** Paragraph 31 of the Memorandum and the relevant rule seems to be designed to meet the difficulty set out by our correspondent in the paragraph of his letter which we have numbered (1), and the point in the paragraph numbered (4) by paragraph 36 of the Memorandum. As regards (3) the course the doctor could follow would be to date the certificate on the day he examines the insured person, and to add in the space left for remarks that he has reason to believe that the patient was incapable of work on the previous day. The difficulty mentioned in paragraph (2) does not seem to be met by the Memorandum.

ALLEGED EXCESSIVE PRESCRIBING.

DR. H. F. DEVIS (Bristol) writes: May it be taken for granted that the essential justification for the existence of Panel and Local Committees, also for the part taken by the Association, is the protection of the interests of medical men? If I am wrong here, please correct me. Yet, it seems to me, other interests than medical have of late held sway in determining the actions, utterances, and advice of medical bodies.

What, for instance, means the advice of the Association to Panel Committees that they should share the cost of a continuous scrutiny of prescriptions with Insurance and Pharmaceutical Committees? Why are we asked by our own people to pay part of the cost of bolstering up a case against ourselves by our opponents? The answer, I suggest, is that the Commissioners having already given this advice, the Association took the line of least resistance.

With regard to surcharging, does the profession accept 2s. per insured person as a heaven-inspired figure, beyond which no man can go, save at his own cost? My own figure works out at 1s. 9d., my neighbour's at 2s. 3d. He is extravagant, and must be surcharged 3d. With equal logic I should be fined 3d. as being inefficient to that amount. Dare any medical man, or any body of medical men, assert that the fact that a man's rate per head is above the divine 2s. limit is sufficient to condemn him for extravagance in prescribing? Yet this is the true meaning of the automatic surcharge. It is worse than wife beating. It is delivering over your wife, whom you have sworn to protect, bound in the most approved posture for the modern Hun to beat.

Think of the effect on efficiency—a word, by the way, without meaning to our opponents. A man has had throughout the year, say, two or three severe burns, a couple of empyemas, and the usual run of physic-absorbing dyspeptics and chlorotics, and in December, thanks to our kindly system of continuous scrutiny, he is informed that he is dangerously near the 2s. limit. What is he to say to the next man with severe varicose veins, or how will he prescribe for the next gouty or syphilitic case or the girl with threatening gastric ulcer? He can be efficient only at his own cost.

There are many other aspects of this growing movement in the direction of allowing our own comrades to be the scapegoats of a false system, notably the squashing of individualism, but I fear I have already trespassed too long on your space. May I strongly urge one plea? It is that in the matter of surcharging, and in all other important matters committees should hold their hands until the Association reports are to hand. Also that the Association issue no report on important matters until a complete referendum has been obtained. There cannot be urgent haste in questions so important as these, and the principles at issue are too grave to be settled out of hand by a committee which is not representative and has no mandate.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Staff Surgeon W. H. HASTINGS, to the *Victory*, additional, for the *Magic*. Staff Surgeon THOMAS A. SMYTH, to the *Victory*, additional, for disposal. Staff Surgeon OSWALD MILLS, to the *Woolwich*, additional. Staff Surgeon EDGAR S. WILKINSON to the *Pembroke*, additional. Surgeon FREDERICK ST. B. WICKHAM to the *Vivid*, additional for disposal. Surgeon P. B. HULL to the *Vivid*, additional for disposal. Surgeon A. C. WILSON to the *Lynn*, additional for duty with the *Gazelle*. Surgeon F. J. BURKE, to the *Columbine*, additional for general duties at Cromarty, vice Hastings. Surgeon AMBROSE C. WILSON, to the *Victory*, additional, for disposal. HENRY W. HULL, late Surgeon R.N., has been placed on the emergency list. Temporary Surgeons: A. F. ADAMSON and P. M. GRUNDY, to the *Victory*, additional, for the *Magic*; H. HARVEY, to the Hospital Ship *China*, vice Cowburn; H. G. PARKER, to the *Pembroke III*, for R.N. Air Service; J. C. BEGGS, to R.M. Division, Portsmouth, vice Faill; E. M. MOLESWORTH and E. M. CALTHORP, to the *Victory*, for R.N. Division; G. F. JONES, to R.N. Division, Crystal Palace, vice Molesworth; T. C. BLACKWELL, to R.N. Division, Crystal Palace, vice Calthorp; D. D. PINNOCK, to the *Pembroke III*, for R.N. Air Service; A. B. SLATER to Royal Marine Artillery, vice Kennedy; JOSEPH H. BENNETT to the *Vivid*, additional for the *Rinaldo*, vice Adams; MATTHEW NEILSON, M.B., to the *Argonaut*, vice Tivy; JOHN ALLEN, M.B., HARRY O. BLANDFORD, M.B., AUGUSTUS K. ROCHE, M.B., ANDREW E. STRUTHERS, M.B., WILLIAM J. MORRIS, and HORACE C. NIXON, M.D., to the *Victory*, additional for Haslar Hospital; JAMES R. ADAMS, M.B., to the *Victory*, additional for R.N. Division; WILLIAM A. MILLS, M.B., FRANK ELLIOTT, M.B., and G. M. OARDEN to the *Vivid*, additional for Plymouth Hospital; JOHN MORRISON, M.B., to the *Vivid*, additional for disposal; CHARLES F. SCHULER, M.B., to the *Victory*, for R.N. Division. Appointed Temporary Surgeons: JOHN ALLEN, JOHN G. BAILEY, ERNEST H. HOGG, VINCENT MAGEE, GEORGE B. MOON, ALEXANDER C. MOONEY, ÆNEAS ROSE, JAMES SOUTER, THOMAS J. T. WILMOT, ERNEST F. COX, EDWARD HEFFERNAN, M.B.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon A. G. L. READE to the *Pembroke* for R.N. Barracks. Surgeon Probationer E. A. HARDY to the *Blake*, additional for the *Larne*. D. B. S. JONES to the *Blake*, additional for the *Minstrel*. B. H. PIDCOCK to the *Blake*, additional for the *Staunch*. E. A. CLEGG to the *Hecla*, additional for the *Ardent*. G. R. S. SHARPE to the *Hecla*, additional for the *Christopher*. R. S. CALDWELL to the *Hecla*, additional for the *Fortune*. T. W. DRUMMOND to the *Hecla*, additional for the *Hardy*. E. J. COOMBE to the *Hecla*, additional for the *Sparrowhawk*. A. G. MCKEE to the *Hecla*, additional for the *Unity*. D. H. FERRIS to the *Hecla*, additional for the *Victor*. T. R. F. KIRBY to the *St. George*, additional for the *Albatross*. J. M. HARRISON to the *St. George*, additional for the *Earnest*. S. R. Y. ELLIOTT to the *St. George*, additional for the *Panther*. T. J. LANE to the *St. George*, additional for the *Quail*. S. G. BARNETT to the *St. George*, additional for the *Seal*. G. E. MULLINS to the *Leander*, additional for the *Orwell*. Surgeon Probationers for temporary service: HARRY C. BROADHURST, JAMES A. STIRLING, THOMAS C. WAKEFIELD, JOHN T. WYLIE, JEFFREY B. LOWE, ANGUS MCA. SCOTT, LEWIS L. FOTHERINGHAM, CEDRIC BORDERN, ALFRED W. COCKING, DUNCAN W. MACKAY, DAVID A. IMRIE, GEORGE O. GRANT, J. D. BYRD, J. A. M. ALCOCK, CHARLES MCDONALD, GODFREY A. PARIS, NORMAN K. HENDERSON, WILLIAM O. LODGE, CHRISTOPHER T. HELSHAM, WILLIAM W. K. BROWN, WILLIAM O'G. DONOGHUE, PETER G. S. DAVIES, KENNETH M. ROSS, WILLIAM J. MCB. ROSS, WALTER A. TURNER, NOEL A. H. BARLOW, JOHN F. SMITH, DAVID S. PRENTICE, PAUL H. S. SMITH.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

To be temporary Lieutenant-Colonels: Major ARTHUR E. J. BARKER, F.R.C.S., 3rd London General Hospital, Territorial Force; Sir THOMAS MYLES, Bart., M.D., F.R.C.S.I.; Sir CHARLES BALL, Bart., M.D., F.R.C.S.I.; Captain Sir WILLIAM A. LANE, M.D., F.R.C.S., 2nd London (City of London) General Hospital, Territorial Force; Major Sir FREDERIC S. EVE, F.R.C.S., 2nd London (City of London) General Hospital, Territorial Force; Major JAMES SWAIN, M.D., F.R.C.S., 2nd Southern General Hospital, Territorial Force; Major WILLIAM A. TURNER, M.D., 4th London General Hospital, Territorial Force.

WILLIAM R. THOMAS, M.D., is granted temporarily the honorary rank of Captain.

HUGH L. BURTON is granted temporarily the honorary rank of Lieutenant.

To be temporary Lieutenants: KEITH D. FALCONER, M.B., WILLIAM A. MURPHY, M.B., LAWRENCE W. BAIN, M.B., BASIL C. ASHTON, M.B., WALTER DE M. HILL, JAMES MACGREGOR, M.D., JOHN C. VENNICKER, M.D., F.R.C.S.E., CUNISON D. RANKIN, M.D., RONALD W. DUNCAN, CHARLES J. A. N. MERCIER, M.B., CRAWFORD LUNDIE, M.B., THOMAS PERRIN, M.D., ALEXANDER GALLETLY, M.B., ARTHUR DAVIES, M.D., JOHN SPENCER-DANIELL, M.B., WILLIAM H. WOTTON, EDWIN FITZG. O'CONNOR, M.B., LEWIS H. I. BELL, M.B., HOLDEN CARSON, M.B., ROBERT J. ENGLISH, M.B., CHARLES J. MORTON, M.D., JOSEPH E. BARNES, M.B., WILLIAM H. NEIL, HAROLD DUNKERLEY, HARRY F. G. NOYES, M.B., BARTHOLOMEW J. MULLIN, RICARDO COPE, RALPH M. SOAMES, M.B., WILLIAM A. TROUP, M.B., CLAUDE H. MILLS, MEREDITH FFOULKES, JOHN N. GRIFFITHS, M.B., CHARLES H. HARBINSON, M.B., JAMES F. O'MALLEY, F.R.C.S., JOHN H. WILSON, ROBERT W. WILLCOCKS, M.B., ARTHUR N. LEEMING, M.B., NEIL I. SINCLAIR, M.B., WALTER S. EVANS, HENRY M. JOSEPH, M.B., TOBIAS R. H. BEARE, M.B., OSCAR P. N. PEARN, JOHN A. N. SCOTT, M.B., JOHN F. MCG. SLOAN, M.B., DAVID R. WILLIAMS.

Lieutenant EDWARD A. BEAGAR relinquishes his temporary commission.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

THE notification of the appointment of Lieutenant H. A. FAWCETT in the *London Gazette* of November 19th is cancelled.

Lieutenant ROBERT A. GREENWOOD to be Captain.

Lieutenants confirmed in their rank: HENRY S. A. ALEXANDER, ARTHUR L. ANTHONY, JOHN DEIGHTON, GERALD C. DIXON, HUGH A. FAWCETT, CROMWELL GAMBLE, HERBERT L. GARSON, GILBERT A. HARVEY, JAMES R. C. MACKINTOSH, MATHEW MCKNIGHT, WILFRID W. PHILLIPS, WILLIAM K. RUSSELL, BERTRAND C. O. SHERIDAN, JOHN S. SLOPER, HARRY N. STAFFORD, ROBERT I. SULLIVAN, CHARLES G. WADDINGTON, JOHN R. N. WARBURTON, GEORGE W. WATSON, COLIN WILSON, WILLIAM A. YOUNG. Lieutenant WILLIAM S. HYDE is dismissed the service by sentence of a General Court-Martial, November 12th, 1914.

TERRITORIAL FORCE.

ARMY MEDICAL SERVICES.

COLONEL DAMER HARRISSON, F.R.C.S.E., retired list, Territorial Force, to be an Assistant Director of Medical Services to a Territorial Force with the rank of Colonel.

Lieutenant-Colonel WALTER C. BEEVOR, C.M.G., M.B., Deputy Assistant Director of Medical Services, to be Assistant Director of Medical Services to a Territorial Division, with the temporary rank of Colonel.

Major JAMES W. JENNINGS, D.S.O., R.A.M.C., to be Deputy Assistant Director of Medical Services to the South Midland Territorial Division.

Captain JOHN B. YEOMAN, M.D., F.R.C.S., from the Welsh Border Mounted Brigade Field Ambulance, to be Deputy Assistant Director of Medical Services to the First Mounted Division.

ROYAL ARMY MEDICAL CORPS.

First Eastern General Hospital.—MICHAEL G. FOSTER, M.D. (late Surgeon-Captain, Second Volunteer Battalion Royal Fusiliers, City of London Regiment), to be Captain. Lieutenant JOHN H. OWENS, from attached to other than medical units, to be Lieutenant.

South-Eastern Mounted Brigade Field Ambulance.—Captain JAMES HAMILTON, from attached to units other than medical units, to be Major.

First London (City of London) Sanitary Company.—Major T. F. BRYETT, M.D., is seconded.

First London (City of London) General Hospital.—Majors to be Lieutenant-Colonels: ARCHIBALD E. GARROD, M.D., F.R.C.P., HOLBURT J. WARING, M.B., F.R.C.S. Captains to be Majors: PERCIVAL HORTON-SMITH-HARTLEY, C.V.O., M.B., GEORGE E. GASK, F.R.C.S.

First London (City of London) Field Ambulance.—JAMES P. N. CASEY to be Lieutenant.

Second London Clearing Hospital.—Captain FREDERICK W. HIGGS, M.D., to be Major.

Third London (City of London) Field Ambulance.—Captain MYER COPLANS, M.D., is seconded.

Third London General Hospital.—Lieutenants seconded: GEORGE H. D. WEBB, EDWARD SMEED.

Fourth London General Hospital.—Major WILLIAM A. TURNER, M.D., is seconded.

Fourth London Field Ambulance.—Lieutenant ALFRED M. HUGHES from the Sixth London Field Ambulance to be Lieutenant.

Sixth London Field Ambulance.—JAMES P. N. CASEY to be Lieutenant.

First South Midland Mounted Brigade Field Ambulance.—To be Lieutenants: GEORGE C. SOUTTER, M.D., JAMES H. W. WILKINSON.

South Midland Clearing Hospital.—HENRY G. L. SMITH, M.B., to be Lieutenant.

Third South Midland Field Ambulance.—FRANK T. BOUCHER to be Lieutenant.

North Midland Mounted Brigade Field Ambulance.—To be Lieutenants: FRED H. DAVIES, M.D., SAMUEL ACHESON, M.B. (late Cadet Lance-Corporal Belfast University Contingent Senior Division Officers' Training Corps.

First North Midland Field Ambulance.—ALEXANDER FORDYCE, M.B., to be Lieutenant.

Second North Midland Field Ambulance.—To be Lieutenants: HENRY PRICE MALCOLM, M.B., ROBERT J. MCCONNELL, M.B.

First Wessex Field Ambulance.—To be Lieutenants: EDWARD L. MEYNELL, M.B., FRED ELLIS, CLAUDE J. E. BENNETT, JOHN A. BELL, M.B.

Second Wessex Field Ambulance.—Major HARRY C. PARSONS, Reserve of Officers, New Zealand Medical Corps, to be Major, temporary. To be Captains, temporary: GERALD DUDLEY FREER, M.B., HAROLD C. ADAMS. To be Lieutenants: WILLIAM T. P. MEADE-KING, HENRY N. COLLIER, CHARLES F. BACKHOUSE.

Third Wessex Field Ambulance.—To be Lieutenants: ARTHUR H. DAVIS, M.B., FREDERICK TOOTH, FREDERICK W. BRUNKER, PHILIP MCRITCHIE, FRANK L. DICKSON, M.B., FREDERICK HARDIE, M.B.

East Anglian Clearing Hospital.—Lieutenant WILLIAM REDPATH, M.B., to be Captain.

First East Anglian Field Ambulance.—Captain FRANCIS WARD to be Major, temporary; ARTHUR W. PATERSON, M.B., to be Lieutenant.

Third Home Counties Field Ambulance.—CHARLES E. M. HEY to be Lieutenant.

First Welsh Field Ambulance.—Captain THOMAS DONOVAN to be Captain; VAUGHAN BATESON to be Lieutenant.

Second Welsh Field Ambulance.—Captain OWEN L. RHYS, M.D., to be Lieutenant-Colonel, temporary. BARRY K. T. COLLINS to be Lieutenant.

Third Welsh Field Ambulance.—Captain DANIEL L. EVANS, M.B., to be Lieutenant-Colonel, temporary.

First South-Western Mounted Brigade Field Ambulance.—PHILIP W. MASON, M.B., to be Lieutenant.

First Western General Hospital.—ROBERT WM. MACKENNA, M.D., to be Captain.

Second Western General Hospital.—To be Captains: HERBERT LUND, M.B., F.R.C.S., ROBERT OLLERENSHAW, M.D., F.R.C.S., late Surgeon-Captain, 4th Volunteer Battalion, Cheshire Regiment; ALBERT E. BARCLAY, M.D.

First West Riding Field Ambulance.—Captain WALKER LISTER to be Major (temporary). To be Lieutenants: JOHN H. BLACKBURN, M.B., JOHN PINDER.

Third West Riding Field Ambulance.—WILLIAM W. J. LAWSON, M.B., to be Lieutenant.

Third Northern General Hospital.—Major GEORGE H. POOLEY, F.R.C.S., from the permanent personnel, to be Major, whose services will be available on mobilization. Captain ARTHUR G. YATES, M.D., from the list of officers whose services are available on mobilization, to be Registrar, vice Major Pooley, who resigns that appointment.

First West Lancashire Field Ambulance.—Lieutenant-Colonel DAVID SMART, M.B., from the Sanitary Service, to be Lieutenant-Colonel.

Second West Lancashire Field Ambulance.—Brigade Surgeon-Lieutenant-Colonel WILLIAM J. FLEETWOOD, M.D., retired list, Territorial Force, to be Lieutenant-Colonel.

Third West Lancashire Field Ambulance.—Major and Honorary Lieutenant-Colonel ERNEST W. BARNES, from attached to units other than medical units, to be Lieutenant-Colonel (temporary). Lieutenant MITCHELL J. DICK, M.B., to be Captain.

Third East Lancashire Field Ambulance.—Major WILLIAM R. MATTHEWS, M.B., to be Lieutenant-Colonel (temporary).

Northumbrian Clearing Hospital.—To be Lieutenants: ARTHUR SUTCLIFFE, M.B., ROBERT R. LISHMAN, M.B.

First Lowland Field Ambulance.—Captain WILLIAM BRYCE, M.D., to be Major.

First Scottish General Hospital.—Captain JAMES SMART, M.B., to be Major; HAROLD E. SMITH, M.B., to be Captain. Service will be available on mobilization.

First Highland Field Ambulance.—BERNARD G. BEVERIDGE, M.B., to be Lieutenant.

Third Highland Field Ambulance.—Captain GEORGE W. MILLER, M.B., to be Major.

Second Highland Field Ambulance.—Captain DAVID RORIE, M.D., to be Major; GEORGE MCCONNELL, M.B., to be Lieutenant; Captain CHARLES CAMERON to be Major, temporary; ROBERT T. BRUCE, M.D., to be Lieutenant.

Supernumerary for Service with the Officers' Training Corps.—JOHN P. KINLOCH, M.D., to be Lieutenant; JOHN E. MACILWAINE, M.D., to be Lieutenant for service with the Medical Unit, Belfast University Contingent, Senior Division, Officers' Training Corps.

Attached to Units other than Medical Units.—Captains to be Majors: HORACE C. COLMAN, M.D., JAMES C. TAYLOR, M.B., THOMAS W. BANES, M.B., WILLIAM J. MACKINNON, M.B. Captain ALEXANDER GRAHAM, M.B., from the Third East Anglian Field Ambulance, R.A.M.C., to be Captain; Lieutenant GEORGE H. BRAND, M.B., to be Captain; Lieutenant PERCY R. BOLUS, M.B., to be Captain. Lieutenants to be Captains: JAMES A. SIMPSON, M.B., ROBERT PATERSON, JOHN O. SUMMERHAYES. To be Lieutenants: GEORGE H. DOMINY, WILLIAM H. H. BENNETT, M.B., late Surgeon-Lieutenant, First Volunteer Battalion the King's Own, Yorkshire Light Infantry; WILLIAM ROBERTSON, M.B., JAMES K. SYMS, ARTHUR SAMUEL WALKER, M.D., GEORGE E. G. MACRAY, M.B., WILLIAM L. GRIFFITHS, M.D., F.R.C.S., DAVID E. EVANS, DAVID D. BROWN, M.D., HUNTLY N. PELLY, THOMAS P. CAVERHILL. RUSSELL ELLIOTT WOOD, M.B., F.R.C.S., late Surgeon-Lieutenant-Colonel, Lanarkshire Yeomanry, to be Lieutenant-Colonel. Surgeon-Captain GEORGE P. CHAPPEL, M.D., from the 7th Battalion Duke of Cambridge's Own (Middlesex Regiment), to be Captain. Lieutenant ROBERT H. SHAW, M.D., to be Captain. BERTRAM M. FOOTNER, late Lieutenant, 5th Battalion South Staffordshire Regiment, to be Captain. Lieutenant LEONARD B. BAIRD, from the 3rd West Lancashire Field Ambulance, to be Lieutenant. Lieutenant HAROLD D. LANE, from the 3rd North Midland Field Ambulance, to be Lieutenant. Lieutenant ROBERT PROUDFOOT, M.D., to be Captain. THOMAS LOUIS DE COURCY, M.D., to be Lieutenant. ERNEST E. B. LANDON to be Lieutenant. Lieutenant HERBERT W. JOYCE, from the 1st North Midland Field Ambulance, to be Lieutenant. The announcement of the appointment as Lieutenant of REGINALD S. S. STATHAM, M.D., which appeared in the *London Gazette* of August 28th, 1914, is cancelled.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

SURGEON-CAPTAIN REGINALD C. GAYER, from the Surrey (Queen Mary's Regiment) Yeomanry, to be Captain.

Captain THOMAS H. LA N. HEWITT from attached to other than medical units to be Captain.

The following Lieutenant-Colonels, from the Second Northern General Hospital R.A.M.C., to be Lieutenant-Colonels: THOMAS CHURTON, M.D., THOMAS P. TEALE, M.B., F.R.C.S.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN ninety-seven of the largest English towns 7,705 births and 5,329 deaths were registered during the week ended Saturday, December 5th. The annual rate of mortality in these towns, which had been 13.0, 14.3, and 16.6 per 1,000 in the three preceding weeks, fell to 15.3 per 1,000 in the week under notice. In London the death-rate was equal to 15.3, against 13.3, 14.6, and 16.4 per 1,000 in the three preceding weeks. Among the ninety-six other large towns the death-rate ranged from 4.9 in Acton, 7.5 in Gillingham, 8.4 in Eastbourne, 8.5 in Enfield, 8.6 in Ilford and in Bournemouth, and 8.8 in Hornsey, to 19.4 in Wigan, 20.0 in Bath and in Newcastle-on-Tyne, 20.3 in West Bromwich, 21.1 in Stockton-on-Tees, 21.6 in Plymouth, and 24.7 in Gloucester and in Rotherham. Measles caused a death-rate of 1.4 in Smethwick, in Bolton, and in Huddersfield, 1.7 in Wigan and in Gateshead, 2.2 in Wakefield, 2.2 in Edmonton, 2.3 in Northampton, 2.4 in Rotherham, 2.7 in Grimsby, and 4.2 in Newcastle-on-Tyne; whooping-cough of 1.6 in Rhondda, and 1.7 in Tynemouth; and diphtheria of 2.7 in Great Yarmouth. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 44, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number, 13 were recorded in Birmingham, 9 in Liverpool, 3 each in Portsmouth, Leicester, and South Shields, and 2 in Barrow. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 4,976, 5,005, and 5,035 at the end of the three preceding weeks, had fallen to 4,980 on Saturday, December 5th; 537 new cases were admitted during the week, against 751, 627, and 623 in the three preceding weeks.

In ninety-seven of the largest English towns 8,149 births and 5,442 deaths were registered during the week ended Saturday, December 12th. The annual rate of mortality in these towns, which had been 14.3, 16.6, and 15.3 per 1,000 in the three preceding weeks, rose to 15.7 per 1,000 in the week under notice. In London the death-rate was equal to 15.5, against 14.6, 16.4, and 15.3 per 1,000 in the three preceding weeks. Among the ninety-six other large towns, the death-rate ranged from 5.7 in Ilford, 6.1 in Darlington, 6.6 in Eastbourne, 6.8 in Aberdare, 6.9 in Carlisle, and 7.3 in Ealing, to 20.9 in Liverpool, 21.2 in York, 21.5 in Southampton, 21.9 in Hastings, 23.9 in Newcastle-on-Tyne, and 24.5 in Wigan. Measles caused a death-rate of 1.4 in Plymouth and in Huddersfield, 1.7 in Liverpool, 1.9 in Birkenhead, 2.6 in Gateshead, 3.2 in Rotherham, 4.6 in Wigan, and 4.8 in Newcastle-on-Tyne; scarlet fever of 1.3 in Preston and 1.4 in Warrington; and diphtheria of 1.0 in Tottenham and 1.7 in Northampton. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 47, or 0.9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner; of this number, 12 were recorded in Birmingham, 8 in Liverpool, 4 in Southampton, 3 in Gateshead, 2 in Manchester, and 2 in Preston. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals and the London Fever Hospital, which had been 5,005, 5,035, and 4,980 at the end of the three preceding weeks, fell to 4,893 on Saturday, December 12th; 594 new cases were admitted during the week, against 627, 623, and 537 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN the sixteen largest Scottish towns 1,045 births and 803 deaths were registered during the week ended Saturday, December 5th. The annual rate of mortality in these towns, which had been 15.2, 16.6, and 18.4 per 1,000 in the three preceding weeks, fell to 18.3 in the week under notice, but was 3.0 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 9.5 in Hamilton, 12.3 in Perth, and 12.5 in Falkirk, to 22.9 in Leith, 23.6 in Ayr, and 25.0 in Kilmarnock. The mortality from the principal infective diseases averaged 1.8 per 1,000, and was highest in Kirkcaldy and Aberdeen. The 384 deaths from all causes in Glasgow included 25 from whooping-cough, 7 from diphtheria, 6 from scarlet fever, 4 from infantile diarrhoea, 2 from measles, and 1 from enteric fever. Four deaths from scarlet fever were recorded in Aberdeen and 2 in Leith; from diphtheria 5 deaths in Aberdeen, 3 in Edinburgh, and 2 in Kirkcaldy; from whooping-cough, 3 deaths in Dundee; and from infantile diarrhoea, 3 deaths in Dundee and 2 in Aberdeen.

In the sixteen largest Scottish towns 1,163 births and 780 deaths were registered during the week ended Saturday, December 12th. The annual rate of mortality in these towns, which had been 16.6, 18.4, and 18.3 per 1,000 in the three preceding weeks, fell to 17.7 in the week under notice, but was 2.0 per 1,000 above the rate in the ninety-seven large English towns. Among the several towns the death-rate ranged from 11.7 in Clydebank, 13.5 in Edinburgh, and 15.3 in Perth, to 20.4 in Falkirk, 20.5 in Ayr, and 23.5 in Kilmarnock. The mortality from the principal infective diseases averaged 1.7 per 1,000, and was highest in Kilmarnock and Motherwell. The 371 deaths from all causes in Glasgow included 24 from whooping-cough, 9 from scarlet fever, 5 from diphtheria, 3 from infantile diarrhoea, 2 from measles, and 1 from enteric fever. Four deaths from diphtheria were recorded in Aberdeen and 3 in Edinburgh; from whooping-cough 2 deaths in Dundee and 2 in Motherwell; and from enteric fever 2 deaths in Edinburgh.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, December 5th, 549 births and 464 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 594 births and 449 deaths in the preceding period. These deaths represent a mortality of 19.1 per 1,000 of the aggregate population in the districts in question, as against 19.4 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.8 per 1,000 higher than the corresponding rate in the ninety-seven English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 23.8 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 24.5 (as against an average of 18.4 for the previous four weeks), in Dublin city 26.9 (as against 19.6), in Belfast 21.2 (as against 18.9), in Cork 14.8 (as against 20.7), in Londonderry 10.1 (as against 16.2), in Limerick 25.7 (as against 14.9), and in Waterford 13.3 (as against 29.0). The zymotic death-rate was 1.9, as against 1.8 in the previous period.

Vacancies and Appointments.

NOTICES REGARDING APPOINTMENTS.—Attention is called to a Notice (see Index to Advertisements—Important Notice re Appointments) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BARNSLEY: BECKETT HOSPITAL AND DISPENSARY.—Second House-Surgeon. Salary, £100 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—House-Surgeon (male). Salary, £150 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon (male). Salary, £100 per annum.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary, £200 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM: LITTLE BROMWICH FEVER HOSPITAL.—Assistant Resident Medical Officer. Salary, £200 per annum.

BIRMINGHAM MENTAL HOSPITAL, Rubery Hill.—Junior Assistant Medical Officer (female). Salary, £200 per annum.

BIRMINGHAM UNION.—(1) Second, Third, and Fourth Assistant Medical Officers at the Dudley Road Infirmary; salary, £210, £170, and £160 per annum respectively. (2) Assistant Medical Officer at the Selly Oak Infirmary; salary, £180 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary, £125 per annum.

BURY COUNTY BOROUGH.—Temporary Assistant to the Medical Officer of Health. Salary at the rate of £350 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—Two House-Surgeons. Salary, £140 per annum each.

CARDIFF: KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION.—Assistant Resident Medical Officers at Sanatoriums. Salary, £250 per annum.

CARLISLE: CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer. Salary, £250 per annum.

CHICHESTER: WEST SUSSEX COUNTY MENTAL HOSPITAL.—Second Assistant Medical Officer. Salary, £250 per annum, rising to £300.

CITY OF LONDON UNION.—Assistant Medical Officer to the Poor Law Institution and Infirmary. Salary, £200 per annum.

CORK SANATORIUM.—Honorary Visiting Laryngologist.

DEWSBURY AND DISTRICT GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

DORSET COUNTY COUNCIL, Dorchester.—Assistant County Medical Officer. Salary, £250 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £100 per annum.

DURHAM COUNTY COUNCIL.—Assistant School Medical Officer. Salary, £300 per annum, rising to £350.

EAST WILTS UNITED DISTRICTS.—Medical Officer of Health and Assistant School Medical Officer. Salary, £450 per annum.

FALKLAND ISLANDS.—Assistant Colonial Surgeon. Salary, £400 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary, £80 per annum.

GREAT YARMOUTH HOSPITAL. House-Surgeon (male). Salary, £200 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—House-Surgeon. Salary, £150 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HALIFAX UNION POOR LAW HOSPITAL. Resident Medical Officer. Salary, £140 per annum.

INDIA: JHARIA BOARD OF HEALTH.—Chief Sanitary Officer for the Jharia Mining Settlement. Salary, Rs.1,200, rising to Rs.1,500 a month.

KENT AND CANTERBURY HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £90 per annum respectively.

KENT COUNTY ASYLUM, Chartham.—Junior Assistant (Third) Medical Officer (male). Salary, £250 per annum.

KENT COUNTY ASYLUM, Maidstone.—Male Junior Assistant Medical Officer. Salary, £250 per annum.

LEEDS CITY HOSPITALS FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Assistant Medical Officer. Salary, £170 per annum.

LEEDS PUBLIC DISPENSARY.—Resident Medical Officer. Salary, £130 per annum.

LEICESTER ROYAL INFIRMARY.—(1) Ophthalmic House-Surgeon and Assistant House-Physician; (2) Two Assistant House-Surgeons; (3) Two Assistant Resident Medical Officers (females). Salary for (1) and (2), £100 per annum.

LIVERPOOL STANLEY HOSPITAL.—House-Surgeon. Salary, £80 per annum.

LONDON LOCK HOSPITAL, Harrow Road, W.—House-Surgeon at the Female Hospital. Salary, £130 per annum.

LONDON THROAT HOSPITAL, Great Portland Street, W.—House-Surgeon (non resident). Salary, £50 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House-Surgeon. Salary, £150 per annum.

MANCHESTER: ANCOATS HOSPITAL.—(1) Resident Medical Officer; (2) Resident House-Physician. Salary, £130 and £80 per annum respectively.

MANCHESTER: COUNTY ASYLUM, Prestwich.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

MANCHESTER EDUCATION COMMITTEE.—Assistant School Medical Officer (female). Salary, £300 per annum, rising to £450.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the Crossley Sanatorium. Salary, £100 per annum.

MANCHESTER: HULME DISPENSARY.—House-Surgeon. Salary, £180 per annum, increasing to £200.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary, £80 per annum.

MANCHESTER: VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham.—Resident Medical Officer. Salary, £80 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Senior House-Surgeon. Salary, £100 per annum.

MORPETH DISPENSARY.—House-Surgeon. Salary, £120 per annum.

NEWCASTLE-UPON-TYNE CITY HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Assistant (male). Salary, £250 per annum.

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE.—Assistant School Medical Officers (male and female). Salary, £300 per annum, rising to £350 each.

NEWCASTLE-UPON-TYNE PARISH.—Second Assistant Resident Medical Officer for the Poor Law Institution. Salary, £175 per annum, increasing to £225.

NEWPORT: ROYAL GWENT HOSPITAL.—(1) Honorary Medical Officer to the Ear, Nose, and Throat Department; (2) Resident Medical Officer, salary for first six months at the rate of £100 per annum, rising to £150.

NORTHAMPTONSHIRE COUNTY COUNCIL EDUCATION COMMITTEE.—Assistant School Medical Officer (temporary). Salary, £25 per month.

NORTH RIDING OF YORKSHIRE EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary at the rate of £300 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum. (Women eligible.)

NOTTS COUNTY COUNCIL.—Resident Medical Officer at the Ransom Sanatorium. Salary, £200 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Resident Medical Officer. Salary, £90 per annum.

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary at the rate of £80 per annum.

ROCHDALE INFIRMARY AND DISPENSARY. Junior House-Surgeon. Salary, £110 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Resident Medical Officer for duration of the war. Salary at the rate of £150 per annum.

ST. GEORGE'S HOSPITAL, S.W.—Surgical Registrar. Salary, £250 per annum.

ST. THOMAS'S HOSPITAL, S.E.—Ophthalmic Surgeon in charge of Out-patients.

SALFORD FEVER HOSPITAL.—Junior Resident Medical Officer at the Ladywell Sanatorium.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer; (2) Casualty House-Surgeon. Salary, £120 and £100 per annum respectively

SALFORD UNION INFIRMARY.—Resident Assistant Medical Officer (male). Salary, £150 per annum.

SALISBURY INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: CITY HOSPITALS FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Assistant Medical Officer. Salary, £160 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD ROYAL INFIRMARY.—(1) House-Surgeon; (2) Assistant House Physician. (Males.) Salary, £160 per annum each.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £250 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—(1) House-Physician; (2) House-Surgeon. Salary, £120 per annum, rising £10 yearly each.

STOKE-UPON-TRENT UNION.—Assistant Medical Officer for the Poor Law Institution and Hospital. Salary, £200 per annum.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon. Salary, £130 per annum, rising to £150.

SUNDERLAND ROYAL INFIRMARY.—(1) Senior Resident Medical Officer (Surgeon); (2) two Junior House-Surgeons. Salary, for (1) £150 per annum, and for (2) £120 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £125 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

TRINIDAD: LUNATIC ASYLUM.—Assistant Medical Superintendent. Salary, £250 per annum, with £80 ration allowance and £50 quinquennial increments.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary, £150 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Senior House-Surgeon. Salary, £160 per annum.

WALSALL AND DISTRICT HOSPITAL.—Junior House-Surgeon and Anaesthetist. Salary, £110 per annum.

WARRINGTON COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary, £300 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £200 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £120 per annum respectively.

WEST DERBY UNION, Liverpool.—Two Assistant Resident Medical Officers at the Alder Hey Hospital. Salary, £250 per annum each.

WEST HAM COUNTY BOROUGH.—Assistant School Medical Officer. Salary, £300 per annum.

WEST HAM UNION.—(1) Second Assistant (Resident Male) Medical Officer at the Infirmary; (2) Deputy Medical Officer at the Sick Home. Salary, £240 per annum each.

WESTMINSTER UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £160 and £140, rising to £180 and £160 respectively.

WEST RIDING OF YORKSHIRE.—Assistant Medical Officers at (1) Scalebor Park Asylum, (2) Storthes Hall Asylum, Kirkburton. Salary, £250 per annum each. Or Locumtenents; salary £5 5s. per week.

WILTS COUNTY COUNCIL.—Temporary Assistant School Medical Inspector. Salary, £300 per annum.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary, £150 per annum.

YORK: NORTH RIDING ASYLUM, Clifton.—Locumtenent Medical Officer. Salary, £250 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Hamilton (Lanarkshire), Rathfriland (co. Down).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

FIELD, O., M.D.Edin., Certifying Factory Surgeon for the Battersea District, co. London.

MURRAY, Sydney E., M.B., B.S.Durh., Assistant School Medical Officer to the Sunderland Town Council.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

MARRIAGE.

SHAND—JAMES.—On December 3rd, 1914, by special licence, at St. James's, Handsworth, Birmingham, by the Rev. G. H. Harris, B.A. (Vicar, St. Paul's, Balsall Heath), and the Rev. A. E. Clease, M.A., L.Th. (Rector, All Saints'), George Ernest Shand, M.D. Aberd., only son of the late George Jolly Shand, M.D.Aberd., Indian Medical Service, and Mrs. Shand, Handsworth, to Helen Caroline (Nellie) James, eldest daughter of Mrs. W. James, West Smethwick, and niece of Mr. and Mrs. Charles Bradsworth, "Melfort," Holyhead Road, Handsworth.

DEATH.

LEACH.—On Saturday, December 12th, at his residence, The Knoll, Oldham, Abraham Leach, M.R.C.S., L.R.C.P., aged 75 years.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 26TH, 1914.

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INSURANCE ACT COMMITTEE.

A MEETING of the Insurance Act Committee was held at the office of the Association on Thursday, December 10th. Dr. J. A. MACDONALD, LL.D., was in the chair, and the other members present were: *England and Wales*—Dr. Olive Claydon (Oldham), Dr. A. C. Farquharson (Spennymoor), Dr. E. R. Fothergill (Hove), Dr. Major Greenwood (London), Dr. R. Harding (Radnor), Dr. I. W. Johnson (Bury), Dr. G. K. Smiley (Derby), Dr. W. B. Crawford Treasure (Cardiff), Mr. E. B. Turner (London); *Scotland*—Dr. John Adams (Glasgow), Dr. John Hunter (Edinburgh); *ex officio*, Mr. T. Jenner Verrall, LL.D. (Bath), Chairman of Representative Meetings, Dr. E. Rayner (Stockport) (Treasurer).

The CHAIRMAN welcomed to the Committee Dr. Olive Claydon, who had been nominated for membership by the Association of Registered Medical Women and the Northern Association of Registered Medical Women.

POSITION OF DEPOSIT CONTRIBUTORS.

It was decided that inquiries should be made of the Insurance Commissioners as to the proposals of the Government with regard to the position of deposit contributors after January 1st, 1915.

OVER-PRESCRIBING.

An answer was read from the English Commissioners in reply to the communication addressed by the Association to the English, Scottish, and Welsh Commissioners, urging that in all cases where inquiries by Panel Committees into charges against medical practitioners for alleged over-prescribing were determined in favour of the practitioner, the name of the practitioner concerned should not appear in the reports of those Committees to the Commissioners. The reply expressed the opinion that when an Insurance Committee, after considering the report of the Panel Committee, arrived at the conclusion that the doctor had not been guilty of over-prescribing, it was not desirable that the name of the doctor should be disclosed. The Commissioners pointed out that the decision in the matter rested with the Insurance Committees and not with the Panel Committees. The Commissioners further promised to take such opportunity as may offer for the purpose of conveying this view to Insurance Committees. It was reported that only formal acknowledgements had been received from the Scottish and Welsh Commissioners. The Insurance Act Committee decided to communicate the reply to Local Medical and Panel Committees, and to suggest that the representatives of the profession on the Insurance Committees should bring the matter to the attention of those Committees with a view to the adoption of a standing order carrying out the view held by the English Commissioners, or of a resolution of the Committee preferably on the recommendation of its Medical Benefit Subcommittee.

CHECKING PRESCRIPTIONS IN SCOTLAND.

The minutes of the Drug Tariff Subcommittee having been received, it was decided that, in view of the fact that a central bureau for the purpose of pricing chemists' accounts and making a systematic check and analysis of of prescriptions would tend to become a permanent burden on the funds of the various committees concerned, the question of the investigation of prescriptions should at present be dealt with locally, the arrangements being set up on a temporary basis only.

TRANSFER OF INSURED PATIENTS OF PRACTITIONERS ON MILITARY DUTY.

It was resolved:

That Panel Committees be recommended (1) to urge all practitioners in their area not to accept transfers of patients of doctors on naval and military duty for one year after they resume their practice, but to attend the patients during the absence of their doctor as deputy; and (2) to inform Insurance Committees of the suggested arrangement, asking them to fall in with such financial arrangements as may be settled locally between the deputy and doctor on military service.

CONSULTATION WITH LOCAL MEDICAL AND PANEL COMMITTEES.

It was decided that the opinion of Local Medical and Panel Committees should, whenever possible, be obtained with regard to questions on which the Insurance Act Committee proposes to take definite action, or to make representations to the Council and Representative Body.

CONFERENCE OF LOCAL MEDICAL AND PANEL COMMITTEES.

It was decided to recommend the Council to authorize the Insurance Act Committee in the event of the Commissioners calling a conference of representatives of Local Medical and Panel Committees on any matter connected with the Insurance Act, to invite such representatives to a preliminary conference to be held immediately prior to the conference with the Commissioners so as to arrange for combined action.

CENTRAL INSURANCE DEFENCE FUND.

A letter of thanks was read from a medical practitioner to whom the committee had granted assistance.

INSURANCE COMMITTEES.

LONDON.

The Adequacy of the Medical Service.

THE Medical Benefit Subcommittee presented to the London Insurance Committee on December 17th an interim report of investigations undertaken in pursuance of an instruction to consider the sufficiency of the arrangements for medical benefit in the different metropolitan boroughs (SUPPLEMENT, January 31st, 1914, p. 50), and as to facilities for obtaining clinical investigation and treatment for insured persons at metropolitan hospitals (SUPPLEMENT, November 1st, 1914, p. 373). The Subcommittee gave an account of facts elicited in respect of four London boroughs—Bermondsey, Camberwell, Lambeth, and Southwark—containing a dense population with comparatively high sickness and mortality-rates and a large proportion of insured workers, with, in two cases, residential districts of a more prosperous class. The following is a summary of the particulars given in respect of each borough:

Bermondsey.—Population, 125,903; distribution varying between 16 and 179 per acre. The existence of numerous block dwellings for workmen gives facilities for the treatment of large numbers of persons by a single practitioner. Number of insured persons on panel lists, 51,111. Number of general practitioners, 38; 3 are not on the panel, but 2 of these are not

in active practice; 26 practitioners have panel lists of less than 2,000; they are responsible for 26,310 insured persons, or 52 per cent. of the whole; 9 practitioners have lists of 2,000 and over; they are responsible for 24,801 persons or 48 per cent. of the whole; the practitioners are fairly evenly distributed. There is no general hospital within the borough, but it is served by Guy's Hospital. The notifications of tuberculosis in adults were 600 in 1912 and 1,305 in 1913. There exists in the borough an arrangement amongst a group of practitioners on the panel whereby the services of any of them can be obtained for an urgent case in the absence of the first practitioner called.

Medical witnesses suggested that there was a sufficient number of doctors in Bermondsey to provide adequate treatment, but representatives of insured persons urged that the number of practitioners was inadequate for both the insured and non-insured population. Owing to the late working hours of insured persons there was great pressure at the surgeries in the evenings, and it was stated that people sometimes had to wait two hours before seeing a doctor. This condition of affairs also made it necessary for dispensing to be done rather late at night and insured persons often waited until the next day before getting prescriptions dispensed. There appeared to be an adequate number of chemists.

No difficulty was experienced in obtaining treatment and further advice for cases referred to Guy's Hospital. In all cases members of the hospital staffs informed the practitioner as to the diagnosis and gave advice as to the treatment. It was stated that great delay was often experienced in obtaining admission for in-patient cases, and generally that there was insufficient hospital accommodation in the district. Owing to the Insurance Act attendances at the out-patient departments of Guy's Hospital had diminished by about 20 per cent. The district nursing service was freely available to the insured, but there was more work than the existing staff could thoroughly attend to.

Southwark.—Population, 191,907; distribution varying between 74 and 249 per acre. There are many workmen's dwellings. Number of insured persons on doctors' lists, 81,736. Number of general practitioners, 60; 13 not on the panel. Twenty-nine practitioners have lists of less than 2,000; they are responsible for 30,847 insured persons, or 38 per cent. Eighteen practitioners have lists of 2,000 and over; they are responsible for 50,889 persons, or 62 per cent. of the whole. The practitioners are not equally distributed; enclosed by main thoroughfares are several large districts in which no doctor resides.

Guy's Hospital serves the district. Nursing facilities exist, but tuberculosis or midwifery cases are not attended. Notifications of tuberculosis were 911 in 1912, and 1,142 in 1913. The opinions of witnesses differed as to the adequacy of the medical service, and the existence of unsatisfactory waiting-room accommodation at some surgeries was alleged. One practitioner not on the panel expressed disapproval of the panel system, and said that under existing arrangements there was no incentive to a practitioner to do good work; practitioners, he said, generally failed to examine their insured patients, preferring in many cases to refer those suffering from slight ailments to the hospitals. An arrangement for mutual assistance between a group of practitioners had been found to work satisfactorily; one of the chemists' shops was always open on early closing day.

Camberwell.—Population, 261,328; distribution varying between 16 and 164 per acre (the average density of Southwark is three times greater). In addition to a large industrial population, there are many clerks, both male and female. Number of insured persons on doctors' lists, 81,591. Number of general practitioners, 100; 21 not on the panel (these mostly reside in the better neighbourhoods to the south). Sixty-six practitioners have lists of less than 2,000; they are responsible for 48,789 insured persons, or 60 per cent. of the whole. Thirteen practitioners have lists of over 2,000; they are responsible for 32,802 persons, or 40 per cent. Notifications of tuberculosis were 905 in 1912 and 1,519 in 1913.

Although medical witnesses were unanimous as to the adequacy of the number of practitioners on the panel, there was conflict of opinion as to the adequacy of the treatment rendered. It was represented that though neglect of patients was evident, it was not so gross in many cases as to allow of action being taken. Arrangements for mutual assistance amongst practitioners were under consideration. There was some conflict of opinion as to the adequacy of arrangements for dispensing (the chemists on the list numbered 42). The relationships between practitioners and hospital authorities were most cordial, and treatment, consultative opinion, and *x*-ray diagnosis were readily obtainable for insured persons at the hospitals. No difficulty was experienced in obtaining nurses for urgent cases.

Lambeth.—Population 298,058; distribution varying between 35 and 147 per acre. The occupations are similar to those of Camberwell. Number of insured persons on doctors' lists 89,539; number of general practitioners 129; 34 not on the panel (nearly all these practise in the better class neighbourhoods); 86 practitioners have lists of less than 2,000; they are responsible for 61,917 insured persons, or 70 per cent.; 9 practitioners have lists of over 2,000; they are responsible for 27,622, or 30 per cent. There are 72 chemists on the list. King's College Hospital and St. Thomas's Hospital are in the borough; it is also served by special institutions. There are fairly extensive nursing facilities. Notifications of tuberculosis were 2,395 in 1912 and 2,026 in 1913.

Witnesses expressed the view that there was a shortage of practitioners in the industrial parts of the borough; especially of women practitioners. All the practitioners had made arrangements amongst themselves for the treatment of emergency cases. The effect of the Insurance Act had been largely to remove from the hospitals the care of chronic cases. In the casualty department of St. Thomas's alone the number of yearly attendances had been reduced by 40,000 since the commencement of medical benefit. Existing facilities for specialist treatment, namely, the out-patient departments of hospitals, were available as a rule only in the mornings and afternoons. It was suggested that in any scheme of clinics provision should be made for evening attendances; also that local clinics for special cases could be conducted by the practitioners in the various areas, as doctors who had specialized in one or other of the various branches of medicine or surgery were usually to be found in populated areas.

Summarizing its investigations, the Subcommittee noted that the number of insured persons accepted by doctors had been constantly increasing since the beginning of 1913. Corresponding with this there had been a marked and constant decrease in the number of applications for permission to make own arrangements, and these were now seldom declined. Very few transfers with the consent of the doctors had been arranged, and at the end of the year 1913 the total number of insured persons who gave notice of a desire to change their doctor did not exceed 12,000. [During the meeting the corresponding figures for 1914 were given as 4,692.] The Subcommittee commented upon the hindrances to the smooth working of medical benefit in some areas owing to social and economic conditions, which prevented so many people from calling upon their doctor until late in the evening. A system of co-operation between the practitioners of such a district might solve the difficulty and be to the advantage of all concerned. The number of practitioners on the panel had increased from 780 in January, 1913, to 1,573 in October, 1914; in the four boroughs now under consideration the increase in this period had been from 160 to 256. There was reason to believe that the accessions to the panel would continue for some time to come, but the Subcommittee considered that even if all the practitioners resident in the four boroughs joined the panel the number of doctors available in the industrial districts would not be adequate. The institution of medical benefit had led to a marked increase in the calls upon practitioners generally. Comparatively few practitioners were responsible for a very large number of insured persons—a condition no doubt due to the exercise of free choice. It was possible, however, that a more equal distribution might lead to a more efficient medical service. In a few cases waiting-room accommodation was insufficient and unsatisfactory. Delays in receiving attention at surgeries had been due to the large lists and the brief hours of respite from work of many insured persons, but the difficulties generally were gradually being reduced. It would be desirable to extend the system of co-operation between practitioners for dealing with urgent cases, and it might be desirable to draw the attention of the Panel Committee to this point. Without desiring to encourage complaints, the Subcommittee was of opinion that approved societies would assist the Insurance Committee by reporting complaints direct rather than attempting themselves to deal with the conditions giving rise to the complaints.

On the whole, the Subcommittee considered that the medical service in the area taken was working well, and that there was no evidence of any general discontent. The number of places for the supply of drugs was adequate. The Subcommittee had noted with great satisfaction the cordial co-operation existing between the practitioners on the panel and the staffs of the three great hospitals in the district. Many of the difficulties in the medical service were of a character that could be overcome by still greater co-operation in this direction. Lack of in-patient accommodation was accentuated by the war; it was particularly noticeable in the case of women patients. Generally speaking, the various nursing agencies were doing excellent work, but there was need for greater co-ordination and the number of nurses should be increased. The bacteriological laboratories of the various borough councils were available to practitioners on the panel, and there was a very great increase in the number of investigations of this character in 1913 as compared with 1912.

Mr. P. Rockliff moved to refer the whole report back to the Subcommittee, giving as his reasons that an opportunity was not afforded to representatives of approved

societies to give evidence, that the report was therefore an incomplete statement of the facts, and that the section which prepared it contained an undue preponderance of medical members.

Mr. R. W. MOFFREY thought there was nothing in the report to which exception could be taken. The reason so few representatives of approved societies were examined was that the majority of those invited declined to assist.

Mr. HANDEL BOOTH, M.P., said that the report of the doctors agreed with the results of investigations made on behalf of a large group of approved societies.

Dr. LAURISTON E. SHAW said that insured persons and those who had been closely watching the working of the Act praised warmly the devotion with which medical services had been performed.

Dr. B. A. RICHMOND denied that there had been any medical bias in the preparation of the report. In its future investigations the Subcommittee, in order to put some limit on its labours, would take certain typical areas, including one in the East End.

The amendment to refer the report back was lost and the report was approved.

Examination of Chemists' Accounts.

The Committee approved the continuance of the joint arrangements with the Panel and Pharmaceutical Committees for the examination of chemists' accounts, but decided to point out to the Panel Committee that it might not be possible for its contribution to remain as low as £800.

Cost of Drugs for Temporary Residents.

As the rule as to the special marking of prescriptions in respect of temporary residents has not been generally followed by practitioners, the Insurance Commissioners notified that the amount available in each area for drugs would be calculated on a ratio of the average cost of drugs to the average rate of medical remuneration. The Committee expressed approval of this method.

The Drug Fund.

Owing to the condition of the Drug Fund it was decided to pay only 60 per cent. of the total of chemists' accounts for the months October to December, 1914, and to make a final payment later of any balance.

New Member.

Mrs. F. M. Dickinson Berry joined the Insurance Committee on the nomination of the Commissioners, in place of Mrs. Florence Willey, resigned.

LOCAL MEDICAL AND PANEL COMMITTEES.

SURREY.

PANEL COMMITTEE.

THE monthly meeting of the Panel Committee for the County of Surrey was held at Surbiton Cottage Hospital on November 20th, when Dr. LANKESTER was in the chair.

Pharmaceutical Committee's Expenses.—On consideration of an application forwarded by the County Committee from the Pharmaceutical Committee to the Commissioners for a grant from the Drug Fund for its administrative expenses, the CHAIRMAN, TREASURER, and SECRETARY undertook to draft a letter to the Insurance Commissioners stating the reasons of the Panel Committee's objection to the deductions being made, seeing that any deduction of this nature was unreasonable, and also that the expenses of the Committee were far too high. It was also agreed that if the expenses were reduced to £50, plus a third of the cost of checking prescriptions, the Panel Committee would not maintain its objection.

Co-ordination of Work of Local Medical and Panel Committees.—The Committee agreed that it was prepared to enter into steady and close relationship with the new Local Medical and Panel Subcommittee of the British Medical Association.

Medical Referees.—The question of medical referees visiting patients without giving notice to the practitioner in attendance was raised. It was decided to make a representation to the Prudential Society that this was contrary to the usual custom of the medical profession. It was also resolved to bring the matter before the Medical Benefit Subcommittee of the County Committee.

Dispensing Fees.—Dr. LYNDON gave an account of the conference of the County Committee and the Pharmaceutical Committee regarding reduced dispensing fees. It was decided to support the action of the Conference not to bring into force the reduced dispensing fees during 1915.

Pharmacopoeia.—It was decided to adopt the Hampshire Pharmacopoeia as altered by the Subcommittee, and submit it to the Insurance Committee. It was also resolved that if the Insurance Committee passed the Pharmacopoeia it should be prepared and circulated to the practitioners if the Emergency Committee considered the cost was reasonable.

Prescribing.—It was decided to adopt and circulate a circular on economy in prescribing, and to continue the present method of checking prescriptions until the end of the present year.

PAYMENTS FOR MEDICAL BENEFIT.

THE PROVISIONAL SETTLEMENT.

DR. J. CAMERON TURNBULL, Honorary Secretary Bury Local Medical and Panel Committee, and a member of Bury Insurance Committee, has made the following analyses of the financial statistics in respect of the "Provisional Settlement" for medical benefit in the county borough. It will probably be found useful by the secretaries of other Committees.

The following brief summary of the provisional balance sheet for medical benefit in the County Borough of Bury for the year 1913 may be of service to Committees and others interested in the financial side of the Insurance Act. The Commissioners in Memo. 192/I.C. dated March 1914, spoke of a "provisional" settlement, but they are careful to hold out no prospect of the sum credited to each Insurance Committee being materially increased, and up to the present no mention has been made of a final settlement.

The aggregate credit, or fund divisible among Insurance Committees, is calculated on the basis of the mean number of members of Approved Societies and deposit contributors. This sum is apportioned among the Insurance Committees on the basis of the average number on their index registers. Now index registers are made up, on the card system, of names of members sent by the various societies and post offices to the Insurance Committees in whose areas the members reside, and the gross total of the index registers should correspond exactly with the aggregate membership of societies, together with the deposit contributors.

The sum credited to Bury in the provisional settlement is £10,461 12s. Adding £615 transferred from the Sanatorium Benefit Fund we get £11,076 12s. This sum represents 362 days (January 15th, 1913, to January 11th, 1914, inclusive) so that the credit works out at the rate of £11,168 8s. per annum. The mean number on the index register for Bury in 1913 was 26,166, counts being taken quarterly, and if we divide this into £11,168 8s. we get a capitation rate of 8s. 6½d. per annum. As the same basis of calculation is used for other areas this sum of 8s. 6½d. should represent the capitation payment for the whole country, and it will be interesting to learn if this is the case. Now the capitation fee on which all estimates have been made is 9s. per annum, and to show that this figure has not been abandoned, the institutions fund in each area is credited with the full amount of 9s. per head per annum. In searching for a possible solution of the discrepancy the only source of error that can be found is the fact that names remain on membership lists after death or after ceasing to be insured. This delay in notifying deaths and lapses is therefore assumed to account for nearly 6 per cent. of error, not to mention the compensating factor of delay in notifying new members. It would be interesting to know on what grounds this percentage is allowed, but presumably we are not to be told.

Index Counts.

The credit to each Committee being based on the counts of the index register, it follows that the higher the counts the greater the income. This means that the committee which possesses a zealous and conscientious clerk, who takes the trouble to cleanse his register of foreign matter by forwarding index slips which do not belong to him to

the proper committees, will suffer in consequence, and a premium is put on carelessness. The index register is further complicated by the fact that persons accepted on doctors' lists have not always a corresponding index card in the register. This is due in some degree to them removing into the area since they joined their societies, or to differences in spelling, but in many cases it is the fault of the societies in transmitting the cards to the wrong committee.

There can be no question that the smaller county boroughs in particular have suffered in this respect. Approved Society officials cannot be expected to be fully conversant with the county borough boundaries, and in many cases have wrongly transmitted cards to the County Committee instead of to the county borough. The staff of a large county such as Lancashire is likewise not so competent to supervise such errors as that of a county borough with its local geographical knowledge. This leakage is aggravated by the fact that the index slip shows the "full postal address" which in some cases gives no indication of the parochial division in which it is situated. This is one of the good arguments for the redistribution of county areas among county boroughs for insurance purposes.

In cases where a person has been accepted by a doctor and no index card is found, "suspense" slips have been made out, but these are *not* included in the count of the register. As an instance of the confusion which has resulted, there were at one time in Bury over 2,000 "suspense" slips, or 10 per cent. of the total on the register. After an immense amount of labour and expense, spread over nearly two years, during which it was found that over 400 index slips proper to Bury had been sent to the Lancashire County Committee and included in its counts, the suspense register still contains nearly 1,000 cards. Who can say, therefore, that the count of the index register bears anything but a very remote relation to the actual number of insured persons in the area?

Temporary Residents.

The amount deducted by the Commissioners in respect of temporary residents was £13 0s. 3d. This represents 15 cases, the case value being 17s. 4d. Reasoning from a private estimate I am convinced that this sum is much too high, but it is possible that practitioners are somewhat to blame in not keeping their record cards accurately.

The various local funds among which the income is divided are (1) Institutions Fund, (2) Panel Fund, (3) Drug Fund, and (4) Drug Suspense Fund.

(1) *Institutions Fund.*—The only institution in the Bury area is the Post Office Medical System, and it is credited on the basis of its mean membership at the rate of 9s. per head per annum, a total of £5 7s. 1d. The account against this fund is £3 19s. 6d., or a capitation rate of 6s. 7½d. Now insured persons in the post office are unestablished, and are therefore not on the capitation lists of post office medical officers. The latter are compelled to attend them and provide medicine, and are paid for the first four attendances only. This is surely not the principle of insurance, and it is surprising that the system should be approved either by the Commissioners or by the Postal Medical Officers' Association.

(2) *Panel Fund.*—Seven-ninths of the remainder is carried to the Panel Fund account, a total of £8,601 1s. 1d. The mean of the total on doctors' lists was 23,861, so that the number to be allocated was 2,305, or in cash £331 9s. 0d. Instead of this the sum allocated was £318 4s. 0d. Assuming that each doctor received 7s. per annum for every person *on his list* the residue of persons who had not made a choice was paid for at the rate of 2s. 8d. per annum.

(3) and (4) *Drug and Drug Suspense Funds.*—Taking two-ninths of the annual income, we get £2,481 17s. per annum for the Drug and Drug Suspense Funds combined. Now 669 persons resided over a mile from a chemist, and the practitioners undertaking their dispensing were paid for them at the rate of 2s. per annum. This left £2,415 10s. 5d., or 1s. 10¾d. per head per annum for the payment of chemists' and doctors' emergency accounts. These accounts in the aggregate amounted to £2,669 17s. 5d., or 2s. 1d. per head for 362 days, so that chemists and doctors were discounted 10 per cent. The estimated revenue for the Drug Fund on the basis of the index register, less "rural" patients, was £2,552 8s. 7d., which would have paid 95.6 per cent. of the accounts. A further analysis of prescriptions, etc., for the purpose of checking over-prescribing is in process of being carried out, but that is apart from the subject of this summary.

I am indebted to the admirable and exhaustive financial report of the Clerk of the Bury Insurance Committee for the statistics on which the above criticism is based.

MEDICAL ATTENDANCE FOR DEPENDANTS OF MEN SERVING WITH THE COLOURS.

The Dundee Local Medical Committee reports that during the month from October 17th to November 17th the work undertaken on behalf of doctors absent on active service was as follows: 758 patients were visited at their own homes; 2,752 consultations were recorded at the central consulting rooms, giving an average of 102 per night; while 9 confinements were undertaken by the maternity department.

Association Notices.

QUARTERLY MEETING OF COUNCIL.

The Quarterly Meeting of Council will be held on Wednesday, January 27th, 1915, in the Council Room, 429, Strand, London, W.C.

By order,
Guy Elliston,
Financial Secretary and Business Manager.

December 24th, 1914.

BRANCH AND DIVISION MEETINGS TO BE HELD

Metropolitan Counties Branch.—Dr. R. E. Crosse and Mr. N. Bishop Harman, Honorary Secretaries, give notice that a Council meeting will be held at 429, Strand, W.C., on Tuesday, January 12th, 1915, at 4 p.m.

Meetings of Branches and Divisions.

SOUTH MIDLAND BRANCH:

Buckinghamshire Division.

A meeting of the Division was held at High Wycombe on December 8th, when the chair was taken by Dr. Dunbar Dickson, Vice-President, and fourteen other members were present.

The War.—Attention was drawn to the large number of practitioners who had given up their practice and gone on active service, entailing in some cases severe pecuniary loss, and it was resolved:

> That any cases of hardship occurring among medical men called on active service or among their families should be dealt with privately by the British Medical Association by means of some fund raised in the profession.

The position of general practitioners in active practice in relation to the new citizens' army was discussed. Many medical men were unable to offer their services in the ordinary way, and in the event of invasion their position might be of a very uncertain nature. Finally it was resolved to discuss the matter at an interview with Lord Lincolnshire and Lord Desborough.

Clinical Paper.—Dr. Bryden Glendenning read a paper on some minor difficulties of obstetric practices, in which, among other matters, he dealt with occipito-posterior presentations, short cords, transverse position of the head and breech presentations. After a discussion a very hearty vote of thanks was accorded to him for his interesting address.

Belgian Medical Relief Fund.—Two subscriptions of one guinea and one of two guineas were subscribed to the Belgian medical men's fund.

Private Clubs.—Dr. Stolterforth raised the subject of private clubs, and suggested some general agreement as to whether they should be taken, and, if so, at what fee? He suggested that 9s. a year for all those who could have joined the National Insurance Scheme and did not was the proper sum to charge, 6s. for those who were too old to join and got no state contribution, 5s. for women, and 3s. for children. He believed that this would pay better than private practice among the labouring class. He gave figures in support of his contention. During the discussion there was a general agreement that all contract work should be managed by the medical men themselves, and not by a friendly society or other body, and that membership should be limited to those accepted by the medical men as proper persons. A committee was appointed to collect information from the other members and medical men in the Division, and to report to a special meeting.

Luncheon.—A lunch took place before the meeting, and teas were provided.

PERTH BRANCH.

THE annual winter meeting of the Perth Branch was held at the Perth New Infirmary, on December 11th, when fourteen members were present.

Report of Council.—The report of the council showed that three ordinary meetings had been held during the year, one of which was a clinical meeting. There was one special meeting, in reference to the free attendance on men at the front. The average attendance at the meetings was seventeen. At the seven Branch Council meetings the average attendance was six. An adjustment, carried out during the year, had made the boundaries of the Branch coterminous with the National Insurance area for the county.

Financial Statement.—The Treasurer's report, which showed a balance in hand of £1 8s. 9d., was approved.

Tea.—At the conclusion of the meeting an "At Home" was held and tea served in the physicians' room of the infirmary; thereafter, by the courtesy of the directors, the whole institution was thrown open for inspection. The visiting and resident staff conducted the members through the wards and the various departments. The pathological laboratory, electrical rooms, operating theatre; medical, surgical, and children's wards were visited in turn, and the opportunity was much appreciated by the members.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty: Fleet Surgeon HILARY C. ARATHOON, to the *Columbine*, additional for duty at Granton. Fleet Surgeon F. J. BURNS has been placed on the retired list. Fleet Surgeon EDWARD C. WARD, to the *Pembroke*, for R.N. Barracks. Surgeon A. L. ROBINSON has been placed on the retired list. Temporary Surgeons: ARTHUR P. BARRETT, to the *Newmarket*, and for duty in Clacton; J. G. BAILEY, the *Hythe*, and for duty in Folkestone. Appointed temporary Surgeons: B. W. DAKERS, T. E. FRANCIS, T. POWER.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Probationers C. H. BROADHURST, to the *Hecla*, additional for the *Achates*, vice Allen; T. C. WAKEFIELD, L. L. FOTHERINGHAM, J. T. WYLIE, G. B. LOWE, A. MCA. SCOTT, to the *Hecla*, additional for the *Leopard*, the *Griffon*, *Lively*, *Locust*, and *Sprightly* respectively; G. GRANT, C. HORDERN, J. D. BYRD, J. A. M. ALCOCK, D. A. IMRIE, to the *St. George*, additional for the *Eden*, *Gale*, *Ettrick*, *Itchen*, and *Ness* respectively.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL C. R. ELLIOTT is appointed to command the Station Hospital, Quetta.

Sir ALEXANDER MACCORMICK, M.D., is granted temporarily the honorary rank of Lieutenant-Colonel whilst serving with the Australian Medical Unit.

To be Lieutenant-Colonels: Major HUBERT A. BRAY and to remain seconded; Major THOMAS MCDERMOTT, M.B.

Major FREDERIC W. LAMBALLE, M.B., is placed temporarily on the half-pay list on account of ill-health.

Captain T. J. HALLINAN to be a Specialist in Electrical Science, Third Lahore Division on vacating his appointment as Deputy Assistant Adjutant-General, Army Head Quarters.

Temporary Captains to be temporary Majors: ALFRED E. JOHNSON, M.B., F.R.C.S., ROBERT DAVIES-COLLEY, F.R.C.S.

To be temporary Lieutenants: FRANCIS H. STOREY, M.B., HERBERT H. WHAITE, M.B., JOSEPH G. MACQUEEN, M.B., JOHN M. CLEMENTS, M.D., THOMAS I. BENNETT, M.B., HUGH B. WALLER, ANDREW T. ROSS, M.D., F.R.C.S.E., JOHN F. GIBBONS, ROBERT D. FORBES, F.R.C.S., RAYMOND J. JONES, M.B., REGINALD H. LUCAS, ALEXANDER W. RATTRIE, M.B., ROBERT F. FERRIS, M.B., ESLYN MARJORIBANKS-MARCAR, CHARLES S. CATO, ROBERT B. ROE, FRANK GARRATT, DAVID D. LOGAN, M.D., JAMES E. M. BROWN, M.B., LUKE S. O'GRADY, EDWARD E. MATHER, M.B., JOHN A. CAMERON, M.B., FREDERICK BARNES, JOHN JARDINE, M.D., F.R.C.S.E., ROBERT S. MILLER, M.D., WILFRED MCFARLANE, M.B., JAMES T. KIRKLAND, M.B., CHARLES J. THOMPSON, GEORGE L. LEGGAT, M.B., HUBERT A. HARRIS, IAN MACDONALD, M.B., F.R.C.S.E., MICHAEL P. POWER, HERBERT H. PRENTISS, M.B., JAMES V. FIDDIAN, JOHN A. K. BRAYTON, LEONARD W. MORTIMER, REGINALD W. CLARKE, CECIL L. WILLIAMSON, CUTHBERT E. DUKES, M.B., JOHN M. LAND, WILFRED H. ALDERTON, BERTIE R. G. RUSSELL, M.D., WILLIAM E. BULLOCK, M.D., HUGH R. MACINTYRE, M.D., JOHN G. MCDOUGALL, M.B., ALEXANDER BREMNER, M.B., JOHN HANSON, M.B., JAMES J. DWYER, WILLIAM J. F. MAYNE, M.B., MACKENZIE DOUGLAS, M.D., JOHN C. LYNMORE DAY, TIMOTHY MEAGHER, M.B., JOHN D. CHERRY, PATRICK J. MAGUIRE, WALTER E. ADAM, M.D., CHARLES V. MACKAY, M.D., HUMPHREY N. STEPHENSON, ARTHUR L. H. RACKHAM, WILLIAM G. HELSBY, NORMAN F. GRAHAM, M.B., ALEXANDER B. CLUCKIE, M.B., JOHN MACARTHUR, WILLIAM H. BRODIE, M.B., HARRY M. GILMOUR, HENRY CAPLAN, M.B., JAMES POTTER, JOHN ANDERSON, M.B., MAURICE H. WHITING, M.B., STEPHEN ROWLAND, M.B., COLIN KING, M.B., DONALD DUFF, F.R.C.S.E., FRANK HARTLEY, M.B., THOMAS E. AMYOT, M.B., CYRIL G. WHORLOW, FREDERICK W. HIRD, M.B., JAMES R. RIGG, M.B., ERNEST L. SHELTON-JONES, WALTER J. RONAN, M.B., EDWARD J. STUBBS, M.B., JOHN L. DUNLOP, M.B., DOUGLAS E. CROSBIE, GEORGE W. REA, M.B., WINSLOW S. S. BERRY, M.B., THOMAS W. G. HOGG, M.B., SAMUEL P. REA, M.B., NORMAN C. PATRICK, NORMAN C. GRAHAM, M.B., THOMAS GRIMSON, M.B., ALEXANDER H. R. DUNCAN.

INDIAN MEDICAL SERVICE.

MAJOR J. MCPHERSON is posted as Residency Surgeon, Bushire, with effect from October 20th.

Major F. N. WHITE, M.D., is appointed substantively to the post of Assistant Director-General, Indian Medical Service (Sanitary).

The services of Major S. H. LEE-ABBOTT, M.B., are placed permanently at the disposal of the Government of the Punjab.

Captain H. B. DRAKE was posted as Deputy Assay Master, Bombay, with effect from September 5th, 1914, October 23rd.

Lieutenant-Colonel J. J. BOURKE, was posted as Assay Master, Calcutta, with effect from September 10th.

The following Captains have been promoted to the rank of Major: W. S. J. SHAW, M.D., D. P. GOIL, M.B., F.R.C.S.E., July 31st.

The services of 26S Indian Medical Service officers in civil employ have, during the past three months, been replaced at the disposal of His Excellency the Commander-in-Chief for military duty.

Major J. H. MURRAY, Senior Medical Officer and Civil Surgeon, Port Blair, is appointed to hold charge of the office of the Superintendent of the cellular and female gaols, Port Blair, in addition to his own duties, with effect from October 25th, 1914.

The undermentioned officers have been permitted to retire from the service: Lieutenant-Colonel G. Y. C. HUNTER, October 25th, 1914; Lieutenant-Colonel E. WILKINSON, F.R.C.S., November 13th, 1914.

Captain G. L. C. LITTLE, M.B., has been transferred to the temporary half-pay list, with effect from November 15th, 1914.

TERRITORIAL FORCE.

ARMY MEDICAL SERVICES.

CAPTAIN JOHN B. YEOMAN, M.B., F.R.C.S.E., Deputy Assistant Director of Medical Services, to be Major.

Lieutenant-Colonel WILLIAM M. ROOCROFT, from attached to units other than medical units, to be Assistant Director of Medical Services, East Lancashire Territorial Division, with the rank of Colonel, temporary.

ROYAL ARMY MEDICAL CORPS.

London Mounted Brigade Field Ambulance.—Captain JAMES W. MCINTOSH, M.B., to be Major, temporary; Lieutenant W. F. SMART to be Captain, temporary.

First London (City of London) Field Ambulance.—Major EDMOND W. S. VINCENT RYAN to be Lieutenant-Colonel, temporary; Lieutenant DAVID J. SCOTT, M.D., to be Captain, temporary; Lieutenant ARCHIBALD LEITCH, M.D., to be Captain, temporary.

First London (City of London) Sanitary Company.—Captain CHARLES M. FEGEN to be Major, temporary; Lieutenant FREDERICK G. CALEY to be Captain, temporary. To be Lieutenants: CHARTRES A. MOLONY, FRANCIS S. CARSON, M.B.

Second London Clearing Hospital.—To be Lieutenants: ERIC S. TAYLOR, IORWERTH H. LLOYD-WILLIAMS.

Third London (City of London) Field Ambulance.—Major JOHN A. MASTERS, M.D., from attached to units other than medical units, to be Lieutenant-Colonel, temporary; Captain L. L. LAWSON to be Major, temporary; Lieutenant ROBERT CARSWELL, M.B., to be Captain, temporary.

Fourth London Field Ambulance.—Captain THOMAS B. LAYTON, M.B., to be Major, temporary; JOHN M. PLEWS to be Lieutenant.

Fifth London Field Ambulance.—Lieutenants to be Captains, temporary: JOHN E. SANDILANDS, M.D., GEORGE SCOTT, M.B.

First Home Counties Field Ambulance.—Captain ARTHUR T. FALWASSER to be Major, temporary; Captain ANTONY A. MARTIN, M.D., from attached to units other than medical units, to be Captain.

First Wessex Field Ambulance.—Lieutenant CHARLES H. MASKEW to be Lieutenant.

Second Wessex Field Ambulance.—LEONARD L. HANHAM (late Captain, Army Medical Reserve) to be Captain; Lieutenant ARTHUR C. HINCKS, from attached to units other than medical units, to be Lieutenant.

Second East Anglian Field Ambulance.—Major JAMES M. G. BREMNER to be Lieutenant-Colonel, temporary.

First Southern General Hospital.—To be Lieutenants: STEPHEN G. ASKEY, M.B., ALFRED P. PHILLIPS, PERCIVAL C. COLE, and AMBROSE W. OWEN, M.D.

South Midland Clearing Hospital.—To be Captains: Captain CHARLES B. BAXTER, M.B., F.R.C.S.E., and JAMES L. JOYCE, from attached to units other than medical units.

First South Midland Mounted Brigade Field Ambulance.—Lieutenant CYRIL R. WALLACE, from the 2nd South Midland Field Ambulance, to be Lieutenant.

First North Midland Field Ambulance.—To be Lieutenants: CHARLES B. JOHNSTONE, M.B., ARTHUR HEATH, M.D., F.R.C.S.

Second North Midland Field Ambulance.—To be Lieutenants: SAMUER R. FOSTER, M.B. (late Cadet Sergeant, Belfast University Contingent, Senior Division, Officers' Training Corps), EDWARD C. T. EMERSON, M.B.

First South-Western Mounted Brigade Field Ambulance.—LEIGHTON H. HEY, M.B., to be Lieutenant.

First Western General Hospital.—RALPH LAMB to be Lieutenant.

Third Welsh Field Ambulance.—To be Lieutenants: RICHARD J. ISAAC, HARRY M. SODEN, JOSEPH CARROLL, M.B., JOHN J. PORTER.

West Lancashire Clearing Hospital.—WILLIAM P. MOFFET, M.B., to be Lieutenant.

Second East Lancashire Field Ambulance.—Captain ALEXANDER CALLAM, M.B., to be Lieutenant-Colonel, temporary; E. R. COOPER, M.B., to be Lieutenant.

Third East Lancashire Field Ambulance.—GERALD C. WRAY, M.B., to be Lieutenant.

First West Riding Field Ambulance.—LAWRENCE A. MACKENZIE, M.B., to be Lieutenant.

First West Riding Field Ambulance.—HERBERT J. ROBSON (late Captain, Northern Command, R.A.M.C.(Vols.), Leeds Companies), to be Captain; HUGH R. PARTRIDGE, to be Lieutenant.

Second Northern General Hospital.—GEORGE P. ANNING, from attached to units other than medical units, to be Captain.

Third Northern General Hospital.—JOHN BROADLEY, M.B., F.R.C.S.E., to be Captain; ARCHIBALD YOUNG, M.B. (late Major of this unit), to be Captain.

Fourth Northern General Hospital.—DOUGLAS E. DARBYSHIRE, M.B., to be Captain.

Northumbrian Clearing Hospital.—JOHN S. MANFORD, M.B., late Captain, 3rd Volunteer Battalion, Northumberland Fusiliers, to be Captain; RICHARD W. SWAYNE, M.B., to be Lieutenant.

First Northumbrian Field Ambulance.—JOHN H. BARCLAY, M.B., to be Lieutenant.

First Highland Field Ambulance.—Captain JAMES ROBERTSON, M.D., to be Major, temporary.

Attached to Units other than Medical Units.—Major THOMAS H. CHITTENDEN, M.D., from the London Mounted Brigade Field

Ambulance, to be Major; Lieutenant ALEXANDER DICK to be Captain; JULIUS H. BEILBY, M.B., late Surgeon-Captain, Worcestershire Imperial Yeomanry, to be Captain; Lieutenant DANIEL R. KILPATRICK, M.D., to be Captain; THOMAS S. WORBOYS, late Lieutenant, R.A.M.C.(T.F.), to be Captain. To be Lieutenants: JOHN C. MARKLOVE, GEORGE H. RAINS, CHARLES G. TENCH, M.B., LOUIS B. STRINGER, ROBERT D. CRAN, ASHLEY S. HOPPER, M.B., ROWLAND L. THOMAS, ARTHUR L. M. CHURCHILL, GEORGE CRAWSHAW, M.B., FREDERIC E. FRANCE, M.B.

Lieutenant JOHN T. SHAW, M.D., resigns his commission on account of ill-health; Lieutenant EDWARD, C. B. PAUL, M.B., F.R.C.S., is seconded.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

CAPTAINS from the First Northern General Hospital to be Captains: JOSEPH C. STEWART, M.B., JAMES W. HESLOP, M.B.

Vacancies and Appointments.

NOTICES REGARDING APPOINTMENTS.—Attention is called to a Notice (see Index to Advertisements—Important Notice re Appointments) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

VACANCIES.

BARNSLEY: BECKETT HOSPITAL AND DISPENSARY.—Second House-Surgeon. Salary, £100 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—House-Surgeon (male). Salary, £150 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon (male). Salary, £100 per annum.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—House-Surgeon. Honorarium, £100 per annum.

BIRKENHEAD: BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Senior and Junior House-Surgeons. Salary, £110 and £100 per annum respectively.

BIRMINGHAM CORPORATION.—Third Assistant Medical Officer at the Yardley Road Sanatorium and the Antituberculosis Centre. Salary, £200 per annum.

BIRMINGHAM GENERAL HOSPITAL.—House-Surgeon to special department (Eye, Ear, and Throat, and Skin). Salary, £50 per annum.

BIRMINGHAM MENTAL HOSPITAL, Rubery Hill.—Junior Assistant Medical Officer (female). Salary, £200 per annum.

BIRMINGHAM UNION,—(1) Second, Third, and Fourth Assistant Medical Officers at the Dudley Road Infirmary; salary, £210, £170, and £160 respectively. (2) Assistant Medical Officer at the Selly Oak Infirmary. Salary, £180 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary, £125 per annum.

BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House-Surgeon. Salary, £100 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—Surgical Registrar. Salary, £100 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—Two House-Surgeons. Salary, £140 per annum each.

CARLISLE: CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer. Salary, £250 per annum.

CHESTER: COUNTY AND CITY.—Assistant Medical Officer of Health. Salary, £300 per annum.

CHICHESTER: WEST SUSSEX COUNTY MENTAL HOSPITAL.—Second Assistant Medical Officer. Salary, £250 per annum, rising to £300.

CITY OF LONDON UNION.—Assistant Medical Officer to the Poor Law Institution and Infirmary. Salary, £200 per annum.

CORK SANATORIUM.—Honorary Visiting Laryngologist.

CROYDON GENERAL HOSPITAL.—Senior House-Surgeon. Salary, £105 per annum.

DOUGLAS: NOBLE'S HOSPITAL.—Resident House-Surgeon. Salary, £150 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £100 per annum.

EDINBURGH UNIVERSITY.—Lectureship on Chemical Physiology. Emoluments, £300 per annum.

EDMONTON UNION.—Second Assistant Medical Officer at the Infirmary. Salary, £160 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £200 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second and Third House-Surgeons. Salary, £120 and £100 per annum respectively.

HULL CITY ASYLUM.—Junior Assistant Medical Officer (female). Salary, £200 per annum.

INDIA: JHARIA BOARD OF HEALTH.—Chief Sanitary Officer for the Jharia Mining Settlement. Salary, Rs.1,200, rising to Rs.1,500 a month.

KENT COUNTY ASYLUM, Chartham.—Junior Assistant (Third) Medical Officer (male). Salary, £250 per annum.

KENT COUNTY ASYLUM, Maidstone.—Male Junior Assistant Medical Officer. Salary, £250 per annum.

LEEDS: GENERAL INFIRMARY.—Ophthalmic House-Surgeon. Salary at the rate of £50 per annum.

LEICESTER ROYAL INFIRMARY.—(1) Ophthalmic House-Surgeon and Assistant House-Physician; (2) Two Assistant House-Surgeons; (3) Two Assistant Resident Medical Officers (females). Salary for (1) and (2), £150 per annum and bonus of £5 per month during continuance of the war.

LIVERPOOL PARISH.—Resident Assistant Medical Officers at the Brownlow Hill Institution. Salary, £250 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House-Surgeon. Salary, £150 per annum.

MACDONALD AND MIDDLETON MEMORIAL BABY CLINIC, North Kensington.—Woman Medical Officer. Salary, £1 1s. per attendance.

MANCHESTER EDUCATION COMMITTEE.—Assistant School Medical Officer (female). Salary, £300 per annum, rising to £450.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmorland Street, W.—Resident Medical Officer. Salary, £80 per annum.

NEWCASTLE-UPON-TYNE AND NORTHUMBERLAND SANATORIUM FOR CONSUMPTIVES, Barrasford.—Resident Medical Officer (male). Salary, £350 per annum, increasing to £400.

NEWCASTLE-UPON-TYNE CITY HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Assistant (male). Salary, £250 per annum.

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE.—Assistant School Medical Officers (male and female). Salary, £300 per annum, rising to £350 each.

NEWPORT: ROYAL GWENT HOSPITAL.—(1) Honorary Medical Officer to the Ear, Nose, and Throat Department; (2) Resident Medical Officer, salary for first six months at the rate of £100 per annum, rising to £150.

NORTHAMPTONSHIRE COUNTY COUNCIL EDUCATION COMMITTEE.—Assistant School Medical Officer (temporary). Salary, £25 per month.

NORTH RIDING OF YORKSHIRE EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary at the rate of £300 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—Senior House-Physician. Salary, £120 per annum. (Women eligible.)

NOTTS COUNTY COUNCIL.—Resident Medical Officer at the Ransom Sanatorium. Salary, £200 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Resident Medical Officer. Salary, £90 per annum.

PRESCOT UNION.—Assistant Medical Officer at the Institution and Infirmary (non-resident). Salary, £240 per annum, rising to £250.

PRESTON: ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary, £120 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £110 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, S.E.—Resident Medical Officer for duration of the war. Salary at the rate of £150 per annum.

ST. GEORGE'S HOSPITAL, S.W.—Surgical Registrar. Salary, £200 per annum.

SALISBURY INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £30 per annum.

SHEFFIELD ROYAL INFIRMARY.—(1) House-Surgeon; (2) Assistant House-Physician. (Males.) Salary, £100 per annum each.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STOKE-UPON-TRENT UNION.—Assistant Medical Officer for the Poor Law Institution and Hospital. Salary, £200 per annum.

SUNDERLAND COUNTY BOROUGH.—Tuberculosis Medical Officer (temporary). Salary at the rate of £500 per annum.

SUNDERLAND ROYAL INFIRMARY.—(1) Senior Resident Medical Officer (Surgeon); (2) two Junior House-Surgeons. Salary, for (1) £150 per annum, and for (2) £120 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £125 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary, £150 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—Senior and Junior House-Surgeons. Salary, £160 and £150 per annum respectively.

WAKEFIELD; WEST RIDING ASYLUM.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

WARRINGTON COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary, £300 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £200 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary, £150 and £120 per annum respectively.

WESTMINSTER UNION INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £160 and £140, rising to £180 and £160 respectively.

WEST RIDING OF YORKSHIRE.—Assistant Medical Officer at Scalebor Park Asylum; salary, £250 per annum. Or Locumtenent; salary, £5 5s. per week.

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

CORMAC, H. Dove, M.D., M.S.Madras, Medical Superintendent to the Parkside County Asylum, Macclesfield, vice J. C. McConaghey, M.D.Edin.

MARTIN, Douglas, M.B., Ch.B., D.T.M.Edin., Assistant School Medical Officer and Assistant Medical Officer of Health for the County Borough of South Shields.

PRICE, Frederick W., M.D., M.R.C.P., Honorary Assistant Physician to the National Hospital for Diseases of the Heart.

RAMSBOTTOM, J., M.B., Assistant Medical Officer of Health for Lincoln.

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